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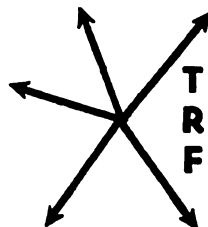
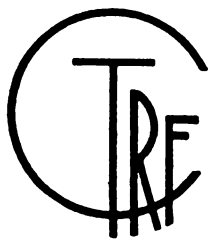
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CAB Regulation and Airline Efficiency

by William A. Jordan*

THERE IS CONSIDERABLE evidence that Civil Aeronautics Board (CAB) regulation has (1) protected the certificated trunk and local service airlines from the entry of new airlines, and (2) allowed the certificated airlines to charge domestic fares as much as 50 to 100 percent higher than the fares that would have existed in the absence of regulation.¹ Given this and the fact that the airlines enjoyed a secular growth rate of 12.7 percent per year from 1946 through 1974 (compared with 3.5 percent for constant-dollar Gross National Product),² it seems strange that the regulated airline industry has not been blessed with consistently high profits. Of course, profits were high in the mid-1950s and mid-1960s, but those periods were preceded and followed by low profits or losses for the industry as a whole.³ The dream of many businessmen is realized in the regulated airline industry—high prices and increasing demand without fear of new entry—yet such now defunct airlines as Capital, Colonial, Northeast and Mohawk, as well as some existing carriers such as Eastern, Pan American and TWA, have found this dream to be something of a nightmare.⁴

If profits are low even though prices are high and demand strong, economic theory would lead one to look for problems on the supply (cost) side of the situation. Not surprisingly, a comparison of the productivity of the CAB-regulated airlines with the relatively unregulated carriers operating beyond the CAB's jurisdiction indicates that CAB regulation has increased airline costs as much as it has increased their fares. Three major sources of these higher costs appear to be:

1. Imperfections in CAB regulation which promote intense service-quality (rather than price) rivalry among the airlines.

2. Regulatory entry restrictions which require each of the relatively few certificated airlines to provide a diversity of services instead of being able to specialize in an operationally homogeneous service pattern.

3. The assistance that entry restrictions give monopolistic and oligopolistic airline suppliers in capturing larger portions of the airlines' gains by increasing

the prices the airlines must pay for their inputs (especially labor).

The impact on regulated-airline efficiency of these three factors—carrier rivalry, decreased specialization, and increased input prices—will be examined in this paper.

CARRIER RIVALRY

While the CAB has full discretionary power over entry and exit, under the Federal Aviation Act of 1958 (as well as the earlier 1938 Act) it has had only limited direct power over the quality of service provided by the airlines.⁵ In addition, it has been slow to influence service quality through indirect means such as promoting capacity agreements and conditioning its approval of fares on modifications of service quality.⁶ Thus, CAB regulation has been asymmetric or "imperfect," with complete control in some areas and little control in other areas.

The effects of this asymmetric regulation have been amplified by the Board's failure to allocate predetermined shares of industry revenues and profits to each carrier. Specifically, it has authorized two or more airlines to operate over most major interstate routes and between most major city pairs without assigning traffic shares in each city pair. Therefore, great rivalry has developed between the certificated carriers as they seek to retain or increase their traffic shares.⁷ Since CAB regulation requires cooperation and agreement in setting prices, this rivalry has long been channeled towards the area of service quality. Operationally, this has meant that each carrier in a multi-carrier city pair has endeavored to operate more frequent flights with the fastest, most modern and comfortable aircraft, while providing elaborate in-flight services and superior ground services. The following analysis indicates some of the effects that such service-quality rivalry can have on the costs of regulated airlines.

An airline's most important physical asset is its aircraft and related equipment. As of June 30, 1974, flight equipment accounted for over 84 percent of the nondepreciated value of the total operating property and equipment of all CAB-certificated route air carriers.⁸ Obviously, if CAB-induced service-quality rivalry results in excessive numbers of aircraft being purchased and then being underutilized, the costs of regulated airline operations will be increased. Evi-

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dence on this point can be obtained by comparing the aircraft utilization by the CAB-regulated trunk carriers with that of the relatively unregulated California intrastate carriers between 1949 and 1965. The California carriers could, of course, undertake rivalry both by reducing fares and by increasing service quality, while the regulated trunk carriers were largely constrained to service-quality rivalry. Not surprisingly, the record of this period demonstrates that price rivalry was indeed very important within California in sharp contrast to the emphasis on service-quality rivalry by the CAB-regulated airlines.⁹

The following four measures can be used to determine the overall intensity with which aircraft are utilized:

1. The average number of revenue hours per day that each aircraft is operated (a measure of airframe utilization).
2. The number of seats installed in each aircraft type for a given class of service (indicating the extent to which the aircraft's interior is utilized).
3. The average passenger load factor (which measures the degree to which the installed seats are utilized).
4. The total number of years each aircraft is operated (measuring the length of time this resource is utilized, as well as indicating the flow of resources required to maintain some given stock of aircraft over time).

It happens that the successful California intrastate carriers operated their aircraft about the same number of hours per day as the trunk carriers (and somewhat more than the local service carriers) so there is little difference in efficiency in this respect, unless detailed adjustments are made to compensate for the intrastate carrier's shorter stage lengths.¹⁰ Significant differences did exist, however, in the number of seats installed per aircraft, in passenger load factors, and in aircraft life.

Two factors are relevant with regard to numbers of seats installed. First, no intrastate carrier operated first-class service from 1949 to 1965 and, therefore, never provided the low-density seating associated with that high-quality service. Second, when comparing identical aircraft types in all-coach configurations, one finds that the intrastate carriers generally managed to install more seats. Usually the differences were in the order of five to ten percent, but there was one case of a 24-percent increase and a few others with differences of only one, two or three percent.¹¹ Combined, these two factors have resulted in the intrastate carriers utilizing their aircraft appreciably more than the CAB-regulated air-

lines, simply by putting more seats in each aircraft.

Even with more seats per aircraft, the California intrastate carriers usually managed to fill an appreciably larger percentage of them and thus have higher coach load factors than the certificated airlines. The exceptions all occurred between 1949 and 1953 when the trunk carriers' coach service was very limited and was mainly provided in long-haul city pairs while the intrastate carriers operated only in short-haul city pairs and were experiencing their initial period of extensive entry and exit (with failing carriers having low load factors). For that five-year period the trunk carriers' average coach load factor was 73.9 percent compared with 69.8 percent for the intrastate carriers. In every subsequent year, however, the California intrastate carriers' annual average load factor exceeded the coach load factor of the trunk carriers by amounts ranging from 1.0 percentage point in 1954 to 17.9 percentage points in 1963. From 1955 through 1964, the annual average load factor for all intrastate carriers combined never fell below 70 percent and it reached a high of 80.6 percent in 1957. Their 12-year weighted average load factor was 71.2 percent compared with only 59.1 percent for the trunk carriers' coach operations.¹² Some might argue that these differences resulted from the high traffic densities in the three major California city pairs. But a detailed comparison of the scheduling practices of the two carrier groups in those city pairs demonstrates that the successful intrastate carriers' higher load factors were due to management decisions. Specifically, the intrastate carriers' adjusted their schedules to conform more closely with traffic fluctuations than did the trunk carriers.¹³

Finally, during much of this period the California intrastate carriers mainly operated older, obsolescent aircraft that they purchased from the trunk carriers or from government surplus stocks. Thus, they served to extend the productive lives of these aircraft, thereby increasing their utilization and economic efficiency. This increased utilization was reflected in the low prices the intrastate carriers paid for their aircraft which, in turn, served to lower their costs. Had the CAB-regulated airlines been allowed to adopt prices lower than those authorized by the CAB they too could have used such aircraft in low-fare service, but so long as price rivalry was prevented by regulation it was desirable for the trunk carriers to concentrate on high-quality service and thus retire their aircraft relatively early.¹⁴

The above experience is what happen-

ed with piston-power aircraft through the 1950s and into the early 1960s. The turbine-powered aircraft innovation was different in that these aircraft provided a happy combination of lower operating costs and superior service quality. This indicates that such aircraft would have been adopted quite early by all airlines regardless of regulation. Not surprisingly, Pacific Southwest Airlines (PSA) inaugurated turbine-powered Electra service within California less than eleven months after the first trunk carrier did so over interstate routes, and it adopted the medium-range Boeing 727-100 fifteen months after that aircraft first flew in scheduled service.¹⁵ It was those aircraft that provided somewhat higher service quality at higher costs (such as the DC-7 and the L-1649) that were fathered by CAB-regulation and which would probably not have been developed without such regulation.

The implications of these differences in aircraft utilization can be illustrated by the following example. The trunk carriers' 1973 system load factor was 52.4 percent and, with the operational adjustments related to the fuel crisis, it rose to 55 percent in 1974.¹⁶ Also, the service life of a turbojet aircraft is commonly thought to be around 14 years. Now, the California experience indicates 70 percent load factors are feasible without regulation and that aircraft with low operating costs would have longer lives without regulation than with regulation. A 70-percent load factor is 27 percent higher than the 55-percent load factor of 1974 (and 34 percent above the 52.4-percent load factor of 1973), thus it seems perfectly feasible for the trunk carriers to achieve at least a 25-percent increase in load factors. Similarly, a 25-percent extension to a 14-year aircraft service life would bring it to 17.5 years. Increasing the average load factor by 25 percent means that the trunk carriers' present traffic volume could be carried by 80 percent of their existing fleet, that is, by about \$9.8 billion worth of aircraft rather than the \$12.25 billion (undepreciated value) in existence as of June 30, 1974.¹⁷ Furthermore, if this smaller number (value) of aircraft were replaced every 17.5 years, the annual replacement rate would be in the order of \$560 million ($\$9.8 \text{ billion} \div 17.5$) rather than the \$875 million rate required to replace the current fleet every 14 years ($\$12.25 \text{ billion} \div 14$). This would be a saving of roughly \$315 million per year, or about \$1.90 per passenger enplanement.¹⁸

The above calculations are quite rough and ignore the fact that increased seat density without regulation would result in further reductions in the fleet size re-

quired to carry existing traffic. Furthermore, while important, aircraft are just one item of airline costs. A 25-percent increase in load factor also implies a 20-percent decrease in the number of flights for a given traffic volume which means fewer flight personnel, less fuel consumption, lower maintenance costs, smaller landing fees, and so forth. Clearly the cost differences would be large. One can begin to see how emphasizing service-quality rivalry increases the costs of the CAB-regulated airlines. One can also begin to see why the successful intrastate carriers have been able to survive and profit under fares much lower than those authorized by the CAB.

DECREASED SPECIALIZATION

When relatively unregulated, the intrastate carriers have been characterized by operational simplicity and homogeneity. Generally speaking, each carrier has operated only one aircraft type at any point in time (except for brief transitional periods), offered only one class of service (coach), and operated between city pairs that provided traffic flows and stage lengths compatible with the chosen aircraft type. Some of the carriers, such as Mercer Enterprises and Holiday Airlines, have served recreational communities or activities where low traffic densities exist. Others, like PSA and Southwest Airlines, have operated between large cities having high traffic densities. As of March 1975, PSA, the largest of the intrastate carriers, served only 11 airports while, prior to 1965, it never served more than five airports at one time. Similarly, in early 1975 Air California served eight airports, Holiday seven, and Southwest four.¹⁹ Overall, the intrastate carriers have customarily been quite small. Only one (PSA) has ever operated more than a dozen aircraft at one time (three to six aircraft has been the usual fleet size), and they have consistently had very simple fare structures and procedures. All this has allowed each employee to become intimately familiar with his work. Pilots, for example, spend large parts of their professional lives flying only one aircraft type between just a few airports. In the same way, the work of employees engaged in maintenance, engineering, scheduling, reservations, accounting, etc., are all simplified, and managers can become intimately acquainted with the carrier's traffic and operational features.

Contrast this to the trunk carriers at the end of 1972. The smallest number of U.S. and foreign cities served by any carrier was 37 (Western) while the largest number was 89 (United). The number of certificated route miles rang-

ed from 10,821 (Western) to 38,968 (TWA), and the trunk fleets ranged from 60 aircraft (Continental) to 388 (United) with each carrier operating several different types of aircraft.²⁰ Even the local service carriers were geographically large and diverse in comparison with the intrastate carriers. In December 1972 each of them served between 50 and 95 cities connected by 3,660 to 8,295 certificated route miles, and each operated 33 to 133 aircraft.²¹ Even brand-new Air New England has been authorized to serve 14 cities located throughout New England.²² The operational problems and complexities faced by these certificated airlines are much greater than those of the intrastate carriers, and the associated decrease in specialization translates into less output per employee.

Rough indications of the effects of specialization on airline productivity may be obtained by comparing the 1965 average output per employee of the total trunk carriers as a group and of Western Air Lines (one of the more productive of these carriers) with that of PSA. This was the last year of relatively unregulated operations in California, and it was also the year that PSA introduced jet aircraft and thus operated a fleet whose composition was very similar to that of the trunk carriers.²³ Two of the productivity measures will be available seat-miles (ASM) per employee and revenue passenger-miles (RPM) per employee. It happens that these two measures are biased against the certificated carriers because they provided relatively more cargo service than PSA which served to inflate their number of employees without increasing their ASM and RPM figures. Therefore, to provide balance, operating revenues per employee will also be given with the recognition that this measure is biased against PSA since its lower fares required more physical output per dollar of revenue. The data for Western Air Lines are particularly useful, both because they indicate the range of trunk carrier productivity and because a substantial portion of its total operations were entirely or

partially within California which may yield increased comparability with PSA's data. The comparisons are given in Table No. 1.

Again, large differences can be seen to have existed between the performances of the certificated trunk carriers and PSA. After taking account of the biases in the measures, it appears that in 1965 PSA's output per employee was about 100 percent larger than the average for all trunk carriers, and almost 60 percent larger than Western's output per employee. Of course, the certificated airlines provided higher quality service (including first-class service), operated many conveniently located ticket offices, were engaged in regulatory activities, and so forth, all of which would decrease employee output as measured in Table No. 1. At the same time, their much larger and diverse route structures added complexity to their operations. Combined, these factors decreased employee productivity in terms of fundamental output measures. Here is yet another reason why the successful intrastate carriers were able to survive while charging appreciably lower fares than the CAB-regulated airlines—their specialized operations simply yielded more output per employee.

INCREASED INPUT PRICES

The earlier analysis of carrier rivalry has shown that the regulation-promoted emphasis on service-quality rivalry has served both to increase the total stock of aircraft operated by the airlines and to decrease their utilization by installing fewer seats, operating at lower load factors, and retiring them at relatively early ages. Since the end of World War II there have been three major reequipment cycles—starting in 1946 with pressurized aircraft, then turbine-powered aircraft in 1958 and, finally, wide-bodied aircraft in 1970—each with several phases in which improved versions of the basic innovation were developed. Given the emphasis on service-quality rivalry, it has been essential that each CAB-regulated airline operate the most modern equipment, and thus each new air-

AVERAGE ANNUAL OUTPUT PER EMPLOYEE PSA COMPARED WITH TOTAL TRUNK CARRIERS AND WESTERN AIR LINES

Output Measure	Total Trunks	1965 Output per Employee		PSA % Total Trunks	PSA % Greater Than Western
		Western	PSA		
Available Seat-Miles	603,000	769,000	1,270,000	111%	65%
Revenue Pax-Miles	333,000	431,000	804,000	141	87
Operating Revenues	\$22,200	\$26,100	\$32,500	46	25

Source: William A. Jordan, *Airline Regulation in America*, 215, 217, 219 (1970).

TABLE 1

craft type has been adopted quickly and extensively by the regulated airlines with a concurrent replacement of existing aircraft.²⁴

Clearly, the above situation has resulted in greatly increased demand for new aircraft and this has benefited the aircraft and engine manufacturers over what they would have experienced without CAB regulation. At the same time, the increased variety of aircraft produced has resulted in higher costs of production. Economic theory (and common sense) predicts that increased demand for a good combined with increased costs of producing that good will result in higher equilibrium prices regardless of whether the market structure is competitive, oligopolistic or monopolistic. Thus, there is every theoretical reason to expect aircraft prices have been increased as a result of CAB-regulation. Actually, it is difficult to imagine how the 1938 and 1958 acts could have been written and implemented to promote greater demand for the products of the aircraft and engine manufacturers at the expense of the airlines and, through them, those consumers of airlines services who value lower prices relatively more than very high service quality.²⁵

By prohibiting the entry of new airlines, CAB regulation has also greatly benefited airline employees. The employees of CAB-regulated airlines know that they can obtain higher wages or more costly work rules without fear of having some new or existing airline enter and destroy their company and their jobs through price rivalry supported by lower labor costs. They also know that should their company happen to fail it would be merged with another CAB-regulated airline whereupon the CAB's labor-protective policies would result in their obtaining similar jobs in the merged company or receiving substantial termination payments.²⁶ Furthermore, where a union provides the only source of labor of a certain category for most of the industry (pilots, for example), or where labor can otherwise act industry-wide, they know that the airlines can transfer a large portion of above-market wage demands to airline customers simply by agreeing on price increases with their fellow carriers through CAB procedures. The overall result of these factors appears to be ever-higher labor costs for the regulated airlines.

Evidence pertaining to these factors is fragmentary, but significant. In recent studies of the trunk and local service carriers, the CAB found that total labor costs in 1973 comprised 45.7 percent of total operating expenses for the trunk carriers and 48.9 percent for the local service carriers.²⁷ In contrast, in infor-

mation submitted to the Senate Subcommittee on Administrative Practice and Procedure, Air California advised that for the eleven months ended November 30, 1974, wages and executive salaries totaled just 26.1 percent of its total costs.²⁸ Similarly, Southwest reports these labor categories accounted for only 28.37 percent of its total costs for the 10-month period ended October 30, 1974.²⁹

Factors other than regulation probably influenced the above percentages. For example, it appears that the two intrastate carriers included interest expenses in their total costs while these are not part of CAB-defined operating expenses. However, adding interest expenses to the certificated carriers' operating expenses merely brings their labor costs to 44.3 percent (trunk) and 47.2 percent (local service) of the expanded total.³⁰ Another possible cause of these differences in labor's share of total costs is that both Air California and Southwest are young companies with relatively low seniority costs. Actually, however, the percentage differences are too large to be accounted for by such adjustments. Instead, they are consistent with the prior evidence that the employees of small, specialized airlines are more productive than the employees of CAB-regulated airlines, and with the hypothesis that regulation allows employees of certificated airlines to obtain higher wages for all categories of workers.

The only California intrastate carrier to be unionized prior to 1965 was California Central—the largest and most important of the California airlines from January 1949 until it was adjudged bankrupt in February 1955. Both its pilots and mechanics were unionized, and a 37-day strike by the mechanics occurred in July and early August 1953. It appears that this strike and the subsequent wage increase reduced California Central's ability to operate effectively against its low-fare rivals (including PSA). In January 1954, just six months after the strike, it initiated the bankruptcy proceeding that eventually resulted in its demise.³¹

It also appears relevant that PSA was never unionized until early 1971 when its station personnel voted to be represented by the Teamsters Union.³² While initially voting against union representation, PSA's mechanics eventually also joined the Teamsters and in November 1973 carried out the first strike ever instigated against PSA.³³ While far from conclusive, it should be noted that these actions followed the PUC's effective closure of entry into the major California city pairs during the period ending in late 1969.

The above analyses pertain to the airlines' two most important types of inputs—aircraft and labor. Similar analyses could be made regarding suppliers of other inputs such as airports, petroleum products, and supplies used in in-flight services. Enough has been said, however, to indicate how regulation can act to increase the prices and quantities of inputs utilized by the CAB-regulated airlines in providing their high-quality services.

CONCLUSION

CAB regulation has served to decrease airline efficiency and, thus, increase airline costs. It has achieved this by closing entry to new airlines while failing to allocate specific shares of industry revenues and profits to existing carriers. Therefore, wherever two or more certificated carriers serve the same city pair they are motivated to undertake extensive service-quality rivalry among themselves for larger shares of traffic, revenues and, hopefully, profits. As a result, the CAB-regulated airlines purchase excessive numbers of very costly aircraft and then underutilize them, and they operate over large and diverse route structures which decrease specialization and increase operational complexities resulting in, among other things, significantly lower employee productivity. Finally, the protection of closed entry allows their monopolistic suppliers to extract higher prices for the larger quantities of inputs that are required for the airlines' high-quality services. Because of these factors, higher regulated fares are matched by higher costs to the detriment of profits and the strength of individual airlines.

This analysis explains why most airlines have not enjoyed outstanding profits under CAB regulation. It also indicates that there is a fundamental economic weakness in the airlines' position under regulation. Pervasive inefficiency requires high fares, and high fares attract substitute services. Such services range from low-priced airline charters, to automobile travel, to high-speed rail service, and on to the invention of completely new technologies (perhaps TV telephones and/or electronic guideways in interstate highways to provide "driverless" automobile travel). The near-term demand for scheduled air travel will continue to be strong, but the higher the fares the greater the incentives to provide substitutes which will eventually erode this demand. The umbrella of high railroad rates was one of the best things that ever happened to the motor carrier industry which was only a minor component of intercity freight service when the Interstate Commerce Commission's regulation of the railroads was finally

"perfected" by the Transportation Act of 1920.³⁴ High fares required by important economic inefficiencies stemming from CAB regulation will also hasten the day that the scheduled airlines experience a fate similar to that of the railroads.

FOOTNOTES

1 William A. Jordan, "Results of Civil Aeronautics Board Regulation" 3-29, Testimony Before the Subcommittee on Administrative Practice and Procedure, Committee on the Judiciary, U.S. Senate (February 14, 1975; Processed). The present paper is based on pp. 30-43 of this testimony.

2 Total certificated route air carriers produced 791 million revenue ton-miles in 1946 and 22,425 million RTM in 1974. Gross National Product in 1958 dollars increased from \$312.6 billion in 1946 to \$821.1 billion in 1974. CAB, *Handbook of Airline Statistics*, 12 (1973 ed.), and *Air Carrier Traffic Statistics* 1 (December 1974). Also, *Economic Report of the President*, 250 (February 1975).

3 CAB, *Handbook of Airline Statistics*, 74 (1973 ed.).

4 CAB, *Quarterly Interim Financial Report*, 4 (December 1974). At the same time, it should not be forgotten that a few carriers, such as Delta, Northwest, Western and North Central, have enjoyed relatively high profits under regulation.

5 William A. Jordan, *Airline Regulation in America: Effects and Imperfections*, 2-4 (Baltimore: The Johns Hopkins Press, 1970).

6 William A. Jordan, "Airline Capacity Agreements: Correcting a Regulatory Imperfection," 39 *Journal of Air Law and Commerce*, 193-206 (Spring 1973).

7. In addition to the effects of multi-carrier authorizations on service-quality rivalry, there is no indication that the CAB has made route awards to the carrier(s) able to provide the optimal level and quality of service at the lowest marginal cost. Unless low-cost carriers are authorized to provide new services, the total and average costs of airline operations are increased over minimum attainable levels.

8 CAB, *Air Carrier Financial Statistics*, 53 (June 1974).

9 William A. Jordan, *supra* note 5, at 34-56 and 73-114.

10 *Id.* at 197-99.

11 *Id.* at 199-201.

12 *Id.* at 200-3.

13 *Id.* at 203-9.

14 *Id.* at 209-10.

15 *Id.* at 40-44 and 55-56. Also, CAB, *supra* note 8, at 52.

16 CAB, *Air Carrier Traffic Statistics*, 2 (December 1974).

17 CAB, *supra* note 8, at 55.

18 Total system trunk revenue passenger enplanements for the year ended December 31, 1974, was 165,718,000. CAB, *supra* note 16, at 2.

19 PUC, *Present and Proposed Route Structures of California Certificated Air Carriers and Routes Operated by C.A.B. Certificated Air Carriers as of January 1, 1975*, 1A, 10, 15A (n.d.). Also, *Southwest Airlines, Annual Report*, 1 (1974).

20 CAB, *supra* note 8, at 1-2.

21 *Id.*

22 CAB Press Release No. 75-18 (January 23, 1975).

23 1965 was neither the best nor the worst year for PSA's productivity relative to the certificated airlines. While its jet operations increased total output, between April and August, its total number of employees increased from 575 to 740 persons. William A. Jordan, *supra* note 5, at 339-40.

24 *Id.* at 36-44. Also, William A. Jordan, *Exhibit No. DJ-RT-1*, 13-21 (Testimony submitted in the *American-Western Merger Case*, CAB Docket No. 22916, June 25, 1971).

25 William A. Jordan, *supra* note 5, at 230-33.

26 CAB Order No. 72-4-31/32 (March 28, 1972), at 18-33.

27 CAB, *Productivity and Cost of Employment, System Trunks, Calendar Years 1972 and 1973*, 8 (September 1973). Also, CAB Press Release No. 75-18 (January 16, 1975).

28 R. W. Clifford, President, Air California, Letter to Senator Edward M. Kennedy, attachment (December 19, 1974).

29 M. Lamar Muse, President, Southwest Airlines, Letter to Senator Edward M. Kennedy, 20 (January 8, 1975).

30 CAB, *Air Carrier Financial Statistics*, 1, 4 (December 1978).

31 William A. Jordan, *supra* note 5, at 183-84.

32 PSA, *First Quarter Report (Ending March 31, 1971)*.

33 *The Wall Street Journal*, 16 (Midwest Edition, November 19, 1978).

34 George W. Hilton, "The Consistency of the Interstate Commerce Act," 9 *Journal of Law and Economics*, 110-11 (October 1966).