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Rosemary D. Hale

Lake Forest College

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AN ECONOMIST'S ANALYSIS OF A VERTICAL ACQUISITION:
THE INLAND-RYERSON MERGER

ROSEMARY D. HALE†

Recently the courts, and particularly the United States Supreme Court, have applied the anti-merger laws vigorously to vertical acquisitions. In United States v. Brown Shoe Co.,1 which held unlawful the purchase of a chain of retail shoe stores by a shoe manufacturer, the Court said that every extended vertical arrangement by its nature denies to a supplier's competitors an opportunity to compete for the business of the customer-party to the merger. More recently, the attempt by Standard Oil Company (New Jersey) to acquire a potash producer by backward vertical integration was held unlawful because it resulted in foreclosure of from one to two per cent of domestic potash production.2

The complaints against vertical integration by acquisition and otherwise are legion. As indicated above, it is urged that such acquisitions foreclose competition by other would-be suppliers or customers. Further, the contention is made that in times of shortage single-stage fabricators lack a source of raw materials and are thus prevented from competition with multi-stage firms.3 The single-stage firms are squeezed between high prices for raw materials and low prices for fabricated finished products.4

Many arguments against vertical integration have focused upon primary metals industries. Congressional committees received complaints against Reynolds and Kaiser, prominent makers of aluminum ingot. The

† Lecturer in Economics, Lake Forest College. G. E. Hale, member of the Illinois bar, assisted in research design. Several executives in the steel warehousing industry kindly checked the manuscript, pointed out errors and offered helpful comments.

4. Hearings on S. 14 Before the Subcommittee on the Study of Monopoly Power of the House Committee on the Judiciary, 81st Cong., 1st Sess., ser. 14, pt. 1, at 326 (1949); Hearings on H.R. 114 Before the House Select Committee on Small Business, Subcommittee no. 5 (Roosevelt Committee), Distribution Problems, 84th Cong., 1st Sess., at 1764, 1771, 1790 (1955). In the last cited hearings Kaiser Aluminum attempted to explain "squeeze" on an intermediate fabricator with whom it competed. It said the lowering of price was designed to assist final fabricators of screening in their competition against screening made of fiberglass. Note also a judicial finding that in 1948 the Aluminum Company of America lost five million dollars of profits in an effort to supply non-integrated fabricators with whom it competed. United States v. Aluminum Co., 91 F. Supp. 333 (S.D.N.Y. 1950).
Aluminum Company of America, however, has been the principal target of litigation. Alcoa's acquisition of the Cupples Company, a fabricator of aluminum curtain wall which enjoyed approximately 16.6 per cent of the market prior to the merger, recently was invalidated. The vice of the acquisition was said to lie in the hazard that financing, prestige and engineering skills available from Alcoa would increase Cupples's market share to 40 per cent, thus hurting competing firms. Another acquisition by Alcoa, which appeared to be largely vertical in character, also was invalidated by the Court on more familiar horizontal grounds.

Many observers attribute the 1950 amendment to section seven of the Clayton Act to the Court's decision in *United States v. Columbia Steel Co.*, in which a vertical merger in the West Coast steel industry was upheld. There are indications in the legislative history that the revision of section seven was designed to prevent similar decisions in the future.

In a prior study of mergers, approximately ten per cent of which were found to be vertical in character, the authors concluded that mergers often are motivated by a desire to reduce friction, thereby cutting costs, rather than by any anti-competitive motives. This article will focus upon the problem of vertical integration by carefully analyzing an individual industry akin to that in which Columbia Steel's acquisition was approved and thereby attempting to determine the effect of the mill's entry and continued presence in the industry. Examination will be made of a vertical acquisition which was attacked neither by the Attorney General nor a private litigant. Inland Steel, one of the ten largest firms producing steel ingot (albeit considerably smaller than its largest rivals), acquired Ryerson, the largest entity in the steel warehousing field. Steel warehouses constitute the second largest customer group of the steel mills. If, therefore, such a vertical merger is as deleterious to the

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7. United States v. Aluminum Co., 377 U.S. 271 (1964). (The dissenting opinion suggested that the case had been forced into a "horizontal" posture when it was really vertical in character.) During World War I, Cleveland Metal Products was a manufacturer of enameled steel cooking utensils. It desired to use aluminum in the manufacture of such utensils and therefore erected a sheet mill. In 1918 Aluminum Company acquired that sheet mill, and the Federal Trade Commission subsequently found that acquisition to constitute a violation of § 7 of the Clayton Act because the defendant was also a roller of sheet. Aluminum Co. v. F.T.C., 3 F.T.C.D. 302 (1921), aff'd, 284 F. 401 (3d Cir. 1922), cert. denied, 261 U.S. 616 (1923). Later the rolling mill, no longer in operation, was acquired by Alcoa on foreclosure of loans, and the acquisition was approved by the same court. Aluminum Company of America v. F.T.C., 299 F. 361 (3d Cir. 1924).
economy as the courts have indicated, one would expect to find some or all of the adverse effects which the courts have ascribed to such acquisitions.

**The Merger and the Industry**

Steel warehouses, or service centers as they are now called, buy from steel mills and resell standardized products to small users. About 80 per cent of steel warehousing business consists of filling the fast-delivery and small order requirements of 50,000 large users; and the remaining sales are to 400,000 small customers. Steel warehouse inventories vary from 1,000 to 100,000 tons of steel, representing from 500 to 15,000 different shapes, kinds and sizes, including finished steels, alloys, bars, tubes, sheets, wire and strip. Steel warehouses also tailor 70 per cent of their inventory to customers' specifications as well as engaging in small lot sales. Many warehouses presently handle magnesium, titanium, exotic metals, plastics, aluminum, copper and brass as well as steel.

In addition to small buyers, steel service centers sell to large buyers who do not wish to carry extensive inventories of certain products. These customers are estimated to number 300,000, compared with 35,000 who buy directly from the mills. Formerly the mills tried to serve both large and small customers, but currently they handle only large orders of


Steel centers fall into four general classes: (1) those handling the full line consisting of heavy steel such as plates, structural, cold finished and hot rolled sheets, hot rolled bars, stainless, alloys, cold finished bars, and tubing; (2) "specialty steel service centers" handling only sheets or tubular products and cold finished bars or stainless specialists or alloy products; (3) oil country goods warehouses; and (4) "merchant products" sellers who supply nails, fencing, wire products, pipes, etc. Steel centers in the first two categories constitute Ryerson's principal competitors. There are over 1,300, which range in size from small to those with annual sales of 400,000 tons. Apparently only the 400 who belong to the American Steel Warehouse Association handle a large variety of items. Agreement is not complete as to which firms are steel warehouse or service centers. There were 2,500 reported in 1963 by the American Iron and Steel Institute in Charting Steel's Progress in 1965 at 5, as against 1,400 in 1942 reported in *Steel Dealers' Grief*, Business Week, October 3, 1942, at 36, while Iron Age in its *Census of Metal Service Centers*, 1966 lists 1,862 centers, 41 per cent of whom stock only ferrous products, eight per cent only nonferrous and 41 per cent both.

13. Industry source.


16. *Push-button Warehouses*, 54 Fortune, December 1956, at 140, 142; *Steel Dealers' Grief*, Business Week, October 3, 1942, at 36, 38; Industry sources. The larger centers with 250,000 sq. ft. of warehouse space or more perform more cutting, forming and finishing service than do those with 20,000 sq. ft. or less. Industry source.

17. Industry source.

18. Fortune, supra note 16, at 143; Kline, supra note 12, at 92.

19. Schulze, supra note 14, at 19; Industry sources.
20 tons or more.\textsuperscript{20} Steel warehouse customers are not confined to one seller but may also buy directly from the mill and usually patronize at least three or four sources.\textsuperscript{21}

Steel warehouses comprise the mill's second largest customer group.\textsuperscript{22} In the 1950's, from 15 to 17 per cent of mill sales were to jobbers, dealers and distributors.\textsuperscript{23} More recently, steel service centers have taken from 15\textsuperscript{24} to 30 per cent\textsuperscript{25} of mill output, the exact percentage depending upon how broadly the term "steel warehouse" is defined.

In 1935 Inland Steel Company and J. T. Ryerson & Sons, Inc. merged to their mutual advantage. Inland considered warehouse operations essential in competing with forward integrated rivals such as United States Steel, and Ryerson had similar feelings, as it lacked a direct mill connection.\textsuperscript{26} Apparently Inland had no warehouse operations prior to the merger.\textsuperscript{27} These were the years of the "Great Depression," and forward integration by steel companies was as common as backward integration in good times.

J. T. Ryerson, founded in Chicago in 1842, operated a nationwide chain of steel warehouses. At the time of the merger it was reported to be the largest firm in the industry\textsuperscript{28} with ten warehouse operations in nine cities, three of which were on the East Coast and the others in the Midwest.\textsuperscript{29} Ryerson itself had grown by merger and had absorbed firms in

\textsuperscript{20} Berton, supra note 15, at 1; Marengo, The Basing Point Decision and the Steel Industry, 45 AM. ECON. REV., PAPERS AND PROCEEDINGS, May 1955, at 509, 515, indicates that most steel is sold directly to the user and not through middlemen, but he appears to be wrong. According to industry sources, there is a trend for mill orders to become larger, but on occasion mills will take all types of orders even as small as one ton.

\textsuperscript{21} Warehouses Get More Steel, BUSINESS WEEK, May 3, 1947, at 42, 44.

\textsuperscript{22} Berton, supra note 15, at 1. At that time mills were looking for warehouse orders, and Youngstown in 1961 reportedly established a liaison division to promote such orders.

\textsuperscript{23} L. Weiss, Economics and American Industry 271 (1962); Hearings Before the House Select Committee on Small Business, 81st Cong., 2d Sess., at 75 (1950) [hereinafter Small Business Committee].

\textsuperscript{24} AMERICAN IRON AND STEEL INSTITUTE, CHARTING STEEL'S PROGRESS IN 1963, 24 STANDARD AND POOR'S, INDUSTRY SURVEYS, STEEL, March 10, 1966, at S47 [hereinafter STANDARD AND POOR'S]. Steel service centers took 14.7 per cent of the total domestic shipments of industrial steel products in 1954-59 and 16.5 per cent in 1966 according to an industry source. In 1965 the Steel Service Institute published figures showing shipments to service centers as a percentage of total mill shipments to be 17.7 per cent, up from 14.43 per cent in 1935; but in tonnage this represents a five-fold increase.

\textsuperscript{25} STANDARD AND POOR'S, March 10, 1966, at S46. Some centers sell merchant and miscellaneous semi-finished products, but Ryerson does not sell these lines.

\textsuperscript{26} Solow, Inland Steel Does It Again, 58 FORTUNE, July 1958, at 94, 98-99.

\textsuperscript{27} MOODY'S INDUSTRIAL MANUAL [hereinafter MOODY'S] (1935) 1424 makes no mention of any warehouse operation; Solow, supra note 26, at 99.

\textsuperscript{28} Solow, supra note 26, at 99.

\textsuperscript{29} MOODY'S (1935) at 1540; Joseph T. Ryerson & Sons, Inc., On the Way to Our Second 125 Years at 4 (1967).
Camden, New Jersey, in 1929, Boston in 1930 and Buffalo in 1932. Although the firm had a deficit in the bleak Depression year of 1932, it recorded profits in 1933 which increased about fourfold in 1934 to over $1.6 million. After the merger, there were no separate figures given for the warehouse operations, but the Ryerson acquisition has been reported to be one of the reasons for Inland's good earnings record.

In the period since 1935 Ryerson has continued to be the largest firm in the industry, although at least one authority claims that such a forward integration merger is unrelated to economies of scale. By 1940 Ryerson had ten service centers located in the Midwest and East. The number rose to 15 in 1952 and 22 in 1966. A West Coast center was in existence by 1946, and in 1966 West Coast warehouses were reported to have expanded as well as additional facilities being added in the Southwest, East and Midwest. In 18 of the 22 city locations Inland faced competition from other integrated or independent firms. Facilities in Jersey City, Dallas and Kansas City were apparently added through merger, and additions to existing depots in Chicago and Boston were made by the same method. Other new centers were probably the result of internal expansion. Some evidence to support the latter conclusion is found in the statement that from 1920 to 1955 Inland acquired only 4.3 per cent of its assets by merger, and Inland's most important acquisition was undoubtedly Ryerson. So, in the period since the merger,

30. Moody's (1935) at 1540.
31. Id.
33. Weiss, supra note 23, at 274.
34. Moody's (1940) at 2716; Industry source. In 1946 there were 12. On the Way to Our Second 125 Years, supra note 29, at 5.
35. Moody's (1952) at 1856.
37. Ryerson had 22 warehouse operations in 1966 in the following cities: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, New York City, Philadelphia, Pittsburgh, Los Angeles, San Francisco, Seattle, Spokane, Indianapolis, Charlotte, Dallas, Houston, Boston, Wallingford, Conn., Kansas City and Minneapolis. Id. In Buffalo, Spokane, Wallingford and Minneapolis, there is no evidence that either integrated rivals or any large independent had facilities, but probably there were less well-known competitors.
38. Small Business Committee, supra note 23. Wilson & Bennett, which had plants in Chicago, New Orleans and Jersey City, was acquired in 1939.
40. Small Business Committee, supra note 23. In 1936 Melcor Steel, which had operations in Chicago, Kansas City and La Crosse, Wis., was acquired.
41. In 1955 Arthur C. Harvey of Boston was acquired. Moody's (1935) at 1512.
42. See note 6 supra. The expansion from nine to 22 cities in the period since the merger apparently represents internal expansion rather than acquisition in ten of 13 new warehouses.
43. Weiss, supra note 23, at 287.
Ryerson has expanded its operation in three Eastern and Midwest cities, one in the South, two in the Southwest and four on the West Coast, the last three being areas in which it had no operations in 1935.

In 1957 Ryerson stocked 10,000 items and sold to 70,000 customers, but it only sold Inland products in the Midwest. In other areas it bought from local mills, thus accounting for only nine per cent of Inland's total output. In addition to steel, these warehouses also carried Reynold's aluminum products and were the nation's leading sellers of plastic. Therefore, one might conclude that Ryerson was an important outlet for its parent's production and possibly the largest single customer, but one must also conclude that Ryerson was an important buyer from Inland's competitors in other areas.

When Inland acquired Ryerson in 1935, four of its competitors already had such outlets. In addition there were literally hundreds of independent competitors. Although one authority claims that forward integration into the warehouse field started in the depressed 1930's, Jones and Laughlin acquired a Chicago warehouse in 1900 and "organized" others in eight cities in the South, Southwest, West and Midwest in 1912. By 1935, U.S. Steel had 24 mill depots with steel warehouses. Apparently some of the component companies had warehouse facilities prior to the U.S. Steel merger, and Carnegie, American Steel and Wire and Federal Steel all acquired or built additional warehouses in subsequent years. Another competitor, Republic Steel, entered the warehouse business with the acquisition of Republic Supply Co. in 1913, added a firm in 1919 and again in 1935 and was reported in 1935 to have warehouses in five large cities in the East and Midwest. Thus it is apparent that the Inland-Ryerson merger was far from the first and

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44. Solow, supra note 26, at 97.
45. Id. at 23; Industry source.
46. These four were U.S. Steel, Jones & Laughlin, National and Republic. Industry source.
47. Weiss, supra note 23, at 276.
49. Small Business Committee, supra note 23, at chart no. 2. United States Steel Supply Co., the warehouse subsidiary, was reported to be expanding operations on the West Coast as early as 1910. Id. at 8. In 1912, Scully Steel and Iron Co., a steel warehouse firm, was acquired. Schroeder, supra note 48, at 228.
50. Small Business Committee, supra note 23, at 26 and chart no. 2, pt. 2. United States Steel Supply Co., the warehouse subsidiary, was reported to be expanding operations on the West Coast as early as 1910. Id. at 8. In 1912, Scully Steel and Iron Co., a steel warehouse firm, was acquired. Schroeder, supra note 48, at 228.
51. Small Business Committee, supra note 23, at chart no. 2.
may well have been motivated by U.S. Steel's operations as well as those of other integrated competitors. In addition, Inland faced competition from nine large independent companies, which included Ducommun, Inc. and Jorgensen, Inc. which operated on the West Coast; Metal Goods Corp., Edgcomb Steel of Pennsylvania, and Edgcomb of New England which operated on the East Coast; Williams & Co. and Central Steel and Wire which operated in the Midwest; High Russel and Sons of Canada and A.M. Castle and Co. which operated in all three areas.

Although both entry and exit are relatively easy in this industry, there are no reports of any firms being forced out because of the Inland-Ryerson merger. In the early months of World War II, the priority system which reduced shipments to warehouses reportedly caused some exits. The situation apparently eased, however, and the resulting numerous entries caused one source to predict that a third of the new firms would fail by 1949 when price cutting and fierce competition were reported. One estimate of the industry's size change revealed that the number of companies had increased from 200 in prewar days to 1,000 by 1948, but only 400 of the new firms were large enough to stock 1,000 items. These newcomers were apparently pre-war scrap dealers who entered by trading scrap for sheet and other steel, many of whom took advantage of the outlawing of the basing point system and engaged in price competition. Increased competition by the integrated firms, feared by the independents, had not developed by 1947. Thus the war and

53. Ducommun, Inc., founded in 1849 in California [Moody’s (1969) at 832]; A. M. Castle and Co., established in Illinois in 1890 [Id. at 2630-31]; Jorgensen, Inc., incorporated in California in 1924 [Id. at 403-04]; Central Steel and Wire, founded in 1909 with headquarters in Chicago [Id. (1967) at 560]; Metal Goods Corporation, incorporated in Missouri in 1917 [Id. at 1213]; Williams and Company, a Pennsylvania corporation since 1907 [Id. at 688]; Edgcomb Steel of Pennsylvania, founded in 1923 [Id. at 1160]; Edgcomb of New England, founded in New Hampshire in 1951 [Id. at 2702]; and Hugh Russel and Sons of Canada, established in 1826 and incorporated in 1931 [Id. at 2597].

54. Moody’s (1950) at 1724; Moody’s (1966) at 103-04.
55. Central Steel Wire Company which operates in Chicago, Milwaukee, Detroit and Cincinnati had reported sales in 1966 of 126 million dollars. Moody’s (1966) at 560. Edgcomb of Philadelphia had sales in excess of 70 million dollars in 1966. Id. at 1160.
57. Moody’s (1934) at 574.
60. Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 80, 82.
61. Warehouses Get More Steel, BUSINESS WEEK, May 3, 1947, at 42, 45. An industry source pointed out that not all the newcomers were former scrap dealers; some were formerly service center employees who established their own businesses.
62. See note 46 supra.
63. See note 47 supra.
Vertical Acquisition

Post-war booms, not the merger of Inland and Ryerson, were the important influences upon entries and exits.

Although the information is scanty, the Inland-Ryerson merger neither triggered a forward integration movement among the integrated companies nor promoted horizontal acquisitions by the leading independents. The slight merger activity among the integrated firms is evidenced by Jones and Laughlin's acquisition of National Bridge in 1935\(^6\) and an Oklahoma City warehouse in 1944,\(^6\) followed by a ten year period of no reported acquisitions. Not until 1955 did Jones and Laughlin acquire two additional warehouses,\(^6\) followed nine years later by National's acquisition of two service centers operating in the Midwest, East and Southwest.\(^6\)

Apparently there was no merger activity involving any of the large independents until the post-war period when Castle bought a Milwaukee firm in 1945.\(^6\) In 1953 Ducommun bought a Phoenix firm\(^6\) and another in Berkeley, California in 1955.\(^6\) Both firms also made acquisitions in 1958.\(^7\) Ducommun purchased two warehouse companies located in Seattle and Houston in 1959 and 1960, but since that date its purchases have been in other industrial fields.\(^7\) Jorgensen made its first post-1935 acquisition in 1963 when it purchased firms in Chicago and Kansas City, Missouri.\(^7\) Three years later it acquired Hill-Chase Steel Co., a Philadelphia firm.\(^7\) Castle bought two firms in 1964 and 1965.\(^7\) Central Steel & Wire bought a Milwaukee firm in 1950,\(^7\) and Metal Goods acquired an East Coast firm in 1962.\(^7\)

Although there was little merger activity immediately after the Inland-Ryerson merger and only slightly more among both the integrated and the large independents in the post-war period, there is no reason to credit the 1935 merger with sparking the activity which, in any event, could not be considered a significant merger movement.

There has been an apparent increase in the number of warehouse

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64. Moody's (1952) at 1862.
65. Small Business Committee, supra note 23, chart no. 2.
67. Id. at 1207.
68. Id. at 2631-32.
69. Id. at 832.
70. Moody's (1957) at 1062.
71. Moody's (1966) at 832, 2631-32.
72. Id. at 832. It also acquired McCormick Steel Co. in the late 1950's. Industry Source.
73. Id. at 402.
74. Industry Source.
75. Moody's (1966) at 2631-32.
76. Moody's (1963) at 371.
77. Moody's (1967) at 1213.
operations in the post-World War II period, particularly after 1947, including both independents and forward integration by the steel mills. It may be that the forward integration by the integrated steel companies such as Republic, Crucible, Jones and Laughlin, Armco, and U.S. Steel following the Ryerson-Inland merger was induced by Inland’s post-war profitability record, but this is merely surmise. It is important to note that this forward integration resulted from internal expansion and not from acquisition.\(^7\)

The independents also continued to grow by internal expansion. Ducommun purchased a Berkeley warehouse company in 1955\(^7\) but apparently built, rather than acquired, ten other locations by 1966.\(^8\) Seventy-six per cent of its business is in the West and Southwest where it supplies its customers with steel from Republic and Armco and aluminum from Alcoa.\(^9\) Jorgensen more than doubled its floor space in the period 1957-66 and added three more locations.\(^10\) From 1937-43, A.M. Castle evidently held its own with five warehouses.\(^11\) By 1950 it had added two new locations, one of which was by merger, and both of which were in the Midwest.\(^12\) Evidently by further internal expansion it added facilities on the East Coast and two in the Midwest by 1966, when its Seattle operation was apparently closed.\(^13\) In one city, San Francisco, all three firms competed with Inland-Ryerson and at least four other integrated firms. In six of the 22 cities served by Ryerson two of the big independents competed, and in Milwaukee Castle and Central Steel & Wire met Ryerson; but that location is close to Chicago where independents and integrated firms competed and from which they could ship to Milwaukee.

78. Republic and Crucible had warehouse operations, none of which resulted from acquisition. Schroeder, supra note 48, at 229-31; Jones & Laughlin built a new warehouse in Pittsburgh in 1939 and was reported to have facilities in 12 different cities in 1966. Small Business Committee (supra note 23, chart no. 1); Moody’s (1966) at 1916. In 1950, Armco had warehouse facilities (Id. at 7); and additions were reported in Middletown, Ohio, and Kansas City in 1966. Id. at 773. Armco purchased, in the late 1950’s, National Steel Supply, a large chain of warehouses in “oil country goods.” Industry source. Republic’s coverage declined from 23 cities in 1950 (Small Business Committee, supra note 23, at chart no. 3) to 18 in 1966 [Moody’s (1966) at 2995]. In 1964 Crucible had 33 warehouses (Id. at 2919); National started its warehouse operations in 1939 (Id. at 1207-08); and U.S. Steel increased its city locations from 14 to 20 in the period 1952-66 [Moody’s (1952) at 2012; Moody’s (1966) at 2230] which probably represented a greater number of warehouses.

79. Moody’s (1956) at 1272.
80. Moody’s (1966) at 832.
81. Moody’s (1962) at 2739.
82. Moody’s (1957) at 747; Moody’s (1966) at 404.
83. Moody’s (1937) at 73; Moody’s (1943) at 120.
84. Moody’s (1950) at 586.
VERTICAL ACQUISITION

THE MERGER AND THE MARKET

Since the end of World War II steel service centers have become slightly more important to the mills. In 1940 they took 14.6 per cent of mill output, rising to a high of 17.9 per cent in 1946 and averaging around 16 per cent thereafter. Actual tonnage has more than doubled from 6.7 million tons in 1940 to 14.8 million in 1965. This means that the warehouses collectively were the mills' second largest customer. The importance of the service centers to the mills may be judged from the fact that the latter more than doubled their advertising outlays promoting warehouse sales during the period 1958-63. Although perhaps of greatest importance to the "captive" warehouses, those outlays probably helped the independents as well as rival mill outlets, because warehouses, both integrated and independent, primarily buy from the nearest mill.

There is very little information on the importance of warehouses to individual steel firms. Inland shipped less than ten per cent of its total output to Ryerson in 1957 while Armco is reported to have sold 15 per cent of its total to service centers in 1963. Such outlets were Jones and Laughlin's second largest customer in 1964-65, taking 17 to 18 per cent of its output in those years. No figures are available for other integrated companies which had warehouse operations but undoubtedly sold also to independents in some areas.

Somewhat better information is available concerning the largest independents. The year after the merger, A.M. Castle had sales of six million dollars, rising over the years to 63.8 million dollars in 1965. By 1947 Central Steel and Wire and Williams both recorded greater sales. The former consistently has recorded larger net dollar sales than any of its competitors, rising to 118.4 million dollars in 1965 when Metal Goods was second with 98.3 million dollars, followed in order by

86. Supra note 17, at 19. These figures are for industrial steel products, not merchant steel.
88. See notes 52 & 53 supra.
89. Moody's (1956) at 26. The 2,500 service centers handled more stainless steel than any other outlet. Standard and Poor's, supra note 24, July 9, 1965, at 555. While a list of all the products sold is not available, the warehouses did their largest business in cold rolled sheets and showed an increase in tonnage sold in 1964 for all products over 1963. Id., March 10, 1966.
90. Berton, supra note 15.
91. According to an industry source, neither Jones & Laughlin nor U.S. Steel service organizations buy from other than its parent mills.
94. Moody's (1943) at 170; Moody's (1946) at 405; Moody's (1952) at 492; Moody's (1962) at 291; Moody's (1966) at 2631.
95. Moody's (1957) at 932, 843.
Ducommun, Jorgensen, Williams, Edgcomb of Pennsylvania and Castle.

There is really no way of assessing the effect of the merger on industry sales. Warehouses are slightly more important to mills and are taking a much larger tonnage, but this would appear to be the result of the mills' preference for serving small customers through warehouses. Clearly the large independents have grown, and total mill sales have also risen.

The number of warehouses is said to have more than doubled since World War II. It is not clear, however, whether this figure represents plants or firms, but it might well be both. The number of members of the American Steel Warehouse Association, apparently the larger firms stocking a wide variety of items, increased from 400 in 1942 to 605 in 1947.\textsuperscript{96} Another source reported in 1950 that 750 firms handled 60 per cent of the business.\textsuperscript{97} Six hundred firms, presumably the largest, have 1,200 warehouses.\textsuperscript{98} None of these figures, however, represents any significant concentration.

Geographically, centers appear to be located near users, with the largest percentage in the Atlantic, North Central and Pacific states. Roughly two-thirds of the warehouses were 49,000 square feet in area—only two per cent had 250,000 square feet or over—indicating that size is no problem to entry\textsuperscript{99} if one warehouse can be the initial operating unit.

Central Steel and Wire, the largest independent, has centers in Chicago, Detroit, Cincinnati and Milwaukee.\textsuperscript{100} Metal Goods, the second largest, competes in the Southwest, South, Midwest and along the East Coast in 16 different cities.\textsuperscript{101} Ducommun, the third largest independent, serves five cities on the West Coast and in the Southwest, where it is reported to do 95 per cent of its business.\textsuperscript{102} Jorgensen serves six cities in the Midwest and West Coast,\textsuperscript{103} while A.M. Castle generally serves the same cities in the Midwest and West\textsuperscript{104} and one in the East. Williams has six warehouses in the Pennsylvania, Ohio and Kentucky areas,\textsuperscript{105} while Edgcomb serves different areas of Pennsylvania and two areas of

\textsuperscript{96} Warehouses Get More Steel, \textit{Business Week}, May 3, 1947, at 44.
\textsuperscript{97} Where's Warehouse Steel, \textit{Business Week}, October 7, 1950, at 62.
\textsuperscript{98} Warehouses Hold Trump Card in Steel Settlement, \textit{Business Week}, August 8, 1959, at 29. A reliable industry source reports the number of companies at 400 in 1967. \textit{Iron Age} (1966) lists 945 as stocking only ferrous products and 758 stocking ferrous and non-ferrous; the U.S. Census Bureau lists 2,158 metal service centers. For our purposes the only significance of the numbers is that they are large.
\textsuperscript{99} Census of Metal Service Centers 1966, \textit{Iron Age}.
\textsuperscript{100} Moody's (1967) at 560.
\textsuperscript{101} Id. at 1213.
\textsuperscript{102} Moody's (1952) at 2445; Moody's (1957) at 1062.
\textsuperscript{103} Moody's (1957) at 747; Moody's (1966) at 404.
\textsuperscript{104} Moody's (1966) at 2631.
\textsuperscript{105} Moody's (1967) at 688.
When one also considers the location of facilities of Inland's integrated rivals, it is obvious that no geographic concentration exists. Nor would one imagine there would be significant concentration in such an easy entry industry and one in which freight rates militate against long-hauls.

In 1942 the mills sold steel at the same price to both warehouses and fabricators. Warehouses charged their customers prices about one-third higher than the mill price, reflecting costs of handling and finishing to the customers' specifications. When f.o.b. pricing was initiated in 1948 there was much speculation as to its effect upon warehouse operations, but evidently it has not affected adversely either their numbers or their total sales. In the mid-60's, the mills sold carbon and stainless steel to the warehouses at a discount, and the warehouses charged so-called mill prices.

As one might expect in an industry characterized by numerous small firms, each firm believes that its price has little effect on the industry but that a price cut would gain benefits for the cutter. Accordingly, there are repeated indications of price cutting. When inventories build up, the individual firm feels that it faces an elastic demand curve and therefore is tempted to shade its prices. That estimate is right, of course, for the large number of service centers means that customers can deal with firms which are probably perfect substitutes. Apparently, however, the price cutting leads to retaliation. This does not mean, however, that the first firm to cut prices may not reap benefits.

There is no evidence that the Inland-Ryerson union had any effect upon prices, nor even that the largest firm, Ryerson, leads the way. The most important factor is obviously the mill price, which is shaded in bad times. Inland has not been a leader in steel pricing, so there is no reason to expect its warehouse subsidiary would be. One must also remember that Ryerson buys from other mills except in the Midwest area.

Information is extremely scanty, but apparently profits have been squeezed since the war, as costs have risen faster than prices. Profits

106. Id. at 1160.
107. Steel Dealer Grief, BUSINESS WEEK, October 2, 1942, at 36. An industry source claims that prices are sometimes this high, sometimes less, and that the average is currently lower. The same source says that the margin or mark-up in 1966 was about ten per cent.
108. Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 80.
111. Warehouses Get More Steel, BUSINESS WEEK, May 3, 1947, at 44. According to industry sources, expenses varied in 1966 from 16 to 20 per cent of sales.
have seemingly dropped after 1947, a "banner year"\textsuperscript{112} In 1956 they were reported to be 4.8 per cent of sales, falling to 1.5 per cent in 1961, but rising to 1.7 per cent in 1963.\textsuperscript{113}

Figures are available only for the eight largest independents who recorded a lean time in the 1930's, increased profits during World War II, had a somewhat spotty record in the late 1940's, and experienced lean years in the early 1950's. Although the data are incomplete, Central Steel and Wire has led the independents, followed in order by Jorgensen, Edgcomb of Pennsylvania, Williams, Ducommun, Metal Goods and Castle. Profits varied from 3.6 million dollars to slightly less than one million dollars.\textsuperscript{114}

The merger seems not to have changed the profit position of its rivals. In fact, Castle, the only one for whom information is available for 1936, almost doubled its profits in 1937, suffered a severe decline in 1938 and then gradually improved until 1941, when it increased its profitability five-fold.\textsuperscript{115} Although this behavior would seem to follow changes in general business fortunes, information is unavailable for its rivals.

In the years immediately following the merger, figures are available only for Castle, whose increased earnings were reflected in rising stock prices. In fact, in 1937 the stock split two for one, having reached over three times its pre-merger value.\textsuperscript{116} But Inland-Ryerson hardly can be credited with this bonanza; for the market was recovering from the devastating depression, and Castle's stock price moved with that trend.

Apparently the Inland-Ryerson merger had little effect upon the customers of the united firm; for example, Inland sold to 50 independents in 1964, when 15 per cent of its total sales were to such outlets including Ryerson.\textsuperscript{117} No information is available covering earlier sales.

There were the usual complaints by warehouses during World War

\textsuperscript{112} \textit{Steel Warehousemen Have Uneasy Prosperity}, \textit{Business Week}, June 19, 1948, at 83.

\textsuperscript{113} Berton, \textit{supra} note 15. Return on investment as per cent return on book net assets after taxes for the industry was 7.2 per cent in 1958, 5.1 per cent in 1960, 7.8 per cent in 1964 and 11.7 per cent in 1966, while the total manufacturing registered 12.6 per cent in 1964 and 14.1 per cent in 1966. Return on sales after taxes was 3.39 per cent for companies handling steel and 2.9 per cent for those handling steel and nonferrous metals. Industry source.

\textsuperscript{114} Moody's (1967) at 581, 1213, 688, 1161; Moody's (1966) at 833, 2631, 291; Moody's (1965) at 308; Moody's (1963) at 1420, 371; Moody's (1962), at 291, 2739, 817; Moody's (1961) at 1031; Moody's (1957) at 932, 843, 1062, 448, 747-8; Moody's (1952) at 2445, 492; Moody's (1950) at 1724; Moody's (1943) at 170; Moody's (1939) at 111; Moody's (1937) at 73; Moody's (1934) at 74.

\textsuperscript{115} \textit{Id.}

\textsuperscript{116} Moody's (1966) at 2631; Moody's (1962) at 291; Moody's (1957) at 448; Moody's (1950) at 587; Moody's (1946) at 405-6; Moody's (1942) at 170; Moody's (1937) at 112; Moody's (1934) at 574.

\textsuperscript{117} Berton, \textit{supra} note 15.
II and during the post-war boom that they could not get as much of certain types of steel as desired from the mills, but there is no evidence that Inland acted differently than other mills.

Customers of the warehouses are conservatively estimated to number in the hundreds of thousands. Such customers may actually buy from as many as seven or eight warehouses and thus cannot be said to have suffered from the mergers. The number of warehouses is obviously adequate to give the buyer a choice, and the warehouses appear to produce the items in the shape and size required by the customer.

As far as one can tell, the merger had no significant effect upon the industry's technology. Inland was far from the first firm to integrate forward. Although there have been comments that warehouse operations are not always the epitomy of efficiency, no specific firm has been identified.

CONCLUSION

The courts have been quick to find adverse effects upon competition in vertical mergers. They have insisted that rival suppliers have been denied an opportunity to compete for the purchases of the downstream firm. Such "foreclosure" has been condemned even when tiny market shares were at stake. They also have found other faults with vertical mergers, such as the shutting off of raw materials to the downstream firm's competitors during times of "shortage" and the "squeezing" of single stage firms between high prices for raw materials and low prices for finished products. In the Cupples case, the court expressed the fear that the financing, prestige and engineering skills of Alcoa would so enhance the ability of Cupples to compete as to injure its rivals.

Available information affords little support for the position of the

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119. Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 83; Competition Returns, BUSINESS WEEK, April 30, 1949, at 26; Where's Warehouse Steel, BUSINESS WEEK, October 7, 1950, at 64.
120. Steel Warehousemen's Blues, BUSINESS WEEK, July 30, 1949, at 52-53; Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 83.
121. Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 80; Where's Warehouse Steel, BUSINESS WEEK, October 7, 1950, at 62; Steel Dealers Grief, BUSINESS WEEK, October 3, 1942, at 36.
122. Steel Warehousemen Have Uneasy Prosperity, BUSINESS WEEK, June 19, 1948, at 80.
123. Schulze, supra note 14, at 19.
124. Push-button Warehouses, FORTUNE 54, December 1956, at 140. A reliable industry source states that in the last four or five years, radical improvements have been made in preproduction processing, materials handling, and management techniques in information control. Therefore, the claim is made that successful companies are efficient, and it seems reasonable that they must be in such an easy entry business.
courts regarding adverse effects upon competition in vertical mergers. There is nothing to indicate that rival steel mills have been injured by the Inland-Ryerson combination. Ryerson’s competitors have continued in existence; indeed, their numbers have been augmented. Independent warehouses have expanded and flourished. If they have been subject to a price "squeeze," no record thereof has been found. Occasionally, there have been complaints regarding supply during “shortages,” but they have been of short duration and seem not to be attributable to the merger.

Customers of the warehouses do not seem to have suffered. There is nothing to indicate that warehousing is more monopolistic than before the acquisition took place. Prices do not appear to have been affected. Technological improvement does not seem to have been retarded.

Thus, although the information is scanty, it seems apparent that the Inland-Ryerson merger had neither adverse nor favorable effects upon the structure or performance of the steel warehouse industry. Ryerson was the single largest firm and still enjoys that position. It faces, however, many rivals; nationally there are both integrated steel firms and hundreds of independents, and in each market Ryerson competes with a number of each. Similarly, the structure and performance of the steel making industry, whether deemed satisfactory or otherwise, seems unaffected by the Inland-Ryerson merger.

One swallow does not make a spring. Other mergers must be examined before generalization can be attempted. However, it does appear that in an easy entry industry, where economies of scale are apparently of little importance and shipping costs limit the geographic scope of the market, vertical integration by acquisition has been harmful neither to competition nor to consumers.

125. A reliable industry source agrees with the general conclusion and states that Ryerson is the leader in sales, earnings, modern management techniques and the development of new service methods.

126. Another case study is reported in Hale, Cookware: A Study in Vertical Integration, 10 J. of Law & Econ. 169 (1967). Others are in preparation.