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INTERNATIONAL CREDIT MANAGEMENT POLICIES OF U.S. SUBSIDIARIES

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One important issue international firms must face involves the evaluation and control of credit risk. Many studies dealing with international credit management have focused on the practices used by multinational enterprises. In this study we take a different approach to this topic by analyzing the credit management decisions made by 188 U.S. foreign subsidiaries. We examine many aspects of the foreign subsidiary manager's credit policies including credit standards, credit terms, collection efforts and customer creditworthiness. The results of this study indicate that credit management practices of foreign subsidiaries are similar to those used by parent companies. In addition, the findings show that foreign managers generally use theoretically-preferred methods when making credit decisions.

Introduction

One of the important issues multinational enterprises (MNEs) must face involves the credit management policies used by their overseas operations. These policies should be constantly monitored and controlled since the success of most corporations is closely linked to the proper management of credit risk. In addition, credit practices are an important part of a firm's sales campaign and may be used to influence purchasing decisions. Although the use of overseas credit financing is a common business practice, the task of establishing appropriate credit policies for foreign subsidiaries is not easily accomplished because of differences in accounting practices, government regulations, foreign exchange rates, economic concerns, and political systems which exist abroad. As multinational enterprises increase their understanding of the credit function, they should be able to experience improvements in performance and become more competitive in the international financial markets.

The international credit management function is composed of many important credit policy decisions. First, credit decisions should focus on which sources of information will be used to evaluate potential customers. There are numerous sources of information available for evaluating credit risk including financial statements, credit reporting agencies and commercial banks. Second, credit decisions should concentrate on establishing credit standards, credit terms, and collection procedures. Credit standards include the criteria used to evaluate a potential customer, while credit terms involve the conditions under which customers must pay their credit obligations. There are many techniques available that can be used to collect past-due accounts including direct contacts and the use of collection agencies. Finally, credit decisions should evaluate customer creditworthiness and determine maximum credit limits. To evaluate a customer's credit risk, both qualitative and quantitative models should be used by managers.

The dramatic changes that are occurring in many overseas markets have forced multinational enterprises to reevaluate the management strategies used by their foreign subsidiaries. As the percentage of total profits MNEs receive from their overseas opera-

tions increases, the financial management policies employed by their foreign subsidiaries becomes increasingly important. To date, the credit management strategies used by foreign subsidiary managers have not been formally studied by researchers. A number of papers have focused on credit management policies using information obtained from U.S. and foreign parent companies, however, there has not been much research dealing with the credit risk practices used by managers of foreign subsidiaries. Using survey data from 188 foreign subsidiaries of U.S. MNEs this paper fills this gap.

The results of this study suggest that the credit management practices of foreign subsidiaries are similar to those used by parent companies. The findings also show that foreign subsidiaries use cost efficient collection methods to collect past-due accounts, that credit terms offered by foreign subsidiary managers are similar to those offered by parent company managers, and that cash discount rates offered by foreign subsidiary managers are less than the discount rates offered by managers of U.S. firms. Lastly, the results suggest that foreign managers are relatively efficient in managing their credit default risk as indicated by their low bad-debt loss rates.

This paper is divided into four sections. The first section provides a brief overview of the theoretical and empirical issues of international credit management analysis. The second section focuses on the areas of data collection and questionnaire design. The third section discusses results of the study including credit standards, credit terms, collection efforts, and guidelines used to analyze creditworthiness among foreign subsidiaries. The final section presents the conclusions of this study.

Literature Review

One of the key areas in international working capital management involves foreign credit analysis. To effectively compete in the global financial markets, companies must be able to make proper credit decisions since trade credit is an important source of financing for most firms. There are many reasons why firms provide trade credit to their customers. Trade credit is offered when companies have cost advantages particularly in the areas of credit collection and credit evaluation. Credit is also extended when firms are able to capitalize on market power through price discrimination (Brennan, Maksimovic and Zechner [7]). For example, by offering customers various credit terms, companies can market their products at different effective prices. Another incentive for granting credit involves tax advantages associated with trade credit extensions (Mian and Smith [22]; Brick and Fung [6]). Trade credit is also offered since it expands the borrowing capacity of smaller, less creditworthy buyers by allowing them to finance their purchases (Smith [26]). Finally, by granting trade credit, firms are able to circumvent costly credit contracts between buyers and sellers of goods (Emery [10]; Emery [11]). These reasons explain the prevalence of trade credit in both the domestic and foreign credit markets.

The international credit management function encompasses several major areas including credit policy and credit granting decisions (Srinivasan and Kim [28]). Foreign finance managers are responsible for making credit policy decisions involving the use of credit standards, credit terms, and collection efforts. Credit standards represent the criteria firms use to evaluate potential customers. To examine the quality of credit obligations, firms may use average collection period to measure the promptness with which customers repay their debts. The longer the average collection period, the higher will be the cost of

granting credit. Talaga and Buch [29] found that average collection period was widely used by U.S. companies operating throughout Europe. In granting credit, firms are subjected to the risk of either overdue payments or write-offs. To examine default risk, firms often use bad-debt loss ratios to measure the amount of debt they are unable to collect from their customers. The larger a company's bad-debt loss ratio, the higher will be its cost of extending credit.

Another credit policy decision involves the establishment of credit terms which indicate the conditions under which customers must pay for the credit extended to them. Two important credit terms offered by firms include credit period and cash discount. Credit period measures the length of time a company allows its customers to repay their credit obligations. If a company decides to increase its credit period to stimulate sales, it must also expect additional bad-debt losses. Cash discounts are the discount rates offered to customers as incentives to repay their credit obligations within a predetermined time period (Hill and Riener [16]). If a firm chooses to increase its cash discount to speed up collection of it accounts receivables, it must also expect additional costs associated with the cash discounts that are taken by its customers (Ben-Horim and Levy [3]).

Much attention has been given to the analysis of changes in credit policy decisions. Researchers have examined the effects of changes in cash discounts, collection policies, credit terms, and credit standards. There have also been attempts to explain the presence of both a sales pattern and collection experience interaction effect. A review of the literature shows that, while our understanding of credit policy analysis has advanced, many issues still remain unresolved (Dyl [8]; Gallinger and Ifflander [12]; Gentry and De La Garza [13]; Hill and Ferguson [15]; Hill and Reiner [16]; Kim and Atkins [20]; Oh [25]; Sartoris and Hill [25]; Walia [30]; Weston and Tuan [31]).

Several studies employed a net present value framework to examine the effects of changes in credit management policies. Kim and Atkins [20] developed a net present value approach for selecting credit strategies consistent with wealth maximization. Hill and Riener [16] used a similar discounted cash flow approach to identify the optimal cash discount that a firm should offer for early payment. The cash discount policy was structured in terms of timing of payments, changes in sales volume, credit sales paid with a discount, and bad debt loss rates. Sartoris and Hill [25] also used a net present value cash flow evaluation model to examine the relationship between financial characteristics of firms and their credit policies. They found that companies with short collection periods were the least likely to eliminate cash discounts for early payment. Hill and Ferguson [15] developed negotiating models that shift wealth between buyer and seller by trading-off price, timing, and transaction costs in a present value framework. They noted that the movement to electronic funds transfer caused a change in credit terms where timing and costs were concerned.

Another important credit policy decision involves the collection effort process which includes the methods companies use when attempting to collect credit payments on expired accounts. There are many direct and indirect collection procedures available to request payments on past-due accounts. Direct methods may consist of mailing letters or telephoning customers while indirect methods may include using collection agencies or taking legal action to collect payments. A company will generally employ less costly collection methods before pursuing more expensive procedures (Hill and Sartois [14]).

The international credit management function also encompasses credit granting decisions (Srinivasan and Kim [28]). In order to make proper credit granting decisions international finance managers must collect pertinent information on credit applicants, determine customer creditworthiness, and establish credit limits. It is important to note that the credit evaluation process is restricted by both time and amount of available resources.

There are many different sources of information available for evaluating the credit risk of a customer. Internal sources of information are relatively cost efficient and include past credit and sales histories, credit references, interviews with buyer's executives, and financial reports (Besley and Osteryoung [5]; Talaga and Buch [29]). Customer supplied financial statements provide valuable information on the financial condition of credit applicants. Talaga and Buch [29] examined the credit practices of U.S. subsidiaries and found that past credit histories and financial reports were the most common internal sources of credit information. Besley and Osteryoung [5] surveyed the methods of establishing trade credit limits and found strong support for the use of subjective judgement, financial ratio analysis, and credit reporting agencies.

External sources of information are furnished by agencies outside the credit granting firm and include commercial banks, credit reporting agencies, competitors, and government sources (Talaga and Buch [29]). International banks can offer vital information about the credit applicant's financial condition and credit strength since they maintain detailed information on the payment patterns and financial conditions of companies they do business with. Credit reporting agencies provide detailed information on an applicant's credit history, including past payment records and maximum credit levels. Talaga and Buch [30] reported that credit reporting agencies were the most widely used source of creditor information.

The credit analysis process is based on the principle that past credit performance can be used to forecast future credit performance (Eisenbeis [9]). The credit granting decision incorporates many forecasting concerns and ultimately involves determining the credit-worthiness of credit applicants. To assist in evaluating customer creditworthiness, there are some traditional qualitative guidelines that companies often utilize. These guidelines include character, capacity, capital, collateral, and conditions (Kallberg and Parkinson [17]).

Complex quantitative approaches are also used to evaluate customer creditworthiness (Besley and Osteryoung [4]; Gallinger and Ifflander [12]; Gentry and De La Garza [13]; Kallberg and Kao [18]; Long, Malitz, and Ravid [21]; Srinivan and Kim [27]). In order for statistical models to work properly, careful consideration must be given during the design and implementation stages. Kallberg and Kao [18] discuss the use of quantitative statistical approaches in the credit management function. They develop discrete time models (based on Markov chains) to predict future payment behavior from past data on credit sales and payment activity. They identify many factors that should be considered when modeling the credit evaluation process including group classification, sample selection, prior probabilities, model efficiency evaluation, and model monitoring.

Several important conclusions may be drawn from the studies on international credit management analysis. First, the credit management process is an extremely important and

complex concern for international companies. It involves many policy decisions that must be made within constantly changing financial markets. Both qualitative and quantitative models should be used during the evaluation and control process. Second, while researchers have examined the credit management practices of parent companies of U.S. MNEs, the literature lacks in one important area. The analyses were based on aggregate information from foreign firms or U.S. parent companies. Thus, the analyses may not be appropriate for understanding the credit management practices of U.S. subsidiaries located overseas. This exploratory study addresses these shortcomings by providing information on the credit management strategies used by U.S. foreign subsidiary managers. Specific areas that are examined include credit standards, credit terms, collection efforts, and guidelines used to analyze creditworthiness among foreign subsidiaries.

Methodology

Data Collection

The companies included in this study consist of foreign subsidiaries of U.S. multinational enterprises. Since industries may react differently to similar conditions, only manufacturing firms were studied. An initial list of potential multinationals was generated from the July 1991 issue of Forbes Magazine that listed the largest U.S. multinational enterprises. This list was subsequently reduced using a two-step process. The goal of the first step was to identify U.S. parent companies that possessed criteria which enabled them to qualify as "multinational enterprises." All parent firms had six or more active overseas subsidiaries according to the terms laid out by Aharoni [2]. These companies were selected from the 1991 issue of the International Directory of Corporate Affiliations. The companies were also required to earn at least 20% of their annual revenue from overseas operations as stated by Kelly and Philippatos [19]. These firms were chosen using the July 1991 issue of Forbes Magazine, which listed the annual domestic and foreign revenues of the largest U.S. multinational enterprises. Fifty-seven U.S. parent firms satisfied the preceding requirements. After extensive conversations with treasurers from each of the fifty-seven companies, thirty-one firms agreed to allow their foreign subsidiaries to participate in the study.

The second part of the sampling procedure involved contacting the foreign subsidiaries. During the first quarter of 1992, 532 questionnaires were mailed to subsidiaries throughout the world. One questionnaire was mailed to each subsidiary. The treasurer or managing director was asked to complete the questionnaire. A total of 188 subsidiaries returned their questionnaires—a response rate of 35%, which was unusually high for a voluntary international survey. Since response bias is typically more prevalent when respondents are asked to identify themselves, the foreign managers were not asked to identify themselves or their subsidiaries.

Questionnaire Design

The creation and refinement of the measuring instrument was subjected to very close scrutiny by corporate finance practitioners. Executives from six major U.S. multinationals assisted in designing the questionnaire. After several revisions, the survey was further

examined by treasurers from three other multinationals. Their suggestions were minor, indicating that the instrument was ready for use.

The questionnaire was designed to obtain detailed information about the credit management practices of foreign subsidiaries. First, subsidiary managers were asked to describe the credit standards they used to evaluate potential customers. Second, they were requested to discuss the credit terms that were offered to their customers. Third, foreign subsidiary managers described the methods used to collect past-due payments. Finally, respondents were asked to reveal information about guidelines that were used to assess customer creditworthiness.

Results

Average Credit Period

An important credit policy decision involves establishing the credit period which measures the length of time customers take to repay their credit obligations. Researchers claim that credit periods are determined by industry norms and vary significantly among different industries (Moyer, McGuigan, and Kretlow [23]). The findings in Table 1 show that about one-third of the respondents had an average credit period of between 21 and 30 days while almost three-quarters of the respondents had an average credit period of 50 day or less. The results of our study indicate that average credit periods offered by managers of U.S. foreign subsidiaries are less than those offered by managers of U.S. firms. \(^1\)

Table 1 Average Credit Period			
Number of Days	Frequency	Percent	Cumulative Percent
20 or less	22	12.4	12.4
21 to 30	56	31.6	44.0
31 to 40	29	16.4	60.4
41 to 50	21	11.9	72.3
51 to 60	14	7.9	80.2
61 to 70	12	6.8	87.0
71 to 80	4	2.3	89.3
81 to 90	12	6.8	96.1
91 or more	7	3.9	100.0

Average Cash Discount Rate

Another important credit policy decision involves setting the cash discount which is offered to customers as an incentive to repay their credit obligations within a predetermined time period. Theorists state that cash discount rates are often based on industry norms (Moyer, McGuigan, and Kretlow [23]). The average cash discount rates offered by foreign subsidiary managers are presented in Table 2. Although 73.3% of the respondents reported a cash discount rate of 2% or less, 40.9% said no discount rate was offered to their customers. On average, the cash discounts offered by U.S. foreign subsidiary

managers are less than those offered by managers of U.S. firms.¹ To encourage the early repayment of debt obligations, subsidiary managers should offer some amount of cash discount to their customers (Moyer, McGuigan, Kertlow [23]).

Table 2 Average Cash Discount Rate			
Discount Rate	Frequency	Percent	Cumulative Percent
0%	72	40.9	40.9
1%	20	11.4	52.3
2%	37	21.0	73.3
3%	21	11.9	85.2
4%	6	3.4	88.6
5%	5	2.8	91.4
6%	1	0.6	92.0
7%	1	0.6	92.6
8% or more	13	7.4	100.0

Average Discount Period

Once the decision has been made to offer a cash discount, firms must determine the period during which cash discounts may be taken. Theorists state that discount periods are generally established by industry norms (Moyer, McGuigan, and Kretlow [23]). Table 3 provides comparisons of the respondents' average discount period during which cash discounts are allowed. The findings show that almost 44% of the foreign subsidiaries maintained no discount period, while approximately 21% had average discount periods of 10 days or less. The average discount periods offered by foreign subsidiaries are similar to those offered by U.S. firms. ¹

Table 3 Average Discount Period			
Number of Days	Frequency	Percent	Cumulative Percent
no discount	72	43.9	43.9
10 or less	35	21.3	65.2
11 to 1	24	14.6	79.8
16 to 20	4	2.4	82.2
21 to 35	3	1.8	84.0
26 to 30	11	6.7	90.7
31 or more	15	9.3	100.0

Average Collection Period

Companies generally monitor the payment behavior of customers that receive trade credit extensions. Average collection period measures the promptness with which customers repay their debt obligations (Hill and Sartois [14]). Another important goal of this study was to determine the average collection periods associated with U.S. foreign subsidiaries. Table 4 shows that almost 80% of the foreign subsidiaries had an average

collection period of 60 days or less. On average, 23.3% of the foreign managers said their average collection period was 20 days or less. When compared to the average collection period for U.S. firms, foreign subsidiaries maintained similar collection periods.²

Table 4 Average Collection Period			
Number of Days	Frequency	Percent	Cumulative Percent
20 or less	38	23.3	23.3
21 to 30	28	17.2	40.5
31 to 40	23	14.1	54.6
41 to 50	20	12.3	66.9
51 to 60	21	12.9	79.8
61 to 70	10	6.1	85.9
71 to 80	4	2.5	88.4
81 to 90	7	4.3	92.7
91 or more	12	7.3	100.0

Percentage of Bad-Debt Credit

In granting trade credit, firms expose themselves to the risk that certain customers will not repay their credit obligations. Bad-debt loss ratio measures the amount of credit a firm is unable to collect from its customers (Kallberg and Parkinson [17]). Another objective of this study was to determine the percentage of bad-debt credit. As shown in Table 5, almost 58% of the foreign subsidiary managers reported a .05% bad-debt loss rate, while approximately 70% of the foreign managers experienced a bad-debt loss rate of 2% or less. Thus, the foreign subsidiary managers in our study are effectively managing their customer default risk.

Table 5 Percentage of Bad-Debt Credit			
Bad-Debt Credit	Frequency	Percent	Cumulative Percent
.05%	89	57.8	57.8
1%	18	11.7	69.5
2%	1	0.6	70.1
3%	4	2.6	72.7
4%	3	1.9	74.6
5%	7	4.5	79.1
6% or more	32	20.9	100.0

Methods Used To Collect Past-Due Accounts

Firms must decide what actions should be taken to collect late payments. Researchers suggest that firms should employ the least costly collection methods before using more expensive procedures (Hill and Sartoris [14]). The methods used to collect past-due accounts are presented in Table 6. We find strong support for the theoretically-preferred collection process.³ Foreign subsidiary managers are pursuing methods that are recom-

mended by researchers. The methods used most frequently include telephone calls, sending notes or letters, and customer visits. The least preferred methods include the use of legal action and collection agencies.

Table 6 Methods Used To Collect Past-Due Accounts		
Collection Method Subsidiaries' Average		
Visit The Customer	2.22 (3)	
Telephone The Customer	1.50(1)	
Send Notices Or Letters	2.17 (2)	
Employ A Collection Agency	4.03 (6)	
Refuse Further Business	2.65 (4)	
Take Legal Action	3.26 (5)	

Guidelines Used To Access Creditworthiness

Another important credit policy decision involves determining the creditworthiness of potential customers. Financial theorists suggest that firms which employ qualitative guidelines should examine such factors as character, capacity, capital, collateral, and conditions to assess customer creditworthiness (Kallberg and Parkinson [17]). Table 7 shows the guidelines used to access customer creditworthiness. The findings of this study show that foreign subsidiary managers follow theoretically-preferred qualitative guidelines when assessing creditworthiness. The most important measures used by foreign subsidiary managers include past credit history (character), liquidity ratios (capacity), and net worth position (capital).

Table 7 Guidelines Used To Access Creditworthiness		
Guideline	Subsidiaries' Average	
Liquidity Ratios	2.39 (2)	
Net Worth Position	2.42 (3)	
Past Credit History	1.44 (1)	
General Economic Climate	2.59 (4)	
Assets Pledged As Security	2.93 (6)	
Interest Coverage Ratio	3.52 (7)	
Profitability Ratios	2.78 (5)	

Collateral and financial leverage (interest coverage ratio) were the least important guidelines used to assess creditworthiness. Similar results were found in a previous study on credit management.⁴

Summary and Conclusions

The findings of this study suggest that the credit management practices of foreign subsidiaries are similar to those used by parent companies. It was found that foreign subsidiary managers generally used theoretically-preferred methods when making credit management decisions. These results verified the conclusions of earlier international studies which examined the credit management practices associated with parent companies. However, this study confirmed these results from the perspective of overseas managers. It was also found that foreign subsidiary managers used cost efficient collection methods to collect past-due accounts. The most important qualitative guidelines used to assess credit-worthiness consisted of a credit applicant's character, capacity, and capital.

Several other interesting findings were obtained from our analyses of the credit management strategies used by foreign subsidiary managers. Average discount periods offered by foreign subsidiaries were similar to those offered by parent companies. Cash discount rates offered by foreign subsidiary managers were less than the discount rates offered by managers of parent firms. Also, foreign subsidiaries maintained collection periods similar to those of parent companies. Finally, foreign subsidiary managers were efficient in managing default risk as indicated by their relatively low bad-debt loss rates.

Although this study has focused on many different aspects of the credit management process, other important areas still need to be examined. Future research efforts should focus on how company- and country-specific factors affect the foreign subsidiary's credit management decision. One way to address this would be to incorporate political, financial, and economic considerations into the credit management process. Research efforts in these areas should help provide important contributions to our understanding of how foreign managers make their credit policy decisions.

Notes

- 1. Moyer, McGuigan, and Kertlow [23] provide a list of the typical credit terms associated with various industries. Manufacturing firms typically offer a credit term of 2/10, net 60. See pages 723-724 for credit term policies associated other industries.
- 2. Dunn and Bradstreet Information Services provides industry norms and key business ratios. The average collection period for manufacturing firms is 39 days.
- 3. Hill are Sartoris [14] provide a detailed description of the collection procedures used by companies to collect past-due payments. See pages 422-440 for additional information on this topic.
- 4. Talaga and Buch [29] report on the credit practices used by subsidiaries operating in Europe. Past credit histories (character), past sales history, and liquidity ratios (capacity) were important measures used to assess customer creditworthiness.

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	Appendix
Instructions For your convenience, m	survey sent to foreign subsidiary managers. nany of the questions in this survey require a check- under the appropriate answer. Thank you very this study.
Background Information About Your	Company (Please check only one response.)
1. What is your official corporate title	?
President/CEO V.P Finance Controller Treasurer Mgr. Financial Analysis	Managing DirectorAssistant V.PFinanceAssistant ControllerAssistant Treasurerother
2. What is the primary product product	ed by your company?
paper & related products industrial machinery & equipment fabricated metal products chemical & allied products printing & publishing	electronic equipment food & kindred products transportation equipment instruments & related products other (specify)
3. What is the <i>ownership</i> status of you	
100% owned (acquired by pare 100% owned (founded and buil majority interest (51 to 99% ownequal interest (50% ownership) minority interest (1 to 49% ownother (specify)	It by parent company) vnership)
4. How long has your company been i	n operation?
less than 5 years 5-10 years 11-20 years	21-30 years 31-40 years more than 40 years
Credit Management Analysis	
5. What is the average number of days	s of the credit period you grant to your customers?
20 or less 21 to 30 31 to 40 41 to 50	51 to 6091 to 10061 to 70101 to 11071 to 8081 to 9081 to 90
6. What is the average cash discount r	ate you grant to your customers?
0%3%3	6 %9 %9 %8 % more than 9 %
	s of the discount period you grant to your custom-

	Appendix (continued)
8. What is the average number of to them?	days it takes for your customers to repay the credit extended
20 or less 51 to 60	91 to 100
21 to 30 61 to 70	
31 to 40 71 to 80	more than 110
41 to 50 81 to 90	
9. On average, what percentage of	f your customers will not repay the credit extended to them?
.05 % 4 %	8 % 12 %
1 % 5 %	9 % 13 %
2 % 6 %	10 % more than 13 %
3 % 7 %	11 %
(least important)] item	degree of importance
a. visit the customer b. telephone the customer c. send notices or letters d. employ a collection agency e. refuse further business f. take legal action	
	e of the following guidelines that can be used to access a cusach item from 1 (most important) to 5 (least important)]
item	degree of importance
a. liquidity ratios	
b. net worth position	
c. past credit history	
d. general economic climate	
e. assets pledged as security	
f interest coverage ratio	
g. profitability ratios	

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