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**SOME OBSERVATIONS ON
THE FIRST HALF YEAR
OF AIRLINE DEREGULATION**

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PREFACE

This report is the text of a seminar given by Mr. Brenner for the course "Air Transportation -- Economics, Management and Planning." The course was presented by MIT's Flight Transportation Laboratory in cooperation with the Technical Assistance Bureau of the International Civil Aviation Organization. The course is part of the Advanced Study Program in Air Transportation, given under the auspices of the Center for Advanced Engineering Study.

Airline deregulation has now been officially in effect for a little over seven months.

It's obviously much too early to render any final verdict on its success or failure. The appraisal from Washington officialdom has been of very rosy hue. And indeed an initial look at the results so far would seem to support the wisdom of deregulation. Fares are down -- making this the one sector of the economy to defy inflation. Traffic is booming. Profits are good.

Yet, without wishing to seem ungrateful for these benefits, it does seem fair to note that there are some clouds on the horizon. The combination of increasing costs and current yields have pushed the break-even load factor to over 60% -- in effect forcing the industry to run faster and faster just to stand still.

In the first quarter of 1979, just before the lengthy United Airlines strike distorted all earnings data, industry earnings were sharply off from the same period one year earlier. In the first quarter of 1978, the scheduled airlines had reported an operating profit of \$101 million; in the same quarter of 1979, this had reversed to an operating loss of \$18 million.

On the public service front, some communities seem less than enchanted by the airlines' taking seriously the "free exit" side of the deregulation concept. And as airlines have indeed exited from various communities in search of greener pastures, some prominent Congressmen have even said that they would not have voted for this legislation if they knew then what they know now.

It is also becoming steadily clearer that many questions that were glossed over in the passage of this law involve knotty and still-unresolved problems --

- o How do you really define the level and character of "essential service" to small communities?
- o How much subsidy will it take to keep such essential service going?
- o How do you reconcile free entry with the de facto practical limits of airport capacity?
- o How do you administer the labor protective provisions of the new law?
- o Etc., etc.

Moreover, as we look over the first half-year of deregulation, we see a series of events which would look very strange to anyone accustomed to normal competitive behavior in most industries. To mention just a few examples:

- o There was the episode of airlines literally camping on the street in front of the CAB, in a land-rush atmosphere, to lay claim to dormant routes which, by definition, other airlines had found uneconomic to serve.
- o There is the continuing spectacle of as many as 12 or more airlines all applying for, and being granted, authority on routes which until now have been served by one or two lines.
- o We see many airlines showing a very ambivalent attitude on pricing philosophy -- very eager to cut fares on routes they don't yet serve, but less enthusiastic for similar pricing on routes they already do serve.
- o We find fares cut literally in half in the transcontinental price war, and the anomaly of

carriers offering on the same plane a seat for \$108 and a seat for \$227, with no difference in the service provided, or in the eligibility rules for qualifying for the one fare versus the other.

Is there a common thread that would help to explain a series of events like these?

I believe there is. The common thread is the difference that will always exist in air transport between micro-economics of the individual competitive decision, vis-a-vis the macro-economics of what the system as a whole needs for on-going viability. Because of this, it is very easy in this industry to have a series of individual decisions each appear provably advantageous to the carriers making them, but aggregating into a cumulative disaster for the industry as a whole. In the competitive mathematics of the airlines, the whole is not necessarily equal to the sum of the parts. And therein lies the possibility of competition turning destructive, in the absence of some regulatory discipline.

For the free market to work well, there must be certain self-correcting forces at work, such that the cumulation of individual decisions will end up producing a reasonable equilibrium, satisfactory to both producers and consumers as

a whole. This is vital. The objective of competitive economics is not to produce a one-sided outcome, in which all benefits go to the consumers, while the producers go broke. After all, part of the consumer's own interest is in an assured continuation of the supply of goods and services he needs.

Interestingly, so great a champion of free competition as Alfred E. Kahn has conceded (in his 1971 text on regulatory economics) that there could be such a thing as destructive competition -- competition which in Mr. Kahn's words would "prove to be excessive from the standpoint of the consumer."

What keeps the free market from becoming destructively competitive, for most industries? I suggest it is the fact that there is usually only a limited and manageable difference between the microeconomics of the individual firm versus the macroeconomics of the industry. Each firm will usually be looking at essentially the same type of economic equation -- even though they may of course have different cost inputs, or may apply different individual judgments to various elements of that equation.

And if, in most other industries, competition does on occasion turn destructive, this is not usually a condition

basic to the industry, and it will work itself out, back toward a reasonable equilibrium, within a reasonable period of time.

In contrast, I have suggested that air transport may possess different characteristics, and may have so great a disparity between micro and macro economics as to give rise to competition in its more destructive form. Let's consider why.

The most general over-riding reason stems from the fact that the unit of production in air transport (the plane-mile of seats) is unavoidably far larger than the unit of sale (the individual seat). This is further compounded by the fact that any excess of unsold seats in that indivisible plane-mile has no shelf-life whatever; the inventory is instantly perishable.

From this one key characteristic flow a whole series of unique forces, many of which spell trouble in the free market place.

A first consequence is the inevitability of wide profit variation from route to route. No airline can afford to own and operate an infinite variety of aircraft types and

sizes. Operating efficiency demands a high degree of fleet standardization. When one applies the essentially standardized and indivisible plane-load unit of production, to a spectrum of routes that varies enormously as to market size, intensity of competition, seasonal fluctuation, and other factors, there is no way that the individual route capacity can be so fine-tuned to the individual route demand, so as to generate a nice, symmetrical equivalent profitability, route by route.

Here's one clue as to the degree of profit variation that exists within an airline's system because of this inherent phenomenon. During the course of the deregulation debate, one airline reported to the CAB that its range of route profitability varied from one extreme, where its more favorable markets had revenues 29% above their cost -- to the opposite extreme where the least favorable markets had revenues that fell about 50% below their cost.

This situation leads directly to another characteristic of air transport, i.e., for a carrier of any significant size, on-going viability depends on the averaging of a route structure mix. Since it is impossible to fine-tune profitability, so that each and every route provides a fair

return -- no more and no less -- a carrier must have some routes that are above average, to balance out those that are below average. In other words, if a carrier is to end up with a 12% system rate of return, it must have some routes that yield a 15% or even 20% rate of return, because there surely will be others that yield only 6%, or 3%, or zero.

What happens to this need for averaging in a totally free market, freed of the disciplines imposed by regulation?

Let's consider the fact that the significance of a given route's level of profitability will be perceived differently by different carriers -- depending on whether that route has heretofore been part of their respective profit-averaging mix. For example, let's make some strictly hypothetical assumptions about the New York-Los Angeles route. Let's assume that until now, that route has provided American Airlines with a 15% return on the investment committed there, and has been part of the above-average portion of American's system, balancing out less-favorable markets.

To American, anything that would reduce the profitability of this route would cut into its system average results. But the route has no similar significance to Eastern, or

National, or World -- or any other airline not previously serving it. Any such other carrier has received no prior profits from this route at all. It has no stake in its viability, or its specific level of profitability. To any such carrier, entry into New York-Los Angeles would provide a net incremental gain if it got even \$1 above its incremental cost, since that would be \$1 more than it was getting from its zero participation before.

Let me hasten to stress that these comments do not mean to imply that any airline would deliberately cast itself in the role of a "spoiler" -- deliberately trying to undercut the economics of the other fellow's route.

That's not implied. But the very essence of the free market is that every individual firm is expected to take actions that advance its own financial interests, and is not expected to hold back just because it might hurt the other fellow. And in the example cited, a previous non-participant on a given route can find itself financially benefited by even a token level of profitability, one that would be far below the role that route had previously played in contributing to system-wide average needs.

In the past, regulation has intervened in this process, to apply some system-wide tests as to the wisdom of

individual proposed actions. Without regulation, there is no basis for a similar system-wide discipline.

And it goes without saying, that if Carrier A can undercut the profitability of a route that has been vital to Carrier B, the situation can equally work in the opposite direction. And the scene is thus set for a process of reciprocal erosion.

Is this indeed a characteristic that differs from most other industries? I believe it is. It's almost as if, in air transport, two firms can both look at the very same product, and one is free to approach it on the basis of incremental, by-product costing, while the other firm must regard it as a very vital primary product.

When we recognize this aspect of the airline industry, certain recent tendencies take on new meaning. Earlier, I referred to the pricing ambivalence of various carriers, eager to cut the fares on new routes, but less enthusiastic about similar fare cuts on their old ones. The reason stems from the factors discussed above. The new route has not been part of the carrier's existing average mix, and any profit, no matter how small, would be a net gain.

The individual action may be provably advantageous to the carrier taking it. But when we trace through its implications for the need for system-wide average viability, the cumulation of these actions can still be disastrous. As I stated earlier, the whole in this case will not necessarily equal the sum of the parts.

At this point, I'd like to move onto a completely different application of some of the same underlying principles.

Let's look at the difference between micro and macro economics, as it relates to route expansion. Probably no form of transportation has previously witnessed so massive a program of route expansion, by so many carriers, in so short a time. American achieved its long-desired entry into Las Vegas and Albuquerque. TWA got into San Diego, Palm Springs, Reno and other points. Allegheny spread its wings so far west that it felt it necessary to change its corporate name. Braniff opened up some 16 new stations within 45 days after passage of the new law.

No doubt, each and every route extension -- viewed by itself -- made sense to the carrier making it. In each case, I'm sure that the carrier concluded that it would end

up with more than enough incremental revenue to cover the incremental cost it would incur.

But suppose we stand back a bit from the micro economics, and consider the overall industry-wide effect of these cumulated actions. While almost every carrier has been the beneficiary of revenue gained from its own new route acquisitions, it has simultaneously been the victim of revenue losses to other carriers making similar moves. American gained from TWA at Albuquerque, but lost to TWA at San Diego. Continental gained from Eastern between Houston and Washington, but lost to American between Dallas and Albuquerque. And so on. And so on.

When the route sweepstakes is all toted up, some carriers will be found to have gained more revenue than they have lost, and others will have the opposite result. But from an overall industry standpoint, most of the gains and losses in traffic will net out. In the meantime, to get to that essentially neutral industry result, carriers will have added the costs of opening literally dozens of new stations, and of flying thousands of new route miles.

Once again we get the picture of individually sound micro decisions accumulating into more questionable economics from a macro industry perspective.

The comment might be made that the proliferation of route mileage has not yet shown up in softening of load factors -- so what's the problem?

The problem is that we haven't yet begun to see the full impact of this new route network. As the CAB recently pointed out: "Because demand increases have outpaced increases in airline fleets...aircraft are now in short supply."

And that short supply imposes an artificial constraint upon capacity build-up, and thus obscures the full force of the competitive pressures being built into the system.

This is not the first time the industry has gone through an equipment-short phase of the cycle. In the early 1950's and mid-1960's, traffic also surged ahead at double-digit rates which equipment deliveries could not match. Then too there was a jump in load factors, and earnings were strong. But within a few years, more normal traffic growth and a catch-up of aircraft deliveries, permitted normal competitive pressures to reassert themselves.

This time, when the equipment-short period ends, the problem of maintaining adequate load factors will be

compounded by the current wave of route extensions. As carriers spread their capacity over increasingly widespread route networks, the future ability to fine-tune capacity to changing demand will diminish. As carriers add large numbers of new routes to their systems, they get more segments with minimal frequency levels, such as one or two round trips per day. This type of low-frequency coverage presents the most difficult challenge when it comes to trying to adjust capacity.

Suppose traffic softens by 10%, and you are operating only a single daily schedule on some route. How do you effect a 10% cutback from one daily trip? You can't. The chances are that you'll just live with 10% less revenue, without any change in capacity or cost to offset it.

In short, capacity has always been difficult to manage with precision in the airline industry -- but the enormous proliferation of route mileage will intensify that difficulty, and thus will show up once the equipment-short phase of the cycle is over.

Incidentally, if you were to review the debate leading to deregulation, you would find the argument made that we need not fear the consequences of this move, because airline

managements would have the maturity and good sense to act in a responsible manner, and avoid self-destructive excesses. The point I have been making is that the tendency towards destructive competition in this industry does not come from capricious or ill-considered actions on the part of individual managements. Rather, it comes from the fact that the special nature of this industry's economics -- and especially its dependence on overall average results -- makes it possible for actions that are sound from the viewpoint of an individual firm, to aggregate into something that is unsound for the industry. There is no way that the individual firm can base its decision on industry average needs. That's where the discipline of regulation must come into the act.

Where do we go from here?

I'm not suggesting that the clock can be turned back to October 23, 1978. For better or worse, we have deregulation. Indeed, with the pace of recent CAB actions, we have had a de facto compression of the transition period voted by Congress, into weeks instead of the intended years.

To quote Mr. Kahn, the eggs have been scrambled so thoroughly that there's no chance of unscrambling them.

Nevertheless, without believing that the clock can be turned back, I do suggest that there are real reasons for concern as to the end results of current trends. In particular, there is reason for concern about what happens with present break-even load factors with the first touch of recession, and of traffic softening.

It would seem only prudent for the officials in Washington to remove their rose-colored glasses at least long enough to look critically at these factors. These factors suggest that there could be a painful day of reckoning ahead. A little objective study and planning might make the difference between a soft and a hard landing when that day arrives.