Volume Title: Financing Inventory on Field Warehouse Receipts

Volume Author/Editor: Neil H. Jacoby and Raymond J. Saulnier

Volume Publisher: NBER

Volume ISBN: 0-870-14134-1

Volume URL: http://www.nber.org/books/jaco44-1

Publication Date: 1944

Chapter Title: Characteristics of Field Warehouse Operations

Chapter Author: Neil H. Jacoby, Raymond J. Saulnier

Chapter URL: http://www.nber.org/chapters/c4019

Chapter pages in book: (p. 31 - 41)

3

Characteristics of Field Warehouse Operations

HAVING STATED THE NATURE of field warehousing, traced the sources of its development as a business financing technique, and indicated the method of installing and operating field warehouses, it is in order to describe the nature and magnitude of the market for field warehousing services. Specifically, how many field warehouses are in operation in the United States? What is the total amount of credit granted on the security of the warehouse receipts to which they give rise? Where are field warehouses located? What sorts of commodities are deposited in them? How large are field warehouses in terms of value of deposits? What kinds of business enterprises deposit commodities in field warehouses, and what kinds of financing institutions make loans against the warehouse receipts?

Number and Types of Field Warehouses[1]

It is estimated that at mid-1941 national and regional field warehousing companies operated about 3,000 field warehouses. In addition, field warehouses operated by small local companies may have totaled as much as 2,000. This latter estimate is based upon the number of commercial banks believed to be engaged in lending against field warehouse receipts and the average number of such loans per bank. Consequently, the total number of field warehouses in the United States at the middle of 1941 may be put at around 5,000. The tentative nature of this estimate is emphasized by the fact that it falls far short of the 3,000 figure given by Van Vlissingen for 1936, but agrees with the 5,000 figure used by Frederick for 1938. Some of the local companies operated field warehouses ancillary to their local terminal warehousing busi-

[1] This section is based upon information obtained from a questionnaire circulated among a sample of commercial banks about the middle of 1941. See Appendix A.

nesses. As the amount of capital required to enter the field warehousing business is not large, the number of such local companies may be substantial, although information on this point is not precise. The known rapidity in the growth of the large independent regional or national field warehousing concerns during recent years suggests that an increasing fraction of all field warehousing is being done by these companies and a decreasing fraction by the local concerns.

Amount of Field Warehouse Receipt Loans

The average amount of loans outstanding over the year 1941 that were secured by field warehouse receipts issued by all types of field warehousing companies is estimated at about $150 million.[2] This estimate is founded on data furnished by field warehouse companies, giving the average annual value of merchandise contained in a large sample of field warehouses, and is roughly confirmed by an independent investigation of outstanding loans of commercial banks secured by field warehouse receipts. It rests on the assumptions that (1) the average loan for the estimated 3,000 warehouses operated by national and regional field warehouse companies was about $40,000, and (2) the average loan for the estimated 2,000 warehouses operated by local companies was about $15,000. A questionnaire survey of a sample of commercial banks indicated the probable existence of an average of $130 million of such loans during 1941.[3] Since commercial banks appear as the lenders against the receipts of about nine out of every ten field warehouses, the bank data warrant an inference that around $145 million of loans of this type were held by all kinds of lending institutions. The estimate given herein of the outstanding loans secured by field warehouse receipts, as well as of the number of field warehouses, should be viewed as rough observations on the dimensions of the field warehousing business around the middle of 1941. It will be recalled that at this time the industry was undergoing a very rapid expansion.

Loans secured by field warehouse receipts are evidently a minor, although not insignificant, item in the total volume of business

[2] It appears that the outstanding field warehouse receipt loans increased greatly during the two years succeeding this date.

[3] See Appendix A for description of this survey, and Table 7 in Chapter 4 for complete data.

credit. At the end of 1941 such loans comprised about .8 percent of the $17 billion of loans and discounts held by operating, insured commercial banks in the United States.[4] They formed about 2 percent of the $6.7 billion of "commercial and industrial" loans of these banks. Their outstanding amount was therefore slightly less than commercial bank loans secured by accounts receivable, and far less than the amount of outstanding business term loans.[5]

Geographical Location of Field Warehouses[6]

Field warehousing of commodities is most frequent in the Central and Pacific regions of the United States. No less than 43 percent of all field warehouses are found in the East North Central states of Ohio, Indiana, Illinois, Michigan and Wisconsin, and in the Pacific states of Washington, Oregon and California. California and Wisconsin, together with New York, lead all other states by wide margins in the number of warehouses they contain. The populous and highly-industrialized Middle Atlantic states have not utilized this device as extensively, probably because of the comparative recency of its introduction there, only 18 percent of all field warehouses being located in this region. Yet it is known that in the autumn of 1941 there were some field warehouses in every state, except Utah.

The concentration of field warehousing in the Pacific region has an historical as well as an economic explanation. One of the largest and oldest warehousing companies commenced its operations in this area, expanding eastward only after developing an extensive business on the west coast. A more fundamental explanation is the existence of an extensive food canning industry in the Pacific states. Concerns in this industry have from the beginning been depositors in field warehouses, in order to make "bankable" their highly seasonal inventories of canned fish, fruits or vegetables. The importance of canning in the East North Central states also serves to explain the frequent use of field warehousing

[4] Federal Deposit Insurance Corporation, *Annual Report for 1940*, p. 171.

[5] See National Bureau of Economic Research (Financial Research Program), *Accounts Receivable Financing*, by R. J. Saulnier and Neil H. Jacoby (1943) p. 56 and *Term Lending to Business*, by Neil H. Jacoby and R. J. Saulnier (1942) p. 30.

[6] This section and those which follow are based upon a body of information, collected by questionnaire, concerning each field warehouse operated around September 30, 1941 by several of the principal field warehousing companies in the United States, and concerning part of the warehouses operated by a fifth company.

in this region. In the Middle Western as in the Pacific states, deposits of miscellaneous groceries and of lumber, timber and building supplies are also important contributors to the volume of field warehousing. In general, the geographical location of field warehousing is determined by the underlying industrial character of different regions of the nation. The regions that have a relatively large number of businesses with highly fluctuating working

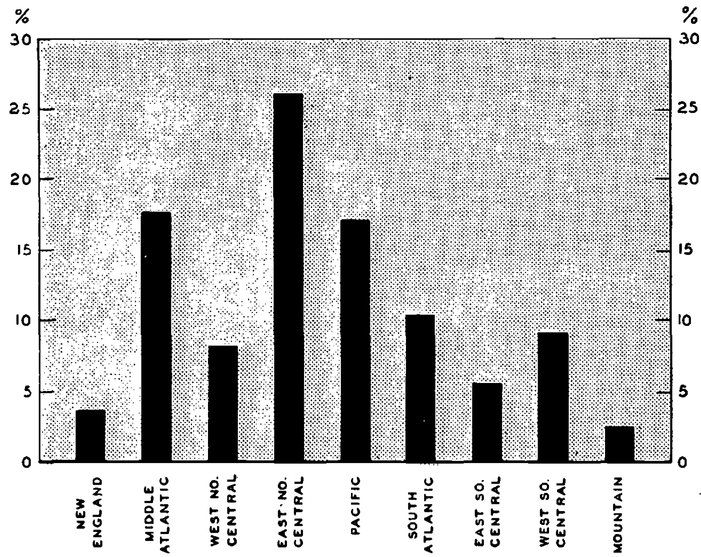
Table 1—Field Warehouses Operated by Six Leading Companies, at Mid-1941, by Region and State [a]

Region and State	*Number*	*Percent of Total*	*Region and State*	*Number*	*Percent of Total*
East North Central	*764*	*26.0*	*West North Central*	*242*	*8.2*
Ohio	87	3.0	Minnesota	94	3.2
Indiana	98	3.3	Iowa	50	1.7
Illinois	179	6.1	Missouri	48	1.6
Michigan	166	5.6	North Dakota	2	.1
Wisconsin	234	8.0	South Dakota	1	[b]
			Nebraska	18	.6
			Kansas	29	1.0
Middle Atlantic	*516*	*17.6*			
New York	252	8.6	*East South Central*	*165*	*5.6*
New Jersey	118	4.0	Kentucky	18	.6
Pennsylvania	146	5.0	Tennessee	39	1.3
			Alabama	34	1.2
Pacific	*503*	*17.1*	Mississippi	69	2.3
Washington	98	3.3	West Virginia	5	.2
California	294	10.0			
Oregon	111	3.8	*New England*	*107*	*3.6*
			Maine	10	.3
			New Hampshire	2	.1
South Atlantic	*302*	*10.3*	Vermont	10	.3
Delaware	22	.8	Massachusetts	49	1.7
Maryland	77	2.6	Rhode Island	6	.2
District of Columbia	2	.1	Connecticut	30	1.0
Virginia	19	.6			
North Carolina	38	1.3	*Mountain*	*74*	*2.5*
South Carolina	24	.8	Montana	8	.3
Georgia	76	2.6	Idaho	16	.6
Florida	44	1.5	Wyoming	7	.2
			Colorado	20	.7
			New Mexico	10	.3
West South Central	*266*	*9.1*	Arizona	10	.3
Arkansas	34	1.2	Utah	..	..
Louisiana	79	2.7	Nevada	3	.1
Oklahoma	22	.7			
Texas	131	4.5	TOTAL	2,939	100.0

[a] Based on data furnished to the National Bureau by six leading warehousing companies.
[b] Less than .05 percent.

1

PERCENTAGE DISTRIBUTION OF FIELD WAREHOUSES OF SIX LEADING WAREHOUSE COMPANIES, BY REGION, MID-1941[a]



[a] FOR DATA, SEE TABLE I.

capital needs are also those that make comparatively wide use of the field warehousing device. Field warehouses are classified by state and region of location in Table 1. (See also Chart 1.)

Commodities Deposited in Field Warehouses

Field warehousing is not confined to a few commodities. Literally hundreds of different types of merchandise, including raw materials, semi-finished goods and finished goods are deposited in warehouses, at place of production or holding for sale, in order to form collateral security for credit. Even goods-in-process may be field warehoused, when the process is aging or curing, as in the case of wines, pickles, sauerkraut or tobacco. In cases where processing requires physical manipulation of the materials, goods-in-process obviously must be removed from a warehouse, but they may be returned to the warehouse in a finished or semi-finished state. Christmas cards, hog cholera serum, gold concentrates and books illustrate the wide range of items that may be placed in special warehouses. Although goods produced by every major industry are found on the list, three types of products—canned goods, miscellaneous groceries, and lumber, timber and building supplies—account for over 40 percent of all field warehouses in the United States. If coal and coke, petroleum products, seeds, feed, grain and flour, and wines, liquor and beer are added, nearly 55 percent of all field warehouses are accounted for.

Table 2—FIELD WAREHOUSES OPERATED BY FIVE LEADING COMPANIES, AT MID-1941, BY PRINCIPAL TYPE OF PRODUCT WAREHOUSED [a]

Principal Type of Product Warehoused	*Number*	*Percent of Total*
Canned food products	304	17.1%
Miscellaneous groceries	236	13.2
Lumber, timber, building supplies	180	10.1
Coal, coke	117	6.6
Seeds, feed, grain, flour	113	6.3
Fuel oil, gasoline, petroleum products	91	5.1
Wines, liquors, beers	80	4.5
Textile products, wearing apparel	76	4.3
Iron, steel and products	66	3.7
Household machinery and equipment	54	3.0
Miscellaneous agricultural products	51	2.9
Paints, chemicals, drugs	45	2.5
Paper, wood pulp	38	2.1
Industrial and commercial machinery and equipment	37	2.1
Cotton, wool	37	2.1
Miscellaneous hardware	34	1.9
Furniture, finished wood products	31	1.7
Cheese, milk powders	20	1.1
Non-ferrous metals and products	19	1.1
Rubber tires, rubber products	16	.9
Stone, clay, glass and products	15	.8
Sugar, syrups	12	.7
Bags, bagging	11	.6
Shoes, slippers	11	.6
Books, paper products	11	.6
Meat and meat packing	10	.6
Non-ferrous ores	10	.6
Tobacco	8	.4
Hides, leather, leather products	8	.4
Iron ore	4	.2
Not classified [b]	39	2.2
TOTAL	1,784	100.0%

[a] Based on data furnished to the National Bureau by five leading field warehousing companies.

[b] Includes musical instruments, toys, cameras, dolls, and "not specified."

A considerable fraction of all deposits in field warehouses consists of the products of agriculture. There is a dual explanation for this. First, there is large seasonal variation in the productive operations of agriculture, giving rise to needs for working capital varying widely through each year. In the second place, the existence of standardized grades, qualities and organized markets for many of the products of the soil makes agricultural commodities particularly attractive forms of collateral security for loans, since their market values can be determined with relative ease. Table 2 presents a classification of field warehouses by principal type of product deposited.

Businesses Using Field Warehouse Facilities

Two-thirds of all depositors in field warehouses are manufacturers of the commodities placed in custody of the warehouseman, and almost one-third are distributors of these commodities. Concerns in the mining or extractive industries (other than agriculture) seldom place their inventories in special warehouses. The few mining and extractive concerns depositing their inventories in field warehouses include producers of crude oil, coal, iron ore and clay. As might be expected from an analysis of commodities that are field warehoused, manufacturers using this service consist in large part of food canners, operators of lumber and timber mills, manufacturers of miscellaneous grocery products, millers of flour and feed, and fabricators of iron and steel. Wholesale grocers, wholesale and retail distributors of coal, coke, petroleum products, seeds, grain, flour, and alcoholic beverages make up a major part of those depositors that fall into the "distributor" classification. Distributors make up more of the depositors in the New England and Middle Atlantic regions and manufacturers more in the South Atlantic, East North Central and Pacific regions.

The comparative frequency with which manufacturers of canned goods, lumber and timber products and iron and steel products use field warehouses as a credit-creating device finds an explanation in the typical seasonality of their operations. Distributors of beer, coal and coke, and seeds also experience large seasonal fluctuations in sales. On the other hand, wholesale grocers have a relatively stable demand throughout the year.

Their use of field warehouses is apparently due to the comparatively small equity they possess in relation to the volume of business transacted. In Table 3 appears a classification of field warehouses according to type of business of the depositor.

Table 3—FIELD WAREHOUSES OPERATED BY FOUR LEADING COMPANIES, AT MID-1941, BY PRINCIPAL BUSINESS OF DEPOSITOR [a]

Principal Business of Depositor	*Number*	*Percent of Total*
Manufacturing	834	66.6%
Distributing	400	31.9
Mining and extraction	8	.6
Not classified	11	.9
TOTAL	1,253	100.0%

[a] Based on data furnished to the National Bureau by four leading field warehousing companies.

Value of Warehoused Goods and Size of Loan

Table 4 shows that the typical field warehouse contains merchandise worth between $25,000 and $100,000. No less than 53

Table 4—FIELD WAREHOUSES OPERATED BY FOUR LEADING COMPANIES, AT MID-1941, BY AVERAGE ANNUAL VALUE OF MERCHANDISE IN WAREHOUSE [a]

Average Annual Value of Merchandise in Warehouse [b]	*Number*	*Percent of Total*
Under $25,000	206	16.4%
25,000–50,000	322	25.7
50,000–100,000	342	27.3
100,000–200,000	227	18.1
200,000 and over	156	12.5
TOTAL	1,253	100.0%

[a] Based on data furnished to the National Bureau by four leading field warehousing companies.
[b] Each size class is inclusive of the lower limit and exclusive of the upper.

percent of all warehouses fall within this class. About a sixth of all warehouses contain goods whose annual average value is less than \$25,000; nearly a third have an annual average deposit valued at more than \$100,000. For only 13 percent of the warehouses was the figure over \$200,000.

It appears that field warehousing is not a method for extension of large credits. It is a device used to facilitate the making of loans of relatively small amount, to business concerns of comparatively modest size. Since the financing agency acquiring the warehouse receipts as security for loans usually advances about two-thirds of the current market value of the commodities warehoused, the average annual outstanding loan balance of more than half of the loans is between \$15,000 and \$50,000. Comparatively few loans could have an average loan balance over \$100,000. The accuracy of these rough calculations is confirmed by information furnished by a sample of commercial banks. These banks reported an average outstanding field warehousing loan balance of \$40,000 around mid-1941.[7] When compared with the average outstanding commercial bank term loan of \$568,000, it is evident that field warehousing loans and term loans serve entirely different sizes of business concerns.[8]

There are no marked geographical differences in the size of field warehouses, although fewer large warehouses are found in southern states than in other regions, and the Pacific states contain more-than-average proportions of both very large and very small warehouses. Field warehouses containing canned foods, wines, beers and spirits, and petroleum products tend to run somewhat larger than average in terms of the average annual value of merchandise on deposit.

It must be borne in mind that *annual average* loan balances conceal a great deal of fluctuation in the amounts of credit in the hands of borrowers at different points of time. At their seasonal peaks in inventory-holding and working capital requirements, depositors in field warehouses may well have short-term debts secured by warehouse receipts amounting to four or five or more times their *annual average* loan balance. In fact, it is precisely this flexibility in the volume of credit available to the borrower that makes the warehousing technique so useful. By divorcing the amount of the loan from the borrower's equity or financial

[7] See Table 12 in Chapter 4.
[8] See Jacoby and Saulnier, *Term Lending to Business*, p. 135.

strength, and relating it to his inventory holdings at any moment of time, the amount of outstanding credit is geared closely to working capital requirements.

Lenders on Field Warehouse Receipts

To an overwhelming extent, field warehouse receipts serve as collateral for loans from commercial banks. The receipts from more than 85 percent of all field warehouses are taken by commercial banks only, and from another 6 percent of the warehouses the receipts are taken by banks in combination with commercial finance companies, trade suppliers, warehousing companies, or other types of lenders. Thus a commercial bank appears as a lender to depositors in more than nine out of every ten field warehouses. Next in importance to commercial banks come trade suppliers, warehouses, and commercial finance companies, in turn. There are no important differences in the size of warehouses whose receipts are held by the several lending institutions.

Warehousemen hold the receipts arising from their own custodianship of the goods in about 2 percent of the cases, thus combining the functions of custodian and banker. An interesting parallel to this arrangement may be found in the functions of the factoring company in the textile industry. Factors not only finance their clients through purchasing their receivables, but may also lend on the client's merchandise. If the goods are kept on the client's premises within New York State, the factor acquires a lien upon them under the Factor's Lien law of New York State, securing the repayment of any debt owed by the client. Outside New York State the factor may hold the merchandise under a field warehouse receipt. In cases where a field warehouseman extends credit against his own warehouse receipts, the transaction has a legal nature similar to that of a pledge of goods to the lender, as is the case in pawnshop lending. Field warehouses are classified by type of institution lending on the warehouse receipts in Table 5.

It is significant that nearly 93 percent of all field warehousing arrangements create collateral security for *one* type of lending institution, and only 7 percent involve lending by more than one type. This indicates that when a company deposits goods in a field warehouse in order to obtain credit, it almost always does

Table 5—FIELD WAREHOUSES OPERATED BY FOUR LEADING COMPANIES, AT MID-1941, BY TYPE OF INSTITUTION LENDING ON WAREHOUSE RECEIPTS[a]

Type of Institution Lending on Warehouse Receipt	*Number of Warehouses*	*Percent of Total*
Single Institution	*1,162*	*92.7%*
Banks only	1,071	85.4
Trade suppliers only	32	2.6
Warehouse companies only	22	1.8
Finance companies only	18	1.4
Other institutions	19	1.5
Combinations of Institutions	*80*	*6.4*
Banks and trade suppliers	47	3.7
Banks and other institutions	27	2.2
Banks and finance companies	1	.1
Other combinations	5	.4
No Information	*11*	*.9*
TOTAL	1,253	100.0%

[a] Based on data furnished to the National Bureau by four leading field warehousing companies.

so pursuant to a credit relationship established with a particular institution (or institutions of the same type), rather than as a means of obtaining funds from several sources. It may be inferred that field warehousing is not typically a device resorted to by business concerns in financial difficulty, seeking to meet the requirements of many kinds of creditors. It is a credit facilitating arrangement deliberately utilized in the normal course of business for financing mainly through one type of lending agency.