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AIRLINE COMPETITION, by Frederick W. Gill and Gilbert L. Bates, Division of Research, Graduate School of Business Administration, Harvard University, Boston, Mass., 1949, pp. 631 and Appendices, $5.75.

This volume must be regarded as a highly important contribution to the all too meager literature of aviation economics.* Its size and the highly controversial subject with which it deals would alone entitle it to considerable attention. But in addition the extensive research conducted and the well supported conclusions drawn require respect for the study as the only thorough and unbiased appraisal of this subject.

The sub-title of the report, "A Study of the Effects of Competition on the Quality and Price of Airline Service and the Self-Sufficiency of the United States Domestic Airlines" is, in and of itself, a good summary of the project. The study was undertaken by the Harvard Business School during the latter part of 1947, as part of the School's over-all program of aviation research. The research was conducted during late 1947 and 1948 which were difficult and even desperate times for air transportation and from which there has now been a substantial recovery. A great deal of the data used throughout the report relates to 1947 and 1948. This is in no way a criticism of the report, but it does indicate that the conclusions which are drawn, particularly those relative to service and self-sufficiency, could scarcely have been based on data which was more unfavorable to the economic consequences of competition. Accordingly, the over-all conclusion of the report that airline competition has, with certain exceptions and under limitations, aided the development of the air transportation system must be regarded as conservative.

The report is divided into five sections, the first being in the nature of an introduction, accompanied by a factual account of the extent and growth of competition. Part II deals at length with the effect of increased competition on airline service to the public in such matters as types of equipment, frequency and quality of schedules, and passenger services. In brief, the conclusions are that competition has been an important determinant in the selection and improvement of equipment and that there is a general, but not universal, tendency for competition to improve the quantity and quality of schedules and service. The report points out, however, that the addition of a competitive carrier may cause, and frequently has caused, a deterioration of service and that this tendency is particularly true where additional competition is provided by a third or fourth carrier on a route.

Part III of the study is devoted to a series of "case" studies dealing with the effects of increased competition over various domestic route segments. The "cases" (not to be confused with CAB proceedings) serve primarily to illustrate points made either in the section dealing with service or in that dealing with self-sufficiency. Although of considerable interest to the student of air transportation, these cases serve primarily to illustrate the various shades of competitive situations in airline markets.

Part IV is devoted to a discussion of competition and its effect on airline prices (fares). The conclusions reached are that competition has been responsible, in major degree, for the relatively low level of airline fares, that third or fourth carriers certificated to compete over a route have usually not

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* The reviewer is Executive Assistant to the Chairman of the Civil Aeronautics Board. The views expressed in this review do not necessarily represent those of the Board or of the Chairman.
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had any appreciable effect on the fare levels for that route, and finally that competition has been an important factor in the use by the airlines of various promotional schemes and special fares, such as Universal Air Travel Plan, Family Plan and the like.

The last section of the book, which is certainly the most controversial and in which the analysis and documentation is less convincing than in the balance of the book, involves an examination of the effects of airline competition on the self-sufficiency of the various carriers. The authors measure the relative self-sufficiency of the carriers (freedom from the need of government support) by calculating their so-called break-even need, that is, non-mail revenues as compared to total operating expenses per available seat mile and per revenue passenger mile. The fact that there is no satisfactory method of computing subsidy, as opposed to compensation for handling the mail, makes such an index necessary. The report concludes that excessive competition explains in part the relatively poor post-war showing of the Big Three transcontinental carriers as compared to Eastern and accounts in major measure for the lack of self-sufficiency on the part of National, Northeast, Capital and Western. The other trunk-line carriers are found not to have had their self-sufficiency seriously impaired by competition.

The report concludes that a basically competitive air transportation system is in the public interest and that airline competition has had much to do with the rapid growth and development of the air transportation system. An important corollary of this theorem is, however, that competition can be a two-edged weapon and that it can retard growth and lead to uneconomic situations as well as serve as a developmental weapon. In sum, there is no necessary presumption for competition for competition's sake. Rather, the effects of competition in a given situation must be carefully appraised. This is particularly true in cases where it is proposed to increase competition, that is to certificate a third or a fourth carrier.

In commenting on the general findings of the report, it may be noted that while the Civil Aeronautics Board must certainly bear the brunt of any criticism which is leveled at the quantity and type of airline competition created, it has for some time recognized the existence in the air route pattern of uneconomic and destructive competition. Thus in late 1948, the Board instituted an investigation into the route pattern of National. Early in 1949 the Board instituted route pattern investigations of Northeast and Western and of selected route segments such as Washington-Chicago to determine whether excessive competition existed and if so, what solution to this situation might be adopted. The findings of the Harvard study thus tend to support the desirability of this type of re-examination of the route pattern and suggest the need for an examination on an even broader basis.

It should be pointed out that over many of the route segments cited in the study as being excessively competitive, the Board has not certificated new carriers for the purpose of creating competition, but rather to accomplish other objectives, such as one-carrier service to points beyond a competitive point. For example, the study points out the destructive nature of the competition for Washington-Chicago traffic as between Capital, American, TWA and United. But neither of these last two carriers was certificated to Wash-

1 In view of the recent interest in the mail pay separation subject, it is interesting to note that the authors hold the view that no satisfactory method of separating mail pay and subsidy can be developed in the absence of a fairly rigorous re-working of the carriers' accounting systems.


ington to provide additional competition on the Washington-Chicago segment. They were given an entry into Washington primarily to provide one-carrier service to Washington from points beyond Chicago on their respective systems. Although the basic reasons underlying certification do not invalidate the charge that there is excessive competition, they do indicate the inherent difficulties in correcting such situations. There may be a need for a reduction in competition over a given segment. That reduction must be made not by the simple expedient of rooting up one or more of the carriers, but rather of selecting the one to be removed with great care and perhaps of insisting on continued service by interchange of equipment.

Two shortcomings of this excellent study may be noted. The first has to do with its excessive length and manner of presentation, which is due in part to the extensive introduction of statistical data in text form. (It should be mentioned that there is no paucity of tabular material either.) To a considerable extent the size of the volume is offset by summaries scattered liberally throughout the text at the end of sections, chapters and parts.

A second criticism goes to the research techniques used by the authors in approaching the problem. The impression given by the report is that the world of the airlines is not populated with people, but rather with statistics, schedules, city pairs and index numbers of self-sufficiency. Whatever advantages this septic approach to the problem may have in the way of objectivity, it completely ignores the fact that the airline world is in many respects highly personalized and subjective. Airline managements act and react differently from one another depending upon their "personalities." They therefore react differently to various competitive situations. There is little or no recognition of this fact in the study. And this is surprising since the Harvard Business School is a leading proponent of the internal-management case approach to business problems. It is difficult to escape the conclusion that at least the partial use of this method in the present study would have not only improved the final product but might well have led to significant conclusions on the differences in economic results of various types of competitive problems.

These criticisms do not, however, detract materially from the over-all competence and merit of this volume and its conclusions. There is no question that the industry, the interested government agencies, including the Civil Aeronautics Board, and students of air transportation, are greatly in debt to Messrs. Gill and Bates for their painstaking and careful study of airline competition.

Paul W. Cherington*

L'AVION CARGO, by Victor Serraz. (Published by Editions Internationales, Paris.)

Government officials, carrier executives, and others interested in the future of civil air transportation have long been concerned with the development of appropriate policies for the regulation of non-scheduled freight services. This volume is to be welcomed as a substantial contribution toward a better understanding of informed European thinking on the problem.

That "the cargo plane is only an instrument which utilizes the air to permit States to engage in commerce, and on this count, the ends that it pursues seem to disassociate themselves from every idea of prestige and every political concern" is the thesis of this provocative and well-written book by a distinguished French lawyer-economist. It is this essentially a-political character of the vehicle which demands that the technical and

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commercial problems facing air cargo development be solved without the interference of over-rigorous, over-zealous State regulation.

The statement of the thesis is prefaced by a detailed economic analysis, beginning with a description of the bewildering variety of transport aircraft in use today and of the expanded ground organization which must precede any development of air cargo. His examination of the rate determining process, largely on the basis of American data, concludes that the inevitably high standard of living of the cargo plane can be counterbalanced only by intensive exploitation of its advantages — and particularly its flexibility. The fundamental importance of return freight explains the author's insistence on the freedom desirable for the tramp plane, "the deliberate vagabond of the air," whose prototype should be the tramp ship of the merchant marine.

Commenting in a manner reminiscent of Parker van Zandt on the great currents of air economic geography, the author uses the Allied war experience in transportation to illustrate the zones of expansion now available for air cargo in the continents of the world. The argument then runs that if air cargo is to realize the development thus made possible, it must be free to create its own routes, subject only to the seasonal and local variations of its market. Present national legislation seems concerned only with submitting the non-scheduled carrier to a regime of concession or authorization for reasons of national prestige. However, because of their essential limitation only to regular air-line service, the different instruments of the Chicago Convention have by implication given a free road to the non-scheduled air carrier. The question of public international law posed by the cargo plane can and should be answered by an international statute of freedom.

Obviously, much of this plea for the non-scheduled air carrier is relevant to the conditions of American air transportation, and is of immediate interest to the American student. It should be added that the book is well documented, usually from American sources, with many maps and graphs, and altogether in the best spirit of what the French call "haute vulgarisation" — the dignified popular presentation of a complicated subject. Monsieur Serraz' book constitutes an excellent introduction to the work of the highly competent air-minded lawyer-economists identified with the authoritative French journal Revue Generale de l'Air.

LEONARD N. BECK*

PUBLIC FINANCE OF AIR TRANSPORTATION. A study of Taxation and Public Expenditures in relation to a Developing Industry, by Richard W. Lindholm. (The Bureau of Business Research, College of Commerce and Administration. The Ohio State University. 1948, XVII, 178 pp.)

The financial relations between the air transportation industry and the various levels of government are of such importance that every diligent attempt to offer a discussion of this topic is to be welcomed. After the spadework which has been undertaken by the Board of Investigation and Research in the reports on "Carrier Taxation" and on "Public Aids to Domestic Transportation" and by the Civil Aeronautics Board in the study on "Multiple Taxation of Air Commerce" it is desirable to follow up the ever changing developments in this field.

* Aeronautics Division, Library of Congress.
Mr. Lindholm's book covers the events partly up to 1946 and presents an analysis of federal and state taxes as they affect the scheduled air carriers, of airport and airway financing and of other issues concerning public aids to air transportation. A great deal of statistical material offers useful information. The book is well written and keeps the attention of the reader. For those whose main interest is centered upon transportation it is revealing to follow the ways of reasoning of an economist whose particular field seems to be tax problems.

The concepts presented on airport financing appear to be sound. Most experts will agree that airport cost can more reasonably be recovered by fees than by taxation which cannot properly be adapted to the benefits received by the various airport users.

More difficult are the problems of recovering the federal outlays for airways. The book suggests to use for recovering these expenses a portion of the federal income taxes which the airlines pay. It is predicted that these taxes will rise considerably in the years following 1946 and that a part of the receipts can easily be made available for this purpose. All of us have overestimated the immediate postwar revenue and profit possibilities in air transportation and recent events have clearly indicated that airline profits are subject to changes in different periods. It appears, therefore, hardly advisable to rely on a tax based on such profits to provide for compensation for public aid items which are going up irrespective of airline profits.

It has often been suggested to utilize aviation fuel taxes as compensation for airway expenses. Mr. Lindholm points out that federal gasoline taxes did not cover these expenses in 1945. But the trend is toward assessment of new or higher taxes of this kind by the states. Mr. Lindholm feels that this is a undesirable development since gasoline consumption is a good indicator for the use of airways for which the states are not responsible but not for airports. It is obvious that these considerations have a good deal of merit and that at least more could be said in favor of increasing aviation fuel taxation by the federal government than by the states.

In the field of property taxes, assessments upon real estate do not play any great role while those upon tangible property, particularly upon airplanes, have led to many controversies. In view of this situation, Mr. Lindholm suggests centralized national assessment of personal property taxes. Such a provision in future legislation would certainly avoid double taxation and promote simplification. However, our friends in the airline industry would not be too much satisfied with the suggested change since up to now tangible personal property is in many areas incompletely taxed or not taxed at all. The total receipts of personal property taxes are comparatively low, as shown in Table 2 in Appendix A of the book. I may add that this is due in part to the tax exemptions in the States of New York and Pennsylvania which account for a great portion of air traffic as well as in the State of Delaware which is the domicile of a large percentage of air carrier corporations.

Gross receipt taxes are often levied upon public utilities in lieu of general property or of income taxes. I agree with Mr. Lindholm's doubts on the advisability of adopting this method for taxation of airlines. I think that great reluctance is necessary in treating transportation corporations in financial matters like public utilities. The latter have usually much less difficulties to earn a fair return upon the value of their property than corporations engaged in transportation.

In discussing corporate net income and similar taxes Mr. Lindholm elaborates with great care on the fundamental issues of business taxation as
different from taxation of individuals. He recommends that every effort should be made to decrease the tax burden of new and developing industries. He also suggests that corporate income taxes should be based on the ratio between profits and growth rather than on net profits. It would be interesting to know the author's suggestions for such a tax structure.

The book rightly emphasizes that the airlines suffer tax disadvantages from the fact that their capitalization is primarily based on share capital. Their taxable net income includes the amounts to be paid out for dividends while corporations, such as the railroads, whose capitalization consists mainly of funded debts can deduct the interest payment from the taxable net income. This discrepancy exists in spite of the fact that dividends as well as interest are paid as compensation for investing money in the company. I may, however, mention that the ratio of long term debts to total airline capitalization has considerably increased in recent years and will probably increase further when the credit position of the airlines continues to improve.

Payroll taxes which represent a considerable part of carrier taxation are a consequence of the increasing interest of the community in the social welfare of the workers. It is true that, according to its inherent characteristics, this specific type of taxation is levied more or less like a contribution to an insurance organization and deviates from the basic principle which could be applied to taxation particularly from the fundamental requirement that the ability to pay be properly considered. In addition the levies will be higher in times of prosperity and lower in times of depression while the need for funds follows the opposite trend. Mr. Lindholm advocates as a remedy for these disadvantages a scheme for unemployment taxes whereby the federal government as a centralized agency would pay liberal unemployment benefits during a depression and decrease at the same time the amount of payroll tax collections. He emphasized, however, that within longer periods of cyclical trends total social benefits should not be higher than total taxes and that no reserves should be accumulated during prosperity periods. No doubt, such a solution would be highly desirable, but Mr. Lindholm does not tell how it can be accomplished without paying a part of the benefits out of other sources than payroll taxes. This is particularly true since we are still far from a reliable economic forecast which could be used for securing an equalization of tax receipts and benefit payments over long periods.

In the section on Air Mail Subsidy, Mr. Lindholm speaks of air mail as a luxury service. In my opinion air mail is at present such an integral part of our regular communication system as telegraph and telephones. However, I am in agreement with him, that the users should be charged according to the value of the air mail service. His suggestion that a surplus of air mail revenue over expenses be turned over by the Post Office Department to the Civil Aeronautics Administration will be strongly opposed by the Postmaster General, at least as long as there are deficits in other fields of the postal service. There are no objections against the author's adherence to the proposal, widely discussed in recent times, to separate air mail pay from subsidies. Such a step would facilitate the extension of public aid to non-scheduled air carriers which Mr. Lindholm also suggests.

A perusal of his findings and recommendations will stimulate transportation men to do some thinking of the effects which possible solutions in public finance of air transportation may have on the general transportation situation.

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