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Entrepreneur's Dilemma: Hotel Investments in Emerging Markets

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Abstract

Estimating the required rate of return for hotel properties is a daunting task because a lodging property is considered a hybrid between a real estate asset, and a revenue-generating enterprise affiliated with a hotel brand. Computing the expected rate of return for a hotel becomes even more complicated when a third party foreign investor/entrepreneur is the one performing the computation for an investment hotel in an emerging country. This clinical case illustrates the challenges surrounding the estimation of a project's cost of equity in the multinational hotel industry. The results reveal that estimating cost of equity in emerging markets for hotel investments continues to be a conundrum. Future investors should make multiple adjustments and use several models when making their capital investment decisions.

Entrepreneur's Dilemma: Hotel Investments in Emerging Markets

By Melih Madanoglu

Estimating the required rate of return for hotel properties is a daunting task because a lodging property is considered a hybrid between a real estate asset, and a revenue-generating enterprise affiliated with a hotel brand. Computing the expected rate of return for a hotel becomes even more complicated when a third party foreign investor/entrepreneur is the one performing the computation for an investment hotel in an emerging country. This clinical case illustrates the challenges surrounding the estimation of a project's cost of equity in the multinational hotel industry. The results reveal that estimating cost of equity in emerging markets for hotel investments continues to be a conundrum. Future investors should make multiple adjustments and use several models when making their capital investment decisions.

Introduction

In the last decade, the periods of economic growth (2005-2006) and economic recession (2008-2009) had a profound influence on investment activity. On the one hand, in 2006 the U.S. lodging market was a hotbed for mergers and acquisitions (M&A) activity. On the other hand, the Asian market experienced an abundance of hotel openings. All these developments were greeted warmly by Wall Street equity analysts, who viewed them as positive signals about increasing the share price of these companies. However, since major hotel chains are becoming asset-light by primarily managing or franchising their properties (Page, 2007), less is known about how the actual hotel owner or lessor (i.e., the entrepreneur) has estimated the required rate of return of a hotel asset he owns or leases. First, it is not clear how the entrepreneur has estimated the level of cash flows the investment is expected to generate. It is assumed that the expected level of cash flows can be forecasted based on the competitive set or by using "comparables" (hotels in the same price segment) from within the affiliated hotel chain. More importantly, it is even more challenging to decide on the rate at which these cash flows should be discounted to obtain the net present value (NPV) of this project. When a foreign investor makes a capital investment decision in a hotel project affiliated with an international hotel brand, matters become even more complicated. In other words, should the foreign investor look at the local hotel market risk of the local country or should he/she go with the overall risk level of the international hotel chain? This paper aims to answer this dilemma by using various cost of equity models in the context of

emerging markets.

Ogier, Rugman and Spicer (2004) viewed the investment process as analogous to passing through a river as fast as possible while getting minimally wet. This situation is parallel to the world of today's business investments. That is, executives need to make informed decisions prior to embarking on an investment project. More specifically, company executives need to estimate the minimum rate of return their shareholders expect to be compensated for the level of risk they undertake.

The same logic applies when an entrepreneur plans to invest in a project in a foreign country and desires to expatriate profits back to his/her home country. The analysis becomes even more complex when the entrepreneur finances part of the project with a bank loan from his/her own country. In order to focus on the required rate of return (i.e., the cost of equity), this study assumes that the entrepreneur would use 100% equity financing for this hotel project. However, the major complexity of this case study would be that the entrepreneur's property would be affiliated with an international hotel brand whose stock is listed on a stock market in Country A (the United States), while he/she resides in Country B (Thailand), and the prospective hotel would be located in Country C (Turkey).

The purpose of this clinical case is to illustrate the challenges surrounding the estimation of the project's cost of equity in the multinational hotel industry. The case took place at the end of 2005, when a Thai entrepreneur planned to open a luxury hotel in Turkey. The investor's decision rested upon two key attributes:

1) the level of free cash flows the project would generate

2) the discount rate (cost of capital) of this project.

As mentioned before, the key complexity to this case study is that the investor was from Thailand while the investment project was located in Turkey and the parent hotel brand (Four Seasons Hotels & Resorts) was based in North America (headquartered in Canada but listed on stock exchanges in the U.S. and Canada). The inclusion of a third country in this decision-making process raises some questions, such as which market data should be used (Thai, Turkish, or North American) ? Also, how could a potential country-risk premium or exchange-risk premium be added to the required rate of return (cost of equity) of the Thai investor?

It is worth emphasizing that equity capital is generally the most difficult capital to raise, and it is also the most expensive. According to Roos (2004), equity capital is the residual claimant on a project; equity receives the leftover cash flows after all other claims are paid. As a result, de Roos (2004)

maintained that equity participants work hard to understand the precise nature of the risk and returns to their investment.

Fortunately, some major models help equity investors worldwide estimate the risk side of the equation: the Capital Asset Pricing Model (CAPM) of Lintner (1965) and Sharpe (1964), and the Arbitrage Pricing Theory (APT) of Ross (1976). Since these models originated in a developed equity market (the United States), they are still difficult to apply in emerging country contexts. One of the ways to ameliorate some of the shortcomings of the CAPM and the APT is the implementation of adjustment models specifically developed for emerging markets. The next section provides an overview of the common cost of equity models and cites some relevant studies from the hospitality management field.

Cost of Equity Models

The Capital Asset Pricing Model (CAPM)

One of the most popular models for estimating the cost of equity of a given project or a company is the Capital Asset Pricing Model (CAPM) (Lintner 1965; Sharpe 1964). The model has an intuitive appeal to managers because it is based on the assumption of a positive risk-return tradeoff. The model states that the expected return of an asset is determined by three variables: beta (a function of the stock's responsiveness to the overall movements in the market), the risk-free rate of return (generally measured as the 1-month yield of a Treasury bill), and the expected stock market return (Fama & French, 1992). The model assumes that investors are risk averse and, when choosing among portfolios, concerned only 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:

$$E(R_i) = R_f + \ \square * (R_m - R_f)]$$

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

Early practical tests of the CAPM employed by Black, Jensen, and Scholes (1972) and Fama and MacBeth (1973) both supported the theory by reporting a positive relationship between beta and average returns for the period of 1926-68. However, in the past three decades, financial economics literature produced several studies that yielded more disturbing results. Banz (1981) found that market equity (firm size) added to the explanation of the cross section of expected returns, suggesting that beta is not a sufficient statistic to describe the cross-section of expected returns. Similar effects were found for leverage (Bhandari, 1988), the ratio of book value to common equity (Chan, Hamao, & Lakonishok, 1991; Rosenberg, Ried, & Lanstein,

1985), and earnings-price ratios (Basu, 1983). Several other studies (e.g., Lakonishok & Shapiro, 1986; Reinganum, 1981) presented evidence that the positive relationship between beta and returns could not be demonstrated for the period of 1963-90. Particularly over the last ten years, 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 surrogate for the market portfolio, 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. In the restaurant industry, Madanoglu, Erdem, and Gursoy (2008) reported that the CAPM does not provide accurate estimates for the portfolio of small casual-dining restaurants. In another study, Lee and Upneja (2008) showed that using the Implied Cost of Equity (ICE) approach provides more reliable results than the CAPM. While the shortcomings of the CAPM are well documented in and outside of the hospitality industry, it is still prominently used in financial management studies.

Arbitrage Pricing Theory

Another seminal model in finance literature is the Arbitrage Pricing Theory (APT), developed by Ross (1976). Ross (1976) argued that factors other than beta affect the systematic risk. While the CAPM presents the notion that there is one efficient portfolio for every investor in the world, the APT is based on the underlying premise that asset returns, Ri, are generated by a factor model that can be stated as:

$$R_i = E_i + \sum_{j=1}^{k} b_{ij}\delta_j + \varepsilon_i$$

where, R_i is the uncertain return to asset i, E_i is the expected return to asset i, b_{ij} is the factor loading for asset i related to factor j, or asset i's sensitivity to movements in factor j, δ_j is the factor j (j=1, …, k), and ε_i is the error term for asset i. In addition, the model assumes that the factors and error terms have a mean of zero.

As mentioned before, instead of seeking for equilibrium in which all investors hold the same portfolio, the APT argues that in the world of finance an investor faces many possible sources of risk and uncertainty. More specifically, the core assumption of the APT is that security returns are exposed to multiple macroeconomic factors (Vishwanath & Krishnamurti, 2009). The APT contends that these macroeconomic factors can not be

diversified away in a portfolio of stocks. Thus, these macroeconomic factors are priced by the investors because they are source of risk that cannot be diversified away. Hence, investors expect to be compensated for these macroeconomic risks they are exposed to (Goetzmann, 1996).

Since Ross (1976) did not explain exactly what those macroeconomic factors are, there has been a long debate regarding which risk factors are indeed priced by the investors. In 1986, Chen, Roll, and Ross specified five risk factors that influence security returns: a) The industrial production index, which is a measure of the state of the economy based on the actual physical output, b) the short-term interest rate measured by the difference between the yield on Treasury bills and the Consumer Price Index (CPI), c) short-term inflation, measured by unexpected changes in CPI, d) long-term inflation, measured as the difference between the yield to maturity on long- and short-term U.S. government bonds, and e) 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).

In the hospitality industry, there is still a scarcity of studies that investigate how macroeconomic variables affect security returns. The very first study, conducted by Barrows and Naka in 1994, modified the original five factors of Chen et al. (1986). Barrows and Naka (1994) reported that none of the five macroeconomic factors was significant in explaining the variance of hotel stocks at the .05 level. The five APT factors accounted for 7.8% of the variance in lodging stocks. The regression analysis indicated that three variables (namely, expected inflation, money supply, and domestic consumption) had a significant effect on the variation of the stock returns in the restaurant industry. The APT explained 12% of the variance in the restaurant stocks. The second study was undertaken by Chen, Kim, and Kim (2005), who used hotel stocks listed on the Taiwan Stock Exchange. The macroeconomic variables included in their study were industrial production (IP), consumer price index (CPI), unemployment rate (UEP), money supply (M2), 10-year Government bond yield (LGB), and 3-month Treasury bill rate (TB). These variables explained merely 8% of the variation in hotel stock returns. Two of these variables (money supply and employment) had a significant relationship with the stock returns (p<.05). Change in money supply had a positive relationship with hotel stock returns; whereas, change in the unemployment rate had a negative association with lodging returns.

Adjustment Models

In emerging markets, when the CAPM and APT do not provide reliable estimates, investors need to use adjustment models. Generally, these adjustment models can be economically justified, but these models lack theoretical grounding. This is because practitioners cannot easily adopt

models from academic literature; a universal asset pricing model is not available (Andrade, 2009).

The starting point for the adjustment models is to assess 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 the local market return. The local expected return is the product of the local beta times the local market risk premium (Bekaert & Harvey, 2002).

Bekaert and Harvey (2002) developed a modified model after researching eighteen 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, the context of this case study –Turkey– is one of the countries whose market correlation with MSCI World Index increased from less that .10 to over .35. By virtue of this increase, Turkey may be considered an integrated capital market, where the expected return is determined by the beta 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 & Harvey, 2002).

When the integrated markets assumption does not hold, investment banks and consulting firms tend to employ a method called the Sovereign Spread Model (Goldman Model). This is conducted by regressing an individual stock against the Standard and Poor's 500 index returns to obtain the risk premium. Then, an additional "factor" is added, which is labeled the "sovereign spread" (SS). This spread between the country's government bond yield denominated in U.S. dollars and the U.S. Treasury bond yield is "added in." The bond spread serves to compensate for an "unreasonably low" country risk premium (Harvey, 2005).

Method

Sample and Data

This paper is structured as a piece of a clinical case study. That is, it is a work in which a small number of events are researched more intensively and in-depth (Tufano, 2001). The present study uses two different sub-samples. The first sub-sample is represented by a single company, the Four Seasons Hotels and Resorts, which is listed on the New York Stock Exchange. The second sub-sample is the Tourism Index (composed of seven tourism stocks) of the Istanbul Stock Exchange (ISE), in Turkey. The empirical observation period in this study is the five-year period between 2001 and 2005. Stock data were obtained from the Center for Research in Security Prices (CRSP), at the University of Chicago. The Turkish stock return data comes from brokerage houses in Turkey.

In line with suggestions made by Annin (1997), and Barad and McDowell (2002), a minimum of thirty-six months' stock market trading was the criterion for a hospitality firm to be included in the Turkish Tourism Index. In addition, the value-weight CRSP index (which includes NYSE, AMEX, and NASDAQ stocks) was used as a market portfolio index for the U.S. This is in congruence with the previous seminal studies related to asset pricing models (Fama & French, 1992, 1993, 1997; Jagganathan & Wang, 1996). On the other hand, the IMKB Ulusal 100 Index was utilized as a market portfolio for Turkey.

Beta was computed by regressing excess return of the Four Seasons and Turkish Tourism Index over the excess market return. Excess market return (market risk premium (MRP)) for the U.S. was computed by subtracting one-month's Treasury bill rate from the monthly value-weighted CRSP index return. For Turkey, MRP was calculated by subtracting the Turkish Government's Treasury Bill from the monthly IMKB Ulusal 100 index return.

The data for the five APT variables were obtained from Global Insight Database. The APT variables were calculated as in Chen et al. (1986). Expected inflation was estimated following the method of Fama and Gibbons (1984). Country risk premium was adapted from Aswath Damodaran, at New York University. Damodaran (2006) explained the estimation procedure as follows: "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 (U.S. 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 U.S. historical data) to estimate the total risk premium."

Estimation Approaches

The present paper uses two different approaches to estimate the expected return (indirect and direct):

a) *Indirect approach*

In this method, first the required rate of return is computed for the U.S. for a stock (in this case Four Seasons) by averaging out estimates for the CAPM and APT. Then, an adjustment for country risks of Turkey and Thailand is made based on Moody's country risk ratings, as reported by Damodaran (2006).

b) *Direct Approach*

In the direct approach, an estimation of the nominal required rate of return for the portfolio of Turkish tourism and hospitality stocks is applied. As a next step, the author makes an adjustment for the sovereign spreads of Turkey and Thailand, since it is assumed that the Thai investor will repatriate cash flows to his/her home country.

Results

The Indirect Approach

As mentioned, the indirect approach assumes that the Turkish Stock Market is integrated; thus using the U.S. Market Indices for Four Seasons is equivalent to using IMKB Ulusal 100 for the Turkish Tourism portfolio. First, a regression of the monthly returns of Four Seasons over the CRSP Value Weighted Return for the 2001-2005 period was run. The results in Table 1 show that the beta for Four Seasons was 1.6, and the CAPM explained over half of the variation in the stock returns of Four Seasons (R^2 = 56.8%). Next, a calculation of the five-year annualized return for CRSP to estimate the market risk premium was conducted. The five-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 based on the CAPM is as follows:

$$E(R_i) = 2.1 + 1.6 * (4.3\text{-}2.1) = 5.4\%$$

Table 1
Results for the CAPM and APT

Model	Variable	β	SE	t
CAPM	Beta	1.640	.211	7.773*
				R^2 = .568*
APT	IP	-1.129	.939	-1.203
	UPR	-10.937	4.766	-2.295*
	UTS	-3.039	4.041	-.752
	UI	-58.599	56.602	-1.035
				R^2 =.208

Notes: IP= Industrial Production, UPR= Default Risk,
UTS=Term Structure, UI= Unanticipated Inflation,
EI= Expected Inflation, SE=Standard Error
* Denotes significance at the .05 level

In an effort to have less biased estimates, the APT was used to calculate the expected return for Four Seasons. The results revealed that only the default risk variable (UPR) was significant at the .05 level. Jointly the APT variables did not explain a significant portion of the stock return variation in Four Seasons ($R^2 = 20.8\%$, ns) (See Table 1). The negative coefficient for the UPR precluded the author from using this variable in the cost of equity estimations. Otherwise, the use of the UPR would produce a negative expected return based for Four Seasons with the APT. As a consequence, the cost of equity estimate with the APT was not included in the final cost of equity computations.

Consequently, the author of this study employed the CAPM's estimate of 5.4% and adjusted it with the country risk of Turkey and Thailand. According to Damodaran (2006), the historical risk premium for the U.S. is 4.80%, while Turkey's country risk premium is 5.60%, above the U.S. risk premium. The risk premium of Thailand is 1.65% above the risk premium of the U.S. This denotes that Turkey's country risk premium is 3.95% over Thailand (5.60% less 1.65%). These figures produce an expected return of 9.35% (5.4% + 3.95%) for the Thai entrepreneur undertaking an equity investment in Turkey.

The Direct Approach

In this approach, the monthly return of the Turkish Tourism Index was regressed over the return of the IMKB Ulusal 100. The beta for the Tourism Index was merely 0.17. The five-year average for the risk-free rate (Turkish government's Treasury bill) 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 yielded the following results:

$$ER(i) = 37.7 + 0.17 * (46.4 - 37.7) = 37.7 + 1.5 = 39.2\%$$

It was assumed that the expected return of prospective Four Seasons property in Turkey would be identical to the Turkish Tourism Index. The next step entailed the addition of the sovereign spread between Thailand and Turkey. The sovereign spreads came from the study of Fuentes and Godoy (2005). The spread for Turkey was 11.875%, and for Thailand the spread was 7.750%. The difference between the two spreads was 4.1%. Based on these figures, the cost of equity estimate for the direct approach was 43.3% (39.2% + 4.1%).

Alternative Analysis

Due to the shortcomings of the CAPM, Fama and French (1993) put forward a three-factor model (hereafter, the Fama-French (FF) Model),

which augments beta with the size and financial distress factors. The size factor is denoted as small-minus-big premium (SMB), 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). High minus low (HML) is the average return on two value portfolios minus the average return on two growth portfolios (Fama & French, 1993). High BE/ME (value) stocks are associated with distress that produces persistently low earnings on book equity that result in low stock prices.

The FF model was not included in the main analysis because the SMB and HML portfolio returns are not readily available for Turkey. As a result, this study used the monthly returns from the Dow Jones Lodging Index as a proxy for the U.S. hotel industry returns. The findings demonstrated that the FF model explained approximately 65% of the variation in stock returns ($p < .05$). All three factors (i.e., beta, SMB and HML) were significant at the .05 level. The cost of equity with the FF model for US lodging stocks was 17.12%. Once the country risk premium (3.95%) was added, the total discount rate for the project was 21.07. As can be seen here, the FF model gives a more realistic cost of equity estimate compared to the CAPM and the APT.

Limitations

The findings of this study come with some considerable drawbacks. First, the beta estimate for a single firm is likely to be exposed to some statistical noise. However, even when a portfolio approach was used in Turkey, the estimation of the cost of equity was still a very difficult task. In addition, the trading returns of Four Seasons' stock in Canada are not included in this study because Four Seasons reports its financial results in U.S. dollars. Another important limitation is that sovereign spreads and country risk premiums are primarily related to default risk. In the present case study, the default risk carries less relevance since the investor does not seek a bank loan. Last, the present study did not control for currency exchange risk, which may have had an influence on the expected return of the hotel project.

Discussion

The findings show that the expected returns for the hotel investment in Turkey varied widely. One of the main reasons for this stark difference is the high historical inflation in Turkey. This is clearly demonstrated by the gap in the Treasury bill rates for this country (82.3% for 2001, and 16.3% for 2005). Hence, if a hypothetical investor elects to use the "going-rate" for the risk-free rate (i.e., 16.3%), then the new expected return

for the Turkish Tourism portfolio would be much lower than the original cost of equity (43.3%).

Capital markets view hospitality projects as inherently riskier than other real estate investments (de Roos, 2004). However, in this study the direct approach produced a very low beta for the Turkish Tourism portfolio (0.17). Does this mean that the tourism portfolio is almost six times less risky than the overall ISE index? What if the real risk of tourism stocks is twice as high as the market? This scenario is quite likely since North American data indicated that the beta for Four Seasons in the U.S. was 1.6. If that is the case, then the Thai investor should require a rate of return of more than 50%. If so, how can the investor hedge his investment risk against the large swings in the cost of equity estimates? While these thought-provoking questions are left to be answered in future studies, the present findings tell us that present financial models fall short of reflecting the realities of the hotel investments in emerging markets.

The attempt to use Four Seasons' market data and then extrapolate these return estimates into the Turkish market is another formidable task. This is evidenced by the effort to use the average estimates of the CAPM and APT to obtain a baseline expected return for Four Seasons. However, the abysmal results provided by the APT lead to a single solution: to rely on the CAPM to produce a baseline estimate and then adjust this figure based on other types of risks (credit risk, exchange risk, political risk, etc.). One bit of positive news pertaining to cost of equity is that models such as the FF model or Carhart's four-factor model (which consists of beta, the two Fama-French factors and the momentum factor [up minus down] [UMD] [Carhart 1997]) may provide more realistic cost of equity estimates in emerging markets. For instance, the alternative analysis showed that the expected return with the FF model was more realistic than the CAPM and the APT. However, the FF model is still not easy to apply in emerging markets.

As the results indicated thus far, cost of equity estimations for hotel investments in emerging markets are still beset with uncertainty. The major shortcomings stem from the challenge of applying the seminal models, such as the CAPM and APT. The second set of issues arises when countries such as Turkey tend to have high historical rates of inflation but more recently apply disciplined fiscal reforms to curb inflation. Thus, should an investor use the historical data or should he/she try to forecast the future "forward-looking" interest rates in Turkey? In the case of Turkey, the author of this study contends that investors should have some forward-looking estimates due to the downward trend of inflation in Turkey. Otherwise, the required rate of return of the project may be overestimated. Given the issues mentioned above, investors should go back to basics and use basic models such as the Internal Rate of Return (IRR). Consequently, entrepreneurs may

calculate the discount rate at which the NPV of the project will be zero as a safety net in their decision- making process.

Recommendations and Implications

This study has several implications for practitioners and researchers. First and foremost, future entrepreneurs/investors should employ multiple financial models and use these models' average estimate to obtain a more reliable value for the cost of equity capital. It may be plausible to use Carhart's four-factor model (Carhart 1997) or the ICE approach used in hospitality management by Lee and Upneja (2008). It is also suggested that investors should try to use forward-looking analyst estimates (*ex ante*) instead of historical *(ex post)* market data. Special care should be exercised when dealing with countries which have historically high inflation (e.g., Turkey, Brazil, and Argentina).

While this study focused on the denominator of the NPV calculation, investors should be conservative both about expected cash flows and the cost of equity to prevent a possible project default. In addition, cost of equity should be estimated by using comparables or a competitive set approach. That is, investors should calculate the cost of equity for a minimum of three or four hotel corporations and use the average cost of equity estimate as the expected return for their hotel project. When the sample size of referenced hotels is small, one should use firms from other closely related industries, such as real estate, tourism, and travel. Last, other contextual risk factors that are idiosyncratic to the investment project, such as liquidity and political instability, should be considered prior to making the final equity investment decision.

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