

**THE VIRTUAL EQUIVALENCE OF HORIZONTAL AND VERTICAL  
COMPETITION- an analysis of the sources of Market Power in Consumer Goods  
Industries. \***

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\* I am especially indebted to Michael Lynch, formerly Acting Director of the Bureau of Economics at the FTC and Associate Director, Office of Economic Policy at FERC, who has critiqued numerous earlier drafts, correcting my mistakes and contributing his own valuable insights. Mike has emphasized that a firm's market power depends on how its horizontal and vertical competitive positions compare to those of its competitors.

I thank William Comonor, formerly Director of the FTC's Bureau of Economics for his insightful observation that economists often use different tools to analyze horizontal and vertical competition. I have also benefited from discussions with Prof. Warren Grimes.

Finally, I am very grateful for the help of Bill McCarthy at BEA in navigating me through the Benchmark Input/Output Accounts.

## 1. A UNIFIED ANALYSIS OF HORIZONTAL AND VERTICAL COMPETITION.

This paper presents a unified theoretical framework to estimate market power in consumer goods industries with differentiated products. It does so by integrating horizontal and vertical competitive effects into a single analysis. The two forms of competition have typically been analyzed separately using different economic tools.<sup>1</sup> Horizontal competition is competition among sellers at the same horizontal stage while vertical competition is competition between buyers and sellers at successive stages.

In economics and antitrust law only firms at the same stage are recognized as competitors. This will come as a surprising doctrinal assumption to the manufacturer's salesman who carries his sample case into the retailer's office, to the buyer for the retailer, and to buyers and sellers in the manufacturer's negotiations with his suppliers.

It is well understood by antitrusters dealing with the consumer goods economy that firms at successive stages in the vertical goods flow, such as suppliers, manufacturers and retailers, have a strong complementary relationship. But they do not recognize that there is also a strong competitive dimension to their relationship. Here is a small sampler:

From 2 economists in the Antitrust Division of the Department of Justice, "...firms in a vertical relationship engage in complementary rather than competing activities..."<sup>2</sup>

From the U.S. Supreme Court, "...all anticompetitive effects are by definition horizontal effects"<sup>3</sup>

From a highly respected, influential writer on antitrust, now a federal judge, "It is the creation of larger market shares – which can only take place horizontally – with which the law should be exclusively concerned.

Buyers and sellers "perform different and specialized functions in getting a final product to the ultimate consumer. Though vertical, their relationship is the same in economic reality as that of partners."<sup>4</sup>

I have long wondered how anything so contrary to reality as the often tacit assumption that only firms at the same level are competitors could have become so deeply ingrained

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<sup>1</sup> William Comanor points out that competition theory has generally been used to examine horizontal relationships and bargaining theory with a small number of players on each side to examine vertical relationships.

<sup>2</sup> Marius Schwartz and David Eisenstadt, *Vertical Restraints*, Discussion Paper, Economic Policy Office, DOJ (1982) at 4.

<sup>3</sup> *Business Electronics Corp. v. Sharp Electronics Corp.*, 485 U.S. 717 (1988), No. 485-1910, Dissent N.4 at 11.

<sup>4</sup> Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 75 YALE L.J. 373, (1966) at 399 n. 60: *Id* Bork at 404.

into antitrust thinking and have concluded that the probable culprit is what I've referred to as the "single-stage model." In a single-stage world perfect competition is assumed to prevail - a condition that is rare to non-existent in consumer goods markets. Perfect competition is (or was) exemplified in the introductory economics texts by the classical wheat farmer. Individual farmers are too small to have any influence on the price of wheat or the prices they pay to suppliers and so are price takers as sellers and buyers.

Since firms in a perfectly competitive, single-stage world do not bargain, there can be no such thing as vertical competition, vertical market shares or vertical market power. Thus in their downstream negotiations manufacturers deal with household consumers through an "analytically neutral" distribution system<sup>5</sup> and the same conditions obtain in their upstream negotiations with suppliers.

Numerous writers have investigated the relationship between buyer and seller power and the extent of horizontal competition in an industry. But they do not seem to have applied the term "competition" to the vertical bargaining between buyers and sellers nor to have seen that vertical and horizontal competition are nearly equivalent processes.<sup>6</sup>

#### A. Definitions

In horizontal competition, a manufacturer's market share is his share of category sales denominated in factory selling prices and a retailer's in retail (consumer) prices.

A consumer goods manufacturer's vertical upstream market share = 1 - suppliers' % margins which determines the manufacturer's share of its suppliers' selling prices that are the manufacturer's invoice costs.

A consumer goods manufacturer's vertical downstream market share = 1 - retailers' % margins which determines the manufacturer's share of his brand's consumer price and the manufacturer's (factory) price

How do we tell whether two firms are competitors? I've long proposed that firms that can take sales, margins and market shares from each other are competitors<sup>7</sup> and have shown that by this definition firms at successive

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<sup>5</sup> R.B. Hefflebower, *Internal Trade*, in INTERNATIONAL WNCYCLOPEDIA OF THE SOCIAL SCIENCES 49 (1968).

<sup>6</sup> SCHERER AND ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE (3<sup>rd</sup> edit., 1990) at 427-536 provide a good review of this literature.

<sup>7</sup> This concept was partially expressed in Robert L. Steiner, *The Nature of Vertical Restraints*, 30 ANTITRUST BULL. 143 (1985) at 158, and fully articulated in Steiner, *Intrabrand Competition – Stepchild of Antitrust*, 36 ANTITRUST Bull. 155 (1991) at 161. That article at 161 refers to a conclusion in F.A. HAYEK, INDIVIDUALISM AND ECONOMIC ORDER (1957) at 92 that the accepted theory of competition was so far removed from real-world competition between firms that "its conclusions are of little use as guides to policy." In its place he offers a definition of competition that he attributes to Dr. Samuel Johnson – "the action of endeavoring to gain what another endeavors to gain

vertical stages as well as those at the same horizontal stage qualify. To illustrate, the entrance of a Wal-Mart or other powerful retailer into the relevant product market will depress the margins and prices of its manufacturers as will the entry of a well qualified manufacturer.

## **2. THE PROCESSES OF HORIZONTAL AND VERTICAL COMPETITION.**<sup>8</sup>

This section will demonstrate that the processes of horizontal and vertical competition are virtually equivalent, as are the market power effects of being a highly successful horizontal or vertical competitor.

### *A. Horizontal Competition*

The manufacturer strives to increase his horizontal market share and market power and to boost his profits. He does so by stimulating consumer demand for his brands, by becoming a more efficient producer, by reducing the cost of purchased goods and services and by obtaining a larger share of his brands' consumer price. Per A and B below, many of these goals require the manufacturer to become a stronger vertical competitor. If successful, the manufacturer's sales and horizontal market share will rise at his pre-existing selling price; his price and profits will rise at his pre-existing market share, or some of each. (Table 2 *infra* illustrates "some of each." Kenner's post-advertising experience on its Girder and Panel Building Sets is a real-world example.<sup>9</sup>)

### *B. Vertical Upstream Competition*

The manufacturer strives to raise his vertical upstream market share and market power by persuading suppliers to reduce their markups and to sell to him at lower invoice prices and provide more non-price benefits than rival manufacturers receive. If successful, at equal price/cost margins, the manufacturer's factory price and thus his brand's retail price will be lower than those of rival makers, so he will gain horizontal market share. At equal factory and retail prices his price/cost margin and profits are raised relative to theirs, making him a more formidable horizontal competitor, or some of each.

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at the same time." *id* at 96 .My definition attempts to apply Dr. Johnson's concept to supplier-manufacturer-retailer relationships. The definition is again relied upon in Steiner, *The Evolution and Applications of Dual-Stage Thinking* 49 ANTITRUST BULL. 719 (2004) at 894-897.

<sup>8</sup> The Tables in this section are snapshots illustrating the manufacturer's situation shortly after becoming a more (or less) successful vertical competitor. They are not necessarily equilibrium positions but give us clues as to the probable future changes in horizontal and vertical market power.

<sup>9</sup> *Supra*, note 7, *Dual-Stage Thinking* at 885-889.

Table 1 portrays an industry without established brands whose small size forces both retailers and manufacturers to operate well below minimum efficient scale. Manufacturer X takes advantage of his larger horizontal market share and the superior negotiating skills of his purchasing department to obtain lower invoice costs than his competitors and thereby gains vertical upstream market share in this still relatively unconcentrated industry. The manufacturer opts to maintain the same factory and retail prices as his horizontal competitors. So his lower relative invoice costs enables him to capture 23.1 % of category gross margin dollars (our proxy for profit) with only a 16.7% share of category sales volume in factory prices. Note that even if Manufacturer X had had the same horizontal market share as his rivals, the superiority of his purchasing department would have produced more gross margin dollars than his rivals earned.

Discussion Other things equal, the larger the manufacturer's horizontal market share and the less concentrated are the upstream supplier markets, the thinner the suppliers' % margins and the lower the manufacturer's invoice costs. However, goods' suppliers typically face downward sloping average total cost curves, at least until output reaches a high level, and thus may earn more gross margin dollars on large orders sold to powerful manufacturer buyers at low costs, and the same relationships apply to downstream purchases by large retailers.<sup>10</sup> . Hence, the reduced invoice costs are not always at the expense of the manufacturer's suppliers but will still raise the manufacturer's margins - and if higher than those of rival makers, will enable him to increase his horizontal market power and make entry by horizontal rivals more difficult.

A recent study reinforces the conclusion that the relative bargaining skills of the manufacturer and his suppliers importantly affect invoice costs. It found that bargaining skills were especially important in determining the prices of new products perceived as in-between sellers— neither enormously attractive nor unattractive.<sup>11</sup> Finally, an excellent purchasing department will obtain benefits additional to lower invoice costs, such as

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<sup>10</sup> Scherer and Ross summarize five decades of statistical cost studies of manufacturing industries. With respect to plant size, there are distinctly declining average cost curves at relatively small plant sizes followed by a range of intermediate sizes over which unit costs did not vary much. In a minority of cases the studies show diseconomies for very large plants. In other words, the overwhelmingly typical pattern is an “L”- shaped average cost curve. See note 6, Scherer and Ross at 107. Their entire Chapter 4 at 97-151 is a masterful summary of economist's work on economies of scale through the late 1980s and includes a survey of scale economies in marketing and in the purchase of advertising media. With respect to retailing, there is no question that economies of scale are a major reason for the growing market shares of large scale retailers from the original department stores to today's discount stores, category killers and warehouse clubs. Due in part to their substitution of capital for labor, their average cost curve slopes downward far further than those of the smaller scale, labor intensive, incumbent retailers of the day. See Vertical Restraints, *supra* note 7.

<sup>11</sup> P. Kaufman, S. Jayachandran and R.L. Rose, *The Role of Relational Embeddedness in Retail Buyers' Selection of New Products*, 43 J. MARKETING RES. g Res. 580 (2006).

faster shipments of components and contracts that better assure uniform quality of the materials to facilitate efficient automated production. Procter and Gamble's purchasing department is considered the model in this regard.

### *B. Vertical Downstream Competition.*

The manufacturer strives to raise his vertical downstream market share and market power, by popularizing his brand, usually through advertising, which intensifies intrabrand competition and drives down retailers' gross margins (RGMs).<sup>12</sup> If successful, at equal factory prices the manufacturer's retail price will be lower than those of most rival makers, so he will gain horizontal market share from them. At equal retail prices his price/cost margins and profits will be higher than theirs, making him a more formidable horizontal competitor, or some of each.

In Table 2 Manufacturer X has used his accumulated gross margin dollars to advertise Brand X, raising its vertical downstream market share by depressing its RGM and retail price below those of rival makers. By becoming a stronger vertical downstream competitor, Manufacturer X has raised his factory price, but by less than the fall in his brand's RGM and retail price, thereby increasing both his horizontal market share and his share of category gross margin dollars (profits). The advertising has pushed out the category's market demand curve. Average retail prices have declined even while, reflecting the rise in Manufacturer X's market power, the industry HHI has zoomed.

Discussion Two of the strongest regularities in consumer goods industries are the tendency for leading advertised brands to have lower RGMs than less popular brands and the inverse association between the margins of manufacturers and retailers.<sup>13</sup> Advertising has two effects on retailers' margins - its ability to increase sales and its creation of product recognition and identity. The latter refers to a consumer's ability quickly to recognize that Brand X at Retailer A is identical to Brand X at retailer B, so that each

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<sup>12</sup> The retail gross margin is (retail price – factory price) / retail price and expressed as a %. The dollar RGM, (retail price – factory price), will be represented by \$RGM.

<sup>13</sup> Robert L. Steiner, *Does Advertising Lower Consumer Prices?* 37 J.MARKETING 19 (1973); Steiner, *The Inverse Association Between the Margins of Manufacturers and Retailers*, 8 REV.INDUS. ORG. 717 (1993). This article also identifies earlier references to these gross margin relationships by Neil Borden, Alfred Marshall, Emily Fogg-Meade, and Albert Haring, among others - as well as the later co-authored contributions of Paul Farris and Mark Albion.

See also MARK S. ALBION, *ADVERTISING'S HIDDEN EFFECTS*, Auburn House Publishing, Boston. Also see Michael P. Lynch, *"The Steiner Effect": A Prediction from a Monopolistically Competitive Model Inconsistent with any Combination of Pure Monopoly or Competition*. FTC Bureau of Economics, Working Paper 141, (1986); Lynch *Why Economists are Wrong to Neglect Retailing and how Steiner's Theory Provides an Explanation of Important Regularities*, 49 ANTITRUST BULL. 911 (2004).

store fears to raise its price above that of the other lest many consumers will take their patronage there. That is, they will switch stores within brand rather than brands within store, as is the case of brands with a weak consumer franchise. Thus, controlling for market share leading advertised brands have lower retail gross margins. This relationship, originally pointed out in 1973 was illustrated with data from the Canadian toy industry and confirmed by Albion's extensive empirical investigation 10 years later.<sup>14</sup>

The arrival of strongly advertised brands in a category severely reduces retailers' elasticities of substitution in their vertical upstream relationships with the makers of "must have" brands. No longer are they able to play off one maker against the next in search of a lower invoice cost, as they readily do with slower selling brands. The loss of upstream bargaining clout by retailers, enables leading manufacturers to markup their factory prices further than on slower selling brands.

Longer term the larger horizontal market shares of leading advertised brands combined with their higher than category average vertical downstream market shares, e.g. their lower relative RGMs, forces down the factory prices of competing, less popular brands in two ways. First, it does not pay retailers to stock slower selling brands unless they provide a higher % and \$ RGM than the leading brands. So smaller manufacturers have to have a lower factory price to achieve the same retail price as the leading brands.<sup>15</sup> Second, as first described by Braithwaite in 1928,<sup>16</sup> leading brands develop a "reputation premium" that requires less popular brands of the same type to sell for a lower retail price than theirs to remain viable competitors, a relationship that further depresses the relative factory prices of secondary brands and raises the margins and horizontal market shares of the leading advertised brands. These dynamics erect significant horizontal mobility and entry barriers for other manufacturers' brands but can prove an incentive for large volume retailers to enter the market as buyers of the leading brands and marketers of their own private label brands.

In Table 2, many of these longer term adjustments had yet to manifest themselves. Table 3 exhibits more characteristics of a contemporary industry. Manufacturer Y with an advertised brand has been able to enter. The growth of the industry has attracted mass merchants whose efficient, capital intensive structure enables them to handle goods, especially fast selling, advertised brands, at thinner margins than incumbent merchants. At the same time in an effort to improve their average RGMs, the large chains are pushing their own-label brands purchased through a private label manufacturer. The two advertising manufacturers find that their largest customers have now become their largest horizontal competitors

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<sup>14</sup> *Id. Does Advertising* at 24, 25. *Id. Albion, Hidden Effects* at 183-191.

<sup>15</sup> *Dual-Stage Thinking, Supra* note 7 at 879-880.

<sup>16</sup> Dorothea Braithwaite, *The Economic Effects of Advertisement*, 38 *ECONOMIC JOURNAL* 16 (1928).

The upstream bargaining clout of the mass merchants has driven down the factory price of Brand X, but the greater upstream bargaining power from its increased unit sales, in combination with its suppliers' scale economies, has enabled Brand X to retain some of the gross margin lost to downstream mass merchants. Its share of category gross margin dollars has shrunk slightly from Table 2. With its increased sales and the ability of consumers quickly to identify it across stores, the RGM of Brand X falls absolutely and relative to the category average. The factory and retail prices of the second ranking seller, Brand Y are constrained to be lower than those of Brand X, per the dynamics described *supra*. Were it not for the vertical upstream marketing clout of the mass merchants and the low retail prices of their private labels, average factory and retail prices in the category would have been much higher. Brand X's HHI calculated in factory prices has fallen, but has risen calculated in retail prices.<sup>17</sup>

### 3. IMPORTANT CONCLUSIONS

By increasing his vertical upstream and downstream market shares, a manufacturer increases his horizontal market share and market power, and vice versa. The 3 markets are so intertwined that we cannot predict the outcome in any one of them without accounting for the influence of the others.

At the end of the day it doesn't matter much whether the manufacturer's increased market power originated by taking market share from fellow manufacturers, suppliers or retailer customers. From the standpoint of social welfare it matters greatly whether the market power came from efficiency gains in the relevant horizontal and vertical markets or from the ability of firms at these levels to sustain supracompetitive rates of return.

Not only are the processes of horizontal and vertical competition extremely similar, but so are the results of being a successful horizontal or vertical competitor. Given the positive relationship between vertical and horizontal market shares and market power, a manufacturer with a well below category average horizontal market share will buy dear and sell cheap, paying a higher price for purchased inputs and receiving a lower price for his brands—a combination that erects mobility and entry barriers. Controlling for horizontal market shares and HHIs, manufacturers with larger vertical market shares will have higher profits.

Incorporating measures of vertical market power, provided later in the article, will improve the accuracy of economic forecasts in merger analysis and in other investigations. For there is likely to be a significant time lag before all vertical

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<sup>17</sup> The former signifies that the brand has more market power - the latter reflects that the brand has taken market power from its retailers – its retail price has fallen by more than the increase in its factory price, so the net effect on consumers is positive. The total category HHI denominated in both factory and retail prices has risen but the difference between them is less due to the high RGMs of the private labels.

competitive effects are manifested in the industry's HHI and its profits- the principal horizontal market power indicators examined by the Agencies. Further, a manufacturer with a modest horizontal market share but sizeable vertical market shares is one whose horizontal market share and power is in its incipiency and can be expected to grow.

In industries dominated by a few powerful advertised brands, horizontal price competition among these manufacturers is typically far less robust than the vertical price competition with their upstream suppliers and their downstream retailers. Vertical competition remains a force even in industries where horizontal competition is brisk.

#### A. *Market Power and Social Welfare*

The Agencies must continue to monitor product classes with high HHIs, which suggest a dangerous level of market power, and be wary of mergers in which concentration is predicted to rise further. Yet efficiencies also count. Manufacturers and retailers often achieve large horizontal and vertical market shares by being more efficient.<sup>18</sup> Hence, a total surplus calculation (the sum of consumer, distributor, and producer surpluses) for the industry in question, which takes into account both costs and markups over cost, should be the preferred standard of social welfare.<sup>19</sup>

#### B. *Some Observations on Voluntary Vertical Restraints*

Vertical Restraints, and to a somewhat lesser degree exclusive dealing and strict distribution restrictions, can be viewed as a truce on vertical price competition. The manufacturer guarantees the retailer a maintained retail price that is higher than would prevail absent the restraints in return for a factory price that is generally also higher than would prevail absent the restraints. By itself this would seem to raise consumer prices and reduce output in the category. But to a much greater extent than relationships among horizontal competitors, there is typically a strong complementary relationship between manufacturers and retailers.<sup>20</sup> Without going into detail, which is beyond the scope of the present paper, a good framework in which to weigh the pro and anticompetitive effects of vertical restraints is to determine whether or not the output reducing effects of the

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<sup>18</sup> For examples from the history of retailing see *supra* note 7 *Vertical Restraints*.

<sup>19</sup> *Vertical Restraints, Id.*, Figure 2, has diagrammed illustrations of total surplus for 4 industry structures.

<sup>20</sup> Examples of complementary effects among horizontal competitors include certain kinds of joint ventures and the benefits of industry conferences where participants learn from outside speakers and from non-conspiratorial talks with horizontal competitors how to fashion company policies to better deal with the same business environment they all face.

elimination of vertical competition outweigh the output increasing effects of the complementarities.<sup>21</sup>

Adverse welfare effects of vertical price and distribution restraints adopted by powerful manufacturers can frequently be remedied by antitrust action, the elimination of RPM by Levi Strauss being a shining example.<sup>22</sup> But if the restraints occur in categories in which manufactures brands do not enjoy a strong consumer franchise, retailers can easily substitute another brand for the one whose price is being cut. Hence antitrust intervention cannot improve or essentially change industry performance.

#### 4. THE HORIZONTAL MERGER GUIDELINES<sup>23</sup>

In an earlier article I characterized the Horizontal Merger Guidelines as being largely in the single-stage tradition with only the scantiest awareness that “changes in costs and markups at one stage strongly affect performance at the other stage and that, due to vertical competition, the market power of manufacturers is decisively affected by that of retailers and vice versa.”<sup>24</sup>

To my knowledge, Agency staff often recognizes these deficiencies and includes some multi-stage analysis in its investigations. So I had hoped that new editions of the Guidelines would include revisions that prevented them from becoming increasingly behind the curve and irrelevant. These hopes were dashed by the statement in the Foreword of the new 68 page DOJ/FTC “Commentary on the Horizontal Merger Guidelines”(March, 2006) that “...the Agencies concluded that a revamping of the Guidelines is neither needed nor widely desired at this time.”

A summary of the unfortunate but pervasive influence of single-stage thinking follows:

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<sup>21</sup> In William F. Baxter and Daniel P. Kessler, *Toward a Consistent Theory of the Welfare Analysis of Agreements* 47 Stanford L. Rev. 615 (April 1995) Baxter did a 180 degree about face. Classifying agreements as horizontal or vertical was meaningless and provided scant guidance as to their welfare effects. Instead, the authors proposed classifying agreements as between producers of substitutes (competitive) products or producers of complements. and recognized that firms may simultaneously be in both relationships. Too bad that these insights have been lost sight of.

<sup>22</sup> See Note 21 at 899 in *Dual-Stage Thinking*, *supra* note 7, for references on *Levi Strauss*, a case on which I served as a consultant to the FTC.

<sup>23</sup> DOJ /FTC HORIZONTAL MERGER GUIDELINES, Issued April 2, 1992, revised April 8, 1997.

<sup>24</sup> *Dual-Stage Thinking*, *supra* note 7 at 909.

*A. The Level at which the Welfare Effects are Measured.*

The Guidelines (at 7) specify that price increases and the HHI are to be measured at “...whatever is considered to be the price of the product at the stage of the industry being examined.” Thus in a proposed merger among consumer goods manufacturers the measurement is made in factory prices. Per the discussion *supra*, this is the correct method of estimating manufacturer market power but not for drawing welfare conclusions unless it is known that a dollar change in factory price will produce a dollar change in retail price, as is true in a single-stage world.

In the real world changes in costs and elasticities at either stage due to the merger will determine the extent to which changes in retail prices mirror changes in factory prices.<sup>25</sup> For instance, to the extent that increased margins and factory prices due to the increased horizontal market power of the merged firm are offset or outweighed by decreased margins and market power in the retailing sector, consumers are either no worse off or benefited. On the other hand, if RGMs are unchanged after the merger, any increase in factory prices causes a larger increase in consumer prices. For instance if the industry RGM remains at 50%, a \$1 rise in factory price raises the retail price by \$2.

*B. Entry*

The Guidelines extensive treatment of Entry (Sec.3) is limited to the likelihood, sufficiency and timeliness of entry by horizontal rivals - that is by sellers in the relevant product market. Again, this reflects the single-stage mythology that only firms at the same horizontal level qualify as competitors. Isn't this incredible given all the current publicity about Wal-Mart? The Guideline writers evidently don't recognize that the entry of a Wal-Mart or other efficient, low margin, high market share retailer into a category is likely to put at least as much downward pressure on the factory prices of the merged firm as the entry of a well-qualified horizontal competitor and will almost certainly produce a larger decline in retail prices, the proper level at which to measure social welfare?

The likelihood of successful entry depends on the total market power of incumbent firms which is a joint function of their stranding as horizontal and vertical competitors. Entry against manufacturers with less than towering HHIs and horizontal market shares will nonetheless be difficult if they have well above category average vertical market shares which force entrants to pay more for purchases and sell for lower factory prices than the incumbents.

*C. Seller and Buyer market power*

The Guidelines (at 2) state that “Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time.”

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<sup>25</sup> *Id.* at 903-904.

With respect to buyer power, the Guidelines state at 3 that “Market power also encompasses the ability of a single buyer (a ‘monopsonist’), a coordinating group of buyers, or a single buyer, not a monopsonist, to depress the price paid for a product to a level that is below the competitive price and thereby depress output. The exercise of market power by buyers (monopsony power) is said to have adverse effects comparable to those associated with the exercise of market power by sellers.”

That is about all The Guidelines have to say about buyer power – a phenomenon that is equated solely with output-reducing monopsony power and is seen to have no redeeming properties. To me the Guidelines economic analysis here is hopelessly inept.

Pure monopsony by a single buyer or a group of buyers is a very rare occurrence in consumer goods industries. Monopsony theory envisions an almost perfectly competitive upstream market in which sellers have upward sloping cost curves and therefore encounter diseconomies of scale. It is this particular property, which is highly untypical of the cost functions of consumer goods manufacturers,<sup>26</sup> that would allow a manufacturer’s upstream suppliers profitably to reduce their prices at lower output levels because their costs have declined.

The Guidelines also assert that “a single buyer, not a monopsonist”, which is an oxymoron, may be able to drive down the seller’s price below the competitive level and thus reduce output. What I presume the Guidelines have in mind is a “power buyer”- such as Wal-Mart or Home Depot- retailers that undoubtedly possess monopsony power but are not the only buyers in the relevant product market. Although power buyers are very hard bargainers with their manufacturer suppliers, once the price and other terms have been agreed to, both the buyer and the seller want to sell as much of the item as possible rather than restricting its output. So why in the world would it serve a power buyer’s interest to drive down the seller’s price far enough to create a supply shortage?<sup>27</sup>

It seems incredible that The Guidelines do not discuss nor apparently even recognize the everyday occurrence in which strong buyers bargain down the factory prices of manufacturers with substantial market power to the point that the manufacturer’s markup is shaved but remains above the perfectly competitive level. Given that our retailing sector is typically quite competitive, this exercise of vertical upstream bargaining clout, usually produces consumer prices that are lower than they would be in the absence of powerful downstream buyers.<sup>28</sup>

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<sup>26</sup> See SCHERER and ROSS, *supra* note 10.

<sup>27</sup> My conclusions about monopsony power are specific to the markets in which retailers purchase finished goods from consumer goods manufacturers who purchase materials from upstream suppliers. The conclusions may not apply to other types of markets with different underlying conditions.

<sup>28</sup> Fortunately, the Guidelines single-stage orientation and blindness to the role of vertical relations is not shared by other distinguished scholars. The list includes JOSEPH A.

#### D. *Efficiencies and Innovation.*

Once again, the Guidelines discussion of Efficiencies in Section 4 is in the single-stage tradition. There is no recognition of the process by which increases in efficiencies at one stage boost efficiencies at adjacent stages. The only possible exception to this orientation occurs in a footnote which permits the Agency to consider “inextricably linked efficiencies” that are not in the relevant market and perhaps could be in a vertically adjacent market. But, The Guidelines state that “Inextricably Linked Efficiencies rarely are a significant factor in the Agency’s determination not to challenge a merger.”<sup>29</sup>

To the contrary, increases in efficiency at one stage often profoundly affect (increase) efficiencies at the other, as occurred in the toy industry with the symbiotic growth of TV advertising and the rapid expansion of Kmart-type mass merchandisers<sup>30</sup> Indeed, as laid out by 3 World Bank economists, the arrival of efficiencies not originally present at one stage may be attributable solely to vertical competitive pressures from firms at an adjacent stage.<sup>31</sup> In 1997 Wal-Mart acquired controlling interest of a Mexican retailing operation and renamed it Walmex. It then installed in its Mexican discount stores the efficiencies deriving from information technology, warehousing, distribution and inventory management that have helped to make Wal-Mart the world’s largest retailer. With its huge cost advantage over other Mexican retailers, Walmex’s share of the Mexican retail market grew to nearly 50% by 2006.

Through a combination of penalties and incentives, Walmex then proceeded to use its vertical upstream bargaining clout to revolutionize the relatively inefficient and fractionalized Mexican detergent industry. As a result, the Mexican industry has cut costs, improved quality and introduced its own innovations. With a more efficient detergent manufacturing sector distributing its output through a more efficient retailing

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SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY, 2<sup>ND</sup>. EDIT. (1947); JOHN KENNETH GALBRAITH, AMERICAN CAPITALISM; THE CONCEPT OF COUNTERVAILING POWER (1952) :JOSEPH A. PALAMOUNTAIN, JR., THE POLICICS OF DISTRIBUTION (1968): MICHAEL E. PORTER, COMPETITIVE ADVANTAGE (1985).And F.M. SCHERER AND DAVID ROSS, *supra* note 10 which contains an excellent treatment of vertical issues as well as Scherer’s own contributions to that date.

<sup>29</sup> Guidelines *supra* note 23 at Guidelines note 36.

<sup>30</sup> *Does Advertising*, *supra* note 13 and *Dual-Stage Thinking*, *supra* note 7 at 883-885.

<sup>31</sup> Beata Javorcik, Wolfgang Keller and James Tybout. *Openness and Industrial Response in a Wal-Mart World: A Case Study of Mexican Soaps, Detergents, and Surfactant Producers*, World Bank Policy Research Working Paper No. 3899, Aug.25, 2006.

sector detergent prices have been chopped for the Mexican consumer, producing a sizeable gain in consumer and total industry surplus.<sup>32</sup>

#### **4. OBTAINING AND APPLYING THE NECESSARY MEASUREMENTS**

Listed below are the sources for quantitative measurements of vertical downstream and upstream market shares.

##### *A. Vertical Downstream Market Shares*

A lower than category average RGM is the preferred measure of a manufacturer's vertical downstream market power. Agency sources confirm that manufacturers know both the factory selling prices and the retail prices of their brands, from which their RGMs can be calculated. They also know the portions of their output that are sold to various types of retail stores. The individual manufacturer's RGMs must be compared to the category average, for which there are numerous sources.

The IRS Corporation Income Tax Returns provide RGMs for very discrete types of retail stores with a several years' lag. The Census of Retail Trade publishes annual RGM estimates for over 50 types of retail stores. Market research companies (IRI, Nielsen, NPD) collect average retail prices for each SKU in particular industries which can be compared to the factory prices in manufacturers' documents to estimate the manufacturer's RGM.<sup>33</sup> Such market researchers' data are often collected on behalf of industry trade associations and sometimes published in annual issue of an industry trade journal that at times includes industry-wide RGMs.

##### *B. Vertical Upstream Market Shares*

Lower than category average invoice costs are the preferred measure of vertical upstream market power. The standard contribution margin calculations, which show a division's contribution to the firm's overhead and profit, are done by virtually every important consumer goods manufacturer. They are the best source for the invoice cost of purchased materials and services by individual manufacturers. Detailed divisional financial statements sometimes provide similar information. To ascertain whether the manufacturers of interest in the investigation have a below category average cost of purchased inputs, the contribution margin calculations of other firms should be obtained.

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<sup>32</sup> Per REUTERS TOP 10 NEWS STORIES , (Feb. 13, 2007) Walmex will open 125 new stores in 2007, bringing its total to 1,020. "Walmex has used a strategy of low prices, aggressive expansion and modern distribution methods to gain market share in Mexico's retail market."

<sup>33</sup> Since about 2000, Wal-Mart has not been contributing its data to market research firms. The FTC has at times subpoenaed this information, even though the retailer was not a subject of the investigation.

Unfortunately government statistical sources will not prove as useful as they are in vertical downstream estimates. There are two sources. As part of its Benchmark Input/Output Accounts, The Bureau of Economic Analysis (BEA) publishes a “Use of Commodities by Industries” analysis.<sup>34</sup> These show the value of goods and services purchased from outside firms for around 150 different commodities (goods and services) for very discrete industries, for example NAICS 325611 Soap and other Detergent Manufacturing. The tables for each industry show total industry output, from which value of purchases (called total intermediate) is subtracted to obtain total value added. For #325611 in 1997, output was \$16.8 billion, purchases \$10.2 billion and value added \$6.6 billion. Using this data, one can compare the total purchases (invoice costs) of particular manufacturers as a percent of sales against the industry benchmark. The same can be done for the purchases of specific goods or services. This wonderful source should be consulted, but its usefulness is reduced because the Benchmark Input/ Output accounts are compiled only for Census years (which end in a 2 or a 7) and with a 5 year lag. The 2002 Accounts are due to be published in late 2007.

The U.S. Census Annual Survey of Manufacturers (ASM) also publishes on a timely basis value of shipments, cost of materials and value added for NAICS #325611 and other 6-digit industries. Except for Census years the data is derived from a sample. Also in Census years the costs for a small group of purchased services is collected. In 1997 these costs totaled \$666 million and are not included in the cost of purchased materials nor reflected in value added.<sup>35</sup> Shipments were \$17.8 billion, purchased materials, adjusted to include the above services, \$9.0 billion and adjusted value added \$9.8 billion. This figure is some \$3.2 billion higher than the BEA Benchmark value added

While the 1997 ASM only breaks out the purchases of 22 types of materials, a small fraction of those listed in the BEA Benchmark that is not the major problem with the Census data. Much more serious is the absence of most purchased services that are included in the Benchmark The Census of Manufacturers’ data are compiled from individual manufacturing establishments, but the bulk of services are purchased by corporate headquarters and other corporate non-manufacturing establishments and are therefore not included in the ASM even for Census years. The absence of purchased services accounts for almost all of the differences in value added reported by the Benchmark and the U.S. Census of Manufacturers’ ASM for Census years.

Among the largest purchases of services shown in the 1997 BEA Benchmark for # 325611 are those made by Management of Companies and Enterprises (Headquarters) of

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<sup>34</sup> Data in this and the following paragraph are from BEA’s 1997 Industry Economic Accounts, “The Use of Commodities by Industries before Redefinitions” in the Benchmark Input/Output accounts.

<sup>35</sup> For NAICS # 325611 and other 6 digit industries, See Tables 1-7 and Appendix A, Economic Census, Manufacturing-Industry Series, U.S. Census Bureau, 1997 Economic Census.

\$974 million, which include substantial amounts for media advertising, payments to Lessors of Non-financial Intangible Assets (such as for royalties and for use of patents) of \$510 million, and \$240 million for Scientific Research and Development Services. Perhaps surprisingly, the largest expenditure was to wholesalers of \$1.141 billion. Except for “resales”- goods in their final form and not further processed- materials purchased from wholesalers are not reported in Census of Manufacturers data.

There are excellent independent sources for some purchased services, such as media advertising expenditures, which are dominantly bought through corporate headquarters. Currently TNS <sup>36</sup> publishes the value of dollar purchases in the 10 major advertising media for individual brands, manufacturers, and companies in product classes such as H400, Household Soaps, Cleansers and Polishes and for even more discrete ones, such as H422 Heavy Duty Detergents. But tracking down sources for industry purchases of other important services that are not shown in Census data would prove a difficult and time consuming task.

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<sup>36</sup> TNS Media Intelligence, 100 3<sup>rd</sup>. Ave., New York 10017

TABLE 1. UPON BECOMING A STRONGER VERITCAL UPSTREAM COMPETITOR.

	Suppliers' Margins \$(p-c)/p	\$ Invoice Cost and Suppliers' Selling Price	\$ Factory Price	\$ Retail Price	Units (000)	Value of Output in Factory Prices (\$000)	RGM %	Value of Output in Retail Prices (\$000)	Mfgr.'s Gross Margin \$ per unit	Mfgr.'s Total Gross Margin Dollars (\$000)
Manufacturer X (Brand X)	(8-6) 8	8	14	28	1,000	14,000	50	28,000	6	6,000
8 Other Almost Identical Manufacturers	(10-6) 10	10	14	28	5,000 (625 each)	70,000 (8,750 each)	50	140,000 (17,500 each)	4	20,000 (2,500 each)
<b>Total Category</b>	(9.67-6) 9.67	9.67	14	28	6,000	84,000	50	168,000	4.33	26,000

SUMMARY

	Suppliers' Gross Margin %	Mfgr.'s Vertical Upstream Market Share %	Retailers' Gross Margin %	Mfgr.'s Vertical Downstream Market Share %	Mfgr.'s Horizontal Market Share in Factory Prices %	Mfgr.'s Horizontal Market Share in Retail Prices %	Mfgr.'s Share of Gross Margin Dollars %	HHI in Factory Prices	HHI in Retail Prices
Manufacturer X	25.0	75.0	50.0	50.0	16.7	16.7	23.1	278	278
<b>Total Category</b>	38.0	62.0	50.0	50.0	100	100	100	1145	1145

TABLE 2. UPON BECOMING A STRONGER VERITCAL DOWNSTREAM COMPETITOR.

	Supplier's Margin \$(p-c)/p	\$ Invoice Cost and Suppliers' Selling Price	\$ Factory Price	\$ Retail Price	Units (000)	Value of Output in Factory Prices (\$000)	RGM %	Value of Output in Retail Prices (\$000)	Mfgr.'s Gross Margin \$ per unit	Mfgr.'s Total Gross Margin Dollars (\$000)
Manufacturer X (Brand X)	<u>(7.65-5.85)</u> 7.65	7.65	15	24	3,000	45,000	37.5	72,000	7.35	22,050
8 Other Almost Identical Manufacturers	<u>(10-6)</u> 10	10	13.5	25	4,500 (643 each)	60,750 (8,679 each)	46.0	112,500 (16,071 each)	3.50	15,750 (2,250 each)
<b>Total Category</b>	<u>(9.06-5.94)</u> 9.06	9.06	14.1	24.6	7,500	105,750	42.6	184,500	5.04	37,800

SUMMARY

	Suppliers' Gross Margin %	Mfgr.'s Vertical Upstream Market Share %	Retailers' Gross Margin %	Mfgr.'s Vertical Downstream Market Share %	Mfgr.'s Horizontal Market Share in Factory Prices %	Mfgr.'s Horizontal Market Share in Retail Prices %	Mfgr.'s Share of Gross Margin Dollars %	HHI in Factory Prices	HHI in Retail Prices
Manufacturer X	23.5	76.5	37.5	62.5	42.6	39.0	58.3	1871	1521
<b>Total Category</b>	34.4	65.6	42.6	57.4	100	100	100	2282	2052

TABLE 3. ENTER MANUFACTURER Y, PRIVATE LABEL MANUFACTURER, MASS MERCHANTS.

	Supplier's Margin \$(p-c)/p	\$ Invoice Cost and Suppliers' Selling Price	\$ Factory Price	\$ Retail Price	Units (000)	Value of Output in Factory Prices (\$000)	RGM %	Value of Output in Retail Prices (\$000)	Mfgr.'s Gross Margin \$ per unit	Mfgr.'s Total Gross Margin Dollars (\$000)
Manufacturer X	<u>6.50-5.50</u> 6.50	6.50	13	17	5,200	67,600	23.5	88,400	6.50	33,800
Manufacturer Y	<u>6.85-5.60</u> 6.85	6.85	12	16	3,250	39,000	25.0	52,000	5.15	16,738
Private Label Manufacturer	<u>6.55-5.50</u> 6.55	6.55	8	13	4,550	36,400	38.5	59,150	1.45	6,598
2 Almost Identical Manufacturers	<u>8.50-6.00</u> 8.50	8.50	9.5	15.3	2,100 (10,050 each)	19,950 (9,975 each)	37.9	32,130 (16,065 each)	1.00	2,100 (1,050 each)
<b>Total Category</b>	<u>6.87-5.59</u> 6.87	6.87	10.79	15.34	15,100	162,950	29.7	231,680	3.92	59,236

SUMMARY

	Suppliers' Gross Margin %	Mfgr.'s Vertical Upstream Market Share %	Retailers' Gross Margin %	Mfgr.'s Vertical Downstream Market Share %	Mfgr.'s Horizontal Market Share in Factory Prices %	Mfgr.'s Horizontal Market Share in Retail Prices %	Mfgr.'s Share of Gross Margin Dollars %	HHI in Factory Prices	HHI in Retail Prices
Manufacturer X	15.4	84.6	23.5	76.5	41.5	38.2	57.1	1722	1456
Manufacturer Y	18.2	81.8	25.0	75.0	23.9	22.4	28.3	571	504
Private Label Manufacturer	16.0	84.2	38.5	61.5	22.3	25.5	11.1	497	652
2 Other Almost Identical Manufacturers	29.4	70.6	37.9	62.1	12.2 (6.1 each)	13.9 (6.93 each)	3.5 (1.77 each)	76	96
<b>Total Category</b>	18.6	81.4	29.7	70.3	100	100	100	2866	2708



#### TABLE 4. IMPORTANT CONCLUSIONS.

By increasing his vertical upstream and downstream market shares, a manufacturer increases his horizontal market share and market power, and vice versa. The 3 markets are so intertwined that we cannot predict the outcome in any one of them without accounting for the influence of the others.

At the end of the day it doesn't matter much whether the manufacturer's increased market power originated by taking market share from fellow manufacturers, suppliers or retailer customers. From the standpoint of social welfare it matters greatly whether the market power came from efficiency gains in the relevant horizontal and vertical markets or from the ability of firms at these levels to sustain supracompetitive rates of return.

Not only are the processes of horizontal and vertical competition extremely similar, but so are the results of being a successful horizontal or vertical competitor. Given the positive relationship between vertical and horizontal market shares and market power, a manufacturer with a well below category average horizontal market share will buy dear and sell cheap, paying a higher price for purchased inputs and receiving a lower price for his brands—a combination that erects mobility and entry barriers. Controlling for horizontal market shares and HHIs, manufacturers with larger vertical market shares will have higher profits.

Incorporating measures of vertical market power, provided later in the article, will improve the accuracy of economic forecasts in merger analysis and in other investigations. For there is likely to be a significant time lag before all vertical competitive effects are manifested in the industry's HHI and its profits- the principal horizontal market power indicators examined by the Agencies. Further, a manufacturer with a modest horizontal market share but sizeable vertical market shares is one whose horizontal market share and power is in its incipency and can be expected to grow.

In industries dominated by a few powerful advertised brands, horizontal price competition among these manufacturers is typically far less robust than the vertical price competition with their upstream suppliers and their downstream retailers. Vertical competition remains a force even in industries where horizontal competition is brisk.