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A comparison of the methods of credit analysis used by Dun & Bradstreet and selected commercial banks

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BOSTON UNIVERSITY

College of Business Administration

THESIS

A COMPARISON OF THE METHODS OF CREDIT ANALYSIS USED BY DUN & BRADSTREET AND SELECTED COMMERCIAL BANKS

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1963

This thesis was prepared under my supervision,

and approval is hereby indicated.

Professor of Finance

TABLE OF CONTENTS

I. Introduction 1

Purpose 1

Limitations 3

Definitions 5

Functions of Credit Analysis 7

Sources of Information 9

II. Basic Contrasts Between Bank and Mercantile Credit 11

Number of Transactions 11

Size 12

Mark-up 13

Risk 14

The Economy 15

III. Antecedent Factors 18

Behavior Patterns 19

Record of the Business Enterprise 22

IV. Dun & Bradstreet 27

Reports 27

The Service 28

Emphasis on Factors of Evaluation 29

Financial Aspects 32

Ratio Analysis 34

Standard Ratios 36

The Working Capital Element 37

Ratings 37

V. The Banks....................41
Weighting of Evaluating Factors....................42
Tools of Financial Analysis....................44
Statement Requirements....................45
Ratio Analysis....................46
Unfavorable Ratios....................48
Working Capital....................51
VI. Factors Indirectly Affecting Credit Analysis....................53
The Analyst....................54
Management Decisions Affecting the Analyst....................58
Attitudes of Business Management toward Being Rated....................61
VII. Selection and Training of the Analyst....................65
Selection....................65
Prerequisites....................67
The Profile....................68
Selection Methods....................69
Testing....................70
Training of the Analyst....................72
Formal Training....................76
VIII. Conclusions and Recommendations....................79
The Tools....................79
The Analysts....................82
Selection....................82
Training....................84
Appendix A....................86
Appendix B....................89

Bibliography..91
Personal Interviews...93
Other Sources...94

INTRODUCTION

Purpose:

The purpose of this thesis is to compare methods of credit analysis used by Dun & Bradstreet with those used by commercial banks. The process by which a credit decision is formed by any institution may be regarded as comprising three steps: the collection of data, the analysis of the data, and the interpretation of data which affects the final decision. This thesis will deal only with the analysis and interpretation divisions. Analysis and interpretation suggest that there may be qualitative factors to be considered in a study of credit. Therefore, the credit analyst and management in the role of both creditor and debtor will be discussed.

Dun & Bradstreet analyzes and rates merchants according to their ability and experience in meeting trade obligations. Trade credit is generally short term, or less than one year in duration. Commercial bank analysis includes intermediate and long term loans. This thesis is concerned with short run lending, comparable in duration to trade credit.

Over the years a great many tools of analysis have been proffered by various analysts. Among these are the Where-got, Where-gone Statement, ratio analysis, and The Robert Morris Associates Index.[1] This study will attempt to ascertain which of the many tools are now in use by the various analysts.

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[1]Robert Morris Associates, 1961 Statement Studies (Philadelphia: The National Association of Bank Loan Officers and Credit Men, Copyright 1962), Section II.

A further area of investigation is that of the interpretation or decision, which may answer any one or all of three questions. The first question is whether or not any credit should be granted. The second question is how large a line or amount of dollar credit should be granted. This question may be modified to decide the amount of increase or decrease in a case when analyzing an existing line. The third question asks what the terms of the loan will be. Ordinarily the terms of a loan will stipulate the duration and cost of the loan. If the credit is a trade obligation, the cost of the loan is included in the mark-up. Occasionally, a cash discount is granted by the seller; this discount may be considered a further cost of the loan when the discount is not exercised by the buyer. In the case of a bank loan, the cost is measured in terms of the interest charge. Bank loans also may have restrictions relative to working capital minimums, dividend payments, and minimum account balances. Such restrictions are usually placed on intermediate and long term loans. Intermediate and long term loans will be omitted from consideration because the thesis is limited to short run considerations relative to duration of a credit.

The investigation will study the decision factor only as it relates to the granting of credit. The decision relative to the granting of credit may require more than a simple Yes or No answer. As far as the banks are concerned, all decisions fall within one of three categories. The most favorable category is a grant of credit on an unsecured basis. The second category is a favorable decision on a secured basis. The third category is an unfavorable decision where no credit is granted

under any conditions.

The size of a loan in dollars affects the credit decision by a bank. The bank generally sets up limits beyond which a given account cannot borrow. The limits indicate the maximum amounts that can be loaned to the account on either an unsecured or secured basis. An attempt has been made to ascertain what the cutoff point is between secured and unsecured bank credit.

Decisions by Dun & Bradstreet analysts do not place restrictions on the type of credit, whether secured or unsecured, as trade credit is rarely offered on a secured basis. The agency decision is based on paying habits and ability. It places the risk on a scale with five significant points: excellent, good, fair, limited, and blank (-). The scale is more fully explained in the chapters to follow describing Dun & Bradstreet.

There are some qualitative factors which have a bearing on any analysis and decision. The most important one to be considered is the analyst himself. The investigation will attempt to discover what skills and personal traits are needed to make a man a good analyst. The selection and training of the analyst, then, will be of prime importance. Management pressures affecting the analyst's work will be discussed.

Finally, the attitudes of business managements toward being rated will be investigated.

Limitations:

The field of credit can be split, for convenience, into two broad areas, bank credit and mercantile credit. Either area in itself

is a very broad topic and far beyond the scope of a thesis such as the one at hand. As a result it is necessary to limit the scope of the thesis.

The banks under consideration are limited to commercial banks which are permitted to lend on a short-term basis. A further limitation relative to the banks is that the Greater Boston area is the only area considered. The study dwells on unsecured credit, principally, but the realm of security is investigated to the extent that there is a difference in the type of analysis. Short run credit is by definition credit of less than one year's duration. It is self-liquidating, which means that the goods purchased with the loan are assured of being sold and converted into cash within a short period of time or before the date on which the lender must be paid. Long-term credit is usually used in connection with the purchase of capital goods, and repayment is dependent upon the recovery of depreciation charges as well as profitable operations.

Mercantile credit departments may vary in size from one man operations to a line and staff organization of many people, as would be found, for example, in the larger companies of the steel and electrical goods industries. The professional's professional, Dun & Bradstreet, will be used as a model for the mercantile credit analyst. In the opinion of the author, this agency represents the ideal in credit analysis when compared to the typical business credit department analysis. Also, only the very large companies would be in a position to do as thorough a job as does the agency.

The thesis will be further limited to consideration of the Dun & Bradstreet analytical report. This report covers businesses with net worth in excess of $125,000. It also covers all carriers subject to Interstate Commerce Commission rule. In rare instances, the analytical department also issues reports on other businesses where the inquiry rate by subscribers to the Dun & Bradstreet service is high.

It is also noted that analytical reports are Dun & Bradstreet's finest and most painstaking product. These reports differ from the straight commercial report in that they are more detailed and are intended to analyse the risk as well as report the facts. The regular commercial report is generally a compilation of facts, with analysis being sketchy at best.

Definitions:

At this point it is significant to ask, "What is credit?" The answer to the question will depend upon the position taken by the respondent. For instance, a lawyer might use the words of McLeod: "A credit in law, commerce, or economics is the right which one person, the creditor, has to compel another person, the debtor, to pay or do something."[2] The creditor might use Levasseur's definition: "Credit is the exchange of an actual reality against a future probability," or a "sale on trust."[3]

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[2]Watrous H. Irons and Douglas H. Bellemore, Commercial Credit and Collection Practice (2nd Edition; New York: The Ronald Press, 1957), p. 4.

[3]Irons and Bellemore, op. cit., p. 5.

Another definition is, "Mercantile credit is that power inherent in the prospective borrower which induces another person to transfer goods or services in the present on the promise of future payment."[4] The author favors the latter definition as it is more comprehensive, and is usable before the actual grant of credit.

It is important for the purposes of this thesis, to distinguish between bank credit and mercantile credit. The most important difference is that commercial credit "... is extended for profit on goods sold rather than for profit in the form of interest...," as is the case of bank credit.[5] The two terms as used in this thesis can be considered interchangeable except for this distinction.

A contrast between internal analysis and external analysis is also in order. Internal analysis refers to all investigation, especially financial, which is directly related to the enterprise in question. Data used in the investigation consists of the company's financial statements, investigational facts about the company's past record, and antecedent information about the company's management. External analysis, on the other hand, takes into consideration factors other than those pertaining directly to the enterprise being analyzed. Examples of external analysis are, comparison with similar companies in the industry, comparison of composite statements for the industry, and comparisons with the economy.

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[4]Irons and Bellemore, op. cit. p. 5.

[5]Credit Management Handbook, A publication of the National Association of Credit Men (Homewood, Illinois: Richard D. Irwin, Inc., 1958) p. 9.

Functions of Credit Analysis:

The functions of credit analysis can best be approached by answering two questions. First, "Will he pay?" which is indicative of a debtor's desire to pay. A debtor may have the funds to meet a trade obligation, but this does not necessarily mean that he will discharge his obligation. On the other hand, he can not pay when funds are lacking. Analysis on which to base a decision on whether a debtor will pay comes from two sources, according to Roy A. Foulke. The first is "antecedent information, which is the full record of the individuals associated together in operating a business enterprise, and the record of the business enterprise, itself, since inception."[6] The second source is, "investigational facts, which cover the wide range of information obtained from thorough periodic bank and trade investigation."[7]

Given an affirmative decision that a prospective debtor will pay his obligations, then a second question, "Can he pay?" must be answered. Needless to say, if the answer to the first question is negative, no further consideration of the prospective debtor should be undertaken, as the element of risk becomes too high. The second question is somewhat easier to answer than the first, as there are quantative measures which aid the analyst in his decision. According to Foulke, a vice-president of Dun & Bradstreet, the answer to this question is derived from

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[6] Roy A. Foulke and Herbert V. Prochnow, Practical Bank Credit (New York: Prentice Hall, Inc., 1939), p. 168.

[7] Ibid.

"financial information, which represents available financial data. When adequate information is available, the analysis may cover (a) comparative balance sheets, (b) operating details and supplementary facts, (c) surplus accounts, (d) budgets set up in anticipation of future operations, and (e) trial balances."[8] The second source, "investigational facts," aids in the decision to the question, "Can he pay?"

"Will he pay?" and "Can he pay?" are general questions which must be answered. Benjamin[9] has undertaken to break down the functions of credit analysis in more specific terms as far as financial analysis is concerned. He lists six steps to be undertaken.

1. Determine the actual condition as to liquidating value.
2. Determine whether accounts receivable, inventory, and liabilities are in proper relation to sales.
3. Determine whether the debtor is relying too heavily on creditor or borrowed capital.
4. Provide a medium by which an individual balance sheet can be measured or compared with others in the industry.
5. Discover possibly misleading or false statements.
6. Provide a True Current Ratio on which loans or credit may be predicated.

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[8]Foulke and Prochnow, _op_. _cit_., p. 168.

[9]Eugene S. Benjamin, _Practical Credit Analysis For Bank and Trade Credit Men, Accountants, Investors, Business Schools, Merchants_ (3rd Edition; 220 Fifth Avenue, New York, New York: Eugene S. Benjamin, 1939), p. 1.

Although the merit of the six steps will not be discussed at this time, explanation of Benjamin's "True Current Ratio" is in order.

The current ratio is defined variously as the total of current assets divided by current liabilities. "The higher the current ratio, the greater the equity in current or trading assets of a business and protection of the current debt."[10] Benjamin would agree with this statement as far as it goes. He implies that amounts shown on financial statements, especially the values for receivables and inventory, are open to question and should be tested to see that they "...are in fair and proper proportion to sales..."[11] Only after such necessary adjustments would one arrive at a True Current Ratio.

Sources of Information:

Information relative to the various tools of analysis has been gathered from numerous books and other publications, as noted in the bibliography. A background knowledge of the field of mercantile credit was gained by the author through one year's employment with Dun & Bradstreet as an analytical reporter.

The information on the methods of analysis at Dun & Bradstreet as well as the comments relative to the different ratings were obtained through personal interview with three analysts chosen with the idea of getting differing opinions. Those interviewed included the oldest and youngest in years of service, and a third analyst considered by his

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[10]Credit Research Foundation, Credit Management Handbook (Homewood, Illinois: Richard D. Irwin, Inc., 1958), p. 221.

[11]Benjamin, op. cit., p. 5.

co-workers to be an "authority."

The information about the various banks was gathered almost entirely by personal interview. Those interviewed were generally the directors of the credit departments, where credit analysis was in fact departmentalized. An effort was made to include both urban and suburban banks, and among the urban will be found the largest bank in Boston, two of intermediate size, and one which is comparatively small. The three suburban banks were smaller in size than the intermediate urban banks, but were among the larger suburban banks. The names of those interviewed with their respective titles and affiliations, appear in the bibliography.

BASIC CONTRASTS BETWEEN BANK AND MERCANTILE CREDIT

The basic purpose of all business, be it manufacturing, sales, or service is to earn a profit for the owners of the business. Almost all businesses offer credit in some form, but banks and other lending institutions are unique in that loaning funds is their major function. In contrast, most other enterprises offer credit only as an incidental function. Most businesses offer credit as an incentive to the customer to buy, so, for competitive reasons, it seems likely that the credit function will continue, though not as a major purpose for being in business.

Differences between the type of credit offered by banks and the type offered by merchants appear in a number of aspects. These are the number of transactions occurring, the amount of credit extended, the mark-up given, the risk involved, and the economy of the country.

Number of Transactions:

When using the bank as a means of credit, borrowers usually make one loan in a given year, ordinarily coinciding with a peak season. The loans are for the most part short-term and self-liquidating. A company which manufactures skis is an example. The selling season for skis begins about October and ends in February or March, a period of six months. The manufacturer keeps his plant open the year around but has very little income during the off-season months, April to September. In order to continue manufacturing during the low-income months, he borrows funds which will be converted into inventory to be sold during the following selling season. As receipts from sales appear in November, the manufacturer

begins to repay the loan, which should be paid out by the end of the selling season. The term of the loan is less than one year, and repayment coincides with the peak season.

The merchant has the ability to "get in" and "get out" of a credit arrangement in a relatively short period of time simply by refusing to sell on other than a straight cash basis. For example, a meat wholesaler will supply his customers on the average of once per week. His selling terms are net weekly, so that on any given day, the wholesaler will have only one fifty-second of an entire year's sales out on credit. At the end of each week he collects his costs, expenses, and profits for the preceding week. In contrast, the banks generally lend for periods of at least 30 days, and more often than not, considerably longer periods. The banker cannot discontinue credit with the ease and facility of the merchant. Merchants, then, take many small risks as contrasted with the fewer large ones assumed by banks.

Size:

Debtors generally confine their business to one bank, or a very few banks when their business is of such size as to require the banks to spread the risk. Using the ski manufacturer as an example, it can be seen that the loan will start with a small advance in April or May and will build up to a peak in October or November. During the intervening months, there is no possibility of the manufacturer discharging his obligation, as he has converted the loan into ski inventory. Repayment cannot be made until the inventory is sold and the manufacturer has received payment from his customers. Individual bank loans tend to be larger than

mercantile credits due to the concentration of need for credit prior to the peak season.

Debtors in their dealings with merchants purchase inventory from a number of suppliers due principally to the diversification of the items to be purchased. Also, debtors buy on credit terms on a number of occasions during the year, so that the cost of inventory is spread among several creditors. The meat wholesaler sells to many customers each week, so his credit risks are well diversified. The chance of one customer defaulting is always present, but the chance of all customers defaulting is very small. Even if one customer does default, the wholesaler is loosing only a small portion of his earnings for the week, or a small portion of an entire year's sales to the defaulting customer. The wholesaler's credits are therefore smaller and scattered on an individual basis.

Mark-up:

Banks work on a margin or mark-up which is characteristically 6 per cent or less, depending upon the nature of the loan and the general level of interest rates. If the bank loaned the ski manufacturer $10,000 for the entire year, the income would be only $600. This $600 must cover all administrative expenses, interest on depositors' money, and profits to equity stockholders. In addition, an amount must be set aside to provide for loans which are defaulted.

In contrast, merchants work with margins often up to 40 per cent. And to make the picture more favorable, the mark-up is rarely on an annual basis. If the meat wholesaler sells a customer $10,000 worth of merchandise in one year, he would be selling about $200 worth (actually $10,000

÷ 52 or $192.30) per week. His mark-up is certainly more than six per cent. If a figure of 10 per cent is assumed, the wholesaler would collect about $20 (10% of $200) per week toward expenses and profits. At the end of ten weeks, he would have collected $200 (10 times $20) towards his expenses and profits, and any default by a customer would have been covered by previous weeks' income. A bank's loss in case of default, on the other hand, would be the total amount of the remaining loan balances, which would generally be considerably more than the $600 margin.

Risk:

The bank serves in a fiduciary capacity in that it accepts deposits which it loans at interest. The funds must be returned to the depositors eventually. As a rule funds are loaned out by banks for a fixed period of time, generally thirty days or longer. Because of the contractual nature of the loan, (repayment required at the end of 30, 60, 90 days or longer) the banks are not able to "get in" and "get out" as readily as the merchants.

As noted previously the dollar amount a bank risks is higher in a given transaction than most mercantile credits, so there is a greater potential loss dollarwise per transaction. In more general terms, the banks offer more dollar credit for longer periods of time for less money than do the merchants.

Merchants loan their money in the form of mercantile credit and the risk is much smaller, Customers are generally in better financial condition than bank borrowers. The meat wholesaler may have a customer default, but he will lose only one week's receivables, or $200 in the

illustration above. The risk factor is lower for the merchant because the credits are smaller and of shorter duration than the banks'.

The Economy:

Depression, or recession in present-day nomenclature, and inflation also have their effects on the types of credit extended. In depressed times customers of the bank are often at their peak need for funds, "to tide them over." While banks admittedly curtail loans to a certain extent, they do continue to lend money in bad times when risks are higher. Usually the banks begin to look for security where loans in the past were unsecured. Secured loans are curtailed by allowing less credit on the same dollar security value. For example, if the ski manufacturer was borrowing on an unsecured basis in previous times, the bank might now ask for security, perhaps a pledge on the inventory purchased with the loan. If he was already using inventory for security, it is likely that the bank was loaning the $10,000 on the pledge of inventory with a value of $12,500. The borrower was getting 80 per cent of the value of the collateral. The bank may now drop the percentage to 60 per cent, so that the loan value of a $12,500 inventory is only $7,500. During times of inflation, the process is reversed, so that a loan which formerly required security may be obtained on an unsecured basis. The loan value of the inventory may also be increased to 80 per cent from the former depressed value of 60 per cent, at the descretion of the bank's loan committee. It should be noted that the federal and state governments attempt to regulate the amount of credit outstanding at a given time through the Federal Reserve Bank and similar state regulatory bodies. Present regulations apply to

the ratio of the dollar amount of loans to the dollar amount of deposits and/or cppital. The ratio of secured and unsecured loans to deposits and/or capital is also regulated. The various government regulations presently apply to the loans of a given bank in the aggregate only. For that reason the effect of government regulation on loans will not be discussed further in this thesis.

Merchants have more flexibility of control over the risk fluctuations due to changes in the business economy. During depressed times, all firms curtail buying to some extent in anticipation of decreased demand for their product and a complimentary decrease in sales. If the firm is able to control expenses so that sales do not drop faster than expenses, then the merchant will be in good position to discontinue credit on poorer credit risks. The further decrease in sales will not substantially hurt the profit picture. The mercantile transactions are usually completed in 30 days or less, and the merchant thus has more freedom to pull out of a weak credit situation than the banks. The banks may have agreements which extend for periods exceeding one year and be unable to curtail credit until termination of such agreements. During good times, merchants loosen up on the credit reins. They often take on new risks on the theory that anyone can stay in business in good times--that only the strong risks with experienced managements survive the other extreme.

The ski manufacturer is affected more by the extremes of the business cycle than the meat wholesaler, because skis are a luxury item and meat is a necessity. The banker is in a bad position here, because the ski manufacturer likely will not sell his entire stock. Thus there

will be no funds, or maybe only insufficient funds, to repay the loan. However, the bank is somewhat locked into the agreement, because the terms state that the loan does not have to be repaid for one year. The meat wholesaler may discontinue credit in a matter of one week if he so desires. The demand for meat will not drop as sharply during bad times as the demand for skis, so there is less need for curtailing credit by the meat wholesaler. The merchant, then, will have more control over the credit he extends relative to the business trend than does the bank.

ANTECEDENT FACTORS

Antecedent information necessary for a decision on whether a debtor will pay includes, according to Foulke's definition, a "....full record of the individuals associated together in operating a business enterprise, and the record of the business enterprise, itself, since inception."[12] The record of the individuals includes such information as time and place of birth, education, work experience, and responsibilities within the enterprise. Also included are record items such as law suits and any associations with other enterprises. The record of the enterprise itself, includes a complete record of the growth of the organization from birth, including reorganizations, mergers, and type of organization (partnership, corporation, etc.). In the case of the corporation it will include all parent-subsidiary and affiliate relationships. Litigation and other record items are also included under all types of organization.

Antecedent information, which is qualitative in nature, cannot be subjected to analysis in the manner of quantitative financial information. If an individual operating a business is a race track habitùe, there is no way of measuring in quantitative terms the effects on the business of the operator's time spent at the track. If the past record of the enterprise discloses a fraud, there is no way to evaluate the effects of the fraud on the business today.

Dun & Bradstreet analysts and bank analysts do not agree on how

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[12]Foulke and Prochnow, op. cit., p. 168.

the antecedent factors should be weighted in the final decision. In the following paragraphs, reactions of the analysts to different factors, first personal, and then of the enterprise itself, will be noted.

Behavior Patterns:

The analysts were asked to comment on the effect of four personal behavior patterns on the credit decision. The patterns are: a race track habitue, over-indulgence in alcoholic beverages, acquaintances of questionable character, and age. The Dun & Bradstreet analysts were asked to specify which behavior patterns would definitely indicate a blank rating. A blank rating may signify either or both of two situations. In the first, information considered vital is lacking. For example, an up-to-date financial statement may not be available. In the second situation, the information may be complete, but at least one factor of information indicates a questionable risk. A blank rating generally may be interpreted as a signal to the subscriber to avail himself of a complete report. It is the second category of blank ratings which will be dealt with in this chapter.

The bank analysts were asked to indicate which of the behavior patterns would remove a prospective borrower from further consideration. The bank analysts generally feel that character means proportionately less to the over-all analysis as the enterprise increases in size. This is because the larger companies have more rules and more diversification of operations. Consequently, more members of the management team look over each decision, and there is less chance of a poor decision being carried to completion.

The race track habitue is definitely a candidate for a blank

rating in the eyes of the three Dun & Bradstreet analysts. The bank analysts feel that knowledge about a member of the management team is a good warning signal, and further investigation is warranted. The reason for the contrast in opinion is probably due to the profit motive. The Dun & Bradstreet analyst does not tend to gain or lose any business for his company by his decisions, and he will naturally try to come to a conservative decision. The bank analyst, on the other hand, looks at each case with the profit motive in mind. He may tend to be slightly less conservative in his decision, although he will act favorably in a marginal situation, having full knowledge that it is a marginal situation.

Over-indulgence in alcoholic beverages would mean a blank rating automatically to two of the three agency analysts. The bank analysts, while considering such knowledge as a warning signal, would not definitely rule out a loan because of this behavior pattern for the same reason that they would not rule out the race track habitué. The third agency analyst and most of the bank analysts brought out the point that there is an area of judgement as to when a person is over-indulging. Drinking may be caused by problems in the home, and it is possible that the business is not at all affected. On the other hand, one analyst expressed the opinion that either gambling or drinking behavior patterns are bad because a preferred risk would have no time for either the track or excessive use of liquor.

The risk's having acquaintances of questionable character is the third factor to be discussed. Two of the three agency analysts feel that this may constitute sufficient reason to use the blank rating. The

third agency analyst feels that it is unjust to judge a man's character completely by his acquaintances. Such a judgement situation merits a constant vigil by that analyst. The bankers were once again governed by the profit motive to some extent. Two bank analysts recited the following example. The vending machine business has long been tainted because some of the owners and managers have either been of questionable character, themselves, or have been known to have had business dealings with members of the underworld. The bank analysts are fully aware of the situation, yet both banks have loans outstanding to members of that industry. The profit motive undoubtedly accounts for some of the favorable decisions, but probably the fact that the loans are collateral loans on the equipment lessens the importance of the character factor.

Age as a factor relative to a credit risk may refer to three separate but related elements. They are: experience in the field, maturity of judgement, and physical energy and health. The agency and bank analysts were of one mind relative to the age factor. Inexperience is one of the leading causes of business failure, according to Dun & Bradstreet.[13] A business managed by inexperienced persons will invariably be rated blank by the agency analysts until such time as success is indicated. The banks will generally lend to such a management only on a secured or endorsed basis. Maturity is relevant only at the extremes of youth and old age. A young, immature management will have difficulty securing credit, and a management past maturity or bordering on senility is equally as weak a credit risk. When a key figure of the management

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[13]Dun's Review and Modern Industry, April, 1956, p. 24.

team is either suffering from failing health or is past his most productive years, age may also be a detriment to the firm's success in obtaining financial aid.

One further point is worthy of discussion at this point in the thesis. All of the urban banks make use of the character reference services to some extent to aid in the evaluation of management. The suburban banks tend to rely on the services to a lesser degree, if at all. The urban banks must make use of such services because their borrowers are of statewide and even national scope. On the other hand, borrowers using the suburban banks are mostly local people with whom a closer personal relationship is possible. The character services do an adequate job on the out-of-town managements when it is remembered that character is not so significant to the bankers in evaluating the risk factor for the larger businesses. The suburban banks, catering to the smaller businesses, have first hand information on the character of management through their own personal interviews. Dun & Bradstreet, which is now an international concern, makes its own personal investigations in all cases.

Record of the Business Enterprise:

The second category of antecedent information is the record or history of the business enterprise itself. The information included in such a history should be complete and unbroken since the founding of the business. The record should include faverable as well as undesirable events. The analysts were asked to comment on the effect of six possible undesirable occurrences in the history of a business. These are: bankruptcy, fire, fraud, litigation, liens, the taking of unearned discounts,

and an account being turned over to a professional collector. Once again, the Dun & Bradstreet analysts were asked to indicate which occurrences would require a blank rating, and the bank analysts were asked to indicate which occurrences would mean a refusal of credit.

Bankruptcy is an element which changes a rating to blank automatically, according to the Dun & Bradstreet book of rules. The rating remains blank for a period of not less than five years. At the end of that period it is up to the analyst to re-evaluate the case, taking into consideration the record compiled by the company during the probationary period. One analyst indicates that a former bankrupt would rarely get a rating any higher than second line credit (good). The bank analysts feel that a bankruptcy is detrimental to the credit standing of an enterprise, but the time of the bankruptcy as well as the contributing conditions are taken into consideration. The state of the economy stabilitywise and relative to the business cycle at the time of the bankruptcy is most important. Generally, the banks act favorably toward a bankrupt seeking credit unless the insolvency is relatively recent and insufficient corrective action has been taken. Bankruptcy which occurred directly subsequent to the stock market crash and through the depression years is not considered highly detrimental unless the enterprise has been unable to shake off injurious after-effects.

A fire record may be detrimental to an enterprise in either of two cases. The first is when arson has been proven; the second is when there has been an excessive number of unexplained fires. The cause of the fire and any possible negligence are important factors to be considered

in any action by either the agency or bank analysts. Most reputable businesses are fully covered by fire insurance. Dun & Bradstreet analysts discredit businesses which are not properly insured, and the banks expect an uninsured business to purchase a proper amount of insurance before making loans.

Fraud will definitely bring a blank rating from any of the three agency analysts. Such a record would also rule out the possibility of bank loans. It is difficult for a business to remove the stigma of a fraud even when those connected with it have been removed from office. Generally, Dun & Bradstreet analysts will leave a blank rating on a business connected with a fraud for a long probationary period. The banks will extend credit only in unusual situations.

Litigation may affect the ability of an enterprise to command credit, depending on the nature of the litigation and the amount of money which is involved. Tax evasion is a felony, and would receive no better than the blank rating from the Dun & Bradstreet analysts. While a business may set aside funds in anticipation of an adverse court decision, an excessive amount of litigation could conceivably put the banker in the undesirable position of having more funds in a business than the owners.

A tax lien is a legal tool used by the government to hold property or to have it sold or applied for payment of a tax claim. It is generally used when the government believes that there is no other possible way to settle a bill for back taxes. If the lien is used because there is some disagreement about accounting methods, for example, the analysts do not become alarmed unless the contingent payment is so large that there

is a possibility of the business being forced into receivership. On the other hand, if the tax lien is used because of failure to pay social security taxes withheld from employees, the analysts will rule against the business. Failure to pay social security taxes is considered by analysts as the lowest form of thievery, regardless of the dollar amount.

Trade checks can bring out valuable information about a business looking for credit. Adverse conditions may be recognized as taking three forms. These are: the taking of unearned discounts, laxity or negligence in meeting trade obligations, and the final step of having an account turned over to a collection agency. The taking of unearned discounts has become a common practice in some industries as well as by individual firms in the United States. Creditors who offer cash discounts of 2% 10, net 30 days, for example, have found that many debtors take discounts beyond the ten days allowed, and in some cases up to the 30 day net term. This has created a problem for credit managers, because competitors may be allowing the extended terms. If the debtor is not handled with the utmost tact, his business may be lost to competition. Some creditors who are expanding have been willing to ease up on the credit terms in order to aid the expansion of sales and profits. The debtor's practice of taking advantage of this easing up on terms does not earn a blank rating from the agency analysts, but neither does it receive a top credit rating. Slowness in meeting obligations will remove a top credit rating automatically. As a firm becomes progressively slower in meeting obligations, the rating will be dropped to lower classifications. In the case of extreme laxity, or the point at which the professional collection agencies are called in,

the rating will be blank. Usually, however, the financial condition has deteriorated faster than trade payments, so that the blank rating would precede the collection agency criteria for a blank rating.

In contrast, it should be kept in mind that funds borrowed from the bank enable the business to get on a current basis with trade suppliers in the event the business is not already current with its suppliers. Banks will lend funds to businesses in such condition when it is felt that the loan will help the company out of trouble. It is hoped that such assistance will be only temporary, as the banks do not want to be put in the position of having loans appear to be invested capital.

Antecedent information which may adversely affect a credit decision has been noted. The final decision, however, must rest on more than the record items alone. Capacity and the financial analysis are important considerations to be taken up in the next two chapters on Dun & Bradstreet and the banks.

DUN & BRADSTREET

Dun & Bradstreet is a mercantile credit agency which evaluates the ability of a business firm to meet financial obligations. The evaluation is made in terms of the firm's past payment record and present capacity to pay.

The ratings are made up of two symbols, a letter and a number. The letter indicates the dollar amount of tangible net worth. Tangible net worth is defined as total assets less intangible assets and liabilities. The number element represents an appraisal of the company's credit strength, which is a composite of the firm's past payment record and present capacity to pay. The numbers indicate, as noted previously, excellent, good, fair, and limited. Thus, a rating of D2 would indicate a tangible net worth which lies within the range of $35,000 to $50,000, and a composite credit appraisal of "good".

Two other ratings are possible. The "investigating" rating indicates that investigation was incomplete when the book in which the rating appears went to press. The absence of a rating, expressed by the blank (-), signifies that circumstances were difficult to classify within the condensed rating symbols. Such a rating should suggest to the subscriber the advisability of obtaining a full copy of the report for additional information.

Reports:

The agency sells reports which can be divided into two classes for purposes of description. The analytical report covers all business

of tangible net worth in excess of $125,000, as well as carriers subject to Interstate Commerce Commission jurisdiction. In rare cases, businesses with tangible net worth of less than $125,000 are reported in the analytical report form. These businesses are subjects of an unusually high inquiry rate by subscribers to the Dun & Bradstreet service. All other enterprises, from the one-man shoe repair shop to corporations with tangible net worth up to $125,000 are reported as Commercial Reports.

The Service:

Dun & Bradstreet sells service contracts of various sizes depending on the geographical area covered. There are contracts covering areas as small as Eastern Massachusetts, and as large as the entire United States. In addition, reports are available about businesses in other nations. The subscriber receives a book on a lease basis which lists all businesses in the area covered by his contract. Beside each business name appears a designation of the type of business operated and a credit rating. The book is revised by Dun & Bradstreet four times each year. It is possible, then, for a subscriber to get as many as three revisions of the book during the term of his annual contract.

The purchaser of a contract is also entitled to copies of the actual reports. Each contract is limited in the number of reports which can be obtained without extra charge. Generally, the larger the area covered by the contract, the higher the number of reports allowable without the surcharge.

Dun & Bradstreet also offers a number of other services, on separate contracts. They will only be mentioned here, as a discussion

of the services is not pertinent to the present thesis. There is a Mercantile Claims Division, which is a collection service. There are a great many publications such as, "Dun's Review and Modern Industry," a monthly publication. Other publications are distributed at irregular intervals.

Emphasis on Factors of Evaluation:

After interviewing three analysts at Dun & Bradstreet, an attempt has been made to point out the elements used in appraising a credit risk, and to rank the elements in order of importance. It is sufficient to state here that the variations in analysis do not lie in the tools used as much as in the emphasis on the different factors taken into consideration. Analysts, being individuals, are not in agreement as to the relative weights which should be placed on the different elements of the credit risk.

The analysts were asked to rank the five elements: character, capacity, trade experience, account balances, and borrowing experience. They were unanimous in ranking character at the top of the list as the most important factor. In a credit sale, the seller exchanges his goods for the customer's promise to pay at a future date. "That promise is worth little if a customer does not intend to keep it, or if he is a moral weakling who will fail a promise that has become irksome to perform, or if he has vices that may bar him from fulfilling his promise."[14] A customer may have the capacity or cash to discharge the obligation, but he may not pay if he does not feel the moral obligation to pay. One analyst

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[14] Dun's Review and Modern Industry, April, 1956, p. 29.

did state, however, that other factors could precede character, depending upon the circumstances. Character tends to lose its importance as the size of the business increases due to departmentalization and the spread of responsibility.

Capacity, or the ability to retire obligations as they mature, is the second most important element. If it is ascertained that a customer is willing to pay provided he has the funds, then the natural question to ask is, "Does he have the funds?" Capacity, as will be explained shortly, is measured by the conditions shown on the various financial statements. Specifically, the income statement shows the flow of funds over a period of time, and the balance sheet shows the amount of funds on hand at a specific moment in time.

The elements beyond character and capacity are not really separate elements, because they are in support of capacity. Of these elements trade experience is considered the most important by the analysts, because the historical record of payments reflects the manner in which trade obligations have been handled in the past. Admittedly, evidence of a good payment record in the past is not a guarantee of future payment, but it is an important factor in grading a customer as a credit risk, because it does show a trend.

The other elements of the credit risk, account balances and borrowing experience, need explanation. "Account balances" refers to the average amount of cash kept in the bank by the customer. Weakness in a customer's financial condition may be brought to light by the banker's comments. If the balance sheet, for example, indicated $10,000 of cash in the bank, and the bank indicated average balances in the low four

figures, then there would be a question as to where at least $7,000 is. Some businesses build up the cash account prior to statement time to improve the statement for credit purposes. There is also a possibility that the financial statement is fraudulent. Bankers will indicate if the account has been over-drawn at any recent time, and this is another danger signal.

Borrowing experience refers to the past record of a customer with its bank relative to loans. The information to be gathered is the recent high credit, which is an indication of the confidence of the bank in the account. The type of loan, either secured or unsecured, is also indicative of the bank's confidence. An unsecured loan indicates a stronger financial position than a secured note. The banker will indicate in general terms the amount of any loans presently outstanding. He will also verify the amount of the loan as of the statement date. This information will verify a part of the liability side of the financial statement. All of this information will be summed up by the banker in his statement about relations between the customer and the bank. "Satisfactory relations" means that all notes have been handled as agreed, and that the account does not over-draw. If the banker does not indicate satisfaction, then further investigation is in order.

The non-financial aspects of the credit investigation were discussed in chapter III. The remainder of this chapter will be devoted to a discussion of financial aspects of the investigation as used by Dun & Bradstreet.

Financial Aspects:

Dun & Bradstreet uses the trend analysis tool in studying financial statements. The trend reflects the composite direction of the business over a period of at least three years. Each analytical report includes fiscal statements for the three latest periods available. The agency files all statements of previous years so that they may be used for reference throughout a given business cycle, and also to note any significant changes occurring in recent years beyond the three printed in the published reports.

The agency uses internal analysis as defined previously. Cash balances are verified, and any bank obligations are checked to bring statement information up to date. Trade references are checked at six-month intervals, and some ratio analysis is used as described later in this chapter. According to one analyst, credit reports are considerably weakened due to the lack of supervised inventory-taking and accounts receivable verification. These are important elements of internal analysis which are not included in the Dun & Bradstreet analysis. The reason for the lack of these elements is the prohibitive cost of such an examination.

Most companies now report that inventory valuation is based on cost or market, whichever is lower. Cost valuation is generally lower in an expanding economy. The method of cost evaluation, then, is an important consideration. Generally, one of two methods is used, FIFO or LIFO. When the FIFO (first-in, first-out) method is used, it is assumed that the goods are sold in the order in which they were received. When the LIFO (last-in, first-out) method is used, the assumption is that the goods received last

were sold first. LIFO corresponds with the actual facts in very few cases. "LIFO will tend to level out the reported profits over a cycle of rising and falling prices. The reported profits in periods of rising prices will be less than under FIFO, and in periods of decreasing prices will be higher."[15] According to Husband and Dockeray,[16] "(FIFO)....is the method most commonly in use because it most nearly conforms with the actual flow of goods." The LIFO method of evaluation will reflect a smaller figure for inventory than will FIFO, especially during periods of inflation.

Another problem area relative to inventory valuation is that of obsolescence. Benjamin recognizes this factor when discussing his True Current Ratio, mentioned earlier in this thesis.[17] The problem of obsolescence is particularly prevalent in industries, such as electronics and missiles, where product development is accelerated by large and expensive research and development staffs. Here, again, credit analysts are shackled by the prohibitive cost of a physical inventory. Even if such a physical inventory were possible, it is doubtful if the problem of obsolete inventory would be solved. The high rate of product development in our economy could soon render any physical observation of inventory obsolete. There appears to be no direct solution to this problem, but an awareness by the credit analyst of its existence is certainly a positive step in the right direction.

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[15]Donald H. Mackinzie, The Fundamentals of Accounting (Revised Edition; New York: The Macmillan Company, 1956), p. 329.

[16]William H. Husband and James C. Dockeray, Modern Corporation Finance (4th Edition; Homewood, Illinois: Richard D. Irwin Inc., 1957), p. 520

[17]p. 8.

The analysts were asked to comment on the nature of any comparison made between the company in question and the industry and/or economy. Comparison with the industry is done by the analysts using background information gathered from a variety of sources. Among those most often used are trade journals, publications of Dun & Bradstreet, and especially information obtained from interviews with representative companies of each industry covered. One analyst, whose territory includes the area around Brockton, Massachusetts, where there is a concentration of shoe factories, writes reports on the shoe industry. Another analyst, who works in the north shore area of Massachusetts, is well versed in the leather industry because of the numerous tanneries in that area. Comparison of a business with the trend of the general economy is used very little. Correlation between general economic indicators and company performance is hard to trace in any specific instance. Such comparisons might help to show why a business is or is not retiring trade obligations, but the analyst is more interested in whether a business can and will meet the obligations than the reasons why.

Ratio analysis:

Ratio analysis is a tool used by all analysts as an aid to evaluating the trend of a business. A ratio shows the relationship between two magnitudes. Ratios are particularly useful when studied over a period of three or more years and are useful in showing rates of change. The only ratio actually computed for publication in the Dun & Bradstreet reports is the current ratio. When the Analytical Report was originally designed by Dun & Bradstreet Vice-president Roy Foulke, a total of fourteen basic

ratios were computed. Today, only the current ratio remains in the analytical reports. The ratios as originally set up by Foulke were to be used in conjunction with the fourteen important ratios[18] which are published as standard ratios of comparison by the agency. These ratios are still published annually, but are not in use by the analysts.

It is not clear why the use of the ratios was discontinued, but three reasons have been set forth. First, the analysts feel that the time needed to compute the ratios is not justified, because the ratios are considered only a minor part of the entire credit report. Second, the analysts feel that many businessmen do not understand the significance of the ratios. Third, businessmen do not want to take the time to analyze the ratios, preferring that the analyst should emphasize the significant points brought to light by the ratios. To satisfy this need, the Analytical Report has a "Financial Analysis" section which does outline the important points.

The analysts actually compute the ratios on rare occasions only, but many of the ratios are computed mentally during the process of analysis. After the current ratios, the analysts consider debt to net worth as the most important ratio. Inventory and receivable turn-overs as well as the "acid test" ratio are also used. One analyst noted that the inventory turn-over ratio is weak for comparison with other companies, because there is no standard method of inventory valuation, as noted previously. However, the turn-over is good for determining trends within a single company.

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[18] Roy A. Foulke, Current Trends in Terms of Sale (New York: Dun & Bradstreet, Inc., 1957), p. 48.

Standard Ratios:

Dun & Bradstreet publishes annually a booklet of fourteen standard ratios for manufacturers, wholesalers, and retailers by industry. There are a great many ratios in use, but most of the analysts appear to use only a chosen few. It is interesting to note that a company which was probably the pioneer in the computation and use of standard ratios appears to make very little use of them today. Two of the Dun & Bradstreet analysts indicate that the standard ratios are of absolutely no value as credit tools, and they submit three reasons for their stand. The first is that by the time the standard ratios are computed and published, they are of little value to the analyst. The reports are revised twice yearly, so year-end figures, for 1959, for example, would be needed prior to June, 1960. Dun & Bradstreet published the 1957 composite figures in a booklet titled "Current Trends in Terms of Sale" in the spring of 1959, or about one year beyond the time they would have been useful to the analyst. A second weakness in the ratios is the fact that fiscal years of the various companies under consideration vary, and there is no known way to weight the ratios for this inconsistency. A third weakness is the fact that no two businesses operate in exactly the same manner. For example, a company may be classified as a paper manufacturer. However, the same company may also have its own wholesale division, or a printing division. Actually, the business may be classified according to any of the three operations, and thus there are three sets of different standard ratios with which to compare. The analyst is faced with the problem of judging which of the three sets of ratios is the most useful.

The Working Capital Element:

The analysts were asked to comment on working capital, specifically with reference to how large a decrease is considered a significant one. One analyst indicates that a general rule might be any decrease in excess of 10 per cent. The other two feel that no definite figure can be set, as the significance varies with the size of the business, the size of the decrease in relation to any change in the industry, and the nature of the decrease, i. e., where did the money go. Companies planning an expansion of fixed assets often build up large amounts of net working capital in order to finance the expansion from within. When the funds are invested in the new assets, a large decrease in net working capital occurs which is offset by an increase in the amount of fixed assets. This is an expected decrease which needs no explanation on the part of management. However, if the decrease in working capital is due to a dividend in excess of earnings, or worse, to a net loss for the period, an explanation should be forthcoming.

Ratings:

The final question asked of the analysts is one which involves a great deal of judgement on the part of each analyst. Dun & Bradstreet uses five credit ratings, and the analysts were asked to differentiate between them in general terms.

Generally, there are three requirements for a business to have any rating. First, the record of antecedent information must be complete. Second, statements must be received at regular intervals. According to

agency rules, the most recent statement must be less than fifteen months old, or the rating must be made blank. A statement which is approaching the fifteen months limit may subject the company to a lower rating because of uncertainty of the present financial condition. Third, trade obligations must be retired in a satisfactory manner, which means that there can be very little indication of slowness. Analysts vary somewhat in their application of the rules and in their opinions of the break-down among the various ratings, therefore, the following paragraphs will attempt to reflect their general feelings, with pertinent exceptions noted.

To receive an "excellent," or first line, rating, the analysts feel that a company must present an all-around favorable picture. The antecedent information must present an unblemished record which is complete in all details. Financial statements must be submitted at regular intervals, which means that a December 31 statement must be received before June of the subsequent year. The financial condition must present a favorable one, with operations returning a good profit. A top-rated business will not ordinarily borrow at the bank, and any loans must be paid out annually. Trade payments must be retired within terms with discounts taken where offered. Any evidence of slow or lax payments automatically removes a risk from the top credit category, but occasional losses of discounts are tolerated.

A "good," or second line, rating has a somewhat lower standard than the top rating. The record items must once again be complete and favorable. Occasionally, a former bankrupt may enter as high as this classification; only in rare instances could a bankrupt exceed this position.

The financial information must be received at reasonably regular intervals, but in no instance could the information be withheld. The financial condition may be somewhat less favorable than for the top line, but in no instance will there by any unfavorable conditions. A loss might be tolerated, if it did not materially affect the financial condition, and if the industry as a whole did poorly over the financial period. Generally, this is the highest rating obtained by businesses having net worth of less than $125,000. There can be no indication of laxity in meeting trade obligations of any consequence, except where a good, verified explanation is available. Payments may or may not be made in a discount manner. The risk may borrow at the bank, but must repay this debt seasonally, or at least on an annual basis.

The rating for third line credit, "fair," is somewhat of a catchall. Two of the analysts do not use the "limited" category; thus a business will be either "fair," or "blank." The statements may be submitted on an irregular basis, and generally they will reflect an extended condition for the line of business. Enterprises in this category generally borrow at the bank the year around, and may not be able to pay out debt annually as do businesses in more favorable categories. Slowness in meeting trade obligations is the rule rather than the exception, but in no case would the account be placed for collection.

The "limited" category is used by only one of the analysts, and even then in rare instances. This is not an agency policy, but has come to be an unwritten rule among the analysts. The financial condition of the few businesses in this category is best described as indifferent, but

operations are generally profitable. Payments are painfully slow, often as long as one year. However, payment is always received, with no supplier ever reporting a loss from the account. The break-off point between this category and "blank" (or the "fair" category for cases rated by the other analysts) is the belief that the business will be able to continue for another year without the creditors starting bankruptcy proceedings. If the business which falls in this category is accommodated at all at the bank, it will be on a secured basis.

The blank (-) category is reserved for three situations. The first is the case noted above where the analyst fails to find reason for the business to continue for another year. A second is the situation wherein there is some weakness or antecedent discrepancy, which the analyst feels should be brought to the attention of the subscriber. This category is also used as a classification for situations wherein necessary information is lacking. The blank rating is a signal to the subscriber to read the full report before proceeding further with any business holding such a rating.

It is of interest that the Dun & Bradstreet key to ratings notes that, "The absence of a rating, expressed by the dash (-), is not to be construed as unfavorable but signifies circumstances difficult to classify within condensed rating symbols and should suggest to the subscriber the advisability of obtaining additional information." Certainly the analysts' classifications are not completely in agreement with the agency's stated policy.

THE BANKS

Commercial banks, under consideration in the present chapter, are financial institutions which receive money on deposit subject to withdrawal upon demand. Bank funds are also obtained through capital stock and retained earnings, but deposits generally exceed by more than ten times the invested capital of the bank.[19]

The nature of the funds with which the bank operates limits the uses of those funds. The assets of the bank must be sufficiently liquid to enable it to meet liabilities and withdrawals under all forseeable conditions. The assets are used for both investment and loan purposes. Investments consist of United States and local government obligations as well as some high grade corporate bonds. Loans are generally short-term in nature. Consumer sales paper, such as automobile loans, and a small number of loans with longer maturity, such as term and real estate loans, are handled by the commercial banks.[20] The short-term business loan of less than one year's duration will be the only bank asset discussed in the thesis.

The present chapter will discuss first the factors which are taken into consideration when evaluating a credit risk. The discussion will then focus on some of the tools used in the evaluation. Finally, the use of the tools in arriving at the credit decision will be considered.

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[19]Walter S. Seidman, Accounts Receivable and Inventory Financing (Ann Arbor, Michigan: Masterco Press, 1957), p. 2.

[20]Seidman, op. cit., p. 3.

Weighting of Evaluating Factors:

It is apparent that the tools used in credit analysis are essentially the same for all analysts, but the weights given to the different factors which make up a decision vary considerably among analysts. There is variation in weighting not only between mercantile and bank analysts, but also between the individual analysts in each field.

The bank analysts were given a list of six factors to rank in order of importance to the credit decision. Many of them hesitated about making general statements, so comments restricting the answers are also included in the paragraphs which follow. The factors under consideration are: character, capacity, borrowing experience, account balances, trade references, and agency reports.

Character of management is ranked as the first and most important element of analysis, but the analysts rank it first with reservation. The size of the enterprise is the deciding factor. In smaller businesses where one or a very few people are responsible for business policy, character is of utmost importance. In general, the larger the business becomes, the less power is exercised by any one individual. Responsibility is spread thin; all decisions are reviewed; and an individual member of the management team would have difficulty in perpetrating a fraud. Certainly, the character of the management of Ford Motor Company, for example, is going to have very little effect on whether or not the company meets its obligations as they mature.

Capacity is generally the second-ranked factor of the credit decision, except where character ceases to be of prime importance. If it

is ascertained that management will retire obligations provided funds are available, certainly the next consideration should be to ascertain if the funds are available.

Character and capacity are by far the two most important factors to be studied in arriving at a credit decision. The other four factors can be considered sub-factors as they are modifiers of either character or capacity, or both.

Borrowing experience is considered the third most important factor by most of the bankers in the study. If the account has borrowed previously, the loaning officer will have some idea of what to expect in the future. This factor modifies both character and capacity as it answers, in an historical sense, the questions, "Will he pay?" and "Can he pay?" If the loans were retired according to agreement, chances are good for continued satisfactory relations. If payments were received late, then the analyst will first find out the reason for late payments. Delayed payments without good reason would present an additional factor to consider in extending further credit.

Account balances were ranked fourth by the analysts. Balances by themselves mean very little, but when compared with statement figures, or inspected for seasonal fluctuations, they may be a valuable source of information. Bankers generally require borrowers to keep deposits in the bank of at least 20 per cent of the loan. The 20 per cent requirement may fluctuate, especially if a business is highly seasonal and its demands for cash highly variable.

Banks vary in their practice of checking trade references. One

bank runs trade checks only on rare occasions. The analyst explained that the bank is in the suburbs, and the loan officers are in very close contact with customers. The officers are able to keep an eye on all borrowing accounts and are in a position to be aware of trouble before it starts. The bank does make use of agency reports for trade experience as an additional check on first hand information. The other banks contact trade references to check payment records on all prospective new accounts. They also check in special cases where the account is considered either marginal as a risk or where existing information is considered unreliable.

Agency reports are considered by analysts as the least important of the six factors under consideration. However, all of the analysts use the reports to some extent. Generally, the suburban banks rely on the agency reports more than the urban banks. This is probably due to the fact that smaller banks operate with fewer loan officers and smaller staffs. They are also hampered by time limitations and the expense of investigation. Therefore, they must rely on outside sources of information, such as the agency reports. The urban banks have larger staffs to do the analysis, and also have larger dollar profits out of which to meet expenses. The agency reports are used by the urban banks principally to confirm information obtained first hand from other sources of information.

Tools of Financial Analysis:

All of the bank analysts base financial investigation on trend analysis in one form or another. Trend analysis involves a study of "... the average or composite direction of change in a series of data extending

over a period of time."[21] As applied to credit analysis, trend involves the study of balance sheets and income statements over a period of time in order to note progressive, static, or retrogressive changes, and to explain these changes where possible. The study of the trend is usually accomplished by using ratios, about which more will be said in later paragraphs.

The banks also rely on internal analysis, which has been defined as a study of a single statement by itself without the benefit of comparison of other statements of the same firm, the industry, or the economy. The reason for this analysis is to confirm individual items in relation to each other in the light of the analyst's knowledge of how the particular statement should appear. Just as the Dun & Bradstreet analysts become familiar with certain companies and certain industries, so do the bank analysts.

Statement Requirements:

Bankers emphasize that audited statements are preferable, and a great deal of confidence is placed in the auditor's certificate accompanying the statement. Certificates that reflect a complete audit with inventory supervision and accounts receivable verification are considered preferential for obvious reasons. A well-known accounting firm's audit generally means more to the analyst than that of an unfamiliar certified public accountant.

There is a general rule among bankers that the statements of the

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[21] George R. Davies and Dale Yoder, Business Statistics (2nd Edition; New York: John Wiley & Sons, Inc., 1946), p. 223.

three previous years are a minimum for use in trend analysis. Most bank analysts prefer five years. One analyst in the study indicated that a working capital loan would require two to three back statements, with five years' records the best. A term loan would require analysis of at least ten or twelve years' statements, and up to twenty years in some cases. The requirement is coincident with the length of the business cycle for the particular industry in question.

Ratio Analysis:

Ratio analysis is one method of studying a financial trend. The ratios are useful in analyzing a financial statement for two reasons. First, the dollar values are converted into a form which is convenient for purposes of study. For example, if a company has $2,500 worth of current assets and $925 worth of current liabilities, a current ratio of 2.7:[1] expresses the value of current assets over current liabilities. Second, relationships between statement items are converted into common terms so that comparisons with standard ratios are possible. Also, comparisons with ratios of other statements of the same company are easier to make.

Ratio analysis is used to some extent by all bank analysts. Some use ratios as a quick check to confirm prior conclusions, and others admit to using them only subconsciously during the analysis. One analyst in a suburban bank, on the other hand, uses a system whereby five ratios are computed in all cases. This analyst uses the current, "acid test," and debt to net worth ratios, as well as the turn-over of both inventory and accounts receivable. In some cases, the turn-over ratios are not used because they are irrelevant. Inventory turn-over, for example, means

nothing when analyzing a service organization which carries no inventory. The ratios are then compared with the standard ratios of the Robert Morris Associates. If the ratios computed are equal to or stronger than the standards, no further financial analysis is undertaken, except in rare cases. This method is defended on the grounds that the bank is small, the customers well-known to the analysts, and time considerations on small loans must be kept within limits in order to keep expenses within reason. Standard ratios, such as those published by Dun & Bradstreet and the Robert Morris Associates, are used by analysts in five of the seven banks under consideration.

The ratios in use by the bank analysts may be grouped into three classifications. The groups are liquidity, capital, and profit.[22] There is some overlap among the groups, but the breakdown is good for purposes of study. Liquidity ratios measure the flow of cash through a business, or the amount of free assets available to meet obligations at any given time. There are four ratios in the group, all of which are used by two or more of the bank analysts interviewed. The ratios which belong to this group are the current and "acid test" ratios, as well as the turn-over of accounts receivable, which is sometimes converted into an average collection period. Inventory turn-over is the fourth ratio in the group.

The second group includes five capital ratios. They are used to measure the adequacy or inadequacy of invested capital. Debt to net worth is the only ratio used by the bank analysts interviewed. Other

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[22] Irons and Bellemore, op. cit., p. 218.

ratios included in this group are: fixed assets to net worth, net sales to fixed assets, net sales to working capital, and sales to net worth.

The third group of ratios measures the profitability of a business. There are four ratios in the group, of which three are in use by the bank analysts. The operating ratio or expenses to sales, net profit to sales, and net profit to net worth are in use. Net profit to total investment is the fourth ratio. It is not presently in use by the bank analysts interviewed.

Ratios as such mean very little unless used for comparison with either the previous years' statements of the same company, with those of other companies in the industry, or with the standard ratios. Comparison with other similar companies in the industry is difficult because of the rarity of such close similarity. Comparison with the industry and the economy is easier to make because data are more plentiful from which to draw general conclusions. For example, if the ratios show that a company has retrogressed over a period, the seriousness of the decline can be evaluated by comparing the decline with the industry or the economy. If the decline was less than that of the rest of the industry, then the company may well be acceptable as a credit risk. On the other hand, if the company retrogresses more than the industry, then further investigation is undertaken to find the reason. The question then arises as to how the situation may be corrected.

Unfavorable Ratios:

The bank analysts were asked to indicate when the various ratios become unfavorable. The answers varied from "rules of thumb" to more

specific criteria.

A current ratio (current assets to current liabilities) of 2:1 or better is a "rule of thumb" which is used by the bank analysts, although it is not considered as important today as it once was. A service industry, such as truck transportation, where the assets lean heavily toward capital equipment, is now considered to have a satisfactory current ratio at 1:1. There are other industries, such as the garment trades, where style is an important factor, so a ratio of 3:1 may not be considered sufficient. When ratios were first used in analyzing statements, two general "rules of thumb" were that the current ratio is unfavorable when less than 2:1 and the "acid test" ratio is unfavorable when less than 1:1. Present day analysts do not place so much confidence in the "rules of thumb" as their predecessors did.

The rules of thumb mentioned above are not valuable barometers to the analyst when used alone. The fact that a balance sheet reflects a current ratio of better than 2:1 is not sufficient evidence to warrant a favorable credit decision. On the other hand, if a balance sheet were to reflect a current ratio of less than the standard, then the analyst should immediately know that more than a cursory analysis of the financial condition of the credit applicant is required. It is the author's opinion that the rules of thumb are only useful as signals to the analyst, and certainly are not the answer to the credit decision.

A more general use of ratios is for comparison. If a ratio is below that of similar enterprises in the same industry, or below the standard ratios, then it is considered unfavorable. For example, a retail

dry goods store may present a statement with a current ratio of 4:1. When comparing this ratio to the "rule of thumb" or 2:1, it appears that the statement from the current ratio point of view is a strong one. However, an industry average for 77 stores indicates a median current ratio of 5.17.[23] Therefore 4:1 does not look so favorable from this point of view.

There are no other "rules of thumb" in use with regard to the other ratios because each industry appears to have standards of its own which are not applicable to any other industry. However, a rule used by one bank analyst to indicate a weak condition is that inventory is greater than net working capital.

The bank analysts were also asked to indicate what period of time must pass before a deterioration is considered significant. All analysts agree that this question can not be answered in general terms, but must be answered according to a specific situation. An old-line company which has been declining for many years, may continue to be a good risk for an extended period of time. Such a company may have built up a large capital surplus and a large investment in capital goods during fruitful years on cash provided by shrinking assets. The railroads in the United States exemplify such a declining industry. Coal has also suffered a decline. It is a matter of judgement by the analyst to decide at what time the assets have shrunk beyond the point where credit can be extended safely.

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[23]Roy A. Foulke, Current Trends in Terms of Sale, (New York: Dun & Bradstreet, Inc., 1957), p. 58.

Working Capital:

When working capital becomes sufficiently depleted, the bank begins to look for security for a loan. More important, however, is the decision as to how large the decrease in working capital must be before it is considered significant. Answers to this question varied, but most analysts agree that the size of the business will have some effect on the decision. Generally, as the size of the business increases, size referring to balance sheet criteria, the smaller would be the significant percentage. A further generalization was that a decrease is significant when it is in excess of industry decreases over the same period. One analyst was more specific, stating that 25 per cent would be a maximum allowable decrease.

The effect of working capital on credit, relative to security, is of interest in passing. Working capital can be studied from two points of view. The first is the amount of working capital expressed in dollars. The second is the trend of working capital, i. e., whether it is increasing or decreasing. Amount of working capital may limit the amount of unsecured credit. The trend of working capital is an indicator of success or lack of success of the management of the business.

A "rule of thumb" in use by some banks is that an unsecured loan can be no larger than 50 per cent of the net working capital. This "rule of thumb" may be modified by the trend of the working capital, with a slightly higher amount being loaned where annual increases have been noted, and somewhat less when the trend has been on the decrease. Also, the shorter the season or term of the loan, the higher the ratio of loan

to working capital allowable. In some special industries, such as wool and milling, loans are permitted as high as three times the working capital. One reason for the larger limit is that the merchandise which the loan will purchase is readily salable at any time.

There is one other limitation on unsecured credit. Net worth can be no less than equal to total debt if a business is to receive unsecured bank credit. Banks generally do not like to have more at stake in a business than do the owners. When the ratio of debt to net worth will exceed 1:1, banks generally ask for endorsements or other forms of security before extending credit.

FACTORS INDIRECTLY AFFECTING CREDIT ANALYSIS

Preceding chapters have discussed the factors which deal directly with credit analysis and decision. The tools used by the analyst in his evaluation have been discussed. Antecedent factors and financial factors which go together to make up the facts and conditions on which the analysis and decision are based have also been investigated. In order to complete the study of credit analysis, and to more fully understand the contrasts and comparisons between Dun & Bradstreet and the banks, it is necessary to discuss some factors which indirectly affect the credit analysis and decision.

The indirect factors must be discussed in a subjective manner, as their affect on analysis and decision cannot be measured in quantitative terms. It is entirely possible that the indirect factors may have no bearing on a given case; but it is also possible that they will be governing criteria in the final decision.

The indirect factors which enter into a credit analysis will be divided into three categories for purposes of discussion. The first category, the analyst, will include such factors as personality and experience which may affect an analyst's decisions. The credit analyst is subject to credit policy formulated by higher echelons, such as the controller or the credit manager. Such credit policies, and their effect on the analyst, will be the subject of category two. The third category of indirect factors to be discussed is the attitude of the debtor toward being evaluated as a credit risk.

The factors to be discussed in this chapter have the same effect on the analysis and decision whether Dun & Bradstreet or the banks are involved. Both institutions have analysts of different personality patterns, work habits, and family backgrounds. The analysts are subject to the same general pressures of management policy and decision. No attempt will be made, therefore, to contrast the bank and mercantile analysts until the following chapter on selection and training of the analyst is reached.

The Analyst:

The analyst, being an individual, is subject to any number of factors which might affect his decisions. These factors may be of either the temporary or permanent type. Temporary factors, such as the weather or the analyst's health, are subject to change almost daily. Permanent factors, such as experience and personality, are slow to change, and may never change at all. It is the permanent type of factors which will be the subject of this section of the thesis.

It is difficult to separate the various factors which may affect an analyst's decisions as the factors which make up the human personality are not independent of each other. There is an interaction between a man's ability as an analyst and the technique he employs in his analysis. Personality factors, such as emotional stability, may interact with the analyst's attitudes toward the management he interviews in gathering his information. Because analysts are human they may be expected to react toward a given situation differently. In the following paragraphs some of the factors which may affect an analyst's decisions are discussed. It is

of importance to keep in mind that interaction among the factors exists, although they will be discussed separately.

An analyst's years of experience in the field of credit certainly make a difference in the tools he uses in his analysis, and may affect his decisions. In order to avoid confusion, the terms junior and senior analyst will be used to contrast the relatively new analyst with the veteran. The junior analyst is made aware of various credit tools during his initial training. For example, ratios are generally used to analyze the financial trend of a business. The trainee will also be taught the use of standard ratios, principally because they point out possible weaknesses to the trainee which would not otherwise be evident to him. As the trainee gains experience, he may actually stop computing the ratios on paper, substituting instead, mental calculations. Responses by the senior analysts indicate that they use the ratios less than the junior analysts, some indicating no use of this tool whatsoever. It would appear, however, that the senior analysts make at least an intuitive use of the ratios, although they do not actually compute them. The senior analysts rely on their own knowledge of the various industries under consideration rather than any published standard ratios. The ratios published by Dun & Bradstreet and others are the only source of such information until the trainees gain sufficient knowledge of the businesses and industries they analyze. The senior analysts also have better personal contacts with whom to discuss and confirm their decisions. Such contacts are only gained by experience, and the contacts may be an added reason for the limited use of the basic tools of analysis used by the senior

analysts.

The senior analysts are better equipped to arrive at the correct credit decisions during the extremes of the business cycle. Having experienced more than one recession or inflationary period, they seem to have intuitive feeling for the differences between those businesses which will survive the recession extreme of the cycle and those which will fail. The junior analysts have only a second-hand knowledge about such extremes, and lack the feeling for such situations which only experience provides.

The senior analysts have one further advantage which also comes by experience. They have a general knowledge of the industries under analysis which is first hand. No amount of outside research by the junior analysts will equalize this deficit for them. There are certain industries, for example, which have problems all their own. The trucking industry is a good example. It is a service industry having no inventory for sale, which sets it apart from all manufacturers, wholesalers, and retailers. Further, it is an industry regulated by both federal and local government agencies, and this regulation adds to the uniqueness of the industry. Knowledge of how to analyze such an industry can be obtained only by experience, although some agencies have published information designed to aid the analyst in some of the specialized fields.[24]

The work load carried by the analyst is another factor which may affect a decision. Every analyst has the pressures of quantity versus quality to bear. The typical credit department is understaffed to

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[24]"Reporting Motor Carriers," Dun & Bradstreet, Inc.

begin with, so the pressure of time is always apparent. From personal observation, the writer is of the opinion that the Boston office of Dun & Bradstreet experienced a rather high labor turn-over during his training. Further, time pressure is brought to bear by the sales force, which does not want to lose potential sales because of slow credit clearances. Time pressure may cause analysts to cut corners in analyzing a credit risk, particularly if needed information is not readily at hand. One fact missed in the investigation may be a vital one to the final decision. For example, suppose a financial statement is submitted for credit purposes. Current assets total one thousand dollars, and liabilities consist of two items, accounts payable of $250, and a note payable of $500. The analyst may figure the current ratio to be either 4:1 or 4:3 depending on whether he reads the note payable to be current or long term. A wrong decision one way or the other could be made due to lack of knowledge about this one item.

The final factor to be taken into consideration in the thesis relative to the analyst is his personality. According to personnel managers interviewed, there does not seem to be any perfect "credit personality." People with various temperaments and attitudes seem to make equally good analysts. Such basic personality traits as introvert or extrovert may have some bearing on an analyst's decisions, but an individual's personality is so complex that any correlation between this trait and a correct or incorrect decision cannot be measured. It is not possible to isolate any one personality trait from the complex system which is the human being.

The analyst's attitudes toward the people with whom he is dealing will definitely affect his decisions. Attitudes toward the vices such as gambling and drinking vary considerably. For example, an analyst who either does not drink or is perhaps a member of Alcoholics Anonymous will not be favorably impressed with a debtor or potential debtor who does imbibe. In contrast, an analyst who does drink will not be negatively biased toward a manager who does drink. Such an analyst will probably not let the matter enter into consideration at all.

Another factor of considerable importance is the emotional stability of the analyst. An individual who allows his personal feelings to interfere with his analysis and decision will not make a good analyst. A business will not necessarily be successful because the manager has a pleasing personality. Neither will a business fail because the manager is often ill-tempered. A good analyst will arrive at an objective and fair decision.

The factors noted above are not meant to be an exhaustive list. Personality is a complex subject worthy of a thesis in itself. The factors mentioned are only meant to illustrate the many differences which could affect the credit decision.

Management Decisions Affecting the Analyst:

Top management must set up policy to guide the analyst in reaching his decisions. Policies must also be made which will maintain credit standards once they are set up. These policies tend to bind the analyst's freedom of decision. However, the analyst is free to a certain extent in his interpretation of the company policies. Interpretation of

policy may be one reason why analysts differ in their analysis and decision on a given case.

Management policies relative to specification of credit standards are usually general in nature, leaving the actual specifications up to a credit manager. The credit manager, in turn, will instruct the credit analysts. Control is usually measured in dollar losses in relation to dollar sales. As mentioned previously, the credit manager has pressure exerted on him by the sales manager to make fast decisions. Pressure is also exerted to make credit standards favorable to the customer, so that a salesman's efforts will not be expended needlessly. Of course, there is also pressure on the individual credit analyst to make all decisions favorable.

One method of avoiding the problem of having to refuse orders on the basis of credit has proved very successful. The salesman submits names of possible new accounts to the credit department before there is any sales effort. If the decision is favorable, the credit analyst sets limits on the credit, and the salesman may go ahead with the client with advance knowledge of what credit limitations will apply. If the decision is unfavorable, the salesman may either completely disregard the client, or he may re-submit the prospect after a six month period for reconsideration. This system has virtually eliminated wasted sales efforts due to credit refusal.

The original specification of the minimum standards may be changed for either one of two reasons. First, a change in the trend of the business cycle may necessitate a change in over-all credit policy.

If the cycle is moving toward a recession, the standards may be raised to eliminate marginal risks. Credit limits may be cut on some customers as another protection. On the other hand, standards may be lowered in inflationary times on the theory that most businesses are successful in good times. A second reason for changing the standards is to drop them in order to facilitate an expansion of sales. An expansion is to be expected in good times, but there is also a possibility of expansion during a recession. If inventories are considered too large, credit standards may be dropped temporarily until the excess is sold. A slightly larger-than-usual loss due to poor credit risks is better than large losses due to no sales at all. One other reason for lowering credit standards in recessionary times is an economic one. Standards are dropped on the theory that sales will be stimulated. If the physical volume of goods sold is increased, then the company will in turn buy more goods from its own suppliers. The additional sales, it is theorized, will stimulate a chain reaction of buying. As sales increase, purchases must increase. The increase in sales and purchases will cause businessmen to change from a pessimistic outlook, which pervails during a recession, to an optimistic outlook. An optimistic outlook is usually congruous with inflationary tendencies of the economy.

Maintenance of credit standards is the job of the credit manager or loan officer. When losses begin to expand in relation to sales or loans, then it is commonly time to curtail credit. The merchant must decrease the line or cut out credit altogether. The banker must decrease the line, ask for security, or refuse credit. While the maintenance of

standards is primarily the responsibility of the credit manager, it is usually up to the individual analyst or loan officer to initiate any change.

Attitudes of Business Management Toward Being Rated:

Attitudes of business management toward being rated range from the positive attitude where the debtor is anxious to cooperate to the negative attitude where he may refuse some or all information. There is a third attitude among debtors--that of one who appears anxious to cooperate, but only to the extent which he thinks will benefit him. The analyst is faced with the problem of gathering information from all sources. Dun & Bradstreet analysts feel that the treasurer or manager of the company being analyzed is the best source. Cooperative managements present very few, if any, problems, but managements who tend toward the negative attitude may prove to be difficult about imparting information.

Debtors who show a negative attitude do so for one of three reasons. First, the company is in poor financial condition and any rating given would be unfavorable anyway. By refusing information, management hopes to get some credit, because some houses will extend credit even when information is lacking. However, these debtors realize that if the negative rating and information is available, no credit will be extended. A second reason for refusing information is that the debtor's competitors may use this information to the debtor's disadvantage. While this reasoning may have some merit, there is considerable doubt in the author's mind. Management has not been convincing about how such information may be used to the detriment of the debtor. A third reason submitted by debtor

managements is that the company either has all the credit it needs, or that the company does not need any credit. This may be a fact at any one moment in time. The company may have established all needed channels of credit, or all purchasing may be done for cash. More often than not, however, the debtor who claims he has no need for credit is trying to cover up a poor financial condition.

The analyst is faced with the problem of gathering information from second-hand sources when the management takes the negative attitude. At best such information will be sketchy. The analyst must make his decision from inadequate and incomplete information, and it is possible that decisive information will be lacking. Analysts will generally rate such cases as conservatively as possible, so that a company with the negative attitude may possibly receive a lower classification than may be deserved.

By far the majority of businesses take the positive attitude and make a visible attempt to maintain a good credit rating. Modern businessmen realize that there is a lot to be gained by cooperation, and credit information is beneficial to all. Some merchants will offer assistance to debtors who are in a temporarily weakened financial condition, because they feel that the crisis is temporary and there will be a good chance for future sales. At the worst, such an extension of credit is a calculated risk. On the other hand, the same merchants will probably hesitate about extending credit where information is lacking, because the nature of the risk cannot be calculated. There is no profit in assisting a business which is so weak that it is beyond the point of salvage.

There is a third category of business management which causes the analyst a great deal of trouble. Fortunately, this category accounts for only a small percentage of risks. This is the management which will only release the favorable information, thus presenting a false picture of credit worthiness. This type of management may, in fact, even resort to unethical tactics, such as "window dressing" on the financial statements. The "window dressing" may be only an attempt to present the best financial picture possible, but it can also be a form of falsification. "Window dressing" is an attempt to improve the appearance of a financial statement by either off-setting asset and liability accounts or padding assets, usually the inventory or receivable accounts. Inventory valuation techniques are one form of window dressing which was explained in chapter IV. If the analyst is made aware of this valuation technique by management, it is not a dishonest form of window dressing. However, if the valuation technique is disguised, the statement could be classified as dishonest. If a balance sheet reflected $100 of current assets and $50 of liabilities, the current ratio would be 2:1. If a $25 loan was offset by $25 of cash, there would be $75 of current assets and $25 of liabilities, which would reflect a current ratio of 3:1. The one-man proprietorship may increase the assets by mixing personal assets with those of the business. Padding the assets would improve the current ratio in a similar manner. Window dressing is also used on the income statement. One example is the inclusion of income from sources other than sales, such as interest, under income from sales. Such a practice will reflect padded earnings on the assets of the business. There are various other

methods of padding and window dressing, but fortunately, very few business managements resort to such deception. The analyst must be ever on the lookout for such practices.

SELECTION AND TRAINING OF THE ANALYST

Chapter VI has demonstrated that there are three indirect factors which may affect a credit decision. One factor is the analyst, himself, and the other two influence the way in which the analyst performs his duties. The credit manager and sales force pressure him for fast, accurate decisions. Management of some of the businesses he analyzes tries to deceive him. There appears to be no special type of person who makes the best analyst. Differing personalities and attitudes are exhibited by analysts. If there is no special type of "credit personality," then it is possible that there are certain qualities in any man which may make him a good analyst.

The purpose of the present chapter is to find out what qualities the personnel manager looks for when hiring a credit trainee. Also, it is of interest to ascertain what methods of selection are used. The latter portions of the chapter will be devoted to methods of training the analyst, because training may well be the key to the building of good analysts, with resulting good credit decisions.

Selection:

The approach in selecting a new man for a position in the credit department depends, first, upon the type of credit position open and, second, upon the type of training program available by the particular company or bank. Two types of analyst are found in the credit department. The first may be categorized as a career analyst or specialist whose job is purely of a clerical, computational, and analytical nature. The second

type, called the credit-loan analyst, is more than just an analyst. His work includes customer contact in a sales and service capacity. The specialist type requires a man with certain technical skills and analytical abilities. He is probably best selected by the use of written tests and a minimum of interviewing. The credit-loan analyst must have a personality which is adaptable to sales and the handling of the bank or other company customers. Such a man is best selected, using present-day tools, with a minimum of testing and with more emphasis on the personal interview. It is the credit-loan type of analyst which the banks, as well as Dun & Bradstreet, now seek.

If the company or bank seeking an analyst is large and facilities for training are good, then an inexperienced person may be selected as a trainee. Testing and interviews will suffice as screening devices. However, if the credit department is small and training facilities limited, an experienced credit man will be needed. Work references on the candidate will probably be one of the most important criteria of selection. The interview also will be important, but testing will play only a minor part in selection. Testing usually is employed to demonstrate a candidate's abilities, where the candidate has had no previous work experience. Work experience and the work reference are the best indicators of a candidate's abilities.

An analyst for any type of credit department must now be a salesman in the sense that he must sell his company or bank to those with whom he comes in daily contact. He must be able to give the customer more than just a "yes" or "no" answer. The "no" answer is particularly awkward

to handle, because it must be given in such a way that the bank or merchant will not lose the customer.

Prerequisites:

Certain prerequisites must be met by a candidate in any job-seeking situation. The credit analyst candidate finds no exception. Both the banks and the merchants consider a college education a necessity. The major course of this education is immaterial, but a business administration major will have a decided edge in understanding the problems to be faced in the future. Training which includes a basic course in accounting is of considerable value to the candidate. However, both the merchants and the banks have hired a greater number of candidates with degrees in the arts than with degrees in business administration.

Dun & Bradstreet presently employs six analytical reporters at the Boston Office. Four of the six are college graduates, and a fifth has had special training in accounting. Significantly, the youngest is over forty years of age. The two analysts without college degrees were hired before the college requirement became effective. The agency has maintained the policy of hiring only college graduates since prior to World War II, except in rare instances where a man has worked up through the ranks from a position such as file clerk. Such a person may become a city reporter, but not an analytical reporter.

Statistics relative to education were not available from the banks, but all trainees for the credit departments have been college graduates. The various personnel managers interviewed related that less than one half of the trainees have had business training, and a very small per-

centage of trainees have completed graduate programs, although some have completed graduate studies while employed at the bank.

Education is a logical prerequisite. There are, however, some illogical prerequisites. Family background is one. Many banks consider a candidate partly on the basis of the volume of business he may bring to the bank through his family and friends. However, the banks do not generally hire on the basis of family alone.

The Profile:

The various credit and personnel managers interviewed were asked to describe the profile of the ideal credit analyst personality. All emphasized that there is no one profile of an ideal analyst. Two men can be equally good analysts, yet have almost opposing personalities, attitudes, and working habits. However, in the process of selection, the interviewers do look for certain qualities in potential credit analysts.

The candidate must present a clean, neat appearance in both person and dress. This quality is especially important for the credit-loan trainee in the bank, who eventually will be dealing with the bank's finest customers. He will be a salesman as well as a service consultant and must create a favorable impression of competence and trust. The Dun & Bradstreet analyst, while not primarily working in a sales capacity, must meet the public to gather information. He must create a favorable impression among those he meets in order to win the favor of his sources of information. Other personal qualities are not so easily identified. The candidate must show some self-assurance and confidence in himself, which is a quality needed for all positions of responsibility. He must show a

mature interest and attitude toward his vocation, and in his thinking in general. A candidate who has demonstrated his desire and need of an education is usually more desirable than a candidate who has received his education on a silver platter. The candidate who has had to work part time to put himself through school is more likely to take a more serious attitude toward his work and life. Beyond the few qualities mentioned here, the personnel managers were unable positively to identify the man they want.

Selection Methods:

The purpose of this section is to enumerate the methods by which the various personnel managers select their candidates. Selection methods vary only slightly among the various institutions involved in this thesis. The interview is the most important tool in use, but testing, work and personal references, and school grades also weigh in the final decision.

All of the institutions rely on the personal interview--some of them, exclusively. Information gathered in this manner is generally weighted at over 80 per cent of the entire evaluation. The interview is commonly based on an application for employment or resume of the candidate. The interviewer attempts first to clear up any questionable points raised in the application or resume so that he will have a clear picture of an unbroken chain of events in the life of the candidate, from his high school days to the present. At the same time, the interviewer is able to form an impression of the candidate's appearance and personality.

In order to avoid errors in judgement and favoritism, the technique of the multiple interview has come into use. This provides an

initial or screening, interview, usually with a personnel officer. If a candidate has no obvious faults, he may be asked to talk with at least one more member of the management team. Dun & Bradstreet makes use of four interviews at the Boston Office, with the regional manager included as the final interviewer. The banks generally use three or four interviews, by divisional or departmental managers, and at least one by an officer of the bank is included. In both cases the interviewers meet as a group to discuss the candidate and arrive at a joint decision.

Testing:

Dun & Bradstreet and some of the banks make use of various tests to guide the interviewers in the selection process. The tests are of two types, personality and intelligence tests. It is emphasized by all personnel managers that the tests are only guides and not an end in themselves. As a matter of fact, it was noted that a number of candidates who failed the tests were later hired on the basis of interviews alone. In other cases, where tests are not used, all hiring is based on the interviews alone.

Personality tests in use are of two types. First there are pure personality tests, which attempt to reveal basic traits, for example, whether the candidate is generous or frugal, an introvert or extrovert, or highstrung or easy-going. These tests are weak, because they must be interpreted by persons who are not psychologists; thus, readings are subject to inaccuracies. The most popular of these tests with the banks is the Activity Vector Analysis series. Dun & Bradstreet uses the Gilford-Martin indices of personality. Both tests purport to show the same

things. Their accuracy has never been verified. Users of these tests report varied success with them. Their accuracy probably will never be proven with any degree of certainty. The second type of personality test is the Kuder Preference Test. This test indicates a candidate's vocational interests in such fields as clerical work and social work. Dun & Bradstreet is the only agency interviewed reporting use of this tool.

Intelligence tests have proven more accurate in their ability to accomplish their job. They generally are made up of a vocabulary test and a clerical test. The latter is used to indicate speed and accuracy in detail handling. One bank also makes use of a test in arithmetic and simple problems which do not require the use of algebra, as a further test of speed and accuracy. These tests are helpful only as screening devices. Tests in use are easy enough, and all candidates of the college level should be able to score in the ninetieth percentile or better. The tests will only separate those who are acceptable from those who are not. Scoring is not sufficiently detailed to indicate significant differences among candidates who fall within the acceptable range. A candidate will do no better than his true capacity on the tests. However, a candidate who does not do well due to ill-health or some other reason could be ruled unacceptable when in reality he may be a prime candidate.

Another screening device used by the banks is the personal references. They are used to obtain a more objective picture of a candidate, and to obtain an opinion of those not related to the series of interviews. References submitted by the candidate must be used with a degree of caution, as the candidate will submit only the names of persons

he knows will be inclined to create a favorable impression. References secured from sources not solicited from the candidate are liable to present a more objective evaluation. Work references are valuable if the candidate is not a recent college graduate who possibly has no work experience. Work references will generally give an objective picture of the candidate, as personal friendships are less likely to be involved.

The fourth screening device is easily obtained and may be very useful. This is a copy of the candidate's grades from preparatory school and college. Students whose over-all grade average is in the upper one third of their college class are preferred, but students in the upper half and lower are often acceptable. The grade transcripts are often more than just a measure of a student's success at the college level. The grades in the major courses should average higher than the student's overall average. Good grades often are a key to student interest, and poor grades may signify either a lack of interest or a troublesome area of study.

Training of the Analyst:

After the potential analyst has been hired, there is a long and arduous job of training him. The training may take any or all of three forms. First, there is orientation training, or an introduction to the new job through preliminary information and instruction. Second, on-the-job training acquaints the trainee with the routine tasks of the job. After mastering a specific function, he may be advanced to more demanding functions, and this process continues until he attains a supervisory or managerial post. The third form of training is formal training, which

usually takes place in some sort of classroom. Training is necessary not only to break in the new employee, but to improve capacities of experienced members of the department.

Orientation training takes place in practically every credit department. It includes such diverse subjects as company benefits to the employee, like pension funds and sick leave. It also includes, instruction in the use of various company business forms, such as the comparative balance sheet form. This training will include instruction to acquaint the trainee with the credit department's relations with other departments of the company. An introduction to customer relations may also be included.

On-the-job training is by far the most popular type in use today. Its cost to the company is low, but it is popular also because no other form of training can substitute for experience gained on the job. On-the-job training is currently being used in two ways, both of which are worthy of further description.

The first way trains a man for a specific position and is used by Dun & Bradstreet along with most of the banks. It commences after the orientation training is completed and continues until the candidate reaches managerial or supervisory levels. Dun & Bradstreet issues to the new employee a reporter's handbook on which he may spend two or three days of study. He then accompanies an experienced reporter for a few days to gain experience in data collection and techniques of interviewing. Next he is given a very simple case to handle--a case that he may have to re-analyze and re-write a number of times before his supervisor is satisfied.

The trainee's supervisor actually acts as a director of training, as all new men are under his direction. The trainee is given more difficult cases as he progresses, until finally he is able to handle a sufficient quantity of quality work. At that time, he is assigned to a territory under another supervisor.

The second step in the climb toward analyst is the City Revision department, which reports more complicated and active cases. These cases are revised twice yearly. Upon satisfactory completion of this assignment, the reporter is ready for the Analytical Department.

There are no specific time requirements for a candidate to complete his training in each department, but two years generally is a minimum apprenticeship before a trainee is ready for the Analytical Department. The first days in that department are used to familiarize the reporter with the special format of the Analytical Report. Like a cub reporter, he starts on uncomplicated cases. This is not always possible, however, because of the heavy work load of the department. The cases he analyzes are closely scrutinized by the analytical supervisor. The trainee commonly requires about six months of close supervision before he is able to work on his own.

The banks generally follow the pattern set by Dun & Bradstreet, except that preliminary training may be more general, to acquaint the trainee with all of the phases of banking. The training program of The First National Bank of Boston is a good example. The time periods indicated for each phase of training are considered to be averages only. The trainee begins with a three months orientation training in the various

credit-loan departments, becoming familiar with the entire operation and all types of credit. This training includes familiarization with factoring and international credit. The second phase, of about one year's duration, is in the commercial credit department. The trainee learns the techniques of statement analysis and the sources of credit information. He also learns to write collection and other letters. The third phase of training is a six-months stay in each of the international, factoring, and freight payments departments. The latter department trains the candidate in sales promotion by putting him in contact with some of the smaller customers of the bank. The fourth step is to train the analyst as a credit specialist. Here, the trainee works on term loans to smaller companies and generally assists more experienced credit-loan officers. This phase ordinarily lasts about two and one-half years. Most of the other large urban and suburban banks train their analysts along similar lines.

The second plan of on-the-job training is exemplified by the State Street Bank and Trust Company's Advanced Training Program. This program is aimed at training men to be over-all bankers rather than qualifying them for a specific position. The trainee may have a preference for a specific position, but he has no guarantee of attaining that objective. The trainee spends the first 12 or 18 months on a rotating orientation toward banking in general. During this period he spends varying amounts of time in each of nine divisions, such as the credit and loan division, the treasurer's division, and the trust division. He is expected to become acquainted with the operations and personnel of each division. The longest orientation for all trainees takes place in the credit department,

the training lasting from three to four months. Each of the nine divisional managers, usually vice-presidents, make an evaluation of the trainee while he is in the department. No trainee has a specific assignment or promise of assignment before entering the program. Upon completion of the program the reports of the nine division managers, along with the trainee's preferences, are evaluated in placing him in a position. He is then assigned to a supervisor under whom specialized, on-the-job training begins.

The general or specific on-the-job training programs are in use by all banks and credit departments. The specific type training is by far the most popular, especially in the smaller institutions.

Formal Training:

Formal training is given only sparringly by the institutions considered in this thesis. It may take many forms, the most popular of which are correspondence courses, classroom instruction, and case study.

Dun & Bradstreet offers a fifteen-week correspondence course in credit analysis, which is aimed principally at financial statement analysis. This course is open, at a very reasonable fee, to any person who wishes to enroll. To employees of the agency with six months or more of service, the course is offered free of charge, if recommended by management. None of the banks reported use of such a course, and a number of the bankers were unaware that such a course exists.

Classroom instruction, as such, is not in use to any great extent in the banks, except for an occasional seminar. There are probably not enough trainees in any one bank to make such a program feasible.

However, the Boston chapter of the American Institute of Banking offers a number of courses in general business and banking. These are offered in the evening during the winter months. The banks all support this organization, and many of them take advantage of the instruction by sending trainees to the classes at bank expense. The instructors are either local bankers or business and professional men of considerable experience. In some instances, the banks send employees to the local college and university evening divisions for specialized courses. However, these men are usually beyond the status of trainee.

The third type of formal training is not in use locally at the present time. It is mentioned here because of its success in other parts of the country, notably on the West Coast of the United States where banks are attempting mass education due to the unusual demand for men in the expanding branches. The case study method of teaching is advocated because it is relatively inexpensive, does not take much executive time during business hours, and complements on-the-job training. A good example of its use is the plan followed by the Security First National Bank of California. Briefly, the bank was confronted with the problem of training a large staff of managers for thirty-odd new branches to be opened in 1960. The men had to be trained in a minimum of time, yet training had to encompass many phases of banking.

A series of problems were put together, some of them actual cases, which are illustrative of various problems of banking. Each Friday, the members of the study group were given a written synopsis of the problem to be discussed the following week. The student solved the problem

to the best of his ability, and wrote his solution, to be passed in to a moderator for correction. On the following Friday, the group met with a moderator, usually an officer of the bank, to discuss the problem. The discussion group had sufficient time to probe fairly deeply into each problem. The moderator entered into the discussion only to correct erroneous ideas not corrected by the group, and directed the discussion toward important considerations. The student members of the group are evaluated by the moderator on both oral and written presentations. The bank has enjoyed a great deal of success with this method of instruction with a minimum of expense and executive time lost.

Although none of the local banks are using this method at present, many of them have used it in the past. Some of the training directors feel that it may prove to be a useful tool again, although the lack of management backing may slow it's rebirth.

CONCLUSIONS AND RECOMMENDATIONS

The thesis has dealt at some length with the various factors which make up the credit decision. It has been suggested that certain basic differences between the purpose of the Dun & Bradstreet analysis and the bank analysis may make a difference relative to the decision rendered on a given case. Different analysts react differently to some adverse behavior patterns of management. They appear to use the same tools of credit analysis, although the veteran analyst may make only an intuitive use of the tools. Analysts would probably react alike in their reactions to bankruptcy, fraud, and other events adverse to a company, if the profit motive did not affect the thinking of the bank analysts. The bank and the agency methods of credit analysis have been contrasted and compared. It is the purpose of this final chapter to suggest some positive means of improving the quality of the work of the credit department.

It would seem that there are only two possible paths to improvement. First, there may be some way to improve the tools of analysis now in use. Second, there may be ways to improve the knowledge and ability of the analyst, who is really the key to the action of any credit decision.

The Tools:

The tools of the credit analyst, such as ratio analysis and financial statements, have been in use for many years. Any recently proposed additions have actually been refinements of existing tools. For example, Alexander Wall, a prominent member of the Robert Morris Associates,

advocated an index of credit which weighted the various factors of a credit risk on a quantitative basis. Basically, it was a refinement of ratio analysis, but the qualitative factors were accounted for in the index. Theoretically, if the computed index figure was less than one hundred, then no credit was to be extended. However, the index never gained any popularity among the credit analysts because it was too inflexible, especially in its handling of the qualitative factors, such as character of the management. The Where-got, Where-gone statement was devised to show the analyst at a glance the sources and uses of funds within a business. One refinement of the statement was the use of percentage relatives which facilitated comparison with other statements of the same concern. The standard ratios compiled by The Robert Morris Associates, Dun & Bradstreet and others are a refinement and extension of straight ratio analysis. The use of the standard ratios is probably the most significant step foward in credit analysis in the twentieth century.

There is no reason to believe that any really new tools of credit analysis will be forthcoming. Emphasis, then, must be placed upon improving and refining the tools presently in use. There is certainly room for improvement in the standard ratios now in use. Their greatest weakness lies in the fact that there is a long time lag between the date on which the data for the standards are published and the appearance of the composite ratios themselves. The greater the lag, the less the usefulness of the standard ratios. Certainly the Dun & Bradstreet ratios of 1957 were next to useless to the analyst by the time they were published in 1959.

The financial statements on which the standard ratios are based are another tool of the analyst which has a great many possibilities for improvement. Two basic improvements would seem to be feasible, and, fortunately, both are well recognized by accountants and others in the field of finance. First is the need for a standard system of accounting, especially relative to cost systems. Standard ratios based on statements using different inventory valuations are not truly representative standards. For example, two firms may have identical inventories, but balance sheet figures may differ markedly because one firm uses the LIFO system and the other, the FIFO system of valuation. During an inflationary period, the LIFO system presents an undervalued inventory in terms of replacement. In recessionary times the same valuation system may show an overvalued inventory in terms of replacement cost. As the result of an inventory being under-valued, which is the usual case in recent years under the LIFO system, the assets and working capital ratios will appear lower than those of other firms which value inventory using the FIFO system.

Financial statements have a second recognized weakness in that they are often not audited. Even audited statements may have weaknesses because of the auditor's reservations about certain figures on the statement. Unaudited statements may be of excellent quality or they may be little better than casual estimates of the financial condition of a business. Unfortunately, the credit analyst has no way of differentiating between the estimates and the gross misrepresentations. He can verify only a few of the statement items. Audited statements in which the analyst has more confidence are sometimes subject to weaknesses. If the auditor

must accept an inventory figure from management without confirmation, there is reason for the analyst to have less confidence. An inventory taken under the auditor's supervision is to be preferred. Accounts receivable which are verified by the auditor also make a stronger statement in the eyes of the analyst. The unaudited statement may be a reasonable presentation of the facts, but analysts are more confident when the auditor has given his unqualified certification. Statements which are incorrect will also affect the validity of the standard ratios, although not markedly.

The American Institute of Accountants and other organizations of professional accountants recognize the weaknesses in present accounting practices. While these organizations strive to improve practices, the managements of the businesses which do not use the professional accountant are the only ones who can really improve the situation. These managements can help by employing the services of trained accountants and auditors.

The Analysts:

Selection and training present the best opportunities for improving the quality of credit analysis. Improvement may be accomplished in the techniques of selecting new trainees, but training of both the new and the experienced analysts presents a wide open field of possibilities.

Selection:

Selection processes used today by the local banks and other credit departments emphasize the personal interview approach. Some of

the institutions are experimenting with various personality and intelligence tests for use as screening devices. The personal and work experience references are also in use, but they are of little aid in evaluating a recent college graduate who has no work experience behind him. Grades earned by the candidate as a student in college are more useful in evaluating the ability of the student applicant.

The personal interview is the best approach at present mainly because of the weakness of other selection tools. The multiple interview with the resulting committee-type selection has improved this system. However the loss of executive time, especially where several officers are involved, is likely to prove costly. There is need, then, to build a selection system which will de-emphasize the personal interview.

Personality and intelligence testing appears to be the best solution to the problem. Intelligence testing has become a fairly reliable tool, although it has two weaknesses. First, the tests presently in use do not differentiate between the best and the worst of those candidates who are found to be acceptable. The second weakness is that a good candidate who does not respond well to the test at a particular time for reason of illness or worry may score lower than he normally would. Perhaps multiple testing is an answer to this flaw in the system.

The personality tests are at best in the experimental stage. If a candidate has any knowledge of the profile for which a company is looking, he may be able to slant his answers toward such a personality pattern. Of course, it may be argued that the candidate is not helping himself by so slanting the test, as he would undoubtedly prove to be a

misfit as a credit analyst should he be hired in that capacity. A further weakness of the personality test is that special training is needed to "read" the results accurately. It is questionable if a layman is competent to summarise the results of the test accurately when it is reported that trained psychologists are not convinced of the complete validity of the tests. The readers claim various results and correlation between the test readings and actual observed profiles. There are no known conclusive results relative to the validity of personality testing.

Training:

Training is generally of the on-the-job type, although some formal instruction is used in the banks, in the form of American Institute of Banking courses. On-the-job training is a slow process at best, and has proven inadequate in areas of large expansion, such as the West Coast of the United States. It is especially inadequate when not accompanied by a planned curriculum. It is further limited by the fact that it is slow to weed out personnel who were incorrectly selected to begin with. It slows down the work of the experienced analyst who must direct the work of the trainee. It is also of dubious value in training the more experienced analysts for supervisory or management posts. On-the-job training has one real asset, however, in that no amount of training can substitute for experience.

Formal, or classroom, training is a possibility for improved training, especially in the urban areas. The Boston chapter of the American Institute of Banking is supported by all of the local banks. It offers a large selection of courses, taught by professionals, after banking hours.

This instruction is relatively inexpensive and many local banks take advantage of the courses offered for their personnel. It has one disadvantage in that classes meet only once a week and progress is therefore slow. The Boston chapter of the National Institute of Credit offers two programs in credit management through the Boston University Division of Continuing Education. The programs offered are a basic Associate Program and an advanced Fellow Award Program. Because the local banks and Dun & Bradstreet do not necessarily endorse these programs, they must be taken on the employee's own time and at his own expense.

As mentioned previously (chapter VII), the best possibility for training credit men appears to be through the use of the case study method. It is relatively inexpensive to operate, and it may be geared to almost any desired speed. It has an advantage over on-the-job training because a definite curriculum can be set up, so that problems beyond the scope of the pure analyst may be studied.

APPENDIX A

GUIDE QUESTIONS USED TO INTERVIEW THE BANK ANALYSTS

1. Does the bank use a written format of step-by-step directions for analyzing a credit risk? If "yes," to what extent?
2. What tools of credit analysis does the bank use?

   Internal analysis — Ratio analysis

   Trend analysis — Standard ratios

   Other (Explain)
3. Rank the following factors used in evaluating a credit risk in the order of importance to the decision?

   Account balances — Agency reports

   Borrowing experience — Character information

   Capacity (financial statements) — Other

   Trade experience
4. How many year's previous statements are required of a new account for analysis purposes?
5. To what extent does the bank use a character reference service?
6. Which of the following personal behavior patterns would definitely rule out a prospective account?

   Over-indulgence in liquor — Age

   Race track habitue — Acquaintances of questionable character

7. Which of the following historical occurrences would rule out a prospective account?

   Bankruptcy — Fire (Arson)

   Fraud — Litigation

   Taking of unearned discounts — Tax lien

   Trade debts turned over for collection by an agency

8. Does the bank check trade references in all cases?

   never?

   under special situations?

9. What balances sheet or operating ratios are normally computed by the bank analyst during the analysis?

10. Does the bank make use of the standard ratios, and if "yes," who is the compiler of the ratios?

11. In conjunction with the ratios, at what point do the ratios appear to become unfavorable?

12. Over what period of time must a company's financial trend show a decline in order to be considered a significant detriment to the extension of credit?

13. How large must a decrease in working capital be to be considered significant?

14. As a general rule what is the maximum per cent of a firm's working capital that the bank is willing to extend on an unsecured loan basis?

15. What constitutes the difference between an unsecured and secured loan relative to the size of the loan? Under what conditions does the bank begin to look for security?

APPENDIX B

GUIDE QUESTIONS USED FOR INTERVIEWING DUN & BRADSTREET ANALYSTS

1. What tools of credit analysis do you use?

   Internal analysis — Ratio analysis

   Standard ratios — Trend analysis

   Other (Explain)

2. Rank the following factors used in evaluating a credit risk in order of importance to the decision?

   Account balances — Borrowing experience

   Character information — Trade experience

   Capacity (financial statements)

3. What of the following personal behavior patterns observed in management would be cause for a blank rating?

   Over-indulgence in liquor — Age

   Race track habitue — Acquaintances of questionable character

4. Which of the following historical occurrences would rule out a prospective rating with a blank rating?

   Bankruptcy — Fire (arson)

   Fraud — Litigation

   Taking of unearned discounts — Tax lien

   Trade debts turned over to a collection agency

5. What balance sheet or operating ratios are normally computed in the initial analysis?
6. Do you make use of the standard ratios, and if "yes," who is the compiler of the ratios?
7. In conjunction with the ratios, at what point do the ratios appear to become unfavorable?
8. Over what period of time must a company's trend show a decline in order to be considered significant?
9. Is the change in trend of financial statement compared in any way with the company's industry or the national economy as a whole?
10. How large must a decrease in working capital be to be considered a detriment to a credit rating?
11. What constitutes the difference between the Dun & Bradstreet ratings? (Excellent, Good, Fair, Limited, Blank.)

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