Fare Is Fair in Airline Deregulation

The Decline of Price Discrimination

Joseph P. Schwieterman

THE AIRLINE INDUSTRY'S fare structure, with its myriad advance purchase requirements, travel restrictions, and capacity controls, has been described as "wildly discriminatory" by economist Alfred Kahn. It has become the focus of considerable public scrutiny in the debate over the effects of deregulation. Some observers have alleged that even if deregulation has helped tourist fliers, who can comply with common travel restrictions, it has hurt business fliers, who usually cannot. How has the Airline Deregulation Act of 1978 affected price discrimination in air travel?

Segmenting the Market

Price discrimination is the practice of charging different users different prices for the same product. Companies usually have an incentive to price-discriminate when they can get away with it, for easily described reasons. Most products and services attract a spectrum of buyers, ranging from those who are very eager to buy (and are willing to pay a good bit, if they have to) to those who are much less desperate (who will buy, if at all, only at a price slightly above the seller's costs). A seller who must charge a single uniform price can extract a high profit from the eager buyers, or can attract the marginal customers, but cannot do both. A seller who can price-discriminate, in contrast, can hope to maximize profit by charging each buyer as much as he is willing to pay.

A number of conditions, however, make it difficult or impossible for most producers to price-discriminate. First, the practice can only occur in a less than perfectly competitive marketplace, where firms are not forced to set their prices equal to their marginal cost. In a competitive market, any firm that tried to practice price discrimination would soon find that its less-favored customers, those paying well over marginal cost, were defecting to competitors.

Price discrimination thus requires, as a prerequisite, conditions of less than perfect competition. Not surprisingly, it is often practiced by monopolies like electric utilities, which typically quote different rates to farms and nonfarm households, and to larger users and smaller ones. The medical profession has also traditionally enforced, as part of its code of ethics, the practice of charging to some extent according to "ability to pay."

Even firms that experience little competition, however, are usually unable to price-dis-

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criminate because they cannot keep markets effectively separated. High-price buyers may impersonate low-price buyers, or the latter may resell their purchases to the former. Middlemen may step in to systematize the process.

One often confusing aspect of price discrimination must be mentioned. In some cases, it costs less to serve one group of customers than another; for instance, a hotel may find that when it serves senior citizens it encounters less disruption, property damage, and bad debt than when it serves younger customers. Discounts based on cost differences of this sort are not price discrimination. Some of the discriminatory airline fares discussed below correlate with cost differences, but in all cases the fare discrepancies are too large to be explained by cost factors alone.

Types of Fare Restrictions

The airline industry meets two of the prerequisites for price discrimination. It can prevent buyers from reselling tickets, and it has devised techniques to distinguish consumers according to their willingness to pay. Among those techniques:

Advance purchase requirements are the most common and are used in virtually every long-haul travel market. Business travelers value the speed and convenience of air travel more highly than the vacation travel market and cannot easily alter their travel plans. Typically, they make reservations an average of five days in advance compared with twenty-one days for vacation travelers (Boeing, 1978). Nine of the twelve largest domestic carriers accordingly use seven- and fourteen-day advance purchase requirements in their pricing structures. More recently, a highly discounted fare requiring thirty-day advance purchase has also become popular.

Round-trip travel requirements also help target a fare to marginal passengers traveling for pleasure, family obligations, or other nonbusiness purposes. These consumers can adhere to this travel restriction in more than 85 percent of their trips and are 40 percent more likely to travel round-trip than business, emergency, and government travelers, who generally have more complex travel itineraries. Recognizing this, airlines have traditionally offered substantial discounts for round-trip travel. This relatively simple and effective price discrimination technique is used in more than 95 percent of domestic travel markets.

Minimum stay requirements, like advance purchase requirements, commonly segment the market according to trip purpose. Business trips, on average, last only three days, compared to seven days for family obligation travel, eight days for vacation travel, and ten days for student travel (Boeing, 1978). As a general rule, the industry has found that consumers able to conform to a minimum stay requirement tend to be those consumers for whom air travel is less essential and therefore more price-sensitive. Consequently, most airlines use both the seven-day and "Saturday night" minimum stays in their fare structures. Less than 30 percent of the nondiscretionary market is able to adhere to either of these restrictions (Boeing, 1978).

Non-stop/one-stop travel provisions are also used to price-discriminate. The industry has found that passengers traveling for pleasure or vacation are more than twice as willing as nondiscretionary business passengers to make stops en route in exchange for a small savings (Boeing, 1978). Business travelers with time constraints, on the contrary, often willingly pay premiums of more than 60 percent for the convenience of nonstop service. To segment the market, most firms therefore offer different prices for these services. This price-discrimination technique is currently used selectively by eight of the twelve largest domestic airlines and by most regional carriers. One firm has attempted to further refine this technique by offering special "hopscotch" fares over highly circuitous routings.

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Day-of-week/time-of-day restrictions can also be used to separate the market, because highly price-sensitive consumers are more often willing to travel at less-than-desirable times for a lower fare. A survey has shown that, apart

from advance purchase requirements, time-of-travel restrictions are the most effective technique to discriminate between business and leisure travelers. Most airlines offer discounts of 20 percent or more for at least some of their off-peak or night flights. Other firms offer discounts for travel during periods popular only for pleasure travelers, such as weekends and holidays.

Fare expiration dates can target a particular fare to the price-conscious consumer. Highly price-conscious consumers monitor prices more closely than other passengers and are more likely to become aware of temporary discounts before they expire. Thus airlines commonly split the market by making fares available for only a few days. One interesting recent application of this method was a "Mother's Day Sale" during which tickets could be purchased only during a single weekend. A fare was introduced into the market, tickets were sold, and the fare was canceled before most of the less discretionary market became aware of the promotion.

Match-the-competition provisions serve a useful price discrimination function by targeting discounts to those who are sufficiently price-sensitive to investigate the prices offered by other firms. In order for consumers to qualify for a particular discount, they must let the salesperson know that they have ascertained the competitor's fare. Most consumers, even those traveling for pleasure, will not take advantage of such provisions. Only one carrier has permanently adopted this practice systemwide, but four of the twelve largest carriers have experimented with the technique in high-density, pleasure-oriented markets where fares are constantly changing.

Specialty fares are also used to segment the market. Many firms offer discounts for families, children, military personnel, and foreign tourists. These consumers would be likely to choose alternative means of transportation, or

"I certainly never dreamed I'd run into a classy girl like you on a two-hundred-and-thirty-six-buck flight."

not travel at all, if special discounts were not available. Some firms have extended these discounts to senior citizens, clergy, government employees, groups, and military dependents. Prices for these passengers are often less than one-third the normal coach fare. Low fares for standby passengers also target the most budget-conscious travelers.

For an example of how these schemes fit together, consider a recently devised fare now offered by nearly every major domestic carrier: the mid-week supersaver. It incorporates no less than five discrimination techniques. The traveler must purchase his ticket at least fourteen days in advance, travel round-trip, travel only on Tuesday or Wednesday, and stay no fewer than seven days and no more than twenty-one days. Some airlines impose even more restrictions. Another widely adopted fare is the "easy saver," aimed at consumers willing to pay somewhat more than the supersaver fare. It requires a seven-day advance purchase, round-trip travel, a Saturday night minimum stay, and a sixty-day maximum stay.

Yet perfect price discrimination remains unachievable. Many price-sensitive consumers who cannot afford full-fare coach are also unable to meet the restrictions of *any* excursion fares. These consumers are forced to find alternative means of transportation, even though the airline may fly with empty seats. This has obvious costs to the airlines (as well as to the consumer). Moreover, consumers have understandably resented the complex rules that often characterize particular fares.

Deregulation's Impact

The effect of the Airline Deregulation Act of 1978 on the ability of firms to practice price discrimination has varied somewhat according to the character of different markets. But the general trends have been favorable to all groups of consumers.

Before 1978, airline regulation permitted only a few carriers to serve any individual market. Deregulation did not immediately eliminate the market concentration inherited from this system, and most firms initially seized the opportunity to sharpen their discriminatory pricing practices. But trends since then have told a different story.

To check those trends, I examined the difference in air fares for various types of consumers in seventy-five randomly selected markets, markets that included conditions of monopoly (one carrier), duopoly (two carriers), and oligopoly (a small number of carriers). The list is a mixture of long- and short-haul markets, and has a wide geographical distribution. And I considered three types of consumers:

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Highly discretionary consumers who travel for leisure purposes and will readily alter their travel plans to obtain the lowest fare. I assumed they are willing to travel round-trip, stop or make connections en route to their destinations, and conform to special restrictions requiring travel at certain times. They are able to purchase tickets at least two weeks in advance and stay at least one week.

Moderately discretionary consumers, who can afford air travel only if given a discount from the normal coach fare. They are willing to travel round-trip, stop or make connections en route to their distinations, and purchase tickets at least one week in advance. However, unlike the highly discretionary consumer, they can meet only a minimum stay requirement of *less* than seven days and are *not* willing to conform to special travel restrictions that require travel at less-than-preferred times.

Nondiscretionary consumers, who are not willing to compromise schedule. They generally travel for business purposes and, although able to travel round-trip, cannot conform to minimum stay requirements. They are not willing to make connections or stop if nonstop service is available and cannot conform to advance purchase requirements of less than seven days.

Monopoly Markets. For city pairs served by only a single air carrier one would expect de-

regulation either to have no impact on price discrimination or, as many have argued, to *increase* it. Discrimination is, after all, a symptom of the failure of market competition, and a monopoly is the likeliest place for such failure to arise. Firms in these markets are free to differentiate price without risking immediate market share loss to a rival air carrier.

Table 1 shows average lowest fares and price differentials for the different customer classes between 1979 and 1984. For example, in December 1984, the lowest published fare available to the highly discretionary consumer traveling from Houston to Roanoke was a $289 round-trip "midweek supersaver" fare, requiring travel on Tuesday and Wednesday, a seven-day minimum stay, and other restrictions. For the nondiscretionary consumer, the lowest available fare was a simple "super-coach" fare at $406 round trip, or 40 percent more. Repeating this analysis for all three classes of consumer and all twenty-five monopoly markets yields the Table 1 results. The results clearly show that firms have *not* significantly increased their discrimination in the deregulated marketplace. Most of the small changes that did occur came in the first three years of deregulation.

Table 1
PRICE DISCRIMINATION IN MONOPOLY MARKETS

	Average Fare, December*					
	1979	1980	1981	1982	1983	1984
Highly discretionary consumers	$196.16	$197.67	$169.34	$171.32	$172.31	$170.07
Moderately discretionary consumers	206.84	203.65	182.46	184.60	182.62	180.40
Nondiscretionary consumers	266.82	260.10	235.39	238.14	239.24	236.45
Compared with first group (%)	(+36)	(+32)	(+39)	(+39)	(+39)	(+39)
Compared with second group (%)	(+29)	(+28)	(+29)	(+29)	(+31)	(+31)

*In constant 1984 dollars. Fares chosen on each route were the lowest found for each type of traveler.

Note: Monopoly markets analyzed were Allentown/Bethlehem–Columbus; Atlanta–Moline, Ill.; Austin–Lexington; Baltimore–Monterey; Baltimore–Portland, Oreg.; Bangor–New Orleans; Birmingham–Palm Springs; Chicago–Jacksonville; Chicago–Medford; Cincinnati–Trenton; Daytona Beach–Green Bay; Ft. Lauderdale–Milwaukee; Houston–Roanoke; Kansas City–Oshkosh; Kansas City–Pasco, Wash.; Memphis–Roanoke; Milwaukee–Springfield, Mo.; Minneapolis/St. Paul–Montgomery; Moline, Ill.–Santa Barbara; New York–Wilmington, Del.; Providence–Syracuse; St. Louis–Waterloo, Ia.; Salt Lake City–South Bend; San Antonio–Tallahassee; Toledo–Salisbury, Md.

Table 2
PRICE DISCRIMINATION IN DUOPOLY MARKETS

	Average Fare, December*					
	1979	1980	1981	1982	1983	1984
Highly discretionary consumers	$192.78	$179.53	$160.35	$172.65	$165.70	$172.65
Moderately discretionary consumers	203.04	192.15	169.05	178.01	171.99	178.01
Nondiscretionary consumers	264.11	245.96	218.08	231.38	222.04	229.63
Compared with first group (%)	(+37)	(+37)	(+36)	(+34)	(+34)	(+33)
Compared with second group (%)	(+30)	(+28)	(+29)	(+30)	(+29)	(+29)

*In constant 1984 dollars.

Note: Duopoly markets analyzed were Allentown/Bethlehem–Indianapolis; Atlanta–Bangor; Baton Rouge–Corpus Christi; Billings–Grand Rapids; Boston–Eugene; Boston–Flint; Charlotte–Dayton; Chicago–Kalamazoo; Colorado Springs–St. Louis; Colorado Springs–Tucson; Dallas/Ft. Worth–Greenville, Fla.; Ft. Lauderdale–Scranton; Fort Wayne–Jacksonville; Great Falls, Mont.–Philadelphia; Indianapolis–Portland, Me.; Indianapolis–Youngstown; Jackson–Baltimore; Lincoln–Spokane; Little Rock–Raleigh/Durham; Little Rock–Sacramento; Philadelphia–Toledo; Sacramento–Syracuse; St. Louis–Long Island, N.Y.; St. Louis–Trenton; Tucson–Youngstown.

At the same time, all consumers have enjoyed substantial declines in average fares. The nondiscretionary consumer has enjoyed a 13 percent decline in fares (measured in constant dollars), compared with a decline of 15 percent for the highly discretionary traveler. As a result, the absolute real-dollar difference between the top and bottom fares charged to different travelers actually *declined* from $66.66 to $66.38.

Duopoly Markets. In markets served by two air carriers, firms have had less success in maintaining discriminatory pricing structures. Fare differentials for the middle group of consumers have eroded slowly but steadily, as Table 2 shows. Between 1979 and 1984, the fare premium paid by this group declined from 37 percent to 33 percent. There is strong consistency in this pattern: in only three of the twenty-five markets sampled did the percentage difference between the two consumer types increase. Meanwhile, constant dollar fares declined across the board.

The most common manifestation of declining price discrimination in these markets has

Table 3
PRICE DISCRIMINATION IN OLIGOPOLY MARKETS

	Average Fare, December*					
	1979	1980	1981	1982	1983	1984
Highly discretionary consumers	$192.62	$186.37	$162.23	$154.10	$150.75	$146.06
Moderately discretionary consumers	205.91	200.58	172.14	162.59	158.04	153.54
Nondiscretionary consumers	269.75	262.76	223.71	206.50	195.94	188.86
Compared with first group (%)	(+40)	(+41)	(+38)	(+34)	(+31)	(+29)
Compared with second group (%)	(+31)	(+31)	(+30)	(+27)	(+24)	(+23)

*In constant 1984 dollars.

Note: Oligopoly markets analyzed were Albany–Des Moines; Atlanta–Minneapolis/St. Paul; Atlanta–Salt Lake City; Boston–Washington; Buffalo–Dallas/Ft. Worth; Chicago–New York; Chicago–Seattle; Cincinnati–Washington; Dallas/Ft. Worth–Washington; Denver–Providence; Denver–Charlotte; Detroit–Oklahoma City; Detroit–Tampa; Ft. Lauderdale–Houston; Houston–Milwaukee; Indianapolis–Los Angeles; Los Angeles–Sacramento; Miami–Omaha; Miami–Philadelphia; New York–St. Louis; New York–Wichita; Pittsburgh–New Orleans; Pittsburgh–Phoenix; St. Louis–Minneapolis/St. Paul; San Francisco–Tulsa.

been the implementation of unrestricted "super-coach" fares. These fares, though often available on only a limited number of seats per flight, do not effectively segment the market. The detrimental effects of super-coach fares to airline yields have led to numerous efforts in the industry to resist or do away with them, but they have developed and survived nonetheless.

Oligopoly Markets. Markets served by multiple air carriers have experienced the most dramatic changes in fare structures. Many of the markets in the sample served by only three or four carriers at the time of the Airline Deregulation Act are now served by as many as a dozen. The expansion of smaller hub operations has introduced competition from airlines that were of only regional significance before deregulation. This factor, along with the intensification of competition among existing carriers, has greatly reduced price discrimination.

Table 3 illustrates the trends. Deregulation has led to consistent reductions in the gaps between prices charged by different carriers. For example, the percentage difference in price between the highly discretionary consumer and the nondiscretionary consumer fell from 40 percent to 28 percent. Similarly, the percentage difference between the moderately discretionary and nondiscretionary consumer dropped from 31 percent to 23 percent. Thus, while the evidence suggests that all consumers have benefited from deregulation, the nondiscretionary business/professional markets appear to have benefited most. In many of the sampled markets, they have enjoyed more than twice the price cut enjoyed by discretionary fliers.

Interestingly, and unlike the case in the monopoly and duopoly markets, most of the reductions in the premiums paid by less discretionary passengers have occurred in the last three years, following on the heels of the rapid competitive expansion that took place between 1980 and 1981. There is a tendency to dismiss the structural price changes in the large oligopoly markets as a reaction to low-cost "upstart" competitors. And low-cost firms have indeed greatly affected the industry's pricing structure. But markets without low-cost competition have also experienced a fragmentation of the traditional multi-tiered pricing structure. An even greater factor than new entrants in stimulating competition has been the aggressive efforts of regional carriers to expand into larger markets.

Low-cost competition accelerated the decline in price discrimination in ten of the twenty-five markets sampled. Despite the apparent advantages that full-service carriers have in serving business travelers—including on-board amenities, interline ticketing and baggage agreements, protections against denial of boarding, and on-time performance—most major carriers have been unable to maintain their multi-tiered price structures in these markets. The simple peak/off-peak pricing scheme offered by many of the low-cost operators has severely hampered the effectiveness of the more traditional and elaborate price discrimination techniques. In these markets, the fare differential between the consumer who is not price-sensitive and the consumer who is price-sensitive averages less than 25 percent, compared with 35 percent in other oligopoly markets.

Implications for the Future

Airline firms do their best to increase revenues by discriminating in their prices. Their sophistication in this practice is evidenced by the long

list of techniques that so many of the larger firms currently use to segment the market. Notwithstanding the criticisms from opponents of deregulation, the media, and disgruntled consumer groups, the current fare structure is anything but "chaotic" or "perverse." From the airlines' perspective, at least, there is method in the seeming madness.

But contrary to popular belief, deregulation is eroding price discrimination. Prices in larger markets are rapidly approaching uniform levels for all consumers. In smaller markets served by only one or two carriers, discriminatory pricing has either been reduced or at most has held steady. In the handful of instances where the percentage difference in fares between consumer groups increased after deregulation, *absolute* (constant-dollar) differences in fares declined almost without exception. Although fares for passengers generally have dropped since deregulation, business travelers have enjoyed a disproportionate share of the gains compared with pleasure travelers.

To say that a pricing scheme is discriminatory is not to say that it is economically objectionable. In some circumstances, where a uniform price set at marginal cost would fall below the average cost of production, it may be possible for service to be offered *only* if firms can price-discriminate. Since both consumers and producers are better off if a service offering survives, price discrimination in those circumstances serves a socially beneficial function.

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That is why another development in the industry is likely to benefit consumers: airlines are moving to enter previously unserved markets where a prospective monopoly position will enable them to earn the higher yields of discriminatory fare structures. For example, nonstop service is being introduced between many smaller cities traditionally served only on a one-stop basis; price discrimination on these newly opened routes has enabled some airlines to remain highly profitable in the face of low-cost, one-stop competition. Several regional airlines have recently initiated transcontinental services from smaller cities.

Similar considerations have led airlines to invest heavily in smaller "mini-hubs" in cities such as Memphis, Baltimore, Dayton, and Kansas City where competition is less keen. Many firms with relatively high-cost structures can achieve break-even load factors in these markets by using smaller aircraft and offering high frequency of service. The rapid expansion of these mini-hubs is providing many small to medium-sized cities with air services previously available from only the largest metropolitan areas. Furthermore, new service to secondary airports around major metropolitan centers such as New York, Chicago, Los Angeles, and Houston has become attractive to airlines largely because it lends itself well to discriminatory pricing.

All of which suggests that the deregulated airline industry, in the long run, will practice about as much price discrimination as is good for both consumers and the industry itself, but not much more. The consumer is clearly the main beneficiary of these trends, enjoying not only the surpluses of a competitive marketplace where a high degree of price discrimination cannot be effectively practiced, but the convenience of new air services where it can be. These developments testify to the strong economic benefits of a deregulated air travel marketplace. ■

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