CHAPTER 6

State-of-the-art cost of capital in hospitality strategic management

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Introduction

Making well-informed and effective capital investment decisions lies at the heart of any successful business organization. However, prior to investing in a project, an executive/manager should make three key estimates to ensure the viability of a business project: economic useful life of the asset, future cash flows that the project will generate, and the discount rate that properly accounts for the time value of the capital invested and compensates the investors for the risk they bear by investing in that project (Olsen *et al.*, 1998). Although the first two items are fairly challenging to estimate, the last one is even more challenging. In their book related to cost of capital, Ogier *et al.* (2004) provided an excellent example which I would like to use to provide a practical introduction to this chapter. I take the liberty to modify the story in accordance with the needs of this chapter.

Imagine yourself at the edge of a river where your goal is to pass the river getting minimally wet in the least possible time. Before making your move you need to turn to a local inhabitant who knows which stepping stones are safe, what the velocity and the viscosity of the water are, what the turning moments are, and what the probability of loose stones on the stream bed is. This situation is similar to the world of today's business investments. That is, executives need to make informed decisions about their investments and find out the minimum acceptable rate of return their shareholders expect as a compensation for the risks investors undertake. In addition, when an investment consists of both debt and equity, then the executives need to estimate the total cost of capital employed in this project to be able to pay their debt holders. This chapter intends to serve as a field guide or handbook of the cost of capital estimation for hospitality executives and practitioners. However, before getting into the practical aspects of cost of capital, some relevant concepts will be discussed from a theoretical perspective to better understand the background of this important topic.

Risk

Prior to getting into the core of the subject of estimating cost of capital, it is useful to define what risk is and describe the role it plays in investment decisions. In the hospitality field, risk is often defined as the variation in returns (probable outcomes) over the life of an investment project (Choi, 1999; Olsen *et al.*, 1998). The concept of risk is at the foundation of every firm as it seeks to compete in its business environment. Financial theory states that shareholders face two types of risk: systematic

and unsystematic. The examples of systematic risk could be changes in monetary and fiscal policies, the cost of energy, tax laws, and the demographics of the marketplace. Finance scholars refer to the variability of a firm's stock returns that moves in unison with these macroeconomic influences as systematic, or stockholder, risk (Lubatkin and Chatterjee, 1994). Stated differently, the level of a firm's systematic risk is determined by the degree of uncertainty associated with general economic forces and the responsiveness, or sensitivity, of a firm's returns to those forces (Helfat and Teece, 1987). In other words, these types of risk are external to the company and are outside of its control. However, a loss of a major customer as a result of its bankruptcy represents one source of unsystematic, or firm-specific risk (idiosyncratic or stakeholder risk). Other sources of unsystematic risk include the death of a high-ranking executive, a fire at a production facility, and the sudden obsolescence of a critical product technology (Lubatkin and Chatterjee, 1994). Unsystematic risk is a type of risk that can be eliminated by an individual investor by investing his/her funds in multiple companies' stocks. The same rule may not be applied by company executives, since the success of a single project determines their tenure within their firms.

Risk from financial management perspective

The traditional financial theory looks at investment in securities from a portfolio perspective by assuming that investors are risk-averse and can eliminate the unsystematic risks (variance) associated with investing in any particular firm by holding a diversified portfolio of stocks (Markowitz, 1952, 1959). Markowitz pioneered the application of decision theory to investments by contending that portfolio optimization is characterized by a trade-off of the reward (expected return) of that individual security against portfolio risk. Since the key aspect to that theory is the notion that a security's risk is the contribution to portfolio risk, rather than its own risk, it presumes that the only risks that matter to investors are those that are systematically associated with market-wide variance in returns(Lubatkin and Schulze, 2003; Rosenberg, 1981). Investors, it argues, should only be concerned about the impact that an alternative investment might have on the risk-return properties of their portfolio. However, the capital asset pricing model (CAPM) (Lintner, 1965; Sharpe, 1964) (to be discussed in detail later) does not explicitly explain what criteria investors should use to select

the alternative investments and how they should assess the risk features of these investments. Moreover, the CAPM assumes that because investors can eliminate the risks they do not wish to bear, at relatively low costs to them, through diversification and other financial strategies, there is little need, therefore, for managers to engage in risk-management activities (Lubatkin and Schulze, 2003).

Risk from strategic management perspective

In contrast, the field of strategic management is based on the premise that to gain competitive advantage, firms must make strategic, or hard-to-reverse, investments in competitive methods (portfolios of products and services) that create value for their shareholders, employees, and customers in ways that rivals will have difficulty imitating (Olsen *et al*., 1998). These investments enable the firms to protect their earnings from competitive pressure, and allow firms to increase the level of their future cash flow, while simultaneously reducing the uncertainty associated with them. The management of firm-specific risk lies at the heart of strategic management theories (Bettis, 1983; Lubatkin and Schulze, 2003), and, from this perspective, management must work hard at avoiding investments that create additional levels of risk for the firm. Bettis (1983) further affirms that the CAPM's emphasis on the equilibration of returns across firms (i.e., systematic risk) relegates to a secondary role strategy's central concern with managerial actions that seek to delay the calibration of returns (i.e., unsystematic risks). Thus, the claim that systematic risk is paramount to the firm is undermined by the two arguable assumptions from portfolio theory: stockholders are fully diversified, and the capital markets operate without such imperfections as transaction costs and taxes. Some stockholders, however, are not fully diversified, particularly the corporate managers, who have heavily invested, both financially and personally, in a single company (Vancil, 1987). Also, transaction costs, such as brokerage fees, act as a minor impediment, inhibiting other stockholders from completely eliminating unsystematic risk (Constantinides, 1986). Finally, taxes make all stockholders somewhat concerned with unsystematic risk (Amit and Wernerfelt, 1990; Hayn, 1989) because interest on debt financing is tax deductible, thereby allowing firms to pass a portion of the cost of capital from their stockholders to the government. Thus, firms can create value for their stockholders, within limits, by financing investments with debt rather than equity (Kaplan, 1989; Smith, 1990). The

limits are determined in part by the amount a firm is allowed to borrow and the terms of such debt, both of which are contingent upon the unsystematic variation in the firm's income streams. Lubatkin and Chatterjee (1994) contend that the debt markets favour firms with low unsystematic risk because they are less likely to default on their loans (this is particularly the case of the hospitality industry firms). In summary, the discussion of partially diversified stockholders, transaction costs, and leverage suggests that some stockholders may be concerned with unsystematic risk and factor it along with market risk to determine the value of a firm's stock (Amit and Wernerfelt, 1990; Aron, 1988; Lubatkin and Schulze, 2003; Marshall *et al.*, 1984).

Cost of capital

Cost of capital is defined as the rate of return a firm must earn on its investment projects in order to maintain its market value and continue attracting needed funds for its operations (Fields and Kwansa, 1993; Gitman, 1991). Consequently, a firm adds shareholder wealth when it undertakes the projects that generate a return higher than the cost of capital of the project. Cost of capital is an anchor in firm valuation, project valuation, and capital investment decisions. Cost of capital is generally referred to as weighted average cost of capital (WACC):

$$\text{WACC} = \left(\frac{E}{V}\right) \times R_E + \left(\frac{D}{V}\right) \times R_D \times (1 - T_c)$$

where E is the market value of equity, D the market value of debt (and thus $V = E + D$), T_c the corporate tax rate, R_E the cost of equity, and R_D the cost of debt (Copeland *et al.*, 2000).

Both of these items (R_D and R_E) are difficult to estimate and require some careful deliberations. The cost of debt is relatively simpler to calculate when a hypothetical firm issues bonds that are rated by the major bond-rating agencies such as Standard & Poor's and Moody's. Thus, these ratings may be used as a guide in computing the cost of debt. In addition, an investor may use the bond's yield to maturity or the rate of return that is in congruence with the rating of a bond. Averaging the interest rates of long-term obligations of a firm is another method to calculate the cost of debt. The cost of debt estimation becomes difficult when a given firm has no bonds and no outstanding long-term debt.

The cost of equity is difficult to estimate in its own right. First, cost of equity is generally estimated using historical data, which may be confounded by business cycles and abnormal

events affecting firm stock returns (e.g., fire in a hotel property) and industry returns (e.g., the terrorism events of 11 September 2001). Second, although several methods were developed in the last 40 years, there is not one single method that produces consistent and reliable estimates. Last, a hypothetical executive/entrepreneur will face greater challenges as he/she needs to estimate the required rate of a single restaurant/hotel unit. The next section covers some of the common methods that are used by practitioners in the fields of financial and strategic management.

Cost of equity

Cost of equity can be defined as the rate of return a firm must deliver to its shareholders who have foregone other investment opportunities and elected to invest in this particular company. However, cost of equity is a complex concept because firms do not promise paying a certain level of dividends and delivering a certain level of stock returns. Thus, since there is no contractual agreement between the shareholders and the firm, the expected rate of return on invested equity is extremely challenging to estimate. Fortunately, there are some models that can help us in tackling this challenging task. The next section will cover the major cost of equity models that gained prominence among practitioners and researchers in the last four decades.

Common cost of equity models

Dividend growth model

One of the early forward-looking methodologies is the dividend growth model (DGM) originally developed by Gordon (1962). It offers a very parsimonious method for estimating discount rate and thus accounts for risk. The dividend growth approach to cost of equity states that

$$k_e = \frac{dps}{p} + g$$

where, k_e is the cost of common equity, dps the projected dividend per share, p the current market price per share, and g the projected dividend growth rate.

The model assumes that over time, successful reinvestment of the value received by retained earnings will lead to growth and growing dividends. The approach suffers from oversimplification because firms vary greatly in their rate of dividend payout

(Helfert, 2003). This is due to the fact that common stockholders are the residual owners of all earnings not reserved for other obligations, and dividends paid are usually only a portion of the earnings accruing to common shares. The other major difficulty in applying this model lies in determining the specific dividend growth rate, which is based on future performance tempered by past experience. Another key issue is that the model becomes unusable when a firm is not a dividend payer.

The capital asset pricing model

The CAPM (Lintner, 1965; Sharpe, 1964) is based on the assumption of a positive risk-return trade-off and asserts that the expected return of an asset is determined by three variables: β (a function of the stock's responsiveness to the overall movements in the market), the risk-free rate of return, and the expected market return (Fama and French, 1992). The model assumes that investors are risk-averse and, when choosing among portfolios, they are only concerned about the mean and variance of their one-period investment return. This argument is, in essence, the cornerstone of the CAPM. The model can be stated as

$$E(R_i) = R_f + [\beta \times (R_m - R_f)]$$

where, R_m is the market return of stocks and securities, R_f the risk-free rate, β the coefficient that measures the covariance of the risky asset with the market portfolio, and $E(R_i)$ the expected return of i stock.

Although the CAPM is touted for its relatively simple application, several other studies (Lakonishok and Shapiro, 1986; Reinganum, 1981) present evidence that the positive relationship between β and returns could not be demonstrated for the period of 1963–1990. Particularly over the last two decades, even stronger evidence has been developed against the CAPM by Fama and French (1992, 1993, 1995, 1997), and Roll and Ross (1994). These researchers challenged the model by contending that it is difficult to find the right proxy for the market portfolio and that CAPM does not appear to accurately reflect the firm size in the cost of equity calculation, and that not all systematic risk factors are reflected in returns of the market portfolio.

From the strategic management perspective, business executives face the following issues. Implicit to the CAPM is the recommendation that managers should focus on managing their firm's overall market risk by focusing on β or the firm's

systematic risk and not be concerned with what strategists may focus on: firm-specific (unsystematic) risk. Chatterjee *et al.* (1999) claim that herein lie two dilemmas: first, decreasing β requires managers to reduce investors' exposure to macroeconomic uncertainties at a cost lower than what investors could transact on their own by diversifying their own portfolio; and second, to downplay the importance of firm-specific risk that not only is contrary to the strategic management field but also tempts corporate bankruptcy (Bettis, 1983). Therefore, an executive of a given company has to take into account the total risk of the project because, unlike investors holding stocks of multiple companies, the executive may not be able to diversify the risk of his/her company's investment by investing in multiple projects.

Arbitrage pricing theory

Another prominent cost of equity model is the arbitrage pricing theory (APT) developed by Ross (1976). The model states that actors other than β affect the systematic risk.

The APT is based on the assumption that there are some major macroeconomic factors that influence security returns. The APT states that no matter how thoroughly investors diversify, they cannot avoid these factors. Thus, investors will "price" these factors precisely because they are sources of risk that cannot be diversified away. That is, they will demand compensation in terms of expected return for holding securities exposed to these risks (Goetzmann, 1996).

Although the model does not explicitly specify the risk factors, the APT depicts a world with many possible sources of risk and uncertainty, instead of seeking for equilibrium in which all investors hold the same portfolio. More formally, the APT is based on the assumption that there are some major macroeconomic factors that influence security returns. The APT states that no matter how thoroughly investors diversify, they cannot avoid these factors. Thus, investors will "price" these factors precisely because they are the sources of risk that cannot be diversified away. That is, they will demand compensation in terms of expected return for holding securities exposed to these risks. Just like the CAPM, this exposure is measured by a factor β (Goetzmann, 1996).

Chen *et al.* (1986) managed to identify five macroeconomic factors that, in their view, explain the expected asset returns: The Industrial Production Index, which is a measure of state of the economy based on the actual physical output; the short-term interest rate, measured by the difference between the yield on Treasury bills (TB) and the Consumer Price Index

(CPI); short-term inflation, measured by unexpected changes in CPI; long-term inflation, measured as the difference between the yield to maturity on long- and short-term U.S. government bonds; and default risk, measured by the difference between the yield to maturity on Aaa- and Baa-rated long-term corporate bonds (Chen *et al.*, 1986; Copeland *et al.*, 2000).

The APT describes a world in which investors behave intelligently by diversifying, but they may choose their own systematic profile of risk and return by selecting a portfolio with its own peculiar array of βs. The APT allows a world where occasional mispricings occur. Investors constantly seek information about these mispricings and exploit them as they find them. In other words, the APT somewhat realistically reflects the world in which we live (Goetzmann, 1996).

Although the APT provides the benefits explained above, these benefits come with some drawbacks. The APT demands that investors perceive the risk sources, and that they reasonably estimate factor sensitivities. In fact, even professionals and academics are yet to agree on the identity of the risk factors, and the more βs they have to estimate, the more statistical noise they have to put up with. Last, this model does not offer much guidance to business executives as it focuses primarily on investors.

The Fama–French three factor model

One of the major proponents of the CAPM Fama and French (1993) found that the relationship between average returns and β was flat and there was a strong size effect on stock returns. As a result, they developed a model that has gained popularity in recent years among the scholars and practitioners in the hospitality industry. The Fama–French (FF) model is a multifactor model that argues that factors other than the movement of the market and the risk-free rate impact security prices. The FF is a multiple regression model that incorporates both size and financial distress in the regression equation. The FF model is typically stated as

$$E(R_i) - R_f = (\beta_i \times (R_m - R_f) + (s \times \text{SMB}) + (h \times \text{HML})$$

where β is the coefficient that measures the covariance of the risky asset with the market portfolio, R_m the market return, R_f, the risk-free rate, s the slope coefficient, and small minus big (SMB) the difference between the returns on portfolios of small and big company stocks (below or above the NYSE median), h the slope coefficient, and high minus low (HML) the difference

between the returns on portfolios of high- and low-BE/ME (book equity/market equity) stocks (above and below the 0.7 and 0.3 fractiles of BE/ME) (Fama and French, 1993).

The size factor is denoted as SMB premium where size is measured by market capitalization. SMB is the average return on three small portfolios minus the average return on three big portfolios as described by Fama and French (1993). HML is the average return on two value portfolios minus the average return on two growth portfolios (Fama and French, 1993). High BE/ME (value) stocks are associated with distress that produces persistently low earnings on book equity which result in low stock prices.

In practice, the FF model shows that investors holding stocks of small capitalization companies and firms with high book-to-market value ratios (Annin, 1997) need to be compensated for the additional risk they are bearing. The size argument is supported by Barad (2001) who reports that small stocks have outperformed their larger counterparts by an average of 5.4% over the last 75 years (1926–2000). However, Fama and French (1993) find that the book-to-market factor (HML) produces an average premium of 0.40% per month ($t = 2.91$) for the 1963–1990 period, which, in the authors' view, is large both in practical and statistical terms.

Cost of equity studies in hospitality and tourism

The starting point for selecting the best method for the estimation of the cost of equity can be achieved by reviewing the relevant studies undertaken in the fields of hospitality and tourism. Fields and Kwansa (1993) conducted the first study that directly looked into the cost of equity and suggested the use of pure-play technique for estimating the cost of equity for the divisions of a diversified firm. Later, several studies investigated how macroeconomic variables affect security returns in the hospitality industry (hotels and restaurants). The first study was conducted by Barrows and Naka (1994). Their study encompassed the 27-year period between 1965 and 1991 and employed five factors that were slightly different than the five factors of Chen *et al*. (1986). Barrows and Naka postulated that the return of the stocks is a function of the following five factors:

$$\text{Return} = f(\text{EINF}, \text{M1}, \text{CONN}, \text{TERM}, \text{IP}),$$

where EINF is the expected inflation, M1 the money supply, CONN the domestic consumption, TERM the term structure of interest rates, and IP the industrial production. The results

revealed that none of the macroeconomic factors was significant in explaining the variance of U.S. hotel stocks at 0.05 level and the factors accounted for the 7.8% of the variance in the lodging stocks. However, EINF, M1, and CONN had significant effect on the variation of the stock returns in the U.S. restaurant industry. In terms of the signs of the β coefficients EINF had a negative whereas M1 and CONN had a positive relationship with the restaurant stock returns. The postulated model explained 12% of the variance in the restaurant stocks. The authors cautioned that the results should be interpreted with care due to the small sample size of both restaurant and hotel portfolios, which were represented by five and three stocks, respectively.

The second study was undertaken by Chen *et al.* (2005) who used hotel stocks listed on Taiwan Stock Exchange. The macroeconomic variables included in their study were IP, CPI, unemployment rate (UEP), money supply (M2), 10-year government bond yield (LGB), and 3-month TB rate. These variables were used in the following way: CPI was utilized to estimate EINF, and LGB, and TB were used for the computation of the yield spread (SPD). Based on the six time-series data the authors arrived at the common five macroeconomic variables which were predominantly used in the literature, namely, IP (change in IP), EINF $\in$ UEP (change in unemployment rate), M2 (change in money supply), and SPD (rate of the yield spread). These five variables explained merely 8% of the variation in hotel stock returns while only two of these variables were significant at the 0.05 level (M2 and UEP). The regression coefficient of change in money supply had a positive relationship with hotel stock returns, whereas the relationship between change in UEP and lodging returns was negative.

In Madanoglu and Olsen (2005) proposed a conceptual framework that called for the inclusion of some of the intangible variables into the cost of equity estimation in the lodging industry. Some of these variables were human capital, brand, technology, and safety and security. It is common knowledge that these variables were relevant for the lodging industry; however, there exists no time-series data to include them in the cost of equity estimations.

Shortcomings of the present models for the hospitality industry

Publicly traded multinational lodging companies tend to differ on some key points regarding how assets are treated on their balance sheets. Many of these companies do not actually own assets and produce their future cash flows from management

contracts or franchise agreements. In many cases, they may also lease hotels or restaurants and the leases do not appear on their balance sheets. Instead, these firms hold an equity position in a different company that holds these leases. Therefore, it is almost unfeasible to properly assess the book value of the hospitality firms, which confounds the application of the FF model.

Sheel (1995) was the first researcher in the hospitality industry to point out that CAPM does not seem to meet the industry needs and called for further research into industry-specific factors. In the mainstream financial economics, Downe (2000) argued that in a world of increasing returns, risk cannot be considered a function of only systematic factors, and thus β. He pointed out that the position of the firm in the industry, as well as the nature of the industry itself become a risk factor. Thus, firms with a dominant position in the industry that succeed to adapt to the complexities of the business environment, will have a different risk profile than their competitors. This argument is particularly well fitting in the context of the hospitality industry where companies such as McDonald's and Marriott may demonstrate a different risk profile based on their market share in their segments.

As for FF factors, professionals in the lodging industry are sceptical about such measures as the book-to-market value ratio (HML). Some hospitality industry experts argue that HML is an inappropriate measure for the industry and attribute it to the fact that the difference between the firms whose value is captured by the assets they own and the firms whose value is derived from their intangible assets is not as distinct as in some manufacturing firms. While Jagannathan and Wang's study (1996) added a human capital variable to their cost of equity capital model, it measured human capital effects from the macroeconomic perspective as opposed to a micro level where most hotel firms operate. In other words, the overall labour index may not properly reflect the state of the human capital in the hospitality industry.

As Fama and French (1993) stated, their work (FF model) leaves many open questions. The most important missing piece of the puzzle is that Fama and French (1993) have not shown how the size and book-to-market factors in security returns are driven by the stochastic behaviour of firm earnings. This implies that it is not yet known how firm fundamentals such as profitability or growth produce common variation in returns associated with size and BE/ME factors and this variation is not captured by the market return itself. These authors further query whether specific fundamentals can be identified as state variables (variables that describe variation in the investment

opportunity set) and these variables are independent of the market and carry a different premium than general market risk. This question is of utmost importance for lodging industry executives who are aiming to identify the major drivers of their companies' stock returns in their effort to create value for their stockholders.

In their current state, the cost of equity models are far from satisfying the needs of the hospitality industry. As Fama and French (1997) pointed out, the cost of equity estimates yielded by these models are distressingly imprecise. Standard errors of more than 3% per year were typical when the CAPM and FF models were used to estimate industry costs of equity in their study (Fama and French, 1997). They stated that large standard errors are driven primarily by uncertainty about true factor risk premiums. Since the hospitality industry is really the aggregate of individual units that all have their own unique business environments and return on equity structures, this means that the standard errors, and thus, cost of equity capital on a per-company, single-unit (a hotel property or a restaurant) basis, or for a new project will be even more imprecise. Therefore, the risk determinants of cost of equity and risk factor loadings for individual operating units will be even more difficult to estimate. Thus, it is very important to consider the purpose for which the cost of equity is estimated (e.g., a single project, business division, or an entire corporation). Particularly, in the case of single project cost of equity estimations there might be several factors that need to be considered before arriving at the proper discount rate of the project. These factors might be location of the project, local/regional competition, political risk, credit risk, and other risk idiosyncratic to a given project. Consequently, as Ogier *et al.* (2004) suggest when estimating a cost of equity for a given project the risk of the project will be much more important than the risk level of the corporation making the investment. In other words, when Marriott Corporation makes a capital investment decision in Nairobi, Kenya, the Marriott Corporation executives will be much more concerned with the risks surrounding that project.

Cost of debt

Unlike cost of equity, cost of debt does not require the use of sophisticated theoretical models. Rather, cost of debt is simply the rate at which a given company can borrow capital from a lender (e.g., bank) or the rate at which the aforementioned company can issue bonds. Some experts caution that the

promised and the expected yields of debt are two different concepts. In other words, when a firm makes contracted debt payments on time it meets "the promised yield" to its lender. However, in reality, there is always a possibility for default and thus the difference between the promised yield and the probability for default equals the expected yield. The expected yield can be regarded as true cost of debt since it is more realistic. Although many textbooks calculate the cost of debt as promised yield, it should be noted that expected yield is more meaningful since it includes not only the systematic risk of the market but also the firm-specific risk of a given firm.

Another challenge for calculating the cost of debt might occur when a firm uses multiple debt instruments (e.g., bank loans, commercial papers, bonds). In this case, it may be fruitful to average the rate of these instruments based on their weight in the debt portfolio. However, an easier and more simplistic approach would be to use the "generic long-term debt" rate which can be calculated from the current rate of a company's bond or current rate at which the company can borrow a long-term loan (Ogier *et al*., 2004). Last, to estimate the cost of debt, the issue of tax shield should be given a close consideration. For instance, although the majority of the finance textbooks use 35 or 40% as an average for corporate tax rate in the United States, it is common occurrence to observe companies whose effective corporate tax rate is often lower than the statutory rate. Here, an executive should assess the situation and decide whether the effective tax rate trend is expected to continue to be below the statutory corporate tax rate in the long term. If that is the case, then he/she should use the effective tax rate in calculating the cost of debt. However, if a low effective tax rate is a short-term occurrence, then a given firm should use the statutory corporate tax rate instead (Ogier *et al*., 2004).

Other cost of capital factors in the hospitality industry

Human capital

Hospitality industry is part of the overall service sector and is dependent on human capital in order to maintain and grow its operations. In an increasingly competitive environment, the human factor becomes one of the keys in creating sustainable competitive advantage. Therefore, Murphy (2003) stated that the hospitality industry should learn to view its employees from a new paradigm that human capital is a strategic intangible asset (knowledge, experience, skills, etc.). This implies that, like other assets, it is an important determinant of firm value.

However, studies have concluded that "the research of human resources expenditures" is in its infancy and is seriously hampered by the absence of publicly disclosed corporate data on human resources (Lev, 2001).

Caroll and Sikich (1999) argued that keeping track of at least a 3-year history of labour costs would serve to identify the dollar value of "premium" labour-related costs, which could be thought of as all labour/benefit costs above federally mandated minimum wage. Other techniques proposed by the authors were (1) to design a scoring system that illustrates productivity versus both baseline and premium labour/benefit costs by departments, and (2) to establish metrics to determine a productivity level for guest experience standards, facilities standards, and targeted revenue improvements on a department-by-department basis.

Bloxham (2003) advocated adjustments to certain human resource expenditures to capitalize them over the time of the investment. In that approach, one-time human resources costs are amortized and capitalized in the value creation equation in an effort to demonstrate that human capital investments go beyond being a cost item in the firms' operations. These costs can include recruiting, interviewing, and hiring costs; one-time hiring bonuses and relocation expenses; and training costs. The costs are capitalized and amortized over the average employee tenure with the company. In this case, if employee turnover is high, these costs would be amortized over a shorter time period (thus the costs will be higher), whereas the longer tenure of the workforce will enable the firm to spread the costs over a longer period of time.

Kalafut and Low (2001) reported that in a study of the airline industry conducted by Cap Gemini Ernst & Young's Center for Business Innovation (CBI), the employee category was the single greatest value driver that had an impact on the firm's market value. The employee factor had a positive correlation of 0.68 with the firm value. Thus, Kalafut and Low (2001) conclude that in the aggregate, quality and the talent of the workforce, quality of labour management relations, and diversity are critically important in the value creation process of the airline companies.

The arguments above can be justified on the grounds that higher-quality human resources decrease labour turnover and increase employee productivity. This results in better organizational performance that results in stabilization of cash flows which in turn decreases the uncertainty of firms' stock returns. Therefore, one would expect that hospitality firms that have institutionalized quality human resource management practices would achieve a more realistic cost of equity estimates that reflect the lower risk associated with these practices.

Brand value

Although definitions of the concept of brand differ across the professional and trade literature, the underlying notion is that of a distinctive name with which the customer has a higher level of awareness and a willingness to pay a higher-than-otherwise average price or make a higher-than-otherwise purchase frequency (Barth *et al*., 1998). A brand is the product or service of a particular supplier which is differentiated by its name and perceived expectations on the part of the consumer. Brands are important and valuable because they provide a "certainty" as to future cash flows (Murphy, 1990). However, since the task of estimating brand value is yet an improbable one, its value is not specifically reflected on the company's balance sheet. Yet, the lodging industry has made much of the importance of the value of the brand but has not been able to unequivocally substantiate the role of the brand in reducing the variance in firm cash flows, and thus contributing to lower cost of capital for the firm.

Srivastava *et al.* (1998) provided an analytical example of how successful market-based assets (the term authors use in lieu of intangibles) lower costs by building superior relationships with customers, enable firms to attain price premiums, and generate competitive barriers (via customer loyalty and switching costs). All these factors lead to the conclusion that a strong brand reduces the uncertainty pertaining to the future cash flows which in turn decreases the required return by the investors for the risk they bear by investing in a particular firm.

In attempts to value the brand in the manufacturing industries, the use of the following methods has been cited by Murphy (1990):

- Valuation based on the aggregate cost of all marketing, advertising, and research and development expenditures devoted to the brand over a stipulated period.
- Valuation based on premium pricing of a branded product over a non-branded product.
- Valuation at market value.
- Valuation based on various consumer-related factors such as esteem, recognition, or awareness.
- Valuation based on future earning potential discounted to present-day value.

In further analysis, the investigators rejected these methods because, if indeed, brand values were the function of its cost of development, then failed brands would be attributed high

values. In addition, brand valuation based solely on the consumer esteem or awareness factor would bear no relationship to commercial reality (Murphy, 1990).

In an effort to link the firm's security returns with brand value, Simon and Sullivan (1993) proposed a technique to estimate the firm's brand equity based on its value. This was done by estimating the cost of tangible assets and then subtracting it from the market capitalization of the firm to obtain the value of intangible assets. As a second step, the researchers tried to break down the intangible assets into brand value and non-brand value components. The authors utilized the Aaker and Jacobson (1994) EquiTrend brand quality measure to evaluate the quality of 100 major brands. They examined associations between measures of brand quality and stock returns and reported that the relationship is positive.

According to Murphy (1990), the only logical and consistent way to develop a multiple for brand profit was through the brand strength concept. Brand strength is a composite of six weighted factors: leadership, stability, market, trend, support, and protection. The brand is scored on each of these factors according to different weightings and the resultant total known as "brand strength score." A further addition to the brand strength concept came from Prasad and Dev (2000) who developed a hypothetical brand equity index via customer ratings of the brand using five key brand attributes in two sets of indicators—brand performance and brand awareness. Brand performance was measured by overall satisfaction with the product or service, return intent, price-value perception, and brand preference, while brand awareness was measured as top-of-mind brand recall. Olsen (1996) proposed brand-related value drivers specific to the lodging industry such as brand dilution and brand sincerity ratio. Brand dilution is related to the question of how many new corporate sub-brands must be introduced in order to maintain growth, whereas, brand duration deals with what percentage of hotels in the portfolio currently meet the brand standards or promise. As a result, it is argued that hospitality companies that possess higher-brand strength will be able to achieve a lower cost of equity capital.

Technology investment and utilization

According to Connolly (1999), one of the greatest issues plaguing the advancement of technology in the hospitality industry is the difficulty of calculating return on investment. Until recently, most technology investment decisions have been considered

using a support or utility mentality that stems from a manufacturing paradigm. Current policies rely more on faith than on a rational business assessment. As a result, the hotel industry is perceived to be lagging behind the rival industries in the use of technology (Sangster, 2001). In part, this is attributed to the fragmented nature of the hotel business itself; however, it is also believed to be closely related to hoteliers' lack of experience and understanding in technology investments (Sangster, 2001).

Connolly further argued that "Today's financial models are inadequate for estimating the financial benefits for most of the technology projects under consideration. While the hospitality industry has disciplined models and sufficient history to determine the financial gains or success of opening a new property in a given city, it lacks the same rigorous models and historical data for technology, especially since each technology projects are unique. Although this problem is not specific to the hospitality industry, it is particularly problematic since the industry tends to be technologically conservative and unwilling to adopt new technology applications based on the promises of their long-term merits especially if it cannot quantify the results and calculate a defined payback period. When uncertainty surrounds the investment, when the timing of the cash flows is unpredictable, and when the investment is perceived as risky, owners and investors will most likely channel their investment capital to projects with more certain returns and minimal risk. Thus, under this thinking, technology will always take a back seat to other organizational priorities and initiatives. Efforts must be made to change this thinking and to develop financial models that can accurately predict and capture the financial benefits derived from technology (Connolly, 1999; p. iii)."

Although there are no hard and fast rules to facilitate the valuations of technology investments, it is common knowledge that technology is transforming the way business is conducted in the lodging industry. Particularly the surge in Internet usage in the early years of the new millennium brought about the issue of capacity control for hotel room inventory holders. Therefore, firms that are more adaptive to utilize technology to market and sell their perishable product (hotel rooms) may accomplish a lower variation in their future cash flows, since they are able to retain greater control over pricing.

The author would like to acknowledge the fact that the body of literature does not offer a direct causal relationship between the cost of equity capital and the technology utilization. However, based on the arguments discussed above, the author contends that firms that invest in technology wisely may achieve a higher average daily rate or REVPAR in their

properties which in turn will lead to a decrease in the variance in firm's cash flows. Thus, better utilization of information technology can possibly reduce the uncertainty surrounding the future earnings of the firm. As a result, capital markets will assign a lower risk premium to hospitality firms that successfully utilize and deploy technology into their operations.

Safety and security

Guest safety and security topics in the lodging industry can vary from building safety codes and bacterial contamination of hotel whirlpools to restaurant food safety and hotel crime statistics (Olsen and Merna, 1991). The need for greater commitment to safety and security for the hospitality industry became evident in 1990 after the San Francisco earthquake and Hurricane Hugo occurred (Olsen and Merna, 1991). The culmination of these events and all the other events sparked an effort by the hotel industry to manage the risk and liability related to guest safety and security.

Ray Ellis, the director of risk management and operations in the American Hotel & Motel Association (at that time in 1991), contended that after the end of the Gulf War the benefits of increased security for the industry go far beyond intangibles such as peace of mind (Jesitus, 1991). Ellis stressed that improved safety and security will significantly decrease the insurance premiums of the properties, and thus enable the companies to have more resources to invest in their operations. Although Ellis said that chances of terrorist attacks on the United States post Gulf War were fairly remote, he warned that the hotels, particularly those serving international markets, be most wary of arson and bomb threats.

The International Hotel and Restaurant Association in 1995 identified safety and security as one of the major forces driving change in the global hospitality industry (Olsen, 1995). With the destruction of the World Trade Center in 2001, and subsequent terrorist attacks in Bali and Kenya, it is clear that force has emerged now as a major risk factor for all tourism-related enterprises. In February 2003, the Federal Bureau of Investigation (FBI) alerted its law enforcement partners that "soft targets," such as hotels, can be subject to terrorist attacks (Arena *et al.*, 2003). This report simply reaffirms the argument proposed by Olsen (1995, 2000) that lodging properties which are situated in an area exposed to terrorist attacks, should factor that risk into their cost of capital estimates. Therefore, lodging property executives should apply this risk factor into their future capital investment decisions.

In addition, outbreaks related to food-borne diseases, infectious bacteria occurrences on cruise ships, increased crime, and the growing threats of human immunodeficiency virus (HIV), and other viral infections such as severe acute respiratory syndrome (SARS) have created a significant challenge for hospitality managers worldwide. These must be considered as important risk variables that will no doubt have an impact on the estimates of cost of capital.

Although the factors mentioned above are critical in estimating the cost of capital of a given project, there are no methods that can quantify these factors and apply them to the cost of equity models. However, executives are advised to consider these industry-specific risk factors before making a capital investment decision.

Global/multinational projects

The models covered thus far do not provide any guidance for estimating the cost of equity in a global setting or multinational projects. In order to fill this void, academics and practitioners developed adjustment models to account for differences in cost of equity among markets in developing and emerging countries. The adjustment models are primarily concerned with whether the emerging markets are segmented or integrated with the world markets. That is, in a completely segmented market, assets will be priced based on local market return. The local expected return is a product of the local β times and the local market risk premium (MRP) (Bekaert and Harvey, 2002).

Bekaert and Harvey (2002) developed a modified model after researching 18 emerging markets for the pre-1990 and post-1990 periods and reported that the correlation of the emerging markets with the Morgan Stanley Capital International (MSCI) World Index increased noticeably. For instance, Turkey is one of the countries whose market correlation with MSCI World Index increased from less than 0.10 to more than 0.35. Based on this, Turkey may be considered an integrated capital market where the expected return is determined by the β with respect to the world market portfolio multiplied by the world risk premium. This is the core argument of the Bekaert–Harvey Mixture model (Bekaert and Harvey, 2002).

In cases when integrated markets assumption does not apply, investment banks and business advisory firms use a method called "the Sovereign Spread Model (Goldman Model)." This is conducted by regressing an individual stock against the Standard & Poor's 500 stock price index returns to obtain the risk premium. Then, an additional "factor" is added which is called the "sovereign spread" (SS). This spread between respective country's LGB

for bonds denominated in U.S. dollars and the U.S. Treasury bond yield is "added in." The bond spread serves as a tool to increase an "unreasonably low" country risk premium (Harvey, 2005).

Practical example for estimating WACC

This section offers a practical example for managers to estimate the WACC of their projects. In addition, this section breaks down the WACC into its respective components in order to assist executives in the capital investment decisions. The major components of the WACC estimations are a firm's stock return, market return, risk-free rate, regression coefficients (β, s, and h), SMB, HML and equity market risk premium (EMRP) (which is $R_m - R_f$), capital structure (proportion of debt and equity), corporate tax rate, and cost of borrowed debt.

Estimating cost of equity

If you are an executive of a company that is not publicly traded, you have two options to estimate the cost of equity. You can either use the industry average for cost of equity or locate two or three comparable firms that compete in the same line of business and estimate their cost of equity. However, even if you are an executive of a large restaurant corporation that is traded publicly, it is still recommended that you estimate the cost of equity for the entire restaurant industry because the standard error of regression coefficients for a single firm is fairly high, which decreases the reliability of these coefficients. My past research experience has showed me that at times using a single firm may create a situation in which cost of equity cannot be even estimated. More often than not, I obtained distressing results when running a regression for small- or medium-size hospitality firms. As a result, in the practical example, I will estimate the restaurant industry's cost of equity. Since the cost of equity calculation process may be a fairly complex process for someone who is not familiar with data analysis, I will offer a step-by-step procedure, which should better clarify this process:

Step 1: obtaining a 5-year monthly stock return for your company/industry and the market

Ideally, you need 5 years of monthly stock return data for your firm and the 5-year market return. The issue of selecting the best index of all traded assets in the world is a very challenging and sometimes a controversial issue. Based on seminal

studies in financial management, the market index that yields most reliable results in the United States is Center of Research in Security Prices Value Weight (CRSPVW) Index housed at the University of Chicago. Both your company's stock and market return should be used as excess return (i.e., return less risk-free rate which is 1-month TB rate) in order to measure the cost of equity in real units (i.e., after accounting for inflation). For reasons mentioned before, I will be estimating the U.S. restaurant industry's cost of equity and leave the decision to restaurant industry executives to adjust this value to their specific projects at hand. In order to be able to observe the accuracy of cost of equity models, we estimate the restaurant industry cost of equity by using the CAPM and FF model. The observation period of this example is between 2000 and 2004. The reason for not selecting a longer observation period is that the values of β and other variables become unstable over extended periods. The sample is developed from the Nation's Restaurant News (NRN) Index, which entails 81 restaurant firms. In cases when executives are not familiar with building stock portfolios, they can alternatively use monthly returns of hospitality indices for lodging and restaurant industries from data providers such as Yahoo! Finance, Wall Street Journal, or industry publications such as NRN.

Step 2: estimating β and Fama–French factor coefficients

The CAPM's β can be computed by regressing excess stock return of a firm over the excess market return. The monthly returns for FF factors (SMB and HML) can be retrieved from Eventus Database housed in the Wharton School at the University of Pennsylvania or from Kenneth French's website at Dartmouth College. By regressing monthly SMB and HML returns on market returns you can obtain "*s*" and "*h*" coefficients that can later be inserted into the equation to estimate the cost of equity.

In our practical example, the results indicate that the FF model explains more than half (51.8%) of the variation in the returns of the NRN Index. In addition, the FF model results in a significant R^2 change over the CAPM, which showed that the two FF variables (SMB and HML) explained some extra variance over and above the CAPM which accounted for 19.6% of the variation in the restaurant industry stock returns.

The analysis at the variable level indicates that the market index variable (β) and the HML are significant at 0.01 level (see Table 6.1). However, the SMB was not significant at the

Table 6.1 Regression Coefficients and Explained Variation

Model	Variable	*B*	SE	*T*
CAPM	β	0.538	0.137	3.923**
FF	β	0.913	0.123	7.400**
	SMB	−0.147	0.129	−1.136
	HML	0.721	0.163	4.431**

Notes: SMB = size variable, HML = distress variable, B = regression coefficient, SE = standard error.

** Denotes significance at 0.01 level.

0.05 level, which means that the size factor does not affect the restaurant industry stock returns while controlling for β and HML. In practice, this means that restaurant industry portfolio behaves as a large company stock, and therefore there is no size premium when considering the overall cost of equity for the restaurant industry. It should be remembered that if you are an executive of a small restaurant company there is a high possibility that your stock returns will have a size premium.

Step 3: the risk-free rate, market, size and distress premiums

There are certain rules of thumb that executives should be aware of before inserting the regression coefficients into the cost of equity calculation. First, it should be pointed out that there are two risk-free rates (R_f) in the CAPM and FF models. The first R_f is used in order to demonstrate the level of risk-free rate that a firm needs to exceed to compensate its investors for the risk they undertake. The second R_f should ideally match the life of an asset. In other words, if the asset in this project is expected to last at least 10 years, then a given investor/executive should use a 10-year government bond as its risk-free rate to obtain the MRP ($R_m - R_f$).

Another important issue is calculating market, size and distress premiums. Executives/investors may often face challenges when the 5-year MRP (which equals $R_m - R_f$) is negative or extremely low, or when size premium (SMB) and distress premium (HML) figures are negative. In these cases, I would recommend that executives/investors use the long-term equity premium ($R_m - R_f$) figure of 5% (Siegel, 1998)

and use SMB and HML figures that capture at least a 10-year period. I calculated MRP, SMB, and HML premiums since 1992 by using 10-year rolling periods (e.g., 1992–2001, 1993–2002, 1994–2003, and so on) until 2006 and verified that in all instances SMB, and HML premiums were positive.

Step 4: solving cost of equity equation

Since the market index (VWCRSP) has a very low return (0.21%) for the 5-year period, I will use the long-term equity premium of 5% (Siegel, 1998). Next, by using the obtained regression coefficients in Table 6.1, the regression equations provide the following results:

$$Ke(\text{CAPM}) = 3.2 + 0.538 \times (5.00) = 3.20 + 2.69 = 5.89\%$$

$$Ke(\text{FF}) = 3.2 + 0.913 \times (5.00) + 0.721 \times 14.78 = 18.42\%$$

As it can be seen from the results above, the restaurant industry cost of equity is considerably higher when estimated by using the FF model. In basic terms, this means that a hypothetical investor will expect a return of 18% from the U.S. restaurant industry in order to invest his/her funds in the U.S. restaurant portfolio. However, if a restaurant executive believes that 18% is a fairly high rate of return and his/her restaurant company does not have the same risk profile as the overall U.S. restaurant industry, he/she may elect to use the average of the CAPM and FF estimates, which is around 12%.

Next, a restaurant executive may adjust the rate of his/her firm's project by considering whether the project will be riskier than the restaurant industry's expected return. Here one should consider factors such as competition, life of the project, and the events that may have an impact on the risk of the project by influencing forces driving change in firm's external (e.g., economic, political, technological) and internal (e.g., industry, local) environment.

Cost of debt

The next step in estimating the cost of capital is to estimate the cost of debt. Unlike cost of equity, cost of debt does not require consideration of the average cost of debt for the hospitality industry. This is because in simple terms, cost of debt denotes an interest rate at which a given company can borrow. Therefore,

a given company can calculate the cost of debt for a given project in a relatively simple manner. The situation is little more complex in cases when a corporation has multiple projects to invest in and has to estimate its corporate cost of debt. This is because some of the projects may be expansion projects that are already financed by loans obtained in the past. Consequently, executives need to average out the interest rate of the outstanding debt related to this project and also consider the interest rate at which the company can borrow new funds.

In this particular example, we will assume that a hypothetical company plans to issue bonds which mature in 10 years and will also secure a 10-year loan to finance a portion of the project. In this scenario, we assume that both the bond issuance and the loan will have equal contribution to the funding of the project (e.g., 50% each). Let us assume that the hypothetical company in this example issues 10-year bonds whose expected yield-to-maturity is 8%. This rate is assumed based on the present bond rating of this company. We also assume that the rate of a 10-year bank loan is 7% and the corporate tax rate 38%. Thus, the cost of debt can be calculated as follows:

$$Kd = \left[\frac{(8+7)}{2}\right] \times (1 - 0.38) = 7.5 \times 0.62 = 4.65\%$$

Cost of capital calculation

Before entering the values from previous sections we assume that the current project will be financed with 60% equity and 40% debt. We use the average cost of equity estimate (12.25%) and the cost of debt (4.65%) we obtained before. Consequently, the weighted cost of capital for this project can be calculated as follows:

$$\text{WACC} = (12.25\% \times 0.6) + (4.65 \times 0.4) = 7.5 + 2.16 = 9.68\%$$

It should be noted that the executive of this hypothetical firm needs to make adjustments to this project if the project carries any specific risk such as political risk, divisional risk (if the firm has multiple divisions), risk of early termination, stiff competition, and so on.

International cost of equity example

This section considers a case when the cost of equity needs to be estimated for an international project. Here I use a hypothetical scenario where a Thai investor plans to make a hotel

investment in Turkey in 2006. In this case, the hotel property is expected to be managed by a North American Company (Four Seasons Hotels and Resorts). At this point, an investor faces the following two challenges: First, what market data should he/she use in estimating the cost of equity? Should stock market data be Thai, Turkish, or North American? Second, how should he/she apply the country risk premium or exchange risk premium to his/her cost of equity estimates?

To answer these questions, in this example I use two different samples. The first sample is represented by a single company—the Four Seasons Hotels and Resorts and is listed on New York Stock Exchange in 2006. The second sample is the Tourism Index (composed of seven tourism stocks) of the Istanbul Stock Exchange (ISE). The observation period in this study is the 5-year period between 2001 and 2005. Stock data is obtained from the Center of Research in Security Prices (CRSP) at the University of Chicago and brokerage houses in Turkey.

In line with the suggestions made by Annin (1997), and Barad and McDowell (2002), a minimum of 36 months' stock market trading is the criterion for a hospitality firm to be included in the Turkish Tourism Index. In addition, CRSPWV Index is used as a market portfolio index for the United States. This is in congruence with the previous seminal studies related to asset pricing models (Fama and French, 1992, 1993, 1997; Jaganathan and Wang, 1996). However, IMKB Ulusal 100 Index is utilized as a market portfolio for Turkey.

β is computed by regressing excess return of the Four Seasons and Turkish Tourism Index over the excess market return; therefore, both variables are analysed in real units (e.g., after subtracting inflation). Excess market return (MRP) for the United States is computed by subtracting 1-month TB rate from the monthly VWCRSP Index return. The MRP for Turkey is calculated by subtracting the Turkish Government's TB from the monthly ISE Ulusal 100 Index return.

The data for the five APT variables are obtained from Global Insight Database. The APT variables are calculated as in Chen *et al*. (1986). EINF is estimated following the method of Fama and Gibbons (1984). Country risk premium is adapted from Aswath Damodaran at New York University. Damodaran (2006) explains the estimation procedure as "To estimate the long term country risk premium, I start with the country rating (from Moody's: www.moodys.com) and estimate the default spread for that rating (US corporate and country bonds) over the treasury bond rate. This becomes a measure of the added country risk premium for that country. I add this default spread to the historical risk premium for a mature

equity market (estimated from US historical data) to estimate the total risk premium."

Both direct and indirect approaches are used to estimate the expected return (indirect and direct) of an investment.

Indirect approach

In this method, I first compute the expected rate of return for the U.S. stock (in this case Four Seasons) by using the average estimates for the CAPM and APT. Then I adjust for country risks of Turkey and Thailand based on Moody's country risk ratings as reported by Damodaran (2006).

This method assumes that the Turkish Stock Market is integrated and thus using the U.S. market indices to estimate the cost of equity for Four Seasons is equivalent to using Ulusal 100 Market Index for the Turkish Tourism portfolio. First, I run a regression of the monthly returns of Four Seasons over the CRSPVW return for the 2001–2005 period. The results show that the β for Four Seasons is 1.6. Next, the 5-year annualized return for the CRSP was calculated in order to estimate the MRP. The 5-year historical return for CRSP was 4.3%. The risk-free rate for the 2001–2005 period was 2.16%. As a result, the cost of equity estimate based on the CAPM for Four Seasons is as follows:

$$E(R_i) = 2.1 + 1.6 \times (4.3 - 2.1) = 5.4\%$$

In an effort to have less biased estimates, I also use the five APT variables (Chen *et al.*, 1986) to calculate the expected return for Four Seasons. The results reveal that, among the five APT variables, only the default risk variable (UPR) is significant at the 0.05 level. However, it is not feasible to use this variable to estimate the expected return because the regression coefficient for UPR is a negative number. As a result, the Four Seasons is likely to have a negative expected return based on the APT. As a consequence, I elect not to use the APT results in the final stage of the direct approach, since the results of the APT are in conflict with the contemporary financial theories.

Therefore, I use the CAPM's estimate of 5.4% and adjust this estimate with the country risk of Turkey and Thailand. According to Damodaran (2006), the historical risk premium for the United States is 4.80%. Turkey's country risk premium is 5.60% above the United States value and that for Thailand is 1.65% above the risk premium for the United States. This denotes that Turkey's country risk premium is 3.95% over that

of Thailand. These figures result in an expected return of 9.35% (5.4 + 3.95%) for the Thai entrepreneur who is undertaking an equity investment in a hotel in Turkey.

Direct approach

In the direct approach, I estimate the nominal required rate of return for the portfolio of Turkish tourism and hospitality stocks. As a next step, I adjust for the sovereign spreads of Turkey and Thailand as it is assumed that the Thai investor will repatriate the returns from an investment to his/her home country.

In this method, I regress the monthly return of the Turkish Tourism Index over the return of the ISE. The β for the Tourism Index was merely 0.17. The 5-year average for the risk-free rate (Turkish government's TB) for the 2001–2005 period was 46.4%. The annualized return of the market index (ISE) for the 2001–2005 period was 37.7%. The expected return for the tourism portfolio was calculated by applying the CAPM and it provided the following results:

$$E(R_i) = 37.7 + 0.17 \times (46.4 - 37.7) = 37.7 + 1.5 = 39.2\%$$

The next step entails the addition of the sovereign spread between Thailand and Turkey to arrive at the estimate for the cost of equity capital for the Thai investor. The sovereign spreads are obtained from Fuentes and Godoy (2005). The spread for Turkey was 11.875% and that of Thailand 7.750%. Based on these figures, the cost of equity for the direct approach was 43.3% (39.2 + 4.1%).

Discussion and conclusion

As it can be seen from both the examples of cost of equity estimation (the United States and international), the expected returns (costs of equity) varied widely. In the example of United States, the use of the CAPM resulted in a cost of equity that was fairly low (less than 6%). It is worth asking, would a given investor invest in a U.S. restaurant portfolio of stocks for less than 6% a year? The answer would probably be "no." However, if one elects to use FF as its main cost of equity model then the possibility of obtaining more relevant results is likely to increase. As it can be seen in this example, the cost of equity by using the FF model yielded a fairly logical return which far exceeds the historical equity premium for the United States.

For the international example, one of the main reasons for the stark difference in cost of equity estimates using the two approaches (direct and indirect) is the high historical inflation in Turkey. This is demonstrated by the gap in the TB rates for this country (82.3% for 2001 and 16.3% for 2005). Hence, if a hypothetical investor elects to use the "going-rate (16.3%) in 2005 then the new expected return for the Turkish Tourism portfolio would be at least twice lower than the original estimate of 43.3%. Another challenge in the direct approach for international cost of equity estimations is the low β estimate for the Turkish Tourism portfolio (0.17). Does this mean that the tourism portfolio is five times less risky than the overall ISE Index? What if the real risk of tourism stocks is twice higher than that of the market? (This is quite likely as the β for Four Seasons in the United States was 1.6.) If that is the case, then the Thai investor needs to require a rate of return that is more than 50% in Thai currency. How can the investor hedge his investments against the large swings in the cost of equity estimates?

As the results indicated thus far, cost of equity estimations for hospitality investments in emerging and developed markets are beset with uncertainty. The main shortcomings stem from the challenge of applying the seminal models such as the CAPM, FF, and the APT. The second set of challenges arises when countries such as Turkey tend to have high historical rates of inflation but now are entering a more stabilized period of fiscal reforms. Thus, should an investor use the historical data or try to forecast the future interest rates in Turkey? Although the practical examples provided some answers to these questions, few more questions are left for future research. Hence, I suggest two interim solutions for this cost of equity conundrum in the emerging markets: (1) the investors and academics should either solely focus on future cash flows of the project, or (2) use simulations such as Monte Carlo in order to create multiple scenarios that approximate the investment realities of the emerging markets. Otherwise, the expected return remains to be a "gut feeling" estimate for foreign investors in emerging markets.

References

Aaker, D. A., and Jacobson, R. (1994). The financial information content of perceived quality. *Journal of Marketing Research*, *31*(2), 191–201.

Amit, R., and Wernerfelt, B. (1990). Why do firms reduce business risk? *Academy of Management Journal*, *33*(1), 99–110.

Annin, M. (March, 1997). Fama-French and small company cost of equity calculations. *Business Valuation Review*. Retrieved July 15, 2003, from http://ibbotson.com/content/kc_published_research_search.asp?catalog=Article&category=Cost%20of%20Capital&prodID=ARTC41220026

Arena, K., Meserve, J., Ensor, D., and Candiotti, S. (2003). Preparations for possible attacks gear up: New flight restrictions planned around Washington. Retrieved February 12, 2003, from http://www.cnn.com/2003/US/02/08/threat.level/index.html

Aron, D. J. (1988). Ability, moral hazard, firm size, and diversification. *RAND Journal of Economics*, *19*, 72–87.

Barad, M.W. (September 2001). Technical analysis of the size premium. *Business Valuation Alert*. Retrieved December 16, 2002, from http://www.ibbotson.com/content/kc_published_research_search.asp?catalog=Article&category=Cost%20of%20Capital&prodID=ARTC61920021

Barad, M. W., and McDowell, T. (August 2002). Capturing industry risk in a buildup model. *Business Valuation Alert.* Retrieved December 16, 2003, from http://www.ibbotson.com/content/kc_published_research_search.asp?catalog=Article&category=Cost%20of%20Capital&prodID=ARTC82120021

Barrows, C. W., and Naka, A. (1994). Use of macroeconomic variables to evaluate selected hospitality stock returns in the U.S. *International Journal of Hospitality Management*, *13*(2), 119–128.

Barth, M. E., Clement, M. B., Foster, G., and Kasznik, R. (1998). Brand values and capital market valuation. *Review of Accounting Studies*, *3*(1/2), 41–68.

Bekaert, G., and Harvey, C. R. (2002). *Research in emerging markets finance: looking into the future*. Working Paper, Duke University, Durham, NC.

Bettis, R. (1983). Modern financial theory, corporate strategy and public policy: Three conundrums. *Academy of Management Review*, *8*, 406–414.

Bloxham, E. (2003). *Economic Value Management: Applications and Techniques*. Hoboken, NJ: Wiley.

Caroll, C., and Sikich, F. J. P. (1999). What is your IRR on human capital? *Bottomline*, *14*(10), 8–12.

Chatterjee, S., Lubatkin, M., and Schulze, W. (1999). Towards a strategic theory of risk premium: Moving beyond CAPM. *Academy of Management Review*, *24*(3), 556–567.

Chen, M. H., Kim, W. G., and Kim, H. J. (2005). The impact of macroeconomic and non-macroeconomic forces on hotel stock returns. *International Journal of Hospitality Management*, *24*(2), 243–258.

Chen, N., Roll, R., and Ross, S. A. (1986). Economic forces and the stock market. *Journal of Business*, *59*(3), 383–403.

Choi, J. G. (1999). The *Restaurant Industry, Business Cycles, Strategies, Financial Practices, Economic Indicators, and Forecasting*. Unpublished Dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Connolly, D. (1999). *Understanding Information Technology Investment Decision Making in the Context of Hotel Global Distribution Systems: A Multiple-case Study*. Unpublished Dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Constantinides, G. M. (1986). Capital market equilibrium with transaction costs. *Journal of Political Economy*, *94*, 842–862.

Copeland, T., Koller, T., and Murrin, J. (2000). *Valuation: Measuring and Managing the Value of Companies* (3rd ed.). New York: Wiley.

Damodaran, A. (2006). Country default spreads and risk premiums, New York University. Retrieved January 25, 2006, from http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Downe, E. A. (2000). Increasing returns: A theoretical explanation for the demise of beta. *American Business Review*, *18*(1), 86–89.

Fama, E., and French, K. (1992). The cross section of expected stock returns. *Journal of Finance*, *47*(2), 427–465.

Fama, E., and French, K. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, *33*(1), 3–56.

Fama, E., and French, K. (1995). Size and book-to-market factors in earnings and returns. *Journal of Finance*, *50*(1), 131–155.

Fama, E., and French, K. (1997). Industry costs of equity. *Journal of Financial Economics*, *43*(2), 153–193.

Fama, E., and MacBeth, J. D. (1973). Risk, return and equilibrium: empirical tests. *Journal of Political Economy*, *81*(3), 607–636.

Fama, E. F., and Gibbons, M. R. (1984). A comparison of inflation forecasts. *Journal of Monetary Economics*, *13*, 327–348.

Fields, B. J., and Kwansa, F. A. (1993). Analysis of pure play technique in the hospitality industry. *International Journal of Hospitality Management*, *12*(3), 271–287.

Fuentes, M., and Godoy, S. (2005). *Sovereign Spreads in Emerging Markets: A Principal Components Analysis*, Working Paper No. 333, Central Bank of Chile, Chile.

Gitman, L. J. (1991). *Principles of Managerial Finance*. New York: Harper Collins.

Goetzmann, W. N. (1996). *Introduction to Investment Theory* (Hyper Textbook). Retrieved October 30, 2003, from http://viking.som.yale.edu/will/finman540/classnotes/notes.html

Gordon, M. (1962). *The Investment, Financing, and Valuation of the Corporation*. Homewood, IL: RD Irwin.

Graham, J. R., and Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, *60*(2), 187–243.

Harvey, G. (2005). *Twelve Ways to Calculate the International Cost of Capital*. Working Paper, Duke University, Durham, NC.

Hayn, C. (1989). Tax attributes as determinants of shareholder gains in corporate acquisitions. *Journal of Financial Economics*, *23*, 121–153.

Helfat, C., and Teece, D. J. (1987). Vertical integration and risk reduction. *Journal of Law, Economics, and Organization*, *3*(1), 47–67.

Helfert, E. A. (2003). *Techniques of Financial Analysis: A Guide to Value Creation* (11th ed.). New York: McGraw-Hill/Irvin.

Jagannathan, R., and Wang, Z. (1996). Conditional CAPM and cross section of expected returns. *Journal of Finance*, *51*(1), 3–53.

James, M., and Koller, T. M. (2000). Valuation in emerging markets. *McKinsey Quarterly*, *4*, 78–85.

Jesitus, J. (1991). March 11. Safety and security: Risk management, threat of terrorism top hoteliers' concerns in 1991. *Hotel Motel Management*, *206*(4), 35–36.

Kalafut, P. C., and Low, J. (2001). The value creation index: Quantifying intangible value. *Strategic Leadership*, *29*(5), 9–15.

Kaplan, S. (1989). The effects of management buyouts on operations and value. *Journal of Financial Economics*, *24*, 217–254.

Lakonishok, J., and Shapiro, A. C. (1986). Systematic risk, total risk and size as determinants of stock market returns. *Journal of Banking and Finance*, *10*(1), 115–132.

Lev, B. (2001). *Intangibles: Management, Measurement, and Reporting*. Washington, DC: The Brookings Institution Press.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *Review of Economics and Statistics*, *47*(1), 13–37.

Lubatkin, M. H., and Chatterjee, S. (1994). Extending modern portfolio theory into the domain of corporate diversification: Does it apply? *Academy of Management Journal*, *37*(1), 109–137.

Lubatkin, M. H., and Schulze, W. S. (2003). Risk, strategy, and finance: Unifying two world views (Editorial). *Long Range Planning*, *36*(1), 7–8.

Madanoglu, M., and Olsen, M. D. (2005). Cost of equity conundrum in the lodging industry: A conceptual framework. *International Journal of Hospitality Management*, *24*(4), 493–515.

Markowitz, H. M. (1952). Portfolio selection. *Journal of Finance*, *7*(1), 71–91.

Markowitz, H. M. (1959). *Portfolio Selection: Efficient Diversification of Investments*. New York: Wiley.

Marshall, W., Yawitz, J., and Greenberg, E. (1984). Incentives for diversification and the structure of the conglomerate firm. *Southern Economic Journal*, *51*, 1–23.

Murphy, J. (1990). Assessing the value of brands. *Long Range Planning*, *23*(3), 23–29.

Murphy, K. (2003). *A Proposed Structure for Obtaining Human Resource Intangible Value in Restaurant Organizations Using Economic Value Added*. In the Proceedings of Annual Symposium of Council on Hospitality, Restaurant and Institutional Education, August 6–9, (pp. 301–305). Palm Springs, CA.

Ogier, T., Rugman, J., and Spicer, L. (2004). *The Real Cost of Capital: A Business Field Guide to Better Financial Decisions*. London: Prentice Hall.

Olsen, M. D. (1995). *Into the New Millennium: The IHA White Paper on the Global Hospitality Industry: Events Shaping the Future of the Industry*. Paris: International Hotel Association.

Olsen, M. D. (Conference chair and presenter). (1996). *Global Hotel Finance—The Future*. One-day program co-sponsored by Hong Kong Shanghai Bank Corporation, Deloitte & Touche Consulting Group and Richard Ellis International Property Consultants, October. London, England.

Olsen, M. D. (2000). *Leading Hospitality into the Age of Excellence: Competition and Vision in the Multinational Hotel Industry 1995–2005*. Paris: International Hotel Association.

Olsen, M. D., and Merna, K. M. (1991). March 11. Trends in safety & security. *Hotel and Motel Management*, *206*(4), 35–36.

Olsen, M. D., West, J. J., and Tse, E. C. (1998). *Strategic Management in the Hospitality Industry* (2nd ed.). New York: Wiley.

Prasad, K., and Dev, C. (2000). Managing brand equity: A customer-centric framework for assessing performance. *Cornell Hotel and Restaurant Administration Quarterly*, *41*(3), 22–31.

Prasad, K., and Dev, C. (2002). Model estimates financial impact of guest satisfaction efforts. *Hotel Motel Management*, *217*(14), 23.

Pratt, P. S. (1998). *Cost of Capital: Estimation and Applications*. New York: Wiley.

Reinganum, M. R. (1981). A new empirical perspective on the CAPM. *Journal of Financial and Quantitative Analysis*, *16*(4), 439–462.

Roll, R. R., and Ross, S. A. (1994). On the cross-sectional relation between expected returns and betas. *Journal of Finance*, *49*(1), 101–121.

Rosenberg, B. (1981). The capital asset pricing model and the market model. *Journal of Portfolio Management*, *7*(2), 5–16.

Rosenberg, B., Reid, K., and Lanstein, R. (1985). Persuasive evidence of market inefficiency. *Journal of Portfolio Management*, *11*(1), 9–17.

Ross, S. A. (1976). The arbitrage theory of capital asset pricing. *Journal of Economic Theory*, *13*(3), 341–360.

Sangster, A. (2001). Technology: The importance of technology in the hotel industry. *Travel and Tourism Analyst*, *3*, 43–56.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance*, *19*(3), 425–442.

Sheel, A. (1995). An empirical analysis of anomalies in the relationship between earnings' yield and returns of common stocks: The case of lodging and hotel firms. *Hospitality Research Journal*, *19*(1), 13–24.

Siegel, J. J. (1998). *Stocks for the long run* (2nd ed.). New York: McGraw-Hill.

Simon, C. J., and Sullivan, M. W. (1993). The measurement and determinants of brand equity: A financial approach. *Marketing Science*, *12*(1), 28–52.

Smith, A. (1990). Corporate ownership structure and performance: The case of management buyouts. *Journal of Financial Economics*, *27*, 143–164.

Srivastava, R. K., Shervani, T. A., and Fahey, L. (1998). Market-based assets and shareholder value: A framework for analysis. *Journal of Marketing*, *62*(1), 2–18.

Vancil, R. F. (1987). *Passing the Baton: Managing the Process of CEO Succession*. Boston, MA: Harvard Business School Press.