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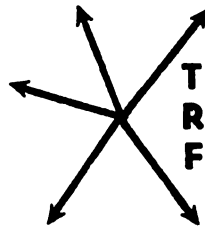
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**TRANSPORTATION RESEARCH FORUM**

# The Impact of Conglomerates on Domestic Transportation: An Empirical Assessment

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**THE FUNDAMENTAL** economic functions of corporate mergers and acquisitions are to maximize profits, minimize losses or stabilize earning power.<sup>1</sup> Conglomeration of an industry, moreover provides risk diversification, certain tax advantages, conceivable securities manipulation and in some instances inordinate economic and political influence. As a conglomerate firm becomes more concentrated, the organization achieves the ability to shift resources into functional areas that provide maximum profits.

The primary purpose of this paper is to succinctly review the relative importance of the conglomerate movement in transportation and to report the results of a survey of transportation managers to assess the impact of conglomerates on carrier service offerings, price, and dependable service.

## CONGLOMERATE INTEREST IN TRANSPORTATION FIRMS

With the twentieth century industrialization of western civilization, numerous forms of business enterprises have developed and evolved over the years. Since 1900, moreover, the United States has undergone three separate identifiable periods of time wherein the merger of corporate entities dominated the business environment. That is to say, acquisitions and mergers activities within these three time frames have occurred in terms of vertical, horizontal, and market classifications. Indeed, the latest distinct time frame started around 1950 and has intensified since.

Although there are numerous ramifications and facets of mergers, the contemporary merger movement has taken place in the area of conglomerates primarily in order to diversify risk. Or, a conglomerate is merely a corporation that has expanded and diversified its basic business activities and product line

offerings through the acquisitions of other corporate entities. There is no question but that this conglomerate form of consolidation has primarily evolved and developed because of certain merger limitations levied upon horizontal and vertical types of mergers, i.e., The Antimergers Act of 1950.<sup>2</sup> This particular legislation was designed to eliminate a substantial loophole in the existing antitrust statutes.

The merger movement has recently undertaken an inordinate expansion.<sup>3</sup> During the past decade, for example, the various mergers and acquisitions of corporate entities have been expanding at the fastest rate experienced in industrial history, and during fiscal year 1968 approximately \$43 billion in securities<sup>4</sup> were expended to acquire other business firms, and over 4,000 mergers<sup>5</sup> and acquisitions took place.

The primary purpose of financial consolidation is either to maximize profits, minimize losses, or to stabilize corporate earning power. In order to accomplish these particular objectives, conglomerates appear to offer diversification of risk, certain tax advantages, possible stock manipulations, and economic and political power. In this regard, as a conglomerate's position intensifies in terms of economic concentration, the entity develops the ability and options to transfer resources into the areas where the greatest profits can be derived. This particular activity has been termed cross-subsidization and in terms of public policy, constitutes one of the very serious areas of possible abuses of conglomerates particularly in the for-hire transportation industry.

Serious public policy implications develop because of the possible damaging effect of the shifting of resources to the area of higher returns. In this regard, the rate of return of companies in the transportation industry has been inordinately low when compared to the earnings of other industries.<sup>6</sup> Because of the low rates of return, the potential redistribution of resources is a way from the transportation companies particularly in the rail industry. That is to say, the carriers earning the resources which offer potential diversion into other areas of higher returns have a tendency to do so. This in essence is a major threat to the carriers and to the public. If the con-

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glomerate divers the carrier's resources and assets, how can the carrier still be expected to provide service to the public and to satisfy general transportation needs?<sup>7</sup>

One area of public policy interest has been conglomerate activity in the motor carrier industry. While motor carriers are not prone to diversify, noncarriers are buying motor carriers for such reasons as: (1) growth of the industry; (2) profit of a firm; (3) leverage availability due to high capital turnover rates and rapid cash flows; (4) low profit earnings ratios of motor carrier stock are appealing; (5) many carrier owners want to sell due to age; (6) owners prefer selling the noncarriers; and (7) better price because other carriers want the rights while noncarriers may need equipment.<sup>8</sup>

The controversy concerning conglomerates in transportation is primarily centered on the railroads; the main reason being the relative importance of those carriers. In fact there has been little motor carrier activity in nontransportation markets.

To add to this complicated and potential damaging effect to the public interest, there is a regulatory void. That is to say, the regulatory void exists in the area of noncarrier acquisitions of a carrier which actually facilitates the conglomerate movement. Section 5 applications involve carriers earning more than \$1 million, but if a noncarrier desires to control a carrier and does not directly exercise control over another carrier, Section 5 does not apply. That is, based on the ruling in the Louisville and Jefferson Bridge Railroad Company merger cases,<sup>9</sup> Interstate Commerce Commission authorization is not required for a noncarrier to control a single carrier under the established legal system.

Although the conglomerate movement in transportation does pose the possibility of shifting of resources away from the carrier to nonpublic interest use and noncarrier activities, the primary purpose of this study is to examine the impact of the conglomerate firm on service, price, and dependability of transportation service offered to the industrial shipper. Indeed, a strong case can be made that any substantial shifting of resources from carrier activities can result in a deterioration of dependability and speed.<sup>10</sup>

In order to develop empirical data concerning these three factors, a sample universe of 450 traffic and transportation executives were selected randomly from the official Directory of Industrial and Commercial Traffic Executives from the 1975 edition. This particular directory provides a list of over 18,000 trans-

portation executives who are actively engaged in managing the traffic and transportation function in over 9,600 industrial firms throughout the United States and Canada. This universe is considered the total universe of such executives.

## ANALYSIS

The first question asked the respondent to rank the three elements speed, dependability (consistency), and cost with respect to their importance in selecting and maintaining a transportation carrier. These three factors are normally considered the determining factors in carrier selection.<sup>11</sup> In this regard, Table 1 recapitulates the results of these rankings and illustrates that 92 respondents (69.3%) believed dependability to be the most crucial factor in selecting and maintaining a transportation carrier. This fundamental observation is further supported by the weighted average ranks which reveal the importance of the three elements as being: (1) dependability, (2) cost, and (3) speed. Obviously, these are three primary determinants of carrier selection because of a firm's ability to adjust inventory levels.<sup>12</sup>

To test the null hypothesis that no agreement exists among the population relative to ranking of these three elements, a Kendall's coefficient of concordance ( $W$ ) was computed ( $W = .46$ ). This, in turn, was utilized to calculate Chi-Square ( $X^2 = 121.7, p < .001$ ).<sup>\*</sup> Thus, there is significant agreement among the sample population regarding the importance of these elements.

A second hypothesis to be tested was that the size of a firm (number of employees) would not be associated with the manner in which three previously mentioned elements were ranked. Firms were arbitrarily classified as small (1-999 employees), medium (1,000-9,999 employees), or large (more than 10,000 employees) and crosstabulated with the three most frequent rankings (representing 92.7% of respondents). Table 2 summarized the crosstabulation of a Chi-Square analysis of these data demonstrates significant dissimilarity ( $X^2 = 10.15, d.f. = 4$ ) at the .05 confidence level. This observation is significant because firm size is not similar in rating and ranking the relative importance of dependability, cost, and speed.

In order to reasonably compare conglomerates and diversified carriers with nonconglomerates and nondiversified

<sup>\*</sup>  $X^2 = k(N-1-W)$  with  $N-1$  degrees of freedom where  $k$  is the number of respondents,  $N$  is the number of items being ranked, and  $W$  is the Kendall coefficient of concordance.

TABLE 1

**HOW THREE KEY ELEMENTS OF TRANSPORTATION CARRIER  
SELECTION AND MAINTENANCE WERE RANKED**

	No. of Respondents	(%)	Element Rankings		
			Dependability (Consistency)	Cost	Speed
	68	(51.1)	1	2	3
	24	(18.2)	1	3	2
	31	(23.5)	2	1	3
	4	( 3.0)	2	3	1
	3	( 2.3)	3	1	2
	2	( 1.5)	3	2	1
<b>Total</b>	<b>132</b>	<b>100.0</b>	<b>Weighted Average Rank 1.33</b>	<b>1.95</b>	<b>2.70</b>

Kendall Coefficient of Concordance (W) = .46, p < .001

TABLE 2

**CROSTABULATION OF RANKING OF KEY ELEMENTS OF  
TRANSPORTATION CARRIER SELECTION AND MAINTENANCE  
OF SIZE OF FIRM (NUMBER OF EMPLOYEES)**

Size of Firm	Rankings			Total
	#1 1. Dependability 2. Cost 3. Speed Number of Respondents	#2 1. Dependability 2. Speed 3. Cost Number of Respondents	#3 1. Cost 2. Dependability 3. Speed Number of Respondents	
Small (1-999 employees)	31	11	11	53
Medium (1-000-9,999 employees)	19	12	8	39
Large (10,000 or more employees)	18	1	12	31
<b>Total</b>	<b>68</b>	<b>24</b>	<b>31</b>	<b>123</b>

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$$\chi^2 = 10.15, \text{ d.f.} = 4 \text{ (} p < .05 \text{)}$$

carriers, it was necessary to discover the number and ratio of respondents using either one, both, or neither of the aforementioned carriers. Table 3 reveals that the great majority of those surveyed (75%) employed the services of both types of carriers. Eleven firms (8.3%) only utilized diversified or conglomerate carrier services while 20 firms (15.2%) relied solely on non-diversified or non-conglomerate carrier services. It is important to recognize that the predominant number of respondents purchased transportation from both conglomerate and non-conglomerate controlled carriers and hence judged both objectively relative to the three quintessence factors being considered.

Question three asked the respondents to rate the service of diversified and conglomerate carriers with regard to the three elements speed, cost, and dependability as either excellent, good, fair, poor, or not applicable. Question four was identical except the service of non-diversified and non-conglomerate carriers were evaluated. It was hypothesized that no significant difference would be evident between the two ratings. Figure 1 illustrates a conspicuous inclination in favor of the non-diversified and non-conglomerate carriers for each of the three specified elements. Although the non-conglomerate controlled carriers exceeded conglomerate controlled carriers in each area, the singular greatest superiority appears to be in the cost category when 69% of the respondents perceived non-conglomerate controlled carrier cost to be lower than conglomerate controlled carriers.

Furthermore, Chi-Square analysis of the data in Table 4 specifies that this difference is significant (dependability:  $X^2 = 12.47$ ; cost:  $X^2 = 12.03$ ; and speed:  $X^2 = 12.93$ ) at the .02 level of confi-

dence. Thus, the null hypothesis of no difference between diversified and conglomerate and non-diversified and non-conglomerate carriers with respect to speed, cost, and dependability cannot be accepted.

The fifth question in the survey asked if the level of transportation services currently being provided was adequate. The majority of respondents (74%) replied in the affirmative. Additionally, service adequacy was cross-tabulated with type of carrier providing the transportation service. Table 5 discloses that 90 percent of firms whose service was provided by non-diversified carriers thought the service to be adequate; this corresponded with 81.8 percent and 70.7 percent for diversified and both diversified and non-diversified, respectively. This observation is important with respect to public policy because adequate service is one of four criteria for a certificate of public convenience and necessity. These data strongly suggest that adequate service is being provided by only a small number of carrier controlled by conglomerate organizations. Indeed, inadequate service conceivably could result from "resource" shifting from the public to private segments of the conglomerate firm.<sup>13</sup> Chi-Square analyses of these data did not reveal statistical significance at the .05 confidence level ( $X^2 = 3.61, p < .20$ ).

Question six was the first of three questions pertaining to laws governing transportation and industry and inquired as to the adequacy of laws under the Interstate Commerce Act. Seventy-six respondents (57.6%) replied that current laws are adequate while 42.4% felt the laws are not adequate. The principle reason for the respondents' perception of the existing legal deficiency is probably due to the widespread publicity in

TABLE 3

## TYPE OF CARRIER UTILIZED BY RESPONDING FIRM

Carrier Type	Number of Respondents	Percentage
Diversified or Conglomerate Carrier Only	11	8.3
Non-Diversified or Non-Conglomerate Carrier Only	20	15.2
Both	99	75.0
Neither	2	1.5
Total	132	100.0

## HOW DIVERSIFIED/CONGLOMERATE AND NON-DIVERSIFIED/ NON-CONGLOMERATE CARRIERS WERE RATED ACCORDING TO THREE KEY ELEMENTS OF TRANSPORTATION SELECTION AND MAINTENANCE

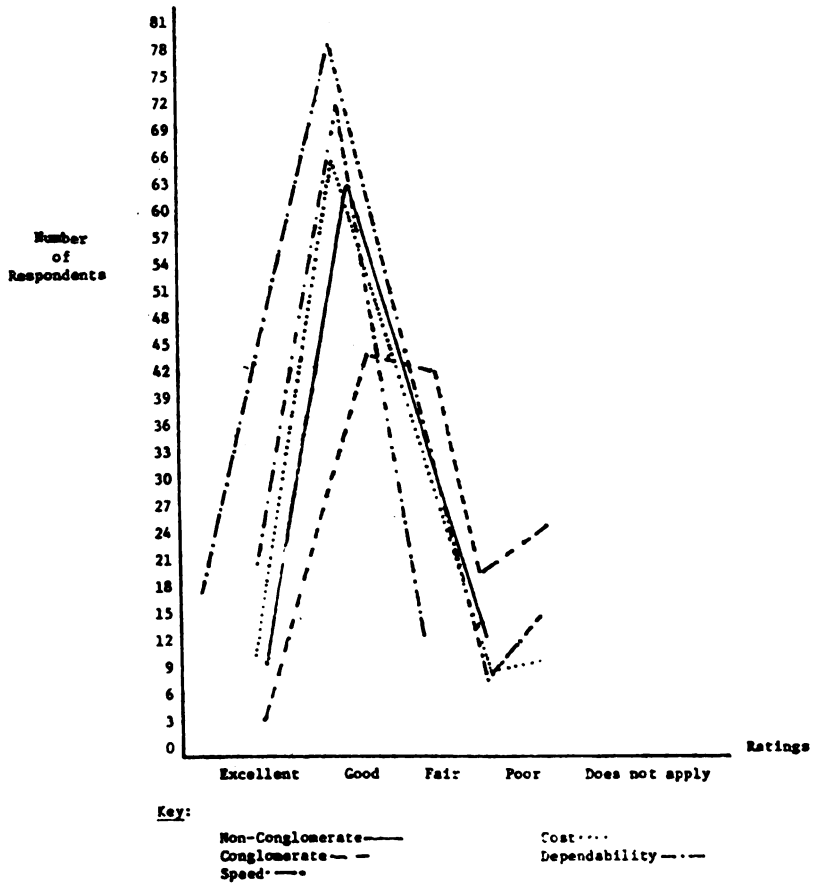


FIGURE 1

the shipper community by the Interstate Commerce Commission in attempting to encourage amending Section 5 of Title 49 of the U.S.C. to gain control over initial acquisition of carriers by conglomerates.<sup>14</sup>

Question seven was linked to the previous inquiry since respondents who previously specified that current laws were adequate were asked whether they believed current laws were sufficiently enforced. Forty respondents (52.6%) replied yes while twenty-seven of those surveyed (35.5%) responded negatively. The other nine respondents (11.9%) said they were uncertain.

The eighth question was posed in an attempt to discover if respondents felt

that transportation carriers who are owned by conglomerates should fall within the scope of the Sherman Antitrust Act. Eighty (60.6%) said yes and fifty-two (39.4%) answered no.

In addition to the aforementioned eight questions, several classification items were collected. The first item requested the number of people employed by the responding company. Answers ranged from 15 to 700,000 persons with an arithmetic mean of 18,000. A second item asked if the respondent was part of a diversified firm or conglomerate. Sixty-eight (51.6%) replied negatively and sixty-four respondents (48.4%) answered that they were part of a conglomerate or diversified firm. The pur-

TABLE 4

**HOW DIVERSIFIED/CONGLOMERATE AND NON-DIVERSIFIED/  
CONGLOMERATE CARRIERS WERE RATED ACCORDING TO  
THREE KEY ELEMENTS OF TRANSPORTATION  
SELECTION AND MAINTENANCE**

Transportation Elements	Ratings (# of Respondents)					Total
	Excellent	Good	Fair	Poor	Not Applicable	
<b>DEPENDABILITY:</b>						
Diversified/ Conglomerate	9	64	33	8	18	132
Non-diversified/ Non-conglomerate	19	77	25	2	9	132
	$\chi^2 = 12.47, 4 \text{ d.f. } (p < .02)$					
<b>COST:</b>						
Diversified/ Conglomerate	6	46	43	14	23	132
Non-diversified/ Non-conglomerate	10	69	33	7	13	132
	$\chi^2 = 12.03, 4 \text{ d.f. } (p < .02)$					
<b>SPEED:</b>						
Diversified/ Conglomerate	2	74	30	4	22	132
Non-diversified/ Non-conglomerate	14	79	23	4	12	132
	$\chi^2 = 12.93, 4 \text{ d.f. } (p < .02)$					

TABLE 5

**CROSSTABULATION OF SERVICE ADEQUACY AND TYPE OF CARRIER  
PROVIDING TRANSPORTATION SERVICE**

Type of Carrier	Service (# of Respondents)		Total %
	Adequate (%)	Inadequate (%)	
Diversified/Conglomerate	9 (81.8)	2 (18.2)	11 (100.0)
Non-diversified/ Non-conglomerate	18 (90.0)	2 (10.0)	20 (100.0)
Both	70 (70.7)	29 (29.3)	99 (100.0)
Total*	97	33	130
	$\chi^2 = 3.61, 2 \text{ d.f. } (p < .20)$		

\* percentages computed horizontally only.



pose of this question was to ascertain if the respondent per se was affiliated with a conglomerate firm. Interestingly, almost one-half of the respondents were affiliated with such firms, but their perception of carrier service and cost did not conflict.<sup>15</sup>

A third item asked the approximate annual sales in dollars for the firm. These data coupled with the previous question allowed testing of the hypothesis that size of a firm (in annual dollar sales) has no bearing on whether a company is part of a diversified firm or conglomerate. Chi-Square analyses of the data in Table 6 indicates that there is a significant relationship between annual dollar sales and whether a company is part of a diversified firm or conglomerate ( $X^2 = 20.46$ ,  $p < .01$ ). Thus, the null hypothesis cannot be accepted. This particular test, however, does not appear to effect the industrial shipper's evaluation of carrier dependability, cost, and service offerings.

Two other items of classification were requested — the first being the major activity of the firm, and secondly, the title or function of the executive who completed the survey. With respect to the former, 103 respondents (78.0%) listed manufacturing as the firm's major function, 15 (11.4%) specified wholesaling, 9 (6.8%) designated retailing, while 5 of those surveyed (3.8%) indicated some other activity or combination of the above. For the most part, the authors expected the inordinate number of manufacturers in the sample because this particular group comprises the bulk of the listing in the directory from

which the sample was drawn.

There were a number of different responses to title or function of the executive completing the survey, most common being either traffic manager, vice president of transportation, or vice president of distribution. This group, however, was restricted to shippers and excludes warehouse operators, carriers, government officials, and consultants.

## CONCLUSIONS AND RECOMMENDATIONS

The dichotomous purpose of this paper has been to examine and contrast the impact of transportation carriers controlled by conglomerate business enterprises with non-conglomerate controlled carriers relative to dependability, cost, and speed. A sample of traffic executives (transport consumers) were randomly selected and general consensus exists that in terms of dependability, cost, and speed, carriers not controlled by conglomerates consistently outperformed the conglomerate controlled firms. Standard statistical techniques such as Kendall Coefficient of Concordance, and Chi-Square analysis of variance were employed to both rank responses and to measure the differences existing regarding conglomerate and non-conglomerate controlled carriers. The data cogently suggests that in terms of dependability, cost, and speed, the non-conglomerate carrier is perceived as superior by the industrial consumer.

Because of the entrance of the conglomerate type firm into the common carrier field, the possibility for trans-

TABLE 6

### THE RELATION BETWEEN A COMPANY'S ANNUAL DOLLAR SALES AND WHETHER IT IS PART OF A DIVERSIFIED FIRM OR CONGLOMERATE

Company's Status	Annual Dollar Sales (# of Respondents)					Over 1 Billion	Total
	Under 10 Million	10-50 Million	50-100 Million	100-500 Million	500-1,000 Million		
Part of diversified firm or conglomerate	4	14	2	16	7	21	64
Not part of diversified firm or conglomerate	18	14	11	10	3	12	68
Total	22	28	13	26	10	33	132

$$\chi^2 = 20.46, \text{ d.f.} = 5 \text{ (} p < .01 \text{)}$$

ferring resources to noncarrier activities is substantial. In this regard, two recommendations are preferred. First, Section 5 of Title 49 of the U.S.C. should be amended by Congress to compel a noncarrier acquiring an ICC controlled carrier to first receive permission from the agency. On numerous occasions, the Commission has requested that Congress enact such legislation. Secondly, if Congress is not willing to amend Section 5, then the Interstate Commerce Commission should issue "limited term" certificates. This recommendation is important because common carrier obligations involve providing service to the full extent of their authority for a reasonable price.<sup>16</sup> Existing statutes require that the Commission examine service, price, and cost in new operating authority or in Section 5 proceeding. Either of these two recommendations appear justifiable given that the industrial shipper is receiving superior service, lower cost, and more dependable service from non-conglomerate firms than from carriers controlled by conglomerates.

#### FOOTNOTES

1 Conway L. Lackman, "Implications of Conglomerates for Transportation in the 1970's," *Transportation Journal*, Vol. 14, No. 1 (Fall, 1974), p. 31.

2 The effect of this Act is to limit the use of mergers on stock acquisitions to expand or control the distribution system. However, the law is designed to limit horizontal mergers primarily and not conglomerates.

3 Report of the Federal Trade Commission Economic Concentration, Part 8A, Hearings before

the Senate Subcommittee on Antitrust and Monopoly (Washington: U.S. Government Printing Office, 1969), p. 111.

4 "Assaults on the Conglomerates," *Time*, Vol. 93, No. 8 (February 29, 1969), p. 76.

5 "The War on Mergers Escalates," *Business Week* (August 19, 1969), p. 86.

6 "Transportation," *Forbes*, Vol. 103, No. 1 (January 1, 1969), p. 137.

7 Not all carriers controlled by conglomerates pose this potential threat to public policy. For example, consult James M. Daley, *An Empirical Analysis of Diversification Upon a Motor Carrier* (unpublished dissertation, University of Arkansas, Fayetteville, Arkansas, 1976).

8 Robert W. Burdick, "A Study of Diversification in the Motor Carrier Industry," *Transportation Journal*, Vol. 9 (Summer, 1970), pp. 27-30.

9 *Supra*, note 7.

10 Regarding the impact of changing federal regulatory laws dealing with service, cost, dependability, and rates, see Grant M. Davis, Charles S. Sherwood, and L. J. Rosenberg, "A Dichotomous Perception of Transportation Regulation-Deregulation: An Analysis," *The Logistics and Transportation Review*, Vol. 12, No. 4 (Winter, 1977), pp. 282-284.

11 Reference Grant M. Davis, Martin T. Farris, and Jack J. Holder, Jr., *Management of Transportation Carriers* (New York: Praeger Publishers, Inc., 1975), Chapters 1 and 6 regarding carrier selection. For a quantitative evaluation of carrier selections, see Grant M. Davis, "Decision-Making under Conditions of Uncertainty—An Application to Intermodal Carrier Selection," *The Logistics Review*, Vol. 7, No. 7 (Winter, 1971), pp. 9-26.

12 *Ibid.*

13 *Ibid.*

14 The ICC has requested such legislation during the last two sessions of Congress.

15 For an interesting review of how industrial shippers perceive carrier service and rates, consult Grant M. Davis and L. J. Rosenberg, "Physical Distribution and the Regulatory Constraints: An Analysis," *Transportation Journal*, Vol. 15, No. 3 (Spring, 1976), pp. 87-92.

16 Grant M. Davis, *Transportation Regulation: A Pragmatic Assessment* (Danville, Illinois: Interstate Publishers, Inc., 1975), Chapter 2.