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MASTER'S THESIS

VALUATION OF FIRMS IN THE HOSPITALITY INDUSTRY

Ljubljana, September 2015 SARA BOSIGER

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INTRODUCTION

Accounting for 30 % of the world's export of services and 6 % of overall exports of goods and services, World Tourism Organization agency (2015, p. 1, 4-5) is ranking international tourism (travel and passenger transport) recently at fourth place close to automotive products and after fuels, chemicals, and food. After experienced continuous expansion and diversification, tourism receipts earned with spending on products (accommodation, food and drink, entertainment, shopping, and other services and goods) by destinations worldwide reached an estimated US$ 1,245 billion (euro 937 bn) in 2014, which is around 4.5 times level of fifteen years ago by US$ 271 billion (euro 213 bn). International tourist arrivals (overnight arrivals) has showed uninterrupted growth over the past decades from 25 million globally in 1950 to 278 million in 1980, 527 million in 1995 and outstanding 1,135 million last year. Reacting on rapid growth and globalization of tourism sector, great diversity of different type of accommodations according to size were expanding greatly in 1940s in the North America market, following twenty to thirty years later by European hotel companies.

After moving nature of hotel ownership from family craftsmanship to rising sophisticated owners – darlings of Wall Street (Real Estate Investment Trusts, hereinafter: REITs; Private Equity Funds, hereinafter: PEFs) as many erupting events (stock-market bubble, 9/11, mad cow disease, economic slowdown, and falling demand compared to increased supply of rooms resulting from the Gulf War in the North American market) last couple of years, we are witnessing today many operating hospitality companies such as Hilton Worldwide Holdings, Hyatt Hotels Corporation, Marriott International, Wyndham Worldwide Corporation, Starwood Hotels, & Resorts Worldwide, Inc. with drivers of their growth and profitability based on management contracts, lease, and franchise agreements (Beals, 2006, pp. 301-325). By owning only a small portfolio of hotels together with many properties and rooms under developed different worldwide brands, it gives them huge potential of extracting higher return since lower financial leverage and operating expenditures as focus on marketing, human resources development, technological innovation, and global distribution systems.

Starwood Company and its biggest competitors' (Hilton Worldwide Holdings, Marriott International, and Hyatt Hotels Corporation) market capitalization nowadays on public stock exchanges was worth more than US$ 70 billion on average. With operating revenues around US$ 3.9 billion and number of 126,475 employees on average, they were all reaching operating incomes in a range of 600-700 millions, except for Hyatt Hotels with US$ 310 million (Yahoo Finance – HOT 'Competitors, 2015). Seeing prospects of changes in 21st century hospitality industry going on, intention of master thesis research is to bring closer this rising industry to potential current and future investors as helping them making easier investment decisions in any of international hospitality firm. Since firm value is reflected in

its stock price, by choosing and financial tracking of publicly quoted company - 'Starwood Hotels, & Resorts Worldwide, Inc.' as representative last couple of years compared to industry and its biggest competitors, the main objective of written work is answering on question: 'What main specialties or characteristics are we encountering and defining, when we are using well–known formal financial valuation models for international hospitality company?'.

While describing hospitality business industry there will be mainly references on written text of books and scientific articles by variety of hospitality journals. Given publicly announced annual reports from 2001 forwards of our chosen company on its official website, I will do a clear evaluation of past financial performance with ratio analysis in manner to better project future returns and asses risk. Before getting to know our case study with used valuation estimates, firstly I will follow Penman (2013, pp. 234-256) approach of analysis and reformulation of three major financial statements precisely Statement of Shareholders' Equity, Balance Sheet, and Income Statement, leaving original Cash Flow Statement untouched as it is.

Beside Penman (2013, pp. 234-256) following many other authors as White, Sondhi, & Fried (2003, pp. 683-731) as Palepu, Healy, & Bernard (2000, pp. 10-1:12-21) I will use their clearly described valuation techniques, discounted cash flow valuation model based on cash accounting and the Residual Earnings (hereinafter: 'REs') or Abnormal Earnings Growth (hereinafter 'AEG') model based on accrual accounting. Lastly the Economic Value Added valuation approach is between researchers as Young and O'Byrne (2001, pp.21-112), Kim (2006, pp. 34-49), deRoos and Rushmore (HVS Publications and research, 2015) associated also with hospitality firms, which is defined as the excess return on investment available to shareholders after deducting the risk-adjusted cost of capital, intended to value entire firm. Complementary to all valuation approaches there will be used data of some industry specalists forecasts available on Damodaran, Yahoo, and Bloomberg aggregate data pages.

First chapter is focusing on description of used prospective business valuation models – Discounted Cash Flow valuation models, RE, AEG based model by Edward-Bell-Ohlson (hereinafter: EBO) and lastly Economic Value Added valuation approach. As all of them are designed in the light of valuation of firm and their operations from perspective of future benefits and growth possibilities, their value is drawn up on different input information and assumptions from Dividend / Earnings per Share (hereinafter: DPS, EPS) to free cash flow of company. What kind of lodging facilities with their characteristics are we having in mind, when thinking about hospitality industry is viewed in second chapter together with overview of industry development and recent trends? Third chapter is leading us through our case study – 'Starwood Hotels, & Resorts Worldwide, Inc.', its organizational development, past financial performance, and future perspectives. After used concrete formal valuation models

in practice based on representative, the discussion with crucial findings about it and focus on main research question will give us conclusion points in last chapter of written work.

1 PROSPECTIVE BUSINESS ANALYSIS CONCEPTS

1.1 Risk determinants and firm's required rate of return

As firms market value or its stock price is affected by prospective investors investment interest and their perceived risk by required rate of return on equity, Young and O'Byrne (2001, p. 161-203) are describing the firm required rate of return, namely cost of capital for enterprise operations as an opportunity cost. It reflects the returns investors expect from other investments of similar risk. Since buying shares in a given company is riskier than lending, a company' cost of capital depends of its capital structure, reflecting not only equity financing but also lending activities.

1.1.1 The cost of capital for debt

The cost of capital for debt or required rate of return on net debt (ρ_D) is after-tax weighted average nominal cost of all net financial obligations.

1.1.2 The cost of equity capital

Just as the payoffs of shareholders investing into the company have its operating and financing risks, Penman (2013, pp. 445-450) defined that required rate of return on equity (ρ_E) has both mentioned components (Equation 1). The first component is the risk the operations impose on the shareholder as its required return is the cost of capital for operations (ρ_F). Not very often, but in case if the firm is not having any debt at all, the cost of equity capital is equal to the cost of capital for operations, that is $\rho_E = \rho_F$. But otherwise the second component (Equation 1) comes into the play since this is additional required return for equity due to company financing activities. This premium for financing risk depends on the amount of net debt relative to market value of equity (the financial leverage - V_0^D/V_0^E) as also spread between the required rate of return for operations and that for debt ($\rho_F - \rho_D$).

$$\rho_E = \rho_F + \frac{V_0^D}{V_0^E}(\rho_F - \rho_D) \quad (1)$$

Other commonly used model in finance theory to describe the risk–return trade-off relationship in stock investments is Capital Asset Pricing Model (hereinafter: CAPM). The CAPM (Equation 2) characterizes the expected required rate of return on a risky assets ($E(R_i)$) as a stock by two components: the risk-free rate of return (R_f), which is compensating for delaying consumption and the risk premium to compensate for bearing the risk. Risk premium should be measured in a portfolio sense and is the excess market return over the risk–free rate ($\left[(R_m) - R_f\right]$) multiplied by beta (β_i), the level of the market–related risk or systematic risk for the specific asset or stock (White et al., 2003, pp. 167-168).

$$E(R_i) = R_f + \beta_i\left[(R_m) - R_f\right] \quad (2)$$

While systematic risk of overall market is faced by portion of uncertainty due to determinants facing all firms as the business cycle, interest rates, inflation, and so on, investors can diversify away from unsystematic risk, the uncertainty specific to a given firm by holding well-diversified portfolio. Gu (2006, pp 383-397) has investigated relevant non-diversifiable and market–related systematic risk by operating and financial variables. Specifically at three different sectors of casino, restaurant companies, and hotel REITs in the hospitality industry, he was focusing with multiple–regression model on relationship between beta (dependent variable) and its other independent variables as liquidity, debt leverage, efficiency, profitability, dividend payout, firm size, and growth variables.

The firms' beta determinants differed across sectors within the same industry. The casino and restaurant sectors had assets turnover negatively and significantly correlated with beta, suggesting that firms with lower systematic risk are raising their efficiency of existing assets, meaning that they use their available assets to generate more revenues. On the other hand REITs observed were deserving attention on three significant variables.

Capitalization, measuring the firm size with number of outstanding shares and closing stock price at the end of the year, was negatively and significantly related with beta, suggesting that large hotel REITs are less risky in terms of their covariance with the market. The positive and significant correlation between beta and debt ratio, measured by ratio of total debt to total assets, was obviously noting that company's usage of lower level of debt could help reduce the systematic risk of a hotel REITs. And lastly hotel REITs with results of positive correlation for asset growth, measured by the average annual growth rate in total assets over

the study period, may carry lower systematic risk since they are pursuing conservative growth.

1.2 Discounted cash flow valuation models

Assigning value to the firm or its components based on the usage of Cash Flows information's from its publicly announced Cash Flow Statement is known as the Discounted Cash Flow (hereinafter: DCF) valuation approach. Under DCF model value (Equation 3) is determined as the present value of expected future cash flows over a time period horizon of n years (CF_i) and its terminal value (V_n). Cash Flow returns itself are related to risk and their impact on the discount factor (ρ_F – the firm's required rate of return or cost of capital for operations).

$$V_0 = \sum_{i=1}^{n} \frac{CF_i}{\rho_F^i} + \frac{V_n}{\rho_F^n} \; where \; \rho_F = (1 + r) \tag{3}$$

Within the firm engagement in different financing, investing and operating activities as connection by suppliers of capital (debt and equity) to the firm, various measure techniques are defining the cash flows as streams of future dividends, earnings, or free cash flows.

1.2.1 Dividend – based model

Dividends are cash payoffs from a company since shareholders hold their financial claims on a firm's equity. Thinking about firm's equity, shareholders market value of stock (Equation 4) equals the present value of all future dividends (D_i), including any liquidating and terminating dividend at the end of T periods (P_T), discounted by the cost of equity (ρ_E) - required rate of return based on the firm's risk class (White et al., 2003, pp. 683-731).

$$P_0(V_0^E) = \sum_{i=1}^{T} \frac{D_i}{\rho_E^i} + \frac{P_T}{\rho_E^T} \; where \; P_T = \sum_{j=1}^{\infty} \frac{D_{T+j}}{\rho_E^{T+j}} \tag{4}$$

Forecasting dividends to infinity is almost impossible, but different payout patterns over the foreseeable future of growth or no-growth could be assumed. So for a firm with a constant

expected dividend growth rate (g), Dividend Discount model (Palepu et al., 2000, pp. 11-1:11-21) rephrases to (Equation 5):

$$P_0\left(V_0^E\right) = \frac{D_0(1+g)}{\rho_E - g} = \frac{D_1}{\rho_E - g} \tag{5}$$

When a firm is paying out fixed dividend of its available earnings, its payout is tied to the value generation and the pattern of dividends up to the terminal (liquidating) value is relevant. Since some firms pay a lot of dividends others without payout reinvest all funds available to them in expectations of higher future growth. So value accumulation comes within the firm in form of reinvested earnings. Taking into consideration dividend payouts or one hundred percent retention ratio, alternatively many financial critiques of Dividend Discount model are thinking about dividends more as distributions of value, allocations to different claimants than a creation of value (White et al., 2003, pp. 683-731).

1.2.2 Free cash flow valuation approach

When the valuation objective is the firm (enterprise value), the Free Cash Flow (hereinafter: FCF) is defined as the cash available to debt and equity holders after firms cash investments ($C_T - I_T$). Referring to the value of the firm under DCF analysis calculation, the present value of the equity (Equation 6) is proceed by forecasting the cash flowing from its investing (I_T) and operating activities (C_T) to a forecast horizon with its expected continuing value pattern (CV_T) after time period horizon of T years, discounted by firm' required rate of return (ρ_F), and consequently followed by deducting the claimants' cash flow value of net debt (V_0^D). Net debt is the debt the firm holds as liabilities less any debt investments that the firm holds as assets. Typically reported debt on the Balance Sheet is close to market value, so it is common to subtract the book value of net debt (Penman, 2013, pp. 100-130).

$$P_0(V_0^E) = \frac{C_1 - I_1}{\rho_F} - \frac{C_2 - I_2}{\rho_F} - \frac{C_3 - I_3}{\rho_F} + \frac{C_T - I_T}{\rho_F^T} + \frac{CV_T}{\rho_F^T} - V_0^D \tag{6}$$

What is treated as operating/investment or financing activity is not so obvious and White et al. (2003, pp. 702-704) constructs adjusted cash flow from operations (Net Operating Income plus adjustments), which is not the same cash flow from operations reported in the Statement of Cash Flow. Especially recognizing off-balance sheet debt should be focused on. One of them mostly viewed are operating leases, which should be capitalized and treated as debt,

while they are reducing the FCF at the time the lease is entered into. Capitalized interest expense also should be removed from cash for investment and added to FCF.

While cash flow from operations is mainly value flowing into the firm from selling products or services but at the same time reduced by cash investments, the FCF approach is not without problems. Even if the firm is investing for positive net present value projects in anticipation of future growth and is adding value to shareholders, its FCF could appear negative. Reasons for bad investment appearance is, that firm invests more cash in operations than it takes in from its operations. Since FCF is actually equal to enterprises financing flow, representing stock and debt issues as repurchases and dividends payouts, FCF concerns the distribution of firm wealth rather than generation of wealth (Penman, 2013, pp. 100-130).

1.3 The abnormal earnings or discounted EBO model

Developed on the ground of work of EBO, the residual or abnormal earnings model transforms dividend discount model into a valuation approach of the value of equity (Equation 7) based on current book value of equity (B_0) and abnormal earnings ($Earn_t - (\rho_E - 1) \bullet B_{t-1}$), discounted by required rate of return on equity (ρ_E). With use of analysts forecast of future earnings for a few years and consequently estimated terminal value, the model works on the clean surplus relation since it connects to the link between book value and dividends. Based on the accounting identity current book value of equity (B_0) should be equal to the value of previous year book value, adjusted for receiving earnings and net dividends payed out (White et al., 2003, pp. 705-714).

$$P_0\left(V_0^E\right) = B_0 + \sum_{j=1}^{T} \frac{\left[ROCE_j - (\rho_E - 1)\right] \bullet B_{j-1}}{\rho_E^j} + \frac{\left[P_T\left(V_T^E\right) - B_T\right]}{\rho_j^T} \qquad (7)$$

$$where\ Earn_t - (\rho_E - 1) \bullet B_{t-1} = \left[ROCE_j - (\rho_E - 1)\right] \bullet B_{j-1}$$

Both REs drivers, the rate of Return on Common Shareholders Equity (hereinafter: ROCE, $ROCE_t = Earn_t/B_{t-1}$) and the amount of the book value of the equity investment (assets minus liabilities, or net assets) are essentially value drivers. Since for a given higher ROCE than the required rate of return on equity (ρ_E), a firm will add more value with more investments earning at that ROCE.

Even if firms are adding value to shareholders unlikely it is to follow former practice to infinity as establish additional sources of abnormal profits would eventually earn at a normal rate of return and REs would approach to zero. Technically, the last expression of Equation 7, intrinsic premium over book value at the end of finite horizon T $\left(\left[P_T\left(V_0^E\right) - B_T\right]\right)$ should disappear. One reason for convergence is as competitors enter business segments with abnormal profits, firms with extreme positions are getting closer towards an overall industry mean approximately within five years (White et al., 2003, pp. 705-714). Although REs are not affected by dividends, share issues, and share repurchases at fair value, Penman (2013, pp. 140-166) reflects on this model more as a strategy analysis tool. In a way firms can increase value by adopting strategies that can earn at an ROCE above the required return, which is what any business is all about.

Complementing to REs valuation approach and its captured Price-to-Book ratio, the prototype model with captured Price-to-Earnings ratio (Equation 8) is related to both current and future profitability. The central concept of analysis is focusing on AEG (Equation 9) – earnings growth in excess of normal earnings (at the required return) on prior earnings ($\text{Cum dividend earn}_t - \text{Normal earn}_t$). Since future earnings involve not only earnings earned in the firm but also earnings from reinvesting any dividends to be received, analyst must focus also on cum dividend earnings growth beside normal earnings growth (Penman, pp. 178-200).

$$P_0\left(V_0^E\right) = \frac{1}{\rho_E - 1}\left[Earn_1 + \sum_{j=1}^{\infty}\frac{AEG_{j+t}}{\rho_E}\right] \quad if \quad \frac{P_0\left(V_0^E\right)}{Earn_1} = \frac{1}{\rho_E - 1} \tag{8}$$

$$AEG_t = Cum\ dividend\ earn_t - Normal\ earn_t \tag{9}$$

$$= \left[Earn_t + (\rho_E - 1) \bullet D_{t-1}\right] - \rho_E Earn_{t-1}$$

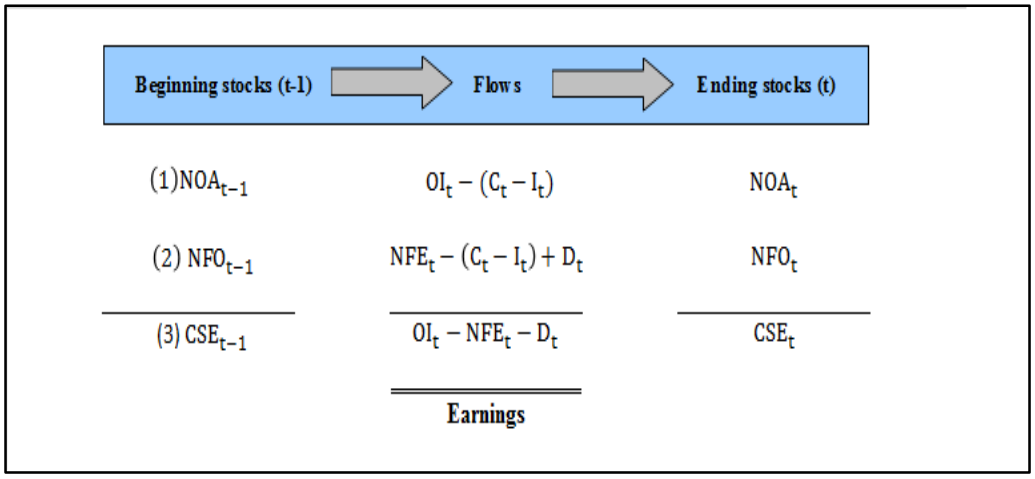
1.4 Value creation and economic value added

Close to earnings–based formulation, equity values can also be estimated as valuing the firms' assets and then deducting its net debt. Palepu et al. (2000, pp. 11-1:11-21) value of the assets, based on the discounted abnormal earnings valuation method, changes by adjusting RE drivers ROCE and the amount of the book value of equity. By representing the true sustainable economic profit or 'Economic Value Added' (hereinafter: EVA), the model restates former with Net Operating Profit (before interest but after tax) and later with the

amount of the book value of firms assets, discounted by firm's required rate of return – cost of capital for enterprise operations (ρ_F). Thinking about that approach it builds directly on accrual accounting.

Compared to cash accounting the aim of accrual accounting is to track the value created for shareholders by being cautious on changes in common shareholders equity driven by Net Operating Assets (hereinafter: NOA) and Net Financial Obligations (hereinafter: NFO). The difference between them (Figure 1) explains their common equity flow and as FCF drops out, the profits from operating activities (Operating Income – hereinafter: OI) and financing activities (Net Financial Expenses – hereinafter: NFE) together result in company earnings (Comprehensive Income), which increases or decreases Common Shareholders Equity (hereinafter: CSE) (Penman, 2013, pp. 234-250).

Figure 1. Change in CSE



Source: S. Penman, *Financial Statement Analysis and Security Valuation*, 2013, p. 248.

Along with earnings and book value generated Balance Sheet, an accounting entity's financial conditions as of particular date are consequently limited by its resources, NOA and its claimants interests of liabilities as stockholders equity. Corresponding to REs measurement approach (Equation 7) in order to get to the company's earnings, residual operating income charges the operating income with a charge for using the NOA (Equation 7) while REs from NFO are residual NFEs (Equation 11), or in a case if the firm has net financial assets its correspondent is residual net financial income.

$$ReOI_t = OI_t - (\rho_F - 1)NOA_{t-1} \tag{10}$$

$$ReNFE_t = NFE_t - (\rho_D - 1)NFO_{t-1} \quad (11)$$

Since the market for debt is highly competitive and efficient, NFO measured at market value on the Balance Sheet are transforming expected residual financial expenses to zero value (discount rate corresponds exactly with the cost of capital). Aligning with former assumption (the present value of enterprise NFO-V_0^{NFO} equals present book value of NFO-NFO_0) the present value of enterprise operations (V_0^{NOA}) is then present value of company NOA (NOA_0) as expected residual operating income (hereinafter: ReOI) from these assets to a forecast horizon ($ReOI_T$) plus a continuing value, that is the value of expected ReOI after horizon (CV_T). Knowing that CSE equals previously defined present value of enterprise operations (V_0^{NOA}) minus present book value of NFO (NFO_0), mentioned model refers to present value of CSE as defined in Equation 12, but discounted by firm's weighted required rate of return (ρ_F).

$$P_0(V_0^E) = NOA_0 + \frac{ReOI_1}{\rho_F^1} + \frac{ReOI_2}{\rho_F^2} + \cdots + \frac{ReOI_T}{\rho_F^T} + \frac{CV_T}{\rho_F^T} - NFO_0 \quad (12)$$

$$where\ \rho_F = \frac{V_0^E}{V_0^{NOA}} \bullet \rho_E + \frac{V_0^D}{V_0^{NOA}} \bullet \rho_D$$

Getting to value added or economic earnings straight forward from reviewed three crucial financial statements (Figure 1) of any company (Balance Sheet, Income Statement and Statement of Stockholders Equity), prepared under accrual accounting with generally accepted accounting principles, can be inadequate. As managers might have a tendency exploiting accounting numbers unfairly there are also some deficiencies of standard financial reporting practice.

Penman (2013, pp. 258-322) is analyzing all three financial statement with some adjustments (Appendix A) as an important preparation step before forecasting, in manner of focus on company operations and its risks with objective of getting closest EVA of any enterprise. As already mentioned in the introduction that process is followed with case study of Starwood Hotels, & Resorts Worldwide, Inc. (Appendix B) and we can see that the company was able to earn positive earnings in general at previous ten years period and was adding economic value to its claimants.

Kim (2006, pp. 34-49) has emphasizes in his empirical study of 89 publicly traded hospitality companies (hotels and motels, eating and drinking places) from Standard & Poor's COMPUSTAT database unsurprisingly, that results do not support the claims that EVA, defined by variables of Net Operating Profit After Tax and economic book value of capital charges, is a better financial tool than traditional accounting measurements in explaining market value. With developed three simple linear regression models EVA, FCF and Earnings (Net Operating Profit after Tax – hereinafter: NOPAT) standardized by capital as multiple-regression model of market value of equity to capital (dependent variable) and its independent variables (standardized EVA, FCF, NOPAT by capital), he recognized that NOPAT and FCF were more highly related with market value rather than EVA.

Reasons for not detecting a stronger relationship between EVA and market could be various. He recognizes mainly three reasons, one of them it is that due to missing data during the test period, making all recommended adjustments to derived NOPAT and invested capital of EVA model wasn't possible. So the preparation step of EVA by Penman (2013, pp. 258-322) or Young and O'Byrne (2001, pp. 206-268) isn't negligible as the scope of adjustments could affect the final value of NOPAT and EVA. Secondly since stock price is greatly influenced by expectations of the future, the market might have failed to recognize the reporting benefit of EVA as it pertains mainly to the past. And lastly the market valuation of companies is not using the charge for capital and accounting adjustments as its stock prices aren't incorporating the current level of EVA and the expectation of future EVA growth.

In contribution to approach of relevant findings of former study, Kim revaluates the EVA approach in cooperation with Lee (2009, pp. 439-445) by applying pooled regression analysis of hospitality industry firms (hotels, restaurants and casinos) market adjusted return (after three months ending accounting period) to its three related measures EVA, refined EVA and market value added, and three traditional accounting performance measures of cash flow from operations, return on assets, and return on equity. Allied with Penman (Equation 12) by showing positive and significant explanatory power of market adjusted return with refined EVA, as the market value of the firm's assets (the market value of the firm's equity plus the book value of the firm's total debt) less non-interest bearing liabilities, and market value added, one can adopt that approach in addition to or without traditional accounting performance measures.

While EVA and all other described valuation techniques are the most appropriate traditionally for applying to value of entire firms in finance theory as our case study, DeRoos and Rushmore (HVS Publications and research, 2015) are extending EVA methodology to single asset valuation - hotel facility ('What is a property worth?'). Based on the example of The Major City Edgemore Hotel they were also focusing on other well established income

capitalization, sales comparison, and cost approaches, appropriate for valuing hotels like any other real estate valuation.

2 HOSPITALITY INDUSTRY AND ITS DEVELOPMENT

2.1 Classification of hospitality industry

The four fundamental components of the tourism industry are destinations, visitor attractions, transportation (travel agents and tour operators) as accommodation and catering. Youell (1998, pp. 27-29) refers to 'hospitality' as the accommodation and catering sector, which provides leisure and business tourists with somewhere to stay ('accommodation or lodging') and sustenance ('catering – food & beverage') while travelling to or staying in their destinations. Hotels as the most common type of commercial accommodation sector, are providing both services compared to catering sector connected only with sustenance (coffee shops, bars, restaurants, etc.).

Accommodation products in general are classified under one of the following categories (Cooper, Fletcher, Fyall, Gilbert, & Wanhill, 2008, pp. 342-365):

1. Fully serviced or partially serviced accommodations: hotels, motels-inns, ryokan–a Japanese-style lodging house, aparthotels, guest houses, bed and breakfast establishments, youth hostels, farm guesthouses.
2. Self-catering accommodations: apartments, country cottages, campus accommodation, camping and static caravan sites, timeshare accommodations.
3. Accommodation support facilities, where provision is made for campers, caravanners, and trailer owners, who bring their own accommodation with them.
4. Accommodation within mobile transportation such as cruise ships, ferries, trains, and airliners.

The major difference between first two groups of accommodation products is, that while fully serviced or partially serviced accommodations provide different services (food & beverage services, valet parking, business center, etc.) along with an overnight stay, self-catering or self-serviced accommodation products are referred to establishments, where the tourist is provided with overnight accommodation but caters for all other needs independently (Youell, 1998, pp. 27-29).

Knowing when one lodging establishment is by type of quality and provided service categorized as hotel, motel, or bed & breakfast establishment is not so obvious and in the most countries the government ministry or department responsible for promoting tourism has established classification rating system. Stutss and Wortman (2006, pp. 11-18) categorize lodging products according to the level of services provided to its guests in a way of limited-service lodging, extended-stay lodging, and full-service lodging facilities with recent time-share lodging facilities.

2.1.1 Limited-service lodging facilities

Traditionally this segment of establishments has been referred to motels, motor or inn hotels and the average length of stay at property is one or two nights. As usually there are few amenities such as bell service and valet parking available with no meeting or banquet facilities at all, food & beverage service is limited to complimentary breakfast or a happy hours (Stutss & Wortman, 2006, pp. 11-18). Segmented into midscale establishments without food and beverage, few know examples of limited-service type of lodging facilities are Hampton Inn, Holiday Inn Express.

2.1.2 Extended-stay lodging facilities

Designed for those business and leisure travelers, who anticipate visiting an area for more than one night, extended-stay facility provides guests with most of the comforts of their own home (apartment-style living with facilities for preparing meals in the room). There may or may not be exercise facilities, a business center, or premium guest amenities and location is typically convenient to guests' desired destinations (Stutts & Wortman, 2006, pp. 11-18). Most known extended-stay hotel companies are Residence inn, Hilton Garden Inn and Extended Stay America.

2.1.3 Full-service lodging facilities

The full service-lodging facilities include the range of different services form the most expensive to least expensive (deluxe, luxury, upscale, and midscale) with premium guest room amenities and toiletries. Offering to guests by one or more restaurants a variety of catering (food & beverage) services, its quality is usually higher than at limited-service or extended-stay service lodging facilities. Beside typically offered room service, guest services (luggage assistance, valet parking, wellness–mind, body & soul services etc.), this type of properties could have also meeting and banquet rooms, a business center, exercise facilities (Stutts & Wortman, 2006, pp. 11-18). With higher staff-to-guest ratio and segment' establishments rated with four or five stars according to the Mobil Travel Guide Lodging

Rating system, some well-known hotel companies are Wyndham, Hyatt, Hilton, Marriott, Inter-Continental as Meriden.

2.1.4 Time-share lodging facilities

As unique type of lodging arrangement time-share lodging segment offers the purchaser the right to use lodging facility equipped with a variety of services (food & beverage etc.) and facilities (swimming pools, whirlpools, spas, sports/recreation) for a set interval (one week, two weeks, etc.) each year. As the purchaser pays a capital sum to acquire the time-share for a lifetime (it become his or her property), then as a time-share owner also pays an annual contribution known as maintenance or management fee (Cooper et al., 2008, p. 350). It additional benefit is a possibility of access to similar properties throughout the world through exchange consortia. Time-share units are most commonly studio, one-bedroom, two-bedroom, or three—bedroom apartment-style accommodations.

2.2 Development and trends of hospitality industry

2.2.1 Development of hospitality industry

Leisure and refreshment were necessary travel requirement since the firstly seen established trading, missionary, and pilgrimage routes in Asia and Europe in pre-Christian times. As reasons for travelling varied due to high humans demand for overnight accommodations with food and beverages, the first commercial guesthouses emerged during the renaissance period mainly in Europe. The basis of such generally non-paying accommodations, mostly private houses, were providing to travelers a roof and sustenance (Cooper et al., 2008, pp. 355-357).

But according to some experts in the tourism in the middle of 16th century, the kind of trips known as ‘Grand Tour’ with purpose of getting to know foreign lands and its people as culture have given name to tourism field in a way (‘Tour’) and left long-term consequences. Travelling in Europe (‘Grand Tour of Europe’) was almost obligatory part of the English nobility education, because on these trips in addition to learning about foreign country, its language and traditions also important was to socialize with other same noble families or with people from higher layers in France, Italy, Germany, and the Netherlands (Bosiger, 2011, pp. 2-4).

With technical progress and improvement means of transport (stagecoach, railway travel, invention of car in 1885) as economic development of 18th and 19th century, the mass travelling due to entertainment was at the forefront and travelling due to educational content

of young noble families 'aristocrats was losing its appeal. By changing content of increasing travel, the enlightenment era stimulated development of the firstly seen coaching inns in Britain to firstly seen large and luxury hotels with coffee shops and restaurants at the major capital cities of the world (Savoy Claridges in London, the Ritz Carlton in Paris, Raffles in Singapore, Waldorf Astoria in New York, etc.).

In many respects these establishments were setting standards of luxury of last decade and nowadays for hospitality industry. As in Europe the concept of professional small family-owned operations developed hand in hand with the tourism sector have grown earlier in the 20th century and is still nowadays strongly present, the American concepts of standardization, risk-avoidance, management and operations ('assets management') has influenced the international accommodation sector (Cooper et al., 2008, pp. 355-357).

2.2.2 Trends of the hospitality industry

Reacting to one of the most miserable vacation trip in his life, Kemmons Wilson entered the lodging industry by the end of 1954 and was creating the first standardized chain operation - Holiday Inn. On the idea of experienced motels of unpredictable quality and services by himself, he developed Holiday Inns by applying strict operating standards and its control. Holiday Inns were offering to frequent traveler common services, prices, and comfortable accommodations. Also Wilson has introduced franchising into lodging industry by expanding overseas (Stutts & Wortman, 2006, pp. 4-7).

Following his foots many other hotel chains or groups (Hilton, Hyatt, InterContinental, Marriott, Accor, etc.), standardized or not, have become an important feature of the American lodging industry and have created the first major wave of internationalization. While Drucker (1999, pp. 3-22) identifies four major motivations (sales expansion, geographic diversification, resource and labor acquisition, worldwide brand recognition) explaining the rapid globalization of the international hospitality industry, Breda and Costa (2013, pp. 137-160) are recognizing that hotel industry predominantly uses in the internationalization process non-equity models (management contracts, franchising agreements, joint ventures, etc.).

Rapid globalization process of last twenty years, increasing international consortia (groups/chains) market share of the bedroom inventory, development of programmatic investing by several financial vehicles as positive tax climate have diversify away the complex nature of owner-operator relationship structure ('asset management') mostly in North America, England and South-East Asia. Parkinson (2006, pp. 326-340) recognizes this necessary and appropriate development in North America and is at the same time

evaluating practice and implementation principles of yet no fully recognized hotel assets management in the European hotel sector.

Viewing these recent trends, Cooper et al. (2008, pp. 345-346) recognizes three major operating models of hospitality hotel companies with various combinations:

1. Hospitality hotel companies might be owner and operator at the same time of the hotels that are marketed under their name or on contrary they may have a part of equity stake in the property (usually known as REITs, PEFs).
2. Alternatively hotel companies might be operator of large number of individual properties, typically at a national or regional level, under the umbrella of an established brand or brands. As part of master franchise arrangement, individual properties or hotels are owned by its franchise' partners.
3. And lastly, hospitality hotel companies might manage the property on behalf of an owner.

Resulting from Real Estate Investment Trusts Act passed in 1960 in North America one of the youngest first model operating companies were hotel REITs, that have evolved into entities that have distinct financial and organizational characteristics from their counterparts hospitality corporations (last two operating models). Since REITs are obligated by distributions of 90 percentage of taxable income to its shareholders, they enjoy tax exempt status. Also to be accepted as REIT, North American Internal Revenue Code requires a firm to maintain at least 75% of total assets in real estate related assets and government securities ('long – term assets').

Tang and Jang (2008, 614-622) were looking closely at relationship between REIT characteristics and counterparts corporations (hereinafter: C-Corps') with developed ordinary least square ('OLS') regression model. By using total assets instead of income to control size influence, it model is defining total assets (dependent variable) of selected 12 hotel REITs and 17 hotel C-Corps to three independent variables of tax-saving ratio, plant, property and equipment ratio, and operating expenses ratio, controlling for dummy variable (REIT-zero and C-Corp-1) and their interaction. Finding out that levels of profitability at REITs are not significantly different from C-Corps, they should be treated more as a hospitality hotel companies as Cooper et al. have suggested.

Due to regulation as different operating and financial characteristics, hospitality hotel company tax–exempt status and mandatory distribution requirements work positively on profitability, but the size of operating expenses is negatively correlated with it. The only

variable that works differently on profitability of former two groups of companies is dividend policy. For the same amount of increase of dividend payout, results are indicating faster growth in return on assets at C-Corps than at REITs. This favorable impact of former groups of companies than later can be explained by the fact, that the reduction of FCF could hinder hotel REITs more than those at C-Corps since its growth relies on asset acquisitions ('debt leverage').

By evaluating systematic risks of REITs and its beta factor from 1993 to 1999, Hyunjoon, Gu, & Matilla (2002, 138-154) were similarly coming to conclusion that systematic risk (beta by CAPM) of hospitality REITs correlates positively with debt leverage and negatively with firm size. Putting growth via mergers and acquisitions into question, not surprisingly new recognized trends were emerging last decade in the hospitality industry. Table 1 shows some of the well-known hospitality companies with most developed last two operating systems besides owning individual properties domestically and abroad.

Table 1. Hospitality companies (July 1999) that manage the most hotels and are leaders in hotel franchises

Company	Total Hotels	Hotels Managed	Number of franchises
Marriott International	1,686	870	753
Bass Hotels and Resorts	2,738	216	2,438
Accor	2,666	368	458
Starwood Hotels, & Resorts Worldwide, Inc.	694	194	280

Source: T. A. Stutss & F. J. Wortman, *Hotel and Lodging Management,* 2006, pp. 250, 257.

2.3 Nature and characteristics of the accommodation products

The main distinctions of hospitality accommodation sector from other industries (Cooper et al., 2008, 352-353) are:

- combination of tangible (physical surroundings, room equipment and its cleanliness, the décor, the location, and perhaps food and beverage prepared and served to guests, etc.) and intangible (advising on choice of menu, massage, giving personal information for example about different events going on, etc.) experiences or performances,

- short duration of services and its immediate perishability,
- strong demand fluctuations of hospitality services.

As guest have different expectations about hospitality services we could argue that any hotel service or other kind of accommodation service consist more of an abstract nature. Particular commercial accommodation, hotel or any other kind with its providing services, could be judged differently through eyes of its guests. Some would value more its tangible aspects other ones would appreciate more given experiences in a restaurant or human aspect of quality of services. Unlike with physical goods, the buyer of hospitality service isn't able to see, taste, and feel it, before the purchase is made. After the limited time of room usage and overnight stay at certain facility the guests aren't left with only an invoice, but they take with them the memories of experiences lived, which could be shared further (Bosiger, 2011, pp. 8-9).

Accommodation in the form of property' rooms or beds, cannot be stored and is in fact immediately perishable. As guests at certain locations demand their given hospitality service suddenly (i.e. guests that come to dine, drink, or wishes to stay request a service immediately or relatively quickly), accommodation if it is not sold a certain place or time for any given night is missed or lost forever. Even if all subsequent nights are full due to a surge in demand, unsatisfied demand can't be replaced and lost revenue from the previous empty night can never be recovered.

Therefore demand plays an especially significant role in the production and delivery of accommodation. Usually a strong surge in demand rhythms takes place as a function of time and place of tourist's guests or groups of business guests. As some accommodation facilities have a high level of capacity utilization during the week since receiving a lot of business travelers, other seasonal accommodation establishments in tourist destinations can be busy during high season and half empty or even closed off season (Cooper et al., 2008, pp. 352-353).

2.3.1 Hospitality hotel companies revenue drivers

As all of the elements of accommodation products have effect on profitability, O'neill and Mattila (2006, pp. 146-154) are dealing closely in their study with profitability of full-service lodging accommodations – hotels. In attempt to find answer to research question – 'What actually drives hotel's profitability?' based on the sample of related characteristics of 1,954 operating hotels in United States, they realize that although occupancy, Average Daily Rate (hereinafter: ADR), and Revenue per Available Room (hereinafter: RevPAR) are explaining a large amount of the variation in a hotel's bottom line Net Operating Income (hereinafter:

NOI), the age of the hotel, the type of the hotel, and its brand affiliation are additionally important factors.

Interestingly they notice that ADR has higher effect on profitability under normal operating conditions such as during 2003 and depends on the state of economy. During the economy slowdowns (i.e. 2002 after 9/11) guests can trade up and stay at the more upscale properties for the price they would have payed previously for lower-tier hotels. That's why occupancy rate is larger contributor to NOI than ADR, particularly under recession conditions. In addition to ADR and occupancy the most profitable type of hotels in their study are the economy hotel type and the least ones midscale hotels with food & beverage. Higher margins and annual growth of RevPAR are also linked to the notion, that well-established brands create financial value.

Not surprisingly to previous findings, Singh and Schmidgall (2002, pp. 201-213) have discovered earlier based on interviews of 500 randomly selected financial executives, that operating and profitability ratios are standing out for lodging managers by different type of ownership and operating structure (independent, franchise, management contracts, chain owned) as opposed to other financial ratios although not negligible. Occupancy, ADR and RevPAR are all crucial operating rooms-related performance measures in a hospitality hotel company.

As a combination calculation of ADR or average room rate and occupancy rate or as independently, Hales (2005, pp. 135-150) thinks of RevPAR (Equation 13) as the best measurement of maximizing total room revenue, because it identifies the hotel's ability to manage both occupancy (rooms sold) and average rate in maximizing room revenues. In tandem with this dimension of room sales performance, RevPAR can be measured slightly different by viewing actual revenue as a percentage of potential revenue, which is generally referred to as 'room yield' by Guilding (2009, pp.86-89).

$$RevPAR = \frac{Total\ room\ revenue}{Total\ hotel\ rooms\ available} \tag{13}$$

$$or\ RevPAR = Occupancy\ Percentage \bullet Average\ Room\ Rate$$

$$where\ Average\ Room\ Rate = \frac{Revenues\ from\ room\ letting}{Numbers\ of\ room\ let}$$

3 CASE STUDY: STARWOOD HOTELS AND RESORTS WORLDWIDE, INC.

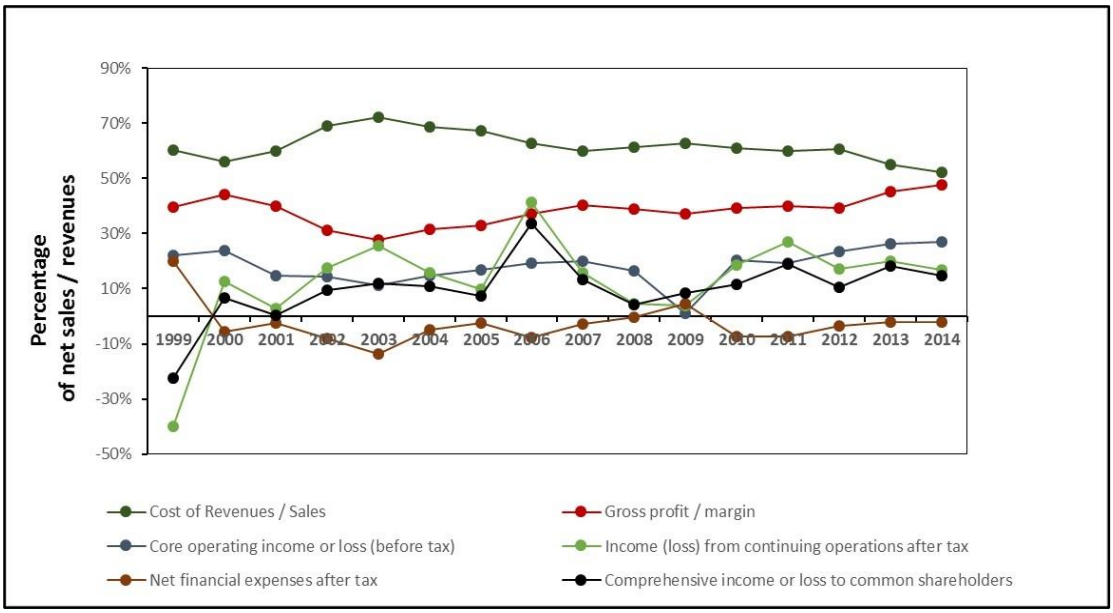
3.1 Development and financial performance of the company

In 1995 Starwood Capital Group ('Starwood Lodging trust'), backed by high net worth of some families and launched by Berry Sternlicht in Chicago, created nowadays known Starwood Hotels, & Resorts Worldwide, Inc. (New York Stock Exchange: HOT) with interest in more than 30 properties. Setting to become global enterprise early on, three years later then Starwood Lodging trust being renamed and reorganized to hospitality corporate enterprise, was completing the acquisition of Westin Hotels, & Resorts in January for US$ 1.8 billion and one month later ITT Sheraton Corporation trust for US$ 14.3 billion.

With adding portfolio of more than 650 hotels and resorts in more than 70 countries, the first W – branded hotel was opening in New York City at December time. Entering time-share lodging industry was followed by acquisition of Vistana, Inc. Company and its reformation to one of the most profitable company segment Starwood Vacation Ownership. Launch of the Starwood Preferred Guest Program to reward and recognize frequent travelers in 1999 as strengthened balance sheet with cash proceeds of US$ 1.1 billion, due to selling of nonstrategic assets mainly in United States (16 hotels) and Italy (5 hotels) following three years period (1999-2003), were helping company to improve their solvency and liquidity position.

Complementary with some of the hospitality guests service products innovations of Westin (cordless phones, duvets, great bars, the Heavenly Bed, Bad and Crib, Westin workout) and Sheraton Sweet Sleeper as the Sheeraton Service Promise, and also expanded brand portfolio of hotels and resorts flagships (St Regis and Luxury Collection, Sheraton, Westin, W, Four Points, Le Méridien and independents), the company was overcoming economic downturn (war, SARS, September 11 attack, etc.) by US$ 1.4 billion in absolute value and was ending fiscal year 2003 with results of comprehensive income of US$ 449 million, which is precisely 11.88% of net sales (Figure 2).

Figure 2. Common – size reformulated income statement



Source: Starwood Hotels, & Resorts Worldwide, Inc. Reformulated Income Statements, *Annual Report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual report 2006; Annual report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014*.

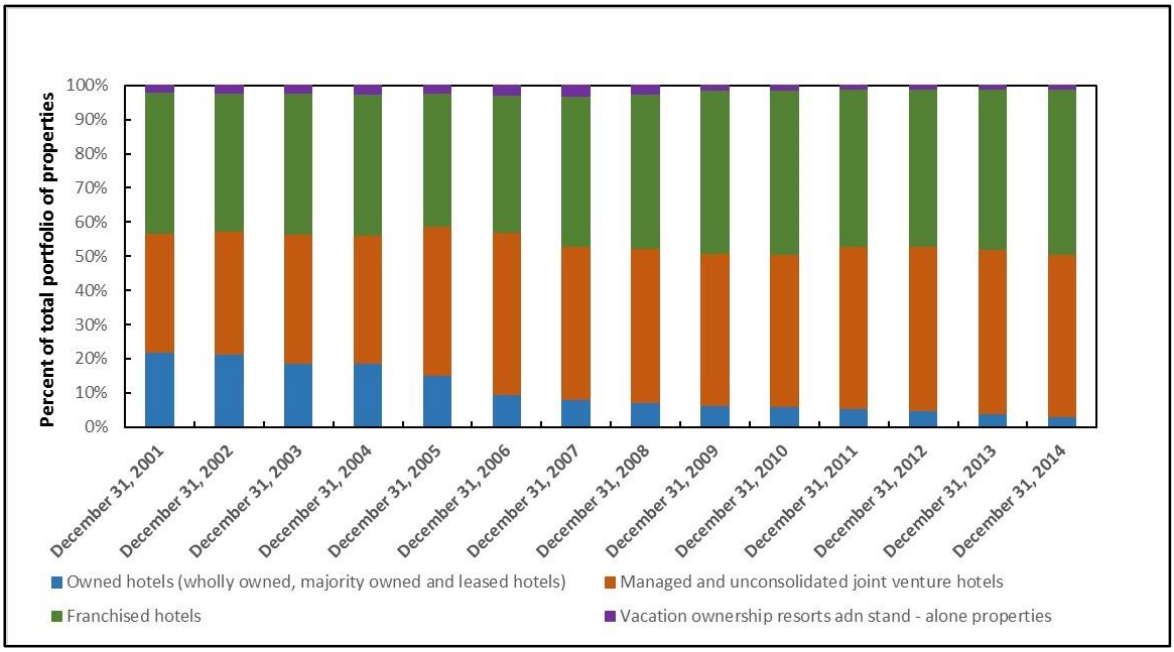
Expanding overseas to Europe and the Middle East for the seven year running in 2006, Starwood acquired the Le Méridien Company in attempt to create new hotels flagships brands following years (Le Méridien, Aloft and Elements hotels) and to share as extend their international hospitality experiences already appreciated by Westin and W hotels.

As hospitality lodging industry was hit hard after 20007, Starwood Company was reevaluating their increasingly large organization with multiple offices and duplicated functions due to past acquisitions. With their Activity Value Analysis ('AVA') focused on strengthening the areas connected with owner's needs and elimination of 100 position in North America division alone as centralization of company activities (human resources, finance function, hotel opening teams, etc.), they were able to reduce operating costs by 45 percentage and earn at fiscal year 2008 US$ 151.9 million or 4.09% of net sales in value of US$ 3,712 million.

Believing that the branded global fee business is one of the most attractive hospitality business model in the world by one of its previous chief executive Frits Van Paaschen, company journey from 2006 onwards was based mainly on assets–light strategy concept. While compared to owning hotels, franchise and management fee driven business is stable, capital efficient as long term, and its growth prospect is driven on three factors: RevPAR growth, unit additions as incentive escalations.

With goal of being 80 % fee driven and consequently by reducing the size of owned hotels as vacation ownership resorts and standalone properties, proportion of franchise hotels in total portfolio of 1,222 properties (354,200 rooms) at year ended 2014 in total was 48.1%, close to share of about 47.7% of managed / unconsolidated joint venture hotels (Figure 3).

Figure 3. Starwood's hotel and vacation ownership properties by type of sources of revenues

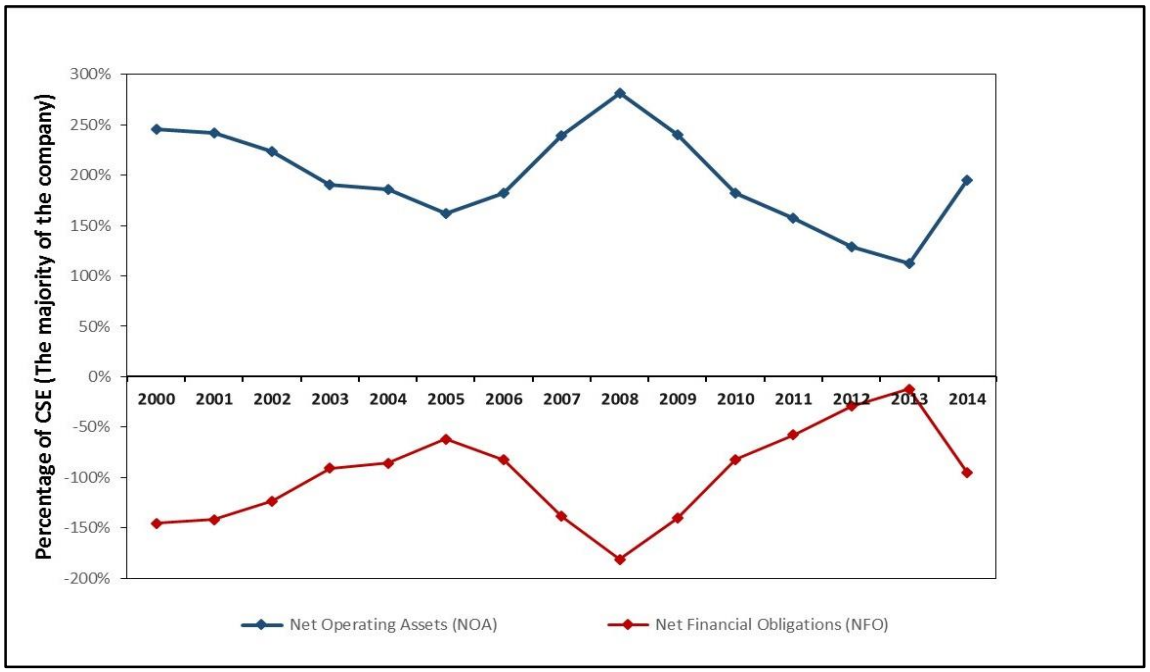


Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual Report 2006; Annual Report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014*.

Looking through the development period company revenue drivers are derived from different sources. Management and franchise fees are representing fees earned on hotels and resorts managed worldwide under long-term contracts. Generally comprised from base fee and incentive fee, where former is based on percentage of gross revenue and later on the property's profitability. On the other hand owned properties (wholly owned, majority owned, and leased hotels) represent revenues earned from essential business hotel operations, including the rental of rooms, food and beverage sales.

So called Starwood five essentials ('Starwood Class Brands', 'Brilliant Execution', 'Global Growth', 'Great Talent', 'Market-Leading Returns') over the last 8 years period were contributing to company generation of cash proceeds and its growth. By reducing its long term debt for US$ 1,192 million over last 7 years, its reformulated common balance sheet at year ended 2014 was comprised of NOA at 195.51% and NFO at negative of 95.51% (Figure 4).

Figure 4. Common–size reformulated balance sheet

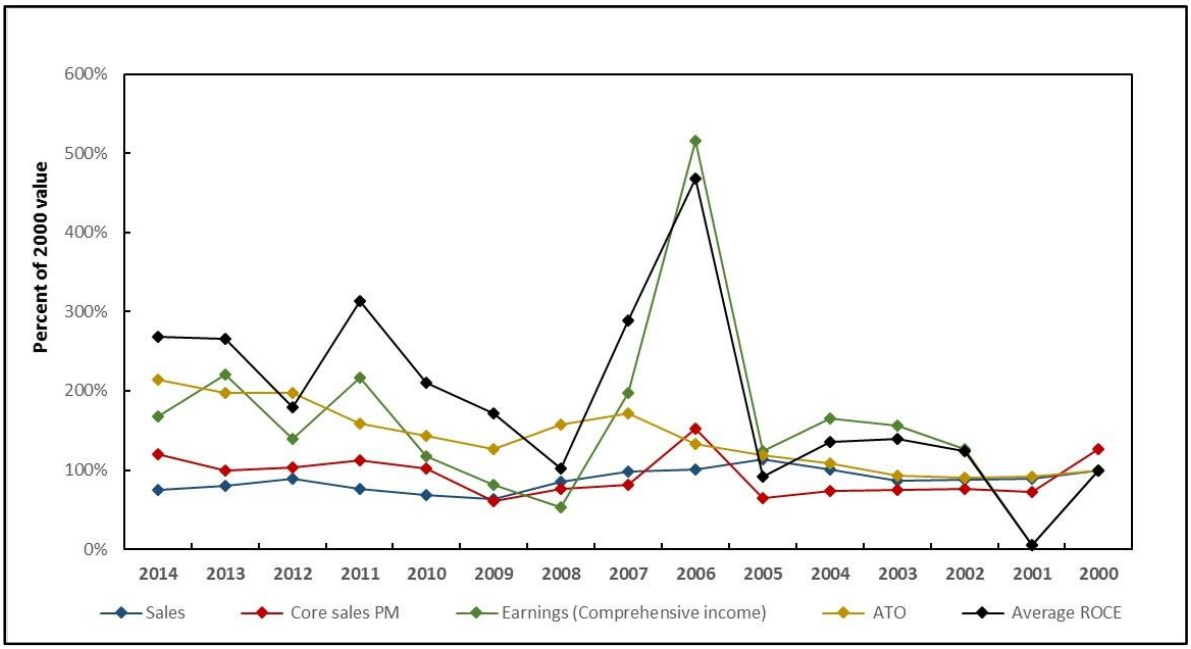


Source: Starwood Hotels, & Resorts Worldwide, Inc. Reformulated Balance Sheets, *Annual Report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual Report 2006; Annual Report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014.*

Following the pace of the development of franchise and management fee segments as selling off the nonstrategic assets, Starwood Hotels, & Resorts Worldwide, Inc. Company has plans for the development of establishing new public company Vistana Signature Experiences, Inc. on the New York Stock Exchange at the end of the year 2014 to the future, which will cover its timeshare units and is going to be connected with the segment of vacation ownership properties as residential sales and services.

Although the growth rate of CSE was a negative for more than 50% and the company has payed out in total a 4.92 times of earnings as stock repurchases and cash dividends (Appendix C), its earnings and average CSE at year ended 2014 are still higher than 2000s level for 167.2% and 268.1% (Figure 5).

Figure 5. Trend analysis of earnings' (Comprehensive Income) growth

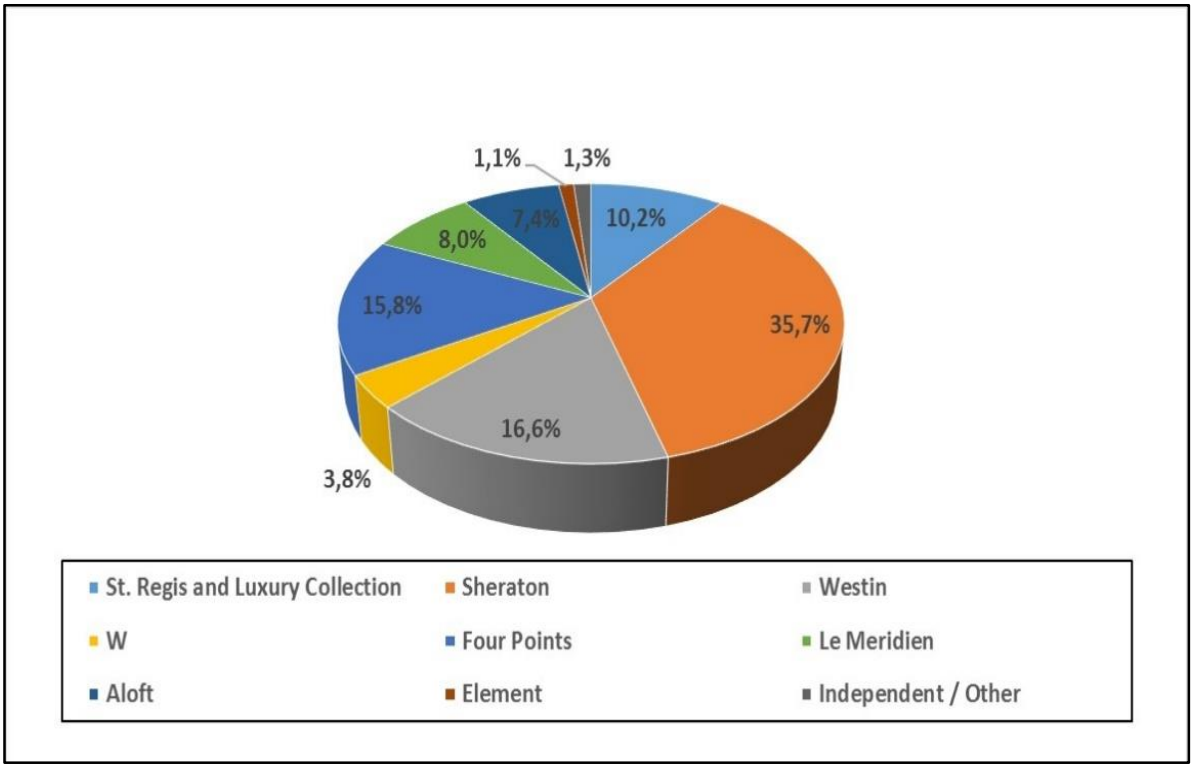


Source: Starwood Hotels, & Resorts Worldwide, Inc. Reformulated Balance Sheets and Income Statements, *Annual Report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual Report 2006; Annual Report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014.*

Despite major changes going on at years of 2006-2008 and last two years (2013-2014) with the company disposition of their previous ITT Sheraton trust acquisition as slowly conversion of its preferred shares to common equity and establishing new company, we see that company has been remained as growth firm with increasing and stable assets turnover, and improving growth sale of core sales 'profit margin' (hereinafter: PM) despite decreasing sales from 2007s level of net sales US$ 4,288 million (Figure 5).

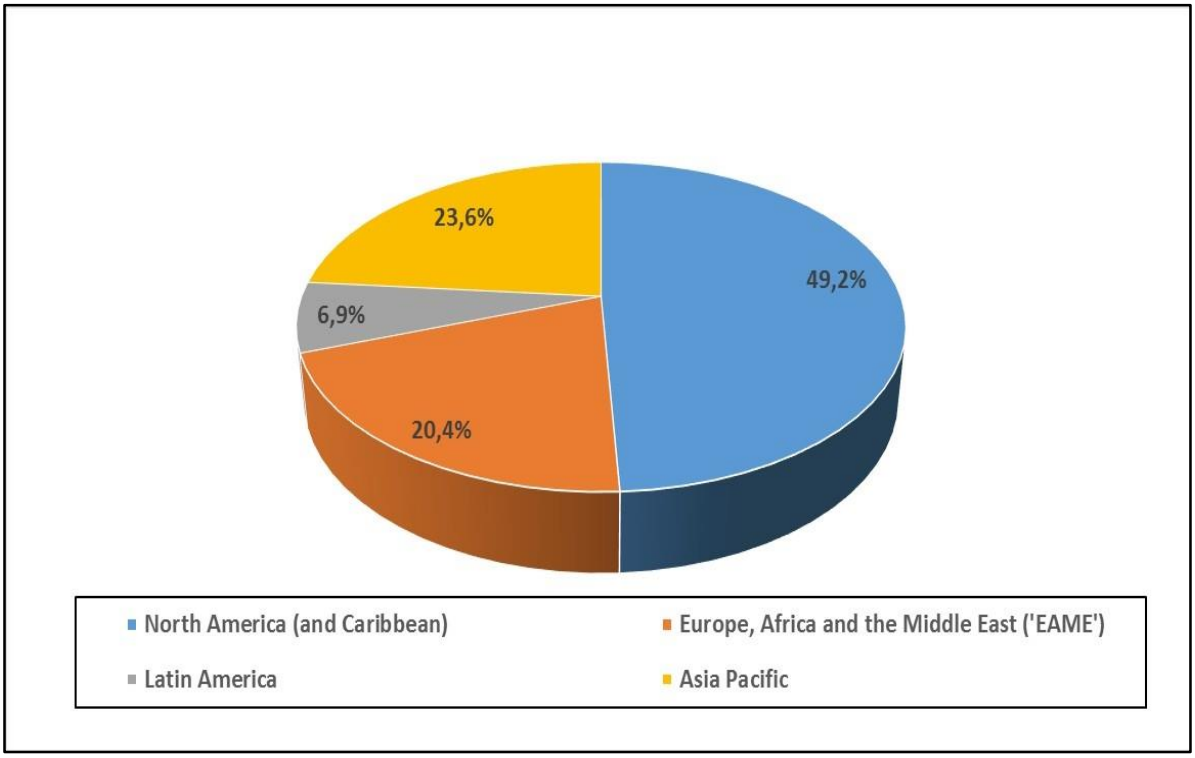
At year ended 2014 Starwood Hotels, & Resorts Worldwide, Inc. was owning, managing and operating 1.222 properties (354.200) under developed 9 flagships brands (Figure 6), geographically present at four markets, North America (and Caribbean), Asia Pacific, Latin America, and 'Europe, Africa and the Middle East' (Figure 7).

Figure 6. Starwood Hotels, & Resorts Worldwide, Inc. brand portfolio at year ended December 31, 2014



Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2014.*

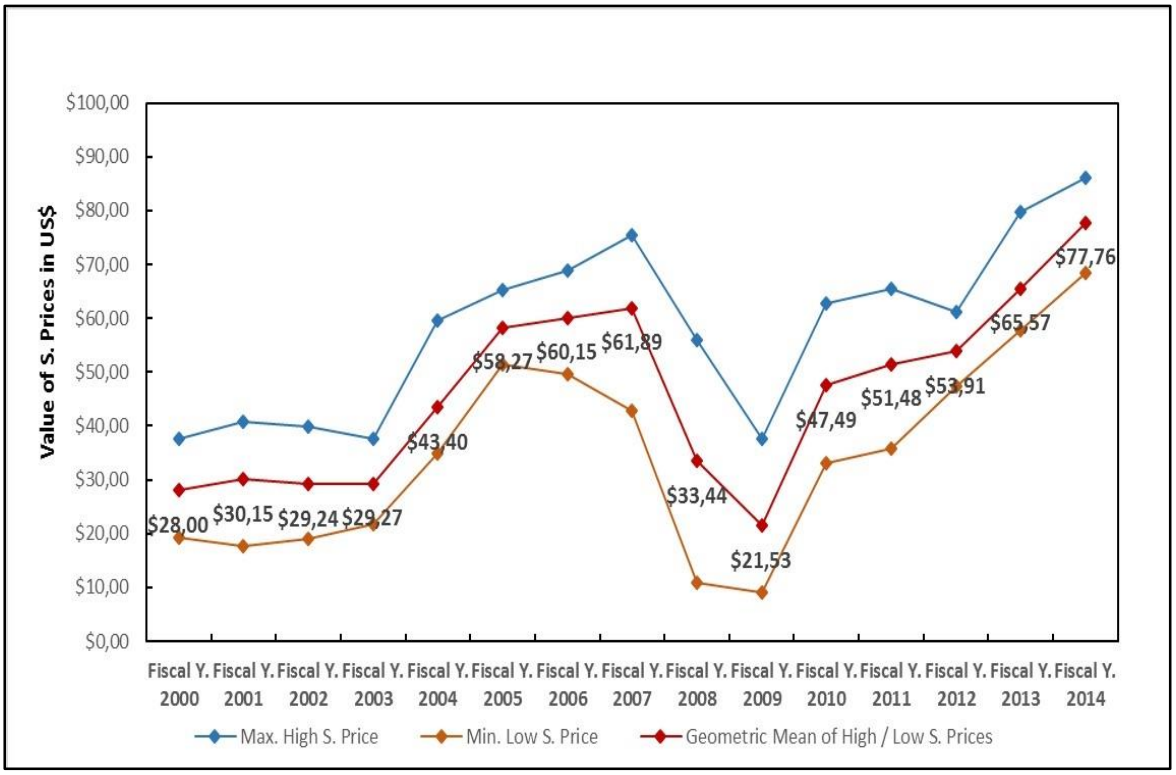
Figure 7. Starwood's hotel and vacation ownership properties by geographical presence



Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual Report 20014.*

After 15 years of ongoing operations Starwood's market capitalization was close to US$ 13.75 billion base on adjusted closing price of US$ 79.60 at year ended 2014 (Yahoo Finance – HOT 'Historical Prices, 2015), which was higher than minimal annual sales share price for US$ 11.07 but lower than maximal annual high sales share price for US$ 6.51 (Figure 8).

Figure 8. Market annual sales share prices per share at the New York Stock Exchange for Starwood Hotels, & Resorts Worldwide, Composite Tape



Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual Report 2006; Annual report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014*.

Looking historical growth of company annual sales prices and reported ending first and second quarter results of net income of US$ 235 million at June 30, 2015 (Yahoo Finance – HOT 'Income Statement, 2015), analysts are positive about Starwood Hotels, & Resorts Worldwide, Inc.' shares. During following days (August 4th) their estimated one year – target price (December 31, 2015) is US$ 89.77 with 15 buy and 11 hold opinions (Figure 9).

Figure 9. Starwood Hotels, & Resorts Worldwide, Inc.' earnings and analysts estimates (HOT US Equity)

Source: *Reuters Bloomberg Aggregate Data – Starwood Hotels, & Resorts Worldwide, Inc.' Earnings & Estimates [HOT US Equity]*, 2015.

Knowing that investors interested of buying the common shares of the Starwood Hotels, & Resorts Worldwide, Inc., would be concerned mainly with future growth prospects and high returns, the main question connected to analysts is if the firm is covering its cost of capital. Looking closely through the value of the equity of Starwood Hotels, & Resorts Worldwide, Inc. in the future years based on valuation date of August 4th 2015 with selected models described, we can get intrinsic value of the firm and its earnings compared to market price.

3.2 Future perspectives and use of formal full-scale valuation models

3.2.1 Starwood Hotels, & Resorts Worldwide, Inc. required rate of return for debt financing

At year ended 2014 Starwood Hotels, & Resorts Worldwide, Inc. reported total contractual obligations of US$ 4.620 million consisted mainly of operating lease obligations, capital lease obligations, and long term debt. Long term debt without present value of capital lease obligations at last year ended 2014 is US$ 2,788 million, capturing total fixed debt of US$ 1,614 million, floating rate debt of US$ 925 million as long and short term vacation ownership debt of US$ 249 million. Average interest rate of floating rate debt is 1.94% with

average maturity of 4.7 years while average interest rate of fixed rate debt is 5.04% with average maturity of 8.6 years, and weighted average interest rate of long and short–term vacation ownership debt is 4.28%. So our estimated weighted average cost of net debt after tax is 3.04% (Equation 14). Starwood company tax coefficient provision rate at year ended 2014 is 23%, consistent of U.S. federal, state, and foreign provisions.

$$Weighted\ average\ cost\ of\ net\ debt\ after\ tax = \tag{14}$$

$$\left[\frac{1{,}614}{2{,}788} \bullet 5.04\% + \frac{925}{2{,}788} \bullet 1.94\% + \frac{249}{2{,}788} \bullet 4.28\%\right] \bullet (1 - 0.23) = 3.04\%$$

3.2.2 Starwood Hotels, & Resorts Worldwide required rate of return for equity financing

Using CAPM for evaluating risk-return trade-off we need three crucial components: risk-free rate, company beta, and risk premium. Starwood Hotels and Resorts debt structure is comprised mostly of senior long–term notes. Since less-likely to be defaulting and knowing returns we could get from long term 10 year treasury U.S. T-Note into the future, we are safe to assuming this asset to be risk–free. At valuation date (August 4th 2015) its rate was 2.12%. Taking into account industries equity betas without Debt-to-Capital ratio would result into unlevered betas, which could be adjusted for capital structure of Starwood Company. With 172,694,299 million of shares outstanding at year ended 2014 (December 31), company market capitalization was US$ 13,746,466,200 based on adjusted closing share price of US$ 79.60 (Yahoo Finance – HOT' Historical prices, 2015).

Adding company short term debt obligations with present value of lease obligations together of US$ 2,944 million and US$ 3 million of minority interest–preferred equity, total market value of operations is represented by 82.35% of market value of equity and 17.64% of all nominal net debt. Approaching to former steps we get levered beta of 0.93 (Equation 15) representing North America company market operations and levered beta of 0.87 (Equation 16) representing all other geographical operating markets around the world. Damodaran (Current Online Data – Levered and unlevered betas by Industry Sector, 2015) is adjusting global hotel/gaming industry beta for cash to firm value percentage (Equation 16).

$$\beta_{LEVERED\_USM} = 0.80 \bullet \left[1 + (1 - 0{,}23) \bullet \frac{0.1764}{0.8235}\right] = 0.93 \tag{15}$$

$$\beta_{LEVERED\_GLOBALM} = 0.75 \bullet \left[1 + (1 - 0.23) \bullet \frac{0.1764}{0.8235}\right] = 0.87 \qquad (16)$$

$$where\ \beta_{GLOBAL\_ASSET} = 0.70 \bullet 1.0689 = 0.75\ by\ Damodaran$$

At year ended 2014 Starwood Hotels, & Resorts Worldwide, Inc.' net sales of US$ 3,272 million were mainly achieved geographically at North America market (US$ 1,559 million) and globally from other operating markets – 'EAME', Caribbean, Latin America, and Asia Pacific (US$ 1.713 million). By applying historical market risk premium ('equity risk premium', hereinafter: ERP) there is a notion that with matures market like U.S. (ERP of 5.75%) that doesn't concern to be a problem, but the bigger question is what global ERP is. One way of calculation approach is by Damodaran, who considers other ERPs to be equal as base premium for mature equity market plus country risk premium, estimated by Moody's rating default risk spread and by regional weighted approach. Lastly estimated global regional weighted risk premium was 7.18% (Damodaran (Current) Online Data – Risk Premiums for other markets, 2015). By applying its operating regions ERPs and weighting Starwood Hotels, & Resorts Worldwide, Inc. sales earned by geographical markets outside North America, we are getting company weighted global ERP (Table 2).

Table 2. Starwood Hotels, & Resorts Worldwide, Inc. weighted global ERP

REGION	**REVENUES (in millions of US$)**	**ERP**	**WEIGHT**	**Weighted ERP**
Caribbean	50.82	14.37%	2.97%	0.43%
Africa	149.25	11.73%	8.71%	1.02%
Eastern Europe & Russia	149.25	9.08%	8.71%	0.79%
Western Europe	149.25	6.88%	8.71%	0.60%
Middle East	149.25	6.85%	8.71%	0.60%
Asia	177.00	7.26%	10.33%	0.75%
Australia & New Zealand	177.00	5.75%	10.33%	0.59%
Central and South A.	711.18	9.95%	41.52%	4.13%
Total Revenues	1,713.00		100.00%	8.91%

Source: Starwood Hotels, & Resorts Worldwide, *Annual report 2014*; *Damodaran Online (Current) Data – Risk Premiums for Other Markets*, 2015.

Having all important components for applying CAPM model, Starwood Hotel, & Resorts Worldwide, Inc.' required rate of return on equity is captured from return by North America market of 7.47% and with additional return on equity from risk premiums on all other global markets of 7.75%. Taking into account average U.S. and weighted global ERP of 7.33%, our company cost of equity is 15.32% (2.12% + 6.82% + 6.38%).

3.2.3 Starwood Hotels, & Resorts Worldwide' cost of capital

Concerning all financing aspects that the firm takes on we have already learned, that it depends on required rate of return on equity and required rate of return on debt, weighted by the firm capital structure. Global Hotel/Gaming Industry average cost of capital (Figure 10) with 665 firms in scale is slightly higher at 7.18%, with cost of equity of 8.90% and pre-tax cost of debt of 4.13%, than that of only U.S. sector. Also global hotel/gaming firms have lower share of market debt and higher return on equity for 3.91 percentage points.

Figure 10. U.S and global industry cost of capital – January 5, 2015

Industry name	Number of firms	Equity (Levered Beta)	Cost of Equity	E/(D+E)	Std. Deviation in stock prices	Pre – tax cost of debt	Average effective tax rate	D/(D+E)	Cost of capital	Return on Equity
United States market										
Hotel / Gaming Industry	80	1.18	8.96%	64.67%	49.55%	3.17%	11.41%	35.33%	6.47%	5.77%
Total market	7,887	1.06	8.29%	60.19%	53.60%	3.67%	10.76%	39.81%	5.87%	14.49%
Global market										
Hotel / Gaming Industry	665	0.94	8.90%	71.40%	46.98%	4.13%	13.44%	28.60%	7.18%	9.68%
Total market	42,410	1.07	9.87%	55.76%	51.47%	4.63%	14.07%	44.24%	6.94%	11.42%

Source: *Summarized by Damodaran Online (Current) Data – U.S and Global Cost of Capital by Industry sector,* 2015.

Knowing Starwood Hotels, & Resorts Worldwide, Inc.' market value of operations at year ended 2014 and its weights of 82.35% of market value of equity and 17.64% of net debt, company cost of capital with required rate of return on equity of 15.32% and after–tax cost of debt of 3.04% is 13.15%.

Starwood Company recognizes also some off–Balance Sheet activities as letters of credit, unconditional purchase obligations, and surety bonds. Reevaluating its Balance Sheet by all financial liabilities on and off–Balance Sheet of US$ 3,062 million, and company financial assets of US$ 1,615 million would give us NFO with minority interests of US$ 1,450 million. Recognizing market value of equity with NFO of US$ 1,450 million is giving us new market value of operations of US$ 15,196,466,200 and cost of capital of 14.15%.

3.2.4 Dividend policy and dividend discount model

Starwood Hotels, & Resorts Worldwide Company has started paying out cash dividends at year 2007 before the peak of financial crisis and during the period 2006-2008. At that time Starwood Company was evaluating it strategic position and has payed out at year 2008 last cash distributions connected with conversion provisions of preferred equity claims of acquisitioned Sheraton trust, that have been given at their option to change their shares to company common stocks (Appendix C).

Average payout ratio (cash dividends and share repurchases) of total company earnings over the period of last seven years was U$ 1.94 per share. Ending second quarter positively most recently, company has payed two times quarterly dividends of US$ 0.375 per share with surprise bonus additional dividend three days after second quarter ending, precisely June 1 (Yahoo Finance – HOT' Historical prices, 2015).

Assuming this trend at the end of the year with the same last quarter dividends of US$ 0.375 per share payed out and future years analysts' dividend forecasts of US$ 1.55 per share at year ended 2016 and US$ 1.62 per share at year ended 2017 (R. Bloomberg Aggregate Data – Dividend Summary [HOT US Equity], 2015) as average growth rate of expected and forecasted DPS of 3.78% to infinity with our estimated required rate of return on equity of 15.32%, the dividend discount model approach give us an estimated stock price of US$ 13.02 per share (Equation 17).

$$P_0\left(V_0^E\right) = \frac{US\$1.50}{1.1532^1} + \frac{US\$1.55}{1.1532^2} + \frac{US\$1.62}{1.1532^3} + \frac{\frac{US\$1.62 \bullet 1.0378}{(1.1532 - 1.0378)}}{1.1532^3} = \qquad (17)$$

$$= US\$13.02 \; per \; share$$

Starwood Hotels, & Resorts Worldwide Company has authorized 1 billion shares at US$ 0.01 par value, at valuation date (August 4th) outstanding equity float was 169.21 million (R. Bloomberg Aggregate Data – Stock Value [HOT US Equity], 2015). Comparing our results to adjusted closing share price at valuation date (August 4th 2015) of US$ 78.20 (Yahoo Finance – HOT' Historical prices, 2015), we get a forecast error of minus 83.35%. But if we are assuming that the value of equity is US$ 13.02 billion based on all future authorized shares, estimated share price at year ended 2015 is US$ 75.39 according to last year equity float or share price is estimated to be US$ 76.94 based on valuation date equity float, which is lower than adjusted closing share price for 1.61%.

3.2.5 FCF to firm and discounted valuation approach

As alternative method to discounted FCF valuation model in the first chapter, value of operations at any firm can be determined as cash flow from operations minus cash (out) flow for net investment. In order to do that we need three crucial components FCF, Earnings before Interests and Taxes (hereinafter: EBIT), tax rate and net investment in long and short term operating capital.

Starwood Hotel, & Resorts Worldwide, Inc. estimated income from continuing operations before taxes and NFEs at year ended 2014 was US$ 715.6 million (Appendix D). Although their provision coefficient tax rate was 23%, their effective tax rate concerning operating activities and adjusted for all benefits was 17.8% compared to both U.S. and global hotel/gaming industry effective rate of 24.85%. So our EBIT after tax connected to operating activities is US$ 588.22 million.

Net investments are connected to operating capital and to net investment into the long–term operating assets. Reported operating working capital components at Cash Flow Statement are accounts receivables, inventories, prepaid expenses and other, accounts payable and accrued expenses, accrued and deferred income taxes, and increase /decrease in restricted cash. Estimated Net Operating Working Capital (hereinafter: NOWC) considering this components, calculated on an approach of current assets minus current liabilities, at year ended 2014 was negative value of US$ 804 million (US$ 1,276 – US$ 2,080) and at previous year ended 2013 negative value of US$ 558 million (US$ 1,267 – US$ 1,825). Seeing this results we can see that change in Starwood Company' NOWC was negative value of US$ 246 million at year ended 2014, mainly due to higher operating liabilities for US$ 255 million at that time.

Cash investments in long–term operating assets at year ended 2014 concerns change in plant, property and equipment due to purchasing or selling activities (minus US$ 398 million), change in goodwill and intangible assets (US$ 76 million and US$ 5 million of capitalized interest), and net proceeds from assets sale (US$ 800 million), adjusting all together for depreciation & amortization effects (US$ 283 million). Doing that for Starwood Company, we have estimated that at year ended 2014 their net investments into long term assets were US$ 190 million.

Combining all valuable parts of Starwood's operating activities we are getting FCF to firm of US$ 644.22 million. Having that component with weighted average cost of capital of 13.15%, the other question arises 'What kind of growth rate would be appropriate?'. One way to assessing it could be on average adjusted closing share price of US$ 79.89 during last

eight months of trading (Yahoo Finance – HOT' Historical prices, 2015) as required equity returns without risk–free premium of 6.82% from North America market (Equation 18) and of 6.38% from global markets (Equation 19) with average forward DPS of US$ 1.542 (forward analysts dividend yield of 1.93% times share price of US$ 79.89).

$$Growth\ rate\ based\ on\ U.S.\ market\ required\ return: \tag{18}$$

$$0.0682 - \frac{US\$1.542}{US\$79.89} = 4.89\%$$

$$Growth\ rate\ base\ on\ global\ markets\ required\ return: \tag{19}$$

$$0.0638 - \frac{US\$\ 1.542}{US\$\ 79.89} = 4.45\%$$

Combined results of required returns represent growth rate of 9.34% (4.89% + 4.45%), close to estimated analysts annual growth rate of 9.30% per annum for the next five years (Yahoo Finance – HOT' Analysts Coverage, 2015). Using assumption of constant growth rate and discounted FCFs model, value of operations is US$ 18,487.93 million (Equation 20). Adding value of non-operating assets and value of accruals of US$ 2,499 million results in value of corporation of US$ US$ 20,986.93 million. Deducting from it all other non-operating liabilities, value of short and long term debt, and minority interests of US$ 5,054 million, would leave us with value of equity of US$ 15,932.93 million or value per share of US$ 94.16 at valuation date (August 4th), which it forecast error is 20.4%, noting that market price of US$ 78.20 is underestimated.

$$V_{OP} = \frac{FCF_1}{(\rho_F - g)} = \frac{US\$\ 644.22\ million \bullet (1 + 0{,}0934)}{(1{,}1315 - 1{,}0934)} = \tag{20}$$

$$= US\$\ 18{,}487.93\ million$$

So far both approaches of evaluation are giving us quite huge forecast errors although discounted FCF to firm performs better than future dividends discount model. Alternatively looking Starwood Hotels, & Resorts Worldwide, Inc. reformulated financial statements and CSE flow (Figure 11) we see FCF was US$ 1,341.1 million, but its net dividend payed out is US$ 2,306.6 million. Since the company was in development plans of new public company spin-off of Vistana Signature Experiences connected to timeshare segment, it has payed out at year ended 2014 US$ 1,636 million in share repurchases and consequently its NFO have increased for US$ 1,039 million.

Figure 11. Starwood Hotels, & Resorts Worldwide, Inc. change in CSE at year ended 2014

BALANCE SHEET December 31, 2013			BALANCE SHEET December 31, 2014	
NOA	3,748.00	+ 555.1 - 1,341.1 =	NOA	2,962.00
NFO	408.00	+ 73.5 - 1,341.1 + 2,306.6 - (3-3) =	NFO	1,447.00
Noncontrolling interest	3.00		Noncontrolling interest	3.00
CSE	**3,337.00**	+ 481.6 - 2,306.6 =	**CSE**	**1,512.00**

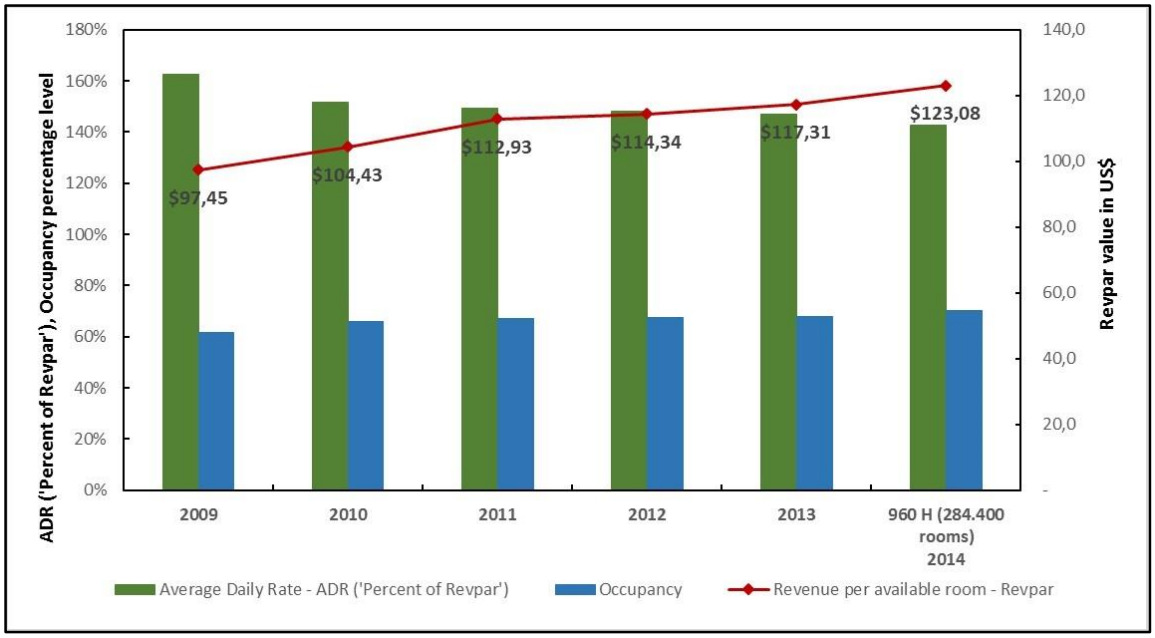
INCOME STATEMENT December 31, 2014	
Operating income	555.1
Net financial expenses	73.5
CI (Earnings)	**481.6**

CASH FLOW STATEMENT December 31, 2014	
Free Cash Flow (FCF)	1,341.1
Net dividends (d)	2,306.6
Net financing flow (F)	-965.50
Free Cash Flow (FCF)	**1,341.1**

Source: Starwood Hotels, & Resorts Reformulated Financial Statements, *Annual report 2013; and Annual Report 2014.*

Assuming constant average historical RevPAR growth rate of 4.01%, covering 960 owned, leased, managed, and franchised hotels (284.400 rooms) with occupancy from 60% to 70% as rising ADR (Figure 12), company value of operations can be estimated by FCF based on accrual accounting method and weighted average cost of capital.

Figure 12. Starwood Hotels, & Resorts Worldwide, Inc. system wide revenue drivers



Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014.*

By considering all former assumptions discounted FCF method is giving us a result of company value of operations of US$ 13,756.19 million (Equation 21). Reducing from it all NFO with minority interests of US$ 1,450 million is giving us a value of CSE of US$ 12,306.19 million or value per share of US$ 72.7 with forecast error of minus 7.03% under adjusted closing share price of US$ 78.20 at valuation date (August 4th 2015) and based on equity float of 169.21 million.

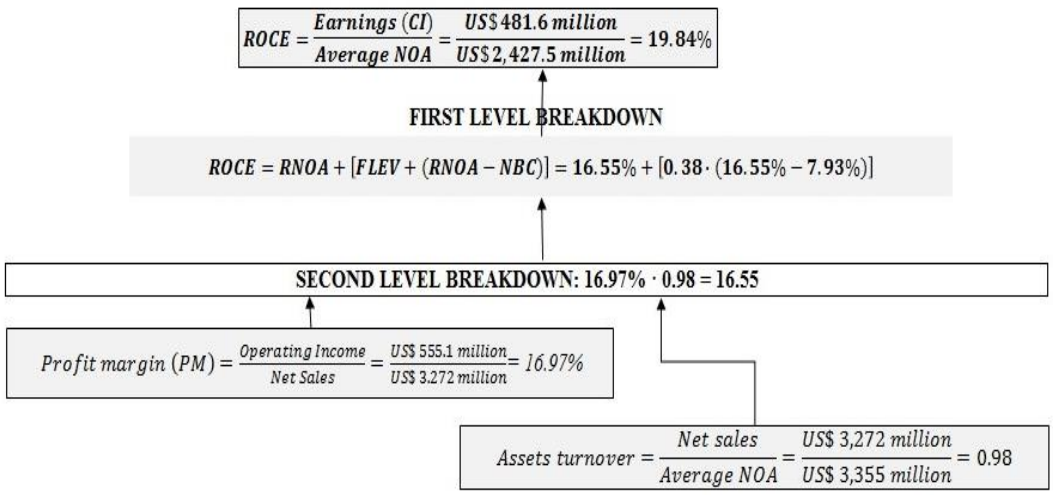
$$V_{OP} = \frac{FCF_1}{(\rho_F - g)} = \frac{US\$\ 1{,}341.1\ million \bullet (1 + 0{,}0401)}{(1{,}1415 - 1{,}0401)} = \tag{21}$$

$$= US\$\ 13{,}756.19\ million$$

3.2.6 REs, AEG based models

REs driver return on CSE can be broken down by DuPont analysis of first level breakdown of return on assets adjusted for financial leverage effects and second level breakdown of PMs and assets turnover. At year ended 2014 Starwood Company ROCE, based on average NOA was 19.84%, which is higher for 4.39% percentage points of combined U.S. and global hotel/gaming industry (Figure 10). Two components that were adding to its return on assets were precisely PM of 16.97% and assets turnover of 0.98, which is higher than 2000 level (0.46 – 100%) for 114.3% (Figure 13 and Appendix D).

Figure 13. Starwood Hotels, & Resorts Worldwide, Inc. ROCE breakdown, December 31 2014



Source: Starwood Hotels, & Resorts Worldwide, Inc. Reformulated Balance Sheets and Income Statements, *Annual report 2013; and Annual Report 2014.*

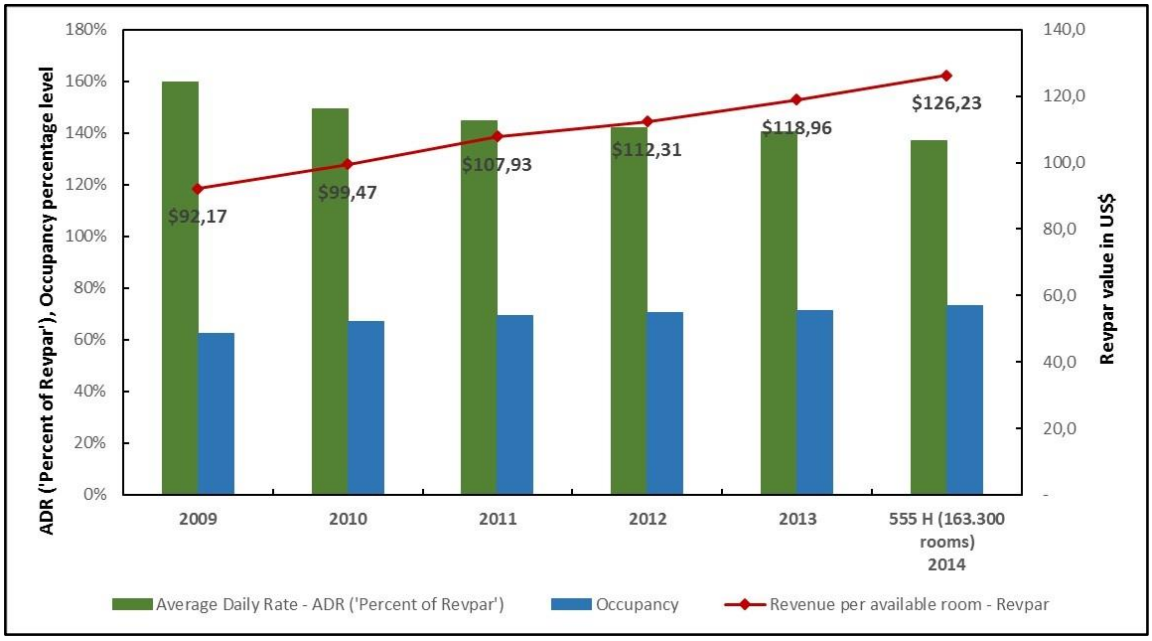
Since going through reformulation steps we have got historical earnings–comprehensive income and net effect of transactions with CSE or net dividends (D_t). Taking into account average U.S. and global hotel/gaming cost of equity of 8.93% we could see historical REs and AEG (Appendix E). Excluding outlier years (years of disposition of the trust and current as next year reorganization of vacation ownerships and residential segment into the new public company Vistana Signature Experiences), Starwood Hotels, & Resorts Worldwide, Inc. was able to generate positive and increasing REs. Average change in REs during periods 2000-2005 and 2009-2013 was US$ 73.7 million or REs have increased on average by 20.4%.

Knowing that in the future years Starwood company two crucial business segments, by type of revenues are owned, leased and consolidated joint venture hotels as management and franchise fees on North America and other international markets (Figure 3), we can apply RE model as one consolidated company by its two separate business segments (divisions).

Starwood Hotels, & Resorts Worldwide, Inc.' required rate of return for North America market is estimated at 7.47% with risk–free premium of 2.12% as according to its beta of 0.93 and ERP of 5.75%. At year ended 2014 company net sales share from North America market was 47.6% (US$ 1,559 million) and geometrical mean of its historical RevPAR growth rate from both segments is 5.10% (Starwood Hotels, & Resorts Worldwide, Inc. – Annual reports 2001, 2003-2014).

Figure 14 shows us historical RevPAR growth (Occupancy times ADR) by company portfolio of hotel properties, covering its both business segments (the same store owned, leased, managed, and franchised hotels) and reaching already 555 hotels (163.300 rooms) at year ended 2014. Since its ADR was decreasing over last five years, its growth of occupancy rates were improving RevPAR growth.

Figure 14. Starwood Hotels, & Resorts Worldwide, Inc. system wide North America revenue drivers

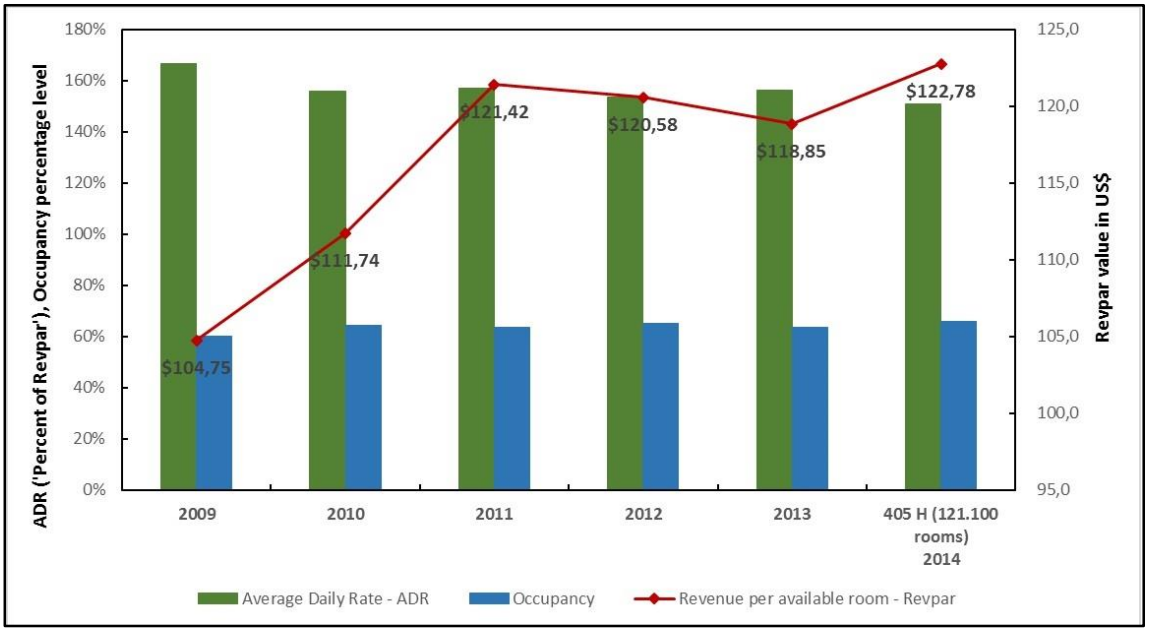


Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014.*

On the other hand Starwood Hotels, & Resorts Worldwide, Inc.' required rate of return for all other international markets without already noticed risk–free premium is estimated at 7.75%, according to its beta of 0.87 and weighted global ERP of 8.91%. At year ended 2014 company net sales share from all other international markets ('EAME', Asia Pacific and Latin America) was 52.4% (US$ 1,713 million) and geometrical mean of its historical RevPAR international growth rate from both segments is 3.98% (Starwood Hotels, & Resorts Worldwide, Inc. – Annual reports 2001, 2003-2014).

Figure 15 shows us historical RevPAR growth (Occupancy times ADR) by company portfolio of hotel properties, covering its both segments (the same store owned, leased, managed, and franchised hotels) and reaching 405 hotels (121.100 rooms) at year ended 2014. Since occupancy rates were slightly improving over last five years, its ADR were contributing in range of 150 to 160 percent to RevPAR growth rate.

Figure 15. Starwood Hotels, & Resorts Worldwide, Inc. international system wide revenue drivers



Source: Summarized by Starwood Hotels, & Resorts Worldwide, Inc., *Annual report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014.*

At year ended 2014 Starwood Hotels, & Resorts Worldwide, Inc. was owning all together 28 hotels globally with 15 coming from North America markets and 13 from all other international markets. Since proceeding asset–light strategy into the future and assumptions of gradually selling of hotels as change of owning relationships than properties, we could assume that future business segment structure would be 45:55. It means that 45% of revenues comes from domestic market and 55% from all other markets according to geographical presence of hotels (Figure 7).

Knowing estimates of future three years in a row EPS of US$ 2.94, US$ 3.43, US$ 4.09 and its average of US$ 3.487 as dividend payout ratios of 0.505, 0.4527, 0.3977 and its average of 0.4518 (Reuters Bloomberg Aggregate Data – Dividend Summary & Adjusted Income Statement [HOT US Equity], 2015), we can apply RE model according to our two markets characteristics.

Looking results of RE model for North America market we get estimates of value per share at US$ 41.70$ with growing as positive REs and return on CSE higher than its required rate of return of 7.47% (Figure 16).

Figure 16. Estimate of Starwood Hotels, & Resorts Worldwide, Inc. value per share in US$ based on North America characteristics

	31.12.2014A	31.12.2015E	31.12.2016E	31.12.2017E	31.12.2018E
EPS	1.33	1.32	1.54	1.84	1.57
DPS		0.67	0.70	0.73	0.71
BPS	**4.17**	**4.82**	**5.67**	**6.78**	**7.64**
ROCE		31.73%	31.99%	32.46%	23.15%
r		7.47%	7.47%	7.47%	7.47%
RE		**1.01**	**1.18**	**1.42**	**1.06**
Discount Factor/Rate (1.0747^t)		1.0747	1.1550	1.2413	1.3340
Present Value of RE		0.94	1.02	1.14	0.80
Total PV of REs to 2018	**3.90**				
Continuing Value (CV)					**44.85**
Present Value of CV	**33.62**				
Value per Share	**41.70**				

Notes. * Constant Historical RevPAR Growth Rate of 5.10%; A – Annual Report Year; E – Estimated Future Years.

On the other hand results of RE model for all other international markets are showing us results of growing as also positive and higher REs than at North America market At the same time higher returns on CSE are covering their required rate of return of 7.75%, but in the end lower value per share at US$ 35.28 is estimated (Figure 17).

Figure 17. Estimate of Starwood Hotels, & Resorts Worldwide, Inc. value per share in US$ based on international markets characteristics

	31.12.2014A	31.12.2015E	31.12.2016E	31.12.2017E	31.12.2018E
EPS	1.46	1.62	1.89	2.25	1.92
DPS		0.82	0.85	0.89	0.87
BPS	**4.59**	**5.39**	**6.42**	**7.78**	**8.83**
ROCE		35.23%	35.00%	35.02%	24.66%
r		7.75%	7.75%	7.75%	7.75%
RE		**1.26**	**1.47**	**1.75**	**1.32**
Discount Factor/Rate (1.0775^t)		1.0775	1.1610	1.2510	1.3479
Present Value of RE		1.17	1.27	1.40	0.98
Total PV of REs to 2018	**4.81**				
Continuing Value (CV)					**34.89**
Present Value of CV	**25.88**				
Value per Share	**35.28**				

Notes. * Constant Historical RevPAR Growth Rate: 3.98%; A – Annual Report Year; E – Estimated Future Years.

Combing both results together value per share based on RE model and future business segments revenues of North America and all other international markets, Starwood Hotels, & Resorts Worldwide, Inc. value per share is estimated at US$ 76.98 (US$ 41.70 + US$ 35.28), which is slightly lower than adjusted closing price of US$ 78.20 at valuation date (August 4th 2015 – forecast error of minus 1.56%) and lower than actual adjusted closing price at year ended 2014 of US$ 79.60 (forecast error of minus 3.29%).

Based on this model we are getting our target prices for future years as of US$ 80.84 (forward year one), US$ 85.29 (forward year two), US$ 90.44 (forward year three), and US$ 96.20 (forward year four). Comparing forward target price at year ended 2016 our estimate is slightly lower than analysts' forecast of target price of US$ 89.77. Seeing that our adjusted closing price is slightly under one–year forward target price can be seen as that market is underestimating share value of Starwood Hotels, & Resorts Worldwide, Inc.

Since it is estimated that rising book value of equity would capture future growing EPS, the company Price-to-Book ratios is going to also decrease and convert to its average estimate of 5.84 (US$ 96.20/US$ 16.47). Second year estimate of Price-to-Book ratio of 7.06 (US$ 85.29/US$ 12.09) is lower than that of Wyndham Worldwide Corporation at 9.1 with market capitalization of US$ 9.66 billion, but higher than that of Hyatt Hotels Corporation at 1.8 with market capitalization of US$ 8.07 billion (Figure 18).

Figure 18. Starwood Hotels, & Resorts Worldwide, Inc.' relative competitors multiple valuation

Source: *Reuters Bloomberg Aggregate Data - Starwood Hotels & Resorts Worldwide, Inc.' Equity Relative Valuation [HOT US Equity],* 2015.

Thinking about growth rate of 9.34% based on historical RevPAR can be different from what market would expect. So if we know our estimated required rate of return on equity of 7.47% and 7.75% according to appropriate markets, we could evaluate growth rate based on average adjusted closing share price of last eight months of U$ 79.89 and average forward dividend of US$ 1.542 as already done in Equation 18 and 19, but changing for different kind of returns. Doing that would give us growth rate of 5.54% for North America market and growth rate of 5.82% for all other global markets. Looking back at adjusted REs model for Price –to Earnings ratio, slightly less is what market expects for adjusted closing share price of US$ 79.60 at year ended 2014 (Figure 19).

Figure 19. Starwood Hotels, & Resorts Worldwide, Inc.' historical adjusted closing price in US$ and market assumption of growth rate

	31.12 2014A	**31.12 2015E**	**31.12 2016E**	**31.12 2017E**	**31.12 2015E**	**31.12 2016E**	**31.12 2017E**
EPS	2.79	1.32	1.54	1.84	1.62	1.89	2.25
DPS		0.67	0.70	0.73	0.82	0.86	0.89
Cost of Capital		7.47%	7.47%	7.47%	7.75%	7.75%	7.75%
Reinvested DPS (t-1)			0.05	0.05		0.06	0.07
With-dividend earnings			1.59	1.89		1.95	2.32
Normal earnings			1.42	1.66		1.75	2.04
Abnormal Earnings Growth (AEG)			**0.17**	**0.24**		**0.21**	**0.28**
Discount Factor/Rate (1.1522^t)			1.1522	1.3276		1.1522	1.3276
Present value of AEG			0.15	0.18		0.18	0.21
Total PV of AEG		0.72					
Continuing value (CV)				11.23			
PV of CV, end year t+1		8.46		**g = 11,29%**			
Total f. earnings to capitalize		12.12					
Capitalized EPS (1) + PV(1) AEG	**79.60**						

Notes. * 1.33 + 1.46 = 2.79; A – Annual Report Year; E – Estimated Future Years.

Looking at Figure 19 we can see that AEG represent positive change in REs for the next two years of US$ 0.38 (US$ 0.17 + US$ 0.21) and US$ 0.52 (US$ 0.24 + US$ 0.28), but negative growth afterwards based on assumption of average EPS and DPS (Figure 16, 17). Taking into account higher growth aspects of 11.36% (5.54% +5.82%) based on required returns

and estimated future analysts' forecasts of DPS and EPS as adjusted closing share price of US$ 79.60 at year ended 2014, Starwood Company implicit discount rate is 14.60%. It is slightly less than our combined required rate of return on equity of 15.22% (Equation 22).

$$R_E = A + \sqrt{A^2 + \frac{US\$\ 2.94}{US\$\ 79.60} \bullet (\frac{US\$\ 3.43 - US\$2.94}{US\$\ 2.94} - g)} = 14.60\% \qquad (22)$$

$$where\ A = \frac{1}{2}\left(11.36\% + \frac{US\$\ 1.51}{US\$\ 79.60}\right) = 6.62849\%$$

Assuming expected discount rate of 11.36%, constant average RevPAR growth rate of 4.54% ((5.10% + 3.98%)/2) and analysts forecast of DPS over the next future years in a row of US$ 1.51, US$ 1.55 and US$ 1.62 as EPS of US$ 2.94, US$ 3.43 and US$ 4.09 (Reuters Bloomberg Aggregate Data – Dividend Summary, Adjusted Income Statement [HOT US Equity], 2015), capitalized EPS and present value of AEG are giving us value per share of US$ 78.10, which is slightly less than adjusted closing share price of US$ 78.20 at valuation date (August 4th 2015) as also lower than one–year target price estimate (Figure 20).

Considering estimated value per share of US$ 78.10 and EPS of US$ 2.94 resulted Price–to–Earnings ratio is 26.56 (US$ 78.10/US$ 2.94) at year ended 2015, but at the forward year of 2016 is 22.77 (US$ 78.10/US$ 3.43) and year of 2017 (US$ 78.10/US$ 4.09) is 19.09. Starwood Hotels, & Resorts Worldwide, Inc.' Price–to–Earnings ratio of 22.77 is higher than that of Wyndham Corporation of 15.4 with market capitalization of US$ 9.66 billion for 47.9 percent, but lower than that of Hyatt Hotels Corporation of 38.5 for 40.9 percent with market capitalization of US$ 8.07 billion (Figure 18).

Figure 20. Starwood Hotels, & Resorts Worldwide, Inc. AEG model

	31.12.2014A	31.12.2015E	31.12.2016E	31.12.2017E
EPS	2.79	2.94	3.43	4.09
DPS		1.51	1.55	1.62
Cost of Capital		11.36%	11.36%	11.36%
Reinvested DPS (t-1)			0.17	0.18
With-dividend earnings			3.60	4.27
Normal earnings			3.27	3.82
Abnormal earnings growth (AEG)			**0.33**	**0.45**
Discount Factor/Rate (1+r^t)			1.1136	1.2401
Present value of AEG			0.29	0.36
Total PV of AEG		0.65		
Continuing value (CV)				6.55
PV of CV, end of year t+1		5.28		
Total f. earnings to capitalize		8.87		
Capitalized EPS (1) + PV(1) AEG	**78.10**			

Notes. * A – Annual Report Year; E – Estimated Future Years.

3.2.7 Value Creation and EVA

After all reformulation steps are being done Penman (2013, pp. 234-250) REs OI drivers are essentially assets turnovers and income statement ratios. Starwood Hotels, & Resorts Worldwide' core OI before taxes and interests (EBIT) at year ended 2014 was US$ 883.0 million and NOA were US$ 2,962 million. Geometrical mean of historical worldwide RevPAR growth rate for both company business segments (owned, managed, and franchised hotels) was 3.65% (Starwood Hotels, & Resorts Worldwide, Inc., Annual Reports 2001, 2003-2014).

Assuming growing net sales by its rate and changing NOA, forecasted average return on average NOA is 25.05%, which is higher than estimated required rate of return of 14.15%. Seeing analysts' estimates of core operating incomes for future years are US$ 830.56, US$ 938.67 and US$ 1,065.25 million and its average of US$ 944.83 million, there are still many prospects for growth before REs of core OIs would reach zero rate, as at year ended 2018 return on average NOA is higher than cost of capital for 9.74% (Figure 21).

Figure 21. Starwood Hotels, & Resorts Worldwide, Inc. future core residual operating incomes

	2014A	2015E	2016E	2017E	2018E
C. Operating Income (EBIT)	883.00	830.56	938.67	1,065.25	944.83
Net Operating Assets (NOA)	2,962.00	3,746.37	3,883.11	4,024.85	3,884.78
Core OI Return on a. NOA (%)		24.76%	24.61%	26.94%	23.89%
Cost of Capital for Operations		14.15%	14.15%	14.15%	14.15%
Core Residual OI		**411.50**	**408.63**	**515.87**	**375.39**

Notes. * NOA = NOA / Sales at December 31, 2014 = 0.905257; Forecasted NOA = Forecasted Sales / 0.905257; With average sales of US$ 3,516.72 million, NOA are US$ 3,884.78 million.

Due to reformulation changes going on at year ended 2014 with Starwood Hotels, & Resorts Worldwide, Inc. another view of NOAs would be sales times one divided by assets turnover. Proceeding this view the results are exactly average NOA of US$ 3,355 million. Doing sensitivity analysis of changing core OIs returns on NOA in relation of assumption of NOA as sales times 1/assets turnover and its growth rate due to changing sales, different stock prices can be seen assuming number of shares outstanding at year ended 2014. Seeing future return on average NOA as around 25% and growth rate range of 10% to 11%, stock price value ranges from US$ 70.0 to US$ 85.99 per share (Table 3).

Table 3. Starwood Hotels, & Resorts Worldwide, Inc.' sensitivity analysis of value per share in US$

Core OI RNOA / Growth Rate	**15%**	**20%**	**22%**	**25%**	**30%**
0%	$20.58	$27.43	$29.54	$34.29	$41.15
2%	$20.76	$28.75	$31.20	$36.74	$44.72
4%	$21.03	$30.59	$33.52	$40.14	$49.70
6%	$21.42	$33.32	$36.98	$45.22	$57.12
8%	$22.07	$37.83	$42.67	$53.59	$69.35
10%	$23.33	$46.67	$53.84	$70.00	$93.33
11%	$24.57	$55.28	$64.72	$85.99	$116.70
12%	$26.95	$71.85	$85.65	$116.76	$161.67
13%	$33.41	$116.93	$142.60	$200.46	$283.98

As Starwood Company has also estimated OI taxes in value of US$ 160.5 million as other special items connected with discontinued operations in value of US$ 16 million and estimated in accounting theory known operating and financial 'dirty-surplus' items (foreign currency translation, minimum pension liability adjustments, net effect of unrealized gains/losses on securities and derivative instruments) with added calculated effect of stock option exercises of US$ 151.40 million, its earnings after tax but before net financial expenses are US$ 555.1 million.

Projecting future analysts' forecasts of total revenues growth rate (minus 2.16%, 4.07%, 7.75%) to net sales and their main key income statement ratios with changing NOA (Appendix F) as required rate of return on equity of 14.15%, estimated value of owners' equity is US$ 12,768.74 million. Based on year ended 2014 equity float value per share is US$ 73.94, which is closely under to original adjusted closing share price of US$ 79.60 (forecast error of minus 7.11%). On the other hand based on equity float at valuation date (August 4th 2015) value per share is US$ 75.46, also under actual adjusted closing share price of US$ 78.20 (forecast error of 3.50%).

Figure 22. Starwood Hotels, & Resorts Worldwide, Inc. EVA model in millions of US$

	2014A	**2015E**	**2016E**	**2017E**	**2018E**
Operating Income		569.12	637.74	724.49	737.47
NOA	2,962.00	3,536.34	3,680.33	3,965.64	4,122.28
Operating Income Return on NOA (%)		19.21%	18.03%	19.69%	18.60%
Cost of Capital for Operations		14.15%	14.15%	14.15%	14.15%
ReOI		**150.05**	**137.42**	**203.80**	**176.41**
Discount Factor/Rate (1+r^t)		1.1415	1.3030	1.4873	1.6977
PV of ReOI		**131.45**	**105.46**	**137.02**	**103.91**
Total PV of ReOI	477.85				
Continuing Value (CV)					18,299.83
PV of CV	10,778.89			**g=13,19%**	
Starwood C. Value of Operations	**14,218.74**				
Book value of NFO and Minority Interests	-1,450.00				
Value of owners' equity	**12,768.74**				

Note. Operating Income – Income from Continuing Operations (after tax).

With estimated US$ 14,218.74 million market value of operations (Figure 22) and core OI before interests and taxes of US$ 883 million, estimated Enterprise Value-to-EBIT at year ended 2014 is 16.10 (US$ 14,218.74/US$ 883). At forward years ended 2015, 2016 and 2017 its ratio is 19.49 (US$ 16,186.62./US$ 830.56), 19.14 (US$ 17,965.90/US$ 938.67), and 18.87 (US$ 20,101.22/US$ 1,065.25) based on estimate analysts EBIT. 2016' ratio of 19.14 is higher than that of Wyndham Worldwide Corporation of 13.5 with market

capitalization of US$ 9.66 billion, but lower than that of Hyatt Hotels Corporation of 22.0 with market capitalization of US$ 8.07 billion (Figure 18).

4 DISCUSSION AND EVALUATION OF RESEARCH QUESTION

Reevaluating results of our different valuation approaches and our research question 'What main specialties and characteristics are we encountering and defining, when we are using well–known financial valuation models for international hospitality industry?', some models are resulting in stock prices more closely connected to value creation than others. Consequently due to recent trends of hospitality industry operating models developments of last ten years, we are seeing some characteristics that can be different from other industries.

4.1 Risk determinants and hospitality firm's required rate of return

Since concept of CAPM model bills on notion that one can diversify away from its unsystematic risks by owning different kind of stock portfolio, there is question with every investor how to avoid from systematic risks depended on company operations as what is reasonable required rate of return for hospitality companies with different operating models and capital structure.

As Gu (2008, pp. 383-397) and Hyunjoon et al. (2002, 138-154) have discovered positive and significant correlation between type of hotel REITs company's level of debt and its systematic risks – betas, Dalbor and Upneja (2004, 346-355) realizes that certain growth opportunity proxies explain better the long-term debt choice for U.S. lodging firms. Compared to non-hospitality firms usage of less debt and more retained earnings as a mean for funding future growth opportunities, hospitality firms involvement of more plants, properties and equipment as more tangible assets in place is allowing higher level of debt. Since debt claimants are more comfortable with real estate investments type, that kind of hotel firm's growth of the capital–intensive lodging industry was mainly financed with long–term debt.

From assets–light strategy concept Starwood Company was reducing its systematic risks (long term debt) with non–equity investments types by increasing level of revenues from managed, franchised, and unconsolidated joint venture hotels; lower level of plants, properties and equipment in total operating assets with 36.67 percentage level at year ended 2014 of Common–Balance Sheet Statement; and deleveraging its long–term debt with 69.97 percentage level of total financial liabilities at year ended 2013 of Common–Balance Sheet Statement. Noting U.S and global hotel/gaming industry with former industry of all together

80 firms in scale and later total of 665 firms, global hotel/gaming industry capital structure retains higher level of external equity financing (71.40%) and lover level of debt financing (28.60%) as consequently higher return on equity (Damodaran Current (Online) Data – U.S. and Global Cost of Capital by Industry).

Starwood Hotels, & Resorts Worldwide, Inc. at year ended 2014 and through its development pace wasn't earning their net sales just from domestic market, but its operational income is nowadays spread geographically around the world on three main other markets – 'EAME', Asia Pacific, and Latin America. By estimating cost of capital and its required rate of returns, required return for financing activities by its nominal net debt is straight away concept. On the other hand there is a question 'What is reasonable required rate of return of Starwood Company equity financing?'.

Estimating required return base on company industry domestic as global hotel/gaming characteristics, driven by their appropriate beta and geographical spread of Starwood Company' earnings achieved from available data at year ended 2014, could be one way and CAPM model is helping us to do that. As Starwood Company is in a way diversifying their operating risks by globally oriented model, stock return based on three characteristics – analysts one–year target price of US$ 89.77, a. average adjusting closing share price of US$ 79.89 (last eight months from valuation date), and average forward DPS of US$ 1.542 (US$ 79.89 times analysts dividend yield of 1.93%) is 14.30% (Reuters Bloomberg Aggregate Data – Dividend Summary [HOT US Equity]; Yahoo finance – HOT's Historical Prices, 2015).

Either way which approaches we were using for calculating weighted average cost of capital of Starwood Hotels, & Resorts Worldwide, Inc. (13.15% or 14.15%), the stock returns are higher. Commonly implicit discount rate for required rate of return on equity financing of 14.60%, based on 11.36% growth rate and analysts future forecasts of DPS, EPS, is also lower than estimated cost of equity of 15.22% to 15.32%.

4.2 Dividend policy

Growing initially from hotel REIT to corporate hospitality company dividend policy isn't the one which would give us some stable patters of cash dividends payed out in the future. As our result of US$ 13.02 per share is close to book value of equity per share of US$ 8.76, there is the highest forecast error of 83.35% and deviation from actual market value per share of stock price at valuation date (August 4th 2015). Assuming that all company authorized shares would be eventually issued in the future and consequently CSE would rise, we are

closer to expected market stock price. Meaning that we are noticing that there are growth prospects of value from future years at Starwood Hotels, & Resorts Worldwide, Inc.

Their average historical cash dividend payed out was 62% on average (2007-2014), but total payout ratio with share repurchases over last 14 years was 166% on average (2000-2014). Its total payout ratio is close to US. Hotel/gaming industry dividend payout ratio of 126.86%, but significantly higher than dividend payout ratio of global hotel/gaming industry for 112.34 percentage points (Damodaran (Current) Online Data – Dividend Policy Tradeoff Variables by U.S. and Global Industry, 2015).

Starwood Company has relatively young dividend policy since in the past there were major restructuring phases going on. Hotel REITs have been in the past as also nowadays required to distribute their earnings to stakeholders by law, and Starwood Company had major expenses with conversion provisions of shareholders preferred B class claims by their acquisitioned ITT Sheraton trust to hospitality Starwood Hotels, & Resorts Worldwide common shares (2006-2008).

Recently to become truly a fee driven business with some strategic assets, Starwood Company is also overcoming last year and in the future years the spin-off by their timeshare business segment. From it the company has been driven their cash and deleveraging their financial obligations mainly by selling of owned hotels and changing it into management contracts relationships.

4.3 Cash versus accrual accounting based financial valuation methods

Approaching to discounted FCF valuation approach there is a difference between measures based on what kind of accounting concepts are we using. Valuation based on cash accounting and generation of information's from Cash Flow Statement with alternative FCF to firm is reducing our forecast error for 62.94 percentage points from dividend based model, although our estimated value per share of US$ US$94.16 is still substantially higher than adjusted closing share price of US$ 78.20 at valuation date (August 4th 2015).

One of the reasons for such a forecast error could be disadvantage of the model described in the first chapter. Going through Penman reformulation steps and building valuation based on accrual accounting reduces forecast errors significantly, while it is giving us a clear distinction between operating and financing activities of any company like also of Starwood Hotels & Resorts Worldwide, Inc.

Looking at value of operations comprised of NOA and NFO we are recognizing items not seen at first sight as for example for Starwood Company between other liabilities: rising deferred gains on assets sales from 2003s level of US$ 109 million to US$ 1,079 million at year ended 2014; decreasing long term deferred tax assets from 2000s level of US$ 1,444 million to negligible US$ US$ 38 million at year ended 2014 due to early restructuring phases of gaming business; and increasing operating liabilities of 'Starwood Preferred Guests' loyalty program for high quality hospitality services from US$ 215 million to US$ 721 million.

Either way which input are we using based on accrual accounting valuation approach, if that is FCF with average historical worldwide RevPAR growth rate of 4.01% (DCF valuation model) or if that are EPS, DPS, or residual operating income from continuing operations after tax (RE and EVA model) with average growth rate range from 9.08% to 11.36% for U.S and all other international markets combined, our forecast errors are reduced. Results of estimates ranges from US$ 72.7 to US$ 78.10 at valuation date (August 4th 2015), which is close to actual market adjusted closing share price of US$ 78.20.

4.4 Hospitality companies' intrinsic ratio analysis and global growth prospects

As part of the full service lodging facilities the results of forward year 2016 Price–to-Earnings (22.77) and Enterprise Value–to–EBIT ratios (19.4) indicate that Starwood Hotels, & Resorts Worldwide, Inc. is going to perform better than Wyndham Worldwide Corporation, but poorer than Hyatt Hotels Corporation with its altogether sizeable market capitalization of US$ 8 to US$ 14 billion. On the other hand by ratio of Price–to–Earnings (7.06) results indicate that between mentioned companies Starwood Hotels, & Resorts Worldwide would perform better than Hyatt Hotels Corporation and poorer than Wyndham Worldwide Corporation.

Seeing growth prospects we are recognizing that valuation date market price of US$ 78.20 represents BPS in value of only US$ 8.76 per share (11.20%), all the rest of value exactly 88.80% is explained by continuing value or possible future growth prospects. In the past Starwood Hotels, & Resorts, Inc. was growing based on reorganization to asset-light strategy model, but in the future its growth would depend on RevPAR growth rate between its system wide same store properties of owned, lease, franchised, and managed hotels around the world; further disposition of underperforming hotels (owning relationships); and construction of new hotels, new contracts management, and franchisees hotel relationships as further worldwide brand development.

Recognizing this future prospects some recent news of global growth during year of 2015 are showing us further flows of development. On April 16 Starwood Hotels, & Resorts, Inc. announces adding new independent tenth brand ‘Tribute portfolio’ with expectation of 100 hotels/properties by 2020 to existing nine portfolio of brands. This brand would set sight on world’s most distinct independent hotels comprised of outstanding independent properties and resorts.

Some milestones of management, franchises as joint ventures partnerships during January and May global news were for example opening of ‘St. Regis Istanbul’ under St. Regis Hotels, & Resorts brand, management agreement for ‘Sheraton Hokkaido Resort’, a new constructed 110–room hotel in Republic of Georgia–Batumi (2018) under Le Méridien brand. Technology and innovation also has a high role in company with development of 24 hours mobile check-in-out system (Starwood Hotels, & Resorts Worldwide, Inc. – Global growth news, 2015).

CONCLUSION

Hospitality and catering sector as part of the international tourism industry provides mainly leisure and business tourist with somewhere to stay ('accommodation or lodging') and sustenance ('catering – food & beverage') while traveling or staying in their destinations. As the most common type of commercial accommodation sector, hospitality hotel companies refer to both provided services compared to only catering sector connected with the sustenance. In general accommodation products are classified under fully serviced or partially serviced and self-catering accommodations. They can be further categorized according to type of services provided to its guests as limited-service, extended-stay, full-service lodging facilities with special subcategory of time-share lodging facilities.

If in the past firstly seen large and luxury hotels (eg. Savoy, Claridges in London, the Ritz in Paris, Raffles in Singapore, Waldorf Astoria in New York City, etc.) with coffee shops and restaurants were developed from coaching inns and commercial guesthouses, rapid globalization process of the hospitality industry in the last twenty years changed the professional craftsmanship operating model. Hospitality hotel companies could be nowadays arranged under management contracts, lease, and franchise agreements as equity ownerships operating models with various combinations as most commonly under developed worldwide flagships brands.

Organized in that way some of the hospitality companies with full-service and extended-stay lodging facilities today are Hilton Worldwide Holdings, Extended Stay America, Hyatt

Hotels Corporation, Wyndham Worldwide Corporation, and Starwood Hotels, & Resorts with highest market capitalization in range of US$ 26.20 billion (Hilton Worldwide Holdings) to lowest one of US$ 3.95 billion (Extended Stay America) at valuation date August 4th, 2015.

Developments and financial performance of our case study 'Starwood Hotels, & Resorts Worldwide, Inc.' are noticing, that this type of companies besides having developed worldwide brands portfolio they could be geographically present aside from domestic market at many others worldwide. Taking into account company business characteristics every investor with hospitality industry should be careful capturing all of them into the hospitality firm's required rate of return and its risk determinants. Global hotel/gaming industry compared to U.S. is determined with different capital structure and lower leverage as also it is capturing higher return on equity reflecting in its industry higher required rate of capital. Since financial theory distinguishes between prospective business analysis concepts and models mainly on its different input information and assumptions, there are model disadvantages and advantages as implementation concerns with hospitality industry.

Thinking about dividends more of the distributions or allocations to different claimants than a creation of company's value added by financial critiques could relate to some particularities of hospitality industry. As U.S. hotel/gaming industry has substantially higher dividend payout patterns most recently than global hotel/gaming industry, its operating models of hospitality hotel companies could refer to its diversification of dividend policy. Hospitality companies with equity ownership operating models (REITs, PEFs) firstly developed at U.S. market are obligated to distribute fairly percentage of their taxable income to its shareholders by law compared to their counterparts corporations with usually management contracts, lease, and franchise agreements operating models.

On the other hand approaches of discounted FCF valuation of our case study 'Starwood Hotels, & Resorts Worldwide, Inc.' are different based on cash and accrual accounting concepts. As alternative to discounted FCF valuation approach results of estimated future FCF to firm is resulting in closer stock price at capital market at valuation date of August 4th, 2015 than dividend discount model, but poorer than all other valuation approaches (REs, AEG based models, and EVA valuation approach) concerned with accrual accounting concepts. Tracking value created for shareholders by being cautions on changes in CSE, driven by NOA and NFO based on accrual accounting concepts, reveals at most time other operating and financial liabilities not seen at first sight as burn out of company FCF for financing flows. As usually FCF concerns the distribution of firm wealth (representing stock and debt issues as dividend payouts) than generation of wealth, our case study shows, that Starwood Hotels, & Resorts, Inc. has used all of its FCF and more at year ended 2014 for net dividends and financing flow (debt).

If the difference between NOA and NFO explains the common shareholders' equity flow, hospitality hotel company earnings (Comprehensive Income) and its future growth prospects are driven mainly by its global as domestic revenue drivers of RevPAR, ADR, and occupancy. The hospitality company portfolio of its facilities by type and age together with its brand affiliations as new prospective management contracts, lease, and franchise agreements' relationships are also not negligible growth factors.

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APPENDIXES

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Appendix A: Penman approach of reformulating financial statements – Income Statement, Balance Sheet Statement and The Statement of Stockholders' Equity

*Figure 1.*Reformulated Statement of CSE

Beginning book value of common equity
+ Net effect of transactions with common shareholders (D_t):
+ Capital contributions (share issues)
- Share repurchases
- Cash Dividends
= Net cash contributions (negative net dividends)

+ Effect of operations and nonequity financing ($Earn_t$):
+ Net income (from income statement)
+ Other comprehensive income
- Preferred dividends
= Comprehensive income available to common
Closing book value of common equity

Source: S. Penman, *Financial Statement Analysis and Security Valuation*, 2013, p. 259.

Figure 2. Reformulated Balance Sheet

Operating Assets		**Financial Obligations and Owners' Equity**	
Operating assets	(OA)	Financial Obligations	(FO)
Operating liabilities	(OL)	Financial Assets	(FA)
		Net Financial obligtions	NFO
		Common shareholders' equity	CSE
Net operating assets	NOA		NFO + CSE

Source: S. Penman, *Financial Statement Analysis and Security Valuation*, 2013, p. 241.

Figure 3. Reformulated Income Statement

Operating Revenue		(OR)
Operating Expenses		(OE)
Operating Income		**OI**
Financial expense	xx	
Financial income	xx	(NFE)
Comprehensive income		**CI**

Source: S. Penman, *Financial Statement Analysis and Security Valuation*, 2013, p. 243.

Appendix B: Reformulation check of Starwood Hotels, & Resorts Worldwide, Inc. Adjusted Financial Statements (Income Statement, Balance Sheet Statement, The Statement of Stockholders' equity

Figure 4. Starwood Hotels, & Resorts Worldwide, Inc.' reformulation check of crucial consolidated financial statements

Reformulation Check!															
Fiscal Year Ended	**31.12. 2014**	**31.12. 2013**	**31.12. 2012**	**31.12. 2011**	**31.12. 2010**	**31.12. 2009**	**31.12. 2008**	**31.12. 2007**	**31.12. 2006**	**31.12. 2005**	**31.12. 2004**	**31.12. 2003**	**31.12. 2002**	**31.12. 2001**	**31.12. 2000**
Comprehensive income															
Reformulated Statement of Shareholders Equity	481.6	635.8	401.5	625.6	339.2	234.0	151.9	569.9	1,484.2	355.0	474.0	449.0	365.0	14.0	288.0
Income Statement	481.6	635.8	401.5	625.6	339.2	234.0	151.9	569.9	1,484.2	355.0	474.0	449.0	365.0	14.0	288.0
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comprehensive income															
GAAP Net Income	633.0	635.0	562.0	489.0	477.0	73.0	329.0	542.0	1,043.0	422.0	395.0	309.0	355.0	145.0	403.0
Dirty-surplus Items	-151,4	0.8	-160,5	136.6	-137,8	161.0	-177,1	27.9	441.2	-67.0	79.0	140.0	10.0	-131.0	-115.0
Adjusted GAAP Net Income	481.6	635.8	401.5	625.6	339.2	234.0	151.9	569.9	1,484.2	355.0	474.0	449.0	365.0	14.0	288.0
Income Statement	481.6	635.8	401.5	625.6	339.2	234.0	151.9	569.9	1,484.2	355.0	474.0	449.0	365.0	14.0	288.0
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ending CSE															
Reformulated Statement of Shareholders Equity	1,512.0	3,337.0	3,110.0	2,927.0	2,444.0	1,886.0	1,758.0	2,220.0	3,070.0	5,444.0	4,949.0	4,478.0	4,152.0	3,773.0	3,844.0
Balance Sheet	1,512.0	3,337.0	3,110.0	2,927.0	2,444.0	1,886.0	1,758.0	2,220.0	3,070.0	5,444.0	4,949.0	4,478.0	4,152.0	3,773.0	3,844.0
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes. *Fair value of the underlying equity on the date of stock option grant is equal exercise price at the periods of fiscal year ended 2000-2005. Based on reported stock-based compensation expense and excess stock-based compensation tax benefits reported in Cash Flow Statement, we are recognizing and adjusting other comprehensive income for effects of stock option exercises.

Source: Reformulation summary information of Starwood Hotels & Resorts Worldwide, Inc., *Annual report 2001; Annual Report 2003; Annual Report 2004; Annual Report 2005; Annual Report 2006; Annual Report 2007; Annual Report 2008; Annual Report 2009; Annual Report 2010; Annual Report 2011; Annual Report 2012; Annual Report 2013; and Annual Report 2014*.

Appendix C: Dividend Policy and Growth of CSE (Summary of Starwood Hotels, & Resorts Worldwide, Inc.' Adjusted Financial Statements)

Figure 5. Starwood Hotels, & Resorts Worldwide, Inc.' dividend policy and growth rate of CSE

Fiscal Year Ended	**31.12. 2000**	**31.12. 2001**	**31.12. 2002**	**31.12. 2003**	**31.12. 2004**	**31.12. 2005**	**31.12. 2006**	**31.12. 2007**	**31.12 .2008**	**31.12 .2009**	**31.12. 2010**	**31.12 .2011**	**31.12. 2012**	**31.12. 2013**	**31.12. 2014**
Cash Dividends Payout								0.16	1.13	0.71	0.27	0.16	0.60	0.40	1.53
Total Payout Ratio	**0.24**	**6.86**	**0.00**	**0.06**	**0.65**	**0.64**	**0.87**	**3.29**	**3.90**	**0.71**	**0.27**	**0.16**	**1.40**	**0.90**	**4.92**
Cash Dividends / Distributions Paid to Book Value	0.03	0.04	0.01	0.04	0.03	0.03	0.08	0.04	0.09	0.08	0.04	0.03	0.08	0.08	0.33
Total Payout to Book Value	0.05	0.06	0.01	0.04	0.09	0.07	0.34	0.46	0.33	0.08	0.04	0.03	0.15	0.15	0.61
Retention Ratio								**0.84**	**-0.13**	**0.29**	**0.73**	**0.84**	**0.40**	**0.60**	**-0.53**
ROCE	7.75%	0.36%	9.67%	10.81%	10.59%	7.17%	27.26%	18.56%	6.84%	13.31%	17.99%	25.60%	13.72%	20.44%	14.43%
Net Investment Rate	-4.25%	-2.21%	0.37%	-2.96%	-0.07%	2.83%	-70.87%	-46.25%	-27.65%	-6.03%	11.60%	-5.83%	-7.46%	-13.15%	-69.12%
Growth Rate of CSE	**3.50%**	**-1.85%**	**10.04%**	**7.85%**	**10.52%**	**10.00%**	**-43.61%**	**-27.69%**	**-20.81%**	**7.28%**	**29.59%**	**19.77%**	**6.26%**	**7.29%**	**-54.69%**

Notes. * ROCE is calculated according to the Beginning Book Value of CSE, since ROCE + Net Investment Rate = Growth Rate of CSE. During the time period of fiscal years ended 2000-2006 Starwood Company was not paying any cash dividends, only distributions to preferred class B shares connected with the ITT Sheraton Trusts. Starwood Company has started paying out cash dividends from fiscal year ended 2007 onward. Starwood Hotels, & Resorts Worldwide, Inc. has in current fiscal year of 2014 filled for plans to establish a new public company 'Vistana Signature Experiences, Inc.' on the New Yorsk Stock Exchange, covering segment of vacation ownership as residential sales and services. That's why the CSE has decreased for more than 50% and it has payed out in total a 4.92 times of earnings as stock repurhcases as cash dividens.

Appendix D: A Systematic Analysis of Starwood Hotels, & Resorts Worldwide, Inc.' Growth

Figure 6. Starwood Hotels, & Resorts Worldwide, Inc.' historical comprehensive income

Starwood Hotels, & Resorts Worldwide, Inc. Summary information from Balance Sheets and Income statements, (in millions of US$)															
Fiscal Year Ended	**31.12 2014**	**31.12 2013**	**31.12 2012**	**31.12 2011**	**31.12 2010**	**31.12 2009**	**31.12 2008**	**31.12 2007**	**31.12 2006**	**31.12 2005**	**31.12 2004**	**31.12 2003**	**31.12 2002**	**31.12 2001**	**31.12 2000**
Average NOA	3,355.00	3,888.50	4,322.50	4,548.00	4,533.50	4,798.00	5,186.50	5,509.50	7,252.50	9,046.50	8,925.50	8,984.50	9,288.50	9,382.50	9,549.00
Average NFO	927.50	661.00	1,301.00	1,854.50	2,350.50	2,954.00	3,173.00	2,839.00	2,970.50	3,824.00	4,184.50	4,636.00	5,286.00	5,529.50	5,657.00
Average Minority Interest	3.00	4.00	3.00	8.00	18.00	22.00	24.50	25.50	25.00	26.00	27.50	33.50	40.00	44.50	48.00
Average CSE	2,424.50	3,223.50	3,018.50	2,685.50	2,165.00	1,822.00	1,989.00	2,645.00	4,257.00	5,196.50	4,713.50	4,315.00	3,962.50	3,808.50	3,844.00
Sales	**3,272.00**	**3,501.00**	**3,873.00**	**3,285.00**	**2,954.00**	**2,765.00**	**3,712.00**	**4,288.00**	**4,390.00**	**4,907.00**	**4,385.00**	**3,779.00**	**3,808.00**	**3,893.00**	**4,345.00**
Gross Profit	1,564.00	1,577.00	1,521.00	1,315.00	1,154.00	1,028.00	1,441.00	1,725.00	1,631.00	1,612.00	1,378.00	1,047.00	1,184.00	1,555.00	1,912.00
Core Operating Income (after tax)	**722.50**	**630.40**	**723.90**	**746.70**	**552.60**	**-34.80**	**344.40**	**634.90**	**1,392.00**	**512.00**	**587.80**	**787.00**	**546.60**	**290.30**	**656.50**
Dirty-surplus items (operating and financial)	-151.40	0.80	-160.50	136.60	-137.80	161.00	-177.10	27.90	441.20	-67.00	79.00	140.00	10.00	-131.00	-115.00
Special items and discontinued operations	-16.00	73.00	96.00	-2.00	138.00	-21.00	-2.00	21.00	-14.00	33.00	25.00	33.00	115.00	-44.00	4.00
Income from Continuing Operations (after tax)	**555.10**	**704.20**	**659.40**	**881.30**	**552.80**	**105.20**	**165.30**	**683.80**	**1,819.20**	**478.00**	**691.80**	**960.00**	**671.60**	**115.30**	**545.50**
Net Financing Expense (after tax)	-73.50	-68.40	-257.90	-257.70	-215.60	126.80	-13.40	-112.90	-334.00	-123.00	-217.80	-514.00	-304.60	-98.30	-249.50
Minority Equity in Net Income				2.00	2.00	2.00		-1.00	-1.00			3.00	-2.00	-3.00	-8.00
Comprehensive Income	**481.60**	**635.80**	**401.50**	**625.60**	**339.20**	**234.00**	**151.90**	**569.90**	**1,484.20**	**355.00**	**474.00**	**449.00**	**365.00**	**14.00**	**288.00**

*Notes.**Balance Sheet numbers are averages for the current fiscal years ended 2001-2014, except at fiscal year ended 2000. Average CSE is excluding noncontrolling interests-minority equity! Average NOA - Average NFO = Average Minority Interests + Average CSE.

*Figure 7.*Starwood Hotels, & Resorts Worldwide, Inc.' systematic analysis of profitability and comprehensive income' growth ratios based on consolidated summary information of reformulated financial statements at Figure 6

Fiscal Year Ended	31.12 2014	31.12. 2013	31.12. 2012	31.12. 2011	31.12 2010	31.12. 2009	31.12. 2008	31.12. 2007	31.12. 2006	31.12. 2005	31.12. 2004	31.12. 2003	31.12. 2002	31.12. 2001	31.12. 2000
ROCE (The majority of the parent company)	19.86%	19.72%	13.30%	23.30%	15.67%	12.84%	7.64%	21.55%	34.86%	6.83%	10.06%	10.41%	9.21%	0.37%	7.49%
Minority Interests Sharing Ratio	1.00	1.00	1.00	1.01	1.01	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.00	0.83	0.99
Average ROCE	19.84%	19.70%	13.29%	23.23%	15.54%	12.69%	7.54%	21.34%	34.66%	6.80%	10.00%	10.33%	9.12%	0.36%	7.40%
Return on NOA	16.55%	18.11%	15.26%	19.38%	12.19%	2.19%	3.19%	12.41%	25.08%	5.28%	7.75%	10.69%	7.23%	1.23%	5.71%
Net Borrowing Costs	7.92%	10.35%	19.82%	13.79%	9.09%	-4.36%	0.42%	4.01%	11.28%	3.22%	5.20%	11.02%	5.80%	1.83%	4.55%
Profit Margin	16.97%	20.11%	17.03%	26.83%	18.71%	3.80%	4.45%	15.95%	41.44%	9.74%	15.78%	25.40%	17.64%	2.96%	12.55%
Core Sales Profit Margin	22.08%	18.01%	18.69%	22.73%	18.71%	-1.26%	9.28%	14.81%	31.71%	10.43%	13.40%	20.83%	14.35%	7.46%	15.11%
Assets Turnover	0.98	0.90	0.90	0.72	0.65	0.58	0.72	0.78	0.61	0.54	0.49	0.42	0.41	0.41	0.46
Capitalization Ratio	1.38	1.20	1.43	1.69	2.08	2.60	2.58	2.06	1.69	1.73	1.88	2.07	2.32	2.44	2.45
Financial Leverage	0.38	0.20	0.43	0.69	1.08	1.60	1.58	1.06	0.69	0.73	0.88	1.07	1.32	1.44	1.45
Spread	8.62%	7.76%	-4.57%	5.59%	3.11%	6.55%	2.76%	8.40%	13.81%	2.07%	2.55%	-0.34%	1.43%	-0.60%	1.16%

Appendix E: Starwood Hotels & Resorts Worldwide, Inc.' historical REs based on average hotel/gaming industry cost of capital (8.93%)

Figure 8. Starwood Hotels & Resorts Worldwide, Inc.' historical REs

In millions of US$!																
Fiscal Year Ended	**31.12. 2014**	**31.12. 2013**	**31.12. 2012**	**31.12. 2011**	**31.12. 2010**	**31.12. 2009**	**31.12. 2008**	**31.12. 2007**	**31.12. 2006**	**31.12. 2005**	**31.12. 2004**	**31.12. 2003**	**31.12. 2002**	**31.12. 2001**	**31.12. 2000**	**31.12. 1999**
Earnings (Comprehensive Income)	481.57	635.85	401.49	625.60	339.15	234.00	151.89	569.88	1,484.16	355.00	474.00	449.00	365.00	14.00	288.00	
CSE	1,512.00	3,337.00	3,110.00	2,927.00	2,444.00	1,886.00	1,758.00	2,220.00	3,070.00	5,444.00	4,949.00	4,478.00	4,152.00	3,773.00	3,844.00	3,714.00
Net Effect of Transactions with CSE	2,306.57	408.85	218.49	142.60	-218.85	106.00	613.89	1,419.88	3,858.16	-140.00	3.00	123.00	-14.00	85.00	158.00	
REs	183.57	358.12	140.11	407.35	170.73	77.01	-46.36	295.73	998.01	-86.95	74.11	78.23	28.07	-329.27	-43.66	
Change in RE	-174.55	218.02	-267.25	236.62	93.72	123.37	-342.09	-702.28	1,084.96	-161.06	-4.11	50.16	357.34	-285.61		
AEG	-174.55	218.02	-267.25	236.62	93.72	123.37	-342.09	-702.28	1,084.96	-161.06	-4.11	50.16	357.34	-285.61	288.00	

Appendix F: Full information forecasting of Starwood Hotels, & Resorts Worldwide, Inc.

Figure 9. Key income statement and turnover ratios based on analysts forecast of net sales and industry averages by Damodaran (January 5, 2015)

Analysts forecast and average estimates into the future of key Income statement ratios!

	2014A	2015E	2016E	2017E	2018E	2019E	2019E and after
Gross Margin	47.80%	47.53%	47.28%	47.37%	47.37%	47.37%	47.37%
SG&A Expense Ratio	20.81%	21.58%	19.11%	17.62%	19.44%	19.44%	19.44%
Coefficient Tax Provision R.	22.82%	31.48%	32.06%	31.99%	29.59%	29.59%	29.59%
Sales Growth	-6.54%	-2.16%	4.07%	7.75%	3.95%	3.95%	3.95%

* SG&A – selling, general, and administration

Forecasts of turnover!

	2014A	2015E	2016E	2017E	2018E	2019E	2019E and after
Accounts Receivable Turnover	5.54	7.39	12.17	12.38	12.16	12.16	12.16
Inventory Turnover (I. Average)	112.83	52.51	33.01	33.57	32.99	32.99	32.99
PPE Turnover	1.16	1.19	1.18	1.20	1.18	1.18	1.18
Other NOA/Sales	-8.80%	11.00%	14.47%	16.08%	14.47%	14.47%	14.47%

* PPE – Plant, Property, & Equipment

Notes. *Accounts Receivable Turnover = Net Sales / Average Accounts Receivable. Future accounts receivable are projected according to hotel/gaming industry accounts receivable to current net sales of 8.38%. Inventory Turnover = Net Sales / Average Operating Inventories. Future operating inventories are projected according to hotel/gaming industry operating inventories to current net sales of 3.09%. If at year ended 2014 Net sales to Average PPE is 1.157001, future forecasted PPE is: Forecasted Net Sales / 1.157001. A – Annual Report Year, E – Estimated Future Years.

Figure 10. Pro forma financial statements in millions of US$ according to appropriate ratios at Figure 9

Pro forma financial statements in millions of US$!							
	2014A	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2019E after**
Income Statement!							
Total Revenues	**5,983.0**	**5,853.71**	**6,092.06**	**6,564.33**	**6,823.62**	**7,093.15**	
Net Sales	3,272.0	3,201.29	3,331.64	3,589.92	3,731.72	3,879.12	
Cost of sales	1,708.0	1,679.74	1,756.42	1,891.99	1,964.04	2,041.62	
Gross Profit	1,564.0	1,521.55	1,575.22	1,697.93	1,767.68	1,837.50	
Total Operating Expenses	681.0	690.99	636.55	632.68	720.29	743.49	
Core Operating Income or Loss (before tax)	**883.0**	**830.56**	**938.67**	**1,065.25**	**1,047.39**	**1,094.01**	
Operating Income Taxes	160.5	261.44	300.93	340.76	309.92	323.72	
Core Operating Income after tax	**722.6**	**569.12**	**637.74**	**724.49**	**737.47**	**770.29**	
Other operating and financial items	-151.4						
Dirty-surplus items (operating and financial)	-16.0						
Income from Continuing Operations (after tax)	**555.1**	**569.12**	**637.74**	**724.49**	**737.47**	**770.29**	
NFE after tax	-73.6	-64.01	-70.64	-68.86			
Minority Interest and Equity in Net Income		2.26	3.42	2.63			
Earnings (Comprehensive Income)	**481.6**	**502.85**	**563.68**	**653.00**	**737.47**	**770.29**	
Balance Sheet!							
Accounts Receivable	598.0	433.1	273.7	290.0	306.8	318.9	
Operating Inventories	23.0	61.0	100.9	106.9	113.1	117.6	
PPE	2,629.0	2,697.9	2,823.2	2,991.2	3,164.1	3,289.0	
Other NOA	-288.0	344.3	482.4	577.5	538.3	559.6	
NOA	**2,962.0**	**3,536.3**	**3,680.3**	**3,965.6**	**4,122.3**	**4,285.1**	
Operating Income	555.1	569.1	637.7	724.5	737.5	770.3	
Change in NOA	-786.0	574.3	144.0	285.3	156.6	21.3	
Free Cash Flow (C-I) = OI - Change in NOA	**1,341.1**	**-5.2**	**493.8**	**439.2**	**580.8**	**749.0**	
Return on average NOA (%)	16.55%	17.52%	17.67%	18.95%	18.24%	18.32%	
ReOI (14.15% required return)	80.45	99.75	124.69	176.76	162.13	172.16	
Growth rate (ReOI at required return of 14.15%)			25.00%	41.76%	-8.28%	6.19%	

Note. If at year ended 2014 NOA to Net Sales is 0.9052567, foreasted future NOA are: Forecasted Net Sales/0.9052567.

Reimbursement of costs on behalf of managed hotel properties and franchises are represented every year by Starwood Hotels & Resorts Worldwide, Inc. between 'other revenues from managed and franchised properties' and since they are maid on costs incurred with no added margins, they don't have impact on operating profit of Starwood Company. Historically (20001-2014) they account on average for roundly 30.75% of its total revenues, but in the last five years (2009-2015) from assets–light strategy concept their average share between total revenues is 41.90%. So at pro forma financial statements in millions of US$, we are assuming forecasted analysts growth rates of total revenues for net sales. With average forward operating income on average NOA of 18.14%, present market value of firm at value of US$ 15,196.47 million (US 13,746.47 + US$ 1,450), and constant growth rate of 13.19%, company cost of operations is 14.15% (using Solver function in excel).

Appendix G: List of Abbreviations, Equations and Other Symbols:

- AEG – Abnormal Earnings Growth
- ADR – Average Daily Rate or Average Room Rate
- ATO – Assets Turnover
- CAPM – Capital Assets Pricing Model
- CF – Cash Flow
- 'C-Corps' – 'Counterparts Corporations'
- CSE – Common Shareholders Equity
- CV – Continuing Value
- DCF valuation approach or model – Discounted Cash Flow valuation approach or model
- Discount Factor $\rho_D = (1 + r_D)$ – Required Rate of Return on Net Debt or the Cost of Debt Capital
- Discount Factor $\rho_E = (1 + r_E)$ – Required Rate of Return on Equity or the Cost of Equity Capital
- Discount Factor $\rho_F = (1 + r_F)$ – Firm's Required Rate of Return or the Cost of Capital for (Enterprise) Operations
- DPS – Dividend per Share
- D – Dividend
- 'EAME' – 'Europe, Africa, and Middle East'
- EBO model – Edward-Bell-Ohlson model
- EBIT – Earnings before Interests and Taxes
- EPS – Earnings per Share
- ERP – Equity Risk Premium
- EVA – Economic Value Added
- FCF – Free Cash Flow; at certain time period of T it is measured as cash flowing from enterprise operating activities (C_T) minus cash flowing from enterprise investment activities (I_T): ($C_T - I_T$).
- NOA – Net Operating Assets
- NOI – Net Operating Income
- NOPAT – Net Operating Profit after Tax
- NOWC – Net Operating Working Capital
- NFE – Net Financial Expenses

- NFO – Net Financial Obligations
- OI – Operating Income
- $P_0(V_0^E)$ – Present Value of Stock Price (Present Market Value of Enterprise' Common Shareholders Equity)
- PEF – Private Equity Fund
- PM – Profit Margin
- REIT – Real Estate Investment Trust
- ReOI – Residual Operating Income
- ReNFE – Residual Net Financial Expenses
- RE/s – Residual Earning/s
- ROCE – Return on Common Shareholders Equity
- RevPAR – Revenue per Available Room
- V_0^D – Present Value of Enterprise Net Debt
- V_0^E – Present Market Value of Enterprise' Common Shareholders Equity
- V – Terminal Value