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International Financial Management

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Volume 5

INTERNATIONAL FINANCIAL MANAGEMENT

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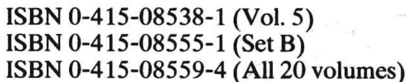

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Note

The Transnational Corporations and Management Division (formerly the United Nations Centre on Transnational Corporations) of the United Nations Department of Economic and Social Development serves as the focal point within the United Nations Secretariat for all matters related to transnational corporations and acts as secretariat to the Commission on Transnational Corporations, an intergovernmental subsidiary body of the United Nations Economic and Social Council. The objectives of the work programme are to further the understanding of the nature of transnational corporations and of their economic, legal, social and political effects on home and host countries and in international relations, particularly between developed and developing countries; to secure effective international arrangements aimed at enhancing the contribution of transnational corporations to national development goals and world economic growth; and to strengthen the negotiating capacity of host countries, in particular the developing countries, in their dealings with transnational corporations.

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Preface

The importance of transnational corporations and the globalization of production are now well recognized. Transnational corporations have become central actors of the world economy and, in linking foreign direct investment, trade, technology and finance, they are a driving force of economic growth. Their impact on the economic and social welfare of developed and developing countries is both widespread and critical.

It is one of the functions of the Transnational Corporations and Management Division (formerly the United Nations Centre on Transnational Corporations) – the focal point in the United Nations for all issues relating to transnational corporations – to undertake and promote research on transnational corporations to contribute to a better understanding of those firms and their impact. Over the past thirty years, research on this phenomenon has mushroomed, and hundreds of books and reports, as well as thousands of papers, have been published. It is the principal purpose of this twenty-volume *United Nations Library on Transnational Corporations* to distil, summarize and comment on some of the more influential of those writings on the role of transnational corporations in the world economy. In particular, the contributions in the *United National Library* deal with four main issues; namely, the determinants of the global activities of transnational corporations, their organizational structures and strategies, their interactions with the economies and legal systems of the countries in which they operate and the policies that governments pursue towards those corporations. The twenty volumes are intended to cover a wide range of topics that embrace economic, organizational and legal issues.

To accomplish that task, the Centre assembled a distinguished group of editors, who were commissioned to select the seminal contributions to their subject areas published over the past twenty to thirty years. They were also asked to prepare comprehensive bibliographies of writings on their subjects for inclusion in the volumes, and state-of-the-art introductions that summarize the development of their subjects, review the most important current issues and speculate about future work. We hope that the result in each case is a volume that provides a succinct, yet comprehensive, overview of the subject to which it is devoted.

In the early part of the post-war period, foreign direct investment was perceived to be mainly a financial activity – rather akin to portfolio investment. Even after Stephen Hymer suggested that such a phenomenon could be better explained by use of the theory of industrial organization, the subject has continued to fascinate teachers and researchers in international finance. In a sense, that is not surprising as the transnational corporation is both one of the main borrowers of capital and a leading organization agent in its allocation across national boundaries. The way in which the financial and exchange rate behaviour of firms differs according to their cross border value-added activities is of considerable interest to scholars and practitioners alike.

Arthur Stonehill is visiting Professor of Finance and International Business at Oregon State University (spring), University of Hawaii (winter), and Copenhagen Business School (fall); he is one of the doyens of international financial management, and co-author (with David Eiteman and Michael Moffett) of an influential textbook on the subject. Michael Moffett is Associate Professor of Finance and International Business in the College of Business at Oregon State University and is presently visiting Associate Professor of International Business at the University of Michigan (Ann Arbor). In the present volume the editors introduce the reader to the mainstream literature on one of the most technical aspects of transnational corporation activity embraced in this series of volumes. In the contemporary global corporation financial capital is one of the most fungible assets to cross national boundaries. The determinants of the way in which transnational corporations acquire, organize and manage those assets is of critical importance, not only to the success of those corporations, but also to the development and industrial restructuring of nation states. The 1990s are likely to pose new challenges for the international finance scholar as the demand for investment capital by the new entrants into the international market economy and the escalating costs of innovations place enormous pressures on the world demand for finance capital and its main supplying agents.

This is one of the most important reasons why a basic understanding of the management of the cross-border financial assets of companies, which probably account for one third of the world's stake of all such assets, is so important. In their introduction and selection of readings, Stonehill and Moffett seek to present the lay reader, as well as the finance specialist, with an understanding of these and related issues.

New York, July 1992

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Introduction: International Financial Management

Arthur I. Stonehill and Michael H. Moffett

The purpose of this volume is to summarize the development of contemporary thinking on the international financial management of transnational corporations. Although textbooks on this theme typically encompass a broad definition of international financial management, this volume will maintain a somewhat more restricted definition, namely, one that is limited to the international extension of traditional corporate finance. The most important theoretical developments in international financial management, from a corporate perspective, can be captured by concentrating on the following four topic areas:

- foreign exchange management
- cost of capital
- financial structure
- capital budgeting.

Representative articles from these four areas were chosen which best depict their chronological development and contemporary thinking. The bibliography at the end of the volume highlights other articles which have made a significant contribution.

Foreign Exchange Management

Foreign exchange management is the only one of the four topic areas which has almost no domestic financial management parallel. On the contrary, most of the theoretical developments have come from the field of international economics. Nevertheless, an understanding of foreign exchange management is critical for managers of transnational corporations and must be included in any serious academic study of finance.

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Historical Background

Foreign exchange exposure management did not become an important topic in corporate finance literature, or in the eyes of financial managers, until the international monetary crisis of 1971–73. Prior to that time, exchange rates were fixed in accordance with the system designed at Bretton Woods in 1944. Although periodic realignments of exchange rates occurred, the dollar's value was fixed in terms of gold at $35 per ounce, and other currencies tried to maintain par values with respect to the dollar under a gold exchange standard. A gradual deterioration of the United States balance-of-payments position during the 1960s led to a loss of confidence in the dollar, a suspension of its convertibility into gold in August 1971, and its eventual devaluation by 8.57 per cent in December 1971. After a brief return to fixed exchange rates, market pressures forced a second devaluation of the dollar by 10 per cent in February 1973. When this did not stabilize the markets, the dollar and all other currencies were allowed to float to their natural market-determined levels. Thus began the current system of managed floating rates.

Exchange rate volatility has increased sharply since 1973, with a corresponding impact on the cash flows and earnings of firms engaged in international business. This has captured the attention of business executives, investors and academics. It has led to a rich outpouring of articles and books on foreign exchange management.

The three main types of foreign exchange-risk management which are treated in academic literature of special interest to TNCs fall under the headings of *economic, transaction* and *translation*-exposure management. Because of limitations of space, this text will deal only with *economic* and *transaction*-exposure management.

Foreign Exchange Economic Exposure Management

Corporate finance literature was rather tardy in recognizing foreign exchange economic exposure as a legitimate area of concern for business students. It was not until the mid-1960s that any serious academic articles on foreign exchange management began to appear in business journals. These early articles were mainly concerned with foreign exchange transaction exposure and related hedging techniques, as well as translation exposure and related accounting principles. It was not until the early 1970s that the more important concept of economic exposure was understood. A very good summary of the early theories up to 1980 is presented in Jacque (1981; Chapter 4).

Dufey (1972; Chapter 1) had the first article in a leading corporate finance journal to explain the difference between economic (or operating) exposure and translation exposure. Although he did not coin the term "economic exposure", Dufey contrasted the "going concern" value of a foreign subsidiary with its "exposed asset" value. Shapiro and Rutenberg

(1976; Chapter 3) extended and refined the concept of economic exposure and suggested more sophisticated approaches to managing both economic and transaction exposure. Flood and Lessard (1986; Chapter 5) provide the latest summary of thinking on economic (operating) exposure management.

As it has developed, foreign exchange economic exposure is defined as the likelihood that the net present value of a firm's future cash flows will change due to an unexpected change in exchange rates. When exchange rates change unexpectedly, a transnational corporation's sales volume, prices and costs are likely to be affected.

Efforts by the firm to manage exchange rate changes are really the microeconomic version of what is happening at the macroeconomic level. International economics literature is rich in discussions of how countries adjust to exchange rate changes. For example, the concept of a "real (inflation-adjusted) exchange rate" is well understood in economics literature and by government policy makers. However, neither economic exposure nor the real effective exchange rate are well understood by top management. Instead, they often assume that any foreign exchange issue is the responsibility of the treasurer or financial vice president. In reality, managing economic exposure is best accomplished by internationally diversifying sales, production and financing by currency. These are strategic decisions that must be approved by top management and the board of directors, as well as by the financial officers.

Foreign Exchange Transaction Exposure

Foreign exchange transaction exposure is defined as the change in domestic (reporting) currency value of outstanding financial accounts which are denominated in a foreign currency. Typical accounts which are exposed are foreign currency denominated accounts receivable, accounts payable and dividends which have been declared but not yet paid from foreign affiliates. Transaction exposure can be managed by both operating policies, such as leads and lags in payments, and by contractual hedging instruments such as forward contracts, money market hedges, swaps and foreign currency futures and option contracts.

Exchange rate determination and the use of contractual hedges have long been the domain of the international economics literature. Therefore the corporate finance literature has focused more on a derivative question: are exchange rate changes predictable and, if so, can a firm (engaged in international transactions) benefit from the prediction? The answer to that question depends on whether or not foreign exchange markets are efficient. The methodology for testing this had been previously developed to determine if stock markets are efficient. The famous "random walk" studies of the United States stock market were done in the 1950s and replicated in the 1960s for other equity markets worldwide. It was therefore a logical

step for Giddy and Dufey (1975; Chapter 2) to conduct tests on the foreign exchange market. Their "weak form" test of three currencies during two floating rate periods (1973–74) concluded that the foreign exchange market, at least for the data tested, is an efficient market. They concluded that exchange rate forecasting, like picking individual stocks, is not profitable in an efficient foreign exchange market. Indeed, the forward rate, which is readily available to everyone, is the best unbiased predictor of the future spot rate.

This conclusion was reinforced about the same time by Kohlhagen (1975) and Fama (1976). Kohlhagen compared the 90-day forward rate for six currencies with their spot rates 90 days later and found that any differences could be blamed on random variations. He studied both the early floating rate period 1973–74 and the preceding fixed rate period, using a sample of six currencies, three of which were the same as the ones used by Giddy and Dufey (1975). Fama (1976) also studied the early floating rate period and concluded that "when adjusted for variation through time in expected premiums, the forward rates of interest that are implicit in Treasury Bill prices contain assessments of expected future spot rates of interest that are about as good as those that can be obtained from the information in past spot rates" (Fama, 1976, p. 361).

Test results from the early floating rate years did not hold up well for longer time periods. Later tests challenged the notion that exchange markets are efficient, especially given the predilection for governments to intervene unexpectedly in the market place. The Jurgensen Report (1983) is the most comprehensive to date, using a longer time period of floating rates and more currencies. It concluded that inflation and interest rate differentials were better predictors than the forward exchange rate. Furthermore, they found that a high probability of making a profit could be achieved by consistently using certain foreign exchange trading rules. This, of course, implies that the foreign exchange markets are inefficient and it would pay for firms to spend resources on forecasting. The fact that numerous expensive forecasting services exist profitably suggests that at least some managers agree with this conclusion.

From a managerial perspective, the current thinking on whether an international firm should actively manage its transaction exposure depends on one's belief about foreign exchange market efficiency and how much risk aversion management can tolerate. Repeated hedging of all transaction exposure can be more costly than the expected loss or gain from remaining unhedged, especially if foreign exchange markets are efficient. However, if the markets are inefficient, and the size of a transaction exposure is large compared to the size of the firm, most managers would probably hedge all or some of the exposure in order to reduce variability of cash flows and earnings. Khoury and Chan (1988; Chapter 6) provide an interesting survey of how financial officers view the relative usefulness of the various types of hedging techniques and to what extent they actually use them.

Cost of Capital

A number of transnational corporations have been able to lower their cost of capital by raising funds in international capital markets and by cross-listing on foreign stock exchanges. As a result of the efforts of those firms to internationalize their cost of capital, segmented capital markets have gradually become more integrated and international portfolio investment has flourished. In addition, some scholars believe that investors may purchase the shares of transnational corporation as a proxy for not being able to acquire shares of firms which are resident in segmented capital markets. This could further lower the cost of capital of transnational firms.

Historical Background

In 1945, following the disruptions caused by the Second World War, most of the world's money and capital markets were in shambles. Investors had lost confidence in paper securities. The shortage of gold and dollar reserves outside of the United States resulted in tight restrictions on the international flow of capital and a lack of true convertibility of key currencies. The British pound sterling, which had been the most important pre-war trading currency, was in excess supply everywhere as a result of the need to finance the war. The German, Japanese and Italian capital markets had to be rebuilt from scratch.

The dollar and the United States capital market performed well as the engine of reconstruction during the early postwar years, but an overvalued dollar led to serious United States balance-of-payments problems during the 1960s. Just as foreign exchange and capital restrictions were being removed elsewhere, the United States needed to impose the interest equalization tax in 1963, followed by restrictions on foreign lending by banks and on foreign direct investment by United States firms.

With the United States capital market effectively segmented from other capital markets by the mid-1960s, the locus of international financing shifted to the newly emerging Eurocurrency market which provided an alternative source of dollars and, to a limited extent, other currencies. Moreover, the gradual improvement of European capital markets made it feasible to develop a Eurobond market as a source of long-term financing for both transnational corporations and government entities.

A more realistically priced dollar followed the move to floating exchange rates and, by January 1974, the United States was able to remove all of its previously imposed international capital controls. Since that time, the trend has been towards removal of restrictions on international capital movements by most industrial countries. In particular, the European Community has moved perceptibly towards a single capital market, where Japan has significantly opened its capital market, as well as removing restrictions on its own residents' ability to invest abroad. Thus what started

as a world of segmented capital markets has gradually evolved towards a more integrated global market.

International Portfolio Diversification

In order for transnational corporations to lower their cost of capital by tapping international sources, portfolio investors must have a rationale for holding foreign securities in their portfolios. The genesis of such a rationale sprang from domestic portfolio theory as developed by Markowitz and refined by Sharpe and Lintner in the early 1960s. Grubel (1968; Chapter 7) presented the first attempt to develop an international version of portfolio theory. He showed that an efficiently diversified international portfolio should have a lower risk for a given rate of return than an efficiently diversified domestic portfolio. Furthermore, the internationally diversified portfolio should also have a higher rate of return for a given level of risk. This conclusion was confirmed by Levy and Sarnat (1970) and a number of later studies. One of the most recent studies by Eun and Resnick (1988; Chapter 11) updates these early studies by taking into account exchange rate uncertainty. They concluded that exchange rate uncertainty is essentially non-diversifiable and weakens the performance of internationally diversified portfolios. However, this can be offset by multi-currency diversification and the use of forward contracts for hedging the portfolio.

Market Segmentation and the Cost of Capital

If capital markets are partially segmented, investors cannot gain the full benefit from international portfolio diversification, and firms cannot fully lower their cost of capital by selling their securities to foreign investors. A national capital market can be segmented because of government interference and/or because of investor perceptions. An example of government interference is restrictions on the free movement of capital, either by limiting what domestic securities foreign investors can buy, or by limiting what foreign securities domestic investors can buy. Other examples are discriminatory tax policies, rationing of foreign exchange, and policies which increase transactions costs in domestic securities markets. Investor perceptions are shaped by the quality of financial disclosures, familiarity with foreign securities markets and institutions, alternative portfolio possibilities, foreign exchange risk and political risk.

Numerous empirical tests have been undertaken to determine if capital markets are segmented and, if so, whether such segmentation affects the valuation of securities and thus a firm's cost of capital. Solnik (1974) was one of the first financial analysts to test empirically whether a large sample of European and United States stocks were priced according to an international asset pricing model (an international Beta) or a domestic pricing model (domestic Beta). He found evidence that although national factors

dominated the pricing of his sample firms during the period March 1966–April 1971, some of their valuation could be attributed to international factors. In other words, using domestic Beta alone in calculating a firm's cost of capital would be misleading.

Lessard (1974) also tested whether a world factor was an influence on the valuation of securities. His data base included a large number of capital markets. Although national risk was most important, world factors did have an influence on stock prices in most of the markets tested. Stehle (1977) sought to determine what level of international capital market segmentation was needed to cause strictly domestic pricing of risk assets. He tested whether stocks on the New York Stock Exchange were priced nationally or internationally during the period January 1956–December 1975. His results favoured international pricing, although they were ambiguous. International pricing implies that the stocks were traded in an integrated rather than segmented market.

Grauer, Litzenberger and Stehle (1976) hypothesized equilibrium models of international capital markets under varying degrees of segmentation, including segmentation caused by foreign exchange risk. Solnik (1977) also tested national versus international pricing of securities, while using more sophisticated definitions of different types of exchange risk (nominal, real, etc.). He concluded that it was virtually impossible to specify a theoretical model of international asset pricing that can be tested empirically.

More recently, Errunza and Losq (1985) have tested international asset pricing under mild segmentation. Rather than trying to find a general model that might explain all kinds of segmentation, which Solnik (1974) discouraged, they tested for just one type of segmentation. If domestic securities were inaccessible to foreign investors would they command a super-risk premium? They found support for such a hypothesis, using a large data base of securities from developing country markets covering the period 1976–80. Since segmentation increased the cost of capital for firms resident in segmented markets, it might be beneficial for emerging capital markets to remove most of their restrictions which prevent integration with world capital markets.

The Effect of Market Segmentation on a Corporation's Cost of Capital

If a country's capital market is segmented, investors resident in that country may not be able to hold an efficient internationally diversified portfolio, and firms resident in that country may not enjoy the lowest possible cost of capital. However, with the proper strategies, transnational firms may be able to raise their funds abroad and gain an international pricing of their securities even though their home market remains segmented. On the other hand, firms which are too small to tap international capital markets are forced to continue to accept the higher cost of

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