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The Effects of Entry Control in Surface Transport

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Closed or controlled entry exists in fields in which the government deems it desirable to foster monopoly of an essential service, to limit the number of firms, or to stimulate the growth of large firms. This condition is found primarily in the transport and public utility industries. Franchises, certificates of public convenience and necessity, and permits are devices used to limit entry to one firm in each market or to some number less than would have been established under free-entry conditions. In the utility industries, where monopoly organization is inevitable and clearly more efficient than competitive organization, there has been little question of the wisdom of the closed-entry policy.

The entry situation has been very different in American transport. Competition among firms in each important transport market is workable and has long existed; in trucking, the number of firms can be great enough to approach atomistic competition on dense traffic routes. The transport industries compete with one another to a far greater extent than do the utilities; despite cost and service differences, intermodal competition is widely regarded as the most effective form of transport competition. Therefore, monopoly of one firm per route has been unacceptable.

With the exception of controls designed to prohibit or limit railroad ownership or control of Panama Canal shipping lines and other water carriers, and the "commodities clause" separating the railroad business from mining and industrial enterprises, the federal government exercised no direct entry control of transport enterprises prior to 1920. The Transportation Act of 1920 established the first direct control of entry in interstate transport by giving the Interstate Commerce Commission power to limit the establishment of new railroads and to control the extension or abandonment of railway lines by the grant or denial of certificates of public convenience and necessity. The next step was

taken in 1935, when the Motor Carrier Act required that a certificate of public convenience and necessity be obtained from the ICC before inaugurating a new interstate motor common carrier service or before extending an existing one. It required that a permit be obtained before starting business as a motor contract carrier or before extending an existing contract service. "Grandfather clauses" were included to assure continuance of operations conducted at the time the Act became effective and continuously thereafter. All private carriers and several classes of for-hire carriers, particularly those of agricultural products, were exempted from entry regulation. The Transportation Act of 1940 required similar certificates and permits for domestic water carriers, with far-reaching exemptions for bulk commodity carriers; and the Freight Forwarder Act of 1942 required permits for freight forwarders in interstate commerce. The state commissions have exercised varying entry controls, much of which antedated federal regulation, over rail, motor, and water carriers in intrastate commerce.[1]

Federal regulatory statutes have long controlled the relations between modes of transport, an indirect entry control. Control or ownership by railroads of competing modes has been limited to maintain intermodal competition in full force and vigor. The landmark law was the Panama Canal Act, enacted to prohibit control by railroads of the ship lines about to begin operations through the Panama Canal, and to limit rail control of other domestic shipping to cases in which competition between water and rail carriers would not be affected. The 1935 Act significantly limited rail ownership or control of motor trucking. The 1942 Act allowed common carrier control of freight forwarders but banned control of carriers by freight forwarders. Railroads and other modes have freedom to enter the oil pipeline field without ICC approval, but the Civil Aeronautics Act of 1938 has been interpreted as virtually barring control of airlines by other modes.

The long delay in adopting federal entry controls indicates that the public was not originally convinced that a need existed for limiting the number of carriers. The wide areas of exemption signify that important groups still prefer many-firm competition in transport. Notwithstanding this, entry controls were justified as being essential to maintenance of adequate and efficient transportation by common carriers. In the idealized conception, entry controls facilitate that

[1] John J. George, *Motor Carrier Regulation in the United States*, Spartanburg, S.C., 1929; and Donald V. Harper, *Economic Regulation of the Motor Trucking Industry by the States*, Urbana, Ill., 1959, pp. 26–43.

objective in several ways. First, essential common carrier services can be required of carriers given certificates and can be assured by protecting regular-route common carriers from competition of contract, private, exempt, and even of irregular-route common carriers. Second, the reduced competition due to entry restrictions can encourage adequate investment and technological change by assuring profitable returns. Third, standards of service can be improved by encouraging able and responsible carriers, by discouraging "fly-by-night" firms, and by imposing high standards of safety. Fourth, duplicating fixed investments can be avoided, excess capacity can be reduced, and large firms can be encouraged. Finally, greater coordination can result from through services and joint rates.

In spite of the beneficial role alleged for entry control, serious issues have arisen. Certificate and permit control of motor carriers has become so detailed and laborious that the ICC has been overloaded with routine and has been unable to give adequate attention to the major public policy issues in transport regulation. In view of the costly and time-consuming regulatory procedures in competitive transport industries, questions have increasingly been raised as to whether the benefits are worth the costs.

The long-continuing decline in traffic handling of the regulated common carriers, the opposite of what had been expected under regulation, has also focused attention on entry control. Traffic diversion to exempted and private carriers has stimulated demands by regulated common carriers and the ICC that statutory exemptions be narrowed and that opportunities for private carriage be lessened, measures which are stoutly resisted by shipper groups.[2]

From the beginning, there has been criticism of the Commission's standards and policies in controlling entry, especially in trucking where regulation has been both restrictive and detailed. Motor carriers have complained of long, drawn-out proceedings, the uncertainties of the results of certificate and permit applications, and of the extremely limited operating authority often granted. Shippers have also complained of inadequate and costly service.[3]

[2] See the editorial, "Competition in Transportation," *The Journal of Commerce*, March 13, 1963, p. 4.

[3] See *Traffic World*: October 24, 1953, pp. 35–36; April 16, 1955, pp. 23–24; April 29, 1961, pp. 100–101; July 21, 1962, p. 33; and March 16, 1963, pp. 32–33 (especially the comments of August Heist, Traffic Manager, R. J. Reynolds Tobacco Co.). See also the statement of ICC Commissioner Everett Hutchison before the Surface Transportation Subcommittee, Senate Committee on Commerce, on "The Decline of the Nation's Common Carrier Industry," August 30, 1961.

The crux of the problem is whether the type of direct entry control adopted for the competitive transport industries has a solid economic foundation, and whether detailed operating authority regulation has produced over-all economies or diseconomies for the general public. Because the most restrictive entry limitations have been applied in trucking, this analysis will emphasize the entry control standards and policies applicable to motor carriers, together with their economic effects. Entry control has also been influential in the market structure and performance of air transport, but this case has been adequately treated in other studies.[4] An area which also cannot be analyzed in this paper involves the rules governing access to trailer-on-flat-car transport and the impact of existing entry controls on that notable innovation.

Administrative Standards in Control of Entry

Some reference to the statutory standards governing entry control, and to the administrative interpretations of them by the ICC, is essential to a full understanding of the economic effects of barriers to entry.

The general purpose of the "grandfather clauses" was to subject to regulation all 40,000 existing common and contract motor carriers, while preserving their operations intact. New or extended operations were to be started only after proof of the "present or future public convenience and necessity" had been shown by common carriers, or consistency "with the public interest and the national transportation policy" by contract carriers.[5] The standards in new-service cases clearly contemplated limiting the entrance of additional firms and the operating rights of existing firms; thus, some lessening of intramodal competition was desired. Except for the service, routes, termini, and intermediate and off-route points specified in the certificates of regular-route carriers and some details in other certificates and permits, the drafting of explicit models of efficient organization for the motor carrier industry was left to the Commission.

[4] This subject has been competently analyzed in Lucile S. Keyes, *Federal Control of Entry into Air Transportation*, Cambridge, Mass., 1951; and in Richard E. Caves, *Air Transport and Its Regulators*, Cambridge, Mass., 1962.

[5] In addition, under Sections 207(a) and 209(b) of the Interstate Commerce Act, common and contract carriers, respectively, have to show "that the applicant is fit, willing, and able properly to perform the service" and to conform to regulation. These tests, however, only infrequently result in denials or restrictions of a burdensome sort. See *Interstate Commerce Commission Activities 1937–1962*, Washington, D.C., 1962, pp. 23–41 (especially p. 26) for a review of the standards of entry control for motor carriers.

The actual process of obtaining authority to continue the operations begun prior to regulation proved far from automatic. The Commission early decided that applicants for "grandfather" rights must bear the burden of proof and show concrete evidence that they had been in "bona fide operation" on, and continuously since, the applicable "grandfather" date. Proof had to show that every part of the operation had been actual, conducted in good faith, and conducted continuously until the date of the decision on the application, except for interruptions beyond the carrier's control. The question was determined in adversary proceedings. The grant of "grandfather" rights quickly became a process of legally compromising private interests, with far more emphasis on protection of established common carriers than on the requirements of allocative efficiency.

As most of the approximately 90,000 "grandfather" applications by motor carriers could not be decided until 1941 or after, the Commission's rule of continuous operation led to the denial of the right to carry commodities in numerous cases.[6] The longer decisions were delayed, the greater was the likelihood that some "grandfather" operation would be denied because of traffic shifts and changes in the relative profitability of traffic or routes. The Commission frequently denied "grandfather" rights for certain commodities previously handled because they were not carried in substantial amounts and with a sufficient degree of regularity. Despite the Supreme Court's directive, in the *Carolina Freight Carriers Corp. Common Carrier Application* case, that the Commission not itemize and pulverize a carrier's operation, product by product, the restrictive policies in the grant of "grandfather" rights continued without appreciable liberalization.[7]

Several factors influenced the Commission to adopt a tight entry control policy through strict construction of the "grandfather clauses." Among these were a belief that the facts of "bona fide operation" had to be established; a desire to prevent additional persons from gaining entry by claiming "grandfather" rights; and a need to ease the administrative task through imposing the burden of proof on the applicant.

The Commission early justified its grant of restrictive commodity authority (usually special rather than general commodities) to the highly numerous irregular-route common carriers. In the case of *Powell Bros.*

[6] *Gregg Cartage & Storage Co. Common Carrier Application*, 21 M.C.C. 17, 21–23 (1939). See Commissioner Lee's dissent, pp. 23–24.

[7] *U.S.* v. *Carolina Carriers Corp.*, 315 U.S. 475, 478, 482–486 (1942); and 24 M.C.C. 305, 308–309 (1940).

Truck Lines, Inc., Common Carrier Application, the Commission stated its position, reiterated in many subsequent cases, as follows:

> Authority to transport general commodities throughout a wide territory over irregular and unspecified routes pursuant to the "grandfather" clause of the act should be granted to a carrier only when such carrier's right thereto has been proved by substantial evidence. To do otherwise would create the very ills which regulation is designed to alleviate, namely, congestion of highways, destructive rate practices, and unbridled competition. Common carriers which are expected to maintain regular service for the movement of freight in whatever quantities offered to and from all points on specified routes cannot operate economically and efficiently if other carriers are permitted to invade such routes for the sole purpose of handling the cream of the traffic available thereon in so-called irregular-route service.[8]

Contract carriers have generally been restricted to a highly specialized service for one or a few shippers. Where it is necessary to grant a wide range of commodities, the opportunity to add or substitute contracts has been limited to shippers of a certain type, such as meat packers or chain grocers. In other cases, contract carriers have been restricted to one or a few commodity classes. In an early leading case, *Contracts of Contract Carriers*, the Commission justified a restrictive entry policy for contract carriers, even in "grandfather" cases, in terms of an inferred need to protect common carrier service from "cut-throat competition." [9]

When service extensions or entirely new services have been proposed by motor carriers, the Commission has had complete authority to determine the actual meaning of the "public convenience and necessity" test for common carriers and the "consistency with the public interest" test for contract carriers. In such cases, the authorized services have often been limited to specified commodities and restricted narrowly as to points, routes and territories, return hauls, size of shipments, and class of shippers. Many applications have been denied in whole or in part. Large truckers have been able to round out their operations with additional grants of commodity, route, or other authority, or by purchase of rights; but highly restricted carriers, typically small firms, have not. Thus, the patterns of restrictions resulting from granting "grandfather" rights have not been basically altered.

[8] 9 M.C.C. 785, 791–792 (1938).

[9] 1 M.C.C. 628, 629–630 (1937). See also *Craig Contract Carrier Application*, 31 M.C.C. 705, 711–715 (1941); and *J-T Transport Co., Extension-Columbus, Ohio*, 79 M.C.C. 695, 701–704 (1959). See Commissioner Lee's dissent to the ICC policy of protection of common carriers in the Keystone case, 19 M.C.C. 475, 502–503 (1939).

In considering new or extended service applications, the Commission, in substance, seeks to ascertain whether the new operation would serve a useful public purpose, responsive to a public demand or need. From the beginning, however, the public need test took on protective considerations, such as whether the useful public service could be served as well by existing carriers and whether a new operation or service would endanger or impair the operations of existing carriers contrary to the public interest.[10] In regard to the effect of new or extended contract services, the Commission early held that the term "consistent with the public interest" implied that the maintenance of adequate facilities for handling general traffic was to be considered, with the convenience of a particular shipper or shippers ruled out as a conclusive test. As in "grandfather" cases, the motive of protecting common carrier service was reiterated.[11] The Commission has generally denied extensions of service by existing carriers or proposals to inaugurate new services unless applicants can make a convincing showing that the facilities of existing carriers are physically inadequate. With several regulated motor carriers already in operation, this test can be extremely difficult, even when strong support is given by shippers. Consequently, the physical inadequacy test has resulted in protecting existing carriers from new competition.[12]

Acceptable evidence of satisfactory service has varied from mere allegations of adequate service by protestant motor carriers and submissions showing the existence of several motor lines, to findings that underutilized facilities existed. Specific investigations of carrier efficiency have rarely been made. Another difficulty for new entrants was an early ruling by the Commission that the offer of lower rates to shippers cannot be considered a factor in determination of adequacy and efficiency of existing service.[13]

In the *C. & D. Oil Co. Contract Carrier Application* case, the Commission enunciated the principle, often reiterated in cases involving applications of common and contract carriers, that existing

[10] *Pan-American Bus Lines Operation*, 1 M.C.C. 190, 203 (1936). See also 62 M.C.C. 513, 534 (1954).

[11] *Worm Extension-Ainsworth and Johnstown, Nebr.*, 32 M.C.C. 641, 644 (1942). See also *ICC* v. *J-T Transpbrt Co.*, 368 U.S. 81, 89–90 (1961); and *Moyer Contract Carrier Application*, 88 M.C.C. 767, 769-775 (1962).

[12] Cases in which new entrants have been approved include 1 M.C.C. 725, 735 (1937); 3 M.C.C. 465, 467 (1937); 6 M.C.C. 83, 87 (1938); and *West Coast Bus Lines Common Carrier Application*, 41 M.C.C. 269, 288 (1942). In the last, regulation was found incapable of eliminating the undesirable effects of monopoly.

[13] *Wellspeak Common Carrier Application*, 1 M.C.C. 712, 715–716 (1937). See also 368 U.S. 81, 133–138 (1961).

carriers should have the right to transport all traffic that they can handle adequately and efficiently:

> It is clear that the transportation which applicants propose to perform is now being handled with efficiency by a carrier claiming the right to a permit authorizing such operation under the "grandfather" clause. . . Furthermore, it appears that other motor carriers which have been in the field for some time could handle the traffic if the present operator's service should later be found unsatisfactory. . . .
>
> . . . We think that, in order to foster sound economic conditions in the motor-carrier industry, existing motor carriers should normally be accorded the right to transport all traffic which they can handle adequately, efficiently, and economically in the territories served by them, as against any person now seeking to enter the field of motor-carrier transportation in circumstances such as are here disclosed.[14]

However, the Commission does not consider rail common carrier service alone to be an indication of adequate service. Its position is that shippers are entitled to adequate service by motor vehicle as well as by rail, and motor carriers must be allowed to develop according to their inherent advantages.[15]

With substantially the same statutory requirements governing water carriers as apply to motor carriers, the Commission has been far less restrictive in regulating entry. Thus, water carriers have customarily been given "grandfather" authority to serve all ports on their routes.[16] Since proof of actual movement of specific commodities was not always required, general commodities have been granted to "grandfather" water carriers far more frequently than to the motor carriers.[17] Sample studies of recent cases reveal similar liberality in commodity and port grants in new service and extension cases.[18]

This greater liberality to water carriers probably reflected the Commission's awareness that it had gone too far in suppressing motor

[14] 1 M.C.C. 329, 331–332 (1936). See also 79 M.C.C. 695, 701 (1959); and Mr. Justice Frankfurter's dissenting opinion in 368 U.S. 81, 98–105 (1961).

[15] *Bowles Common Carrier Application*, 1 M.C.C. 589, 591 (1937). See *Schaffer Transp. Co.* v. *U.S.*, 355 U.S. 83, 88–92 (1957).

[16] *Pope & Talbot, Inc., Com. and Contr. Car. Application*, 250 ICC 117, 122 (1941). See also 250 ICC 249, 270–272 (1942); and 250 ICC 321, 325 (1942).

[17] *McLain Carolina Line, Inc., Common Carrier Application*, 250 ICC 327, 332 (1942). See also 250 ICC 436, 439 (1942); and 250 ICC 477, 478–482 (1942).

[18] All decisions in applications for water carrier operating authority in Volume 285 of *Interstate Commerce Commission Reports*, or those decided between April 1951 and March 1957, were examined. See 285 ICC 5, 7–8 (1951); 285 ICC 9, 11–13 (1951); 285 ICC 33, 48–50 (1951); 285 ICC 411, 413–418 (1953); and 285 ICC 667, 676–677 (1955).

carrier competition. In addition, a smaller number of firms compete on water routes, entry control for water carriers was inaugurated when the economy was in an expansionist phase, and, in general, the postwar restoration of coastal water service was a national goal.

An "easy" entry policy was also established for freight forwarders in 1942. They needed only permits which were issued on findings that "the applicant is ready, able, and willing properly to perform the service proposed, and that the proposed service . . . is or will be consistent with the public interest and the national transportation policy . . ." Most importantly, until amended in 1957, Sec. 410 (d) restrained the Commission from denying permits solely because the new service would compete with other freight forwarders.

The Commission has authorized most applications for continuing freight forwarding operations conducted in 1942 simply on proof of operation over a period of years.[19] In addition, it has been liberal in granting permits to enter forwarding and for commodity and territorial authority.[20]

The "easy" entry policy for forwarders, a close approach to free entry, reflected the emphasis by Congress on competition and a competitive structure. Freight forwarding was distinguished from other transport as not involving much investment in facilities; hence, as not requiring protection against improvident investments.

Restrictions on Operating Authority of Regulated Carriers

Under free-entry conditions, the boundaries of a firm's products or markets are determined according to the stimulus of the profit motive and under the restraints of competition, the size of the market, the economies of scale, and other limiting factors such as antitrust-law restraints on market-sharing agreements. Fragmentation of products and markets occurs when it is profitable to limit a firm's operations, but most barriers to entry or expansion arise from economic factors rather than political or protective considerations. Hence, more transport firms will use routes of dense rather than scant traffic and more

[19] *Republic Carloading & Distributing Co., Inc., F. F. Application*, 250 ICC 670, 673–676 (1943). See also 250 ICC 747, 751–752 (1943); and 260 ICC 307, 313–314 (1944).

[20] *Lifschultz Fast Freight Extension—West and Midwest*, 265 ICC 431, 440–444 (1948), upheld in 338 U.S. 855 (1949). See also 265 ICC 513, 517–518 (1949); and 285 ICC 127, 130 (1952); and 285 ICC 641, 651–653 (1955). On the other hand, see 285 ICC 425, 430–432 (1953).

carriers will compete in modes not requiring a large minimum investment.

Where entry and operations have been limited severely, as in regulated trucking, the specialization in commodities and markets gradually comes to reflect the decisions of a political authority under restrictive and protective conditions. A tendency toward fewer firms may or may not reflect economies of scale; a system of fragmented operations by franchised carriers may improve the service to the public or may cause it to deteriorate or become excessively expensive because of service competition.

A 10 per cent, stratified, random sample of intercity truckers subject to ICC jurisdiction was taken by the Board of Investigation and Research in 1941. It revealed that specialization of function had attained a high degree in the trucking industry, reflecting the operations of thousands of small carriers serving local industries and often utilizing specialized equipment. But the sample also revealed that the pattern of limitations in certificates and permits was a highly restrictive one, except for carriers already large and with well-rounded operations when regulation began.[21]

Certificates and permits for motor carriers always designate: (1) the legal characteristics of the service authorized—common or contract; (2) the routes or territories over which such operations may be conducted; (3) the points to or from which a carrier may render the specified service; (4) the commodities or classes of commodities which may be transported for compensation; and (5) the extent to which the authorized physical movement of trucks is tied to specific highway routes and gateways. While some restrictions merely confirm voluntary specialization, such detailed specification almost inevitably imposes real handicaps on efficient operations.

The most significant limitations on operating authority have been the commodity restrictions. These often narrowly restrict the traffic that a carrier may solicit or obtain for return hauls. Special commodity authorizations range from a single commodity, such as sugar or hardware, to many specified commodities. Unless highly specialized equipment is required, carriers obviously prefer general commodity authorizations.

The BIR sample of certificates and permits as of 1942 disclosed that 62 per cent of the regulated truckers had been limited to special commodities; that approximately 40 per cent of such carriers (other than

[21] Board of Investigation and Research, *Federal Regulatory Restrictions upon Motor and Water Carriers*, S. Doc. 78, 79th Cong., 1st sess., 1945, pp. 304–319.

those operating specialized equipment) had been limited to one commodity or commodity class, with 88 per cent limited to six or less; and that, in 1941, the carriers limited to special commodities conducted about two-fifths of the total regulated operations. The small common carriers, those operating over irregular routes, and the contract carriers were most frequently restricted as to commodities.[22]

Route and territorial restrictions confine carriers to designated points along the specified routes or in the described territories. Regular-route carriers have been granted points on or near their specified highway routes while irregular-route carriers have been given territories in which operations between points or from points to points may be conducted. The principal geographical limitations disclosed by the BIR sample were those on intermediate points or territories and those on choice of highway routes. Seventy per cent of the regular-route common carriers possessed less than full authority to serve intermediate points; more than one-tenth had no such authority. More than 90 per cent of the irregular-route carriers were limited to radial service; that is, their traffic had to be accepted at, or delivered to, one or more specified points within their territories. Most such carriers had no choice but to operate through points which they could not lawfully serve, "leap frogging" between noncontiguous points or areas, or between noncontiguous points and an area.[23]

Regular-route common carriers are required to follow specific highway routes. This results in circuitous operation and limits competition whenever a direct highway route cannot lawfully be used.[24]

The Commission's own "gateway" restriction requires that services between an old and a newly acquired territory must be performed through points common to the operating authority of both the acquired and acquiring carriers. This prevents an increase in competition but continues circuitous routing of traffic.[25]

The BIR sample also found that about a third of the intercity truckers had return-haul limitations, and almost 10 per cent had no authority to transport traffic on the return trip.[26]

However, the BIR study found that certificates and permits do not specify that the authorized service may be rendered only infrequently, nor do they place specific maximum limitations on the number of

[22] *Ibid.*, pp. 27–44.
[23] *Ibid.*, pp. 76–88.
[24] *Ibid.*, pp. 96–110.
[25] *Ibid.*, pp. 110–117. See map illustrations.
[26] *Ibid.*, pp. 121–133. See also pp. 47–72.

schedules.[27] This reflects the proviso in Sec. 208 (a) (and a similar one in Sec. 209 (b)) prohibiting the placement of limitations on "the right of the carrier to add to his or its equipment and facilities over the routes, between the termini, or within the territory specified in the certificate, as the development of the business and the demands of the public shall require."

The nearest approach to a direct limitation on the frequency of service has come from specification that about three-fifths of the authorized operations be conducted "over irregular routes." The Commission has long differentiated between regular-route and irregular-route service. In the leading *Brady* case, the Commission held that common carriers over irregular routes do not have authority to render a periodical or scheduled service between authorized points in their territories unless such carriers first obtain a new-service certificate on proof of public convenience and necessity, even where no new commodities, points, or territories are involved. This was justified as necessary to protect regular-route common carriers from competition that might adversely affect or destroy regular-route service, to the public detriment.[28]

Another type of restriction, similarly justified, is the "Keystone" restriction in numerous permits. A common form limits authorized contract carrier service to such merchandise as is dealt in by wholesale, retail, and chain grocery and food businesses. Often this limits contract carriers to three shippers or less.[29]

Carriers operating both private and for-hire trucking operations on the "grandfather" dates have been permitted to continue the for-hire operations if conducted continuously thereafter. However, the Commission has frequently held that dual private and for-hire operations instituted or proposed after regulation became effective were not consistent with the public interest—applications of private carriers for contract carrier permits to facilitate return loads have generally been denied. In the *Geraci* case, the Commission explained that such auxiliary for-hire operations "might seriously affect the maintenance of adequate and efficient service by the motor common carriers upon

[27] *Ibid.*, p. 156.

[28] *Transportation Activities, Brady Transfer & Storage Co.*, 47 M.C.C. 23 (1947). See also 23 M.C.C. 767 (1940); 34 M.C.C. 731 (1942); and 43 M.C.C. 831 (1944).

[29] *Keystone Transp. Co. Contract Carrier Application*, 19 M.C.C. 475 (1939). See S. Doc. 78, *Federal Regulatory Restrictions*, pp. 160–163. In at least 65 cases in which contract carriers were converted into common carriers under the 1957 amendment redefining contract carriage, the Commission has continued the Keystone-type restriction in certificates. *Wall Street Journal*, March 26, 1963, p. 2.

whom the general public must depend, and by the contract carriers who do not also engage in private carriage." [30]

It is probable that a roughly comparable pattern is in existence today. In its replies to a Senate Small Business Committee questionnaire in 1955, the Commission acknowledged that the same types of restrictions as disclosed by the BIR study were still to be found in operating authorities.[31] Systematic sampling of new-service cases confirms that similar restrictions have been placed in new operating authorities; that authorizations extending service often left "grandfather" restrictions intact; and that many applications to round out operating authority have been denied.

As noted above, the Commission has been comparatively liberal in grants of operating authority to water carriers, both in "grandfather" and in new-service cases. The BIR study found that more than three-fourths of the "grandfather" grants to water carriers through May 1943 authorized commodities generally without any exceptions. Not all new-service applications have been granted, but in general the operating authority restrictions do not fragment commodities and markets as in the case of motor carriers.[32]

Representative decisions indicate that forwarders in existence when regulation became effective usually were granted commodities generally. In 1957 five forwarders had rights to serve virtually the entire United States, several others to serve all points in all but a few states, and the remaining companies to serve wide territories in most instances. Most applications to enter the field or extend operations have been granted, usually with liberal specification of territorial and commodity authority. Since the 1957 amendment, however, a somewhat more restrictive tone has been evidenced.[33]

[30] *Geraci Contract Carrier Application*, 7 M.C.C. 369, 372 (1938). See also 10 M.C.C. 183, 186–187 (1938); 12 M.C.C. 13 (1938); 14 M.C.C. 631 (1939); 28 M.C.C. 205, 211 (1941); and 33 M.C.C. 226, 227–228 (1942).

[31] *ICC Administration of the Motor Carrier Act*, Hearings before the Senate Select Committee on Small Business, 84th Cong., 1st sess., November 30-December 2, 1955, pp. 200–206 and 337–358. See the ICC's *75th Annual Report*, 1961, pp. 9–10 and 59–62; and the *76th Annual Report*, 1962, pp. 63–66, for evidence that the Commission's entry control policies have not changed. See also *73rd Annual Report*, 1959, pp. 48–52; *Competition, Regulation, and the Public Interest in the Motor Carrier Industry*, S. Rep. 1693, 84th Cong., 2d sess., March 19, 1956, pp. 1–15 and 27–29; and *Transportation Act of 1958*, S. Rep. 1647, 85th Cong., 2d sess., June 3, 1958, pp. 12–13. Finally, see the decision in *Ex Parte* No. MC-55, *Motor Common Carriers of Property—Routes and Services*, decided December 4, 1961 (mimeographed).

[32] S. Doc. 78, *Federal Regulatory Restrictions*, pp. 260–261 and 264–265; and decisions in Volume 285 of *Interstate Commerce Commission Reports*.

[33] James C. Nelson, *Controls of Entry into Domestic Surface Transportation under the Interstate Commerce Act*, Washington: U.S. Department of Commerce (multilithed), October 1959, pp. 177–203. Summarized in *Rationale of Federal Transportation Policy*, U.S. Department of Commerce, April 1960, pp. 10–19 and 71.

The direct controls of entry enacted in 1920 have largely been used to supervise withdrawal of marginal railway lines and extensions of relatively small segments of line to new industrial and military locations. In 1958, the Commission was granted ultimate control over passenger-train discontinuances because state commissions had delayed or blocked discontinuance of numerous hopelessly unprofitable passenger trains. With good alternatives to rail service available, the Commission has generally granted abandonments and discontinuances if little promise of restoring profitable operations exists.[34]

Consequently, the key issues over entry restrictions on railroads concern their right to diversify. Railroads are free to enter pipeline transport and the exempt areas of trucking. They have fairly easy entry, considering their resources, into regulated trucking, but are almost entirely prohibited entry into water transport. Their regulated motor carrier operations are severely limited.

The typical certificate restrictions on railroads were initially adopted in the *Kansas City S. Transport Co., Inc., Com. Car. Application* case. First, service is limited to that which is auxiliary to, or supplemental of, rail service. Second, no point may be served that is not a station on a rail line. Third, no shipments may be transported wholly by motor vehicle between the so-called designated "key points," usually large traffic-generating points. Fourth, all contractual arrangements between the motor subsidiary and the parent railroad are subject to ICC modification. Fifth, the ICC has reserved the right to impose further restrictions to preserve the supplementary character of rail motor carrier service.[35]

Certain railroads have recently tested whether the Panama Canal Act policy still prevents their control or ownership of competing barge lines. However, the purchase by the Illinois Central and the Southern Pacific of the John I. Hay Company, a profitable Mississippi barge line, was found to threaten "a sharp reduction of, and possibly complete elimination of, competition on the water routes involved." [36] In contrast, the railroads have been tolerably free, except for tariff and

[34] *Ibid.*, pp. 208–217. See *Interstate Commerce Commission Activities 1937–1962*, Washington, 1962, pp. 50–56.

[35] 28 M.C.C. 5, 7–11, 25 (1941). See also 42 M.C.C. 74 (1943) and 66 M.C.C. 669 (1956); and *Interstate Commerce Commission Activities 1937–1962*, Washington, 1962, pp. 200–202.

[36] *Illinois Cent. R. R.—Control,—John I. Hay Co.*, decided March 2, 1962 (mimeographed), p. 26.

motor carrier entry restrictions, to engage in and expand trailer-on-flat-car services on their own terms and at reduced rates. This affords them indirect entry into the motor carrier business.[37]

Some Economic Effects of Entry Control of Surface Carriers

Entry controls affect both regulated and unregulated carriers as well as shippers and receivers; and through these groups, the economy as a whole. The effects on carrier groups are diverse, since entry limitations favor the growth and profitability of firms protected from competition and retard the growth and profitability of firms burdensomely restricted. Such effects will be economic only if they either lead to utilization of a smaller aggregate of resources in accomplishing the demanded transport, or yield faster, more flexible, and more dependable service at the same resource costs. If users are to gain, freight rates must ultimately be lower, with services the same or better; alternatively, rates may continue to be the same or higher, with services improved. With lower transport costs and rates, the public gains from improved resource utilization and greater economic development.

An evaluation of economic effects must distinguish between gains to carriers at the expense of shippers and society, and those which ultimately result in contributions to the general economy through lessening the cost of transport or of producing goods. Economic losses of the restricted carriers may be offset by gains by other carriers. However, the protection of established firms from competition does not necessarily create lower costs and improved services. Private profit enhancement by such means may be, but cannot always be assumed to be, compatible with the general public interest.

Restrictions on entry and the scope of carrier operations necessarily modify the market structures in terms of the number and size

[37] For examples of motor carrier operating authority restrictions limiting some piggyback operations, see *Gordons Transports, Inc.* v. *Strickland Transportation Co.*, decided October 15, 1962 (mimeographed), pp. 4–12; *Substituted Rail Service-Betw. St. Louis & Kinder, Lake Charles, New Orleans*, decided December 31, 1962 (not to be printed); and the proposed new rules for piggyback service ordered in *Ex Parte* No. 230 (*Substituted Service—Piggyback*, 322 ICC 301, 384, 386–404, 1964). See also George L. Buland and Frederick E. Fuhrman, "Integrated Ownership: The Case for Removing Existing Restrictions on Common Ownership of the Several Forms of Transportation," *The George Washington Law Review*, October 1962, pp.163–166; and Henry P. Knowles, Jr., "A Note on the Debate over Dual Ownership in the Railroad and Trucking Industries," *Proceedings*, Thirty-Sixth Annual Conference, Western Economic Association, August 24–25, 1961, pp. 11–16.

distribution of competing firms and the character of competition and monopoly. If the purpose of entry control is minimization of resource costs, economies of scale or utilization, or both, are almost necessarily implied as the key reasons for reducing the number of competing firms. Because safety and financial responsibility can be achieved by direct regulations which involve neither entry restrictions nor minimum pricing, the effects of entry control on the market structures in transport industries are the most vital considerations in evaluating allocative efficiency.

The huge minimum investments required in the oil pipeline field, and the marked economies of scale and utilization demonstrated in it, have limited the number of firms in that field to one per route, or to not more than four firms for very large markets. Although the divorcement of common carrier pipelines from the oil refining companies has long been a contentious issue, entry regulation has apparently not been needed to obtain a tolerably socially efficient organization, that is natural monopoly, for the oil pipeline industry.[38]

Direct entry control came decades too late to influence the structure of railroading in material respects. The number of roads competing for traffic between pairs of points has changed little since entry control began in 1920. The number of sellers is small, ranging up to six railroads in direct competition or to a few more in market competition. Clearly, railroads illustrate oligopolistic or duopolistic organization between major centers.[39] The huge minimum investments, initial economies of scale, economies of utilization, and limited traffic possibilities have kept the number small.

On the other hand, the rail market structures have been influenced by the antitrust laws, the antipooling provision before 1920, and the Section 5 standards governing ICC approval of acquisitions of control, mergers, and consolidations. The railroad combination movement in progress at the turn of the century was prevented by antitrust decisions from creating regional monopolies.[40] The requirement that consolidation plans under the Transportation Act of 1920 maintain

[38] Leslie Cookenboo, Jr., "Costs of Operating Crude Oil Pipe Lines," *The Rice Institute Pamphlet*, April 1954, pp. 35–113; and *Crude Oil Pipe Lines and Competition in the Oil Industry*, Cambridge, Mass., 1955, pp. 24–32. See also J. L. Burke, "Movement of Commodities by Pipeline," United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, November 8, 1962, pp. 3 and 9–10.

[39] John R. Meyer, Merton J. Peck, John Stenason, and Charles Zwick, *The Economics of Competition in the Transportation Industries*, Cambridge, Mass., 1959, pp. 205–211.

[40] Eliot Jones, *Principles of Railway Transportation*, New York, 1929, pp. 327–352.

competitive routes and link weak and strong railroads dampened carrier interest in effectuating consolidations. It remains to be seen what influence the standards of the 1940 Act will have on the present railway merger movement.[41]

Had it not been for the Panama Canal Act prohibitions and the special regulatory restrictions placed on railroad control of motor and air carriers, many railroads would have made wide use of air, motor, and water techniques, as in Canada.[42] Such entry control standards, coupled with antitrust action, have widened competitive elements in transport as a whole.

The market structures within domestic water transport have been only slightly affected by direct entry controls. An important reason for this is that dry bulk and liquid petroleum carriage are exempt from ICC control. Also, the water pattern of entry control has not been highly restrictive. Thus, the present market organization is largely the result of economic and competitive factors.

About forty large lines, including fifteen exempt carriers, are described as operating, among other carriers, on the Mississippi system and Gulf coastal waterways; up to five or six major carriers compete for exempt or regulated traffic on each principal waterway.[43] About eight regulated and thirty-two exempt carriers operate in domestic Great Lakes shipping. Only a few common carriers and a relatively few unregulated exempt bulk and private carriers operate in coastwise and intercoastal trades.[44] Whereas in 1939 there were twelve common carriers and a number of private carriers in intercoastal shipping, seven common carriers have discontinued intercoastal water services since 1953; only Sea-Land was providing regular common carrier service

[41] W. N. Leonard, *Railroad Consolidation under the Transportation Act of 1920*, New York, 1946, pp. 267–286; and *National Transportation Policy*, Senate Committee on Interstate and Foreign Commerce, S. Rep. 445, 87th Cong., 1st sess., June 26, 1961, pp. 249–262. For present-day controversies, especially as concerns the possibility of further economies of scale, see Richard B. Heflebower, "Economic Efficiencies (Rail: a Theoretical Model)," in *Transportation Mergers and Acquisitions*, Evanston, Ill., 1962, pp. 159–173; Kent T. Healy, *The Effects of Scale in the Railroad Industry*, New Haven, May 1961, pp. 2–5; and *Rail Merger Legislation*, Hearings before the Subcommittee on Antitrust and Monopoly, Senate Committee on the Judiciary, 87th Cong., 2d sess., Parts 1 and 2, June 12–July 11, 1962.

[42] Sec. 5(2)(b) of the Interstate Commerce Act and Sec. 408(b) of the Federal Aviation Act of 1958. See D. W. Carr and Associates, "Truck-Rail Competition in Canada," in *Royal Commission on Transportation*, Ottawa, July 1962, Vol. III, pp. 41–43.

[43] *Illinois Cent. R.R.—Control,—John I. Hay Co.*, Appendix I, pp. 28–29 and Appendix "B."

[44] Meyer *et al.*, *Economics of Competition*, pp. 235–238.

in both directions in 1961. Several others provided infrequent intercoastal sailings as part of round-the-world service or proprietory service for steel products and lumber.[45]

Only in the regulated motor carrier industry have entry controls had truly significant effects on the market structures in transport. Therefore, the effects of entry restrictions will be discussed primarily in terms of the motor carrier case.

Entry control had little effect on the organization of exempt motor transportation.[46] In the exempt areas of private carriage and for-hire trucking of agricultural products, the number of firms competing for the same types of traffic between pairs of points is still determined under free-entry conditions, that is, on the basis of economic factors such as the volume of traffic and the minimum scale for profitable operations. Nevertheless, regulatory policies have some influence on the number of exempt and private carriers, for the high rates often assessed by regulated truckers have increased the incentive to engage in private, exempt, and even unlawful for-hire operations. On the other hand, restrictions preventing private truckers from engaging in auxiliary for-hire hauling for return loads, and those on trip-leasing of trucks on return trips, limit the feasibility of some private and exempt carriage.[47]

[45] *Intercoastal—Any Quantity Class and Commodity Rates*, report recommended by ICC Examiner Jair S. Kaplan, October 30, 1962 (mimeographed), pp. 2–4. See supplemental statement of Morris Forgash in *Amendment to Section 15a, Interstate Commerce Act*, Hearings before the Senate Committee on Commerce on S. 1197, 87th Cong., 1st sess., Part 2, June–August 1961, pp. 807–820 and 919–924.

[46] Compare Ernest W. Williams, Jr., and David W. Bluestone, *Rationale of Federal Transportation Policy*, U.S. Department of Commerce, April 1960, pp. 10–21. Even before federal regulation began in 1935,the need for obtaining the economies of good load factors materially contributed to a reduction in the number of intercity bus lines. However, state certification, beginning about 1921, also contributed. The state commissions typically granted rights to render intrastate service to only one firm per route. Without state rights to serve intrastate passengers, interstate bus lines experience difficulties in maintaining high load factors, low unit costs, and profitable operations. Today, between large cities, there are often only two competing intercity bus lines. Typically, the lines of the Greyhound Corporation's nationwide system are in a position of market dominance. Under ICC entry control, Greyhound's position has been consolidated, though to a degree the Commission has given encouragement to the efforts of the National Trailways Bus System to establish a competing national system. See Meyer *et al.*, *Economics of Competition*, pp. 222–224; and *Interstate Commerce Commission Activities 1937–1962*, p. 202.

[47] H. Rep. 2425, 84th Cong., 2d sess., June 25, 1956, pp. 2–7; and *Lease and Interchange of Vehicles by Motor Carriers*, 68 M.C.C. 553, 558, 560–61 (1956). See also *National Transportation Policy*, pp. 49–85 and 507–546; and Dudley F. Pegrum, *Transportation: Economics and Public Policy*, Homewood, Ill., 1963, pp. 351–353.

The market structures in exempt for-hire trucking would provide the basis for an instructive comparison of the number and size distribution of firms under free-entry as compared with regulated-entry conditions. Unfortunately, such data are not available.

Even the total number of exempt trucking firms is not definitely known to the ICC. But the Commission has estimated the number of exempt for-hire truckers subject to its safety rules. In *Gray Area of Transportation Operations*, published in June 1960, the Commission estimated the number of such truckers at 30,666.[48] An ICC Commissioner testified in April 1962 that about 37,500 persons were operating about 200,000 vehicles under the exemption for agricultural commodities, although the ICC safety regulations had been served on only 22,820 such carriers.[49] The recent Doyle Report stated that exempt commodities were trucked by more than 9,000 commercial carriers which generally operated large equipment but not a large number of trucks per firm. Their principal operations were described as "subsequent to the initial farm to market movement, between commercial establishments and often for long distances in intercity movement." [50]

The exempt for-hire truckers, which may far outnumber the ICC-regulated truckers, operate in highly competitive markets. As territorial and commodity restrictions do not exist for transport of exempt agricultural commodities, the most likely assumption is that large numbers of firms compete for the traffic between points which have a heavy seasonal or recurrent traffic flow. The small-scale character of exempt trucking operations supports that assumption, as does other evidence in U.S. Department of Agriculture studies. According to this evidence, exempt for-hire truckers most frequently compete with other exempt carriers, and rates for exempt hauling are based on demand and supply conditions rather than on individual-carrier price policy or on agreements among carriers.[51] A USDA study of the role of truck brokers in the movement of exempt agricultural commodities

[48] Bureau of Transport Economics and Statistics, Statement No. 6010, p. 81.

[49] *Control of Illegal Interstate Motor Carrier Transportation*, Hearings before the Surface Transportation Subcommittee, Senate Committee on Commerce, in S. 2560 and S. 2764, 87th Cong., 2d sess., February and April 1962, pp. 99 and 108.

[50] *National Transportation Policy*, pp. 511 and 517.

[51] C. P. Schumaier, "Characteristics of Agriculturally Exempt Motor Carriers," *Conference on Private and Unregulated Transportation*, The Transportation Center, Northwestern University, October 29–30, 1962, pp. 3–4 and 8–11; and *The Role of Truck Brokers in the Movement of Exempt Agricultural Commodities*, U.S. Department of Agriculture, Marketing Research Report No. 525, February 1962, pp. 8 and 20–27.

found that, on the average, each truck broker booked loads for 118 truckers, the regional averages varying from 94 in Florida to 160 in the North Atlantic region.[52] This high average per broker suggests that a large number of carriers are in competition at each origination for volume traffic to principal destinations.

A recent USDA study, based on a sample of 1,514 exempt for-hire truckers hauling agricultural commodities (27 per cent of the 5,584 firms sent questionaires), reveals some significant indications of a many-firm market structure. Forty per cent, or 607 firms, reported operations with only a straight truck, or with one tractor-trailer rig, or with one of each of these vehicle types—the average firm had about 2.2 tractors and 2.5 semi-trailers. A number of exempt truckers reported operating several straight trucks or several tractor-trailer rigs, but only thirteen firms reported ten or more straight trucks per firm and only fifty and fifty-one firms reported 10 or more tractors and 10 or more semi-trailers per firm, respectively. The tonnage carried was concentrated in grain, livestock, milk and cream, vegetables, and fruits and berries.[53]

It can be concluded that the exempt trucking markets almost certainly conform to the large-numbers case, with an absence of dominant firms exercising price leadership but with the vigorous competition in rates characteristic of tramp shipping.

In sharp contrast to the many-firm and small-scale characteristics of exempt trucking under free-entry conditions, the market structures of regulated trucking have evidenced a marked reduction in the total number of carriers; a rapid growth of very large trucking firms; a decline in the number of competing regulated truckers to a small number in many markets (although a large number continues to exist in some); a substitution of rate bureau and group action for individual action and competitive determination of rates; and widespread substitution of service competition for rate competition. In short, in the transport of regulated commodities, the market structures have been substantially modified by entry control.

A study by the National Resources Planning Board of the first six years of federal motor carrier regulation found that entry and minimum rate controls had resulted in fewer interstate trucking firms, larger companies, and the organization of rate bureaus from the beginning.

[52] *Ibid.*, p. 13.

[53] Schumaier, *Characteristics*, p. 2; and *For-Hire Motor Carriers Hauling Exempt Agricultural Commodities*, U.S. Department of Agriculture, Marketing Research Report No. 585, January 1963, pp. 2–3, 6–10 and 13.

The strong influence of the NRA and ICC rate regulations was evident in the organization of more than twenty-five motor rate bureaus within a few months after regulation became effective in 1935. Such organization for concerted action, supported by ICC rate suspensions and minimum rate orders, reduced the independence of individual firms in making rates; resulted in higher, more stable, and more uniform rates; and tended to groove service into rigid molds.[54]

The total number of ICC-regulated freight motor carriers has not grown with the marked increases in total traffic and revenues. On the contrary, it has fallen from an estimated 26,167 in 1939 to 17,502 in 1959.[55] In contrast, the intercity ton-miles carried by Class I, II and III intercity motor carriers under the ICC rose from 19.6 billion in 1939 to 101.4 billion in 1959; and between 1939 and 1961, the total estimated freight revenues of Class I, II and III regulated truckers rose from $792.2 million to almost $7.5 billion.[56] Unless the economies of scale would have been sufficiently persuasive to have brought about a similar reduction in the number of firms under free-entry conditions, a wholly unlikely assumption in view of the economic characteristics of the trucking industry, the decrease in the number of truckers must largely be attributed to entry control.

A more significant measure of market structure is the change in the number of regulated truckers who divide the traffic between significant pairs of points. In many markets, the number of effectively competing certificated truckers has been drastically lowered by drop-outs, mergers, and numerous denials of new entries and extended services.[57] However,

[54] James C. Nelson, "New Concepts in Transportation Regulation," *Transportation and National Policy*, Washington, May 1942, pp. 216–32.

[55] C. S. Morgan, E. V. Breitenbach, and J. O. Riley, "The Motor Transport Industry," *Transportation and National Policy*, pp. 403–404; ICC, *73d Annual Report*, 1959, p. 57, and *76th Annual Report*, 1962, p. 75. In 1960, there were 14,879 motor carriers of property included in the ICC's statistics for such carriers—1,066 Class I carriers, 2,035 Class II carriers, and 11,778 Class III carriers. See ICC Statements No. Q-800, Year 1961; No. Q-850X, Year 1961; and No. 6203, June 1962. This may indicate an even larger drop in the number of ICC-regulated motor carriers since 1939—as do the data in *1962 American Trucking Trends*, American Trucking Associations, Inc., p. 13. But see Allan C. Flott's apparent understatement in *Transportation Mergers and Acquisitions*, p. 28.

[56] ICC, Bureau of Transport Economics and Statistics, *Intercity Ton-Miles 1939–1959*, Statement No. 6103, April 1961, p. 17; Statement No. 531, January 1953, p. 4; and *Transport Economics*, January 1963, p. 2.

[57] *Interstate Commerce Commission Activities 1937–1962*, pp. 26 and 199; and *ICC Administration of the Motor Carrier Act*, pp. 327–330 and 501. On the basis of samples of new service cases assigned in 1947 and 1953, the ICC reported in the latter source that 46.8 per cent of the applications for certificates and permits had been granted, the remainder having been denied, dismissed or withdrawn.

until the Commission's long-announced inventory of motor carrier operating authorities is effectively operating, only fragmentary data on the number of firms in each market will be available. These data come from field explorations, application and rate cases, and motor carrier directories.[58]

A considerable number of regulated truckers still operate on dense traffic routes between large, relatively close population centers. For example, David Axelrod found that between twenty-five and thirty-nine motor carriers of general commodities operated daily in 1961 between Chicago and such cities as Detroit, St. Louis, Milwaukee, Indianapolis, Cincinnati, and Minneapolis and St. Paul.[59] On the other hand, there are numerous light-density routes that are served by only two or three regulated carriers having like authorizations, or by one carrier in some instances.[60] Even on many routes generating fairly dense traffic flows, the number of general commodity motor carriers authorized to give single-line service varies from two or three up to six or ten common carriers.

Only about a dozen motor carriers of general commodities have been authorized to render single-line service on the regular long-haul transcontinental routes, and the numbers authorized between specific pairs of terminal cities are fewer. In 1963, the number of Class I motor common carriers authorized to transport general commodities in single-line service between Seattle or Portland and Chicago was two over direct routes and four over direct and circuitous routes; between San Francisco and Chicago, five over direct routes and seven over direct and circuitous routes; between Los Angeles and Chicago, six over direct routes and nine over direct and circuitous routes; between Seattle or Portland and Minneapolis-St. Paul, three over direct routes; and between Los Angeles and New York, two over direct routes and three over direct and circuitous routes (one of these, Navajo Freight Lines, Inc., through a controlled carrier beyond Chicago). Some additional general commodity motor carriers, such as Garrett Freightlines, Inc. and the Interstate System, provide through trailer or two- or multiple-line interchange service between transcontinental centers. The single-line transcontinental carriers, for example, Consolidated Freightways, Inc. and Pacific Intermountain Express Co., are among the largest trucking firms in the nation, and have registered rapid growth through mergers as well as additional traffic. Thus, a small

[58] *67th Annual Report*, 1953, pp. 59–60; *70th Annual Report*, 1956, p. 71; *71st Annual Report*, 1957, p. 47; *76th Annual Report*, 1962, p. 76; and *Interstate Commerce Commission Activities 1937–1962*, p. 252.

[59] *Transportation Mergers and Acquisitions*, pp. 110–111.

[60] *ICC Administration of the Motor Carrier Act*, pp. 189–190.

number of large-size carriers characterizes transcontinental market structures, with even fewer carriers authorized to render specialized service in liquid or dry bulk commodities.

The available data indicate, too, that only a few carriers are authorized to haul general commodities in single-line service over Pacific Coast and Intermountain routes. The number of regulated carriers competing intramodally in particular markets in 1963 was no greater than about ten. Thus, between Portland and the major California cities, there were six such motor carriers authorized to serve over direct routes and seven, over direct and indirect routes (one, Pacific Motor Trucking Co., is a Southern Pacific subsidiary); between Seattle and Tacoma and major California cities, four carriers by direct routes and five by direct and indirect routes; between Salt Lake City and the major California cities, six carriers by direct routes and seven by indirect routes; between Portland and Southern Idaho and Utah cities, four carriers over direct routes; and between Seattle and Portland, ten carriers over direct routes.[61]

Entry control has contributed to a marked increase in the size of many regulated truckers. In 1939, the largest carrier had revenues of $6.6 million; and only fifty-nine carriers had revenues in excess of one million dollars. By 1960 and 1961, there were about 965 regulated truckers engaged in intercity service with revenues of one million dollars or more—they accounted for 67.2 and 66.2 per cent of the total revenues of Class I, II, and III regulated truckers in those years, respectively. In 1961, Consolidated Freightways Corp., the largest regulated trucker, had revenue of $86.8 million; and among the 100 largest involved as acquiring carriers in unifications with other regulated truckers were thirty-three firms having revenues in excess of $10 million, and thirteen firms with revenues in excess of $20 million each.[62] In 1961, there were 181 Class I common carriers of general commodities having revenues in excess of $5 million, compared with 154 such large carriers in 1959; of the 1961 group, twenty-three had revenues of more than $20 million and 86 had revenues of $10 million or more.[63]

[61] See my testimony in the *Western Pacific Control Case*, ICC Finance Docket Nos. 21334–21335, Exhibit No. 136, July 31, 1961, pp. 7–14.

[62] ICC, *76th Annual Report*, 1962, pp. 27, 221, and 230–231. Tables showing participation of the 100 largest motor carriers of property have been included in all ICC annual reports, beginning with the 1958 issue. For 1939, see *Transportation and National Policy*, pp. 210 and 403.

[63] John W. Jalonen, *Financial Position of the Motor Carrier Industry for 1961*, American Trucking Associations, Inc., Washington, pp. 20–21 and 31. See Kent T. Healy, "The Merger Movement in Transportation," *American Economic Review*, May 1962, pp. 436 and 441.

Whether the degree of concentration in the trucking industry under regulated-entry conditions has become serious is a matter of some dispute.[64] Nevertheless, the evidence at hand indicates that concentration has been growing steadily as the combined result of restricted entries and the many mergers approved by the Commission. A large number of the mergers involved regulated carriers from the 100 largest.[65]

In a study published by the Senate Small Business Committee in *Trucking Mergers and Concentration*, Professors Walter Adams and James B. Hendry found that under the merger policies of the ICC the extent of concentration in the regulated trucking industries had become disturbing by 1956. Their data revealed that the largest Class I common motor carrier of general freight accounted for 1.84 per cent of the 1955 revenues of carriers of that class; and that the 100 largest common carrier truckers accounted for 44.62 per cent of the 1955 revenues of Class I regulated truckers of general freight (25.49 per cent of the 1954 revenues of all Class I, II, and III regulated truckers). Greater concentration was found in three of the groups of specialized common carriers—in household goods carriage, the four largest common carriers accounted for 49.1 per cent of the 1955 revenues of Class I household goods truckers; in automobile hauling, the twenty-five largest truckers earned 70.3 per cent of the 1955 revenues of the Class I automobile carriers; and in liquid petroleum carriage, the twenty-five largest truckers had 51.2 per cent of the 1955 revenues earned by Class I petroleum carriers.[66]

The Commission has not brought the Adams-Hendry series on concentration up to date, but it has reported some additional data in

[64] This is partly because of lack of data on the number and size distribution of firms in each market. Occasionally, data relating to the dominance of particular firms in specific markets can be found in ICC decisions, such as, for example, in *Substituted Rail Service between Jackson, Miss., and New Orleans, La.*, decided December 27, 1962 (mimeographed), pp. 5–7. Here, there were five motor common carriers authorized to transport general commodities between St. Louis and Jackson and New Orleans, but the tonnage data given for shipments by each firm between those points were for varying periods, thus not designed to reveal dominance. The proposed substituted trailer-on-flat-car service, by Dixie Highway Express, Inc., between those points was found unlawful because Dixie's highway routes were circuitous compared with those of motor competitors and of the Illinois Central and "Dixie would be in a position to compete for traffic which it cannot handle over its authorized routes as economically as can its competitors."

[65] *Interstate Commerce Commission Activities 1937–1962*, pp. 117, 150–153, 197–200, and 202–203.

[66] *Trucking Mergers and Concentration*, Hearings before the Senate Select Committee on Small Business, 85th Cong., 1st sess., July 1957, pp. 240, 242, 250, 252, 255, and 320.

its recent annual reports. A summary of the data on the percentage distribution of carriers and revenues, by revenue groups, is given in Table 1.

The above data indicate clearly that the growing concentration revealed in the Adams-Hendry study continued after 1955. Taken in conjunction with the small numbers of regulated truckers competing on many routes and the tremendous scale achieved by some firms, the data warrant an expectation that in many markets a structure now exists conducive to an oligopolistic pattern of action on rates.[67]

Whether or not the surviving regulated truckers on each route would engage in intramodal price competition under unregulated conditions, it seems certain that entry control has encouraged a reduction in the number of firms in many highly fragmented markets and in those having dense traffic flows. The dominance of very large firms obviously has facilitated concerted action on rates, now universal under regulated conditions.

TABLE 1

DEGREE OF CONCENTRATION IN REGULATED TRUCKING, 1957-59

Regulated Carriers, by Revenue Group (million dollars)	Per Cent of Carriers			Per Cent of Revenues		
	1957	1958	1959	1957	1958	1959
General commodity carriers:						
Over 10	0.97	1.11	1.40	32.84	34.71	39.48
5-10	1.35	1.31	1.76	17.09	15.72	16.77
Total	2.32	2.42	3.16	49.93	50.43	56.25
Over 1	9.64	10.32	11.44	79.52	80.23	82.50
Household goods carriers:						
Over 10	0.32	0.36	0.40	39.12	41.78	41.48
5-10	0.32	0.36	0.59	9.41	10.57	15.64
Total	0.64	0.72	0.99	48.53	52.35	57.12
Over 1	2.28	2.37	2.77	64.26	67.71	70.67
Special commodity carriers:						
Over 10	0.15	0.21	0.32	6.94	10.88	14.69
5-10	0.55	0.46	0.61	12.93	10.14	11.22
Total	0.70	0.67	0.93	19.87	21.02	25.91
Over 1	6.03	6.05	7.23	55.83	56.86	61.02

Source: *75th Annual Report of the Interstate Commerce Commission*, Fiscal Year 1961, p. 79.

[67] Robert A. Nelson, "The Economic Structure of the Highway Carrier Industry in New England," in *Public Transportation for New England*, The New England Governors' Conference, November 1957, pp. 40–41. See also W. David Maxwell, "The Regulation of Motor-Carrier Rates by the Interstate Commerce Commission," *Land Economics*, February 1960, pp. 79–91.

In addition, entry control has supported the use of government power to curtail the intramodal rate competition not curbed by rate bureau procedures and agreements. With fewer and larger firms, the rate suspension and minimum rate procedures can be utilized more effectively to thwart independent action. It seems pertinent that the number of rate adjustments filed with the ICC which were protested has risen markedly from 567 in 1946 to 5,170 in 1962. The number of the protested rate adjustments involving rate decreases, i.e., protests by carriers against rate competition, has risen even more rapidly—from 227 in 1946 to 4,712 in 1962, or from 40 per cent to more than 90 per cent of the total. In recent years, almost 50 per cent of the protested rate agreements have been suspended by the ICC.[68] A sample study of formal ICC decisions during 1955 revealed that 70.9 per cent of the suspended rate reductions had been disapproved by the ICC.[69] Entry control has been a factor in elimination of intramodal rate competition, such as is characteristic of exempt trucking.

Whether effects of entry control on the market structure, noted above, promote or obstruct the general interest depends on the effects of fewer and large-scale firms on unit costs and on the availability and quality of service. A key aspect is whether the trucking industry is subject to economies of scale. If the very large regulated firms that have emerged have yielded marked economies of scale or utilization and/or distinctly improved services, there would be little reason to object to the trends, provided regulation, or the remaining intramodal and intermodal competition, had been effective in passing on such economies to consumers. Even so, attention would have to be given to the cost-increasing effects of many certificate and permit restrictions and of the processes for administration of regulation. But in the absence of substantial economies of scale or utilization, not attainable under free-entry conditions, the entire economic case for employing entry control to stimulate oligopoly or duopoly organization would have to rest on the possibilities for improved services.

Although rational limitation of the number of firms to encourage large-scale trucking depends on specific knowledge of cost behavior, the Commission has never published a study designed to throw real light on the economies of scale in trucking. When the Senate Small

[68] James C. Nelson, *Railroad Transportation and Public Policy*, Washington, 1959, p. 140; and ICC, *76th Annual Report*, 1962, pp. 42–43.

[69] James C. Nelson, *Railroad Transportation*, p. 142. See *ICC Administration of the Motor Carrier Act*, pp. 360–361, for the Commission's admission that entry limitation is indispensable to regulation of minimum rates.

Business Committee requested such information in 1955, the Commission was unable to report data other than on operating ratios by size of trucking firms. The data submitted for Class I intercity motor carriers of general commodities showed somewhat more favorable operating ratios for groups of carriers with the larger revenues. Pressed to comment on whether those data indicated that only large truckers can be efficient, Commissioner Mitchell testified in the negative and agreed that the lower operating ratios and higher profitability of some large firms often reflect factors other than scale economies, such as operations over good routes, participation in hauling profitable commodities, and the amount of competition.[70]

After reviewing the ICC motor carrier cost studies, John R. Meyer and his associates concluded that the "observable economies of scale in the trucking industry are . . . probably a function of the intensity to which a given geographical route pattern is utilized and not of the total volume of the firm"; and that such "economies of scale in a high traffic density are equally available to the absolutely large and small firm." [71] They found in recent studies by other economists that the differences in unit costs between trucking firms have largely been explained by variations in length of average haul, and concluded on the basis of all available evidence that "in the trucking industry the small and large firms are on a cost parity." [72]

The available data, therefore, do not necessarily suggest lower unit costs and rates for the public. Thus, except on routes of extremely light traffic, economies of scale and utilization do not provide a firm basis for monopoly or oligopoly organization. On the other hand, since there are no, or only slight, diseconomies of scale in trucking, an industry organization with some or all large firms would not necessarily bring higher unit costs but might yield service improvements.[73] These might reduce the cost of agricultural, manufacturing, or marketing processes or yield service qualities of value in themselves. But if higher unit costs

[70] *Ibid.*, p. 195. Dr. Charles S. Morgan, long the Commission's Chief Carrier Research Analyst, inferentially drew attention to the Commission's lack of information on the economies of scale and stated that an "area which calls for searching analysis is the increasing concentration of regulated motor transportation into the hands of a relatively limited number of large carriers." See "The Function of Research in a Regulatory Agency," *ICC Practitioners' Journal*, May 1957, p. 833.

[71] Meyer *et al.*, *Economics of Competition*, p. 88.

[72] *Ibid.*, pp. 95 and 97. See Merrill J. Roberts, "Some Aspects of Motor Carrier Costs: Firm Size, Efficiency, and Financial Health," *Land Economics*, August 1956, pp. 230–236; and Healy, "The Merger Movement in Transportation," p. 441.

[73] George W. Wilson, "Current Criticisms of the Interstate Commerce Commission," *Current Economic Comment*, August 1959, pp. 14–15.

are imposed through emphasis on service competition, or if the total costs of regulation are significant, policies giving encouragement to large firms might have adverse economic effects even though diseconomies of scale were absent.

Only fragmentary information is available on the additional costs imposed by entry control on the numerous, highly restricted truckers.[74] However, the aim of promoting efficient operations has always been distinctly secondary to that of protecting the existing carriers in the Commission's entry cases. Regulatory emphasis has been on fostering greater profitability, more stability in rates and services, and less "destructive" competition. The Commission has largely ignored the cost-increasing effects of commodity authorizations insufficient for a return haul and of route authorizations forbidding use of direct routes.

The BIR study found that restrictions in certificates and permits of motor carriers had created large amounts of unnecessary empty mileage, additional mileage over circuitous routes, and idle truck time.[75] A more recent study sought to ascertain the economic effects of certificate restrictions on regulated motor carriers in New England. The carriers reported on the average that 17.2 per cent of total miles operated were empty in 1954; and that their average load factor was 60.5 per cent in intercity operation. The great majority indicated that their operations would be more efficient if their certificates were broadened.[76] The Senate Committee on Small Business reported several cases of wasteful operations from certificate restrictions that might have been avoided if alternate route applications had not been denied because they would increase competition, or if return-haul restrictions had not been placed on operating authorities.[77] In its proceeding, *Ex Parte* No. MC-55, the Commission invited comments from carriers and other parties on five proposals to relax restrictions on routes, gateways, radial points, and regularity of service for irregular-route carriers. A number of carriers replied that such restrictions caused poor service, wasteful additional mileage, empty mileage on return hauls, and partial loads, all of which contributed to higher costs of operation. For example,

[74] For example, in *The Maryland Transportation Company Extension—Specified Commodities*, decided June 19, 1959 (mimeographed, p. 4), elimination of the Frederick, Maryland gateway would have saved the applicant carrier 53.4 miles on each one-way trip, or $29.93 per trip. The application was denied, although 732 truckloads were transported between September 1957 and February 1958.

[75] S. Doc. 78, pp. 32–33, 70–72, 108–110, 116–117, 133–145, 153–156, 162–163, and 281–283.

[76] Robert A. Nelson, "Economic Structure," pp. 31–32.

[77] *ICC Administration of the Motor Carrier Act*, pp. 458–459, 461, and 507–508; and S. Rep. 1693, pp. 3–9 and 30.

the Pacific Eastern Refrigerated Lines, Inc., of Mount Vernon, Wash., submitted a tabulation showing that from 35 to 470 excess miles were required on each trip from Midwestern cities to Seattle, San Francisco, or Los Angeles because circuitous operations through Rapid City, South Dakota, were necessary under the carrier's operating authority.[78]

The Senate Small Business Committee in 1955 sought information from the Commission on the manner in which commodity, route, gateway, return-haul, service, and other restrictions affect operating efficiency and whether they result in lower rates to the public. Except for statements that limiting the number of carriers avoids "cutthroat and destructive competition" and "spreading of traffic too thin for economic operation," the Commission reported uniformly to the Committee that it had "no figures available as a basis for answering those questions." [79] Four years later, the Commission reported to the Department of Commerce that it still had no analyses of the effects of certificate restrictions on the cost and adequacy of service by motor and other types of carriers.[80] Neither Examiner Frank R. Saltzman nor Division 1 referred in specific terms to the wasteful mileage and other cost-raising effects of certificate restrictions. Instead, their reports in *Ex Parte* No. MC-55 emphasized the legal and protective aspects of that proceeding.[81]

Empty mileage from insufficient commodity or return-haul authority, added mileage from route and gateway restrictions involving circuitous routes, and idle truck time occasioned by commodity and class-of-shipper restrictions obviously increase excess capacity and raise unit costs. This is not true, however, where no return flow of traffic takes place, or when trucks must move circuitously or partially loaded for service reasons, or when seasonal traffic peaks necessitate more equipment than can be used fully at all times. Meyer and his associates estimated that only about 50 per cent of the physical capacity of trucking equipment is utilized.[82] Much of this unused capacity, because of the factors mentioned, cannot be considered an inefficient result either of competitive conditions or of entry restrictions. But as a recent Highway

[78] Statement filed by John S. Wallace, Office Manager, April 10, 1959.

[79] *ICC Administration of the Motor Carrier Act*, pp. 170–172, 205, 336–337, 339, and 343–345.

[80] Letter of September 11, 1959, from Robert J. Test, Acting Secretary, ICC, replying to inquiries submitted by me as Consultant to the Under Secretary of Commerce for Transportation, by letter of September 3, 1959.

[81] *Motor Common Carriers of Property—Routes and Service*, proposed report by Examiner Frank R. Saltzman, December 1959 (mimeographed), pp. 3–19; decision by Division 1, December 4, 1961 (mimeographed), pp. 12–22.

[82] Meyer *et al.*, *Economics of Competition*, p. 216.

Research Board study has shown, payload ton-mile cost, when a freight vehicle is empty on its return trip, "is closely equivalent to twice the unit payload ton-mile cost when an equivalent vehicle is loaded in both directions." Certificate restrictions creating the described effects obviously do elevate the unit costs and require a higher rate level to maintain services by restricted carriers over the long run.[83]

Such additional costs are socially wasteful unless more than offset by the economies of scale achieved by the less restricted carriers that become large firms, or by the economies of utilization achieved by such firms because of restrictions on competitors. As economies of scale do not appear promising, attention must be directed to whether restricted entry provides sufficiently higher average loads and average mileage per vehicle to yield cost reductions large enough to offset the added costs imposed on the highly restricted firms.

The HRB study, *Line-Haul Trucking Costs in Relation to Vehicle Gross Weights*, suggests that common carriers more frequently have full loads in both directions, and less frequently have wholly empty loads on return, than the private, exempt for-hire, or contract carriers. Thus, on the basis of a sample of 23,610 line-haul loadings in reports from 611 highway freight carriers involving 23,384 trailer combinations, 52.4 per cent of the loadings by common carriers were in connection with trips having full loads in both directions, while 7.9, 7.3, and 5.2 per cent of those by contract, private, and exempt carriers, respectively, were in that category. Only 13.9 per cent of the common carrier loadings were in connection with trips full in one direction and empty on return, whereas 57, 53.8, and 50 per cent of those of private, contract, and exempt carriers were in that category. On the other hand, the exempt carriers achieved the highest average annual mileage by trailer combinations (73,300 miles compared with 64,000 for common carriers, 59,000 for private carriers, and 46,700 for contract carriers). Likewise, the exempt carriers far more frequently operated their vehicles seven days per week than the other classes (77.8 per cent versus 26.6, 15.4, and 14.6 per cent of the common, contract, and private carriers, respectively).[84] By comparing a sample of twenty-five exempt carriers with 134 Class I and II regulated common carriers in the Middle Atlantic region, C. P. Schumaier found that the exempt carriers had an average load of about nine tons per round trip compared

[83] *Line-Haul Trucking Costs in Relation to Vehicle Gross Weights*, Highway Research Board Bulletin 301, 1961, p. 83; and Schumaier, *Characteristics*, p. 7. See supplemental statement of Morris Forgash, *Amendment to Section 15a, Interstate Commerce Act*, pp. 803–806 and 928.

[84] Bulletin 301, pp. 114 and 119.

with 10.1 tons for the regulated carriers. Applying the nine-ton average load to the line-haul costs per vehicle-mile of the regulated group yielded average costs of 43.8 mills per ton-mile, or a cost level of 4.5 mills, or about 11 per cent higher than the average costs for that group at the actual average load of 10.1 tons.[85]

The fragmentary data cited do not show whether the total economies of utilization attained by regulated carriers having adequate authorizations fully offset the additional costs forced on the more numerous highly restricted carriers. They refer to exempt and private carriers which are largely limited to exempt agricultural commodities for back-haul opportunities.[86] The higher percentage of two-way loads and the higher average loads of regulated common carriers compared with exempt carriers suggest that the regulated common carriers probably do attain at least modest cost economies from higher load factors, owing in part to the restrictions placed on their actual or potential competitors. On very low-density routes (i.e., with minimal trucking schedules) economies of utilization may justify limiting the number of firms or the operations of existing firms.[87] However, evidence of offsetting utilization economies due to certificate restrictions is hardly strong enough to validate the existing pattern of regulatory restrictions; nor can it be assumed that this pattern achieves lower total operating costs for all regulated and unregulated trucking services.

In contrast to entry control in Great Britain, the ICC type limits the number of regulated motor carriers and the scope of their operations rather than the total supply of truck equipment units in relation to the total demand for them. Any regulated motor carrier can add or subtract from the pool of truck and truck combinations which it maintains at will. Under such a scheme of entry control, and through regulated minimum rates which are often set high relative to costs and on a parity with rail value-of-service rates, the regulated motor carriers are pressed by market forces to engage in costly service competition. This is because intramodal rate cutting by certificated carriers as a competitive means of dividing traffic efficiently is greatly restrained by rate bureau procedures, rate suspensions, and minimum rate orders.

[85] Schumaier, *Characteristics*, p. 7. See *Costs of Operating Exempt For-Hire Motor Carriers of Agricultural Commodities*, U.S. Department of Agriculture, ERS-109, February 1963.

[86] Schumaier, *Characteristics*, p. 5. USDA interviews during 1962 indicated that only about 20 per cent of the exempt truckers engaged in any trip leasing for backloads.

[87] Meyer *et al.*, *Economics of Competition*, p. 221; Robert A. Nelson, "Economic Structure," p. 40.

Adding to the schedules offered is one means of service competition, especially in local and short-haul operations. But this decreases the average load and raises the unit cost of service. Excessive solicitation, another means of service competition, also raises the cost of service. C. P. Schumaier found that the line-haul costs per vehicle-mile of exempt carriers, for a gross vehicle weight of 60,000 pounds, were "very considerably below that for all carriers computed by the Highway Research Board . . . and for Class I and II common carriers in the Middle Atlantic region computed by the cost finding section of the Interstate Commerce Commission." [88] Also, line-haul payload ton-mile costs at similar percentages of loaded mileages were some 10 per cent lower for exempt carriers than for the predominantly common carriers in the HRB study; they were about 30 per cent lower than comparable ICC estimates for the regulated common carriers of general freight in the Middle Atlantic region, with total costs of exempt trucks well below the line-haul costs of the common carriers.[89]

Although the reasons for such cost differences could not all be documented, Schumaier noted that the additional costs of the common carriers for collection, terminal, and delivery operations not ordinarily performed by exempt carriers, had not been included in the comparison of line-haul costs. Among the factors cited for lower costs of exempt carriers were the payment of drivers on a commission, or share-of-revenues, basis rather than on a time and mileage basis; the minimum need for terminals, garages, and office buildings; and the considerably reduced need for administrative and sales overhead, because exempt carriers use brokers rather than salesmen and advertising, concentrate on full-load operations, and eliminate the need to file tariffs and to obtain operating authority.[90]

In addition to the cost-increasing effects for many carriers of certificate and permit restrictions, regulatory limitations on back hauls, and the emphasis on service competition in regulated markets, there are probably enormous direct and indirect administrative costs of special economic regulation. These must be set against the modest load factor economies which common carriers of general commodities, having adequate operating authorizations, probably attain in part as a result of entry restrictions. Comprehensive estimates of such costs, including both direct expenditures by the regulatory body and the expenditures by carriers and shippers for preparing and presenting

[88] Schumaier, *Characteristics*, p. 6.
[89] *Ibid.*, pp. 7–8.
[90] *Ibid.*, p. 8.

evidence before regulatory bodies and the courts, appear generally to have been ignored.[91]

In the 1955 hearings before the Senate Small Business Committee, representatives of the Commission acknowledged that the costs associated with regulation do increase the cost of transport, particularly in the case of motor carrier regulation which accounted for more than 40 per cent of the Commission's work.[92] This cost increase was regarded as a price to be paid for the benefits of regulation. The $22.6 million appropriated to the Commission for fiscal 1963 is only a small fraction of the total expenditure. The parties pay for participation in cases, for legal fees, for purchases of operating rights having monopoly value only because of entry restrictions, and for protective activities connected with regulation.[93]

The costs of regulation can only be illustrated. The Bee Line Express Co. of Birmingham, Alabama, a small carrier specializing in service to small towns, spent approximately $1,500 for an application in which the Commission granted limited authority to serve Albertville, Alabama (population, 5,037) but declined to approve service to Boaz, Alabama (population, 3,078). The Shipley Transfer Co., of Baltimore, spent $9,000 in attorney fees to process its applications for operating authority in liquid latex. The company did not obtain satisfactory grants despite strong shipper support. The Yeary Transfer Company's estimated litigation expense to safeguard its rights under an agricultural exemption amounted to between $15,000 and $20,000. A study of merger applications approved in Volumes 57 and 59 of *Motor Carrier Cases* found that the average price paid for operating rights by the largest group of motor carriers was $45,852—that paid by other carriers was $12,157.[94] Such costs rest heaviest on the small carriers.

Unless load-factor economies for some carriers, because of entry restrictions on other carriers, are more than offset by the costs attributable to service competition under regulated entry and by the regulatory costs of protection from competition, it would appear reasonable to expect that the rates of regulated carriers, at least of large common carriers of general freight, would be lower than those of the exempt for-hire carriers and lower than the costs of private trucking. But the available data point precisely to an opposite conclusion.

[91] James M. Landis, *Report on Regulatory Agencies to the President-Elect*, 86th Cong., 2d sess., December 1960, pp. 9–11.

[92] *ICC Administration of the Motor Carrier Act*, pp. 96, 158, 210, and 325.

[93] ICC, *76th Annual Report*, 1962, p. 6.

[94] *ICC Administration of the Motor Carrier Act*, pp. 58–62, 92–94, and 97–102.

The removal of agricultural products from entry and minimum rate control has resulted in a sharp reduction in rates because new trucking entries occurred; existing firms shifted to hauling the freed commodities; regulated carriers met the rate competition of exempt carriers; and rates again were fixed by demand and supply forces rather than by administered pricing. The USDA found that truck rates charged by carriers during 1956–57—the first years of free-entry—were approximately 33 per cent below the 1952 rates on fresh poultry, and 36 per cent below the 1955 rates on frozen poultry.[95] Truck rates on frozen fruits and vegetables during 1957 ranged from 11 to 29 per cent below the regulated rates in 1955.[96] Another USDA study reported that rates on exempt agricultural commodities had remained relatively stable during the last decade while rates on regulated commodities had gradually risen; and that despite lower exempt rates, sufficient capital investment had occurred to provide growing capacity and modern equipment for exempt trucking.[97] A follow-up study revealed that freight rates on frozen fruits and vegetables since August 1958, when those commodities were again placed under regulation, had changed notably, with increases predominating.[98]

The lower rates under free-entry conditions do not necessarily indicate that the costs of service competition and regulatory processes completely offset the utilization economies which some regulated carriers obtain. They may reflect lower labor standards and lower labor earnings under exempt carriage, or an incentive compensation system for drivers of exempt trucks that lowers operating and maintenance costs. Very likely, too, monopoly pricing under rate agreements and sympathetic minimum rate regulation accounts for part, or possibly most, of the differentials in rates above those in free-entry markets. To the extent this is true, regulation must be ineffective compared with free competition in passing on utilization economies to the public. In any case, evidence is scarce to support an assumption that entry restrictions have netted the public a better deal in terms of rates. Although the USDA findings involved limited commodities and the

[95] *Interstate Trucking of Fresh and Frozen Poultry under Agricultural Exemption*, Marketing Research Report No. 224, March 1958, pp. 1, 3–4, and 67–78.

[96] *Interstate Trucking of Frozen Fruits and Vegetables under Agricultural Exemption*, Marketing Research Report No. 316, March 1959, pp. 1, 3–4, and 50–65.

[97] *The Role of Truck Brokers in the Movement of Exempt Agricultural Commodities*, p. 23. See Thomas C. Campbell, "Agricultural Exemptions from Motor Carrier Regulation," *Land Economics*, February 1960, pp. 14–25.

[98] *Supplement to Interstate Trucking of Frozen Fruits and Vegetables under Agricultural Exemption*, Supplement to Marketing Research Report No. 316, July 1961, p. 3.

deregulation effects pertained to relatively short periods, the restrictive design for entry control and minimum pricing, the lack of any significant economies of scale in trucking, and the continuing traffic diversion from regulated common carriers to unregulated carriers all logically support the expectation that the tendencies observed in the USDA studies would be fairly general. The Commission itself has stated that deregulation would mean lower competitive rates for shippers.[99]

At this point it is pertinent to question whether the effects of regulation on the availability and quality of truck service makes paying higher rates for regulated service worth while. Is service by larger and financially stronger carriers better than service by many small carriers and fewer large ones? If it is, would the shippers still choose to pay higher charges for regulated service than for somewhat less attractive service under unregulated conditions if both types of service were offered at rates reflecting their respective costs?

Although supporters of current regulation do not emphasize that the process inevitably leads to lower unit costs and rates, they do strongly claim that it results in improved service, greater financial responsibility to shippers, and greater public safety on the highways. Before the Senate Small Business Committee, the Commission claimed that "curtailment of entries for the purpose of limiting competition often is warranted as a means of developing a financially responsible and reliable transportation industry."[100] The Commission further stated that the fitness and willingness tests for operating authority provide "considerable assurance" that the licensed carrier will maintain his equipment in proper condition; will observe proper safety practices and hours of service for drivers; will maintain public liability, property damage, and cargo insurance; will observe the special safe handling requirements for explosives; and will be trustworthy, as the licensing procedure is a deterrent to gangsters, knaves, and irresponsible persons entering the trucking field.[101] Acknowledging that even regulated carriers prefer to serve points generating substantial traffic, the Commission indicated that "in some instances" it had imposed the duty of serving small intermediate points by including them in a carrier's certificate even though an authorization was not sought. The

[99] *ICC Administration of the Motor Carrier Act*, pp. 182–186, 326–327, and 336–337.
[100] *Ibid.*, p. 326.
[101] See *Investigation of ICC's Administration of Motor Carrier Act*, Hearing before a Subcommittee of the House Committee on Interstate and Foreign Commerce 86th Cong., 2d sess., August 30, 1960, p. 3; and *Independent Regulatory Commissions*, Staff Report to the Special Subcommittee on Legislative Oversight, the same committee, pp. 51–63, especially p. 58.

Commission also noted that entry controls have aided the small-town merchant and small manufacturers by insuring the availability and prompt transportation of less-than-truckload shipments by common carriers.[102] Manifestly, the Commission has been acting on the theory that restrictive entry regulation improves service, at least by the regular-route common carriers.

Several considerations enter into any over-all economic evaluation of the effects of entry control on service. The most obvious concerns the safety and hours-of-service regulations which undoubtedly have contributed to higher standards of public safety on the highways. As those regulations apply equally to private and exempt for-hire carriers which are not subject to entry control, it would seem that economic and safety regulation do not necessarily depend on each other. The convenience of having the same agency administer both safety rules and economic regulation does not make a logical case for economic regulation. Limiting numbers and encouraging the growth of very large carriers may simplify enforcement of safety regulations, but that advantage hardly justifies the resulting market structures. The same point applies to public liability insurance standards, which could be required without restrictive entry control. Fitness-and-willingness-to-serve tests to insure trustworthy and financially responsible carriers could be applied without restricting entry on grounds of competition.

In addition, there is no adequate market test of the shippers' general willingness to pay for higher service standards under regulated conditions. The large and continuing diversion of regulated commodities to private carriers, the widespread shipper use of gray area for-hire operations, and the quotation of low competitive rates by regulated carriers when they participate in hauling exempt commodities, suggest that substantial parts of the traffic now moving by regulated truckers would not continue to demand the presently high regulated service standards if lower-quality service at lower rates were amply supplied in the market.

Aside from these pertinent considerations, it is not at all certain that all regulated services conform to the high standards claimed by advocates of restrictive entry policies. Thus, in its recent annual reports, the Commission has reported about 15,000 informal complaints each year from shippers and receivers of freight, passengers, and others, alleging unsatisfactory service or unlawful practices.[103]

[102] *ICC Administration of the Motor Carrier Act*, pp. 166–168, 172–174, 342, and 507.

[103] For example, see *76th Annual Report*, 1962, pp. 113–114. See *Independent Regulatory Commissions*, p. 62.

Numerous complaints of underestimating charges, slow payments for loss or damage, delayed deliveries, and other service deficiencies have long been levied against household goods carriers and have been the subject of ICC proceedings (during 1960, there were 2,338 shippers making such complaints).[104]

Before the Senate Small Business Committee, Commissioner Anthony F. Arpaia testified that there "is not a shipper in this country who would not prefer to have single-line haul."[105] But it is precisely the route and territorial restrictions in certificates and permits and the denials of applications for new or extended operating authority that prevent numerous capable and efficient motor carriers from competitively offering improved single-line service where it is now unavailable. The formation of long-haul transcontinental and regional truckers, through end-to-end mergers, has been alleviating the single-line service deficiency to an extent. However, this has resulted in dominant firms, duopoly and oligopoly markets, and no relaxation of service rigidities due to regulatory restrictions.[106] Despite the common practice of trailer interchange for truckload shipments, there is still a vast amount of interchange of traffic that might be avoided were it not for operating authority restrictions. In fact, evidence exists in extension and new-service application cases, such as in *Wilson Extension-Dairy Products*, that lack of sufficient opportunities for single-line service has been an important factor in driving shippers into operation of leased or private trucks.[107] A representative of Land O'Lakes Creamery testified before the Senate Small Business Committee that, though he had sought single-line service from common carriers, his company had been unable to obtain the requisite service on an efficient basis and had to turn to a lease-type operation and finally to private trucking when advised by the ICC that leasing was unlawful.[108]

[104] *Ex Parte* No. MC-19, *Practices of Motor Common Carriers of Household Goods*, recommended report by Examiner Richard S. Ries, served June 15, 1962, pp. 3–5, 7, 11, 13, 18, 30, and 36. See also *Traffic World*, March 16, 1963, pp. 5–10.

[105] *ICC Administration of the Motor Carrier Act*, p. 176. See also *Interstate Commerce Commission Activities 1937–1962*, p. 200; and *T.S.C. Motor Freight Lines Extension—New York*, 62 M.C.C. 499, 501–502 (1954).

[106] See Allan C. Flott, *Transportation Mergers and Acquisitions*, pp. 27–29; ICC, *70th Annual Report*, 1956, pp. 75–77; *71st Annual Report*, 1957, pp. 53–56; and average-haul-per-carrier data in supplemental statement of Morris Forgash, *Amendment to Section 15a*, pp. 870, 883–895, and 908–913.

[107] 61 M.C.C. 51, 52–53 (1952).

[108] *ICC Administration of the Motor Carrier Act*, pp. 30–39.

Agricultural associations, cooperatives, and the USDA have long defended service by exempt truckers. They have strongly opposed adoption by the Congress of restrictive entry control and minimum rate regulation for those carriers, or adoption by the Commission, under pressure from regulated carriers, of leasing rules making trip-leasing on back hauls unlawful.[109] Agricultural groups have claimed they not only benefit from lower rates under free-entry conditions but also from maintenance of greater service flexibility and more ample supplies of service. The ability of exempt haulers to travel on short notice to a given producing area and to transport perishable products to any destination, provides flexible services of a type that cannot be rendered under limited certificates or by the railroads. Using an exempt carrier, a shipper can start his product moving while he is finding a market, and has maximum freedom to divert shipments in transit to any market, without transferal of lading to another carrier who has the requisite operating rights and without costly delays. The tendency of exempt truckers to migrate from area to area during periods of peak harvest operations provides a more ample supply of trucks than regulated carriers could supply efficiently.[110] Unless extremely wide nonradial territorial grants were made, it would not be possible for certificated truckers to meet peak agricultural demands without maintaining many trucks that could not be utilized much of the year.

Other studies by the USDA throw further light on the effects of regulation on trucking service. These studies sampled opinions of agricultural processors on service characteristics before and after court decisions making for-hire motor transport exempt from entry

[109] This position was reiterated recently by twelve national farm and related shipper organizations which declared "support of the approach of removal of minimum rate regulation from the transportation of agricultural and bulk commodities recommended to the Congress by President Kennedy on March 5, 1963." Press release of United Fresh Fruit and Vegetable Association, March 20, 1963, p. 1. See *Interstate Commerce Act—Agricultural Exemptions*, Hearings before a Subcommittee of the House Committee on Interstate and Foreign Commerce, on H.R. 5823, 85th Cong., 2d sess., April 1958, pp. 66–69.

[110] Order M.V. No. 76940, Hearing No. 4313 of the Washington Utilities and Transportation Commission, June 25, 1962 (mimeographed), pp. 6 and 11. In peak harvesting seasons in eastern Washington, 1,500 trucks engaged in hauling sugar beets and 800 trucks in hauling potatoes; 80 per cent of these trucks were from other states. An easy-entry permit and freedom to negotiate rates were adopted for these seasonal agricultural carriers, but their authorized hauling was limited to hauls not exceeding 50 miles, over the objections of some shippers. The large intercity regulated carriers, including Consolidated Freightways, admitted they could not supply the needed service efficiently.

and rate control. Three-fifths of the processors of fresh and frozen poultry reported an increase in the number of for-hire trucks available after regulated entry ceased; about three-fourths of the processors of frozen fruits and vegetables had the same experience. In both cases, this effect was attributed primarily to entrance of exempt motor carriers into the field. The principal advantages of regulated motor carriers reported by processors of fresh and frozen poultry were better service, greater financial responsibility, greater reliability, and the expenditure of less managerial labor for supervision. Aside from higher rates, the principal reported disadvantages of regulated carriers were unavailability of sufficient trucks, unwillingness to serve off-line points, slowness in deliveries, and difficulties in obtaining service to distant markets. The principal advantages claimed for the exempt truckers hauling fresh and frozen poultry were a greater availability of trucks, faster service, and a greater willingness to serve out-of-the-way points and distant markets, while the principal disadvantages were less financial responsibility, unsatisfactory equipment, trucks not readily available, and the necessity of exercising more supervision.[111] Processors transporting frozen fruits and vegetables gave a similar report.[112]

In a subsequent study, the USDA sought to check on the effects of placing frozen fruits and vegetables back under entry and minimum rate control in 1958. In October 1960, 75 of the 107 processors in the earlier study were queried. While a majority reported that for-hire truck service had not changed, in the East, Middle West and the South "many processors reported that service needed by them became more difficult to find, particularly service to new markets." Some processors had entered or expanded private trucking in order to serve new origins and destinations—others had discontinued serving customers requiring less-than-truckload shipments. Charges were now uniformly made for stop-offs and the number permitted to complete loading or to make partial deliveries was being limited.[113]

Obviously, both service advantages and disadvantages accrue from regulated conditions as well as from free-entry conditions. But it must be concluded that service by exempt carriers has been adequate on the whole and that agricultural shippers, if given a choice, would often be unwilling to pay the higher rates for whatever advantages regulated

[111] Marketing Research Report No. 224, pp. 2 and 44–55.
[112] Marketing Research Report No. 316, pp. 2–3 and 30–42.
[113] Supplement to Marketing Research Report No. 316, p. 3.

service may have.[114] However, without more facts on shipper willingness to pay when both superior and inferior services for industrial products are available at appropriate prices, it cannot be definitely known whether net gains or losses to shippers have accrued from regulation in that sector. Nevertheless, the continuing diversion of industrial traffic to private or leased trucking must be attributed either to the higher rates charged by regulated carriers, or to inadequacies in the services rendered by the regulated carriers.[115]

Conclusions

Entry control came late in modern American transport development and has been applied most vigorously where it was needed least. Conceptually a tool for preventing overinvestment in fixed-cost industries and for achieving the economies of scale, it has been most used in the competitive modes of transport having small fixed costs and slight, if any, economies of scale in terms of size of firm.

In the transport industries having large fixed costs and marked economies of scale, direct entry control has not been employed. Thus, the oil pipeline industry was organized as a natural monopoly without government limitation on entry. And the railroad industry, for better or worse, was organized into its long-existing oligopolistic patterns without entry regulation other than the controls separating the modes of transport and preventing monopoly firms. On the other hand, in motor trucking, government entry control has limited the number of firms and encouraged large firms in spite of the small fixed investments and the negligible evidence that large firms were more efficient than small or medium-size firms.

With its handmaiden, minimum rate control, entry limitation was adopted by the Congress as an alternative to deregulating the railroads in the 1930's and as a measure for protecting these carriers from the forces of depression and the competitive onslaughts of new modes of transport. But whatever the design of the Congress, the ICC's interpretations of the Motor Carrier Act and the Transportation Act of

[114] In Docket No. 32912, *Rates on Formerly Exempt Commodities*, a traffic representative of the USDA testified in favor of maintaining the present diverse tariffs that offer the shippers a choice of rates on the same commodity between the same pair of points, for the reason that "the low-rate carriers may render a service suitable for the warehousing or marketing of numerous commodities which do not require a minimum of in-transit time to fulfill shipper needs, and leave the high-rate carrier for those shippers which demand fast in-transit time to meet their obligations." Testimony of Clarence H. Williams, March 1963, p. 4.

[115] *National Transportation Policy*, p. 509.

1940 have been highly restrictive of intramodal competition in the trucking industry and protective of the "grandfather" carriers (particularly those of large size) and the regular-route common carriers of general commodities. Thus, entry regulation has become a means of bringing about soft rather than hard competition between motor carriers, through extreme fragmentation and itemization of markets. Along with minimum rate control, it has fostered administered pricing and service competition.

To many transport people, a most surprising economic effect of protective entry control has been its adverse long-term impact on the economic position of the very carriers it was supposed to strengthen. By stimulating a rate parity policy based on value-of-service rates, and by channeling competitive forces into service competition, protective regulation has contributed importantly to the decline of the railroad common carriers in the spheres of traffic and haul in which they have substantial cost superiority. Instead of meeting price competition with motor carriers, the railroads were encouraged to play the fair-share-of-the-market and service-competition games until the resulting deterioration in their traffic and revenue positions finally forced a change in competitive policy.

Through substitution of private carrier, exempt carrier, and gray area transport for regulated common carrier service, the shipping firms have often had effective tools for avoiding the high rate and inflexible service effects of administered pricing and of operating authority limitation. But the safety valves of private and exempt or unlawful for-hire carriage have not saved the shippers and receivers, and through them the entire public, from all uneconomic effects of protective entry control of competitive transport industries.

Since economies of scale in size of firm have not been found in motor trucking, beyond very small companies, it seems likely that the cost level for regulated trucking as a whole tends to be higher than it would be under free-entry conditions. The costs—probably enormous—to carrier and shipping firms of detailed regulatory procedures must be added to other costs. The higher cost levels forced on numerous specialized motor carriers, whose back-haul, direct-route, full-load, and full-service opportunities have been limited by restrictions in certificates and permits, have to be considered. The imposition of restrictions on operations that result in inefficient use of resources can only raise the transport costs for those who must use highly restricted carriers, without necessarily reducing the cost level for those served by carriers not subject to burdensome restrictions. While a distinct possibility exists that the

favored regulated carriers may be able to operate with modestly higher load factors because of restrictions placed on competitors, the higher costs occasioned by service competition, the administration of regulation, and burdensome restrictions probably offset such economy gains.

Whether because of the higher costs of trucking operations under restrictive and protective regulation or because of the monopoly power of regulated carriers through association in rate bureaus and entry restrictions, rates for regulated motor service are typically higher than rates in free-entry trucking. If service by regulated carriers is worth the differentials in rates, the higher costs and rates might be economical. But there is little clear evidence that the economies to shippers from regulated services justify the higher rates. Where alternatives exist, the shippers voluntarily resort to private, exempt, and gray area types of carriage. Agricultural shippers strongly oppose the extension of regulation to the present exempt areas. Industrial shippers as strongly oppose even the submission of private carriage to a registration requirement so that the regulatory body can know the total number and location of such carriers and their facilities. The current strong shipper support for a policy of deregulation suggests that regulated services are not generally regarded as worth the higher rates. Industrial shippers, as well as agricultural shippers, have come to believe that adequate standards of service can be expected under competitive conditions.

Brief attention should be accorded the view that the economic effects of entry control have been slight because competitive organization has not been eliminated in motor trucking. While it may be true that there are enough other firms in some markets to facilitate effective competition, the fact remains that the number of regulated truckers has been reduced in many markets; very large carriers are achieving a dominating position through mergers, entry denials, regulatory restrictions, rate suspensions, and minimum rate orders. Price competition between regulated motor carriers has been dampened almost to the point of extinction.

Finally, with essential data at many points deplorably inadequate, definitive information on some of the final economic effects of entry control will have to await the publication of data from the ICC's inventory of motor carrier operating rights. Further research is needed by the ICC and others into economies of scale and utilization and other critical areas bearing on the economic consequences of entry control as presently practiced in surface transport.