International financial management: 35 years later—what has changed?

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Abstract

International financial management, essentially an extension of corporate finance to a global context has undergone an extraordinary metamorphosis since the mid-1960’s. From a relatively stable and predictable economic environment at that time, the forces of inflation, technological innovation, and deregulation led to new and volatile markets and a plethora of financial instruments. Many of these developments would not have been possible without the academic research in this subject which went from mainly descriptive and anecdotal to analytical. Arguably the most important theoretical developments in finance took place since then: the capital asset pricing model [CAPM], option pricing models, and the recognition of agency costs as a potential conflict of interest between management and shareholders of a firm. These are still areas of disagreement: the cost of capital for a company with global markets and investors needs more study; managing currency, interest rate, and other risks in a complex international organization is still a work in progress. On balance, the case can be made that the changes seen over more than three decades have been positive.

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1. Background

It was more than 35 years ago that Michael Brooke and I began to look at some of the issues raised by the rapid expansion of multinational business. We had embarked on a Ph.D. program of studies at the University of Manchester under the supervision of Peter Smith of that institution. Michael’s focus was on how multinational companies (MNCs) were organized and how the various parts of the
group and the management in different countries related to each other; mine was mainly how they managed their finances and controlled their operations. Although a number of other studies were getting underway at that time, with a particularly large and well-funded effort started at Harvard, I think it is fair to say that we were among the pioneers. Up to that time, relatively little academic attention had been given to addressing this subject which was beginning to concern, even to pre-occupy, policy makers in Europe, North America, and elsewhere. This began to create a demand to understand better the impact MNCs would have on the economies, institutional and social structures of the various countries where investment took place. This quickly stimulated the offering of courses to study this phenomenon at universities and in business school programs. Not much was available to serve as teaching material for these courses. I think the fact that we sold between 10,000 and 20,000 copies of The Strategy of Multinational Enterprise (Brooke & Remmers, 1970), the book that grew out of our research, attests to this demand and relative lack of anything solid at that time on which to base a serious course of study.

2. Research methodology in the 1960s

Part of our research was based on a large number of interviews of company managers in Europe, both at corporate headquarters and at the level of the subsidiaries, government officials, and of professionals mainly in the accounting and tax advisory services. This gave us a valuable insight into management practice at the time. The travel that this required was done on more or less a shoestring budget—a grant of £1,000 (worth maybe £6,000 or £7,000 in today’s money) from the OECD plus a modest salary from our respective institutions. A serious problem that we encountered was the lack of financial or accounting data available on individual affiliates or subsidiaries of MNCs from which cross-sectional or longitudinal analysis could be done. Therefore, an important part of the study concerning financial practices was building a database. This was laboriously constructed from an analysis of the annual accounts filed by over 100 British-based subsidiaries of foreign companies covering the 9 year period, 1959–1967. Comparable data from other host countries were not accessible. Aggregate data describing financial practices of MNCs were also obtained from official sources as well as from various other studies. We did not have access to computers to help process and analyze data, classify information, or even to put together and edit our study. Cut and paste was literally what we did. In fact, electronic calculators were not even available at that time. Data tabulation was done on a hand-cranked calculating machine; multiplication and division using a slide rule. Of course, in the 1960s, no Internet existed to mine for information or data, or to help check sources. No convenient data bases providing easy access to historic exchange rates, interest rates, 

company accounts, industry ratios, and the like. This of course meant that a large part of our time was spent in gathering data—no doubt at the expense of a more elaborate and thoughtful analysis. When I see the computer and data resources readily available to our Ph.D. students and young colleagues today, I marvel at how we ever managed to do our study.

When I was asked by Peter Buckley in 2002 whether I would be interested in contributing a paper to this conference in honor of Michael Brooke, besides being flattered, it seemed to me obvious to focus on my area in our original study—finance. After re-reading my part of our study, I was somewhat taken back after reflecting on what we had observed then and the enormity of what has gone in the field since then. I decided quickly to limit my paper to only a few of the major changes that have taken place affecting international financial management since the 1960s. Three came to mind. Several very important contributions to scholarly research in finance since the 1950s, dramatic improvements in technology, especially in computing and high speed communication, a veritable explosion of new financial markets and instruments. These are closely inter-related, for it is clear that without the technological advances, the fruits of scholarly research would not have been put into practice, and the developments in the financial markets would have taken much longer to be realized.

I will begin by a brief overview of the financial environment in the 1960s, continue with a summary of the rather narrow focus that we took at that time in studying the finance issues confronting multinational business, then look in some depth at what I believe are two of the most significant developments since then, namely, advances in capital investment decision-making and in risk management. I would have liked to separate these more neatly than I have done, but the issues appear to me hopelessly intertwined. But first, a few words about the state of academic research in finance three decades ago.

I often speculate on how different our study might have been if the tools and knowledge today’s researchers have at their disposal existed then. Among what one might argue were the five most important contributions to scholarly research in finance since 1950, only two had been made by the time that our study took place: a precise definition of risk and return—the mean–variance model proposed by Harry Markowitz (1952) and the Modigliani–Miller propositions that implied the proper valuation of the firm does not depend on how it was financed. The other three key contributions were the capital asset pricing model (CAPM) first proposed by William Sharpe in the mid-1960s (Sharpe, 1964) but which he, Lintner, Mossin, and others subsequently elaborated over a number of years; the Black–Scholes option pricing model in the early 1970s; Michael Jensen’s recognition of the inherent conflict of interest between the management of the firm and its shareholders as “agency costs” in a landmark article in the latter 1970s (Jensen, 1976).

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2 The initial paper ‘The cost of capital, corporation finance and the theory of investment’ appeared in American Economic Review, June 1958. This was followed by papers that brought refinement by taking taxes and the risk of financial distress into account.
Of these, the CAPM and the option pricing models arguably have had the most far-reaching impact on both academia and practice. We will return to these later in this paper. But first, let us quickly review what the financial environment was like when we were doing our study.


Looking back to the 1960s, one risks making an understatement to describe the environment at that time as being radically different from today’s. This was especially the case for the financial world. Three decades ago, exchange rates were mainly fixed against the US dollar. Nevertheless, while relatively stable in the short- to medium-term, they did change from time to time. In those days, one usually did not speak of appreciating, depreciating, or floating currencies, but rather of revaluations or devaluations, or sometimes realignments. These were fairly rare for the major currencies, and events of considerable drama such as when sterling fell by 10% against the dollar in 1967 and the French franc by as much the following year. Interest rates tended to be stable and relatively low in nominal terms reflecting either modest inflation in many of the industrialized countries, or government controls in certain markets such as France. Currency exchange controls restricted the easy movement of capital between most countries. For a period, one could not (legally) export more than £100 in sterling bank notes from the UK, or for that matter transfer funds from several other industrialized countries, without permission from the authorities. Often, this was difficult to obtain, even for making profitable foreign investment. Restrictions on trading the French franc led to a situation where there were two markets—one in France and another offshore, mainly in London. Even as late as the 1980s, from time to time, short-term franc interest rates in London would rise to astronomical levels—hundreds, even thousands of percent per year—while in France, they would remain at “normal” (administered) levels. This would occur prior to a rumored devaluation of the franc as speculators and hedgers tried frantically to switch out of the French currency. The international capital and money markets scarcely existed then. Eurodollar bonds first began to be sold about that time. Although short-term Eurodollar loans were beginning to be used by some of the larger MNCs, acronyms such as LIBOR much less PIBOR, HIBOR, and the like were not part of the familiar jargon appearing on the financial pages of newspapers. There was a derivative market in those days, but it was essentially limited to forward contracts provided by banks, plus futures on a number of commodities. In fact, I do not recall the word derivative being used then to describe the few instruments available. Options were virtually non-existent then and neither was a satisfactory way to price them. They only began to be practical with the development of option pricing models in the early 1970s. Their widespread use by companies did not come until some 15 years later during the 1980s. For a while and in some places, their use was impeded by legislation such as in Germany where option contracts came under laws governing gambling. The panoply of financial instruments that MNCs have at their disposal today—financial
futures, swaps, FRAs, caps, collars, floating rate notes (FRNs), and the like began
to make their appearance in the 1970s, but were not to come into general use until
the following decade. One did not hear of such things as “financial engineering”
and “structured finance” terms commonly used nowadays to describe a tailor-
made instrument combining forward contracts, options, and certain kinds of loans
in order to achieve a desired risk and return.

There were probably two principal reasons for the limited range of financial
instruments at that time. One was the absence of the theoretical grounding that
would come later with pricing models such as were developed by Black and
Scholes (1973), and the binomial pricing model proposed by Rubenstein, Cox and
Ross (1979). And the practical application of these models would be stymied by
the lack of adequate technology at least until the 1970s, if not for some time after.
Without easy access to computers, but especially to PCs which only began to be
widely used in the 1980s, many of the financial calculations needed to develop and
use these new financial instruments would have been impossible to do. However,
this may not have been the main reason. Some might argue that the choice of
financial instruments was largely limited because of a lack of demand for them.
Why worry too much about losing money because of fluctuations in the exchange
rates when they tended mostly to be pegged to the US dollar and, at least for the
major industrialized countries, presented few surprises? However, if this was the
picture in the 1960s, it quickly ended in the early 1970s, of course, with the value
of the US dollar no longer fixed to the price of gold, and then being allowed to
float shortly afterwards. This jolt to the financial environment was followed closely
by the oil crises, the war in Vietnam and other events of the 1970s which sparked
worldwide inflation. This led to much greater volatility of both currencies and
interest rates in the major countries. It quickly concentrated the minds of corporate
managers, for large amounts of money could be lost virtually overnight. Now there
was an urgent need to find ways to manage financial risk where it had been less
pressing in the past. This hastened innovation. The banks were quick to learn that
there was money to be earned by providing the instruments and advice companies
needed. Competition among banks intensified as they believed that a reputation for
innovation would bring them market share and profits. Some new instruments
were designed to circumvent existing regulations. These lasted only as long as the
regulations themselves. Deregulation of the financial markets, which began during
the 1970s, then accelerating afterwards was another factor that spurred innovation,
reduced transaction costs, but also was suspected, even blamed, to help transmit
shocks more frequently from one market to another. Funds could be more easily
moved from one market to another. Banks were freer to lend, to invest, to provide
services than they had been earlier. Yet another push was the impact of Reuters
and other services providing real time financial information. To have market prices

3 There were “realignments” during the 1960s, but these tended to be infrequent and were often antic-
pated. For a description of the various exchange rate arrangements since the 1940s, see Rogoff and
Reinhart (2002).
available in real time contributed to a virtual explosion of trading in world financial markets. This provided investors, borrowers, hedgers, and speculators with much broader and more liquid markets than ever before. But, most of this evolution did not take place much before the early 1980s, it was not the financial environment of 35 years ago.

4. What is international financial management?

From the point of view of teaching and research, international financial management is an extension of corporate finance as presented in most textbooks. Only the institutional environment is different—the firm’s investments and financing are set in an international market context rather than in a purely domestic one. Since the boundaries between domestic and international markets have blurred over the past two or three decades, the case can be made that all corporate finance is now international. Yet, probably for convenience, in academia the distinction persists.

There was not very much serious literature available in the 1960s on that branch of corporate finance. Though there were a considerable number of books and articles written about various aspects of international business, most were what one might call “war stories”, often the recollections of retired businessmen. Those that addressed corporate finance decision-making were more descriptive than analytical.

To help remedy this situation, the Ford Foundation commissioned a well-known academic at the time, Professor Ezra Solomon, to write a book aimed at teachers of finance “in the hope that it would contribute towards the enrichment of their teaching” (Solomon, 1963). Solomon proposed what he considered a new approach to teaching financial management. Whereas in the past, it was mainly descriptive and concerned with the raising of funds, a better way to address the topic was in terms of the “analytical sequence” of decision-making. He argued that the major policy issues facing companies to be the size of the firm, how fast it should grow, the type of assets it should hold, the composition of its capital and liabilities. He stressed that in order to answer these rationally, an explicit goal must be set (he proposed wealth maximization, i.e. the value of the firm). In addition, an organizational framework was needed to gather relevant information on all available investment opportunities and financing possibilities. In particular, a yardstick was needed to measure the cost of the different sources of finance, and what was an adequate return on investment in an uncertain world. In providing sensible answers to these questions, understanding the attitudes towards risk of its shareholders, management, and perhaps other stakeholders was an essential factor. But Professor Solomon did not address international corporate finance per se.

In our study, alas, we did not examine closely all the issues raised by Professor Solomon, but mainly focused on how companies financed their foreign operations, hence their capital structure, and to some extent, how they tried to handle risk. I guess this represented more of what he would have called the “traditional” view of corporate finance—trying to describe what companies did and then relate it to theory current at the time. In particular, our study did not devote adequate atten-
tion to what was the key issue—investment decisions; we viewed that process primarily from the standpoint of management control. In retrospect, I suspect that we took this tack to narrow the study’s focus to something more manageable given the time and resources available. A more thorough study of the investment decision process was certainly warranted; but especially in an MNC, as we shall see later in this paper, it is a maddening complex subject, and would have lengthened substantially our research.

4.1. Financing foreign operations

It may be useful here to recall that we were looking at how MNCs financed their foreign subsidiaries. That is, the focus was on the subsidiaries themselves with relatively less attention to the overall financing of the group. Given this perspective, we examined the sources of finance—both internal and external, the form the financing took, and the means by which capital was moved from one unit of an MNC to another. We found that the main source of financing to subsidiaries, at least once they moved beyond the start-up phase, was their own cash flow. When funding needs exceeded cash flow, then generally they would turn to short-term from the banks. Most of this was backed by the parent company, if not by a guarantee, then by what was called a “comfort letter”4 When the need for funds went beyond what was provided by cash flow and local bank borrowing, then the parent company would lend to them or arrange for a loan from another affiliate. Providing funds in this form was almost always preferred to an increase of equity. Such loans were considered more flexible, and often carried tax and exchange control advantages. Only as a last resort would the equity capital of the subsidiary be increased—unless their banks or host country regulations required them to do so. This schema represents what has been observed as fairly standard corporate practice—the “pecking order” theory of financing as some have called it. Note however that the reluctance to increase equity was for quite different reasons than is usually attributed to publicly traded companies. The latter hesitate for fear of diluting share value,5 whereas with subsidiary financing, intra-company loans—or what is essentially pseudo equity—offered many advantages as discussed above.

However, if the “pecking order” theory appears to be the general approach, in practice it is highly sensitive to a number of factors: profitability of the subsidiary, cost and availability of bank loans, tax treatment of dividends and other types of remittances from the subsidiaries to the parent, capital controls by both the host and the home countries, perception of currency, political, and other risks. Take the subsidiary’s cash flow. Because of tax differences between countries, MNCs have

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4 This is effectively an implicit guarantee that the parent company would honor the debt should the borrowing unit be unable to do so. The agreement was morally if not legally binding.

5 It is widely assumed that in a publicly traded company, managers would avoid issuing shares when they believe they are undervalued. So when the firm does raise equity, investors naturally suspect that its management believes the shares are overvalued—and their price falls.
an incentive to try to take profits where taxes are relatively low and put their expenses where taxes are high. This can be done by transfer prices (adjusting prices on trading between members of the multinational group). It can be done by the amount of fees or royalties charged for services or knowhow provided to affiliates, or by the rate of interest on intra-firm loans. There are, of course, constraints on companies’ freedom to set prices. Tax and other authorities are wise to the potential; companies will find themselves challenged to justify the prices they set if they stray too far from those charged to third parties. But in many cases, especially in high tech industries, there is often no satisfactory “third party” benchmark for intermediate products or components. The validity of prices based on the cost of producing the goods requires a definition of cost, and this can be devilishly difficult to determine. This means that there is considerable leeway to manage costs and revenues in an MNC. Management fees for services provided to an affiliate or royalty payments for knowhow fall into the same category. Therefore, what is a “fair” price can also be subjective.\(^6\) On the other hand, interest rates on intra-company loans are more easily benchmarked, so this avenue of transfer pricing provides rather limited scope for managing subsidiary revenues or expenses. The other type of internal payment that affects cash flow is the dividend. The size and timing of these payments may be influenced by tax considerations or concerns over a potential exchange rate movement, or a need for cash in another part of the group. What all this means is that the normally expected “pecking order” approach to financing may, for foreign subsidiaries, break down. Cash flow may be smaller than otherwise as earnings are managed to the detriment of the affiliate, and much of whatever earned is paid out to the parent. Besides, the spectre of political risk provided an additional incentive for borrowing in the host country. In this scenario, borrowing from local banks or another affiliate in the group would provide the bulk of the unit’s financing.

Has this picture of financing foreign investment changed in the meantime? First, there are many more sources of debt financing available now than there were in the 1960s. Restrictions on borrowing either local funds or foreign currencies have been drastically reduced if not completely removed, and competition among the banks and other financial institutions has made the choice of financing instruments a shopper’s paradise. This has reduced reliance on intra-company funding. For investments in the industrialized countries, the potential for discretionary transfer pricing, royalties, and other payments for services is probably less now than it used to be. There are a number of reasons for this. Tax harmonization among countries reduces the incentive to manage earnings. Also, the tax authorities are better trained and aware of tax avoidance practices. Performance measurement for management incentive schemes becomes difficult if those being evaluated believe that prices are distorted. Even if many subsidiaries do not publish their financial results, more transparency demanded by employees and other stakeholder groups makes

\(^{6}\) This was a constant theme echoed by businessmen, government, and union officials during interviews made for a study by the author in 1980 of transfer pricing practices. See Remmers and de la Torre (1980).
dubious corporate behavior riskier. And sharing of information among government entities is no doubt easier and more widespread today than it was 35 years ago. So the best guess is that foreign subsidiary finance, especially for members of the larger, better known groups, is more like what one would find for comparable quoted companies in the industry and country nowadays. But this is a guess because very little public data are available to substantiate this.

5. Capital investment appraisal

Capital investment decisions require two, generally inter-related, sets of information: forecasts of future cash flows expected from the project, and an estimate of the cost of capital to be used to finance it. They are inter-related since the riskiness of the cash flows will have an impact on the cost of capital. Another requirement is an organizational framework to implement the investment proposals in a timely and rational manner. In our original study, we devoted most of our attention to this latter aspect of the appraisal process, relatively little to the first two. For this reason, most of the discussion that follows will be devoted to determination of cash flows and the cost of capital.

5.1. Forecasting cash flows

There are two main approaches to valuing future cash flows expected from a project—either by calculating how long it takes to recover the cost of the investment (strictly speaking, not a valuation but rather an expedient), or by measuring their profitability using some discounting method such as net present value (NPV), or internal rate of return (IRR). Let us state here at the outset that the NPV approach is widely considered to be superior by academics and practitioners alike. Both approaches require a forecast of the relevant cash flows over the life of the project. These include operating cash flows—essentially revenues less costs on an after-tax basis, cash needed for both equipment and working capital, and the cash impact from closing down the project at the end of its useful life. There may be some secondary effects such as loss of sales from existing business when a new plant begins operations. These data are mainly based on engineering and marketing estimates.

There are some special considerations when the project is in a foreign country. Should the cash flows be counted when earned by the project, or only when they are remitted to the parent company (the investor)? In most situations, it is earned cash flows that should be counted on the grounds that the cash earned by the project will be available sooner or later to the investor. Of course, this is not to suggest that the timing of the cash flows is not important. Another issue is taxes. This can only be resolved on a case-by-case basis taking into account the tax systems in both the host and parent company countries. Standard practice would be to take into account all taxes that would apply assuming eventual repatriation of the project’s cash flows. Tax, loan and other subsidies require special attention since they may be less risky than other cash flows from the project and, hence, should be dis-
counted at a different rate. Another question is whether to discount the foreign currency cash flows, or to first convert them to the investor’s currency before discounting. If the foreign currency cash flows are used, then a foreign currency discount rate should be used. This leads us to the next part of the discussion—how do we determine the discount rate, i.e. the cost of capital?

5.2. Cost of capital

One of the fundamental issues in corporate finance is how to measure the cost of capital used in financing a project: for estimating its value, and for assessing its profitability—essential for performance measures such as economic value added (EVA). A great deal of academic work has taken place since our original study which we will try to outline in some detail.

Risking an understatement, the task of determining the appropriate benchmark, the cost of capital used to value the cash flows from the project, is often difficult and messy. As we shall see, it will depend on such questions as to whether the capital markets are integrated or whether they are segmented. Another reason is obvious—there are usually many more risks for a foreign investment than for a purely domestic one. These can include both currency risk and political risk, and also the risk of not being able to obtain accurate and timely information. There is considerable disagreement in academia and among practitioners whether these risks should be reflected in the discount rate or by adjusting the cash flows.

What is the cost of funds supplied by the foreign investor? Put differently, what is the required rate of return from an investment in a foreign country? Is the return different if investors are spread among a number of countries or if they are mainly only from a single country? What if the investing company’s shares are traded in more than one stock market? In these cases then, how is an adjustment rationally made to reflect different investor profiles? It is clear that the risks for a Japanese resident to invest in Germany are not the same as when the project is in Japan. They are probably higher if only for currency risk. It is probably fair to suggest that they would be even higher for an investment in the Philippines, although this might provide the Japanese investor with diversification value. Political risk, exchange controls, discretionary taxes come to mind. Of course, these risks were recognized 35 years ago, and companies had practical, rule-of-thumb ways to try to deal with them. But academic thinking on the issue was in its infancy. Since then, a great deal has been written on what is generally called the international cost of capital, but there is still a wide gap between theory and practice. There remains

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7 More on this point later in Section 5.7. See the discussion of adjusted present value (APV).

8 A market is segmented if the required rate of return is different from that in another market for a security of comparable risk and return. If, after adjusting for currency and political risk, the required rate of return is the same between markets for a security of comparable risk and return, then the markets are considered to be integrated. Segmented markets are due to restrictive regulations, political risks, legal, institutional, and information barriers.
considerable misunderstanding of the central issues, if not muddled or convoluted reasoning. This should come out in our survey of current thinking on the subject.

5.3. Capital asset pricing model

A systematic, rigorous yet practical approach to measuring the cost of capital only emerged in the latter 1960s with the CAPM proposed by Professor Sharpe who subsequently won a Nobel prize for this work. This model built upon the mean–variance portfolio theory framework proposed by Markowitz a decade earlier, allowing its practical application. Until then, the cost of equity capital ($k_e$) was variously defined in textbooks, one of the most common being earnings ($E$) divided by the market price of equity ($V$): i.e. $k_e = E/V$. An alternative definition was the dividend growth model: cost of equity was the current dividend yield ($D/V$) plus the expected rate of growth ($g$) of future dividends ($k_e = D/V + g$). Among the major deficiencies of these models was that they did not explicitly take risk into account nor did they suggest a benchmark against which the return could be compared.

The basic ideas underlying the CAPM were that investors were risk adverse and would therefore demand a premium for assuming risk, and that they had a range of investment opportunities—some more risky than others. At the low end, there was a riskless investment such as a government bond; at the high end, a highly diversified portfolio of shares that would mimic the stock market index, usually referred to as the market portfolio. Being highly diversified, the portfolio effectively eliminated what might be called unique risk, i.e. the risk from holding an investment in a single company, or industry. In other words, the market portfolio would be less risky for a given level of return than that expected from investing in a single company or a small number of companies. By holding the market portfolio, the shareholder would still have risk, but it would be that of the entire market moving upwards or downward which could not be diversified away. Over time, this portfolio would produce an average return which could be measured; so would the government bond. Since the equity portfolio was more risky, investors would demand a higher expected return to hold it rather than the bond. The additional or excess return of the equity portfolio over that of the government bond would reflect the price of risk, i.e. there is what has been called an equity market premium and this could be observed ex post over time. For the American market, this has been found to be somewhere between 4% and 8%, depending on what time period is used. Somewhat similar market premiums have been observed in other markets by Dimson et al. The idea is that these historical, observable returns will provide the basis for investor’s expectations for the future.

This is just the beginning of the CAPM story. Its practical application is to provide help in determining the value of an individual asset, or the required rate of return for discounting the cash flows from that asset. What the CAPM purports to

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9 Two long series of returns that are most frequently cited are: Ibbotson Associates, Inc., *Stocks, Bonds, Bills and Inflation Yearbook*; Dimson, March, and Staunton, *The Triumph of the Optimists*. 
do is measure the market risk of a share—the sensitivity or covariance of its return (or the return from some portfolio of shares) with the return on the market portfolio. In other words, does the return on a specific share vary more or less than that of the market, and if so, by how much? This relationship is a statistical measure of relative volatility which has come to be called the \textit{beta}. Its size is a function of both the business risk of the company and its financial risk—how much debt it carries. The \textit{beta} normally takes a value between 0.4 and 2.5; the higher the \textit{beta}, the more the share’s return co-moves with the market. To illustrate, if the \textit{beta} of a particular share were 1.5, this means that if the market rose or fell by 10%, the price of the share would rise or fall by 15%. A share with a \textit{beta} of 1 would mimic the market return. So the return expected on a share would comprise three things: the risk free (government bond) rate—say, 5%, plus the market risk premium (say, 5%) this latter adjusted by the share’s \textit{beta}. In this example, with a \textit{beta} of 1.5, this would give a cost of equity of 12.5% (5% + 5% × 1.5 = 12.5%). The beauty of the CAPM is that it provided an intuitive way to estimate the return expected by the shareholder. For an all equity financed project, this return would be the cost of capital used to discount the expected cash flows, hence provide an estimate of the value of the investment.

5.4. “International” CAPM

In its original form, it was implicit that the opportunity set for the investors was the domestic market, and the investment projects were in the domestic market. We might call this a “domestic CAPM”; the \textit{beta} of an investment—whether it was located in the home market or in a foreign market—would be measured against the home country’s market index and the equity premium would also be based on the home market. This would be the case of a \textit{segmented market}.

Obviously, this is too restrictive for much investment today. Many of the large MNCs have shareholders (and other stakeholders) residing in several countries. Their range of investment opportunities is not limited to their home country. Take the example of Nokia, the Finnish telecommunications giant. The parent company is incorporated in Finland where the head office is located. But much of its manufacturing is in other countries, and its markets are global. Its shares are traded mainly on the Helsinki and New York stock exchanges—for sake of the argument, let us say roughly 50–50. If you were trying to work out the cost of equity capital for Nokia, what should be the investors’ benchmark? The return on the New York or on the Helsinki market portfolio? Probably neither of them would be the correct answer. Nokia shares appear to be almost twice as volatile when compared to the US market index as they are when compared to the Finnish market (a \textit{beta} of about 2 in New York, whereas only 1 in Helsinki where Nokia counts for around half of the market’s total value). If the CAPM were applied uncritically, Nokia’s projects evaluated in Finland would only need to earn, say, 10% to be acceptable, but 15% for investments evaluated in the US. Surely, this does not make sense.

Whereas equity markets used to be considered as mostly segmented, this is now much less the case. As one indication, one only needs to watch how today most
stock markets worldwide move in tandem. So it is fair to say that the opportunity set for a great many investors is no longer the domestic market, but a much broader world market. The equity premium should be based on this broader market—the difference between the expected return on the world market index and the risk free interest rate. This means that the beta—whether for an investment in the home market or in a foreign market—should be computed against a world market index such as the Morgan Stanley World Index (MSCI). Some scholars go further arguing that the beta should be computed against both the world and domestic markets using a multifactor statistical model that measures the sensitivity of the asset’s return to both. In other words, two or even more betas for each asset. This means that there will be a total risk premium—the domestic market premium times the asset’s beta computed against the domestic market, plus the world market premium times the asset’s beta computed against the world market. Perhaps logical, if not simple. Assuming you are still with us, you may ask whether this refinement makes much difference. From one empirical study, it appears that it does. The domestic market premium adjusted for the asset’s beta against the domestic market return seems to dominate the pricing of the asset.10

This would appear to raise another complication. The beta measures the risk of a project relative to the market portfolio. If the project is a company that is traded on the market, its beta may be public information; if not, often it can be computed statistically as described above. The problem arises when the project is not traded, the usual case. It may be that a proxy could be found: a similar company11 in the foreign market that is traded and whose beta is known. But this would be too easy. In many cases, one would not have such luck, so some other approach has to do. One might find a proxy company in another, most likely larger market. But this raises yet another issue since there is no guarantee that a beta of a proxy asset in country A would be the same as the beta of a similar asset in country B if it had been possible to compute them in the same way. As an example, lets say that we wanted to value a toy company in Hong Kong. However, there are no publicly traded toy companies on the Hong Kong stock market to provide us with an observable beta. But there are several that are traded in New York. One way to solve this is to compute the beta of the Hong Kong market index against the world market index (this no doubt already has been done); then obtain or compute the beta of a representative toy company traded in New York against the US market index. The product of these two betas supposedly would give a reasonable approximation for the beta for a toy company in Hong Kong.12 While the concept may appear clear enough to the expert, explaining it to others may be challenging. And even for the expert, some strong assumptions are needed to make this assertion such as the degree of market segmentation or integration.

10 From Bodnar, Dumas and Marston (2002).
11 Ideally a company in the same line of business—what is called a “pure play”.
12 An approach described by Donald Lessard. See Lessard (1996).
5.5. Where beta does not capture all risks

The argument may be made that for some projects, namely in emerging markets which tend to be at least partially segmented, the beta does not capture all risks. There are political risks such as expropriation, exchange controls or other restrictions, corruption or legal problems. There are at least two schools of thought about how to handle this kind of risk.

One is to adjust the operating cash flows expected from the project. This means that a number of scenarios and an assessment of the probability of their occurrence need to be modeled. This can be messy, perhaps difficult to explain to others. The other approach is to add a “political risk” premium to the basic cost of equity estimated by the CAPM. But this requires the assumption that the risks in question cannot be diversified away by the investors. This will somewhat depend on the degree of market segmentation, again difficult to ascertain in practice. To get round this, one might look to the market’s assessment and add a premium based on observable risk premiums on sovereign debt, or on insurance premiums to cover investing in that country. How big the actual political risk premium should be depends mainly on the probability of a loss scenario occurring (does the market’s assessment reflect our project’s risk satisfactorily?), and the size of the project relative to the size of the investor. From some empirical testing, it would appear that the political risk premium is small—in most cases well below 5%.14

5.6. Weighted average cost of capital

So far, we have only been talking about the cost of equity capital. Few companies limit their financing to equity, but will use some quantity of debt when funding their domestic or foreign investments. If the CAPM gives a reasonable estimate of the cost of the equity portion of the funding, it is still only an estimate as must be apparent from our description of the CAPM. The cost of debt is much simpler to measure: it will be found in the loan contract. The overall cost of capital will depend on the firm’s capital structure—the cost of each source of capital weighted by the amount each is used—weighted average cost of capital (WACC). But drawing from the discussion earlier, since the cost of equity will depend on the risk of the investment project, it follows that there can be no single WACC for all possible investment projects of a company. It should always depend on the specific project’s risk. Unfortunately, this is not always applied in practice. From class discussions with senior executives, there still appears to be many that continue to use company-wide discount rates to evaluate projects of vastly different risk. May be this can be attributed to expediency, or perhaps to internal politics. It is not because we did not try to convince them otherwise. There is another issue when using the WACC to discount project cash flows—the implicit assumption that the mix of debt and equity will remain constant over the life of the project. In many cases,

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13 In other words, the difference between the government bond interest rates between the two countries.
this may not be realistic to assume. Besides, some of the cash flows from a project may be less risky than others. Nevertheless, in practice, WACC is still used even if inappropriate. If wrong, it has the advantage of being simple.

5.7. Adjusted present value

The concerns we have just signaled have led some to offer an approach called adjusted present value. With this method, the operating cash flows—revenues less costs after tax, less investments—from the project would be discounted at the cost of equity calculated using the CAPM. Some of the other benefits or costs typically related to the project would be evaluated separately. These include the tax shields from depreciation allowances and interest rates on loans taken to finance the project, special loan arrangements or other subsidies offered by the host country. Each of these cash flows would be discounted separately at the rate which would reflect their risk. This may be less than the cost of equity if one can assume that they are not dependent on the operating cash flows. Another plus would be that a changing mix of financing, typical of many projects, would be handled in a more theoretically correct manner. The net present value of the project would then be found by summing the present values of each cash flow related to the project.15

5.8. Home currency or foreign currency cash flows?

If we have proposed how the cost of capital can be obtained using what might be called an international CAPM, there still remains the question of application. Should the cash flows from the foreign project be evaluated in the currency of the foreign country? Or should the cash flows be converted into the currency of the investing company and then discounted? Under market equilibrium conditions where exchange rates and interest rates satisfy CAPM restrictions, both approaches should produce similar results. But in many instances, the difference in nominal interest rates between countries is not equal to inflation differentials. This would mean the real rate of interest in one country is significantly different from the other. A not unusual condition. There is no really satisfactory answer to this problem. But since most foreign investors have projects in a number of countries, comparison between projects might be easier to make by converting the foreign cash flows into the investor’s money (euros, yen, US dollar) using the forward exchange rate or swap rates where these exist,16 then discounting at the investor’s cost of capital appropriate for the project’s risk. While this may be a reasonable estimate of the future exchange rate, it will not necessarily be accurate since disequilibrium can exist for extended periods of time. In any event, this approach likely will not

15 The APV approach was originally applied to valuing a project for a levered firm to permit the “side effects” of the financing to be valued separately, and to take into account the effect of a changing capital structure.

16 Where they do not exist, synthetic forward rates might be computed by taking the interest rate differentials on government bonds.
capture all currency risks arising from the various components of the foreign project’s exposure. These would include what might be called second or even third order effects, typically very difficult to estimate ex ante. The foreign project’s competitors, its suppliers, and its customers can be expected to react to changes in currency rates. They are likely to change their prices or take other action which may provoke our countermove, and so on. It should be evident that these potential scenarios would not be easy to model when computing the net present value of the project.

At this point in the discussion, the reader might ask if investment and financing decisions today are that much better than they were three decades ago? Has the widespread adoption of the CAPM improved the accuracy of estimating the cost of capital? Have models such as APV improved capital investment decisions? From memory of discussing corporate practice in the 1960s, a frequent rule of thumb at that time seemed to call for a cost of equity capital of 10–15% for “standard” domestic investments with a premium of around 5% added when the project was in another country. High risk (read emerging market) projects were often accepted or rejected on the basis of a very short cash flow payback rather than on some expected rate of return. It is likely, as some scholars will argue, that a number of profitable investments were rejected by these hurdles—that there was significant under-investment. But it is interesting to note that when one looks today at analysts’ estimates of cost of capital using the CAPM, this old rule of thumb does not appear to be too far off. Figures published recently show most large publicly traded companies in the US having a cost of equity capital in the 10–15% range, those in Europe slightly less.\(^\text{17}\)

However, with the CAPM being widely used by companies, investment banks, consultants, financial analysts and others, it has proved to be a useful, seemingly scientific, tool to try to estimate the “true” cost of capital and justify valuations. But depending on the assumptions, and the motivations used in applying it, valuations can vary widely. Recall that the cost of equity estimated by the CAPM consists of three components: the risk free interest rate, the share’s beta, and the market risk premium. The first of these can be verified, and the beta relatively easily found,\(^\text{18}\) hence these variables are difficult to disagree over. On the other hand, the market risk premium is not observable ex ante. It is the difference between the expected return on the market portfolio, however it may be defined, and the expected risk free rate. Whereas this difference can be measured historically, it can only be estimated for the present and the future. Therefore, depending on the assumption, the value of a string of future cash flows can vary significantly. Take as an example an asset promising cash flows of 1000 indefinitely. Assume the risk free rate to be 5% and the asset’s beta to be 1. If the market risk premium were 3%, the

\(^\text{17}\) See “Ranking Files 2000–2001” appearing on the website [http://www.eva.com](http://www.eva.com). These are published periodically by Stern Stewart & Co. These data were the weighted average cost of capital, not necessarily the cost of equity capital. For companies with little or no debt, there is little or no difference.

\(^\text{18}\) With the caveat that the beta for a non-traded asset may be at best an approximation.
cost of equity would be 8%; if the premium were 7%, the cost of equity would be 12%. In the first case, the value of the asset would be 12,500; in the second, it would be about 8330. Which is correct? The point of this example is that advances in finance theory do not resolve parameter uncertainty. Nor do they remove corporate politics—agency costs—when valuing assets. What it does accomplish is make this aspect of valuation a bit less opaque. One can better explain where the numbers come from, be able to defend the underlying assumptions. I think we need to consider this an improvement over standard practice three decades back.

5.9. Project cash flow evaluation

What has also changed, and presumably for the better, is that thanks to the computer, project cash flows can be examined more thoroughly than what used to be practical. Projects of any consequence involve a large number of variables and assumptions. These will be different depending on the number of future scenarios. Certain variables may have a dramatic impact on the project’s outcome, others very little. More attention can therefore be paid to the variables critical to the project’s profitability, sometimes helping to find ways to change the project’s design to reduce uncertainty. To evaluate these by hand would often be too time-consuming or otherwise impractical. This task has been rendered feasible and lightning fast with the personal computer and software such as Excel. This dimension of determining project value has been greatly improved over what it used to be. But it still does not mean that the forecasts will be better. The old adage “garbage in, garbage out” still applies.

5.10. Real options

A final word about the evolution of investment appraisal is the growing use of real options in estimating value. What are real options? The idea is not new. They essentially refer to managerial flexibility, the right or opportunity to invest in the future if things look right; or the ability to get out of an investment if things turn out poorly. For some projects, such flexibility is potentially extremely valuable, yet is difficult to value satisfactorily in the standard discounted cash flow framework. Implementing real options is just beginning; it would appear to be a fertile field for future study.

6. Risk management

Risks come in many flavors. Foreign investment projects are exposed to most, if not all, of the risks faced in a domestic business: price risks, commercial risk, institutional risk (taxes and various regulations) are among those that come to mind. These might be called operational or business risks. Another broad category of risks are financial in nature and stem from unexpected movements of interest rates or currencies, and the risk of financial distress or bankruptcy. Investments made by a firm in its home market also face these risks, including currency risk when they are faced with foreign-based competition or when exporting or when some inputs
are sourced from foreign suppliers. There are certainly some risks that are particular to foreign investment: political risks such as exchange controls, discriminatory taxes, expropriation; differential inflation, lack of knowledge of the foreign market are others.

6.1. Market environment and risk management before 1980

During our study in the 1960s, I recall from discussions with corporate managers about their foreign operations that currency-related risks always seemed to occupy a prominent place on their list of worries. Although exchange rates tended to be fixed against the dollar or some other benchmark in those days, realignments did take place frequently enough to be a matter of concern. Prior to the early 1970s, aside from forward contracts offered by banks on a few of the major currencies, there was little corporations had available to easily hedge with. Regulations in many countries prevented their currencies from being freely traded, hence even forward contracts were often of limited availability. Currency risk management relied heavily on a company’s ability to speed up or slow down cash payments as we describe below.

Risk of loss from unexpected changes in interest rates was rarely mentioned in our interviews. Surely interest rate risk existed then, but the fact that it did not appear to be of major concern suggests that either it was considered as unlikely to cause much damage even if unexpected changes did occur, or that there was not much they could do about it anyway.

Futures markets for a number of agricultural and natural resource commodities had already existed for over a 100 years and undoubtedly were used by as hedges in certain industries. But futures and options markets for financial instruments were another matter for they did not begin to be traded until well into the 1970s.19 Options on a limited number of equities started to be traded about then, but options on currencies and interest rates did not begin to trade in significant volume until well into the 1980s. It was during that decade that the availability of risk management instruments began to grow exponentially. The first swap transaction was recorded in 1981. By 1990, the value of outstanding swap contracts exceeded $2.4 trillion! By 1995, they had tripled in value again, and the market continues to grow. A plethora of derivative instruments, many extremely complex, became available to corporate hedgers, and also to speculators, and some massive losses began to be reported.

What drove this development? Several factors came into play. One was that the financial markets became more volatile. The oil shocks of the 1970s caused inflation to rise to unprecedented levels in the industrialized countries, then fall again in the 1980s. This had the effect of driving up the level of interest rates as

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19 Currency futures contracts were introduced in May 1972 by the Chicago International Monetary Market. Interest rate futures contracts were first offered in 1975 by the Chicago Board of Trade. From then on, futures contracts on a variety of financial instruments were rapidly introduced and traded on exchanges in the US and elsewhere in the world.
well as increasing dramatically the volatility of both currency and interest rates. The potential for large losses was now obvious, so demand for hedging instruments grew rapidly. The banks began to compete for this new market and vied with each other to innovate which saw a proliferation of new products being introduced. This was made possible, at least in part, by major theoretical advances in academia, in particular the development of the Black–Scholes option pricing model, the binomial pricing model, and a host of refinements to both. Rapid technological advances, especially the advent of the personal computer made possible the complex calculations the design of such instruments required. Similar strides in communication by providers of price data such as Reuters made it possible to become instantly aware of market conditions and price movements across the world, driving the explosive growth in trading volume that occurred. The other main impetus to these developments was the easing of government regulations concerning exchange controls and interest rates.

6.2. Currency risk management

So how did companies manage their risks in “the old days”? Exposure of their cash flows to currency risk could sometimes be hedged by forward contracts. But this was only practical for a handful of currencies that were easily traded and for which forward markets existed. Even for some of these, permission had to be obtained from the relevant authorities and often it was only given for export-related exposures. An approach used by a number of firms was to try to invoice in a “strong” currency, and be billed in a “weak” currency. Since this passed the currency risk onto their customers or suppliers, the latter would usually demand something in return. Another possibility employed by a few corporate managers was the so-called money market hedge where the exposure would be covered by borrowing or holding an offsetting position in the same currency. But this ran into the same regulatory or liquidity problems as the forward contracts. Some of the larger, longer established, subsidiaries borrowed long-term funds in the host country market, but generally at a higher interest rate. This would provide a partial currency hedge though often at a higher real cost. Another way to hedge was to change the timing of cash flows, especially on transactions between affiliates of the same group: pay foreign-based suppliers or customers more slowly or faster than called for by standard terms to avoid a loss from a devaluation; speed up or slow down dividend payments or other remittances. Then, as now, there was no free lunch. The cost of the hedge could often turn out to be more than the value of the protection it provided. This depended and still depends on timing and good luck. Where the exposure was conditional such as when tendering a bid in a foreign currency, there was no satisfactory way to hedge this risk in contracts where the bid could not be cancelled. Hedging with a forward contract was speculative: if the tender was not won and the exchange rate fell, the potential loss from closing out

20 That is, if interest rate parity conditions do not hold (the nominal interest rate is different from the real rate of interest plus the expected inflation rate).
the forward was open-ended. The ideal hedge would be an option, but they were not available then.

6.3. **Interest rate risk management**

Thirty-five years ago, volatile interest rates appeared not to be a major preoccupation of many corporate managers. In any case, there were few practical ways to hedge this risk. A treasurer would try to borrow early if he believed that rates would rise in the future; conversely, borrowing was postponed if lower rates were expected. But this was really a guesswork, not too different from timing a stock market transaction. If the revenues of a firm varied with changes in the interest rate, then it would make sense to finance with funds that would move in the same way. This could be achieved by short-term borrowing, but that increased the liquidity risk of not being able to renew the loans. Until about 1970, long-term loans were generally fixed rate. With rising inflation beginning to be felt, interest rates became much more volatile and the fixed rate loan market began to dry up as investors did not want to be locked into a rate that would be likely to produce a poor return or even a loss. This led to variable rate loans (FRN) with the capital assured for relatively long periods of 3–7 years, but with the interest rate reset every 3–6 months to current market conditions. But whereas these proved attractive to investors, borrowers were faced with the possibility that rates would be subject to rise without limit. This would eventually be solved by the appearance of floating rate loans with caps (interest rates had a ceiling or *cap*) or with a *collar* (rates had both a ceiling and a floor). Both these instruments were relying of course on embedded options, not really available until the mid-1980s.

6.4. **Exposure—measuring what is at risk**

As the currency and money markets became more volatile during the 1970s and 1980s, two key changes were taking place. The first one directly affected the companies. Faced with much more risk from unpredictable market conditions, corporate managers began to try to better understand and measure their exposure to possible loss. Articles began to appear in academic and practitioner journals. Management courses and seminars were offered. Determining *what* was at risk often turned out to be less than straightforward. The easiest type of exposure to identify arose from short-term, well-defined cash flows in a foreign currency: those from accounts receivable or payable or from dividends. But even these were troublesome to manage properly until improved technology and internal reporting systems allowed data to be collected rapidly. Too often intra-company transactions were hedged unnecessarily with only the banks gaining any real benefit.

A much more difficult currency exposure to measure and do something about is called operating risk. Let us say that a firm decides to set up a foreign operation. A detailed analysis shows its expected cash flow promises a positive net present value. Let us assume that the analysis was made under what was believed to be reasonable currency forecasts. The investment is made. Then, a couple of years later, the currency movements did not follow the script and cause the revenues and costs to
move in such a way that the operation is no longer profitable. What to do? With volatile currencies, this may be only temporary, but on the other hand, it may persist for relatively long periods of time. The only real way to deal with this situation is to structure the operation so that the revenues and costs are matched, i.e. the cash inflows and outflows are in the same currency. Sometimes this is possible, but often is not, or is too costly to be considered practical. A financial hedge might be possible, but usually is not practical for more than a relatively short period of time—more of a stop-gap solution until something better is found. The danger is in not properly understanding the exposure and entering into a hedge that makes things worse rather than better. This is because there are often second- or third-order effects where the currency developments provoke changes in competition or relations with suppliers. This is a problem that has plagued management for years, and still not been satisfactorily resolved.

A third type of currency exposure arises when the MNC consolidates its foreign subsidiaries. The parent company reports its financial results in its own currency. The accounts of its foreign subsidiaries are in a different currency which means that they need to be translated into the parent’s money before the consolidated accounts can be drawn up. This can lead to a loss (or a gain) in the apparent value of the foreign investment which is entirely due to a change in the rates. Apparent for two reasons. First, the actual value of the subsidiary may change in the opposite direction from what is suggested by the numbers in the accounts because the new currency rate may make it more (or less) competitive than it was previously. But this change in value will not show up in the accounting statements. Second, because these losses and gains may never be realized. They are what one might call “paper” losses or gains. The problem that vexed corporate managers, at least in the American MNCs who were preoccupied by the need to report quarterly results, was treatment of these losses and gains. Prior to the early 1970s, most companies would effectively bury them by putting them directly into some reserve account on the balance sheet, often not even clearly labeling what they were. Also, the amount was often too small for anyone to worry over. Exchange rates were relatively stable, and the size of the foreign investment typically small compared to the consolidated group. The accounting rules changed in the mid-1970s so that these gains and losses had to be included on the consolidated income statement as a clearly identified line item. Corporate managers feared that this would have an impact on share prices, and that they would be blamed. Hence, many entered into hedging programs that were inefficient and costly.\(^\text{21}\) The issue was the subject of countless articles in academic and practitioner journals. Then in 1981, the rules changed again, allowing companies to report most of these gains and losses as direct adjustments to their balance sheets. The earlier corporate preoccupation with

\(^{21}\) The CFO of a major US multinational who attended an INSEAD management seminar on currency risk told us translation exposure was the only thing he was concerned with. When the accounting rules changed a couple of years later, he wrote us that his firm no longer was concerned with exchange rate movements. This was a firm with substantial investments in dozens of countries.
translation exposure disappeared. More recently, the accounting treatment of derivative instruments has cost untold thousands of man-days and a forest of trees in paper to try to explain to corporate managers what they should disclose. Once again, accounting rules cloud economic reality.

6.5. Currency forecasting

At the same time the markets grew more volatile, banks and other financial institutions vied with each other to offer companies advice on how to handle currency risk and fell into a frenzy of innovation. New products were announced constantly and touted as finally the way to manage risk better than ever before. An industry was born to forecast currency and interest rate movements. Many people thought that this was possible if only enough brainpower and computing power could be brought to bear. Practically, every bank offered their clients currency forecasts. Specialized consultancy firms got into the act. Soon academic studies were made to try to measure how well the forecasters did. They tended to find that some produced reliable forecasts—meaning that they did guess the future rate correctly a bit over half the time; but they also found that the “successful” forecasters were unable to sustain these results for more than 3–6 months. An article appearing in a practitioner journal in December 1978 found that professional forecasters had only been able to predict the direction of currency movements 50% of the time (Goodman, 1978). The author concluded “A two-sided coin would be as good a forecasting tool...”. Nevertheless, millions have been spent in trying to predict future rates, academic careers have been made, yet the results do not appear to be much better than shown by the study above. Why this effort continues in spite of the desultory evidence might be summed up by the following remark made by a professional currency forecaster in a reply to the article cited earlier: “...it is far better for the corporate treasurer to have been wrong after having paid X-thousand dollars for the best advice available and that being wrong too, than to have been wrong alone” (Best, 1979).

6.6. Interest rate and other exposures

Most non-financial corporations face to some degree interest rate risk, but generally to a lesser extent than banks and other financial institutions. But some that are cash-rich invest large amounts in monetary investments, thus can be heavily exposed. The treasurer has an incentive to try and earn the highest yield on these as possible. But high yield comes at the cost of higher risk—from potential changes in interest rates and credit rating of the asset. In the past, prudent management would limit investments to those that had short maturities (hence loss from a

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22 See various studies carried out by Professor Richard Levich of New York University. See also Meese and Rogoff (1983).
change in the interest rate was minimized), and to those with the highest creditworthiness such as government (hence eliminating loss from a failure to pay). Most corporations borrow, and this also creates an exposure: from changes in the interest rate and from liquidity, i.e. inability to refinance. The classic approach to managing liquidity risk is matching: finance long-term investment with long-term funds; finance short-term working capital needs with short-term funds to the extent that they would be self-liquidating within the operating cycle. By definition, there is interest rate risk with short-term financing since rates are subject to constant revision. Corporations long favored fixed rate loans for their medium- and long-term financing needs. Until the early 1970s when these became more difficult to arrange, little thought was given by corporations to this type of risk. With the rapid changes in market conditions after 1970, treasurers quickly became aware of potential losses (and gains) that could result from changes in the cost of funds. It was now imperative to try to measure the consequences of higher or lower interest rates and, from possible default on the portfolio in which they invested their excess cash. This created a demand for ways of managing this risk, though it was less urgent for non-financial companies than was the case with currencies.

With the changes in market volatility, interest rate risk was much more important for banks and other financial institutions to properly manage. The value of their assets and liabilities were highly vulnerable to unexpected interest rate movements and changes in creditworthiness. To protect themselves, but also recognizing profitable opportunities from their corporate clients, the banks quickly responded and the market took off. The list of new products and services proposed was long, though many were more or less copies of the offerings of competitors with little but a new name to differentiate them; many were incredibly esoteric and complex. Some, such as interest rate and currency swaps, were immediate successes. Treasurers could now cheaply and quickly modify their firm’s borrowing—convert short-term borrowing into long-term, or dollar financing into Swiss franc financing, or fixed rate borrowing into floating rate. Then, variations of these began to appear with embedded options which offered, at a price, more flexibility. Much later, in the 1990s, instruments to quickly and cheaply manage credit risk appeared. So, it is not difficult to see that corporate treasurers could easily become dazzled by all the possibilities—and promises—offered by the banks. Not a few embarked on what proved to be very expensive adventures. Where they thought they were reducing risk or lowering costs of financing, just the opposite occurred.24

23 The first swap transaction was recorded in 1981 between IBM and the World Bank. Five years later, the notional value of outstanding swaps exceeds $300 billion; at the end of 2001, this had ballooned to at least $50 trillion with about $7–8 trillion involving non-financial firms.

24 One of the most publicized “disasters” was suffered by the Procter & Gamble corporation. It bought a financing package which promised to provide sub-market financing. It ended up by creating a loss of some $170 million. The firm went to court charging that the bank providing the package deliberately misled them by not pointing out the risks. One can easily be skeptical since a simple simulation would show that various plausible interest rate scenarios would lead to large losses. The company was really gambling on a particular interest rate scenario that did not take place.
There were a number of other well-publicized losses, and no doubt some companies winning big time, but which went unreported. Not surprising, the plethora of new instruments tempted treasurers to speculate on rate movements, though it was often difficult to distinguish between a speculation and a hedge. Some of the biggest reported losses resulted from misuse of highly complex interest rate instruments. But large losses were also suffered by corporations using exchange rate derivatives: a notable example was the Allied Lyons company loss in 1991 of upwards of $180 million from speculating with currency options.

Protecting against losses from commodity price changes is not a particularly new endeavor. Producers of certain agricultural products have used futures markets to manage this type of exposure since the 19th century. The range of commodities traded on futures markets has grown significantly over the years to include a number of metals, petroleum products, livestock, coffee and cocoa, and many more sometimes exotic items. It has become standard practice to find corporations actively using this market to hedge purchases of copper (electrical manufacturing), coffee (Nestlé, Kraft Foods), oil (airlines, utilities, chemicals). Besides the futures markets, banks offer tailor-made products such as options or swaps to hedge oil prices, or even such risks as inflation, sunshine, or average temperature. In today's markets, there is something for everyone.

7. Changes in financial risk management—good or bad?

What we have been trying to document are a few of the phenomenal changes in the financial environment and how corporate management has responded since the time of our original study in the 1960s. They have brought many benefits but also some costs. Some of these have been mentioned already—the possibility to lose vast sums of money, even to destroy a company—witness what happened to Baring Brothers, the venerable London-based bank. Some of what may appear to be benefits are dubious, at least from the point of view of the corporate decision-maker. Take for example the risk posed by a foreign currency receivable. A cynic might argue that whatever action taken could be seen as a bet: to do nothing is implicitly a bet that the exchange rate will rise; to hedge with a forward contract is a bet that the currency will fall; to hedge with an option is a bet that the currency will rise enough to make the total payoff superior to the forward contract hedge but at the risk the outcome could be worse (if the option were exercised). From this perspective, whatever action is taken, the downside would appear to be either a real loss or an opportunity loss. No doubt overstating the argument, this suggests that, if one accepts that exchange rates cannot be forecast, corporate risk management often is really a random exercise. The “correct” decision can only be known ex post. However, this problem is common to all decisions. The practical benefits gained from hedging is that the results of the decision can be determined beforehand. A forward hedge “locks in” a specific outcome. An option hedge sets the limit to the downside—the “worst case” outcome. Unwanted risk is transferred to others who want it.
Those with doubts about the rewards from globalization will claim that it has led to a more rapid transmission of shocks between financial markets, that this creates greater volatility which can cause serious damage to countries—especially in the less industrialized parts of the world. The financial crisis suffered by many Asian countries in 1997 bears witness to this.

Earlier, we argued that the financial innovations introduced over the past three decades were stimulated by changes in the market environment—rising inflation and with this higher interest rates, by greater volatility in currency and interest rates, by inappropriate regulations but also by changes in regulations, and by differences in taxation. Some innovations existed for no other reason than to allow investors or borrowers to get around what they consider as restrictive regulations or unfair taxes. If this means that a great many innovations are borne out of necessity, it is predictable that they will disappear once their raison d’être is no longer present. Those designed to circumvent a certain regulation become immediately obsolete as soon as the regulation is changed. The list of these is long.

On the positive side, one of the most obvious benefits from the changes in the markets has been the creation of a vast new industry, and with it millions of new, often well-paid jobs. But no doubt the greatest benefits are from the many innovations that permitted capital to be raised more cheaply, and risks to be transferred more efficiently—if not often eliminated. These fueled the markets’ growth. These benefits have accrued to corporations, financial institutions, and consumers in a number of ways. They have made the markets more efficient in allocating capital. They have offered a much wider choice of products to meet both borrowers’ and investors’ specific needs. Better information made possible by enormous improvements in telecommunications and computing have led to improved decision-making. They have improved market access to a wider group of participants which helps make markets more liquid. They permit better hedging capabilities by allowing firms to cheaply and easily transfer unwanted risk to those who want it.

At the same time that these changes were taking place, there was a parallel evolution in the markets’ institutional structures and the regulations affecting them. One of the most important took place in Europe: the countries belonging to the European Union created in 1979 the EMS\(^{25}\) which linked their currencies to each other within specified margins. These arrangements eventually culminated with the introduction of the euro, the single European currency. While many institutional and regulatory changes were designed to liberalize the markets by lifting certain restrictions, not a few were borne out of necessity to try keep market risk under control. The so-called Basel agreements to set a minimum capital requirement for banks was one of these, designed to strengthen the banking system worldwide. Other changes were intended to improve disclosure of information or corporate governance. The jury is still out regarding the effectiveness of many of these. Foreign exchange and capital controls were progressively relaxed after the 1960s. Other restrictions on the financial markets were progressively removed or substan-

\(^{25}\) European Monetary System
tially modified. Which came first—the innovations or the institutional and regulatory changes—is debatable, but undoubtedly there was a kind of symbiosis. The constant flow of innovations created a pressure for institutional change. At the same time, their successful implementation could not have proceeded smoothly without the substantial changes that took place in market institutions and regulations.

The role of the financial system is to provide a number of useful functions. A short list of these might include: managing uncertainty and controlling risk, allowing the transfer of risks to those best able and willing to bear it; pooling of funds to allow easier financing of large investments that a single lender would be unable to undertake alone; to produce and aggregate price and credit risk information to help improve decision-making; provide payment systems for the exchange of goods and services. Compared to what they were in the 1960s, these functions have all evolved beyond recognition. Whatever one may conclude about the value of the markets’ transformation, it has made a lasting imprint on how companies and investors manage their financial affairs.

References