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Abstract

This case study discusses the nature and likely effects of the proposed merger between United and Continental. It is intended as a lecture for instructors teaching undergraduate courses in Industrial Organization or Antitrust Economics

KEYWORDS: United, Continental, Merger, Antitrust

United-Continental Merger

On May 2, 2010, the Boards of Directors at United Airlines and Continental Airlines approved a stock-swap deal that will combine them into the world's largest airline. The combined carrier will have 21 percent of domestic flying capacity, taking the lead from Delta Air Lines, which will lose what had been its leading 20 percent share of the domestic market. The deal still needs final approval from the U.S. Department of Justice and shareholders before being allowed to go forward. The firms hope to complete the transaction in the fourth quarter of 2010.

According to the management of United and Continental, the proposed merger will generate streamlined service and greater efficiencies that result in cost savings and revenue increases, helping the newly merged firm return to profitability. However, critics note that the merger will involve the consolidation of two competing firms; whenever you have fewer firms, there is less competition and greater market power. Critics also maintain that, for the average traveler, the merger likely will mean higher fares and fewer flights, as the new carrier cuts unprofitable routes and raises prices after eliminating competition. They also note that fares could double for nonstop flights from Houston to Chicago, Washington, D.C., and other cities where United and Continental hubs have overlapping nonstop flights. Also, rising fares would not be limited to these routes alone; fares could rise 10 to 15 percent across the industry in the first year following the merger (Cohan, 2010).

The purpose of this study is to discuss the nature and the likely effects of the proposed merger of United and Continental; it is intended as a lecture for instructors teaching an undergraduate course in Industrial Organization, Government and Business, or Microeconomics. Emphasis is placed on the tradeoff between possible increased operating efficiencies of the merger, resulting in greater economic welfare, and increased market power that promotes decreases in economic welfare. These effects are also discussed in terms of the current merger policy of the Department of Justice, which will rule on this merger case. A highlight of this case study is that these market power and efficiency effects are portrayed graphically to help students visualize their significance; they can see how microeconomic theory has relevance in the real world.

Prior to reading this study, instructors and students are requested to view the six-minute video, *United-Continental Merger Could Be Completed by Year's End*, May 3, 2010. It comes from the *PBS News Hour,* which can be found at www.pbs.org/newshour/newshour_index.html. Click on *Recent Programs* and scroll to the video. Also, Power Point slides are attached to this case study for the instructor to use in the classroom.

Airline Consolidation Motives

During the past decade, U.S. carriers such as United and Continental have looked to consolidate as a way to return to profitability amid struggles with high fuel prices, competition from low-cost carriers, and a limited customer pool that declined even more when the recession reduced travel for business and pleasure. The airline industry is currently unprofitable; it lost $9.4 billion in 2009 and is forecasted to lose another $2.8 billion in 2010.

Analysts agree that, if done properly, merging two airlines into one can reduce capacity in a saturated industry that already has too many planes in the air, and permit the newly merged carrier to cut its employee ranks and consolidate costly operations for services like reservations and gate maintenance. If profits return, the airlines could invest them into improving customer service and possibly waiving fees for baggage and in-flight meals that have frustrated travelers. However, the key words are "if done properly." Past experience of airlines has shown that consolidation has not always fostered higher prices and profits (Knowledge@Wharton, 2010).

For example, in 1987 USAir acquired Piedmont Aviation for $1.6 billion. Prior to the merger, these two comparably-sized firms were among the most profitable carriers in the industry. However, soon after the merger USAir became the least profitable airline and almost went bankrupt. Analysts conclude that the major source of the value destruction in the merger was USAir's workforce integration strategy. The decision to win labor peace by expending USAir's more generous work rules and pay scales to Piedmont employees accounted for about 80 percent of the $2.5 billion decline in USAir's equity value following the merger (Kole and Lehn, 1997).

A challenge for the airlines, affecting profitability, lies in cutting their flight capacity by taking planes out of the air or using smaller aircraft for the majority of domestic routes, thus improving the carrier's load factor (passenger miles as a percent of available seat miles). In recent years, domestic airlines have been operating at a load factor of about 79 percent. Much of the cost of operating a flight is fixed, and there are only so many travelers who will fly more often due to plunging ticket prices. Thus, it makes more sense for airlines to cut costs by shrinking the number or size of flights, than to battle it out for the limited profit that can be made from bargain hunters. However, it is difficult for the airlines to decrease capacity on their own. The fixed nature of much of airline costs suggests that airlines have to pay to maintain grounded aircraft, and eliminating one route could throw other routes into turmoil if they feed passengers to each other. A merger, however, naturally leads to flight reduction

(Knowledge@Wharton, 2010).

In 2009, the average price of a domestic airline ticket was $305, the lowest level since 2005 and more than 14 percent less than in 2008 (Bureau of Transportation Statistics, 2010). Increasing prices has become more difficult for airlines because of intense competition from low-cost carriers such as Southwest, AirTran and JetBlue, which control about 25 percent of the domestic market in 2010, up from 15 percent in 2000. Also, the days are long gone when airlines could increase ticket prices without notice, as travelers logging onto Priceline, Orbitz, or other sites can immediately see how one carrier's fare stacks up against the others.

The major airlines that have recently undergone mergers, such as Northwest and Delta, have acknowledged that the primary driver for their consolidation is financial, that is, to reduce operating losses. Simply put, there are too many airlines competing for too few pieces of the pie, as evidenced by the fact that they have been losing money for so many years.

Proposed Merger of United Airlines and Continental Airlines

Like other carriers, United and Continental have viewed consolidation as a cure for their financial ills. In 2008, these two airlines discussed the possibility of merger, although their talks broke down due to Continental's concern about United's poor financial health. Record oil prices and the onrushing recession persuaded Continental that it was not the time to take on new risks like the rickety finances of United. Although both airlines incurred hefty losses in 2009, the improving economy, recovering business traffic, and cheaper fuel created the conditions for a second attempt at a merger. Another trigger to new discussions was an impending merger between United and another carrier, USAir. In April 2010, Continental's CEO Jeff Smisek contacted the CEO at United, Glenn Tilton, and told him that there was a better option for United—to merge with Continental rather than merging with USAir. In May 2010, Continental and United were again at the bargaining table, and this time the talks came to fruition. The proposed merger involves a $3.63 billion stock-for-stock deal in which Continental shareholders will receive 1.05 shares of United's common stock for each share of Continental stock they own. Therefore, United shareholders will own about 55 percent of the combined company. The airline will be called United Airlines, and Chicago will be the corporate headquarters. Prior to the announced merger, United had a 10.5 percent share of the airlines market and Continental's market share was 7.7 percent, as seen in Table 1.

The new airline will have 10 main airports serving 370 destinations in 59 countries. The combination will have a strong hub serving Chicago, New York, Los Angeles, Houston, and San Francisco. This would be good news for the new carrier, but not for Delta, which surely would feel increased competitive pressure and would then be the second-largest global airline. American Airlines is in third place.

The goal of a United-Continental merger is to create annual cost savings and increased revenue of up to $1.2 billion. Yet that could mean layoffs. Most of the layoffs likely will come from mid-management and upper management, where people are doing the same job at each airline. In addition, there probably will be some frontline layoffs, including ticket people and luggage handlers. The new airline also would cut costs by having only one advertising budget, one marketing budget, and one frequent flyer program. Although the management of United and Continental admit that they will cut costs by eliminating duplicating staff and routes, they downplay the extent of the layoffs by noting that the new airline will not be cutting many flights. To the extent that flights are reduced, fuel costs would be expected to decline.

Analysts note that United and Continental are complementary since Continental is strong where United is weak and United is strong where Continental is weak. Domestically, United's route strength in the Midwest meshes well with Continental's strong presence in the Northeast and South. Internationally, Continental has strong European and South American routes, while United is a dominant player on trans-Pacific routes and in Asia, which is expected to grow more important as a business hub in the years ahead.

However, not everyone is happy about this latest airline partnership. One person is Democratic Congressman of Minnesota Jim Obestar who fears that this deal eventually will result in just three mega airlines controlling the U.S. airline system. This "monopoly" could lead to less competition, which might lead to higher airline prices, according to Obestar. Therefore, he wants the Justice Department to nix the merger between Continental and United. This is not Obestar's first confrontation with merging airlines, as he unsuccessfully lobbied against Delta's acquisition of Northwest Airlines in 2008. However, the management of United and Continental contend that the new partnership will be beneficial to both companies as well as customers in the long run. They also claim that the merger will not violate antitrust policy since the two airlines do not compete to a great extent on many routes, but only on a few such as New York to Chicago.

Economic Effects of a Horizontal Merger

The proposed partnership between United and Continental represents a horizontal merger, in which two companies that compete in the same market join together. Such a merger can yield both welfare-increasing and welfare-decreasing effects

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on the economy. Welfare gains occur when the newly established airline adds to preexisting productive capacity and fosters additional competition; enters new markets that neither partner could have entered individually; or yields cost reductions that would be unavailable if each partner performed the same function separately (Williamson, 1968).

However, a horizontal merger may also result in welfare losses when it gives rise to market power, the ability to increase market price above the competitive level over a sustained period of time. This is especially likely to occur when the merger occurs in a market dominated by the merger partners. Under such circumstances, the newly merged airline sets prices and output in the very market in which its partner formerly operated as a competitor. By forestalling competition, such a merger places upward pressure on prices and thus reduces economic welfare. Regarding possible welfare losses, a key antitrust issue in the United-Continental merger case will be the extent to which the partners were competitors prior to the merger.

After deregulation of the airline industry created a favorable environment for horizontal mergers, a series of economic studies followed. Some studies have attempted to assess whether the airline industry is subject to excessive competition or is becoming excessively concentrated. For example, in a study of airline routes, Brander and Zhang (1990) attempted to add empirical evidence on the relative descriptive usefulness of certain oligopoly models, including those of Cournot and Bertrand, and also cartel analysis. The authors found that the Cournot model, which focuses on quantity competition, best describes the airline market. In their sample of duopoly routes, the authors found strong evidence against the highly competitive Bertrand hypothesis (price competition) and the cartel hypothesis (collusion).

Since Cournot oligopolists engage in quantity competition, it is of interest to ask whether the merged firms are better off, and if the post-merger profits are higher than the pre-merger profits. An inquiry into this question by Salant et. al (1983) indicates that, for a profitable merger outcome in such markets that approximate Cournot behavior, it is necessary to impose stringent restrictions on the number of firms that merge (of the total available players in the market). It is also necessary to note that welfare effects of such a merger are contingent on the resultant market concentration. When a merger does not make the market too concentrated, profitability of the merger is a sufficient condition for welfare improvement. However, if a highly concentrated market results, the post-merger market, while profitable, may also be detrimental to welfare. Kim and Singal (1993) studied airline mergers for the period 1985-1988, when the government did not contest mergers, and observed that efficiency gains from mergers were more than offset by the exercise of increased market power which resulted in higher prices on the routes served by the merged firms.

Let's consider an example that contrasts two situations: Two airlines that substantially compete against each other provide service in the market; the two competitors merge and thus operate as a single seller (a monopoly) in the market. We would expect to see a higher price and smaller quantity when the newly merged airline behaves as a monopoly. This result will always occur as long as the marginal cost curve for the newly merged airline is identical to the horizontal sum of the marginal cost curves of the individual competitors. The result of this market-power effect is a deadweight welfare loss for the economy--a reduction in consumer surplus that is not offset by a corresponding gain for producers. If, however, the newly merged airline engenders merger-specific productivity gains (that neither partner could realize prior to its formation), economic welfare increases. This is because a smaller amount of the economy's resources is now required to produce any given output. Whether net economic welfare rises or falls because of the merger depends on the magnitudes of these two opposing forces.

Figure 1 illustrates the welfare effects of two airlines merging. Assume that United Airlines and Continental Airlines are the only two carriers servicing the U.S. market. Suppose each carrier realizes constant long-run costs, suggesting that the average total cost equals marginal cost at each level of output. Let the cost schedules of each airline prior to the merger be $MC_0 = ATC_0$, which equals $1,000. Thus, $MC_0 = ATC_0$ becomes the long-run market supply schedule for airline service.

Assume that United and Continental initially operate as competitors, charging a price equal to marginal cost. In Figure 1, market equilibrium exists at point *A*, where 100 tickets (units of service) are sold at a price of $1,000 per unit. Consumer surplus totals area $a + b + c$. Producer surplus does not exist, given the horizontal supply schedule of airline service. (Producer surplus equals the sum of the differences between the market price and each of the minimum prices indicated on the supply schedule for quantities between zero and the market output).

Now suppose that the two competitors merge and become known as New United Airlines. The service sold by New United Airlines replaces the service that has been provided by the two former competitors in the domestic market. Suppose the formation of New United Airlines entails merger-specific efficiencies that result in cost reductions. Let the carrier's new cost schedule, $MC_1 = ATC_1$, be located at $700. As a monopoly, New United Airlines maximizes profit by equating marginal revenue with marginal cost. Market equilibrium exists at point *B*, where 90 tickets are sold at a price of $1,200 per ticket. The price increase leads to a reduction in consumer surplus equal to area $a + b$. Of this amount, area *a* is transferred to New United Airlines as producer surplus. Area *b* represents the loss of consumer surplus that is *not* transferred to the carrier and that becomes a deadweight welfare loss for the economy.

Against this deadweight welfare loss lies the merger-specific efficiency effect of New United Airlines: a decrease in unit costs from $1,000 to $700 per ticket. The carrier can provide its profit-maximizing output, 90 tickets, at a cost reduction equal to area *d*, as compared with the cost that would exist if the former competitor airlines produced the same output. This cost reduction can result in a welfare gain for the economy. Our analysis concludes that, for the U.S. economy, the formation of New United Airlines is desirable if area *d* exceeds area *b*.

It has been assumed that New United Airlines achieves cost reductions that are unavailable to either partner as a stand-alone airline. Whether or not the cost reductions benefit the overall U.S. economy depends on their source. If they result from productivity improvements, a welfare gain exists for the economy, because fewer resources are required to produce a given amount of airline service and the excess can be shifted to other industries. Some of these productivity improvements due to size are more correctly termed economies of scope rather than economies of scale. Usually these economies relate to the size of an airline's flight network and emerges when the cost of supplying two products jointly is cheaper than producing them separately. For example, advertising costs are not aimed at a particular route, but at the airline's entire network. Large networks also give opportunities for economies of scope in areas such as frequent flyer schemes to generate customer loyalty, office space, administration, ticketing and baggage handling facilities, and maintenance and hanger facilities. Economies of scope may be present because certain inputs are capable of contributing to both the passenger service and the cargo handling service of an airline. This would imply that the overall cost of production across separate passenger and cargo networks is higher than the cost of joint production of passenger service and cargo services by a single airline.

However, the cost reductions stemming from New United Airlines' formation may be monetary in nature. For example, being a newly formed carrier, New United Airlines may be able to negotiate wage concessions from workers that could not be achieved by the former partner airlines. Such a cost reduction represents a transfer of dollars from workers to New United Airlines profits and does not constitute a welfare gain for the economy. In this case, the merger could result in deadweight efficiency loss for the economy without there being an offsetting efficiency gain.

Approving the United-Continental Merger

Concerning the proposed merger of United and Continental, it is the responsibility of the Department of Justice to determine whether the deal is anticompetitive. According to the current merger enforcement guidelines of the Justice Department, several issues appear relevant for its forthcoming decision on the

United-Continental deal (U.S. Department of Justice and the Federal Trade Commission, 1997):

- Mergers should not be permitted to create or enhance market power or to facilitate its exercise.
- A merger is unlikely to exercise market power unless it significantly increases concentration. However, market share and concentration data provide only a starting point for analyzing the competitive impact of a merger since the Justice Department looks at other factors that pertain to competitive effects such as entry and efficiencies.
- A merger is not likely to create market power if it involves the acquisition of the assets of a failing firm.
- The Justice Department looks favorably upon merger-specific efficiencies.

Concerning the definition of the relevant market, the Justice Department is expected to focus on markets where the carriers both offer nonstop service, such as from Houston to Chicago. The merger would result in 13 domestic nonstop overlaps, a relatively small number according to analysts. Also, the two carriers have no international overlaps. As for the merger efficiency claims of United and Continental, they will have to be substantiated in order for the merger to meet approval of the Justice Department. Moreover, the Justice Department also will likely consider the stability of the airline industry and the economic fragility of airlines, several of which have declared bankruptcy and lost money in the past decade. If the Justice Department declares the United-Continental deal anticompetitive, it could sue to block it. Or it could require a third-party airline to fly some of the routes where the merger results in only one or no rival.

Some analysts have predicted that the merger would be approved largely because the two carriers do not compete on many routes. They also noted that it would be difficult for the Justice Department to turn down the United-Continental deal after having approved the Delta-Northwest merger in 2008. However, in 2001 the Justice Department threatened to block United Airlines' bid to acquire US Airways, saying the deal would increase fares and reduce competition by creating a monopoly or leave only two competitors in nonstop service on more than 30 routes. Ultimately, the two decided not to pursue the merger.

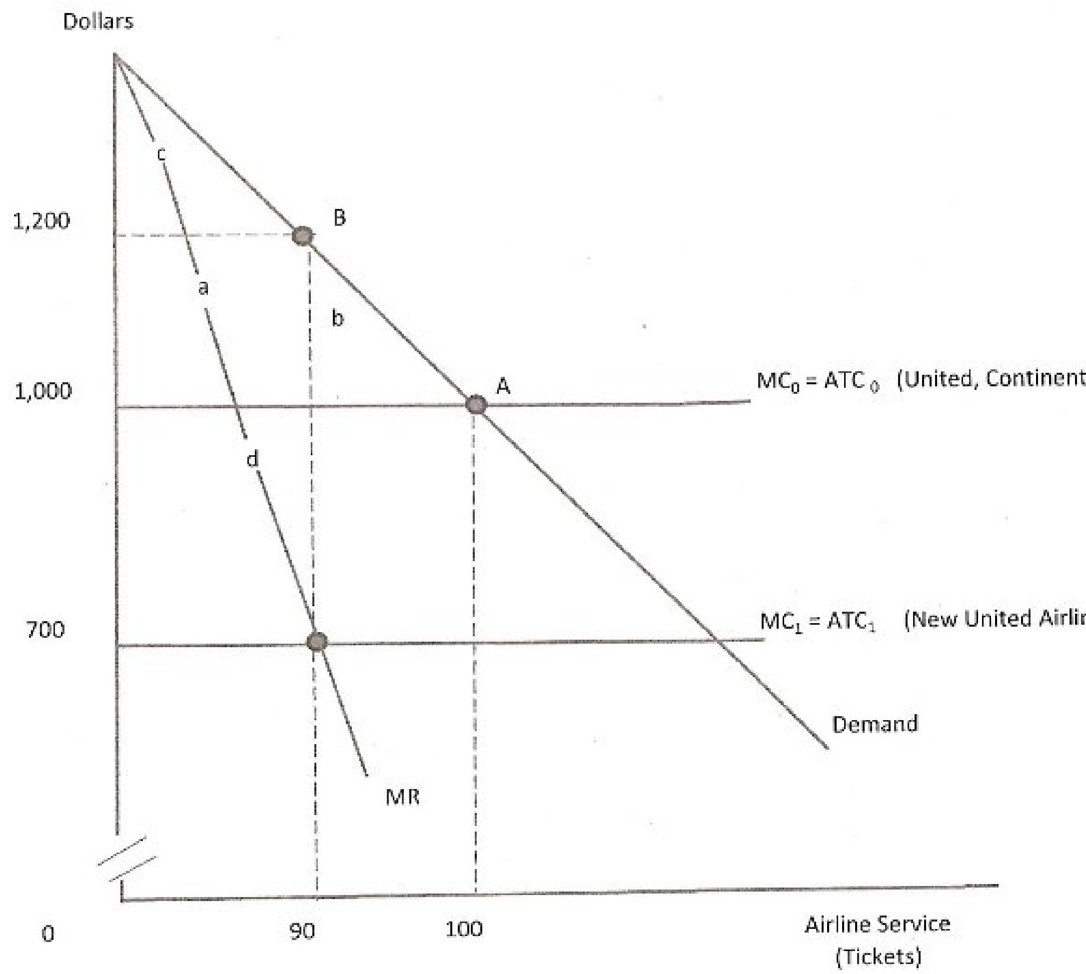
After four months of review, in August 2010 the Justice Department announced that it would not challenge the merger between United and Continental. The Justice Department reasoned that the two airlines have largely complementary networks which would result in an overlap on only a limited number of routes. This minimizes concerns about anticompetitive behavior. Moreover, Continental agreed to lease 18 pairs of its takeoff and landing slots at its megahub in Newark, New Jersey, to discount carrier Southwest Airlines, thus addressing concerns about competition. However, Congressman James Oberstar continued to oppose the merger on the grounds that it would be harmful to travelers, small communities, and airline workers. He has stated that he would push for reregulation of the airline industry if the Justice Department failed to block the merger. At the writing of this paper, United and Continental had scheduled separate shareholder meetings in September 2010 to seek approval of the merger.

Table 1. 2010 Top Ten U.S. Airlines Market Share*

Rank	Carrier	Market Share
1	American	13.8
2	Southwest	13.8
3	Delta	11.3
4	United	10.5
5	USAirways	8.0
6	Continental	7.7
7	Northwest	5.3
8	JetBlue	4.2
9	AirTran	3.4
10	Alaska	3.1

*Based on revenue passenger miles
Source: Wiki Invest, available at
http://wikiinvest.com/stock/Continental_Airlines_(CAL).

Figure 1. Economic Effects of a Horizontal Merger



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