WHEN MERGERS FAIL: A PEDAGOGICAL CASE STUDY OF THE PROPOSED MERGER OF STAPLES AND OFFICE DEPOT

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Abstract

Major corporate mergers in the office supplies retail industry have been blocked by the US government on two occasions in the last 20 years. This article presents a pedagogical treatment of the recently proposed, and ultimately failed, merger of Staples and Office Depot. The Williamson economic model of horizontal mergers is discussed and the 2015 and 1996 merger proposals of Staples and Office Depot are compared. We develop classroom materials for economics instructors who teach introductory and intermediate applied microeconomics courses.

Key Words: Mergers, Williamson Model, Antitrust Laws, Office Supplies

JEL Classification: A20, A22, G34, L41, L44

Introduction

Staples Inc. opened the first office supply superstore in 1986 when founder Thomas Stemberg filled a previously unexploited market niche for a one-stop supermarket for office products (Staples Inc., 2015). His business strategy relied on selling a wide array of discounted office supplies to small businesses and it soon evolved into a high volume chain passing down cost savings to consumers. By selling office supplies at 30 to 60 percent off list price, Staples operated as a catalyst to force the rest of the industry to reduce prices (970 F. Supp. 1066 [D.D.C. 1997]). Following the opening of Staples, other office supply superstores soon arose, including Office Depot (1986) and OfficeMax (1988).

Staples and Office Depot grew to be the number one and two sellers of office supplies. By 2015, Staples had 3,800 stores worldwide and sales revenues of $25 billion (Staples Inc., 2015) while Office Depot had 1,900 stores worldwide and sales revenues of $14.5 billion (Office Depot Inc., 2015). However, sales and profits of both firms were declining at this time due to a sluggish market for office equipment and strong competition from other retail firms and online dealers. As a result, Staples and Office Depot attempted to reduce costs through closure of some retail outlets as well as consolidation via merger.

In 2015, Staples announced plans to acquire Office Depot, which itself had acquired OfficeMax in 2013 in an attempt to compete against Staples. In justifying the merger, Staples and Office Depot emphasized how it would lead to efficiencies that would result in cost reductions and lower prices for office-supply consumers. However, the Federal Trade Commission (FTC) filed a lawsuit to halt the merger, arguing that it would significantly reduce competition in the office supply market. In May 2016, the United States District Court for the District of Columbia granted the FTC a preliminary injunction against the merger. As a result, Staples and Office Depot announced the termination of their proposed merger. This case is similar to the proposed merger of Staples and Office Depot that was turned down by the Court in 1997.

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The purpose of this article is to apply the Williamson model of market power and economic efficiency to the proposed merger of Staples and Office Depot, and to guide the reader through the FTC's decision-making process regarding this merger (Williamson, 1968). This pedagogical piece is intended as a case study and method of instruction that we wish to share with college professors for use in their classrooms when discussing horizontal mergers. The Williamson model has also been the basis for some of our publications that have been used in our classrooms for a variety of courses (Carbaugh 2015; 2014; 2010; 1993; Sipic and Carbaugh, 2014). To facilitate faculty instruction, we provide suggested video links in the Appendix regarding the proposed merger of Staples and Office Depot for the instructor to use when lecturing about mergers.

**Williamson Horizontal Merger Model**

The Williamson model proposes a method of analyzing a welfare trade-off in a merger of two competing firms (Williamson, 1968). The welfare benefits arise from cost reductions due to economies of scale, while the welfare losses derive from increases in market power by the merged firm and the associated deadweight losses. The model compares economic welfare gains for two scenarios: when the two firms are direct competitors and when they merge into a monopoly. In the latter case, the price is expected to be higher and quantity lower than in the former case. This result will occur as long as the marginal cost curve for the newly merged firm is identical to the horizontal sum of the marginal cost curves of the individual competitors. In the case of the Staples-Office Depot merger, whether or not net economic welfare increases or decreases because of the merger depends on the sizes of these two opposing forces.

In Figure 1, we illustrate the welfare effects of a merger between two perfectly competitive suppliers of office supplies, Staples and Office Depot. Assume that each firm charges a price equal to marginal cost and realizes constant long run costs. Thus, average cost equals marginal cost at each level of output, so that \( MC_1 = AC_1 \). Market equilibrium occurs at point A, associated with a price of \( P_1 \) per unit of office supplies and a quantity of \( q_1 \). The consumer surplus is the triangle \( P_1 AP_1 \), and producer surplus is non-existent due to the constant structure of costs (Sipic and Carbaugh, 2014).

Suppose that the two suppliers merge into a new firm, called Staples-Office Depot, thus becoming a monopoly in the office supplies market. The new supplier decreases costs by exploiting newly found economies of scale, shown by \( MC_2 = AC_2 \). Staples-Office Depot maximizes profit by equating marginal revenue and marginal cost, resulting in a new market equilibrium at point B; price rises to \( P_2 \) per unit and a quantity falls to \( q_2 \). The decrease in the cost from \( MC_1 \) to \( MC_2 \) results in efficiency related welfare gains of \( P_1CDP_0 \). The increase in equilibrium price from \( P_1 \) to \( P_2 \) decreases the consumer surplus by the area of the trapezoid \( P_2BAP_1 \), whereby area \( BAC \) is the deadweight loss and area \( P_2BCP_1 \) is lost to the producer surplus. The FTC should (all else being equal) approve the merger if the efficiency gains (area \( P_1CDP_0 \)) are larger than the deadweight loss (area \( BAC \)).

It has been assumed that Staples-Office Depot achieves cost reductions that are unavailable to either Staples or Office Depot as stand-alone companies. Whether the cost reductions benefit the overall economy depends on their source. If they result from productivity improvements (for example, new work rules leading to higher output per worker), a welfare gain exists for the economy because fewer resources are needed to produce a given amount of output and the excess resources can be shifted to other industries. However, the cost reductions resulting from the formation of Staples-Office Depot may be monetary in nature. Being a newly formed company, Staples-Office Depot may be able to negotiate wage concessions from workers that could not be
achieved by Staples or Office Depot as stand-alone companies. Such a cost reduction represents a transfer of dollars from workers to Staples-Office Depot's profits and does not represent an overall welfare gain for the economy (Sipic and Carbaugh, 2014).

In order to evaluate the welfare gains or losses of a merger between Staples and Office Depot in the context of the Williamson model, we would need to estimate the efficiency gains and deadweight losses of Figure 1 - that is, area $P_1CDP_0$ and area $BAC$ respectively. In practice, projected efficiency gains are often provided by the merging companies, while the deadweight losses may be inferred from the potential price increases as a result of the increased market power of the newly merged company. Lack of data does not allow these estimates to be provided in this paper (Sipic and Carbaugh, 2014). It should be noted that if the cost savings from a merger are large enough, it is possible that the price could decrease after the merger, even if market power is being exercised. Thus, there is no trade-off in that case (Kwoka and White, 2014).

Figure 1: The Welfare Effects of the Proposed Merger of Staples and Office Depot

The Williamson model has become a work-horse model in undergraduate economics courses focusing on the costs and benefits of increased industry concentration such as introductory and intermediate microeconomics, industrial organization, and managerial economics. We utilize this model in our courses when teaching about historic mergers (such as AOL and Time Warner, Exxon Corp and Mobil Corp, and Citicorp and Travelers Group Inc.) as well as more recent cases (such as American Airlines and US Airways, Canadian Pacific and Norfolk Southern, and Pfizer and Allergan). We present several videos to the students upon completion of the discussion of monopoly (including Bloomberg’s ‘Staples-Office Depot Merger Collapses After Block by Judge’; Boston Herald’s ‘Staples/Office Depot CEOs Defend Merger’; and CNN’s ‘Staples and Office Depot Abandon Merger’). See Appendix A for links to videos on the failed merger. The students saw these videos, which introduced the concepts of market power and economic efficiency in the office supplies industry, prior to learning about the Williamson model and the
Department of Justice's Horizontal Merger Guidelines. Carbaugh and Sipic felt that this technique worked quite well in that students were initially exposed to a real-world example of a horizontal merger, before learning about the underlying theory and antitrust principles. Students appreciated seeing how economic principles can be applied to a real-world merger of two familiar office supplies retailers.

The merger proposal of Staples and Office Depot in 2015 was not the first time that the two companies attempted to merge. They also announced plans to merge in 1996 that was denied by the Court in 1997. Let us consider these two cases.

**Staples-Office Depot Merger Proposal of 1996**

Staples and Office Depot are firms which sell office products—including office supplies, business machines, computers, and furniture—through retail stores (known as office supply superstores) and through direct mail delivery and contract operations. In 1996, Staples was the second largest office superstore in the United States with about 550 retail stores located in 28 states; the firm's revenues were about $4 billion. Office Depot was the largest office superstore chain; it operated about 500 retail office supply superstores in the United States and generated $6.1 billion of revenue in 1996. (United States District Court for the District of Columbia, 1997)

Staples first announced plans to purchase its rival in September 1996. The firms said the deal would create a chain with more than 1,000 stores in the United States and Canada and annual sales of more than $10 billion. However, the FTC decided that the merger of the two superstores would unfairly increase office supply prices despite competition from OfficeMax, which did not have stores in any of the local markets that the merger would affect. Although Staples argued that chains such as Circuit City Stores and Wal-Mart provided adequate competition, this argument did little to sway the FTC or U.S. District Court Judge Thomas Hogan who ruled against the merger. Let us elaborate in several key points regarding this merger decision. (Dalkir and Warren-Boulton, 1997)

- **Section 7 of the Clayton Act of 1914 makes it illegal for two companies to merge when in the line of commerce the effect of the acquisition may be substantially to lessen competition, or to tend to create a monopoly. In merger cases, the FTC must show the Court that there is a strong likelihood that a merger will lessen competition or create a monopoly, if the Court is to rule against the merger.**

- **Both the FTC and the defendants (Staples and Office Depot) agreed that metropolitan areas were the appropriate geographic markets for analyzing the competitive effects of the proposed merger. According to the FTC, the proposed merger would have an anti-competitive effect in 42 metropolitan areas, ranging from Los Angeles, California to Detroit, Michigan.**

- **In contrast to the parties' agreement regarding the relevant geographic market, the FTC and the defendants sharply disagreed with respect to the appropriate definition of the relevant product market, which was crucial to Judge Hogan's decision. The FTC defined the relevant product market as the sales of office supplies through office superstores; this narrow definition resulted in the FTC's claiming that the defendants controlled about 75% of the market, a dominant high market share (as elaborated on below). However, the defendants argued that the relevant product market should be more broadly defined to include the overall sale of office products which implied competition from chains such as Wal-Mart, Circuit City, and other mail order retailers. In this situation, the combined market share of the defendants was only 5.5%, hardly a statistic that would support the denial of the merger. After considering arguments on both**
sides, Judge Hogan decided that the appropriate relevant product market was the narrow definition of the FTC— that is, sales of office supplies through office supply superstores.

- After accepting the FTC's definition of the relevant product market, Judge Hogan next considered the probable effects of a merger between Staples and Office Depot in the 42 geographic markets (metropolitan areas) previously identified. It was found that, if the proposed merger took place, the Herfindahl-Hirschman Index (HHI) index would range from 5,003 in the least concentrated metropolitan area (Kalamazoo-Battle Creek, Michigan) to many metropolitan areas with HHIs of 10,000. This implies that the merger would result in highly concentrated markets—an HHI of over 1,800 qualified as "highly concentrated" according to the 1982 merger guidelines of the U.S. Department of Justice (DOJ) and the FTC. In 2010, the DOJ and the FTC revised its merger guidelines such that a highly concentrated market required an HHI of over 2,500. This classification was relevant to the 2015 merger proposal of Office Depot and Staples, as discussed below.

- In this case, the FTC staff had access to scanner data, including actual transactions prices at Staples stores. Analysis of the price data suggested that prices were significantly higher in markets where only two of the three “office superstores” operated compared to markets with all three. Prices were higher still in markets where only one of the competitors operated. In addition to supporting the narrow definition of the market, these data also suggested that prices would rise an average of 7.3 percent after the merger in markets where both Staples and Office Depot competed prior to the merger (Kwoka and White, 2014). This was arguably more convincing to the court than the relatively high HHI numbers alone.

- Moreover, the concentration statistics showed that a merged Staples-Office Depot would have a dominant market share in 42 metropolitan areas throughout the United States. In 15 metropolitan areas, the combined market shares of Staples and Office Depot in the office superstore market would be 100%. In 27 other metropolitan areas, where the number of office superstore competitors would drop from three to two, the post-merger market shares would range from 45% to 94%. Therefore, Judge Hogan accepted the FTC's argument that there was a high probability that the proposed merger would give the merged company near-monopoly pricing power, resulting in a significant anticompetitive effect.

The merger guidelines of the Justice Department and FTC allow for an efficiencies defense to show that the intended merger creates significant efficiencies in the relevant market, thus offsetting any anti-competitive effects. (U.S. Department of Justice and the Federal Trade Commission, 2010). These guidelines recognize that mergers have the potential to generate significant efficiencies by permitting a better utilization of existing assets, enabling the combined firm to achieve lower costs in producing a given quantity that either firm could have achieved without the proposed merger. Moreover, the guidelines mandate that the efficiencies must be specific to the merger and they are relevant only if they result in a lower price to consumers. In practice, although efficiencies are easy to promise before a merger occurs, they tend to be more difficult to achieve after the fact, realizing the difficulties of the post-merger firm’s attempt to integrate equipment, operating systems, personnel, and cultures from the two firms prior to the merger. (Kwoka and White, 2014)

Staples and Office Depot submitted their efficiencies estimates to the Court. These estimates predicted that the combined company would achieve savings of $4.9-$6.5 billion over the next five years. Also, the defendants argued that the merger would generate dynamic efficiencies, such as office suppliers becoming more efficient due to their increased sales volume to the combined Staples-Office Depot. Moreover, the defendants argued that two-thirds of the
savings realized by the combined company would be passed along to consumers. However, Judge Hogan ruled that the efficiency estimates of Staples and Office Depot were unreliable, noting that they were substantially greater than those represented in previous documents prepared by Staples and Office Depot. (United States District Court for the District of Columbia, 1997)

In a final effort to avoid the denial of the proposed merger, and based on a recommendation by the staff of the FTC, Staples and Office Depot proposed to sell 63 of their stores to OfficeMax, at a bargain price, to maintain two-superstore competition in markets that, after the merger, would otherwise have only one superstore. Also, both companies made a public commitment to reducing prices after the merger. Yet the FTC argued that the combined company's prices would be 5% to 10% higher. Upon evaluating all arguments, Judge Hogan ruled against the proposed merger. Following the denial of the merger, an intense rivalry developed between Staples and Office Depot in the market for office supplies.

Staples-Office Depot Merger Proposal of 2015

Fast forward to 2016, and history was repeating itself. Again, Staples and Office Depot were attempting to merge and the FTC was able to block the merger on antitrust grounds. But in this case, the proposed merger was part of a larger trend of consolidation in a weakening market. Competition has been fierce and both companies have turned to downsizing to boost profits.

Office suppliers have struggled as consumers and businesses reined in spending and governments cut budgets. Almost everything sold in a Staples or Office Depot store, from ink to filing cabinets to staples, is tied to the consumption of paper. And while the paperless office is rare, the less-paper office is ubiquitous. Also, the already slim profit margins of office supplies stores have been compressed by price cutting. Staples and Office Depot have compared themselves to "penguins on a melting iceberg," struggling to survive in an increasingly competitive and digitalized world.

Staples had a good run from 2003 to 2009, when its after tax profits grew by about 15 percent per year. Yet from 2009 to 2015, its profits decreased by about 9 percent per year. Office Depot has been in a similar situation. The decline in the profits of these companies reflects the pricing pressure from online giant Amazon and brick-and-mortar behemoth Walmart as well as the commoditized nature of the office supply business. Profits have fallen as the result of strong growth in lower margin categories like tablets and a decline in sales of higher margin categories such as office supplies, as well as pressure in core categories such as paper and ink and toner. As a result, Staples and Office Depot were under pressure to consolidate their operations via merger in order to reduce costs and become a stronger business. Therefore, the two firms announced their intention to merge in February 2015. Staples was to acquire all of the outstanding shares of Office Depot, worth $6.3 billion.

According to Staples and Office Depot, their merger would allow the combined company to more effectively perform in a rapidly evolving competitive environment. The combined firm would achieve at least $1 billion of cost savings as it aggressively reduced global expenses and optimized its retail footprint. The majority of these savings were to be realized through headcount and general and administrative expense reductions, efficiencies in purchasing, marketing, supply chain, and retail store network optimization, as well as sharing of best practices, according to Staples and Office Depot. These savings would help the combined firm to increase its profitability and position the company to serve its customers and grow over the long term (Office Depot-OfficeMax, 2015).
Moreover, Staples and Office Depot noted that in 2013 the FTC allowed the merger of Office Depot and OfficeMax based on the evidence that these office supply superstores faced competition from other sources. By accepting a broad definition of the relevant market, the FTC established a precedent for the proposed merger of Staples and Office Depot in 2015, according to the two companies. However, critics noted that in 2013, Office Depot and OfficeMax were each less than half the size of Staples and struggling to stay profitable. Without a merger, one or both may have eventually folded. This argument is consistent with the “failing firm” defense of a merger as recognized by the guidelines of the DOJ and the FTC: If one or both of the merging firms are unlikely to survive in the absence of a merger, then the merger may not be challenged, even though other aspects of the merger support a challenge. The rationale here is that it is no worse, and likely better, to lose one competitor through merger than to lose one or more competitors by blocking the merger. Simply put, the circumstances surrounding the merger of Office Depot and OfficeMax were much different from those of the proposed merger of Staples and Office Depot, according to the critics. Thus, the merger of Office Depot and Office Max was not a precedent for a merger of Staples and Office Depot.

In December 2015 the FTC filed a complaint with U.S. District Judge Emmet Sullivan, charging that Staples proposed acquisition of Office Depot would violate the antitrust laws by significantly reducing competition nationwide in the market for consumable office supplies sold to large businesses that buy office supplies in bulk for their own use. The FTC's complaint noted that Staples and Office Depot are often the top two bidders for large business customers (Federal Trade Commission, 2015).

The complaint of the FTC included several provisions:

- The complaint noted that many large business customers buy consumable office supplies (pens, pencils, notepads, sticky notes, and so on) for their own use under a contract. In addition to a wide range of office supplies at competitive prices, the vendor provides them with fast and reliable nationwide delivery, dedicated customer service, customized online catalogs, integration of procurement systems, and detailed utilization reports. Thus, the business-to-business market is distinct from the more competitive retail markets for office supplies sold to consumers.

- The FTC's complaint alleged that, in competing for business contracts, both Staples and Office Depot had the scale to provide the low prices, nationwide distribution, and combination of services and features that many large business customers require.

- The complaint alleged that by eliminating the competition between Staples and Office Depot, the merger would lead to higher prices and reduced quality. It also asserts that entry or expansion into the market - by other office supplies vendors, manufacturers, wholesalers, or online retailers - would not be timely, likely, or sufficient to counteract the anticompetitive effects of the merger. Finally, the complaint asserted that the purported merger efficiencies would not be large enough to offset the competitive harm. (Federal Trade Commission, 2015). In the context of the Williamson merger model of Figure 1, the FTC maintained that the proposed merger's deadweight welfare-loss triangle would be much larger than the economic efficiencies rectangle.

After hearing all arguments about the proposed merger, on May 10, 2016 Judge Sullivan blocked the planned merger of Staples and Office Depot. He noted that there was little doubt that
the acquisition of the second largest firm in the market (Office Depot) by the largest firm in the market (Staples) would lessen competition in the sale and distribution of office supplies to large businesses in the United States.

In his ruling, Judge Sullivan emphasized two critical issues in the merger case. First, he accepted the FTC's narrower definition of the relevant product market and market share analysis - that Staples captured 47.3 percent and Office Depot captured 31.6 percent of the business-to-business market, for a total of 79 percent market share, and that the post-merger HHI would be 6,265, suggesting that the market would be highly concentrated. In other words, the merger would result in a market structure of one dominant firm with a competitive fringe. Second, Judge Sullivan noted that Staples and Home Depot were unable to demonstrate that other online retailers or vendors would replace any competition lost because of the merger.

As the result of Judge Sullivan's rejection of the proposed merger, Staples and Office Depot abandoned the $6.3 billion deal. Staples and Office Depot publicized their disappointment to their customers. In an open letter, they claimed that the Court was wrong for blocking the proposed deal. The competitive landscape had been changing with more business functions now being done online and there was a declining demand for paper-based office supplies. They claimed that Staples and Office Depot faced increasing competition from retail giants such as Amazon, Wal-Mart, and others, that the Court did not seem to appreciate.

Conclusion

In the last several years, the FTC and DOJ have increased scrutiny of mergers and consequently blocked several in the railroad ($30 billion deal between Canadian Pacific and Norfolk Southern), oilfield services ($28 billion deal between Halliburton and Baker Hughes), and pharmaceutical industries ($160 billion Pfizer takeover of Allergan). More recently, the federal government elected to prevent another merger, this time between Staples and Office Depot. This is the second time in 20 years that these companies tried and failed at joining forces. Both companies consequently saw steep declines in their stock valuations, and Staples CEO Ron Sargent stepped down. This article proposes a pedagogical approach to analyzing this latest Staples-Office Depot merger attempt, by way of the Williamson model of horizontal mergers, followed by the description and discussion of the 1996 and 2015 merger proposals. The Williamson horizontal merger model helps students understand how the federal government makes decisions when approving or rejecting corporate mergers. Specifically, it considers two main factors: cost savings arising from economies of scale and deadweight losses arising from increased concentration due to the merger. The general rule of thumb, as presented in Figure 1 of the paper, is that the merger merits approval if the cost savings exceed the deadweight losses and rejection if the deadweight losses are greater than the cost savings. One of the main determinants of both values is the definition of the service and geographic markets in which the merged company operates. In the 2015 case, the FTC’s concern was the office supply market for large business customers, while in the 1996-97 case the consumer market was the focus of the case. This is likely due to the decline in demand for some office supplies and the increased competition from online vendors in the 20 years since the first case, but not in the market for large business customers. The FTC and DOJ determine the geographic and service scopes after hearing arguments from both sides in the case. Thus, the Staples-Office Depot merger failed primarily due to the Courts accepting a narrow definition of the market, whose principal proponent was the FTC, in both the 1996 and 2015 cases. Specifically, the FTC defined the relevant market from the total market for office supplies to the market served only by the office-supply superstores. In the former case, the
merged company would have a market share of less than 10% and in the latter case almost 90%. The companies argued for a total market definition to include office supply sales by companies such as Target, Wal-Mart, and Amazon. But the Court rejected this argument as speculative due to a lack of evidence that these companies competed with Staples and Office Depot since the 1996 case.

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Appendix A
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