Marriott case hbs

Issue In this assignment, we are asked to compute the WACC of Marriott Corporation and each of the company's three divisions. Our approach is outlined in the next section. We made a series of assumptions regarding either the available data or the missing information. This has been explained below, in a separate section. Approach We applied the following formulae to calculate the WACC: Our assumptions are explained in the next section. The table below presents the approach for calculations at corporation level and division level according to each of the variables.

Marriott's capital structure comprises debt (fixed and floating) and equity. Marriott CorporationBusiness Lines 1Beta of Debt (? ¬¬d)Computed using correlation between S&P500 returns and HG Corp Bonds (recent history is implicitly more weighted), s. d. of the S&P500 and s. d. of the HG Corp Bonds (Exhibit 4)Same 2Risk-Free RateEstimated to be equal to 10y US Gov Interest Rate as of April 1988 (Table B)Same 3Current LeverageUsing financial statements (Exhibit 1), we estimated the market value of debt and divided by market value of assets. Market value of debt is estimated to be equal to its book value.

Market value of assets is equal to market value of debt + market value of equity (number of outstanding shares * price per share)N/A 4Market Risk PremiumFrom table of returns (Exhibit 5), taken as the average of spread between rates of return for S&P500 and LT US Gov Bonds, 1926-87Same 5Tax RateEstimated from data in exhibit 1, from ratio between income before tax and net income for year 1987Same 6Beta of Equity (? E), Unlevered ? E Levered can be found in Exhibit 3 for the current debt load. Using the current leverage ratio (Step 3), we calculate the unlevered ? E.

Having found unlevered equity betas of comparables from their leverage ratio and levered ? E (Exhibit 3), we averaged the unlevered ? E to get the unlevered ? E for each Marriott division. Restaurants division was mapped on Restaurants comparables, Lodging on Hotels whilst Contract Services was implied from Marriott’s and other two divisions unlevered ? E and their respective share in total assets book value. 7Cost of Equity (RL)We recalculated the new Levered ? E based on target leverage of Marriott (Table A) then, combine the Levered ? E, risk free rate, and MRP to calculated the cost of equity using CAPM relationship.

Same, except unlevered beta from previous step was used to calculate levered beta. 8Cost of Debt (RD)See step 7, using Beta DebtSame 9WACCWACC formula accounting for ITS correctionSame, respective target leverage ratios and a ? D equal to Marriott’s ? D were used to estimate WACC. Assumptions •Overall Assumptions: Although we assume an ITS, we do not have the data to calculate individual ITS for each division and Marriott. As a result, we assume E*= E (rather than E*= E+ITS) and that the ITS is as risky as debt. We assume debt is perpetual and no growth. Beta of Debt: Although Marriott is one firm, we assume it is fairly comparable to a generic HG Corp, with single A rating. Therefore we performed a linear regression on the rate of returns of HG Corporate Bonds against S&P 500 rate of returns, as a proxy of the market portfolio rate of returns. •Risk-free rate: The 10Yr UST is assumed to be the best estimate at company and division level. Ideally, each cash flow should be discounted using a government bond with the same maturity. For this case, the selection of the

maturity should one that matches best the entire cash flow stream being valued.

Also, 1Yr rate is very volatile and 30Y illiquid and thus there is premium built therein. We have assumed that the rates provided in Table B are for zero-coupon bonds, and USD. •Current leverage: Market value of debt is estimated to be equal to its book value. The firm is HG, risk premium for HG bonds is relatively low, and we have no information on coupon level of fixed rate debt. The floating rate debt is likely to trade close to par. For subsequent calculations, we also assumed the average maturity at five years. There is only long-term debt for us to consider. Market risk premium: In the same fashion that we estimate the risk free rate benchmark is 10y UST Bond Interest Rate, so we used the difference of average returns between LT UST Bonds and S&P 500 for the period 1926-87, the longest history available we have. We are aware of the imperfection of using historical rates of return. •Average corporate tax rate: We assume that the rate calculated as the average rate applied to 1987 is a reasonable proxy for future tax rate. Tax rate is applicable across divisions. •Cost of Debt: S&P 500 is also considered to be best proxy available for market portfolio.

We also assumed no financial distress, which is reasonable because firm has real assets and overhead cost is 3% of revenue. Competitors and divisions have the same debt beta as Marriott: •Beta equity of each division: it has been assumed that the unlevered beta equity of each division is comparable to the average of unlevered beta equity of the comparables identified in the case for each relevant business segment. •Weighted average of book value

of assets was used to determine the unlevered beta of Contract Division, we assumed this to be a reasonable proxy instead of market value of assets.