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TRANSPORTATION RESEARCH FORUM

Rail-Based Holding Companies — Alternative to Intermodal Ownership

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INTRODUCTION

THE STUDY of corporate strategy suggests that products or services and their markets have a life cycle which consists of development, growth, shakeout, maturity, saturation, and decline phases.[1] Earlier transport forms such as 19th century turnpikes and canals appear to have passed through all these phases before disappearing completely as widespread, economically viable transport forms. Railroads currently exhibit characteristics of the later stages of the product/market life cycle, though their extinction does not appear imminent.

The current transport sector of the economy is characterized by multiplicity of transport forms. Railroads compete with motor and water carriers for many types of freight. Air transport and pipelines provide less direct substitutes. These four younger rail alternatives and their freight forwarders exhibit varying degrees of growth and maturity in the product/market cycle, yet all seem to be further from decline than the railroads.

Normal corporate strategic response to the decline of a product/market segment is the development of more promising lines of business.[2] Specifically, related product/market segments may be entered, a firm may vertically integrate, or diversify into entirely new businesses. Rumelt (1974) found development of related product/market segments to be most profitable when compared to unrelated diversification (conglomeration), vertical integration, or remaining in a single business (includes merger) to achieve production economies.[3]

The potentially more profitable rail diversification alternative of intermodal entry is largely prevented by both legislation and Interstate Commerce Commission decisions spanning many years.[4,5] Rail interest in such diversification opportunities may be seen in the rail-owned trucking and motor bus operating rights that were "grandfathered" when the Motor Carrier Act of 1935 prevented further expansion of this strategic alternative. Though low rail returns have signalled the need for new product/market segments during the last 25 years, this strategic response has been precluded.

Only one possible diversification response remained—the move into non-transport businessses. Even this move appeared at first to be regulated, since ICC approval of securities issued required that the purpose of such fund-raising be disclosed. Threat of not being permitted to sell proposed securities issues restricted this possibility until 1960. During that year Bangor and Aroostook Corporation, a holding company later named Bangor Punta Corporation, was formed from the Bangor and Aroostook Railroad.[6] Since the holding company was not regulated, acquisition and development of non-transport product/market segments could occur.

In the period from 1960 to 1972, nearly twenty major railroads created similar corporate structures. Some of the resulting firms largely retained their railroading orientation, acquiring only a few, small non-transport businesses. Other holding companies moved quickly into non-rail businesses, with little interest in the railroad. Again Bangor Punta Corporation pioneered in 1969 by being the first holding company to dispose of its railroad. The decade of the 1970's brought more railroad disposals from some holding companies, and successful rail operations by other holding companies.

PURPOSE OF THIS PAPER

Rail-based holding companies have clearly engaged in two types of strategies. Highly diversified firms seem to concentrate on non-rail businesses, while other holding companies that are little diversified concentrate on rail operations. The overall purpose of this paper is to report on research that examines the differences that surround the two dif-

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ferent strategies adopted by rail-based holding companies. Since large scale intermodal acquisitions did not occur during the same period (1957 to 1976), the results of the research conducted cannot be compared to any research results from the intermodal ownership alternative. Discussion of the research results reported herein is thus directed toward the resource transfer benefits that might have accrued to both railroads and alternative transport forms had intermodal ownership been permitted.

More specifically, this research sought to identify the role of inadequate rail returns as a prior event which may have led some rail firms to diversify widely after holding company formation. Since Wyckoff (1976) suggests that railroad executives are operations oriented and scan rather narrow environments, this study sought to learn how such insular environments led to conglomeration in non-transport industries that include electric motors, soft drink bottling, agricultural chemicals, auto mufflers, panty hose, radio and television broadcasting and amusement park rides.

This research also examined measures of capital consumption, to learn if highly diversified firms had a greater tendency to neglect railroad plant. Subsequent holding company and rail economic performance were examined to learn which strategy produced greater returns.

RESULTS OF THE INVESTIGATION

After eliminating certain railroads and/or holding companies, ten rail-based holding companies and their rail subsidiaries remained for investigation.[8] Using a classification scheme applied by Rumelt (1974), firms with greater than 70% of total annual revenue from a single business (railroading) were classified as non-diversified.[9] Firms with less than 70% of total annual revenue from railroading are considered diversified. Strategy, whether diversified or non-diversified, becomes the dependent variable. During the period of 1973 to 1976, the average percentage of total holding company revenue derived from railroading by each holding company is presented in Table I.

LOWER INITIAL RAIL PERFORMANCE

Rumelt suggests that diversification occurs to escape the low returns of the older business line.[10] If true for rail-based holding companies, the rail subsidiaries of the five diversified rail-based holding companies should have begun the twenty-year period of the study with lower rail return on assets than the rail subsidiaries of non-diversified rail-based holding companies. Table II presents these data.

Table II permits the conclusion that firms which later diversified had much lower initial rail returns. This evidence suggests that escape from the low rate of returns available from railroading may have been the reason for such widespread entry into non-rail businesses by diversified rail-based holding companies.

TABLE I

RAIL REVENUE AS A PERCENTAGE OF TOTAL REVENUE BY HOLDING COMPANY AVERAGE FOR 1973 - 1976

	Rail Revenue as a % of Total Revenue	
Non-Diversified Firms		
Missouri Pacific Corporation	76%	
Rio Grande Industries	80%	
Santa Fe Industries	78%	
Southern Pacific Company	80%	
Kansas City Southern Industries	72%	
Average for Non-Diversified Holding Companies		77%
Diversified Firms		
Union Pacific Corporation	39%	
I C Industries	32%	
Northwest Industries	0%	
Katy Industries	40%	
Western Pacific Industries	62%	
Average for Diversified Holding Companies		35%

TABLE II

RETURN ON RAIL ASSETS — AVERAGE OF 1957 TO 1960

Non-Diversified Firms		
Missouri Pacific	6.0%	
Denver and Rio Grande Western	5.8%	
Atcheson, Topeka, and Santa Fe	3.5%	
Southern Pacific	2.4%	
Kansas City Southern	4.1%	
Average		4.4%*
Diversified Firms		
Union Pacific	2.5%	
Illinois Central	2.7%	
Chicago and North Western	1.2%	
Missouri-Kansas-Texas	1.3%	
Western Pacific	4.0%	
Average		2.3%*

*Difference between means significant at the 95% level.

MANAGEMENT CHANGE

Wyckoff (1976) suggests that rail chief executives are rail operations oriented, scanning only the railroad industry, its customers and regulations.[11] How then do railroads develop widely diversified rail-based holding companies?

This research found that a change in management orientation from rail operations to a "deal making" orientation follows poor rail performance and precedes the active diversification phase for diversified rail-based holding companies. Non-diversified rail-based holding companies do not undergo such change of management. Such evidence and its timing suggests that change of management orientation is a precondition to diversification by rail-based holding companies. In short, stockholders, through the board of directors, replace a rail operations oriented chief executive with a dealmaking president. Table III presents the data management change.

RAIL SUBSIDIARY HARVESTING

The change of management orientation away from railroad operations by non-rail operations oriented executives might lead to increasing deferred maintenance and delayed capital improvement as a percentage of rail annual revenue. Table IV displays the relationship between strategy (strategic change occurs after management change) and railroad harvesting.

Table IV shows that non-rail diversification does not always lead to rail asset consumption (harvesting). Union Pacific and Western Pacific have kept up the rail physical plant quite well. Two other railroads owned by diversified holding companies have very high levels of rail asset harvesting. Such variation in levels of harvesting suggest that underlying recent rail performance and future rail earnings prospects may aid our understanding of rail harvesting. The fact that several rail subsidiaries of diversified rail-based holding companies have been eliminated by their holding companies suggests that both rail subsidiary recent performance and rail subsidiary elimination be examined together.

RAIL SUBSIDIARY RECENT PERFORMANCE AND ELIMINATION

Table V presents the data on recent rail subsidiary performance and rail subsidiary elimination.

These data show success or attempts at rail subsidiary elimination by all but one of the diversified holding companies. Only Union Pacific among diversified firms appears to include its rail subsidiary as a viable part of its holding company portfolio of businesses. Non-diversified holding companies, with their rail operations oriented managements, have not even publicly considered rail subsidiary elimination. Clearly for most diversified rail-based holding companies such diversification has been accompanied by attempts to dispose of the rail subsidiary, but rail-based holding company formation per se has not led to such elimination in even the majority of the ten firms studied.

HOLDING COMPANY RECENT PERFORMANCE

Diversified holding company performance is presented in Table VI.

Of particular note is the improvement

TABLE III[12]

DATA ON MANAGEMENT CHANGE BY FIRM

Firm	Chief Executive Early in Study	Years of Rail Operations Experience when Replaced	New Chief Executive	Years of Rail Operations Experience	Deal Making Experience of New Chief Executive
Diversified Firms					
Union Pacific	Edward R. Harriman	0	Frank E. Barnett	0	Lawyer
Illinois Central/ IC Industries	Wayne A. Johnston	46	William B. Johnson	0	Lawyer
Chicago and North Western/Northwest Industries	Clyde J. Fitzpatrick	46	Ben W. Heineman	0	Lawyer
Missouri Kansas-Texas/Kentucky Industries	John W. Barriger	50	Edward Merkle	0	Investment Banker
Western Pacific	M. W. Christy	21	Howard Newman	0	President of Nonrail Acquisitive Conglomerate
Nondiversified Firms					
Missouri Pacific	Downing B. Jenks	41*	(None)		NA
Denver & Rio Grande	Gale B. Aydelott	40*	(None)		NA
Santa Fe	Ernest S. Marsh	48	John S. Reed	35	NA
Southern Pacific	Donald J. Russell	44	B. F. Biaggini	28	NA
Kansas City Southern	William N. Deramus	58	William N. Deramus III	22	NA

*By 1976.
NA = Not applicable.

TABLE IV[13]

RAIL DEFERRED MAINTENANCE AND DELAYED CAPITAL IMPROVEMENT TOTALS FOR 1974 AS A PERCENT OF 1974 RAIL REVENUE

Firm	Deferred Maint. and Delayed Capital Improvement as a Percent of Revenue
No Rail Operations Orientation— Diversified Holding Companies*	
Union Pacific	4%
Illinois Central Gulf	59%
Missouri-Kansas-Texas	85%
Western Pacific	6%
Overall Average	39%†
Average of Two Lowest Observations	5%
Average of Two Highest Observations	72%
Rail Operations Orientation— Nondiversified Holding Companies	
Missouri Pacific	14%
Denver & Rio Grande Western	27%
Santa Fe	5%
Southern Pacific	10%
Kansas City Southern	22%
Overall Average	16%†
Average of Two Lowest Observations	8%
Average of Two Highest Observations	25%

*Chicago and North-Western cannot be included here because it was sold by its holding company in 1972.
†Difference significant at the 95 percent level.

in holding company returns after rail subsidiary elimination. Rail-based holding company diversification appears to be less of a move toward any given business opportunity than it is a move away from the poor returns and earnings prospects of the rail subsidiaries involved.

For comparison with Table VI, Table VII presents similar data for non-diversified rail-based holding companies.

DISCUSSION

The research reported herein shows that low rail returns preceded management change which in turn preceded diversification and subsequent harvesting and elimination of some rail subsidiaries. These harvested rail subsidiaries were often cast off after significant non-rail assets were transferred to the holding company, usually as a special dividend from rail subsidiary to the holding company as sole rail stockholder. A corresponding amount of debt was not transferred, leaving the railroad with a higher relative debt burden. Rail subsidiaries were further weakened to the extent that deferred maintenance and delayed capital improvement reduced the earning capability of the physical plant.

With the clearer vision available through hindsight, the transport marketplace was clearly calling for relatively greater added investment in other trans-

TABLE V

RAIL SUBSIDIARY ELIMINATION OR ITS CONSIDERATION

Firm		
Diversified Holding Companies—No Rail Operations Orientation		
Union Pacific	None	4.2%*
Illinois Central	Merger Proposed (1978)	1.5%†
Chicago & North Western	Sale of PR (1972)	1.5%†
Missouri-Kansas-Texas	Equity of PR written down to $1 (1971)	−0.1%†
Western Pacific	Sale of PR (1978)	1.6%†
Avg. Rail ROA		1.7%**
Avg. of those eliminated or considered		1.1%
Nondiversified Holding Companies—Rail Operations-Orientation		
Missouri Pacific	None	6.1%*
Denver & Rio Grande	None	5.3%*
Santa Fe	None	2.2%*
Southern Pacific	None	1.5%*
Kansas City Southern	None	3.1%*
Avg. Rail ROA		3.6%**

*1973 to 1976 average for comparability with the exact annual figures ranging from 1971 to 1978.
**Difference between average ROA for rail subsidiaries of diversified and nondiversified firms is significant at 95 percent level.
†Year action was taken.

TABLE VI

PERFORMANCE BEFORE AND AFTER MANAGEMENT CHANGE AND DIVERSIFICATION

	Diversified Holding Companies*				
Company	1957-60	1961-64	1965-68	1969-72	1973-76
Union Pacific	2.5%	2.7%	4.0%	6.2%	7.7%
IC Industries	2.7%	3.0%	3.0%	4.7%	3.1%
Northwest Industries	1.2%	2.5%	2.4%	5.6%**	13.6%
Katy Industries	1.3%	-0.1%	-1.8%	8.1%***	5.6%
Western Pacific Industries	4.0%	3.3%	3.0%	2.5%	3.5%
Column Average'	2.3%	2.3%	2.1%	5.4%	6.7%

Average returns before diversification began = 2.3%.+

Average of returns after diversification began = 5.1%.+

Average of returns after rail subsidiary elimination = 9.1%.+

*Values before diversification began are to the left of the "stair-step" line. Values after diversification began are to the right of this line.
**Rail subsidiary sold six months before period ended.
***Rail subsidiary eliminated from holding company portfolio through equity write-down and nonconsolidation of rail financial statements with holding company financial statements in January 1971.
†Differences significant at 95 percent level.

port modes than for railroads during the period of study (1957-1976). Regulation of rail service and trackage abandonment precluded orderly liquidation of rail resources that were in excess of those necessary to provide the rail service then demanded by the marketplace. As shown by this research, non-transport diversification by rail-based holding companies became a means to extract some rail resources and devote these resources to industries that offered better rates of return than railroading did.

If intermodal ownership had been permitted during this period, the demand for added trucking, inland water, pipeline, and air transport investment could have attracted the rather considerable railroad cash flows being generated largely from depreciation (and from

TABLE VII

PERFORMANCE BEFORE AND AFTER MANAGEMENT CHANGE AND DIVERSIFICATION

	Nondiversified Holding Companies				
Company	1957-60	1961-64	1965-68	1969-72	1973-76
Missouri Pacific	6.0%	6.0%	5.8%	4.9%	3.9%
Rio Grande	5.8%	4.9%	5.0%	8.1%	7.1%
Santa Fe	3.5%	3.5%	3.4%	7.0%	6.5%
Southern Pacific	2.5%	3.7%	3.7%	4.8%	4.3%
Kansas City Southern	4.2%	3.8%	5.2%	5.5%	4.3%
Column Averages	4.4%	4.4%	4.6%	6.0%	5.2%

Average of returns before nonrail acquisition began = 4.0%.*

Average of returns after nonrail acquisition began = 5.4%.*

* Difference not significant (significant difference not expected).

profit to a lesser extent). Regulations could have required that service from rail-owned operations in other modes be substituted for abandoned rail services or trackage, or let market demand dictate such replacement. Excess rail labor could have been employed in non-rail transport owned and operated by railroads or rail-based holding companies. Such a policy could have hastened the shrinkage of rail labor through attrition.

In addition to the efficient transfer of resources within the transport sector, an opportunity for the development of synergy within the various transport modes was probably lost. Intermodal services such as TOFC/COFC might have developed more quickly with an expanding fleet of rail-owned trailers. Organized labor opposition in the trucking industry to such services might have been lessened if railroads and the large trucking subsidiaries that would have developed were operated and marketed as integrated services rather than as long-haul competitors.

To these benefits must be added the benefits of improved rail financial health. Intermodal diversification could have offered the opportunity for shrinking the oversized rail industry, leaving a more financially viable core rail system supplemented by other rail-owned carriers in other modes, whose earnings could have contributed to the financial soundness of the whole. (Rumelt's 1974 research suggests such related diversification to be the most financially successful form of diversification.[14] The officially-sanctioned rail merger movement has not brought the financial security intended).

What of the future? Should intermodal ownership be permitted? The need to shrink rail resources still exists. Competitive modes still require added investment. The opportunities and needs for the benefits of synergy from intermodal operation, in energy savings, for example, have expanded. Public policy seems to be calling for reduced regulatory restriction in transport. Research shows that rail assets will escape low rail returns through diversification or be underemployed, as measured by those low returns. Since "infant industry," "monopoly abuse" and other objections do not apply nearly to the degree they once did, an opportunity to achieve more efficient resource allocation in the transport sector will be lost if relaxed regulation does not permit intermodal ownership as a diversification opportunity. In short, if barriers to motor carrier entry are reduced for others, railroads should enjoy the same freedom of entry into non-rail modes as any other corporation or individual.

REFERENCES

1 Hofer, Charles W. and Dan Schendel, *Strategy Formulation: Analytical Concepts*, St. Paul: West Publishing Company, 1978, p. 108.
2 Ibid, Chapters 4 and 5.
3 Rumelt, Richard P., *Strategy, Structure, and Economic Performance*, Boston: Division of Research, Harvard Business School, 1974, p. 94.
4 Though railroads may own pipelines, entry into water and air operations has been almost non-existent. Motor carrier operations are limited to "grandfather rights" and operations oriented largely to terminal

areas. See Locklin, D. Philip, *Economics of Transportation*, Seventh Edition, Homewood, Ill.: Richard D. Irwin, Inc., 1973.

5 The "commodities clause" of the Hepburn Act of 1906 largely prevents vertical integration. See Benham, Isabel H., "Railroad-Based Conglomerates," *Financial Analysts Journal*, May-June 1977, pp. 43-53.

6 "Bangor Punta Shrinks to Manageable Size," *Business Week*, December 11, 1971, pp. 100-102.

7 Wyckoff, D. Daryl, *Railroad Management*, Lexington, Massachusetts: D. C. Heath and Company, 1976, Chapter 5.

8 Rail firms eliminated were owned by Canadian railroads, by industrial corporations, or by holding companies that only owned two or more unmerged railroads. Railroads in bankruptcy were not studied. Of course any railroad that did not form a holding company for non-rail diversification was also eliminated. The ten railroads studied are Union Pacific; Illinois Central Gulf; Chicago and North Western; Missouri Pacific; Denver and Rio Grande Western; Atcheson, Topeka and Santa Fe; Southern Pacific; Kansas City Southern, Missouri-Kansas-Texas, and Western Pacific.

9 Rumelt, Richard P., *Strategy, Structure, and Economic Performance*, Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1974, chapter 1.

10 *Ibid*., p. 82.

11 Wyckoff, *op. cit.*

12 Data from annual reports and *Who's Who in Railroading in North America*, (various years, title varies), New York: Simmons-Boardman Publishing Co.

13 See "Commission Releases Deferred Maintenance Data Filed by Class I Railroads," U.S. ICC News Release No. 124-78, February 28, 1978, and the data submitted for the Ex Parte 305 Rate Increase investigation.

14 Rumelt, *op. cit.*, p. 94.