Updating the Merger Guidelines: Comments

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I. Introduction

We are pleased to respond to the "Questions for Public Comment" ("QFPCs") posed by the FTC and DOJ ("Agencies") on September 22, 2009. It has been more than a decade since the Merger Guidelines' Efficiencies section has been updated and 17 years since the section on Competitive Effects has been revised. Economics analysis of mergers has progressed substantially since that time, and merger law has continued to evolve. Lawyers and economists with a regular antitrust practice may not require an update in light of their knowledge of the 2006 *Merger Commentary*, speeches and Agency experience. But, the rest of the antitrust world does. For example, it is important to keep the courts abreast of what the Agencies believe is "best practice," based on the Agencies' review of hundreds of mergers each year. Moreover, as FTC Commissioner William Kovacic has stressed in speeches, the world marketplace for antitrust ideas needs to have the guidance of the US enforcement agencies. They should not have to ferret it out from commentaries and speeches. The Merger Guidelines have been the most emulated feature of US antitrust enforcement worldwide. It would be unfortunate to squander the leadership role by a failure to stay up-to-date or a failure to keep the world informed.

Many of the QFPCs are highly interrelated. Therefore, rather than attempting to answer the questions one at a time, we will discuss certain issues that hopefully will throw light on a number of the questions. Our comments here also will not attempt to touch on every issue or respond to every question raised in the notice.

The remainder of this submission is organized as follows: Section II discusses issues related to the goals of merger analysis. It also introduces the issue of imperfect information and the role of presumptions. Section III focuses on market definition. Section IV focuses on unilateral effects analysis, including the possible role of price pressure indices ("*PPIs*"). Section V provides some brief comments on coordinated effects. Section VI provides some brief comments on efficiencies.

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[1] Professor Salop and Dr. Moresi represent only their own views and not necessarily the views of anyone else at Georgetown University Law Center, CRA or elsewhere. We are submitting these comments on our own and not on behalf of any client. We were not commissioned by anyone for preparing these comments.

II. The Goals and Structure of Merger Analysis

We believe there is substantial consensus about the economic goal of merger analysis under the Merger Guidelines. That goal is to identify mergers that have a substantial likelihood of reducing competition, relative to an appropriate benchmark. However, beyond this general goal, there is more controversy and confusion about the proper scope of the analysis. There also is potential controversy regarding the exact goals of merger enforcement, as opposed to simply merger analysis. We want to begin with some comments on these issues.

A. Competitive Effects Generally

The central focus of merger analysis involves competitive effects, that is, predicting the likelihood that a merger will reduce competition. The components of this analysis set out in the current Merger Guidelines – market definition; identification of market participants; calculation of market shares and concentration; evaluation of potentially adverse competitive effects; ease of entry; efficiencies; failing firm – are just the means of evaluating the likely competitive effects of the merger. In particular, market share and concentration statistics are one type of circumstantial evidence for predicting the likely competitive effects. They are not the only type of evidence or even necessarily the best evidence. For example, evidence from "natural experiments" (such as the pricing evidence discussed in *Staples*) might provide far more compelling evidence of likely competitive effects than the inference that could be drawn from market shares. This may be true for both high and low market shares. A longer overview on these issues may be warranted in the Guidelines Update.

B. Exclusionary Conduct

The Merger Guidelines discuss two types of adverse competitive effects – coordinated effects and unilateral effects. Merger analysis focuses on the ability of a firm or group of firms to maintain or raise price (or reduce quality, etc) to an anticompetitive level in the post-merger marketplace. The Merger Guidelines fail to recognize explicitly that an additional route to achieving, maintaining or enhancing market power in the post-merger world would be to raise the costs of competitors and/or entry barriers, for example, by inducing input suppliers (possibly including distributors) to act in ways to disadvantage those competitors.[2] These cost increases could facilitate adverse coordinated and/or unilateral effects. This may be a significant issue for some mergers. This analysis also explains why and when competitor complaints can be consistent with consumer harm.

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[2]   This outcome might occur if one of the merging parties is vertically integrated. It also might occur if the merging firm will be large enough to be a "power buyer" that can pressure upstream suppliers. For more details on a possible analytic framework, see Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 Yale L.J. 209 (1986); Steven C. Salop, Anticompetitive Overbuying by Power Buyers, 72 ANTITRUST L.J. 699 (2005).

This latter point is significant because some commentators and courts erroneously infer that competitor complaints are a signal that the merger is procompetitive.[3]

C. **Maintaining Market Power**

The Merger Guidelines state that the "unifying theme" is that mergers "should not be permitted to create or enhance market power or to facilitate its exercise." §0.1. This statement omits the idea that mergers also should not be permitted to allow the "maintenance" of market power. This does not appear to be simply careless drafting in an otherwise very carefully crafted document.[4] Instead, it appears to represent a policy choice that pre-merger market power is "grandfathered," and the only relevant policy concern is to ensure that mergers will not "enhance" market power. This issue is exhibited explicitly in the use of the "prevailing price" as the starting point for the hypothetical monopolist *ssnip* test. This methodology also can fall victim to the famous *Cellophane Fallacy*. Both these issues are discussed below.

D. **Optimal Deterrence**

As part of its determination of its enforcement decisions, including the "safe harbor" and "presumptively anticompetitive" thresholds for the Guidelines Update, it would be useful for the Agencies to consider the impact of its standards on deterrence and the optimal balancing of the likelihood and magnitude of harms from false positives and false negatives. This is not a novel idea. The current Merger Guidelines refer to these issues at the end of §0.1.

Analysis of a particular merger is designed to identify the likelihood that a particular merger will lead to anticompetitive effects. Because merger analysis takes place with limited information in a short time frame, there always are concerns about "false positives" and "false negatives." False negatives include anticompetitive transactions that are not identified, anticompetitive transactions that are identified but not enjoined by the courts, and transactions where the remedy is insufficient. False positives include procompetitive or competitively neutral (but socially beneficial) mergers that are enjoined or abandoned as a result of Agency enforcement actions.

This imperfect information also affects the rates of deterrence. In analyzing optimal deterrence, one would include in the false positives column the potential for procompetitive (or competitively neutral but socially beneficial) mergers to be deterred

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[3] Judge Posner's *HCA* opinion is one example of this reasoning. Hospital Corporation of America v. F.T.C., 807 F.2d 1381, 1391-92 (7th Cir. 1986) ("The hospital that complained to the Commission must have thought that the acquisitions would lead to lower rather than higher prices – which would benefit consumers, and hence . . . support the view that the acquisitions were lawful.").

[4] There also is the issue of mergers that can reduce or eliminate potential competition. Enforcement in this areas has fallen into disuse over time, despite its importance in high tech markets where market structure in the future can be substantially affected by mergers that take place before products actually are introduced into the market. The Agencies should consider policies to revitalize and clarify its enforcement intentions regarding mergers that affect potential competition.

by fear of enforcement actions. It also might include recognition of possible benefits of maintaining well-functioning markets for property rights. A full analysis of deterrence also would take into account the costs and potential errors in enforcement, including the idea that an over-burdened staff might overlook some anticompetitive mergers or attempt to block procompetitive ones with insufficient evidence.

Deterrrence analysis also would take into account the costs inflicted on merging firms and the potential harmful effects of deterring procompetitive mergers by risk-averse firms. Deterrence analysis also would include anticompetitive mergers that are attempted and then identified, but inflict administrative costs on the Agencies and the courts.

Deterrence analysis is complex. Intuition might suggest that false positives would lead to over-deterrence and false negatives would lead to under-deterrence. That is true, but it overlooks another very important element: error generally leads to under-deterrence. To illustrate with an extreme example, suppose that the state trooper's radar gun is imperfect so that a driver is equally likely to be ticketed whether going 20 mph under the speed limit or 20 mph over the limit or anywhere in-between. In that case, the likelihood of conviction is not related to the driver's conduct. The driver might as well exceed the speed limit. After all, the speed does not affect the likelihood of being held liable for speeding and going 20 mph below the speed limit might make the driver late for an important meeting. Given these circumstances, why bother slowing down? As a result, there would be under-deterrence.

The concept of "incipiency" also relates directly to optimal deterrence. Incipiency was interpreted in the past in terms of stopping a trend towards concentration. But, a more salient interpretation of incipiency in a modern decision-theoretic analysis might be that the Congress premised Section 7 on the view that false negatives (and under-deterrence) are a more serious concern than false positives (and over-deterrence).[5] The Agencies should clarify the role of this balancing in setting out its enforcement intentions.

Retrospective evaluation of proposed transactions that were permitted, abandoned or remedied can provide the Agencies with some information on whether there has been a bias towards false negatives or false positives with respect to those transactions.[6] Retrospective analysis of permitted mergers obviously also would be a rich source of information. There is also an issue of whether the assumptions underlying the Merger Guidelines need revision. One possible issue involves the magnitude of the presumption of general efficiency benefits (as distinct from cognizable efficiency benefits established

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[5] By way of comparison, the courts today seem to treat false negatives as the more serious problem in the case of joint pricing (i.e., price fixing), and false positives as the more serious problem for certain unilateral pricing conduct (e.g., predatory pricing and unconditional refusals to deal).

[6] For example, a likelihood of significant false negatives might be inferred from the number of transactions that are abandoned after issuance of a second request. Assuming that those firms had been well counseled, one might wonder whether a number of these were likely anticompetitive transactions that nonetheless were attempted in the expectation of a significant likelihood that they would slip though the Hart-Scott-Rodino ("HSR") process without being identified. (It also might be interesting to track this statistic over time.)

for a particular merger). As discussed below, some economic scholarship might be read to suggest that mergers are not as driven by efficiencies as seems to have been assumed in the 1980s.[7]

Deterrence is not just affected by the substantive merger standard. It also is affected by aspects of the merger enforcement process. The most obvious issue is the agency enforcement decision threshold, that is, the minimum expected probability of winning in court that the Agencies' management require in order to justify going to court. Looking over the past 30 years, the previous conventional wisdom was that the Agencies (and Agency lawyers) were overly aggressive. Today, the situation may have become reversed, with the Agencies being highly risk averse about bringing cases. Commentators sometimes look at the won-loss record to evaluate aggressiveness. But, it is well-known from the law and economics literature that the won-loss rate is mostly determined by settlement behavior and uncertainty that deters litigation in all but the hardest cases when the stakes are symmetric and biases the won-loss record when the stakes, litigation costs and degree of risk aversion are asymmetric.[8] In that sense, the agencies and commentators may be paying too much attention to won-loss rates.

Settlement procedures also are relevant to deterrence. For example, a strict requirement of fix-it-first with no subsequent settlement negotiations likely would increase the degree of deterrence.

Deterrence also would be affected by the remedial standard. One remedial standard might be to enjoin all incremental elements of a transaction that are incrementally welfare-reducing. A more permissive remedial standard would require divestitures sufficient only to prevent overall consumer harm from the merger (rather than lead to consumer benefit).[9] This latter standard might lead to insufficient deterrence. With this latter standard, merging firms could safely expand the transaction to include certain anticompetitive elements, as long as they did not go far as to make the entire transaction consumer welfare-reducing. Coupled with a likelihood that some anticompetitive deals would slip through would yield a negative expected welfare effect on average. This raises the question of whether the agencies use this lower remedial standard or whether they actually parse all the elements of the transaction to ensure that it maximizes consumer welfare, or somewhere in between.

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[7] For example, *see* Jonathan B. Baker & Carl Shapiro, *Reinvigorating Horizontal Merger Enforcement*, *in* HOW THE CHICAGO SCHOOL OVERSHOT THE MARK 235, 256 (Robert Pitofsky ed., 2008).

[8] For example, *see* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984), and the literature generated by their article.

[9] To illustrate, consider the following abstract example. Suppose that a divestiture of X% of an overlapping product line in the relevant market would prevent the merger from causing consumer harm (relative to the pre-merger situation), but a divestiture of Y%>X% of the overlapping product line would maximize consumer welfare. In this sense, the part of the merger that involves the (Y-X)% *increment* in the merger reduces consumer welfare at the margin. Requiring the divestiture of Y% instead of X% would increase consumer welfare at the margin.

While these issues have not been made explicit in the Merger Guidelines, liability and remedial standards should be interrelated. For example, if the merger remedy process is weak, then tougher substantive standards would be required to achieve optimal deterrence, or vice versa. Thus, analysis of these issues and the potential reforms should be considered as part of the Update process.

E. Imperfect Information and Relevant Market Definition

The QFPCs ask for comments about the hypothetical monopolist *ssnip* test. In our view, that test is an elegant but complicated and imperfect methodology. The QFPCs (and our comments here) provide a list of potential criticisms. Other commentators no doubt will offer additional criticisms. However these criticisms are resolved in the Guidelines Update, these criticisms add up to an important theme: market definition will often yield ambiguous results. It might make sense to explicitly concede this point in the Guidelines Update.

That is, the Guidelines Update could recognize that market definition is an imperfect exercise in which the "most appropriate" market definition is sometimes unclear. There may not be convincing evidence for a unique "most appropriate" market, as opposed to a substantial "likelihood" that one or another market definition is appropriate.[10] The concession of this point would nudge both the Merger Guidelines and the law to focus more solidly on the bottom line issue of likely competitive effects. Of course, the decision to downgrade the role of concentration and market shares cuts both ways. On the one hand, it obviously would weaken the *Philadelphia National Bank* ("*PNB*") structural presumption of harm. On the other hand, it may not be recognized that it also would weaken the case for safe harbors based on market share and concentration.

We are not suggesting that market definition be excised from merger analysis. Section 7 of the Clayton Act requires one or more lines of commerce and sections of the country to be defined. Market shares and concentration also retain relevance for predicting competitive effects. But, we expect that there is a virtual consensus that market shares and concentration (the results of market definition) are mainly valued for helping to analyze competitive effects, not as an end in and of itself. This recognition should be made explicit in the Guidelines Update.

We discuss market definition analysis in more detail in Section III below.

F. Initial Screens, Safe Harbors and Structural Presumptions

This discussion of possibly downgrading the importance of market shares and concentration (and thus rendering the market definition chosen less of a do-or-die determination) raises the issue of the four distinct ways in which market share and concentration are used in the merger enforcement process. (Of course, other factors such

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[10] On this point, see Michael Katz & Howard Shelanski, *Merger Analysis and the Treatment of Uncertainty: Should We Expect Better?*, 74 ANTITRUST L.J. 537 (2007).

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as the *UPP* test or the *GUPPI* measure discussed below also could be used in these four ways, as discussed in Section IV.)

First, *PNB* and subsequent cases discuss the role of market share and concentration in forming a *legal presumption* that a transaction is anticompetitive, that is, a rebuttable presumption that shifts the burden to the merging parties to explain why the merger is not anticompetitive.

Second, the Merger Guidelines use market shares and concentration for setting the enforcement threshold for identifying mergers as *presumptively non-harmful*, including irrebuttable (or virtually irrebuttable) *safe harbors*.

Third, the Merger Guidelines use market shares and concentration for setting the threshold for identifying mergers as *presumptively anticompetitive*, that is, mergers that will lead to an enforcement action if not rebutted by exculpatory evidence provided by the merging parties. This enforcement presumption is different from the *PNB* legal presumption because it involves only the Agencies' enforcement decision.[11] (As discussed in Section IV below, when there is a sliding scale, there could be multiple levels of enforcement presumptions, with different burdens placed on the Agencies and the merging parties.)

Fourth, the Merger Guidelines and the courts use market shares and concentration as one type of probative circumstantial evidence for determining the likelihood of adverse competitive effects. In this regard, there is other circumstantial evidence and also the potential for direct evidence, and the non-market share evidence may be more compelling.

In the 1992 Merger Guidelines, there are two safe harbors, HHI<1000 and HHI<1800/ ΔHHI<100. (However, the safe harbors are not absolute; the Guidelines state only that "ordinarily" such mergers require no further analysis. §1.51.) The threshold for a "presumptively anticompetitive" transaction involves HHI>1800/ΔHHI>100. For unilateral effects, a combined market share of the merging firms of less than 35% might be a safe harbor, or a market share exceeding 35% might be considered presumptively anticompetitive, or neither; no one can really tell from reading the current Merger Guidelines at §2.211.

It appears that the Agencies' de facto safe harbor in the previous administration was an HHI significantly exceeding 1800. Some leading practitioners have suggested informally that the threshold for identifying a merger as presumptively anticompetitive was either 4-to-3 or perhaps even 3-to-2 (plus a fringe of much smaller companies), though we are sure that there could be debate on that issue.[12]

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[11] Of course, the legal presumption and the enforcement presumption are related and could converge over time.

[12] For the review of some data from the 2001-2005 period, see Andrew I. Gavil, William E. Kovacic & Jonathan B. Baker, ANTITRUST LAW IN PERSPECTIVE (2nd Edition) 516 (2002).

It is clear that the legal presumption based on market share/concentration has been dramatically weakened over time. In *Baker-Hughes*, for example, future Supreme Court Justices Thomas and Ginsburg characterized concentration as nothing more than a "convenient starting point" for merger analysis.[13] If there is a structural presumption today, it certainly is much higher than the approximately 35% combined market share in *PNB*. In *Heinz,*[14] the D.C. Circuit applied a strong presumption to a combined share of 35%, but that involved what the appeals court saw as essentially a 3-to-2 merger.

We assume that part of the Guidelines Update will be to revise the safe harbor and "presumptively anticompetitive" enforcement thresholds. In this regard, there obviously is no reason why either the safe harbors or the structural presumption must be solely based on market shares and concentration, rather than other variables. We assume that the Guidelines Update may formulate thresholds for unilateral effects concerns that are based on price pressure indices ("*PPIs*") – either to supplement or to replace the HHI and market share thresholds in the 1992 Merger Guidelines. Perhaps a safe harbor based on ease of entry also will be added explicitly. Economic analysis by Farrell & Shapiro[15] of their *UPP* test (and earlier articles by Werden,[16] O'Brien & Salop,[17] and others) suggests the relevance of using a *PPI* for mergers that raise unilateral effects concerns.[18] We will discuss these *PPIs* in more detail in Section IV.

III. The Hypothetical Monopolist SSNIP Test for Market Definition

As mentioned above, the hypothetical monopolist *ssnip* test is an elegant but complicated and imperfect methodology. The design and/or implementation of the *ssnip* test

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[13] United States v. Baker Hughes, Inc., 908 F.2d 981, 984 (1990).

[14] FTC v. H.J. Heinz Co., 246 F.3d 708, 716-17 (2001). We were economic consultants to the merging parties for this transaction.

[15] Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, Working Paper, 25 November 2008 (UC Berkeley Dept. of Econ.), *available at* http://faculty.haas.berkeley.edu/shapiro/alternative.pdf.

[16] Gregory Werden, *A Robust Test for Consumer Welfare Enhancing Mergers Among Sellers of Differentiated Products*, 44 J. INDUS. ECON. 409 (1996).

[17] Daniel O'Brien & Steven C. Salop, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 ANTITRUST L.J. 559 (2000).

[18] Werden calculates the compensating marginal cost reductions ("*CMCR*s") for the merging products that would ensure that prices would not change post-merger. The *CMCR*s are *PPIs* in the sense that higher values of the *CMCR*s indicate larger potential unilateral effects (in the absence of efficiencies, repositioning and entry). Farrell & Shapiro propose an upward pricing pressure ("*UPP*") test for each of the merging products. The *UPP* test is a binary *PPI* that indicates whether the price of a product is subject to upward or downward pressure (in the absence of repositioning and entry, but accounting for an "efficiency credit"). O'Brien & Salop propose a *PPI* for each of the merging products that under certain conditions measures the magnitude of the potential unilateral effects (again, in the absence of efficiencies, repositioning and entry).

definitely need some renovation after all these years. In this section, we will discuss several areas where some updating would be helpful.

A. <u>Smallest Market Principle</u>

The "smallest market principle" ("SMP") clearly should be erased. First, the SMP erroneously suggests that a careful application of the *ssnip* test will identify one and only one relevant market (for each product sold by the merging parties). That outcome is not the case in practice. The Guidelines counsel the analyst to begin with one of the products of one of the merging firms. Even if each of the merging firms produces a single brand of a single product, the separate starting points (one for each firm) and the *ssnip* algorithm often may lead to two separate "smallest" markets. The situation is even worse once non-uniform price increases are considered. The *ssnip* test permits the analyst to evaluate a uniform price increase or a price increase only for some products within the proposed market. Depending on the pricing assumption, a different smallest market may emerge. Finally, the Merger Guidelines envision the possibility of price discrimination markets, whereby prices are increased only to certain customers or groups of customers. This pricing assumption could lead to a yet different smallest market.

Second, in combination with the algorithm for expanding the candidate market, the SMP also can significantly distort the analytic process. When an iteration of the *ssnip* test finds that the *ssnip* would be unprofitable, the Merger Guidelines direct the analyst to "add to the product group the product that is the next-best substitute for the merging firm's product." §1.11. The identification of the next-best substitute can make a huge difference to the outcome of the market definition algorithm. For example, suppose that pens vary along a price/quality continuum. Consider a merger involving a mid-level pen brand. On the one hand, if the very next-best substitute is a lower price/quality brand, the algorithm may drive the market definition to a "low end" pen market. On the other hand, if the very next-best substitute is a higher price/quality brand, the algorithm may drive the market definition to a "high end" pen market. Which brand of pen is the very next-best substitute clearly could be a very close call. Yet, this decision could make a huge difference if the algorithm drives the market expansion process in one direction rather than another. Indeed, it could determine whether of not the merging parties even are placed in the same market.

Third, and most important, the SMP makes no sense as a matter of policy.[19] A finding that there are no significant competitive concerns in the most narrow possible market definition does not mean that there are no concerns in a broader market. To illustrate, consider a proposed merger between Heinz and Beech-Nut. Suppose that the *ssnip* test found a narrow market for premium baby food comprised of just Gerber and Beech-Nut, a narrow market that does not include Heinz. Suppose that it also found another narrow

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[19] For a similar view, *see* Jonathan B. Baker, *Market Definition: An Analytic Overview*, 74 ANTITRUST LAW JOURNAL 129, 148 (2007).

market for Gerber and Heinz that does not include Beech-Nut.[20] Those two market definitions do not imply that a merger between Beech-Nut and Heinz necessarily would be free of significant competitive issues, involving either unilateral or coordinated effects. That is, there might be competitive problems in a market comprised of all three brands. For example, suppose that the concern were coordinated effects. A finding that coordination between Gerber and Beech-Nut likely would not be undone by the fear of competition from Heinz obviously does not imply that bringing Heinz into the coordination as a third participant would have little or no incremental effect on the likelihood of success or the magnitude of the coordinated price increase. With respect to unilateral effects, a finding that Gerber and Beech-Nut satisfy the *ssnip* test does not mean that competition between Beech-Nut and Heinz is so minimal that there could be little or no significant adverse unilateral effects from a Beech-Nut/Heinz merger.[21]

Fourth, it is not clear what purpose the SMP serves today. In 1982, there was a concern about gerrymandered markets, defined using mushy *Brown Shoe*[22] factors, solely in order to produce high market shares. Therefore, it was suggested, a rigorous and mechanical algorithm was needed to prevent the gerrymandering. Even if this provided the rationale for the algorithm in 1982, it does not explain the rationale for the SMP. The gerrymandering involved overly narrow markets, not overly broad markets.[23] And, in any event, this rationale is no longer relevant even for the algorithm. Merger analysis has become far more rigorous in the last 27 years, partly from what was learned by the discipline of the *ssnip* test. Now that the lesson has been learned, the crutch of the mechanical algorithm and the SMP is no longer needed.

Both the pen example and this observation about gerrymandered markets make a larger point about the role of market definition in the merger review process. Market definition is an either/or bright line decision. Either two products are in the same market or they are not. There is no continuum of higher and lower likelihood. This is not a problem where there is a huge break in the chain of substitutes, say in the case of geographic markets for supermarkets in Wyoming. But, often the chain of substitution does not involve huge breaks. Moreover, the quantitative estimates of cross-elasticities of demand and own-

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[20] This example also makes another point. A particular product can be placed in multiple markets. The antitrust market definition exercise does not divide up the world into a set of immutable mutually exclusive markets, in which a particular product can only be placed in a single relevant market.

[21] We have heard the argument that the SMP is an anomaly that can be easily handled simply by increasing the size of the *ssnip*. We do not think that this is a good solution. Raising the *ssnip* also may bring in additional products, so it may lead to an overly broad market. In response, it might be argued that the *ssnip* should only be increased when it is discovered that the SMP is leading to an overly narrow market. But, that response is circular. If it is known that the market is too narrow by the test, then there must be another better test being used.

[22] Brown Shoe Co. v United States, 370 U.S. 294, __ (1962)

[23] The algorithm for broadening the market when the *ssnip* test indicates an unprofitable price increase can be a useful tool. But, as illustrated with the pen example, following it slavishly can distort the analysis. And, there also is no reason to be constrained by the tool. If a merger raises competitive concerns in a market that satisfies the *ssnip* test of profitability, then it raises concerns. The concerns exist regardless of whether a particular mechanical path was taken to reach that valid market definition.

elasticities of demand are noisy, if they are estimated at all. Other evidence of reasonable interchangeability also generally is imperfect or ambiguous, and often highly subjective. In these situations, merger analysis (indeed, all of antitrust) should not place so many eggs in the market share basket.

B. The Cellophane Fallacy and the "Prevailing Price" Benchmark

It is well known that the standard application of the *ssnip* test falls victim to a variant of the *Cellophane Fallacy* when there is pre-merger tacit or express coordination taking place. For example, consider a hypothetical merger between the only two airlines serving a small city located 60 miles from a larger city with a much larger airport . Suppose that those airlines are able to successfully tacitly coordinate, so that their prices are set just below the price that would cause travelers to drive to the larger city airport. In that situation, the relevant market would be found by the *ssnip* test to include the many flights originating at the larger city airport. As a result, the market share of the two small airlines might be so small that their merger would fall into the HHI safe harbor.

If there is highly successful tacit coordination, the actual loss necessarily would exceed the critical loss because the firms already have achieved the profit-maximizing price. Indeed, this is precisely how the *Cellophane Fallacy* was committed in the *DuPont* case.[24] A standard critical loss analysis would find that a *ssnip* above the tacitly coordinated price would be unprofitable, which would imply that the group of products is not a relevant market under the *ssnip* test. The market then would be broadened beyond the tacitly coordinating group.

This analysis raises both a policy issue and a practical issue. The policy issue is whether or not merger enforcement should "grandfather" pre-merger market power and market conditions.[25] The parties might argue that the airline merger would not have any adverse incremental effects on consumers – because coordination is easy and the parties are already successfully tacitly coordinating.

The flaw in the parties' argument is that economics teaches that tacit coordination often is neither perfect nor durable. Coordination can break down as market conditions change. Or, mistakes might be made that set off "pesky" price wars. Coordination also may be imperfect when information and trust are not perfect. As a result, grandfathering the current structure can allow coordination to be *perfected* and can eliminate the potential for the market outcome to improve. The current Merger Guidelines suggest that grandfathering is not a blanket policy. The Merger Guidelines state that the prevailing price will not be used for the *ssnip* test when "premerger circumstances are *strongly suggestive* of coordinated interaction." §1.11 *(emphasis added)*.

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[24] United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377 (1956).

[25] As noted above, the current Merger Guidelines do not include the goal of preventing the "maintenance" of market power.

The practical issue is the following: what finding would be required to hold that the evidence is "strongly suggestive." A history of express collusion is the easy case. But, what about the scenario of tacit coordination. What is the required evidence? For example, suppose that high pre-merger margins are earned by firms with excess capacity selling products that are not highly differentiated. These facts might suggest the existence of tacit coordination. Should that evidence be sufficient to be called "strongly suggestive?" Or, would more evidence from the coordination "checklist" be required in order to draw that conclusion? When firms each produce a single differentiated product, would prices exceeding Bertrand equilibrium prices raise a sufficiently strong suspicion of tacit coordination?[26] It is not clear what standards and evidence the agencies are utilizing for this issue. We recommend that the Agencies include this issue on their Update agenda. Falling victim to the *Cellophane Fallacy* is not just embarrassing. It is also bad policy.

There is also an issue of how to determine the relevant market and calculate market shares when there is evidence of tacit coordination. If the "prevailing price" is not used for the *ssnip* test, what price benchmark should be used? One obvious candidate is the prevailing price *minus a ssnip*. In that scenario, the *ssnip* would involve a price increase *up to the current price level*. That price increase would be profitable, virtually by definition since the coordinating group could have chosen a lower price. This means that the group of products sold by the established competitors would satisfy the profitability condition for finding a relevant market. The relevant participants thus would be limited solely to the current producers. The relevant participants would not include "uncommitted entrants" who would enter only if the price were raised by a *ssnip above the current price*. The relevant market shares would be the actual market shares of the established producers.

C. **Differentiated Products**

As discussed above with respect to the *Cellophane Fallacy*, high pre-merger margins can signal successful tacit coordination. However, there are other explanations for high pre-merger margins. One standard explanation is differentiated products. As stressed in the articles by Katz & Shapiro[27] and O'Brien & Wickelgren[28] (collectively, "KSOW"), high pre-merger margins also can signal low own-elasticities of demand for the individual differentiated products.

Of course, if this is the case, then it would be useful to take this information into account in carrying out the *ssnip* test. In this regard, KSOW have proposed a methodology that takes into account the information about demand elasticity contained in the price/cost

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[26] As discussed below, when multi-product firms sell imperfect substitute products (possibly outside the relevant market), the analysis is more complicated.

[27] Michael L. Katz & Carl Shapiro, *Critical Loss: Let's Tell the Whole Story*, ANTITRUST, Spring 2003, at 49;

[28] Daniel P. O'Brien & Abraham L. Wickelgren, *A Critical Analysis of Critical Loss Analysis*, 71 ANTITRUST L.J. 161 (2003).

margins of short-run profit-maximizing Bertrand competitors, each of whom sell as a single product.

This is not to say that the simple form of the KSOW test is perfect for every market situation where the firms are not coordinating. The simple KSOW test assumes that each firm produces only a single product and maximizes short-term profits in Bertrand competition. Applying the test to multi-product firms or to firms that maximize long-term profits requires a somewhat different market definition condition. KSOW have suggested that the exact form of the test might be changed to take into account alterative structural assumptions. But, whatever the exact form of the test, it is clear that using all the available information – on demand substitution, supply-side factors that affect the residual demand curve, and the nature of the competitive process within the industry under consideration that affects pricing – makes economic sense. At the same, the fact that the exact test differs according to structural conditions that may be difficult to estimate perfectly is another reason why the importance of market definition and market shares might be downgraded.

This KSOW methodology also raises another key issue. The KSOW methodology tends to lead to narrower markets than often are found now.[29] This raises the question of whether this is the desired outcome or whether it implies that the *ssnip* level should be raised to compensate. Of course, this decision also is bound up with the issue of the strength of the market share presumption that will be adopted in the Guidelines Update. And, the decision obviously also is bound up with the deterrence issues raised earlier.

D. <u>Multi-Product Firms</u>

Another determinant of the price/cost margin in a differentiated products market is the set of products sold by the competing firms. Multi-product firms selling imperfect substitute products would tend to charge higher prices than single-product firms (*ceteris paribus*). Multi-product firms selling complementary products would tend to charge lower prices. Properly implementing the *ssnip* test requires an understanding of multi-product market structure.

1. <u>Substitutes</u>

When a firm sells multiple products that are substitutes, the firm will tend to charge higher prices. Consider a hypothetical pen manufacturer that sells both premium fountain pens and premium ballpoint pens. That firm might reason that if it reduces the price of its fountain pens, most of its additional sales would be gained at the expense of other premium fountain pen makers, but some would come from its own sales of premium ballpoint pens. That cannibalization of its own sales would deter it from reducing price (and incentivize it to raise price), relative to an otherwise identical firm that sold only premium fountain pens.

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[29] In fact, coupled with the SMP, it may often be the case that the merging firms would not be placed in the same relevant market.

This has important implications for the *ssnip* test for a possible premium fountain pen market. Suppose a number of the pen makers actually sell both types of pens. That fact implies that the prevailing price of premium fountain pens also reflects the impact on premium ballpoint profits too. But, the Merger Guidelines instruct the merger analyst to assume that the hypothetical monopolist is "the only present and future producer or seller of those products in that area." § 1.0. We interpret that instruction to mean that the hypothetical monopolist would be selling premium fountain pens only (not both premium fountain pens and premium ballpoint pens).[30] Thus, the prevailing prices chosen by the multi-product firms might well exceed the profit-maximizing price by a hypothetical monopolist that sold only premium fountain pens. As a result, the *ssnip* test is more likely to find that the premium fountain pen price increase is unprofitable and thus broaden the market, possibly to include all pens, or possibly to include other writing implements as well. This might suggest in turn that the proper implementation of the *ssnip* test would begin with a price below the pre-merger prevailing price.

An adjustment also must be made to the KSOW test. KSOW use the prevailing margins to infer (or estimate) the magnitude of the own-price elasticity of demand for pens faced by each manufacturer. In the model with single-product firms used by KSOW, the own-price elasticity is simply equal to the inverse of the prevailing margin. However, when firms sell multiple products that are imperfect substitutes – say, premium fountain pens and premium ballpoint pens – the inverse of the prevailing margin *understates* the magnitude of the own-price elasticity.[31] If one does not account for this inference problem, the KSOW approach would tend to introduce a bias toward finding that a *ssnip* (above prevailing prices) would be profitable, and hence a bias toward defining markets that are too narrow (if one uses prevailing prices as the starting point).[32]

2. Complements

Analogous issues arise when manufacturers produce complementary products. For example, suppose that a firm produces and sells two complementary products, (say) pens and paper, in oligopoly markets. That firm generally will sell its pens at a lower price

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[30] The current Guidelines also instruct us to implement the hypothetical monopolist test "assuming that the terms of sale of all other products are held constant." § 1.0. This also suggests that the hypothetical monopolist would be selling only fountain pens.

[31] The understatement of the own-price elasticity leads to a critical aggregate diversion ratio that is too low. This can be verified by following the calculations in Joseph Farrell & Carl Shapiro, *Improving Critical Loss Analysis*, ANTITRUST SOURCE (February 2008). The bias however can be eliminated by extending the KSOW approach to a setting with multi-product firms. For further details, *see* Serge Moresi, Steven C. Salop & John Woodbury, *Implementing the Hypothetical Monopolist SSNIP Test With Multi-Product Firms*, ANTITRUST SOURCE (February 2008) (hereafter, "*MSW*"). Note that *MSW* use prevailing prices and thus do not account for the *Cellophane* issue.

[32] Thus, if the KSOW test were implemented using prevailing prices, there would be two biases that work in opposite directions. On the one hand, because prevailing margins are "too high," the KSOW test would tend to define a market that is too narrow, because of the inference problem. On the other hand, because prevailing prices are "too high," the KSOW test would run the risk of defining a market that is too broad because of the *Cellophane* issue.

than it would if it did not also sell paper, *ceteris paribus*. This is because a lower price for pens increases the firm's sales of paper as well as its sales of pens.[33]

Now consider the *ssnip* test for a putative market comprised of pens only. Since the hypothetical monopolist is assumed to sell pens but not paper, it would have an incentive to raise the price of pens *above the prevailing price* because it does take into account the impact on paper profits. Indeed, if the complementarity is significant, this procedure in principle could lead to the result of a relevant market comprised solely of the pens sold by a single firm. This, of course, would not be a very helpful market definition and is another illustration of the problems raised by the SMP. Accordingly, the Guidelines Update should clarify whether the *ssnip* test should be applied to the prevailing prices of pens – in which case the market definition exercise must account for the fact that the *ssnip* test tends to delineate markets that are *too narrow* – or whether the *ssnip* test should use different prices above the prevailing prices.[34]

3. Conclusions

To summarize, market definition in industries with multi-product firms raises important issues that need to be addressed in the Guidelines Update. These issues in principle can be analyzed by extending the framework of the hypothetical monopolist test in various ways. We list three options in the note.[35] However, we want to emphasize the fact that this issue is one more complexity that makes market definition less exact in practice. It is one more reason to focus less on market shares and more on other competitive effects evidence.

E. Price Discrimination Markets

We agree that price discrimination markets often are relevant to understanding the competitive effects of mergers. This is particularly the case in the sale of individually negotiated intermediate products. Once the SMP is dropped, then analysts and courts may feel less tension about there being what might be seen as a broad market for the product generally and narrower price discrimination markets for particular customers.

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[33] This is often referred to as the "Cournot Complements" effect.

[34] If the *ssnip* test were implemented using the KSOW approach and prevailing margins, ignoring the inference problem discussed above would lead the analyst to overstate the magnitude of the own-price elasticity and thus understate the profitability of a *ssnip*. Again, the KSOW test based on prevailing prices would involve two biases that work in opposite directions.

[35] In this regard, we see three possible options. First, the *ssnip* test could use prevailing prices as the starting point, and assume that the hypothetical monopolist owns the other substitutes or complements, but does not change the prices of those "outside goods." Second, it could be assumed that the hypothetical monopolist owns only the products under consideration, and the *ssnip* test could use prices that are not equal to prevailing prices – higher (for complements) or lower (for substitutes). Third, the issue could be ignored (whereby prevailing prices would be used and the hypothetical monopolist would be assumed not to sell the other substitutes or complements), and then the market shares could simply be ignored in the competitive effects analysis.

(Indeed, this might be a place where the discredited term *sub-markets* actually may be useful.)

However, we recognize that this concept of separate markets or submarkets might be confusing to non-specialists.   In this regard, another possible usage would be to define the broader relevant market and then focus the competitive effects analysis on those particular customers that would be targeted for higher discriminatory or negotiated prices. It is never the case that every consumer in a market is harmed or harmed equally by an anticompetitive merger. The same may be true for mergers in negotiated product markets. Some customers may be harmed while others may be able to protect themselves.

This same point applies to the role of "big buyers" in market definition and coordinated effects analysis. A few big buyers may be sufficient to deter tacit coordination and thereby protect all the buyers. But, that is not necessarily the case. Sometimes the big buyers can prevent themselves from being charged higher prices, but smaller customers still may suffer a price increase.

Indeed, an analogous issue arises in market definition if only a single sized *ssnip* is contemplated and analyzed. A small *ssnip* might be unprofitable because of the loss of the more "mobile" customers. The additional profits earned from the "captive" customers may be insufficient to offset the loss of the "mobile" customers. However, a larger *ssnip* might be profitable because the additional profits earned from the captive customers would increase.

IV. Unilateral Competitive Effects

It is clear that the Unilateral Effects section also needs revision. One need go no further than the garbled description of the impact of a 35% combined market share in the current Merger Guidelines. §2.211. After this part is revised and clarified, we will mourn the lost opportunity of reading it to students. What a fabulous example of drafting by a committee in conflict! But, the offsetting benefit is that students, the courts and others may actually understand the enforcement intentions of the agencies, including the issue of whether or not there is a safe harbor or anticompetitive presumption.

We begin with a few comments on repositioning and entry, and then discuss the role of "price pressure indices" for predicting potential unilateral effects.

A. Repositioning and Entry

The Unilateral Effects section should clarify the role of repositioning and required evidence to support repositioning claims.[36] The 2006 *Merger Commentary* suggests that

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[36] The Agencies also might consider a new umbrella descriptive term. *Repositioning* often involves brand extensions or the addition of optional new features rather than elimination of the previous product design and replacement by a different product design.

repositioning is seldom, if ever, sufficient to eliminate concerns. Coupled with tight agency standards towards cognizable efficiency benefits, this has led to a longstanding concern among commentators and practitioners that virtually every differentiated products merger could be said to raise a significant danger of adverse unilateral effects. It is important to clarify the Agencies' enforcement stance.

One possibility is that the perceived resistance to repositioning claims primarily involves an evidentiary issue. For example, we have consulted on consumer products mergers where there was substantial evidence of continuous brand extensions and brand repositioning by numerous competitors in the pre-merger world. In this situation, it would be hard to resist the notion that post-merger price increases in a product niche would lead to a high likelihood of responsive brand extension or repositioning by others. It is possible that the market structure or technology has changed, but absent such information, a tentative conclusion of "easy repositioning" would seem reasonable.

The likelihood of repositioning may be much less clear if there never had been brand extensions or other forms of repositioning in the pre-merger world. Under those conditions, a claim of rapid and easy repositioning might be seen as speculative, absent supportive evidence from the firms alleged to have potential to reposition.[37] Showing that repositioning would be rapid and impediment-free obviously also would be important. The burden might be placed on the merging firms to explain why history does not provide reliable evidence, rather than simply assuming that a history of competition has never presented a repositioning opportunity.[38]

Repositioning by rivals is a type of supply-side response like entry. The same debate about the role of historical evidence arises with respect to entry. A history of entry in response to demand growth or other market conditions strongly suggests the potential for entry in the post-merger market, and it complements the engineering and economic evidence of timeliness and likelihood. The real question is the opposite implication: does the lack of entry in the past imply that there likely are significant impediments to entry to prevent entry from preventing post-merger competitive harm? This is not necessarily the case. As observed by the court in *Waste Management*, the lack of entry could be the result of easy entry: incumbents were deterred from attempting to set supra-competitive prices out of a fear of entry.[39]

However, this answer is facile and actually implies the need for further analysis. Otherwise, one could get lost in the conundrum that a history of entry must imply supra-

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[37] The credibility of their testimony might be questioned for the usual reasons.

[38] We also note that the current Merger Guidelines focus on repositioning by the rivals of the merging firms. The merged firm also could reposition its product offerings post-merger, a competitive effect that might be significant in some mergers. We do not know whether it is common for merging firms to claim they will engage in such efficiency-enhancing repositioning, but it they do, the claim should not be treated as non-cognizable. However, we note that such repositioning dynamics might be quite complicated to analyze. For example, see Amit Gandhi, Luke M. Froeb, Steven T. Tschantz & Gregory Werden, *Post-Merger Product Repositioning*, 56 J. INDUSTRIAL ECONOMICS 49 (2008).

[39] *United States v. Waste Management, Inc. and Allied Waste Industries, Inc.*, 743 F.2d 976 (1984).

competitive prices and entry barriers, while a lack of entry implies easy entry and competitive prices.   Of course, one path out of the conundrum is the observation that entry does not occur solely in response to supra-competitive pricing. Entry also may occur in response to changes in preferences, demand growth, innovation and so on. Thus, to rebut a record of no entry in (say) a growing or dynamic market, it would be helpful to see evidence, for example, that the incumbent firms anticipated and responded to market changes faster than potential entrants. As with many claims, more confident resolution of the issue requires more substantial factual analysis.

B. Predicting Unilateral Effects With Price Pressure Indices

There are alternative methodologies for gauging the magnitude of potential unilateral effects, both at the screening stage and in the ultimate inquiry. Economists for years have used merger simulation models for estimating potential unilateral effects. As mentioned earlier, articles by Werden, O'Brien & Salop, and Farrell & Shapiro also have proposed the use of price pressure indices ("*PPIs*") to aid this analysis. These methodologies rely on information about diversion ratios, margins and efficiency benefits. In principle, they also could include information on supply side responses (such as entry and repositioning).

In these comments, we will focus on the role of these *PPIs* in competitive effects analysis. We do not envision these *PPIs* as eliminating a role of other evidence for evaluating potential unilateral effects, including both qualitative evidence and merger simulation models. However, because of the great interest in price pressure indices in the QFPCs and the antitrust community, these comments will focus on the indices.

1. The *GUPPI*

One can conceptualize the unilateral effects of a merger on consumer prices as a conflict between two opposing forces of upward and downward pricing pressure. The elimination of competition between the competing products of the merging firms generates upward pricing pressure. The efficiency benefits generate downward pricing pressure.[40]

The upward pricing pressure depends on the closeness of competition between the products of the merging firms, relative to other products inside and outside the relevant market, the price/cost margins and other factors.[41] In particular, the upward pricing pressure may be mitigated by the existence of other close substitutes and by supply-side responses (i.e., entry and repositioning). Other long-term or dynamic considerations, such as network effects and learning by doing also might exacerbate the upward pricing

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[40] For cost-savings, the downward price pressure involves the nominal price. For quality improvements, the downward price pressure involves the quality-adjusted price.

[41] Measuring the price/cost margin raises all the usual issues about the proper measure of cost. However, these clearly are not fatal concerns for the *UPP* or *GUPPI*. In fact, what is peculiar about criticisms based on cost measurement concerns is that an estimate of the price/cost margin is required for the *ssnip* test too.

pressure.[42] The downward pricing pressure from efficiencies may be mitigated by the various factors that limit the merger-specificity and cognizability of efficiencies.

The balance between the upward and downward pricing pressure determines whether the merger is likely to raise or lower the prices of the merging firms' products, *ceteris paribus*. Farrell & Shapiro define their *UPP* measure as a first-round "net" effect measure, as do O'Brien & Salop with respect to their comparable *PPI* measure.[43]

Rather than focus on "net" effects, we take a somewhat different approach here that clarifies some of the analytic and measurement issues. We define "*GUPPI*" as the "Gross Upward Pricing Pressure Index." *GUPPI* is intended to measure the upward pricing pressure solely from the closeness of substitution between the products of the merging firms, before adjusting for the possible mitigating effects of supply side responses and other factors, and before netting out the downward pricing pressure.

In formal terms, the gross upward pricing pressure (in dollar terms) on the price of the product produced by merging partner firm-1 as a result of substitution between that product and the product sold by its merger partner firm-2 is given by:

$$G_1 = DR_{12} \times M_2 \tag{1}$$

where DR_{12} is the diversion ratio from product-1 to product-2, M_2 is the price/cost margin of product-2, and x denotes the multiplication ("times") operator.[44] This is what Farrell & Shapiro refer to as the "cannibalization effect." For example, if DR_{12}=20% and M_2=\$50, then G_1=\$10. The gross upward pricing pressure for product-2 (in dollar terms) is defined similarly as $G_2 = DR_{21} \times M_1$.

Intuitively, the gross upward pricing pressure (*G*) is the "value of the diversion" to the merging partner. That value is higher when either the diversion ratio is higher, or the price/cost margin of the merging partner is higher (or both). In fact, it is the relevant measure of closeness of substitution in the current Merger Guidelines.[45] That is, the gross upward pricing pressure also is used to rank the next-best substitutes during the market definition exercise.

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[42] *See* Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market definition*, Working Paper (25 November 2008), at 28.

[43] Farrell & Shapiro and O'Brien & Salop do not account for the mitigating effects of potential supply-side responses (i.e., entry and repositioning). In addition, these analyses assume that firms behave according to static Bertrand competition. If one assumed instead that firms expect other firms to respond to their pricing initiatives. These considerations make the analysis more complex, as noted by Farrell & Shapiro, *Id*. at 14.

[44] We follow Farrell & Shapiro and assume that the merging firms are single-product firms. "We leave for future work how to formally test for *UPP* for Product 1 in situations where Firm A owns multiple products that interact on the demand side. While the basic intuition about opportunity cost is robust, this case is considerably more technically complex than the one discussed in this paper." *Id.* at 27(n. 76).

[45] §1.11(n. 9)("Throughout the Guidelines, the term "next best substitute" refers to the alternative which, if available in unlimited quantities at constant prices, would account for the greatest *value of diversion* of demand in response to a "small but significant and nontransitory" price increase." (*emphasis added*)

The gross upward pricing pressure also can be defined using the "percentage margin" instead of the "dollar margin." This leads to an index that could be used by the Agencies as an initial screen for unilateral effects, as we will discuss shortly. We thus refer to it as the "gross upward price pressure index" or "*GUPPI*" for short:

$$GUPPI_1 = DR_{12} \times m_2 \qquad\qquad\qquad (2)$$

where DR_{12} is the diversion ratio from product-1 to product-2 and m_2 is the percentage margin of product-2. This is essentially the "cannibalization tax" on product-1 expressed as a percentage of the price of product-2. For example, if DR_{12}=20% and m_2=50%, then $GUPPI_1$=10%. The *GUPPI* for product-2 is defined similarly as $GUPPI_2 = DR_{21} \times m_1$.[46]

The *GUPPI* does not purport to be equal to the merger-induced equilibrium price increase. It is merely an index of the upward pricing incentive of the merged firm for each of its overlap products, holding the prices of other products at pre-merger levels and ignoring other factors. (Under certain conditions, however, and ignoring other factors discussed below, the *GUPPI* can be used to obtain a precise measure of the predicted "first-round" price increase.[47])

The *GUPPI* does not account for other factors that affect the upward pricing pressure. Nor does it account for the downward pricing pressure caused by efficiencies. That is why it is called the "gross" upward price pressure index. However, it is worth focusing on *GUPPI* because it is the easiest factor to measure simply and quickly. Therefore, it is a good candidate for an initial screen. However, before discussing the issues related to its use as an initial screen or as setting the anticompetitive presumption, we want to start with its potential role as relevant evidence of unilateral effects.

The *GUPPI* is relevant "circumstantial" evidence of adverse unilateral effects. The *GUPPI* generally has been used by economists in this way. But, it is only one factor among others. These other factors also may be very important. First, the simple *GUPPI* formula does not take into account merger-specific efficiencies, such as production cost savings and product quality increases. Second, the *GUPPI* does not account for several other factors that are potentially important, including supply-side responses (i.e., product repositioning, uncommitted entry and committed entry), the closeness of other substitutes, the multi-product nature of many firms (i.e., the impact on pricing incentives of the merged firm's sales of other substitutable or complementary products), potential pricing interdependencies (i.e., how the merging firm's pricing initiatives might trigger

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[46] The *GUPPI* measure and the *UPP* test normally are derived and analyzed in the context of the Bertrand model of price competition with differentiated products. However, similar measures also can be derived in the context of the Cournot model of quantity competition. For details, see the Comment of Serge Moresi on this issue submitted separately in response to the QFPCs.

[47] For linear demand, the first-round percentage price increase of product-1 would be equal to the $GUPPI_1$ divided by 2 and then multiplied by the pre-merger price ratio P_2/P_1. For constant elasticity, the first-round percentage price increase of product-1 would be equal to the $GUPPI_1$ divided by ($1-m_1$) and then multiplied by the pre-merger price ratio P_2/P_1.

particular responses by other firms), dynamic demand factors, and the shape of the demand curve (i.e., the magnitude of the price effect depends on the curvature of the demand function). Thus, as relevant evidence, the *GUPPI* would be combined with other evidence to form a better prediction.

As we discuss below, more complex *PPIs* in principle can be explicitly formulated to account for efficiencies and some or all of these other factors, but this step raises more difficult evidentiary issues at the screening stage. The more complex formulations also raise quantification issues, that is, the ability to quantify the factors and in a way that allows them to be inserted into a formula, as opposed to taking them into account in a more qualitative way.

Finally, we also want to stress that the use of a measure like *GUPPI* does not necessarily obviate the analysis of the issues normally evaluated in the market definition exercise. In fact, as indicated above, the *GUPPI* is the measure of closeness of substitution used in the *ssnip* test for determining the next-best substitute product. The *GUPPI* also is a close cousin of the KSOW market definition methodology discussed above.[48] These connections serve as an important reminder that market definition analysis also focuses on closeness of substitutes, just as does the *GUPPI*'s diversion ratio.[49] The diversion ratio is related to the cross-elasticity and own-elasticity of demand. The importance of the cross-elasticity of demand has been used in market definition going back to the *DuPont* decision. The own-elasticity for a group of products forms the backbone of the *ssnip* test.

2. Using of *GUPPI* for Determining Presumptions Regarding Unilateral Effects

In Section II of these comments, we discussed generally the role of presumptions in merger enforcement and merger law. The *GUPPI* also might be used for setting enforcements thresholds. For example, a relatively low *GUPPI* threshold could be used to establish a safe harbor for presumptively non-harmful transactions. A relatively high *GUPPI* threshold could be used to identify presumptively anticompetitive transactions. That is, the *GUPPI* could be used to replace or supplement the HHI thresholds in the Merger Guidelines. We believe that most economists would agree that the *GUPPI* generally is a better gauge of unilateral effects concerns than the HHI delta.[50] The

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[48] Suppose for simplicity that the two merging firms earn the same margin, *m*, and have the same diversion ratio, *DR*, between each other. Using the KSOW test, a *ssnip* by the two merging products would be profitable if $GUPPI > s*m/(s+m)$, where *s* is the *ssnip* (e.g., 10%). Note that the Merger Guidelines' focus on profit-maximizing behavior means that the analyst would use the KSOW test with s=10% in order to test whether the two merging firms would have an incentive to raise price by 5%.

[49] Indeed, it is common for merger analysts to combine market definition and the *GUPPI* as part of their preliminary analysis. This involves basing diversion ratios on the concept of "proportional diversion," that diversion is in proportion to the market shares of the firms in a relevant market, along with analysis that takes into account diversion to products outside the relevant market.

[50] In the Cournot model, the weighted average price/cost margin is proportional to the HHI, though the HHI delta (based on pre-merger market shares) loses its relevance. We note that for one particular negotiation market situation, the HHI delta is a direct measure of the unilateral effects of a merger among

GUPPI could be used alone, or it might be supplemented with the combined market share of the merging parties in a well-defined market.

The best methodology also might vary according to the stage of the merger enforcement process. For example, if it is fairly clear that the *GUPPI* is below a safe harbor level, then the Agency might decide not to issue a second request based on unilateral effects concerns. (This is the same way in which *HHI<1000* is used in the 1992 Merger Guidelines, for those matters where the market definition is obvious.)

Later on in the HSR process, the Agencies could use the *GUPPI* to determine whether or not the merger should be treated as presumptively anticompetitive.[51]   If the *GUPPI* exceeds this level, the burden might shift to the parties to rebut the presumption with other evidence. There similarly may be a low GUPPI level where there is a strong presumption that the merger does not raise unilateral effects concerns. (This level would not necessarily be the same as the safe harbor level used previously to determine whether or not to issue a second request.[52])

One could imagine a sliding scale type of analysis for different values of *GUPPI* later on in the HSR process. For example, there could be three levels in all.[53] First, for very low GUPPI levels, there might be a strong (irrebuttable or rebuttable) presumption that there are no unilateral effects concerns. Second, there might be a higher *GUPPI* level, where the Agencies conclude that the presumed likelihood of harm is high, but not high enough to shift the rebuttal burden to the parties. Instead, that level may be seen more as a statement of information -- that this *GUPPI* level ordinarily raises significant concerns and will require more evidence to alter that expectation. But, the Agencies might continue to bear the burden of supporting or rebutting that concern. Third, if the *GUPPI* is sufficiently higher, then the burden might shift to the merging parties to rebut the presumption.[54] (The burden of persuasion issue is often an issue of great contention in

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alternative negotiation partners. For details, see the Comment of Yianis Sarafidis on this issue submitted in response to the QFPCs. *See* also Serge Moresi, Steven C. Salop & Yianis Sarafidis, *A Model of Ordered Bargaining with Applications*, working paper (2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1287224.

[51] At this later stage, the Agencies might want to backstop the *GUPPI* with market share information. We are not making a recommendation here regarding the precise methodology. We are just suggesting that these alternatives be considered as part of the Update process.

[52] The levels would be different because the precision of the *GUPPI* estimate likely would improve on the basis of additional information gathered from the second request.

[53] To illustrate with arbitrary HHI numbers, an HHI<1800 might be considered presumptively competitive; HHI>2400 might be the point where concerns become very significant but the agencies retain the burden of persuasion; HH>3000 is the point where the burden shifts to the parties to rebut the presumption.

[54] A useful analogy might be to medical tests. At one end, the physician might conclude that a patient's blood pressure is in the "green zone" of good results that indicate no concern. At the other end, the physician may conclude that the patient's blood pressure crosses the "red line" where medication clearly is needed. In between but moving up towards the red line, the physician may conclude that a "yellow line" has been crossed and recommend paying more attention to diet and exercise. The green line is like the safe harbor or presumptively competitive threshold; the yellow line is like the informational presumptive threshold; and the red line is like the burden-shifting threshold.

HSR practice, so it would be beneficial to clarify the Agencies' intentions in the Update.)

There also is the question of whether the simple *GUPPI* formula should be used, or whether the *GUPPI* should be replaced by a *PPI* that explicitly takes into account some or all of the other factors. (For example, Farrell & Shapiro's *UPP* takes into account an "efficiency credit.") We would not recommend this type of reformulation. There are too many possible factors to include. Moreover, some of the factors are not so easily quantified or cannot be easily inserted into the formula in a simple way. Finally, each of the factors raises evidentiary burdens. If they were included in the expanded formula, then the formula might well lose its utility as a simple, initial screening device, say for deciding whether or not to issue a second request.[55] We prefer the simple *GUPPI* formula, with the other factors then added into the analysis.

This suggestion does not mean that we think that the other factors are irrelevant. To the contrary, in the ultimate merits analysis, more complex analyses often will be quite useful, including the *UPP* or other variants that take the specific structure of the market into account. In fact, these other factors sometimes may be the central issues in the ultimate merits analysis. This analysis also would include evidence specific to the merger, rather than just presumptive credits and adjustments like the efficiency credit. But, we would recommend that the presumption be based on the *GUPPI,* rather than a more complex formula. We feel this is a compromise worth considering in the Update.

If the *GUPPI* were given this role as a presumption, the Agencies would need to set the thresholds and the strength of the presumption. As suggested by the long list of factors above, setting the threshold would involve more than simply applying an "efficiency credit" (whether based on an estimate of the typical variable cost-reduction in horizontal mergers, either in general or tailored to particular industries). (We discuss the efficiency credit in more detail in Section VI below.) The other factors also would need to be reckoned into the evaluation of the presumption. It also would be necessary to take into account deterrence concerns of the type discussed above in Section II. While the DOJ never fully explained their reasoning, the DOJ may have engaged in some type of similar analytic exercise in setting the HHI thresholds in the 1982 Merger Guidelines, perhaps based on the agency's experience in merger analysis. Of course, elections matter and William Baxter's general antitrust experience and his beliefs about the costs and benefits of merger enforcement obviously also played a role.

If *GUPPI* (whether alone or in conjunction with the combined market share) is used to identify presumptively non-harmful or presumptively anticompetitive transactions for enforcement purposes, the Agencies must choose whether to make those presumptions rebuttable or irrebuttable. If one or the other presumption is rebuttable, the Agencies also

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[55] Of course, some well-counseled firms likely will present evidence on these other factors at an early stage in order to convince the Agency not to issue a second request. If they do, we can see no reason to ignore this information and see substantial benefits in considering it. After all, complying with a second request is very expensive for the parties, causes delay and uses up substantial resources of both the Agency and the parties.

must choose the strength of the presumption – that is, the weight of the "thumb on the scale." Again, this is the way in which the HHI is used in the current Merger Guidelines.

We recommend that for the purposes of identifying presumptively anticompetitive transactions, the Agencies use some type of sliding scale. A higher *GUPPI* should require more exculpatory evidence than would a smaller *GUPPI*. (A sliding scale also should apply if other more complex *PPIs* were used to supplement the analysis.)

In light of the importance of these other factors, we recommend that the presumption not be irrebuttable. We similarly recommend that the presumption of anticompetitive effects be modest, except perhaps for the most extreme values. And, even then, rebuttal should be permitted.

V.   Coordinated Effects

In these comments, we will only make a few limited observations about coordinated effects analysis.

First, a key issue is the determination of how the proposed merger will maintain or increase the likelihood of successful tacit coordination. However, the Merger Guidelines say very little about the incremental impact of the merger on the likelihood of present and future coordination, as opposed simply to the impact of the pre-merger market structure. More attention should be paid to the incremental impact, including the issue of *maintenance* of a high likelihood of coordination in the future.[56]

Second, the coordination "checklist" of coordination hindering and facilitating factors does not prioritize the various items. Nor does it take a critical approach to them, for example, by explaining their limitations. This would be a useful addition, both for the parties and the courts.

Third, every market involves some hindering and some facilitating factors." In evaluating a merger (say, with a high HHI) against claims that it will lead to likely coordinated effects, the relevant issue would be the level of those factors, relative to a typical merger with that HHI level. Yet, the Merger Guidelines provide no guidance on the typical levels of these factors. This issue was noted by the courts in *HCA*[57] and *Heinz*.[58]

VI. Efficiencies

We have a few comments on the analysis of efficiencies.

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[56] For example, see Jonathan B. Baker, *Mavericks, Mergers and Exclusion: Proving Coordinated Effects Under the Antitrust Laws*, 77 NEW YORK UNIVERSITY L.R. 135 (2002).

[57] *Supra* note 3 at 2.

[58] *Supra* note 15 at 7.

A. Efficiencies Presumption, Generally

Merger law and the Merger Guidelines in principle include two categories of efficiency benefits. First, there are the cognizable efficiency benefits analyzed in §4 of the Merger Guidelines. Second, there are presumptive efficiency benefits credited to every merger. These include the general benefits to society from permitting the transfer of assets from one party to another that places a higher value on those assets. They also include the benefits that while real, might be impossible to substantiate and verify during the pre-merger process or that might otherwise not be viewed as cognizable because they likely would not be shared with consumers.

Since the 1997 Efficiencies Revision to the Merger Guidelines, there has been some economic research claiming that the efficiency benefits often claimed for mergers are overstated. For example, as summarized in the recent article of Baker & Shapiro,[59]

> There is considerable evidence, moreover, that acquiring firms are systematically overoptimistic about the efficiencies they can achieve through acquisition. Evidence from the finance, managerial, and economics literatures show that many mergers do not work out well, either in terms of shareholder value or organizationally. This evidence supports the view that many mergers are motivated by managerial hubris, perhaps exacerbated by distorted managerial compensation schemes, and that managers often underestimate integration problems. This evidence certainly does not support the view that merger-specific efficiencies are common or that claims of efficiencies made by merging parties should generally be credited. Some mergers are undoubtedly motivated by the pursuit of genuine efficiencies and go on to generate them. But we caution that arguments by merging firms that efficiencies will enhance their ability and incentive to compete, resulting in lower prices, higher quality or new products, should not be accepted based solely on their plausibility, but only after careful analysis.

It seems clear that the Agencies must review this evidence to evaluate how, if at all, it should alter the permissiveness of merger enforcement policy and the *GUPPI* and/or HHI thresholds.

B.   The Efficiency Credit for Unilateral Effects

One of the other factors discussed above with respect to using the *GUPPI* (either as relevant evidence or for setting the presumptions) is the evaluation is the level of expected efficiencies, what Farrell and Shapiro call the "efficiency credit." Purely for illustrative purposes, Farrell and Shapiro used an efficiency credit of 10%.[60] In their

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[59] Jonathan B. Baker & Carl Shapiro, *Reinvigorating Horizontal Merger Enforcement, in* HOW THE CHICAGO SCHOOL OVERSHOT THE MARK 235, 2-56 (Robert Pitofsky ed., 2008).

[60] *See* Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition* (Working Paper, 25 November 2008;UC Berkeley Dept. of Econ.) at 10.

formulation, when the *GUPPI* is used as relevant evidence, and in the absence of evidence on the cognizable efficiencies from the merger, the Agencies would apply a "standard deduction." However, the merging parties instead could provide evidence of a large cognizable cost-savings, what Farrell & Shapiro refer to as an "itemized deduction."

There are several issues to note here.

First, Farrell & Shapiro give the parties a choice between the "standard deduction" and itemizing the cognizable efficiencies. Farrell & Shapiro do not make any adjustment to account for non-cognizable efficiencies. Nor do they make explicit adjustment for optimal deterrence in their analysis. In our view, both those adjustments should be made for the reasons discussed above. Deterrence and general efficiencies concerns also would have to be included somehow in the standard deduction. But, that would mean that parties who opt for itemizing cognizable efficiencies potentially would lose those adjustments. To correct this problem, the Agencies should consider crediting the parties for the general efficiencies and optimal deterrence factors, whether or not they opt for itemizing the cognizable efficiencies.[61]

Second, Farrell & Shapiro formulate the efficiency credit as a fraction of the variable costs of the merging firms. This is not an innocuous choice. It means that the credit declines in importance as the price/cost margin rises. For example, consider a product with zero variable costs; it would obtain no efficiency credit. This might be a reasonable choice if all efficiency benefits involved cost reductions. But, efficiency benefits may involve quality improvements too. Quality improvements often increase consumers' willingness to pay for the product, and thus can be measured as a percentage of the price of the product. However, it is more complicated than that because the merged firm might have the incentive to raise its nominal price by the amount of the quality increase in order to maintain a constant quality-adjusted price.[62] In that situation, consumer surplus may increase, even if the quality-adjusted price does not change.[63] In fact, an increase in product quality may lead to higher consumer welfare *even if the quality-adjusted price increases*. This analysis raises the caution that a reformulation of the *UPP* test in terms of "upward quality-adjusted price pressure" could be potentially misleading because a higher quality-adjusted price does not necessarily imply consumer harm.

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[61] In this sense, the efficiency credit would be more like the "personal exemption" than the "standard deduction."

[62] We have been working on this issue, though our work remains unpublished. In that regard, consider a firm facing the demand function $q = 2 - p/z$, where q denotes the quantity sold, p denotes the price charged by the firm, and z denotes the quality of the firm's product. Suppose that the marginal cost of production is zero. Then, the profit-maximizing price is $p = z$. Thus, the equilibrium quality-adjusted price is $p/z = 1$. It would follow that, if the quality of the product increases, the firm would raise price proportionally and hence the quality-adjusted price would not change.

[63] In the example of the previous footnote, consumer surplus is equal to $z/2$ in equilibrium. Therefore, following an increase in quality, consumer surplus would increase even though the firm raises price and the quality-adjusted price does not change.

Subject to that caution, these observations suggest that the efficiency credit might be set as a fraction of price (not cost) for industries where mergers are likely to generate quality improvements. It also suggests the efficiency credit might have two parts, one relating to cost-savings and another relating to quality-improvements.

Third, to repeat the discussion in the previous section, the analysis should not be limited solely to a narrowly defined efficiency credit. The impact of the other market factors and deterrence concerns also should be taken into account in setting the *GUPPI* presumption thresholds (both the "safe harbor" and the "presumptively anticompetitive" thresholds.)

C. <u>Anticompetitive Efficiency Claims</u>

There is a historical antitrust concern that efficiencies may have anticompetitive effects. It sometimes used to be argued that the dominant "price leader" with significantly lower cost could threaten to "discipline" smaller rivals that tried to challenge its dominance by competing harder. This disciplining behavior would involve setting off a price war that would drive its smaller, higher cost rivals into a below-cost position but would continue to earn a positive profit for itself. In *Brown Shoe*, efficiencies were seen potentially as part of the antitrust "offense" rather than being a "defense" to claims that the merger would harm consumers.

These same concerns in principle also can arise in the modern competitive effects analysis of the Merger Guidelines. In the context of coordinated effects, if a merger leads the merged firm to reduce its costs, such cost reductions could *increase* the likelihood of a successful coordinated outcome. The reasoning is that non-merging maverick firms might fear that a lower cost merged firm would have greater ability and incentive to retaliate (and retaliate harder) against maverick rivals' price cuts. This increased ability in turn could deter such maverick price cuts and thereby increase the likelihood of the coordinated outcome. This is simply a modern, game-theoretic rendering of the old "disciplining" story.

A variant of this concern applied to oligopoly interaction actually was alleged in the DOJ's Competitive Impact Statement for the Premdor/Masonite merger.[64] The DOJ apparently was concerned that by creating a vertically integrated firm with lower costs, the merger would facilitate coordination with the leading firm, which also was vertically integrated. The DOJ stated this concern about cost-reductions reducing the incentives to cut price as follows: "In fact, Masonite recognized that the [rival] firm's incentive to gain market share by lowering price would diminish if it faced a strong, integrated competitor."[65]

Of course, this issue is complicated. It would matter whether the cost reductions are obtained by the "maverick" or by a "cartel enforcer." On the one hand, it would be

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[64] Competitive Impact Statement at 16-17, U.S. v. Premdor, Inc., No. 2002 WL 1816981, (D.D.C. 2002) (No. 1:1CV01696). We were economic consultants to Masonite on this matter.

[65] *Id.* at 16.

procompetitive for a "maverick" to get lower costs, because lowered costs enhance its incentive to cheat on the coordinated agreement. On the other hand, it would be potentially anticompetitive for a "cartel enforcer" to get lower costs because its lowered costs increase the likelihood and severity of its retaliation against price cuts by the maverick. (For these purposes, the "cartel enforcer" may refer to all the non-maverick firms or just the single firm most likely to detect and take action against a defecting maverick.) And, of course, this analysis is not limited to explicit cartels but applies to tacit coordination as well.[66]

Cost reductions also can reduce the likelihood that fear of entry would constrain post-merger prices. This is because lower cost incumbents would increase the intensity of post-entry competition. The fear of heightened post-entry competition can act as an entry deterrent.[67]

We certainly are *not* suggesting that antitrust return to those yesteryear days of *Brown Shoe* or *Procter and Gamble*.[68] We are suggesting, however, that the Guidelines Update might address this issue. In principle, there are at least three alternative approaches that might be taken. First, the Agencies might conclude that these anticompetitive effects are sufficiently unlikely that these concerns should be viewed as *irrebuttably non-cognizable*, and suggest that courts do the same. Second, the Agencies might conclude that there should be a *strong but rebuttable presumption* that efficiencies are procompetitive, and the plaintiff would have a heavy burden of proof to establish the likelihood of the anticompetitive effect with a substantial degree of certainty. Third the Agencies might conclude that anticompetitive efficiencies represent a *significant concern* that warrants detailed analysis in every matter and/or that efficiencies should be further discounted as a result. We would not recommend the latter approach.

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[66] See Baker, *supra* note 58.

[67] The idea that more intense post-entry competition would reduce the likelihood of entry is part of the analysis of the "likely entry" prong of the easy entry standard in the Merger Guidelines. *See also* Steven C. Salop, *Measuring Ease of Entry*, 31 ANTITRUST BULL. 552 (1986).

[68] FTC v. Procter and Gamble Co., 386 U.S. 568, 580 (1967).