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# RISK EVALUATION OF INTERNATIONAL BONDS

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## I. Introduction

Recent theoretical advances in international financial management, coupled with the phenomenal expansion in the activities of multinational corporations (MNCs) around the world, have substantially increased the scope and complexity of the tasks of the "finance person" involved with an MNC and international capital markets. A key responsibility entails decision making leading to optimal capital allocation, subject to the constraints of overall owner or corporate goals.

On the theoretic front, the domestic capital asset pricing theory has been extended to a multi-currency world by the development of the International Capital Asset Pricing Model (ICAPM) and the International Arbitrage Pricing Theory (IAPT).<sup>1</sup> The normative prescriptions of the theory are straightforward: (a) individual wealth should be held in the form of a well-diversified portfolio, and (b) the purchase/sell decision should be dictated by a comparison of expected returns for asset with the required return given the asset's risk and the market price for bearing that risk. For application, however, inconclusive evidence regarding the nature of the international capital markets (in terms of perfection, efficiency, and integration<sup>2</sup>) coupled with unavailability of appropriate data make the precise measurement of risk of foreign denominated financial assets in the theoretical framework a very difficult, if not impossible, task. Despite the difficulties, risk analysis is inescapable for proper financial decision making.

The scope of this paper is restricted to risk evaluation of international bonds. Bond ratings, as determined by professional agencies, have been traditionally used as surrogate measures of bond risk. On the one extreme, regulators and financial managers restrict investment in bonds having "investment quality" ratings; on the other, specialty funds concentrate their holdings in lower rated or "junk" bonds. Even at the domestic level, an unambiguous and theoretically justified measure of bond risk has been hard to identify. A rich body of literature has evolved attempting to identify and

evaluate variables relevant for both determining and predicting ratings and in measuring the value of these ratings for domestic bonds.<sup>3</sup> Despite these efforts, bond ratings remain the primary risk surrogate in use. The growth of professionally managed internationally diversified portfolios and the increasing awareness of investors regarding international bonds has encouraged professional agencies to rate these securities as well.<sup>4</sup> Unfortunately, however, these securities have not yet gained the attention of researchers.

The purpose of this paper is to identify key issues and develop a framework relevant for evaluating risk to creditors in the case of international bonds. The paper is organized as follows: The next section provides a brief discussion of bond ratings. Section III identifies and elaborates on issues unique to international bonds. A step-by-step framework for evaluation is developed in Section IV. In Section V we use Japan as an example to illustrate certain points. Summary and conclusions are provided in Section VI.

## II. Bond Ratings

The stated objective, purpose and definition of bond ratings vary between rating agencies. Therefore, specific ratings depend upon the agency assigning them. Essentially, a bond rating is an indicator of relative quality. It is a measure of the current and potential attributes of a debt security (in terms of its "credit worthiness") in relation to other similar credit instruments. Creditors are predominantly interested in the relative risk of interruption in the timely payments (or in the extreme, no payment) of interest and principal. The variable of crucial importance, therefore, is the expected cash flow available (or accessible) to creditors — if events proceed "normally" and, if unusual circumstances develop, both short of and including default/bankruptcy. The latter can give rise to three particular concerns:

- a) will interest payments continue to be made and for how long?
- b) will principal repayments continue to be made on time or will they have to be received from some form of reorganization?
- c) if a guarantor is present, will the payments of principal and interest continue uninterrupted?

It is essential for an analyst to **adopt the perspective of existing and potential creditors**. Of course, at different stages of the process, the analyst will temporarily take other viewpoints, but the underlying perspective must remain that of creditors. Thus, in analyzing the merits and weaknesses of the bond-issuing firm, one might assess the competitive position in the marketplace of the firm's products and their acceptance, product development, margin protection ... both now and likely in the future. Similarly, evaluating the experience level of the firm's management, its astuteness,

commitment, standards of ethics ... and other factors like latent liabilities (that may arise from, say, chemical exposure of personnel or extended warranties granted in a marketing effort) may be very important. However, the final objective of investigating this array of factors is to discern its impact on the position of creditors.

The quality of a particular security is also strongly influenced by its protective covenants, marketability, liquidity, maturity, coupon, duration, the characteristics of its issuer, and "other factors." The "other factors" in some cases might be of paramount importance. An evaluation of the relative influence of different factors on a particular issue's credit worthiness, prior to undertaking a detailed analysis, will allow focusing on only those factors likely to have the greatest impact on its quality. Thus, the precise process in rating a bond may vary depending on the factors of importance. However, there should be a common underlying approach as well as criteria at the core of any bond rating process.

In general, all the factors discussed above are relevant for both domestic as well as international bonds. Given the substantive body of literature on domestic bonds, we will hereon restrict to what seems to us the essential approach and criteria which should be at the root of any analysis conducted to determine relative credit worthiness of international bonds. The general framework for such an evaluation, as suggested in the next section, identifies situations where an analyst may not be required to conduct an exhaustive analysis of a firm's circumstances with respect to all of the above-mentioned factors.

### III. Issues in Evaluation of International Bonds

Several issues are important in evaluating and determining an international bond's relative riskiness.

**Foreign exchange risk.** Any investment whose interest and principal are denominated in a currency other than the investor's domestic currency exposes him to "foreign exchange" risk resulting from variability in exchange rates. We ignore this risk here for two reasons. First, a variety of means exist for an investor to hedge this risk whereby future currency flows measured in domestic currency can be made deterministic (either through future or forward contracts or through more recent options on foreign exchange). Second, and perhaps more important, extant literature does not provide conclusive evidence to suggest the actual existence of this unique risk.<sup>5</sup> The related issue of "blocked funds," however, is relevant for our purposes and is discussed later.

**Accounting information.** The basic informational needs of the analyst are oriented to factors affecting cash flows. Although a lack of uniformity in accounting regulations and conventions exists in different countries,<sup>6</sup> the issue is relevant to the analyst **only** to the extent it is necessary to extract

cash-flow-related information; namely: (a) the nature of those assets and their operational characteristics that will provide cash flows during normal periods, extreme periods (short of liquidation), and during a liquidation period; (b) the relevant covenants and the relative claim to cash flows during each of these periods; and (c) the bond-issuing firm's informal relationship with other organizations which may impact upon the cash flows available for debt service. In short, from the plethora of accounting methods existing in different countries, an analyst need only restrict familiarity to those which allow the unearthing of information related to cash flows.

**Standby guarantors.** In many cases, foreign firms which are trying to raise capital by issuing bonds have the backing of another organization which may support it in meeting its financial obligations. Such backing may be in the form of a formal or an informal guarantee in favor of the issuer. The existence of such external resources available to a foreign issuer has a direct and sometimes significant impact on the riskiness of the issuer's liabilities. Close attention to the presence of a potential "guarantor of last resort" can yield crucial insights in determining the credit worthiness of the issuer. Subsequently, our approach focuses on these factors to suggest a step-by-step methodology to the analyst to discern the riskiness of the issuer's bonds. This risk relates primarily to the probability of receiving the interest and principal and to accessibility of the issuer's assets in case of default.

(i) **Government as Lender of Last Resort.** A firm's debt may be guaranteed, formally or informally, by its government. A formal guarantee may exist particularly when the issuer is significantly or fully owned by its government or when funds are being raised by an organization for investing in projects which are undertaken at the invitation of or in the direct interest of that government. The size of the credit itself may impact the nature of the guarantee; for example, a modest loan may have a meaningful guarantee, whereas a guarantor government may not come to the rescue of a large loan obligation due to political or other constraints because of its sheer size. Thus a 5 million dollar loan might be quickly and quietly shored up by a government; but, despite government capacity, political pressure (such as those related to the domestic election cycle) may inhibit a government to act as a lender of last resort for a 1 billion dollar obligation.

Alternatively, an informal guarantee of the government for a firm's debt may be present. Some common reasons for such informal guarantees are:

- (a) **National Pride:** Some organizations are perceived to be unofficial representatives of their countries, and their failure may be considered detrimental to that nation's pride. National airlines of many countries are an example of such organizations. "Next to the flag, the tail fin is the most eloquent statement of a country's sovereignty."<sup>7</sup>
- (b) **National Necessity:** Such organizations as airlines, especially in

many less-developed countries, are considered necessary for these countries' future development.

- (c) **National Security:** National security may lead a government to maintain the financial viability of a defense or a high technology firm.
- (d) **Economic:** The perception that a firm or a bank plays a major or a crucial role in the economic health or development of a nation. A nation's only communications company might be such an example. This reason becomes particularly important if a domino effect is present; viz., if a key firms' failure is forecast to have a chain reaction on other major firms. For example, in Canada, the Grand Trunk Railway bankruptcy would have led to possible bankruptcy of the Bank of Commerce. Grand Trunk was, therefore, taken over by the Government of Canada and renamed Canadian National Railway.
- (e) **Domestic Politics:** Although a nation may economically survive the loss of a particular firm, the resulting loss of jobs, savings and political implications may dictate that the firm be saved.<sup>8</sup>
- (f) **External Politics:** The government may feel that failure of the firm will impact it unfavorably through external political or economic developments.

**(ii) Another Firm as Lender of Last Resort.** On occasion, another firm may serve as a lender of last resort. Such a firm may, in turn, have the government as its lender of last resort. The issuance of debt by British Petroleum (BP) and the Standard Oil Company (SOHIO) serves as an example. With respect to its debt offering, SOHIO's credit worthiness was enhanced by the presence of BP because of market's expectation that the British government would not allow BP to default.<sup>9</sup>

Firms may serve as a guarantor of last resort for several reasons such as:

- (a) **Joint economic interests** of an operating nature that are direct (e.g., partnership in a project) or indirect (dependency on the firm in some way).
- (b) **Formal ties or relationships** with the firm of a non-operating nature. A firm may be a creditor holding a subordinate credit position. Under some circumstances, if it assists the distressed firm, it may limit its own losses. For example, if a senior creditor forces a firm to liquidation, the junior creditor may foresee little or no recovery. On the other hand, if the latter assists the troubled firm, the assistor may enhance its own chances of partial recovery. The analyst should be alert to this, especially in instances where the senior debt position is a small fraction of total debt.
- (c) **Special situations** where some creditors have a "special" relationship with the firm. As an example, a creditor's loan to a firm may represent a significant portion of the creditor's loan portfolio. Recog-

nizing a "bad loan" at a particular point in time may not be deemed prudent. In addition, a creditor might also have an equity position in the same firm. That could influence the decision to make some "accommodations" (and encourage others to do so as well) rather than force bankruptcy.

The actual nature and value of the guarantee made available by an external organization depends upon the perceived importance of the basic reason for providing a guarantee and the ranking of such guarantee relative to other obligations of the guarantor. Depending upon this, the guarantee may cover cash flows for meeting interest and/or principal; and in case of bankruptcy, a guarantor may even resort to liquidate some of its own assets to meet creditor's claims. However, in reality, investors may not have access to a foreign issuer's assets, as is usually taken for granted.

One must also recognize that the same factors which adversely affect the issuer's ability to service debt may also impinge on the guarantor's ability to serve as a lender of last resort. Despite such correlations (and, in some cases, of even a perfect correlation), a guarantor still may provide some "co-insurance" effect.

### **Accessibility and Preservation of Assets**

**Accessibility** to assets for purposes of liquidation and recovery of principal and interest in arrears is of obvious importance. Paradoxically, however, for much the same reasons that a government might choose to act as a guarantor, it might choose to block attempts at recovery. The possibility exists that a government may take legal or more drastic actions to foil attempts to liquidate the distressed firm's assets, even against the wishes of the debt issuer. Sometimes, government blockage may be in the form of imposing specific restraints on currency conversion. Recently, a Spanish court ruled "that international banks can't make claims in U.S. dollars if a Spanish borrower defaults on its loan repayments..."<sup>10</sup>

One can argue that this course of action has far reaching and damaging effects on future credit terms available to the country and its firms. Nevertheless, governments and courts do not always subscribe to such logic; and no country is beyond the realm of such possibility. In fact, during the Penn Central crisis, a judge in the United States deemed it in the "nation's interest" to prohibit access by creditors to some rolling stock financed through equipment trust certificates. The heretofore sacred aspect of trust certificates was violated—a precedent that undoubtedly will remain in creditors' memories and influence rates demanded on future credit arrangements of many, if not all, firms.

**Preservation** of assets which are essential to a firm's ability to generate cash flow and which may serve as accessible collateral in the event of default

is a factor which also must be examined. This is important even if such assets are not pledged against the debt-issue being evaluated. Again, governments or courts may deplete the firm of such assets or render them valueless against the firm's will. This may result from expropriation due to acts of war or as a result of other governmental actions. The latter, for example, might involve the banning of certain products. Assets used in their production are effectively stripped of their value in terms of ability to generate cash flow from operations or in liquidation. Thus, the assets may remain intact and be accessible but suddenly depreciate in market value. The analyst must be cognizant of such an eventuality.

#### IV. A Framework for Analysis

The initial step in analyzing international bonds is to determine if an external guarantor of last resort exists and, if so, what is the nature of the guarantee. Next, an analyst should investigate whether formal or informal guarantee exists with respect to payments of interest and principal, and also whether realistic access exists to the firm's (and/or guarantor's) assets. To the extent a guarantee from an external source does exist for any of these factors, the analysis proceeds on three dimensions.

The first dimension entails determination of whether the guarantee is formal, informal, or a mix of the two. The second dimension requires an assessment of the capacity and the likely commitment of the guarantor in meeting its obligations. In the final dimension, one must scrutinize and determine whether the guarantee exists with respect to payments of interest and/or principal and the accessibility of assets. For operational efficiency, however, the analysis of the second and the third dimensions should occur concomitantly.

Table 1 depicts the possible situations which may be observed with respect to availability (regarding amount and timing) of cash for interest and principal payments from (i) operations, (ii) limited sale of assets in extreme situations short of default, and (iii) from liquidation of assets in the event of default.

The second dimension, which must be considered simultaneously with the third dimension (as depicted in Table 1), relates to the intent and ability of the guarantor to fulfill its guarantee. Only after this determination would it become clear what precise action the analyst should take. The possible outcomes in this dimension and the suggested courses of action are as follows:

- A. **Guarantor has the ability and the intent** to meet its obligations without any hesitation: This assessment negates the need to conduct a detailed analysis of the bond-issuing firm.
- B. **Guarantor has the ability but its willingness and intent** to fulfill its

obligations is unclear: In this case, the analyst should estimate the likelihood that the guarantor will provide funds, the likelihood of the issuer defaulting and the joint probability of both the issuer and the guarantor defaulting.

- C. **Guarantor has the intent but not capacity** to meet its obligations: Once this case is recognized, analysis should focus solely on the issuer. This situation is equivalent to one where no guarantor exists.
- D. **Guarantor has the intent but only some capacity** to contribute to availability of funds: This is akin to a "portfolio problem" or a "co-insurance" situation. The analyst should assess whether guarantor will likely be able to make up any short-fall when the issuer cannot meet full requirements. Assessment should also be made of partial recoverability factor; i.e., in event of default, the effect that the presence of a guarantor may have on increasing the percentage recovered and on the "elapse time" of recovery (i.e., period that lapses from default until some cash is realized).
- E. **Guarantor may or may not have ability**, but will or may actually **reduce** the availability of funds: There may exist or develop a political, social, or economic reason where the "guarantor" might interfere with an issuer's ability or willingness to fulfill obligations to creditors. As one example, assume the debt-issuing organization produces armaments. If this company defaults and foreign creditors try to liquidate assets, the host government may block access to assets under the banner of national security. Another example may be of a company providing jobs that support the local economy. If creditors liquidated some assets, the jobs destroyed might lead to economic, social, and political problems. A government need not outright declare assets as inaccessible but simply delay availability to the point that the assets become worthless from the creditors' point of view. If such situations are recognized, the analyst should restrict the analysis of the guarantor and focus attention on the cash-flow generating ability of the issuer. Furthermore, no effort need go into an analysis of collateral value since it would not be accessible.

Having identified the factors of precise relevance for a given situation, the analyst should consider two other issues. One is the issue of "sovereign risk" whereby a government can impose restrictions on capital outflows from its country. In the case where a foreign government is a guarantor, this issue is implicitly couched in our suggested approach. As this risk is hard to quantify, despite the fact that some professional agencies provide information regarding this, an analyst still has to make a subjective estimate based upon macro-economic factors and social and political circumstances.<sup>11</sup> The second is an assessment of the degree of perfection in the goods market. This becomes relevant only in case of default where physical assets may have to



**Table 1**

In the following, a “Yes” (“No”) refers to the presence (absence) of a guarantor of last resort with respect to each of the item headings. If assets are available from guarantor, this implies that guarantor would sell some of its assets to meet issuer obligations in case of default or to avoid default.

<b>Situation</b>	<b>Interest</b>	<b>Principal</b>	<b>Asset Availability</b>	<b>Recommended Action by Analyst</b>
1.	No	No	No	In this case, no guarantor exists. Subsequently, the analyst should focus attention on the issuer. This situation is very similar to a domestic bond analysis. A complete economic analysis assessing current as well as potential changes in credit worthiness is required.
2.	Yes	Yes	Yes	As an external guarantee exists for all factors relevant to creditors, the analysis should focus on the guarantor. If adequate cash flows are available, only a cursory examination is required.
3.	Yes	Yes	No	Focus should be on the guarantor’s ability to fully cover the issuer’s obligations. However, if the guarantor cannot fully cover the issuer’s obligations, the joint ability of the issuer and guarantor should be assessed.
4.	Yes	No	No	Determine if the guarantor is fully capable of covering interest payments. If so, the issuer’s ability to meet principal payments should be the focus.
5.	No	Yes	No	Analyze issuer with respect to ability to pay interest and guarantor with respect to principal. To the extent guarantor’s ability to meet principal payments is very high, issuer’s assets need not be analyzed.
6.	No	Yes	Yes	Analyst’s attention here should focus primarily on determining issuer’s likelihood of defaulting on interest.
7.	No	No	Yes	Primary analysis should be of issuer with an assessment of the collateralized asset value.
8.	Yes	No	Yes	Attention in this circumstance should focus on the issuer’s ability to meet principal payments as well as the guarantor’s ability to pay interest. The value of the issuer’s assets should be evaluated.

be liquidated for generating cash flow to pay creditors. In case of underdeveloped or imperfect secondary goods markets, cash generated from such liquidation may be much less than the intrinsic or book value of the assets.

### V. Japan: A Case in Point

Most research related to domestic bonds suggests that firm's debt ratio is a significant input in determining its bond rating. A high debt ratio, thus a high financial leverage, tends to reduce the quality of a firm's bonds. However, the level of "acceptable" debt ratio in the U.S. cannot be applied to evaluate the riskiness of a bond issued by a foreign firm. For example, Japan's 534 major companies in all industries in 1978 had an average "debt/equity" ratio of 5:1 compared with 1:4 in the U.K. and 1:2 in the U.S.<sup>12</sup> Thus, whereas a particular debt/equity ratio in the U.S. may imply an extremely high level of risk, in Japan it might merely represent average financial risk due to different institutional realities.

To properly assign a rating to the bond of a Japanese firm, the analyst, using our suggested approach, would first need to assess whether a formal or informal guarantor to a particular issue exists. This assessment would, of course, depend upon the specific firm being analyzed. However, as a general case, Japanese banks have a very close relationship with most of the industrial concerns to which they provide funds.

"Under antimonopoly legislation, a bank is allowed to hold no more than 10% of a company's equity. In many instances, a bank owns 10% and also supplies about 30% of an industrial firm's borrowings. Bankers frequently sit on company boards to strengthen financial management and to fortify the relationship between the company and the bank. Sometimes their purpose is to keep an eye on a firm's management if the company is experiencing difficulties. Some banker/directors get heavily involved in managing the company and eventually become presidents or managing directors."

"Big city banks tend to concentrate their lending activities in the financial group to which they belong. Mitsubishi Bank, Sumitomo Bank, Fuji Bank, Mitsui Bank, Sanwa Bank, and Dai-Ichi Kangyo Bank supply a large portion of their total loans to the relatively small number of companies within their financial groups. For instance, in fiscal 1978, Mitsui Bank (and Mitsui Trust) directed 20.6% of its loans to the companies in the Mitsui group. Similarly, of Mitsubishi Bank's loans 26.9% went to the companies in its group; Sumitomo Bank, 28%, Fuji, 20.6%; Sanwa, 19.4%; and Dai-Ichi Kangyo, 14.3%"<sup>13</sup>

Japanese banks, thus, have a much higher stake in Japanese firms; and the extensive links between them and the firms through conglomerate groups make them informal co-insurers of external loans.<sup>14</sup> Such relationships themselves have been a result of the Japanese government's policy of encouraging the expansion of firms in certain specified industries by providing incentives in the form of low interest term-loans which are typically channeled to the firms through commercial banks. Choi et. al. (1983) show substantive differences in various financial ratios of Japanese and U.S. firms and show how these can lead to erroneous inferences. Therefore, in case of bonds issued by Japanese firms, the conventional analysis may not reflect the true risk characteristics of the issue as it relates to payment of interest and principal. At the other extreme, it would also seem less than prudent for an analyst to presume direct accessibility to the Japan Airline (JAL) aeroplanes in the hypothetical circumstance of JAL defaulting on its bonds. There exists a good chance that the Japanese government may in such a situation somehow restrict foreign creditors' access to the borrower's assets.

## VI. CONCLUSION

The objective of this paper was to develop a conceptual framework for evaluating the risk of international bonds. Instead of creating new tools of analysis, we offer a perspective which hopefully will guide the decision-maker in determining the type of analysis to be conducted, the appropriate weight of relevant factors, and the proper interpretation of key issues of interest to creditors.

Succinctly, our approach identified additional dimensions or factors which may be of interest to investors and classified these dimensions into distinct categories. Within each classification a relevant set of analysis was then derived which provides the most meaningful information for determining the credit-worthiness of the debt issuer for that category. Thus, for actual implementation of our approach, the analyst should first identify the category relevant for his purpose and then proceed with the necessary analysis.

The perspective afforded by our approach is valuable for several reasons. First, it leads to a greater operational efficiency. Under some circumstances, the traditional "full blown" analysis contributes little towards the "correctness" of the actual decision. Thus, our approach reduces the risk of "false comfort" derived from indulging in a complex analysis because of precedence rather than relevance. Second, the results of the suggested approach can easily be extended to other debt instruments which have the same country of origin. Third, our identification of relevant factors may help managers to conceptualize, design, and incorporate patterns of latent supports and guarantees in their securities, thereby making their issues more attractive for lenders. Finally, the suggested approach is easily implement-

able and should aid the actual decision-making process of both financial and international portfolio managers.

## END NOTES

<sup>1</sup>For domestic asset pricing theory, see Sharpe (1964), Lintner (1965), Mossin (1966), and Merton (1971). For international asset pricing, see Solnik (1974a, 1964b, 1976), Grauer, Litzenberger and Stehl (1976), Stulz (1981) and Fama and Farber (1979). For IAPT, see Solnik (1983).

<sup>2</sup>See Grubel (1968), Levy and Sarnet (1970), Miller and Whitman (1979), Grubel and Fadner (1971), Agmon (1972), Lessard (1976), Adler (1981), Agmon and Lessard (1981), and Levich (1979, 1981).

<sup>3</sup>See Harold (1938), Hickman (1958), Atkinson and Simpson (1967), Fisher (1959), Ang and Patel (1975), Horrigan (1966), West (1970), Pogue and Soldofsky (1969), Pinches and Mingo (1973), Katz (1974), Grier and Katz (1976) and Weinstein (1981).

<sup>4</sup>Example, Standard & Poor's *Credit Week International*.

<sup>5</sup>Simultaneous maintenance of interest rate parity (IRP) and purchasing power parity (PPP) will assure irrelevance of this risk.

<sup>6</sup>In recognition of this, Financial Accounting Standards Board of the U.S., in conjunction with similar authorities of other countries has setup a committee to recommend ways to make international accounting practices uniform.

<sup>7</sup>See Kronhobz (1981).

<sup>8</sup>The case of Lockheed Corporation is an example. Also see "Foreign Bankers Irked by Spanish Decision Barring Dollar Claims," *The Wall Street Journal*, February 1, 1982, p. 25.

<sup>9</sup>See Phillips, Groth and Richards (1979).

<sup>10</sup>See "Foreign Bankers Irked by Spanish Decision Barring Dollar Claims," *The Wall Street Journal*, February 1, 1982, p. 25.

<sup>11</sup>Some professional agencies assess such risk for various countries and provide an estimate of the political risk factor. For example, Frost and Sullivan Inc., (106 Fulton St., N.Y.) provides assessment for 60 countries; Business Environment Risk Information (1355 Redond Ave., Long Beach, California), among others provides assessment of sovereign risk factor for different countries. Also see Thompson (1981), Eiteman and Branin (1979), Kim and Ertenu (1981) and *Euromoney*, October 1981, pp. 73-81.

<sup>12</sup>See *FFO-Japan*, November 1979, pp. 565-66, Business International Corporation and Choi et. al. (1983).

<sup>13</sup>*FFO-Japan*, page 568, Business International Corporation, November 1979.

<sup>14</sup>See "Comparative Teaching Modules on Japan-Corporate Finance", Southern Center for International Studies, 1981.

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