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# RESPONSE

# Bilateral Monopoly, Two-Sided Markets, and the E-Books Conspiracy

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In response to John B. Kirkwood, *Collusion to Control a Powerful Customer: Amazon, E-Books, and Antitrust Policy*, 69 U. MIAMI L. REV. 1 (2014).

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## I. INTRODUCTION

Professor Kirkwood has gone well beyond providing an analytically coherent account of the "E-books Conspiracy."[1] Amazon purchased e-books from the major e-book publishers and resold them at a deep discount in order to promote the sale of their Kindle readers.[2] Allegedly concerned about Amazon's market power, the publishers[3] then entered into a conspiracy with Apple. Using this case study, Professor Kirkwood analyzed the circumstances under which a cartel should be excused from antitrust liability on the basis of creating countervailing power.[4] In the presence of monopsony power, collusion among sellers creates a countervailing power that improves both the sellers' profits and social welfare. Collusion among sellers is ordinarily a *per se* violation of § 1 of the Sherman Act,[5] but an argument can be made for an exception when a cartel faces a lawful monopsonist. Professor Kirkwood provided an analytical framework for evaluating such a defense of collusion in response to monopsony.[6] In Part II, we provide a simple analytical model of countervailing power and link this exposition to that of Professor Kirkwood.[7] In Part III, we explore the limitations of countervailing power as a defense and revisit the limitations described by Professor Kirkwood. In Part IV, we re-examine the structure of the e-book market. Part V provides some concluding remarks.

## II. THE ECONOMICS OF COUNTERVAILING POWER

Professor Kirkwood analyzed the economic results of collusion among sellers when they confront a monopsonist.[8] In this section, we set out a simple model of bilateral monopoly to provide an analytical foundation for his discussion.

The analysis begins with a powerful buyer—the monopsonist—buying from competitively organized suppliers. Monopsony power refers to the single buyer's ability to depress the purchase price below the competitive level by

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[1] *See generally* John B. Kirkwood, *Collusion to Control a Powerful Customer: Amazon, E-Books, and Antitrust Policy*, 69 U. MIAMI L. REV. 1 (2014).

[2] *See id.* at 33–34.

[3] These publishers are Simon, HarperCollins, Macmillan, Hachette, and Penguin. *Id.* at 9.

[4] *See id.* at 51.

[5] *See* United States v. Socony-Vaccum Oil Co., 310 U.S. 150, 223 (1940).

[6] His analysis and proposal is symmetric to the case of monopoly. *See* Kirkwood, *supra* note 1, at 151–63.

[7] *See id.*

[8] *See id.* at 60–63.

restricting the quantity purchased.[9] If the competitive supply curve is positively sloped, then the monopsonist will enjoy monopsony power.[10]

In most cases a monopsonist does not consciously wield its power. Instead, it automatically exercises monopsony power in its pursuit of profit.[11] In order to maximize its profits, the monopsonist will expand the employment of each input until the value of its marginal product is equal to the increase in expenditures on that input.[12] Assuming that the monopsonist enjoys monopsony power with respect to input $x_1$, profit maximization requires the employment of $x_1$ where the value of $x_1$'s marginal product is equal to the marginal expenditure on that input ("ME").[13]

This purchase decision is illustrated in Figure 1. In Figure 1, the demand for $x_1$ is the value of its marginal product ("VMP"), while the supply is S. The marginal expenditure is ME.[14] In the absence of monopsony power, employment would occur where VMP and S are equal, i.e., at point c with a price of $w_1$ and a quantity of $q_1$. With monopsony, however, the profit maximizing quantity falls to $q_2$, and its price falls to $w_2$ at point e. This change results in a social welfare loss. In the absence of monopsony, the sum of buyer surplus and producer surplus is the triangular area $abc$. With monopsony, however, this shrinks to area $abed$. The difference is the shaded triangle $dce$, which is a measure of the loss in social welfare.

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[9] Monopoly power is symmetric. It is the ability of the single seller to raise prices above the competitive level by restricting the quantity produced and sold. *See id.* at n.20.

[10] *See, e.g.*, Jonathan M. Jacobson & Gary J. Dorman, *Joint Purchasing, Monopsony and Antitrust*, 36 ANTITRUST BULL. 1, 10 (1991) ("There are three necessary conditions for the exertion of monopsony power: (1) the buyer or group of buyers must represent a substantial portion of total purchases in the market; (2) *the supply curve must be upward sloping*; and (3) there must be some barriers to entry into the buyers' market.") (emphasis added). If the competitive supply is horizontal, the monopsonist has no power because price cannot be depressed. *See, e.g.*, *id.*

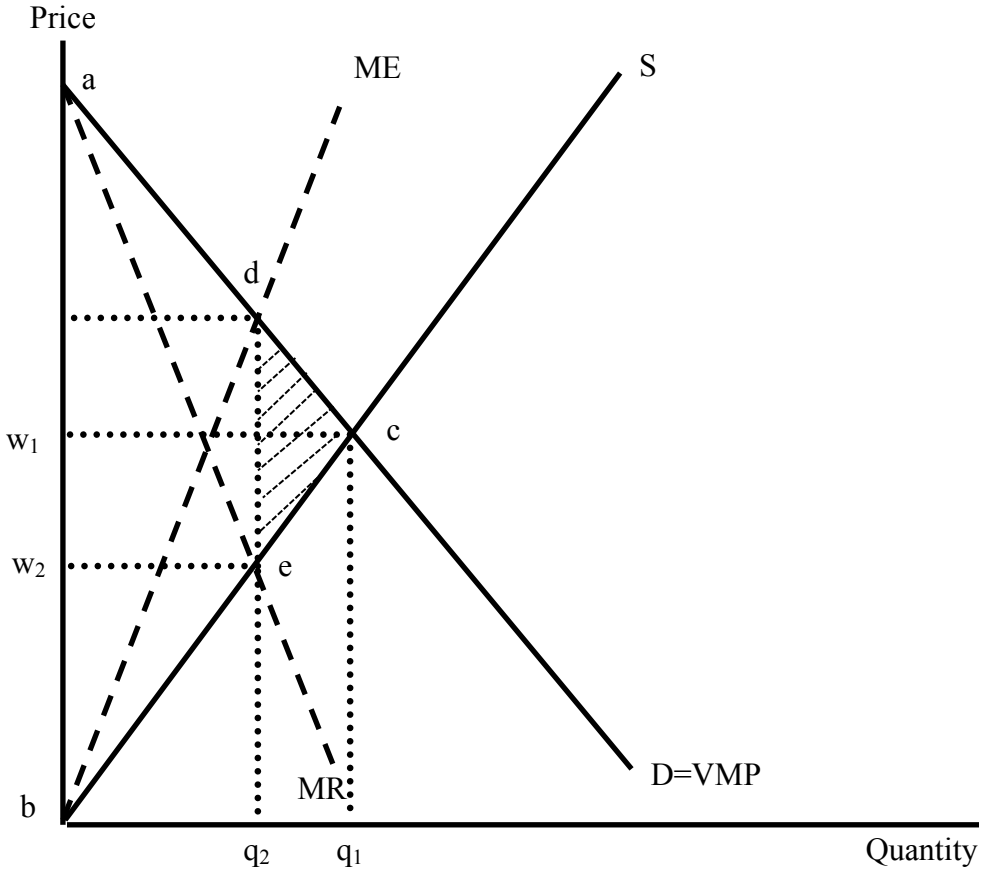
[11] Profit ("$\pi$") can be written as $\pi = P{\cdot}Q(x_1, x_2) - w_1(x_1)x_1 - w_2x_2$ where P is the monopsonist's output price, $Q(x_1, x_2)$ is the production function, $x_1$ and $x_2$ are inputs, and $w_1$ and $w_2$ are their prices. For the monopsonist, the price of x is a function of the quantity purchased. If the supply of $x_1$ is positively sloped, then the change in $w_1$ when $x_1$ increases is positive—i.e., $\frac{dw_1}{dx_1} > 0$.

[12] The value of the marginal product is the output price ("P") times the marginal product ("MP") of the input: $VMP = P{\cdot}MP$.

[13] Since $w_1 = w_1(x_1)$ and $\frac{dw_1}{dx_1} > 0$, the marginal expenditure $(x_1)$ is $ME = w_1 + \frac{dw_1}{dx_1}$. This means that ME exceeds $w_1$ because $\frac{dw_1}{dx_1}$ is positive.

[14] For a linear supply curve, ME will have the same intercept as S, but its slope will be twice that of S.

FIGURE 1




A. *Countervailing Power*

When competing sellers collude, they create monopoly power if buyers are small and have no monopsony power. Thus, collusion turns a competitive market into that of monopoly. In the presence of monopsony, however, collusion among sellers creates countervailing power and thereby changes the market structure to that of a bilateral monopoly.[15]

The single customer is thus a monopsonist and the single seller is a monopolist. The monopolist's effort to maximize profit by restricting output, which raises prices, is confronted by the monopsonist's effort to maximize profit by restricting purchases, which lowers prices.

A. L. Bowley, an economist, offered a solution to this complication by recognizing a profit motive for cooperation between the upstream monopolist and

[15] *See* Kirkwood, *supra* note 1, at 6–7 & n.25.

the downstream monopsonist.[16] This profit incentive arises because joint profits are not maximized at either the monopoly solution or the monopsony solution.[17] The two trading partners can do better by cooperating. Such cooperation may take the extreme form of vertical integration (i.e., the joint ownership of the upstream and downstream entities).[18] Alternatively, this cooperation may emerge from a bargaining process. For the latter, it is important to realize that the negotiation involves the optimal quantity in the first stage. That is, agreement on the quantity is essential if joint profits are to be maximized.[19] Once the quantity is agreed upon, the buyer and seller will negotiate on the price.

### B. *Economic Effects of Countervailing Power*

It is clear from the analysis of bilateral monopoly that the quantity transacted will rise from $q_2$ to $q_1$ in Figure 1. The expansion in employment will cause the output of the monopsonist to rise. This increase in output will lead to a reduction in the price that consumers pay.[20] These effects have a positive impact on consumer welfare.

The effect of countervailing power on the price of the monopsonized input is ambiguous, but largely irrelevant for antitrust policy purposes. This can be illustrated in Figure 2.

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[16] *See* A. L. Bowley, *Bilateral Monopoly*, 38 ECON. J. 651, 651 (1928).

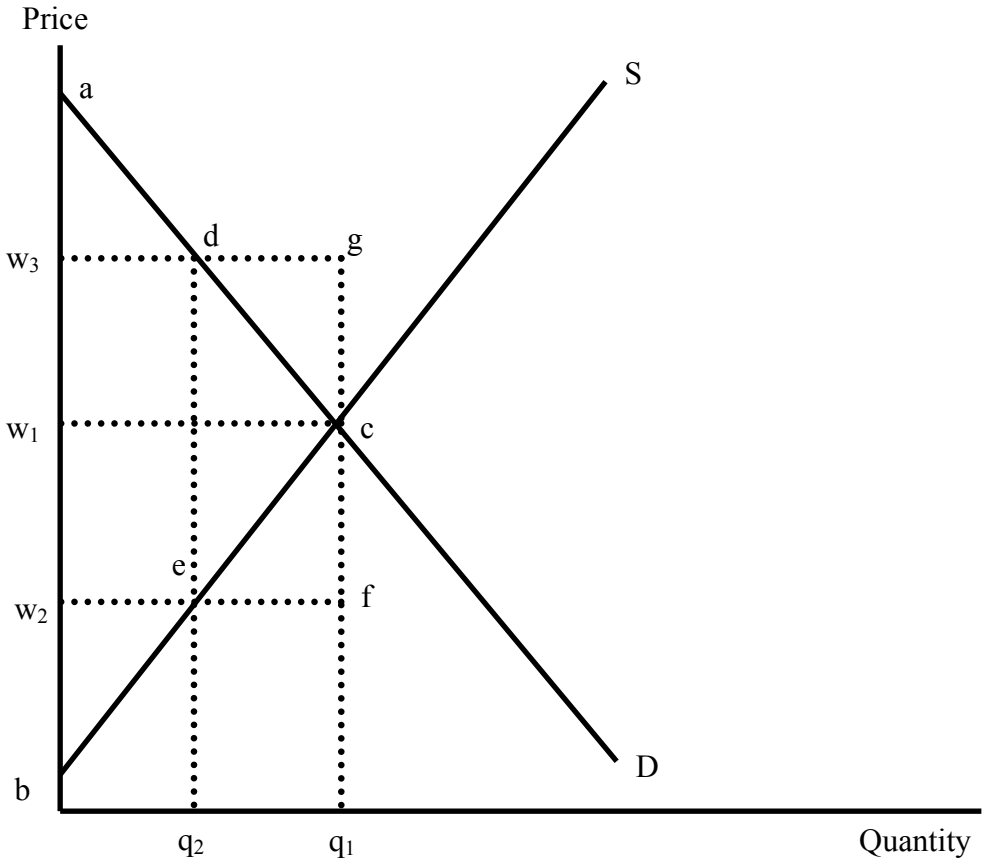
[17] *Id.* at 651–57.

[18] *See, e.g.*, Fritz Machlup and Martha Taber, *Bilateral Monopoly, Successive Monopoly, and Vertical Integration*, 27 ECONOMICA 101, 101 (1960).

[19] *See id.* at 104–13 (arguing that a failure to recognize this essential difference between bilateral monopoly and all other market structures created a good deal of analytical confusion).

[20] Since consumer demand for the monopsonist's output has a negative slope, an increase in output leads to a reduction in price even if the monopsonist is a competitor in the output market. The price reduction may be small—very small—but it will exist.

FIGURE 2




Start with the bilateral monopoly solution, which involves a quantity of $q_1$. In the absence of any market power, price would be $w_1$. The buyer will be willing to pay more than $w_1$ for $q_1$ rather than get nothing at all, but there is a limit. When the price rises to $w_3$, the consumer surplus on some of those units is offset by paying more than their value on other units. In Figure 2, area $adw_3$ is consumer surplus on some of the $q_2$ units. Area $dcg$ is a loss because the price exceeds the value of the units of $q_2$. The maximum price that the buyer will pay is found where $adw_3$ equals $dcg$, i.e., where all of the buyer surplus has been extracted by the suppliers. If the price were higher than $w_3$, the buyer would be better off to buy nothing at all.

Similarly, the lowest price is found where the positive producer surplus equal to $w_2eb$ is equal to the loss represented by area $cef$. If the price were lower, the suppliers would be better off selling nothing at all.

The price range is then $w_2$ to $w_3$, and any price in this range can support the bilateral monopoly solution. Since the countervailing power is formed in response to monopsony, one would expect the price to rise above the previous level. However, this is irrelevant for antitrust policy purposes. This price of input $x_1$ in this market structure serves merely to divide the surplus between the monopsonist and the colluding sellers. The price, provided that it remains between $w_2$ and $w_3$, does not affect the quantity and, therefore, will not influence either consumer welfare or social welfare.

## III. IMPLICATIONS FOR ANTITRUST POLICY

When competitively organized suppliers are confronted with a lawful monopsonist, collusion among the sellers changes the market structure to one of bilateral monopoly, and the welfare effects are decidedly positive. The social welfare loss of a monopsony is eliminated. The monopsonist's expanded employment of the monopsonized input expands its output. This, of course, leads to improved consumer welfare. Consequently, in the assumed circumstances, a powerful economic case can be made for allowing the sellers to collude. This appears to be a case where two wrongs do make a right. However, there are many caveats that accompany this conclusion.

In theory, permitting collusion to create countervailing power enhances social welfare. Competitive sellers must deal with a monopsonist, and collusion among these sellers changes the market structure while improving the economic results. Ignoring the unlawful collusion among the sellers, however, is unnecessary if the monopsony is unlawful. In that circumstance, the unlawful monopsony should be the target of antitrust attack, because there is no reason to grant an antitrust exemption when antitrust enforcement can solve the problem.

A second concern involves our confidence that we have correctly identified the market structure. Professor Kirkwood argued that collusion among the sellers will not create a bilateral monopoly because Amazon was not, in fact, a monopsonist.[21] Collusion among the sellers would then create monopoly power with its attendant economic problems.

A third reservation arises from the fact that markets and corresponding market structures evolve over time. Even if Amazon had been a monopsonist, it is not clear that its position would have been permanent. However, the collusion among sellers may have had an enduring effect long after Amazon had ceased being a monopsonist.

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[21] *See* Kirkwood, *supra* note 1, at 51.

## IV. THE STRUCTURE OF THE E-BOOK MARKET

It turns out that the market structure in the e-book controversy is even more complicated. If Amazon originally possessed monopsony power, collusion between publishers would transform the market into a bilateral monopoly. Once the quantities of input are agreed upon, the input price only serves to distribute surplus. The retail book price is determined by the market demand and thus is unaffected by the input price. Consumers are better off from the collusion, and Amazon's hard bargaining power would be weakened. Therefore, collusion between publishers is socially desirable if a monopsony is present. However, as Professor Kirkwood suggested, Amazon's below-cost pricing was merely a marketing strategy to promote its Kindle, rather than an attempt to drive out rival booksellers before an eventual increase in retail price.[22] Without existing monopsony power, the collusion between publishers could potentially create monopoly power in the market and generate anticompetitive conduct.

In the e-book conspiracy, a major concern was Amazon's dominant market power.[23] The publishers attempted to bring about more downstream competition by inviting Apple to enter the market.[24] This could be a procompetitive move if Apple and Amazon would compete in the same manner. However, there are two distinct features of this e-book case: the divided market and the market structure. Therefore, we cannot apply the simple models to analyze the antitrust effect of a new entrant.

Compared with the general retail sales, purchases of e-books are based on the possession of an e-book reader. Therefore, when it comes to e-book sales, the market is already divided, and Apple and Amazon are essentially facing different market demands. Once consumers purchase an electronic device, they are likely to be "locked" into a market for e-books because of the high switching costs[25]—an Amazon customer must buy an Apple device to switch to e-books supplied by Apple.[26] Upstream, there is direct competition between Apple and Amazon for the purchase of e-books. At the consumer level, the competition exists mainly between the electronic devices.

A move to agency pricing, where the retail price of a book is determined by the publisher, further complicates the market structure. Unlike Amazon, which purchases inventories from the publishers, Apple serves as an intermediary to facilitate sales.[27] The market becomes a two-sided one,[28] where prices on both

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[22] *See id.* at 33–34.

[23] *See id.* at 11–12.

[24] *See id.* at 8–11.

[25] Apple insisted on a most favored nation clause because it did not want to sell e-books at higher prices than Amazon. This would make the Kindle a more attractive reader to the consumers. *See id.* at 10.

[26] The significance of this is mitigated by the development of Apple apps that allow consumers to read an Amazon book on an iPad.

[27] *See* Kirkwood, *supra* note 1, at 9–10.

sides of the market depend on the joint set of demand elasticities and marginal costs on each side.[29] Apple charges no additional subscription fee to its iPad users, but generates e-book sale profits exclusively from a percentage commission by the publishers because consumers are more price-elastic.

The analysis becomes more complicated when a new firm enters the market because we expect more downstream competition and, thus, lower retail price. But since the e-book market is segmented, once consumers self-select by purchasing the electronic devices, price discrimination would arise. Consumers who already purchased the iPad have fewer incentives to purchase a Kindle, even if Amazon offers a low e-book price, allowing publishers to charge a higher e-book price to the iPad users to further extract consumer surplus. To respond to a strong new entrant, Amazon has an incentive to lower retail prices. However, the effect of the most favored nation clause is to discourage discounting, which tends to make the e-book prices higher and further curtails the demand for both e-books and Kindles. Therefore, both Amazon and consumers are harmed by the entry of Apple.

While Amazon and Apple would like to expand their downstream market coverage, they interact with the publishers differently. When Amazon purchases books from the publishers, it bares all the risk of overstocking inventories and, therefore, has an incentive to lower retail prices to capture more demand.[30] Apple, on the other hand, acts only as a sales agent, and therefore tends to prefer a larger mark-up due to the agency pricing structure.[31] This follows because iPad was not designed purely as an e-book reader; the demand for iPads is significantly less sensitive to e-book prices than that of Kindles. Consequently, when the publishers deal with Amazon, profits are realized once the books are sold to Amazon; while with Apple, profits are realized only after the books are sold to consumers. Notice also that the marginal cost of e-books for Amazon is the price it pays to the publisher, while the marginal cost for the publisher is the actual production cost. Due to the nature of e-books, the actual marginal cost of

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[28] In economics, a two-sided market involves two groups of agents interacting through an intermediary platform where the decision of each side of the market affects the outcome of the other side. *See* Jean-Charles Rochet and Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. ECON 645, 645 (2006).

[29] *See id.* at 652–57; Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS'N 990, 996–98 (2003); E. Glen Weyl, *A Price Theory of Multi-Sided Platforms*, 100 AM. ECON. REV. 1642, 1649–54 (2010).

[30] Following Apple's entry into the market, the publishers forced Amazon to switch to agency model. *See, e.g.*, Kirkwood, *supra* note 1, at 3 n.6 ("Amazon's competitors argued that the 'agency model' of pricing, which the publishers imposed on Amazon, benefited consumers because it encouraged other retailers to enter or invest in the industry.").

[31] *See id.* at 9–10 ("Apple favored the agency model—under which publishers would set the retail prices of e-books and retailers would receive a commission for selling—because it would provide Apple with a guaranteed profit margin.").

e-books is very small, and publishers enjoy an even larger profit margin. Therefore, the move to agency pricing is a strategic move to raise retail price and, at the same time, suppress Amazon's dominant market power.

## V. CONCLUSION

In this companion to Professor Kirkwood's article, we have provided a simple economic model of bilateral monopoly. However, this analysis should be applied with caution because the facts may be inconsistent with the model's assumptions. In addition, we have examined the market structure that was actually in existence during the e-book conspiracy. This market is segmented and two-sided and far more complicated than even Professor Kirkwood described.