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: Credit Standards and Operating Techniques

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

Chapter URL: http://www.nber.org/chapters/c4021

Chapter pages in book: (p. 61 - 82)

5

Credit Standards and Operating Techniques

WHEN COMMERCIAL BANKS or other financing institutions grant credit to a business enterprise, taking field warehouse receipts as collateral security, the credit transaction contains a number of factors not present in an unsecured business loan.[1] The lender has the task of ensuring that the collateral security is actually present and contains the value it is represented to have, of evaluating the collateral in the event it must be liquidated by him, and of ascertaining that it continues to be kept safely during the term of the loan. It is true that a similar situation arises on the occasion of making any secured business loan. But field warehouse receipt loans give rise to peculiar problems.

Many business term loans, for example, are secured by real estate, plant, equipment, securities, and sometimes inventories of goods. In the majority of instances institutions making business term loans look for repayment primarily to a rather elaborate set of restrictive clauses in the term loan agreement and to the rate of earnings of the business rather than to the collateral security.[2] Pledge of the borrower's property is very frequently required only to ensure that these assets will not be pledged to other lenders during the term of the loan. This is not true in warehouse receipt financing, where the collateral plays a decisive role in the transaction.

Field warehouse receipt financing also entails different credit problems from those confronted in accounts receivable financing. While lenders against the assigned accounts receivable of a business concern do, in effect, obtain a lien on a particular class of

[1] This chapter is based mainly upon information obtained through personal interviews with officers of a large number of commercial banks in leading cities.

[2] See National Bureau of Economic Research (Financial Research Program), *Term Lending to Business*, by Neil H. Jacoby and R. J. Saulnier (1942) p. 76.

that concern's assets, one of their major credit problems is to evaluate the financial and moral worth of the many *customers* of the concern being financed, and of their ability and willingness to pay their trade debts. This element is not present in field warehouse receipt financing.

Instalment financing of commercial and industrial equipment presents the closest analogy to field warehouse receipt financing from the point of view of credit analysis. In both cases the lending agency appraises the earning power and moral responsibility of the borrowing enterprise, and perfects its right to take possession of particular property of the borrower. Yet even here distinctions between equipment loans and loans against commodities deposited in field warehouses are apparent. The collateral security in an equipment loan is a machine or fixture, such as a Diesel engine, a refrigerating unit, a dentist's chair or a road grader. Such property is usually rather highly specialized and the resale market for each kind of used equipment is generally imperfect and not easy to locate. The lender must possess personal knowledge of these markets and of the useful life, rate of obsolescence and rate of physical deterioration of the equipment in order to know what down payment to require, how long the loan should extend, and what should be the rate of amortization.[3]

In field warehouse receipt lending, by contrast, the collateral consists of stocks of merchandise, raw materials, finished, or semifinished goods. With certain exceptions, there are readier markets for this property, in the event it must be sold to liquidate a loan. But these markets have their own peculiar features, including characteristic seasonal fluctuations in prices, characteristic differentials in prices of different grades and qualities of a given kind of commodity, characteristic price differentials of the same grade and quality in different marketing centers, and characteristic hazards of deterioration in value during storage. Commodity credit officers must possess a wide knowledge of the different industries and markets served, as well as of the technical problems involved in field warehousing.

At the present point, the inquiry is directed toward the man-

[3] See National Bureau of Economic Research (Financial Research Program), *Financing Equipment for Commercial and Industrial Enterprise*, by R. J. Saulnier and Neil H. Jacoby (1943).

ner in which commercial banks organize themselves to engage in lending on the security of field warehouse receipts; how they recruit or train personnel to engage in this field of credit; the methods and standards of credit granting they employ; the rates or charges made for credit of this type; the operating procedures they employ; and the profitability of field warehouse receipt financing to them.

Organization for Commodity Lending

Loans to business enterprises secured by warehouse receipts arising from the deposit of staple commodities have been an integral part of American commercial banking operations for many years. It is not improbable that commodity loans were made almost from the beginning of bank history in the United States. Inventories of raw materials or finished or semi-finished goods have for many decades been the most salable and desirable assets that, from the point of view of the lender, could be offered as security for credit. The early importance of commodity loans in commercial banking is indicated by frequent reference to such loans in the National Bank Act of 1863-64 and is further evidenced by that provision of the Federal Reserve Act of 1913 authorizing Federal Reserve banks to discount "notes, drafts and bills of exchange, secured by staple agricultural products, or other goods, wares or merchandise," and by the large number of regulations and interpretations of this provision subsequently issued by the Board of Governors of the Federal Reserve System.[4]

It is, therefore, not strange that the special problems of appraising collateral, perfecting the lender's lien on collateral, maintaining the desired relationship between the value of collateral and the amount of outstanding credit, and providing for the deposit and withdrawal of commodity collateral have been recognized by many banks, and that special commodity loan departments have been created in some banks for the purpose of administering such loans. Loans secured by warehouse receipts issued against goods deposited in public terminal warehouses are ordinarily considered to fall within the same classification for

[4] See *Digest of Rulings* to October 1, 1937 (compiled in the office of the general counsel, Board of Governors of the Federal Reserve System, Washington, 1938) pp. 137-43, 568.

administrative purposes as loans secured by field warehouse receipts.

Certain differences in the problems presented by these two types of credit will be pointed out later, but these are not vital enough to call for the application of greatly different lending techniques. The majority of commercial banks possessing a substantial volume of commodity loans have not erected separate commodity loan departments. The more usual practice is simply to assign the task of making and supervising all credits based upon warehouse receipt collateral to one of the senior loan officers who possesses special knowledge and competence in this field. Even this specialization by individuals occurs only in the larger institutions. Because the total volume of commercial and industrial credit extended by most banks is not large enough to warrant division of functions, business loan officers of small and medium-sized banks necessarily must be prepared to grant credits under many different kinds of arrangements, as regards maturity, collateral security or provisions for repayment.

Notwithstanding the fact that separate commodity lending organizations are exceptional in American banking, there appears to have been a tendency during recent years for banks to create such departments. Those banks that have done so have generally been institutions that were desirous of building up a larger volume of such credits, and believed that the advertising and other values of departmentalization were worth their costs.

Personnel engaged in commodity lending has almost invariably been recruited from the ranks of the lending institution's staff. There is no evidence of an introduction of personnel from other lending institutions, as has been true with term lending, accounts receivable financing and instalment equipment financing, where banks have frequently employed persons with previous experience in investment banking houses or sales finance companies. One explanation is that commodity lending has long been an intrinsic part of commercial banking operations, while these other types of business credits have been grafted on to commercial banking operations at comparatively recent dates. Another factor is that lending agencies specializing in field warehouse receipt financing have never existed outside the banking system.

It is interesting that in some banks commodity loans are made by the same officers or departments that engage in factoring or in lending against accounts receivable. This is explained by the complementary nature of the two forms of business financing on the part of concerns that require additional working capital or that have highly fluctuating needs for working capital. For example, a business concern possessing good management and reasonable prospects of profitable operation suddenly experiences a large increase in orders for its products. While it is processing the goods for sale it may have few receivables to pledge as security for a loan made to finance the increased level of operations, but it is likely to possess substantial inventories of raw materials or semi-finished goods. Hence a field warehouse receipt loan provides a convenient basis for credit. As sales are made, the same concern acquires large amounts of receivables, particularly if it is the practice in that industry to sell on long terms, and its inventories concurrently may be greatly reduced. At this point an accounts receivable loan may replace or supplement the field warehouse receipt loan. Hence a bank loan officer often finds it advantageous to be schooled in both accounts receivable and field warehouse receipt financing.

Promotional Activities

The field warehousing companies have been the most aggressive agencies in developing field warehouse receipt loans for commercial banks. They have actively explored the market for this credit device, while commercial banks and business concerns have been much less aggressive in the initiation of loans. This situation is a natural one, since banks and business concerns generally have had alternative credit arrangements open to them, while the field warehousing companies have depended wholly for their continuance on the use of the field warehousing technique. They have had an especially urgent interest in "selling" field warehousing to bankers and businessmen. Banks have generally not taken the lead in finding enterprises whose financial problems could be solved acceptably on this basis. During recent years, as bankers have become more familiar with field warehouse receipt financing, an expanding part of the promotional activities of the field warehousing companies has been concerned with intra-industry competition for business.

In developing new business, the field warehousing companies have worked primarily with commercial banks and only secondarily with prospective borrowers. Recognizing that banks were already in close contact with the largest number of business concerns, and that business managements were generally guided by the credit arrangements suggested or imposed by their bankers, the field warehousemen have informed bankers of their facilities and encouraged them to make loans against field warehouse receipt collateral.

Consequently, the majority of field warehouses have been originated as a result of suggestions made to depositors by commercial banks. One large field warehousing company reported that about 80 percent of its field warehouses were installed as a result of references made by commercial bankers, and about 20 percent were established at the direct request of business concerns. Another warehousing company placed these percentages respectively at 95 and 5 percent. Still a third company stated that the great majority of its field warehouses came into existence through the suggestions of bankers, that others were put into operation at the suggestion of trade suppliers of the depositing concerns, and still others at the suggestion of depositors who had already made or expected to make arrangements for credit secured by the warehouse receipts.

Trade suppliers frequently have field warehouses installed for purposes other than obtaining receipts as security for cash advances. For example, the large can manufacturing companies follow the practice of depositing cans at the plants of food canning companies prior to the period in which they will be used, for the purpose of leveling out their own production schedules and conserving storage space at their factories. The can manufacturer holds the field warehouse receipts, and gives the custodian of the warehouse a general release authority permitting him to make periodical releases of cans to the canner up to a specified maximum value. As the cans are released, payables are created to the credit of the can manufacturer. The custodian prepares a daily report of releases, and when the total amount reaches the agreed maximum, further releases can only be made through further extensions of trade credit by the manufacturer to the canner.

Within the past few years, the impetus to the development of field warehouse receipt financing through commercial banks has shifted. With growing knowledge of, and experience with, these loans, an ever larger number of banks has become interested in making more of them. Therefore a large fraction of the field warehousing companies' selling effort has tended to be diverted from finding banks willing to make such loans to finding business concerns standing in need of them. Furthermore, there is evidence that commercial banks themselves have recently become a more active force in the initiation of field warehouse receipt loans.

Credit Standards and Credit Appraisal Methods

An approach to the complex topic of credit standards and credit appraisal methods in field warehouse receipt lending may be made by noting the major elements in such transactions:

1. *The field warehouseman*—his moral and financial responsibility, the amount, coverage and worth of his bond, the thoroughness with which he and his employees establish "continuous, exclusive and notorious" possession of the goods, and the form and validity of his warehouse receipts.
2. *The field warehouse*—the suitability of the space, and the validity of the agreement under which it is leased.
3. *The borrowing business concern*—moral and financial responsibility of its principals, its financial strength, the calibre of its management, its past and prospective earning power.
4. *The warehoused merchandise*—its value, quality, susceptibility to deterioration, breadth of market, and price fluctuation.

Upon obtaining and analyzing information pertaining to these four categories of elements, and reaching a conclusion that the circumstances warrant the extension of credit, the lender then sets up certain risk-limiting procedures and policies that will govern the original amount of the loan and its subsequent variation until repayment.

The Warehouse Company and the Warehouse

As field warehouse receipt lending occurs under a great variety of arrangements, no simple description can be given of the credit standards and credit appraisal methods in use. Normal or typical standards and procedures will instead be described, as these have been delineated to the authors by bank credit officers.

There are many considerations with respect to the field warehouse company and the warehouse on which the lender seeks to satisfy himself before granting a loan on the collateral security of field warehouse receipts. He normally seeks to determine the extent of the company's experience, the competence of its organization, whether the premises for the contemplated warehouse are suitable for storing the goods, whether the lease of these premises by depositor to custodian is in correct legal form, whether the warehoused goods are completely segregated from non-warehoused assets of the borrower, whether signs and markers are clearly displayed inside and outside the warehouse, whether the goods are accurately described as to quantity and nature in the receipt, whether the receipt meets the requirements of the law of the state in which it is issued, whether the custodian is properly informed of his duties and is performing them so that no question will arise as to his continued dominion over the goods, and whether proper insurance covers the receipt holder as an independent guarantee of the performance of the field warehouseman and against losses arising from the infidelity of his employees. As one banker has well put it: "In effect, the field warehouseman stands in the place of the vaults of the bank, and . . . should be selected with the same care as are employees of a bank who have access to the securities contained in collateral envelopes."[5]

It is necessary first of all for the banker to make certain that the field warehouseman is "a (legal) person lawfully engaged in the business of storing goods for profit," because warehouse receipts issued by corporations that are mere warehousing subsidiaries of the borrowing businesses may be declared invalid by the courts, thus destroying the value of the bank's collateral. The courts have definitely condemned warehouse receipts issued by the borrower himself or by his subsidiary as valueless. Ordinarily, however, the lending institution will not have difficulty in distinguishing warehousemen who are *bona fide* third parties to the credit transaction.

[5] See *Field Warehousing*, by William H. Miller, an address given before the Southwestern Regional Conference of the American Bankers Association, Fort Worth, Texas, December 6, 1940.

Next, the lender satisfies himself as to the financial responsibility of the warehousing company. This is especially necessary, because the loan is predicated upon receipts issued by the warehouseman. Unless there is assurance that there will be, at any time, goods in the warehouse of nature and total amount equal to the sum total of warehouse receipts outstanding, the primary basis for credit does not exist. Inasmuch as a large field warehousing company may, at a given time, be operating warehouses at hundreds of locations, each containing many thousands of dollars worth of goods, its aggregate liabilities may be many times its total equity. For this reason, prospective lenders against its warehouse receipts are often particularly careful to obtain knowledge of the aggregate amount and precise provisions of the warehouseman's bond. Normally, field warehousing companies protect their receipt holders against the negligence of their employees in the storing or handling of goods by taking out warehouseman's legal liability insurance. Usually, they also protect receipt holders against infidelity or breach of trust on the part of their employees by carrying fidelity insurance. Beyond this, a bank often probes the financial responsibility of the bonding company, ascertains with whom the bond is on deposit, and determines the conditions under which the bond may be realized upon by the receipt holder. Banks almost universally require that the borrowers insure against risks of loss by fire, as defined in standard fire insurance policies. Insurance against additional risks, such as those of burglary, water damage, windstorm, cyclone, tornado, war damage or other causes arising outside the warehouse may also be required, depending upon the credit policy of the lender, the location of the warehouse, and the kind of commodities contained in the warehouse. None of these risks are carried by the warehouseman.[6] The lending agency is ordinarily recognized as the insured under each such policy, by endorsement of the borrower, by a rider attached to the policy, or otherwise.

The suitability of the storage space for the amount and kind of

[6] A few of the major warehousing companies have facilities for issuing insured warehouse receipts. Under this arrangement each warehouse receipt is in itself a certificate of insurance which states the amount and nature of protection afforded by the contract or master policy entered into between the warehouseman and the insurance company. Such an arrangement may have obvious advantages to lending institutions. See Wesley J. Schneider, *Field Warehousing* (1941) pp. 51-53.

merchandise to be stored may also be given attention by the lending institution, and the lease agreement between the field warehouseman and the business concern is scrutinized to determine that it is *bona fide* and legally binding. Depending upon the law of the state in which the field warehouse is located, it may be desirable for a bank to determine that the lease has been publicly recorded by the warehouseman. Unless the lending bank possesses personnel trained in the problems and methods of warehousing, it usually relies upon the field warehouseman for judgment as to the suitability of the storage space. This provides, of course, an additional reason for the selection of a competent and reputable warehouseman. The warehouseman definitely has an interest in these matters as well as the banker, and in addition usually makes sure that under the lease the business concern pays for all services necessary to operate the warehouse efficiently, such as electricity, gas, heat, water and repairs. The lease further requires that the depositor shall comply with all laws pertaining to the property and shall hold the warehouseman harmless from fines, suits or claims. It frequently requires the bailor to keep in force public liability insurance to protect the warehouseman.

A bank's interest in a field warehouse is not, of course, confined to the period preceding its installation, but covers the duration of the loan secured by warehouse receipts. In order to protect their interest, some banks conduct examinations several times each year, on a surprise basis, of each field warehouse. The examination comprises an audit of merchandise in the warehouse against receipts outstanding, and a review of the effectiveness of the bailment. The bankers may even arrange to be furnished with photographs of each field warehouse, showing such features as signs, locks or other devices to make the bailment effective. In addition, the principal field warehousing companies employ travelling auditors to examine, on a surprise basis, the same factors that are of concern to the lending agency.

The Borrower

Bank credit standards pertaining to a business concern borrowing on the security of field warehouse receipts are generally as follows:

1. That the principals in the borrowing business have a "clean record" with regard to their respective business careers. This is

conceived to be necessary because a dishonest person can often find some way to defraud the bank, even though he borrows only on an apparently adequate collateral basis.

2. That the applicant concern is "in business to stay" in the sense that his financial records indicate a prospect of satisfactory earnings. This does not mean that a commodity loan will be declined because the past earnings record is unfavorable, provided a change in management or in production and marketing conditions has since made for an improvement. There does not appear to be any standard relation between the value of the applicant's assets and the maximum amount of a field warehouse receipt loan. In fact, there are many occasions when a business concern with highly fluctuating seasonal operations may at the peak have an outstanding warehouse receipt-secured indebtedness many times the amount of its own net working capital or even its net worth. This is frequently true of small canning concerns, for illustration. The major test applied by the banker is whether the concern appears likely to carry through its business operations profitably.

3. That the applicant is borrowing in order to secure funds for use in conducting the *normal* operations of his business, and not in order to acquire commodities for speculation. The rule against making warehouse receipt loans to finance speculative holdings of commodities is also applied by many banks against business concerns that do have uses for the commodities they desire to hold. Thus one institution reported that it would not advance funds to a business against warehoused commodities, if such funds enabled the concern to build up inventories of either finished goods or raw materials in excess of six months' requirements. Normal requirements were calculated by an examination of past operating statements. Clearly, such a rule could not be applied to all concerns rigorously, but it forms a policy guide line.

Bankers generally seek to determine whether a loan will fulfil a genuine economic function, such as enabling the borrower to take advantage of quantity discounts, to accumulate enough inventory in order better to plan production schedules, to purchase necessary supplies at lower off-season prices, or to take advantage of lower transportation costs.

An illustration of field warehouse financing motivated by the last-mentioned cause is a loan to a manufacturer of disposable tissue papers. The principal raw material required by this concern was bleached sulphite pulp obtained from Canadian sources. Originally, pulp was imported by rail at all seasons of the year, and the concern never maintained a large inventory on hand. Later, it was found that the costs of water shipment were so much lower that it was profitable to lay up a large inventory during the summer months before the Great Lakes froze over. This inventory was financed by establishing a field warehouse at the plant and borrowing against the warehouse receipts.

An example of the use of field warehouse receipt financing to stabilize production rates is afforded by a small manufacturing concern, the bulk of whose output is sold to a large mail order house. During a great part of each year this concern produces for inventory, places the finished products in a field warehouse, and borrows on the security of the resulting warehouse receipts to finance further production. Credit is extended to this concern by a local bank against the warehouse receipts and the purchase contracts of the mail order house.

The Warehoused Commodity

The greatest variation is found in bank credit standards pertaining to the nature of the warehoused commodity. A good number of banks have a policy of not lending against finished goods or goods-in-process, and limiting their field warehouse receipt loans to raw materials. Although the policy may be waived on occasion, the rationale underlying it is that raw materials are generally more standardized in nature and possess broader and better-organized markets, making possible a quick sale at an accurately predictable price in the event of necessary liquidation.

Some banks go further and stand willing to lend against inventories of finished goods or goods-in-process, provided the borrowing concern has good non-cancellable orders on hand for such merchandise. Still other institutions impose no general restrictions on the types of merchandise that may form the basis for field warehouse receipt credit, but take account of the greater risks inhering in loans against specialized merchandise lacking a broad market by reducing the maximum percentage of the amount of the loan to the value of the collateral. For illustration, a bank may advance

70 or 75 percent of the value of staple grades and sizes of underwear stored in a field warehouse at the plant of the manufacturer, while advancing only 30 or 40 percent of the value of custom-made underwear.

While it would appear theoretically practicable to compensate for *any* degree of narrowness in the character of the market for the warehoused commodity by adjusting the ratio of maximum credit to value of the collateral, it is nevertheless true that many banks avoid lending against particular commodities or classes of commodities. This is tantamount to requiring that a commodity must possess a certain minimum degree of liquidity before becoming the basis for a field warehouse receipt loan. No doubt the application of such broad rules of credit policy simplifies the task of the loan officer, and reduces the need for detailed scrutiny of many loan applications.

In this connection an interesting relation between field warehouse receipt financing and accounts receivable financing may be observed. On first thought it would appear that loans collateralized by accounts receivable would necessarily carry less hazard for the lending agency than loans collateralized by warehouse receipts, for in the former case the lender may rely not merely upon the promise of the borrower for repayment but also upon the fact that the puchasers of merchandise from the borrower have taken delivery of goods and agreed to pay for them. This may often be true, but there are also many instances where a field warehouse receipt loan is less risky. For example, a loan to a furniture manufacturer against lumber stored in a field warehouse for which there is a fairly broad market may be inherently less hazardous than a loan collateralized by the accounts receivable of the same manufacturer arising from the sale of custom-built furniture to numerous retailing concerns of mediocre credit-rating. In this case, the comparatively broad and stable market for the warehoused commodity may endow the collateral with more certain value than is possessed by the batch of receivables pledged by the borrowing concern.

Another credit standard frequently applied by banks when lending against field warehoused stores of staples such as sugar, cotton, or grain, is that the borrowing concern must hedge the purchases of raw materials, if there is a "futures" market for the materials or for the products made from them. Thus, milling concerns may borrow against receipts covering wheat stored in field warehouses at their plants. The lending bank is likely to require that the miller hedge by contracting to sell for future delivery flour equivalent in amount to the stored grain, as a condition of extending credit. It may even require that such "hedges" be assigned to it, as an additional measure of protection against loss. The purpose of this stricture is obviously to prevent the borrower from laying up a larger inventory of raw material than he can convert into finished product within a reasonable time, and to protect the borrower from financial difficulty in the event of an unexpected and large decline in the cash price of his finished product.

After a bank has satisfied itself that the field warehouseman, the borrowing business and the warehoused merchandise satisfy its broad credit standards, it then "sets up" the loan by putting into operation a number of procedures designed to limit its risks. The several steps in a typical procedure include the following:

1. The banker first requires the borrowing concern to submit balance sheets, profit and loss statements, budgets and other financial information, covering the most recent years of business operation. These will usually be set up on sheets in such a way as to facilitate year-to-year comparisons and to enable the credit department of the bank to determine the normal earning power of the business, its equity, its peak working capital requirement, and its operating plans for the future. Because field warehouse receipt financing may involve the advance of large sums compared to the borrower's equity, it is necessary for the lender to have a considerable amount of precise information concerning the "norms" of operation of the business. Usually, these financial statements together with the relevant analyses are placed in a credit file along with other information secured from mercantile agencies, trade suppliers, customers, and trade associations in the industry to which the borrowing concern belongs. Special attention is paid to the budget of proposed operations during the ensuing season or fiscal year, since this is the period for which financing is required and at the end of which the borrower must display an ability to "clean up" the loan. Here the lender attempts to satisfy himself of the ability of the concern to produce at the intended rate, of the existence of markets for its products at remunerative prices,

and of the capacity of the management to keep down costs to the proposed level. Bankers often establish contacts with brokers and dealers that have had business dealings with the borrower in order to verify the reasonableness of the borrower's proposed sales volume and the reputation of his product. The banker also obtains a letter of hypothecation, a general loan and collateral agreement, or some similar contract from the borrower, setting forth the rights of the lender to realize on the collateral under specified conditions.

2. The lender next fixes the maximum percentage that the amount of credit advanced at any time will bear to the value of the warehouse receipt collateral. (For brevity, this is referred to hereafter simply as the "percentage advance.") This is a risk-controlling measure of prime importance because it determines the amount of the bank's margin of safety, that is, the excess of collateral value over outstanding loan balance. This margin is required to cover price declines, deterioration, and expenses of liquidating merchandise in case the creditor must sell it to recover the amount owing by the debtor.

The percentage advance varies over a wide range and it is not possible to name an average or typical figure that is representative of banking practice. However, it is probably accurate to say that the majority of field warehouse receipt loans involve percentage advances of between 65 and 85 percent. The general principle is that, other factors being held constant, the percentage advance will be larger—(a) the broader the market for the warehoused commodity, (b) the smaller the degree of price fluctuation of the commodity, (c) the less the normal rate of deterioration in value of the commodity during storage, and (d) the smaller the maximum amount of credit extended to the borrower in relation to his net worth and net working capital. For example, one bank reported that it loaned up to 90 percent of the current market value of hedged sugar, because of its high liquidity and the price stabilizing operations of the Federal government. At the other extreme, another bank advanced only 30 percent of the borrower's *cost* of finished furniture in a field warehouse, realizing that a forced sale of this merchandise would realize a relatively small amount and that the costs of finding buyers might be large. The majority of loans against canned foods involve percentage advances of between 60 and 70 percent of market value. The degree of price stability of the commodity is often measured by finding the range of prices during each of the past five or more years.

In a majority of instances, if there is a broad market with available price quotations, the percentage advance is expressed in terms of the current selling price of the commodity in the market. Where current market quotations are not available, it is also frequent practice for the advance to be expressed as a percentage of the *cost* of the product to the borrowing concern. In the case of heavy and bulky commodities like coal or fuel oil, whose selling prices contain a large element of transportation cost, the bank may lend a specified maximum percentage of the borrower's cost at point of production *plus* the *full* amount (or a large fraction) of transportation costs to point of storage for distribution. The underlying reasoning seems to be that 100 percent (or slightly less) of transportation costs can be safely advanced because these expenses are outside the control of the business and must be incurred by anyone desiring to sell the commodity in a metropolitan market. Consequently, this element in price can always be recovered, so long as the fuel is sold in that market, whereas the full amount of other elements of cost cannot always be recovered. Such differences in the manner of expressing the percentage advanced usually appear to be of nominal importance. There is generally a fairly stable relationship between unit cost and unit selling price, or between cost at mine or other point of production and cost at point of marketing. Hence it is not a matter of moment which formula a bank uses.

3. The lender next institutes mechanical arrangements for determining that the proper relationship is maintained between collateral value and amount of loan during the term of its life. The first step is to appraise the inventory of commodities in the field warehouse. If the commodity is a staple such as sugar, grain, or cotton, the appraisal consists merely of looking up price quotations. If the commodity is not a staple, it may be physically viewed by the lender or his agents, its quality tested or graded, and its full value determined. While the appraisal of independent experts may be required for some commodities that are difficult to evaluate, such as tobacco, lenders may accept the word of the borrower as to the grade of more standardized commodities, such as cotton.

An agreement is reached between banker and borrower concerning the basis of valuing the collateral deposited or withdrawn from the warehouse. If the merchandise is not one for which frequent price quotations are available, some more or less arbitrary value per unit may be selected. Next, the lending institution may arrange to check the signatures on warehouse receipts. Some banks require every person authorized to issue receipts at each warehouse to execute a signature identification card. The signature on each incoming warehouse receipt is then systematically verified by comparison with the signature on the identification card, to minimize the possibility of fraudulent issuance of warehouse receipts.

The lending bank also generally maintains for each client borrowing against field warehouse receipts a running record showing daily or weekly changes in the value of collateral held in comparison with the amount of the outstanding loan balance. This is vital in order that the agreed margin of safety shall be maintained at all times. In the case of a client, such as a sugar broker, whose warehoused stocks may turn over very rapidly and involve comparatively large financial commitments, these records may require entries several times per day, and must be kept current.

An Example of Lending Operations

The preceding rather formal description of bank credit standards and credit appraisal methods in field warehouse receipt financing can be rendered clearer by considering a specific example of such operations. Only a specific example fully displays the breadth of knowledge of the business of the borrowing concern that the lender must possess. A typical loan to a tomato canning concern by an Indiana bank may be considered.

During the late winter or early spring months the canner comes to the bank and outlines his proposed plan of operations for the ensuing season. This plan includes a decision as to the number of acres of tomatoes that he will contract to purchase from farmers or will himself plant. From knowledge of the average yield per acre the approximate number of cases of canned goods requiring financing can then be estimated. Because the selling price of the canned product is variable the banker usually commits himself to advance from 60 to 80 percent of the canner's *cost* of the product against field warehouse receipts. This is equivalent to an advance of from 50 to 65 percent of the *selling price* of the product. As the tomatoes mature during the mid-summer months they are delivered to the canner who cans them and places the cases of unlabeled cans in a field warehouse. Meanwhile, a broker, who acts as agent for the canner, and who receives a 2 to 4 percent commission on the selling price for his services, will probably have found a buyer for the product. The buyers are mainly wholesale grocers or large chain retail grocers, who will design labels bearing their own brand names.

The amount of the canner's outstanding bank credit usually starts rising about the beginning of August, when the canning season gets under way, and reaches its peak about mid-October, after which sales of canned products enable the canner to withdraw goods from the warehouse and to reduce his loan balance. The bank normally expects the canner to "clean up" his loan by the following March 1st, although it may carry him over into the next canning season if it believes that a distressed market condition exists temporarily.

The percentage advance made to the canner is not small in consideration of the large number of charges the bank would have to incur in case it repossessed and sold out the warehoused merchandise. Among such charges would be warehousing costs, normal spoilage allowances, brokerage fees, allowance for discount below market price at which the stock can be liquidated, costs of labels, costs of labor for affixing labels, and local property taxes payable on the warehoused stock.

It is evident that the bank loan officer engaged in lending to firms in the fruit or vegetable canning industry must possess a considerable knowledge of the organization and normal methods of operation in the industry before he is in a position to know all the risks and the methods of guarding against them. This is equally true of the many other industries that make use of field warehouse receipt financing.

Costs of Credit to Borrowers

The costs of credit secured from commercial banks by business concerns on a field warehouse receipt basis consist of two major parts: warehouseman's charges for installing and operating the warehouse, and the interest or other charges made by the bank for the funds advanced. It is not possible to cite comprehensive quantitative information with respect to either classification of charges, as the data are regarded as confidential by both bankers and warehousemen. However, the range of costs of credit to business concerns on a field warehouse receipt basis can be established approximately, and the different bases used by field warehousing companies in determining charges for their clients can be described.

It appears that field warehousing companies usually make an annual minimum charge of $350 to $600 for installing a warehouse. One warehousing company is known to make a minimum charge of $200 for installing and operating a warehouse for a half year. The minimum charge is intended to cover certain fixed out-of-pocket expenses such as bonding, auditing, and travel expense incident to setting up and operating a warehouse, irrespective of its size. Above this flat minimum, the charge of the field warehouseman generally consists either of a certain percentage of the value of merchandise passing through the warehouse or a certain percentage of the amount of funds advanced by the financing agency against the warehouse receipts created by deposits in the warehouse. In either case, these percentages are such that the total cost of the warehouse to the depositor ordinarily runs around 1½ or 2 percent of the loan subsequently procured, although on very large loans it may be as little as ¾ of 1 percent. In some instances, warehousemen make a single lump sum annual charge for their services. Obviously, the larger the warehouse the smaller the ratio of charges to quantity of credit secured, other factors being the same, because of the presence of substantial amounts of fixed costs in field warehousing operations.

In consequence of the fixed cost elements in field warehousing operations, reflected in the minimum flat charges made by most warehousing companies, there is a minimum amount of loan that a business concern can economically obtain on this basis. This minimum naturally varies with the location of the warehouse, and is affected by local differences in costs of warehouse operation, but it appears to lie around $10,000. One field warehousing company, in fact, will not set up a warehouse in any location where the value of the average deposit is under $10,000, believing that the cost of credit obtained by collateralizing smaller deposits would be inordinately high. Thus even where the average amount of the loan is $10,000, a minimum annual charge of $350 by the warehouseman would add 3.5 percent to the cost of the credit. Nevertheless, there appears to be a tendency to establish warehouses smaller than this minimum, especially where the premises of the borrower are conveniently accessible to the headquarters of the warehouseman, thus bringing about special economies of operation.

An important result is that field warehousing is not a credit facilitating device than can be used economically by the smallest business enterprises. It is preeminently a method of facilitating the introduction of funds into enterprises of intermediate size—a fact previously observed in connection with the average size of deposits. It should also be noted that in this respect field warehousing differs from terminal warehousing. In the case of the field warehouse, which is an *ad hoc* credit device for a particular concern, that concern necessarily must bear the entire cost of the warehouse. In contrast, many concerns make deposits in public terminal warehouses. By spreading the fixed cost elements among many depositors, the terminal warehouse can set its minimum charges much lower, and the minimum amount of loans that can be made economically against terminal warehouse receipts can also be much smaller. One bank, for example, has a policy of making loans against terminal warehouse receipts as low as $5,000 in amount, but fixes a minimum of $20,000 for its field warehouse receipt credits.

There appears to be considerable variation in the effective annual interest rate charged by commercial banks for credit collateralized by field warehouse receipts, depending upon the total size of the loan, the nature of the warehoused commodity, the financial strength of the borrower, and the amount of mechanical work required to service the credit. As of mid-1941, the majority of loans appear to have carried rates between 3½ percent and 6 percent, judging from scattered information obtained from many sources. Lower rates are normally charged on loans of larger amount, made to borrowers having relatively strong financial positions, secured by staple commodities having wide markets and comparatively stable prices, and involving comparatively little paper work on the part of the lending agency. Higher rates are charged when the reverse elements enter the situation. The intensity of competition between commercial banks, or between banks, finance companies, or other financing agencies, also has a bearing upon the loan rate charged any given borrower. In general, it may be said that *any given business concern* can usually secure bank credit at a lower effective rate (apart from field warehousing costs) on a field warehouse receipt basis than on an unsecured basis, because of the lesser risk assumed by the bank. But the average rate charged by a *given bank* for its field warehouse receipt loans is likely to be higher than the average rate charged for its unsecured business loans, because of the higher costs of loan administration and the greater risks it assumes in lending to that class of business concerns that utilizes field warehousing as a credit facilitating device.

Many banks write their field warehousing credits in the form of demand loans, and charge interest on the actual outstanding loan balances. This is in contrast to their usual practice in making short-term unsecured business loans of taking the borrower's notes for given amounts, running for definite periods of time, and of discounting them at particular rates. The reason for the demand loan in field warehouse receipt financing is clearly that credit needs vary closely with the value of merchandise in the warehouse, and these needs are not accurately predictable in advance. The demand note with the interest charged on actual funds in use results in the borrower paying only for the actual amount of credit he uses.

The aggregate costs to business concerns of field warehouse receipt credit may therefore range from as little as 4 percent of the weighted average annual credit secured to 10 percent or more, in terms of the effective annual interest rate. The bulk of such loans probably cost the borrower between 5 and 8 percent, after he has added together the charges made by the bank and the field warehouseman.

It may be concluded that, weighed against the overall average cost of bank credit to business concerns, field warehouse receipt loans represent comparatively high-cost credit. This is so because of the comparatively large amount of administrative work they entail. However, there are occasional instances where the total costs of field warehouse receipt credit (including both warehouseman's and banker's charges) are less than the costs of securing credit on any other basis. In fact, some field warehousing companies have sought to expand their businesses by inducing individual concerns, already paying relatively high rates for unsecured credit, to establish field warehouses and obtain loans from other banks at so much lower rates on the security of the warehouse receipts as to realize a net saving. For example, a concern might be paying 6 percent for unsecured credit from a local institution. By establishing a field warehouse at a cost of about 1 percent of the amount of credit made available, it might secure funds from another bank at a 3 percent or 4 percent interest rate. The second institution would feel warranted in lending at a much lower rate than 6 percent if it held what was believed to be good collateral. These instances are not, however, to be considered typical, and are comparatively rare in occurrence.

Losses or charge-offs of field warehouse receipt loans by commercial banks appear to have been comparatively infrequent. Available data suggest that the most frequent cause of loss is inaccurate valuation of the warehouse receipt collateral by the bank rather than failure of the warehouseman to maintain a valid bailment, with the result that the bank is unable to recover the amount of the debt owed by the borrower, after taking possession of the merchandise and liquidating it. Such losses are, of course, in no sense the fault of the warehouseman. Bank losses resulting from the careless or fraudulent issuance of warehouse receipts or from negligence of the warehouseman in maintaining a valid bailment of commodities deposited with him are comparatively rare, because the bank is protected by the legal liability bond furnished by the warehouseman. Provided the warehouse is so conducted that there is a valid bailment, provided warehouse receipts are issued in proper form and amount, provided the warehouseman furnishes a legal liability bond of adequate worth and amount, and provided the relation of the bank's cash advance to the value of the collateral is not excessive, the hazards of lending against field warehouse receipts are minimal. In most cases where banks have been compelled to take possession of merchandise in a warehouse and to liquidate it, they have been able to recover the amount of the debt and the costs of liquidation.