A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Marriott International Inc. Equity Research – The Hotel Giant's Recovery

Daniel Duarte Neves
Master's in Finance
32347

A Project carried out on the Master in Finance Program, under the supervision of:

Francisco Martins

20/05/2022

Abstract

This report, which is part of a broader Equity research on Marriott International Inc., aims to establish a price target for the analysed company. At a time where financial markets are faced with tremendous uncertainty, depicting the intrinsic value of Marriott based on its underlying value drivers becomes ever more relevant. Departing from the projections on how the US-based hotel chain will evolve in the future, both absolute and relative valuation methods will be used to establish a price target of $173,12 for December 2022. Resulting in an estimated shareholder return of 11,66% a BUY recommendation will be provided to prospective investors.

Keywords: Equity Research; Tourism and Travel; Lodging Industry; Marriott International Inc

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the Marriott International Inc Equity Research – Consolidating a leading position amid recovery report (annexed), developed by Daniel Neves (32347) and Hugo Correia (31883) and should be read has an integral part of it.

Table of Contents

Introduction

Marriott International Inc is one of the most important companies in the lodging industry, operating in more than 130 countries and composed by a range of 30 valuable brands that allow them to be the largest in terms of guestrooms. In the recent past, Marriott lived challenging times with health crisis and lockdowns spread by all over the world that prevented them of performing their daily activities and consequently their revenues decreased more than 50%. At the same time Marriott took this crisis as an opportunity to innovate and be the first to adapt to changing market preferences and behaviours. Only this way, it was possible to have such an impressive recovery in 2021 and equally positive future growth prospects.

In times of uncertainty, equity research reports gain an additional importance for giving to individual investors and to the whole market itself reliable and trustworthy information that must be taken into account when pursuing financial decisions. Having this in mind, it was essential to estimate Marriott's value drivers and understand how they will behave in the future to assess if they can sustain their position in the market and create value for its respective shareholders. The final objective is to give a recommendation concerning the value of the company's equity and compare it with market value.

The overall report starts by giving a macroeconomic and industry framework where it is identified the main competitors, their past performances in comparison with Marriott and the future trends of the sector, namely the new hybrid work-leisure segment. After gathering all relevant information, one must apply it when doing the forecasts of the core free cash flows, which will be thoroughly explained in this individual part. Moreover, the estimation of the cost of capital required by bondholders and shareholders will also be analysed, those serving as essential inputs to calculate the appropriate discount rate paramount to determine Marriott's enterprise value.

All in all, analysts' estimates support a BUY recommendation resulting from an estimated total shareholder return of 11,66% until the end of 2022.

Forecasts

Future Strategy

As one starts looking forward in time, Marriott has established some important strategic priorities that will serve as guidance in terms of what is expected of the company in the years to come.

Firstly, the hotel chain intends to maintain a strong focus on the three most crucial constituents, those being, its associates, guests as well as its owner and franchisee community. With all of them representing an essential part for the company's success, there is a clear commitment to create an adequate environment to retain and attract top talent, enabling the provision of high-quality service to guest while maintaining a close and transparent relationship with owners and franchisees that promotes trust and increases willingness for future agreements (Morgan Stanley Global Consumer & Retail Conference, 2021).

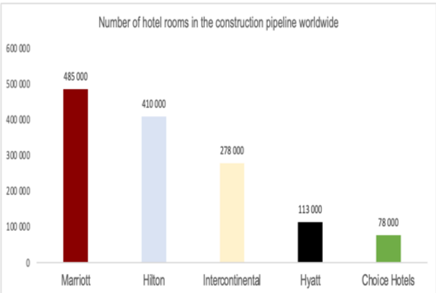


***Figure 45*:** Marriott and competitors' pipeline, in number of rooms (Q1 2022)
Source: Marriott's Annual Report and Competitors' Data

Another key strategic priority is net unit growth, As depicted in Figure 45, at the end of Q1 2022, Marriott had the largest pipeline in the industry with 2 878 hotels under development, accounting for nearly 485 000 rooms. This pipeline reveals a noteworthy focus on the international market with 60% of current developments being out of the United States. In an interview to Bloomberg's "Chief Future Officer", Leeny Oberg, Marriott International CFO (2021), highlighted that the company projects substantial growth opportunities to arise in the international segment because, as previously reported, the hotel chain's market share, based on the number of rooms, is considerably smaller than the share in US & Canada. Already it can be seen a disproportionate part of Marriott's new developments occurring in China and in the Middle East when compared with their respective share in the existent rooms, highlighting the firm's ambition to boost its presence in those two attractive markets. Being satisfied with current breadth of its brand portfolio, Marriot projects net unit growth to be mostly organic, despite still being open to good M&A opportunities (Capuano, 2022).

The third component of the strategic priorities respects the loyalty program. In this field, Marriott not only aims to expand the program in aggregate but also to find new ways to engage members and drive activation similar to what was achieved by collaborating with Uber (Yahoo Finance, 2021).

Lastly, the hotel chain will continue to look for opportunities to innovate around its business, be it by rebuilding and supplementing core technology (Cobbold, 2022) or by looking for business adjacencies with the potential to become new revenue streams like the recent launch of the company's travel insurance (Marriott News Center, 2022).

Revenues

Methodology-wise, revenues were forecasted according to four main captions, namely, (i) Gross fees, which encompass revenues generated from management and franchise agreements plus branding fees of licensed trademarks for the sale of residential real estate, (ii) Owned, leased and other revenues, including all revenues earned from hotels detained by Marriott, (iii) Unallocated, corporate and other revenues, respecting fees obtained from timeshare as well as of other business adjacencies as are co-branded credit card fees and (iv) Cost reimbursement revenue. Throughout the present section, an in-depth analysis will be provided concerning the projections for the first three revenue elements. Regarding cost reimbursement revenues, its amount was estimated to fully match reimbursed expenses because, as explained in the company's Annual Report, there is no objective to obtain a profit trough this mechanism.

- Key Value Drivers

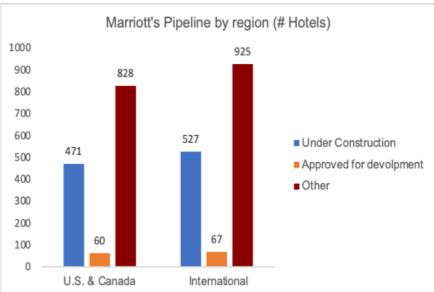


Figure 46: Marriott's Pipeline - # of hotels by phase of completion
Source: Marriott's Annual Report

As a starting point, it is essential to pinpoint the main drivers for each of the revenue rubrics to be estimated and understand their respective evolution across time.

Marriott's Lodging Facilities: At date of writing, the hotel chain's worldwide development pipeline is composed by 998 properties under construction, estimated to be operating in a period no longer than three years and 127 properties approved for development but not yet subject to signed contracts, being forecasted that those properties will enter into operations within the next five years. Moreover, Marriott identifies additional 1.753 new hotels, which are not yet in either of the two previous cases, therefore, assumed to enter the firm's portfolio only in subsequent periods until 2035 (*fig. 46*). Thus being, the company's expansion plan outlines a more pronounced growth of its lodging facilities until 2025, with more moderate growth thereon while, in line with the defined growth strategy, it also fosters international expansion with over 60% of new room additions being outside North America. The short-term hike in property development is partially explained by the increased number of independent operators that, after the recent turmoil in the industry, now want to better protect against adverse scenarios by being under the umbrella of a strong brand like Marriott International.

Figure 47: Evolution of the hotels in the asset-light segment, in U.S. & Canada
Source: Analysts' Estimates

Deep-diving concretely into the evolution of managed properties, after some years of consecutive declines in the number of hotels managed in the US & Canada, which were either due to deflations or within-brand conversions to franchise agreements, it is forecasted that, in future periods, Marriott will be able

Figure 48: Evolution of the hotels in the asset-light segment, in International
Source: Analysts' Estimates

to maintain the current property levels in North America, presently, accounting for 638 hotels. As for the International segment, the development plan will result in an average annual net unit growth of 3,3% in the first expansion phase, decreasing to around 1% afterwards.

Concerning franchised properties, despite already possessing a remarkable position in the North American market, Marriott will, nonetheless, continue enlarging its regional offer, projecting an increase in franchised hotels of nearly 1.5% per year in the in the next three years, followed by positive annual growth rates below 1%. It is, however, also in the international markets that the company will witness the largest growth. In fact, under the established plan, the number of franchised units in the international segment will more than double until 2030 as illustrated in figure 48. Such evolution reflects the increased importance of branding in the industry, even outside the United States.

Thirdly, Marriott will continue to engage in new residential development projects, translated by consecutive positive net new additions in the forecasted period.

As per strategic orientation, Marriott is increasingly focuses on its asset light business model, hence, no further growth is forecasted for either for the owned and leased hotels or the timeshare properties. It is projected that new additions will only serve to compensate for retirement of a given asset.

Figure 49: Total Number of Rooms Sold in the Lodging Industry
Source: Analysts' Estimates

Occupancy Rate: The occupancy rate provides and insightful glance at the demand Marriott will face moving forward. This metric, not only accounts for company-specific aspects as is the number of rooms it has available but, equally, incorporates wider industry factors, being the total rooms sold in the industry and the share Marriott is able to grasp from those sales the two main determinants of the rooms the firm will sell. Regarding overall industry sales, increased savings and pent-up demand will be the catalysts of a strong leisure demand that will contribute to a substantial rise of rooms sold vis-à-vis 2021. Notwithstanding, the slower recovery of business and group travel will result in forecasted values for rooms sold in the present year still below pre-pandemic values, representing around 90% of the 2019 benchmark. Only in 2023 full recovery is expected, with a CAGR of 0,5% projected for the years to follow (*fig. 49*). Those trends were already verified in the first quarter of 2022, with only leisure-room nights surpassing 2019 levels (Bloomberg, 2022). As of 2021, Marriott's market share based on earned revenues was of 6,97%, a value that, like the one from 2020, was more than one percentage point above the corresponding share before the health crisis, resulting from a better than average resilience of the company during such troubled period. Due to rare and valuable core competencies of Marriott such as its brand reputation and massive scale, which are not only hard

Market Share (Marriott)	
[2021 - 2025]	6,97%
[2026 - 2030]	7,20%
[2031 - Long-Term]	7,40%

Figure 50: Marriott's Market Share
Source: Analysts' Estimates

to replicate but have neither perfect substitutes, perceived as sustainable competitive advantages of the hotelier, it is forecasted that the company will maintain its leading position in the industry, sustaining and even slightly growing its market share within as represented in figure 50, reaching 7,4% after 2030 (Sharma, A., 2018).

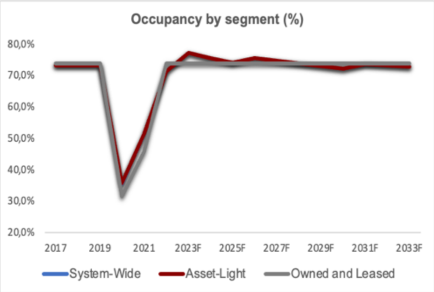


Figure 51: Occupancy by segment, in %
Source: Analysts' Estimates

Figure 51 provides graphical representation of the estimates for Marriott's system-wide occupancy rate based on the aforementioned inputs. Following the short-term demand boost whereby individuals will compensate for the last two years of restrained travelling, occupancy rate is expected to gradually decrease towards 73%, in line with historical values. This overall occupancy can be further decomposed between the rate faced hotels integrated in the asset light model and the one respecting owned and leased facilities.

Given that the asset light component of Marriott's portfolio represents over 99% of available rooms, the mentioned fluctuations in system-wide occupancy are driven by corresponding changes in the demand for this type of rooms, while occupancy for owned and leased properties is forecasted to remain more stable as those account for a small number of hotels subject to region-specific factors regarding demand.

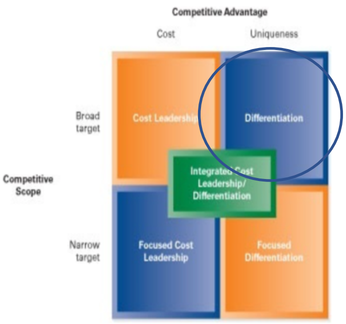


Figure 52: Marriott's Business Level Strategy
Source: Management: Concepts and Cases, 12th edition

Average daily revenue per room: Marriott's business level strategy is centred on differentiation. Operating in a diverse range of chain scales, the firm offers a service that uniquely satisfies customer needs, having earned a reputation for high quality and innovation standards (*fig. 52*). Hence, by increasing the value created for guests, while maintaining a competitive cost structure, Marriott benefits from considerable pricing power charging a premium for its services (Hitt, A., 2016). As previously referred in the report, the company earn different types of revenues depending on whether the properties are owned/leased or not.

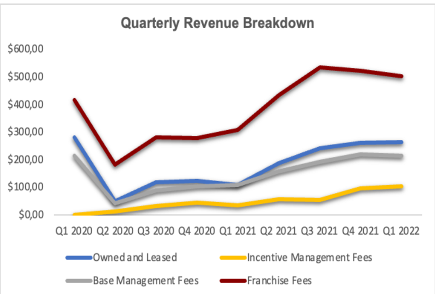


Figure 53: Quarterly Revenue Breakdown, in $ million
Source: Bloomberg

In its managed and franchised facilities, Marriott earns revenue according to the pre-established percentages defined in the contracts between the company and its community of owners and franchisees. The average daily fee per room reflects the expected fee earned by Marriott on daily basis per room sold under the mentioned agreements plus a residual component that concerns the fees from residential developments. Hence, this metric depends not only on the pricing power of the overall hotel chain but also on the company's bargaining power when negotiating contracts. In what concerns the latter aspect, it is expected that Marriott will maintain and enter into new agreements for which terms are, in general, similar to those currently in place.

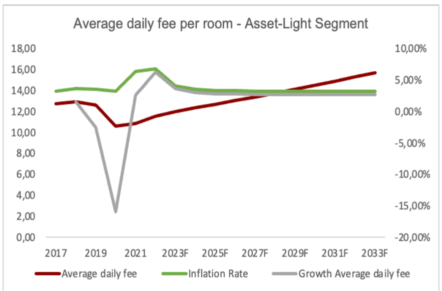


Figure 54: Average daily fee per room in the Asset-Light segment
Source: Analysts' Estimates

Even though, hotel revenues for owners and franchisees of Marriott hotels are forecasted to resemble those of 2019 already in the current fiscal year, the

ADR - Owned and Leased Segment			
Segment	Q1 2019	Q1 2022	% Change
Luxury	$376,42	$474,84	26,15%
Premium	$194,99	$212,96	9,22%
Limited-Service	$147,06	$273,55	86,01%
U.S. & Canada	$203,00	$242,05	19,24%
International	$164,67	$162,88	-1,09%
Worldwide	$184,28	$201,25	9,21%

Figure 55: ADR – Owned and Leased Segment Q1 2019 vs Q1 2022
Source: Marriott's Non-GAAP Reconciliations Q1 2019 vs Q1 2022

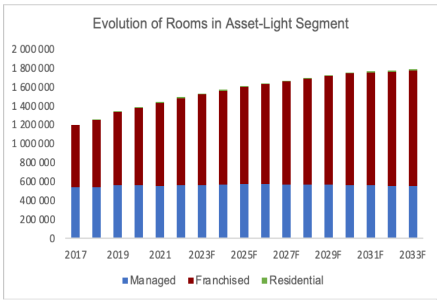


Figure 56: Evolution of Rooms in Asset-Light Segment
Source: Analysts' Estimates

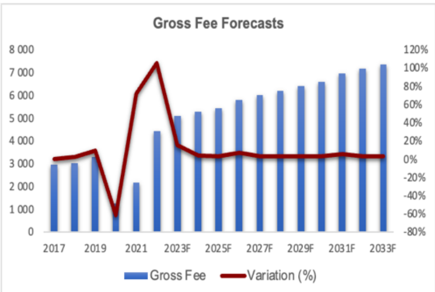


Figure 57: Gross Fee Forecasts, in $ millions
Source: Analysts' Estimates

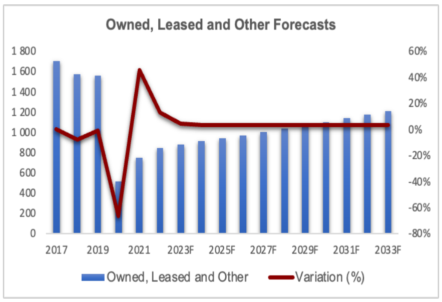


Figure 58: Owned, Leased and Other Forecasts, in $ millions
Source: Analysts' Estimates

average daily fee per room will lag behind this referenced date values mainly because of slower recovery of incentive fees. Those depend on earned profits, which are expected to, in the short-term, be reduced by higher non-operating expenses resulting from increased leverage (*fig. 53*). Consequently, despite presenting a positive growth pattern, only in 2025 are those fees expected to rise above the benchmark of $12.62 Thereon, the rate will continue to grow, closely matching the inflation rate (*fig. 54*).

Regarding the lodging facilities owned or leased by Marriott, the average daily rate reflects revenues earned on rooms sold plus extras like food and beverage or bookings of meeting rooms. With historical high inflation in the United States, price pressures have fully been accommodated by increased rates in the region. This, alongside with tremendous increase in spending in the Luxury sector have driven North American ADR above 2019 levels in this year's first quarter, while the International daily rate is slightly below reference amounts (*fig. 55*). Being likely that such trend will prevail in the short-term, ADR for owned and leased properties is expected to grow 17% in the present year. On the long-term its evolution is predicted to occur in line with global inflation.

Co-branded credit card fees: Similarly to timeshare-associated revenues, credit card fees are an important driver of Unallocated, corporate and other revenue. In particular, fees from Marriott's co-branded credit cards have proven to be a very resilient revenue stream in the last couple of years. As the company keeps on expanding its network of partners it is projected that adherence and usage of these credit cards will continue to follow an upward trend. Fees are expected to grow at a CAGR of 3,7% in the 2021-2030 period.

- Gross Fees

In regard to gross fees, said revenue stream, broadly, depends on the number of rooms under management, franchise and residential development agreements, the demand for those rooms, which is reflected on the occupancy rate and the applicable pricing dynamics, projected trough the analysis of future average daily fee that Marriott will receive per room.

In aggregate, the aforementioned property expansion plan will drive a sustained increase in the number of Marriott's rooms within its asset light model (*fig. 56*), even despite the slight decrease in average number of rooms per hotel in new additions, which partially offsets the referred rise, particularly in managed facilities. Based on its three value drivers, gross fees will grow in accordance to figure 57, with base case projections pointing to over $5B of annual gross fees being earned from 2023 onwards.

▪ Owned Leased and Other

With no substantial net unit growth expected for this segment, changes in revenues will be largely driven by alterations in the average daily rate. Figure 58 depicts the forecasted trajectory for Owned/Leased and other revenue, pinpointing a continued recovery of this element in future years while ancillary spending will still lag behind historical values in the short-term.

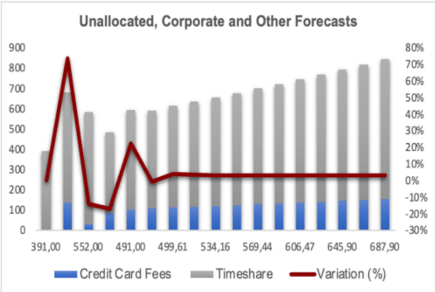


Figure 59: Unallocated, Corporate and Other, in $ millions
Source: Analysts' Estimates

▪ Unallocated, Corporate and Other

Majorly drive by timeshare and credit card fees revenues, it can be seen in figure 59 that revenue this revenue stream will, likewise, witness an upward movement. With timeshare rates broadly following global inflation and expanded range of users for Marriott's co-branded credit cards, it can be expected that Unallocated, corporate and other revenue will continue to account for nearly 2% of total revenue, excluding cost reimbursement revenues.

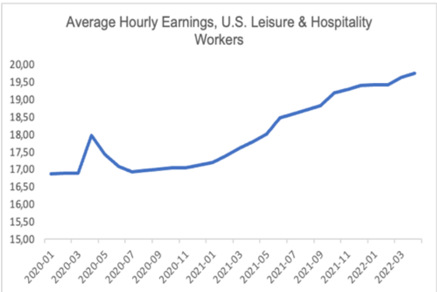


Figure 60: Average Hourly Earnings, U.S. Leisure & Hospitality Workers
Source: Bureau of Labor Statistics

▪ General, Administrative and Other Expenses

In 2021, General, Administrative and other expenses represented the second largest source of operating costs for Marriott. This caption, which includes corporate and business overhead costs and several general expenses such as utilities and insurances, has declined in recent years due to reduced activity and to a corporate restructuring aimed at augmenting efficiency and cutting costs. However, even though it is forecasted that this type of costs will account for a relatively stable percentage of sales over time, estimates point for a substantial increase compared with the previous year, accounting for an increase close to 18%This hike in costs comes as a consequence of the present macroeconomic context, where significant price pressures seem to persist. This adds up to the industry-specific labour constrains that have also contributed for a rise in wages since late 2020 (*fig. 60*) and similarly push G&A expenses above 2019 levels. As shown in figure 61, following 2021, G&A expenses' growth rate will progressively decline.

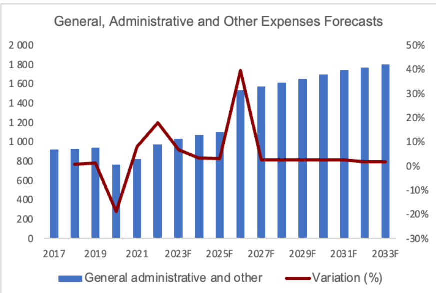


Figure 61: General, Administrative and Other Expenses Forecasts, in $ millions
Source: Analysts' Estimates

▪ Contract Acquistions Costs and Other

Constituting an important caption of Marriott's balance sheet, it is composed by the costs incurred by the hotel chain to obtain and fulfil management and franchise agreements, which are capitalized. The gross value of contract acquisition cost is, mainly, driven by the average cost incurred per contract and the number of contracts the company is able to establish. Provided that in the base case scenario it is expected that Marriott will maintain its current bargaining power in regard to its customers, average cost per contract is estimated to accompany general price levels, hence, hence, the most part of future increase in

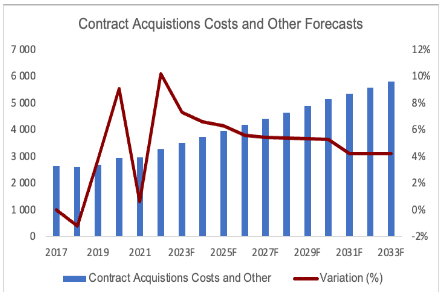


Figure 62: Contract Acquisitions Costs and Other Forecasts, in $ millions
Source: Analysts' Estimates

this asset element is explained by projections of increased number of contracts as Marriott executes its expansion plan. The net book value of contracts is forecasted to reach $5B in 2030 (*fig. 62*).

- Liability for Guest Loyalty Program

Representing the monetary amount of obligation performance of Marriott concerning the program members, the amount of liabilities expressed in this caption will be closely related with the evolution of the number of members of Marriott Bonvoy. A deceleration of Marriott's Loyalty program subscriptions is likely to occur as a consequence of the sluggish recovery of business travel. Nonetheless, reinforced intents to more adequately cater the needs of leisure travellers and extend the program's network of partners and benefits will generate an average annual growth of 2.5% in total members until 2025 (*fig. 63*). As more members join, point redemption and needs for service provision by Marriott will rise accordingly, leading to the forecasted increase in the analysed caption, as illustrated in figure 64.

Figure 63: Liability for Guest Loyalty Program Forecasts, in $ millions
Source: Analysts' Estimates

- Capital Expenditure (CAPEX)

Operating under a predominantly asset light model, Marriott's current business model has no substantial requirements in terms of capital expenditure. Nevertheless, given that the company still owns some of its hotels, there are still needed investments to replace or improve existing plant assets. Together with recurrent corporate or system-related investments, that described situations will imply future annual CAPEX levels of above $300 M, beginning in 2022 (*fig. 64*). Consistent with the historical pattern, the estimated amounts of capital expenditure serve, once more, as evidence of the expected ability of Marriott International to achieve outstanding unit growth with reduced capital requirements.

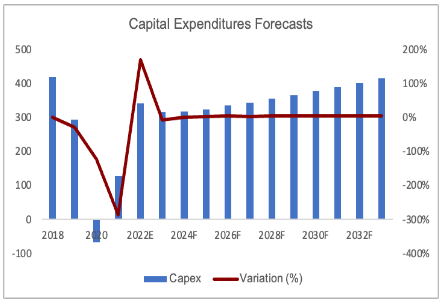


Figure 64: Capex Forecasts, in $ millions
Source: Analysts' Estimates

Intrinsic Valuation

From Marriott's intrinsic valuation, after taking relevant insights of its past performance in conjunction with what is expected to happen in the future, it was determined that Marriott's stock price is worth $177,42. Currently, it is being traded at $162,33 which leads us to the conclusion that the stock is undervalued. Moreover, if one investor decides to buy this stock at its purchase price, he will end up with an annualized return of 16,45% in December 2022, which includes capital gains and dividends paid.

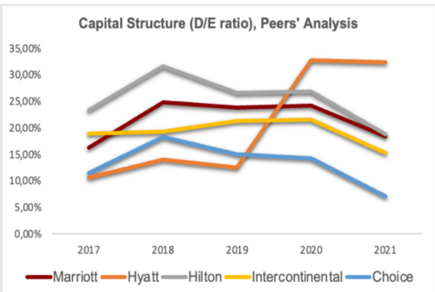


Figure 65: Capital Structure (D/E) of Marriott's Peers
Source: Marriott's Annual Report and Competitors' Data

Discounted Cash Flow (DCF)

To have a proper valuation, it is of paramount importance to use the best model that will suit the company's fundamentals and at the same time, allows the simplification of calculations to be made based on assumptions that are simply an approximation of reality. Having said that, one can observe that Marriott's capital structure has been relatively stable in the past years and has been converging to the industry average, 18% in 2021 (*fig. 66*). It is reasonable to assume that this financing structure will maintain in the future, being Marriott aligned with the industry average debt-to-equity ratio. Therefore, Discounted Cash Flow model (DCF) is the most suitable method to quantify Marriott's equity value, which means that weighted average cost of capital (WACC) will be used to discount the company's operating free cash flows and the non-core business and debt will be estimated based on their respective 2022 book value. Concerning the required return that shareholders and debtholders demand to provide capital to the company, the following inputs were computed and described below. Given that, the estimated WACC was 9,07%.

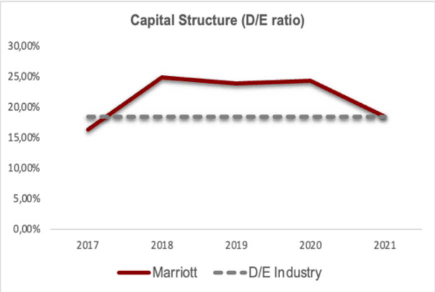


Figure 66: Marriott's Debt-to-Equity Ratio from 2017 – 2021, in %
Source: Marriott's Annual Report and Competitors' Data

Operating Free Cash Flow

Figure 67 represents effectively what the company is generating in terms of cash flows on its operating activities, after taking out non-cash movements from the accounting core result. This assumes a central role in defining Marriott's equity values as the model highly relies on the assumptions made to forecast future cash flows, that were described and analysed in the chapter before. By evaluating the graph, one can observe that the company will be capable of generating and maintaining a high level of cash flow until it reaches the steady state equilibrium in 2033.

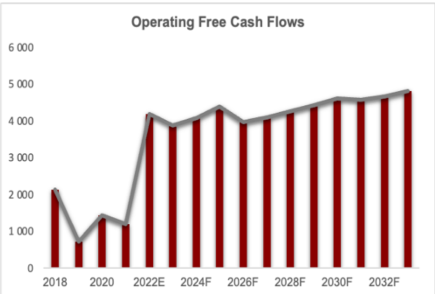


Figure 67: Marriott's Operating Free Cash Flows, in $ millions
Source: Analyst Estimates

WACC Inputs

▪ Capital Asset Pricing Model – Exogenous Rates

As one will observe further in this report, CAPM will be extremely important to computing some returns based on their respective systematic risk (Betas). To correctly use the model, one needs to get the appropriate rates, namely risk-free rate and market risk premium, that must match the time frame of the free cash flows estimated and present themselves as an alternative for investors to put their capital.

	Marriott
Market Risk Premium	5,37%
Risk-free Rate (10y TB)	2,99%

Figure 68: CAPM Inputs: Risk-free Rate and Market Risk Premium
Source: Bloomberg, Damodaran

Risk-Free Rate: According to Bloomberg, the U.S. Treasury Yield for securities with a 10-year maturity, as of 17/05/2022, was 2,99%. This rate was chosen as a relevant proxy of the risk-free rate since T-Bills are considered nearly free of default risk, as they are backed up by the U.S government, and are not so susceptible to inflation risk, comparatively with the 30-year maturity T-Bill.

By Rating	A and above	BBB	BB	B	CCC
Avg. Beta	< 0.05	0.10	0.17	0.26	0.31
By Maturity	(BBB and above)	1–5 Year	5–10 Year	10–15 Year	> 15 Year
Avg. Beta		0.01	0.06	0.07	0.14

Figure 69: Beta of Debt by rating and by maturity
Source: S. Schafer and I. Strebulaev, "Risk in Capital Structure Arbitrage"

	Marriott
Return on Debt (Rd)	4,34%
**YTM Corporate Bond	4,35%
*Loss Given Default	0,6
*Probability of default	0,0113%
Implied βd	0,25

Figure 70: Method 1 – Estimation of Cost of Debt with YTM
Source: Bloomberg, FINRA

	Marriott
Return on Debt (Rd)	3,53%
Risk.Free Rate	2,99%
MRP	5,37%
*Credit Rating	BBB- / Ba3
**Implied βd	0,10

Figure 71: Method 2 – Estimation of Cost of Debt with Credit Rating
Source: Bloomberg, S. Schafer and I. Strebulaev, "Risk in Capital Structure Arbitrage"

MARRIOTT	
βe	1,54
Cov (MAR;M)	0,001
Stdev (M)	2,96%
Var (M)	0,09%
Target D/E (Market Values	0,18
D/EV	0,16
E/EV	0,84
D (Market Value)	9 912
E (Market Cap.)	53 918
Enterprise Value	63 830
D/E (Market Value)	0,18
R2	49%

Figure 72: Marriott's returns regressed against the market index (S&P 500) – Beta Levered Computation
Source: Analysts' Estimates

Relevered Beta (Re)	
MARRIOTT	
βu (Industry)	1,30
βe	1,50
βe Adjusted	1,34
Re	10,16%

Figure 73: Levered Beta Estimation
Source: Analysts' Estimates

Market Risk Premium: The extra return of holding the market portfolio (MRP) was 5,37% since the premium estimated by Aswath Damodaran (2022) was perceived as a reasonable proxy to use in the model.

- Cost of Debt (Rd)

Cost of debt was estimated through two different methods, being the first one based on the yield to maturity (YTM) of Marriott's long-term bond, adjusted with the respective probability of default and to the expected loss in that specific case. In the second method, it was used the S. Schafer and I. Strebulaev paper (2006), which basically allocates the Beta of debt to companies depending solely on their ratings.

In method 1, it is essential to calculate the yield of a corporate bond that has a long-term maturity since this represents the effective return bondholders require to hold Marriott's debt. Having this in mind, it was chosen the bond issued until 2034 with a yield to maturity of 4,35%, according to FINRA. Then, the rate needs to be adjusted with Marriott's probability of default, 0,0113%, times the average loss in case Marriott actually defaults ,60%. This led to a final cost of debt of 4,34% and an implied Beta of debt of 0,25.

In the second case, as Marriott has a BBB- credit rating attributed by S&P, the implied beta of debt for these cases is 0,10, as stated in figure 69. Therefore, using the CAPM, the cost of debt in method 2 gave a value of 3,53%.

In order to account with both methods, it was done the average implied Beta of debt of the two situations, so the value considered was 0,18 and consequently, the cost of debt gave a result of 3,93%.

- Cost of Equity (Re)

In the process of estimating cost of equity, the first procedure is to compute the levered Beta of Marriott, that will explain how the company's returns have been moving in relation to the overall market. In other terms, it represents Marriott's systematic risk. This can be done by regressing the hotel chain's returns against a representative index of the market, which in this case was the S&P500 index. This is generally accepted as a good benchmark since it is constituted by the best 500 U.S. companies, all having a wide market breadth in common, with a high degree of liquidity, presenting itself as a good alternative to investors. Therefore, it was used the weekly returns over the past 3 years to get the Beta Levered of 1,54 (*fig. 72*). Although this is true, the Beta was computed focusing solely on past performance with past financing structures, so it is important to adjust it for considering future changes.

WACC Inputs	
MARRIOTT	
MRP	5,37%
Risk-Free Rate	2,99%
Tax Rate	21%
D/EV	0,16
E/EV	0,84
Target D/E	0,18
βu (Industry)	1,30
βe Adjusted	1,34
βd	0,18
Re - Levered Cost of Capi	10,2%
Ru - Unlevered Cost of Ca	10,0%
Rd - Cost of Debt	3,93%
WACC	9,07%

Figure 74**:** WACC Inputs
Source: Analysts' Estimates

Marriott's capital structure has been converging to the industry average, and already in 2021, the debt-to-equity ratio, in market value terms, was the same. As it was assumed that Marriott, in the long-term, will continue evolving towards industry's performance, it is of paramount importance to get the unlevered Beta of the industry, which will be an average of Marriott's Beta and the ones form its competitors, without the financial effects of leverage. To do that, first it was adopted the same method for calculating the beta of debt of competitors as it was done for Marriott, and after that, all levered Betas were unlevered based on the company's particular capital structure, assuming the risk of tax shields are the same as the assets. The average gave an industry Beta of 1,30, in which it was applied the target financing structure of Marriott, 18%, that relevered the Beta to a value of 1,50 (*fig. 73*).

Furthermore, as the author Damodaran emphasizes in its paper "Estimating Risk Parameters" (1999), in the long run, there is a general tendency for Betas of all companies to converge towards one, so it was applied the Bloomberg adjustment to the levered Beta, which gave a final value of 1,34 and consequently, through CAPM, a cost of equity of 10,16%.

Steady-State Equilibrium

- ### Core ROIC and RONIC

As we have seen so far, Marriott and the main hotel chains are in this gradual process of shifting to an even more asset-light business, which implies that in the future the expected returns will not need the amount of capital that is required these days and hence, the core ROIC will be higher. In Marriott's particular case it is expected to reach a value of 218% in the steady-state, 2033. This superior efficiency in resource allocation is also noted in the equilibrium RONIC (42%), although its evolution is non-linear due to the low increments, and even decreases, in future core invested capital. All in all, the company is creating value since WACC is inferior to core ROIC throughout the time frame of cash flows estimated, meaning that there are still some opportunities to be exploited by Marriott's strategy.

- ### Perpetual Growth Rate (g)

The year that is expected that Marriott's cash flows will stabilize and start to grow at a constant perpetual rate is 2033. From that point onwards, they will increase by 3,05% each year, in nominal terms, and consequently so will the value of the company as a whole. This rate can be breakdown in two components, the reinvestment rate and the return on the new invested capital (RONIC), which will assume the equilibrium values of 7,28% and 42%, respectively.

From IMF projections, the inflation rate in the long term will be slightly above the 3% due to uncertainty in markets and economic turmoil that particularly affects emerging and developing economies (Brookings, 2022), which particular relevant for Marriott since they intend to explore those markets in the future. So, with an inflation rate of 3,2% and a forecasted real GDP growth of 3,30%, this leads to nominal GDP growth of 6,61%. Comparatively with Marriott's growth, one can conclude that the company will lose weight in future economic composition. However, this will always be subject to how Marriott's expansion plan will evolve and how the company will be able to differentiate itself from current competition and new entrants that intend to satisfy the same needs.

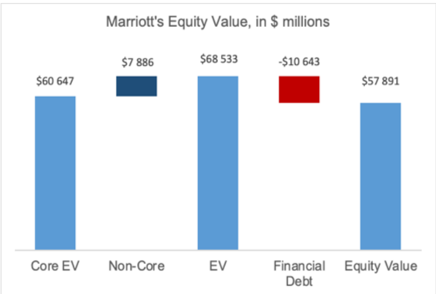


Figure 75: Decomposition of Marriott's Equity Value
Source: Analysts' Estimates

Marriott's Equity Value

The final objective is to understand what is the true value that is left to Marriott's shareholders. Aggregating all components that have been discussed until this point, one must use the WACC (9,07%) to discount the forecasted operating free cash flows and the respective terminal value, which is calculated through the perpetuity formula with the correspondent growth rate (3,05%). This resulted in $60B, which is nothing more than the core enterprise value. The non-operating part, which was estimated through its 2022 book value, must be added to get Marriott's valuation of the entire business, which gave a total of $68B. Since the intended value is the one that will be left to shareholders, it is essential to deduct the financial responsibilities, amounting $11B in 2022, to finally get an equity value of $57B (*fig. 75*). The share price is simply gotten by dividing this amount by the number of shares outstanding, which in this case is 326m, to end with an intrinsic price of $177,42 per share.

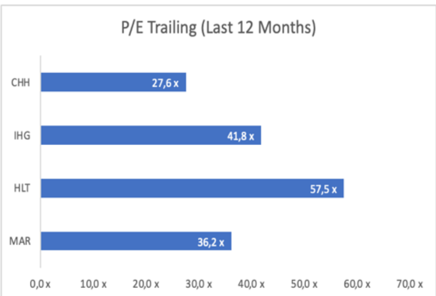


Figure 76: P/E Trailing – Last 12 months
Source: Bloomberg

Multiples Valuation

According to Mckinsey's article (2018), multiples complement DCF valuation in the sense that compares a company's performance with the one of its competitors, and through that, it helps in the process of forecasting future returns, giving some kind of perspective of what the market expects from this particular industry, while assessing if Marriott is strategically well-positioned to create above-average value.

	P/E	Share Price
Minimum	27,6 x	$ 92,57
1st Quartile	34,0 x	$ 114,29
Industry Medi	39,0 x	$ 131,04
3rd Quartile	45,8 x	$ 153,74
Maximum	57,5 x	$ 193,30
Average		$ 136,99

Figure 77: P/E Quartile Analysis – Last 12 months
Source: Bloomberg

Furthermore, to do this analysis it was used the suitable competitors identified before and it was selected 3 multiples: P/E ratio, EV/EBITDA and EV/Revenues. Although the first multiple is widely used across investors, the other two will be essential to put aside the effects of different capital structures in the final value of the company.

	EV/EBITDA	Share Price
Minimum	18,3 x	$ 87,32
1st Quartile	23,0 x	$ 117,22
Industry Medi	26,3 x	$ 138,14
3rd Quartile	33,2 x	$ 182,68
Maximum	96,7 x	$ 589,86
Average		$ 223,05

Figure 78: EV/EBITDA Quartile Analysis – Last 12 months
Source: Bloomberg

	EV/Revenues	Share Price
Minimum	4,2 x	$ 147,98
1st Quartile	4,3 x	$ 153,08
Industry Medi	4,6 x	$ 166,24
3rd Quartile	7,4 x	$ 283,45
Maximum	7,5 x	$ 288,97
Average		$ 207,95

Figure 79: EV/Revenues Quartile Analysis – Last 12 months
Source: Bloomberg

Observing figure 76, Marriott has the second-lowest P/E ratio which might be an indicator that its equity is being undervalued, but at the same time, if one uses a quartile analysis based on the competitors' ratio, Marriott will end up, on average, with a stock price of $136,99 (*fig. 77*). This is because the last-12 months' earnings were largely affected by Covid-19 and hence, this ratio gives a narrow perspective of what Marriott's true value is. To purge this effect, it was used the average forward 1-year P/E multiplied by the EPS estimated ($8,56) to get the final value of $243,03, which points out in the same direction as DCF valuation.

For the EV/EBITDA and EV/Revenues multiples, one gets the same conclusion since the average change, using the quartiles method, gives a stock value of $222,36 and $207,31 respectively (fig. 78 & fig. 79). This reinforces the vision that the market is undervaluing Marriott's equity and therefore, it supports the forecasts made in the intrinsic valuation. As before, forward-looking EV/EBITDA was also computed and the values ranged between the interval $181,19 and $220,28, being the first related with the lowest competitor's multiple, in this case, Choice Hotels, and the last one with the maximum multiple belonging to Hilton. The average change implied a price of $198,96 for Marriott's stock.

Besides the trailing P/E indicator, all other multiples went in accordance with the intrinsic price estimated, not being far from the $177,42 per share, which means that relative valuation emphasizes the sentiment that Marriott is being undervalued by the market.

Risk Analysis

Sensitivity Analysis

WACC		Re				
	9,07%	9,44%	9,61%	10,16%	10,72%	11,23%
Rd	2,99%	8,34%	8,48%	8,95%	9,42%	9,85%
	3,46%	8,40%	8,54%	9,01%	9,48%	9,91%
	3,93%	8,46%	8,60%	9,07%	9,54%	9,97%
	7,05%	8,84%	8,98%	9,45%	9,92%	10,35%
	10,16%	9,22%	9,36%	9,83%	10,30%	10,73%

Figure 80: Sensitivity Analysis of cost of equity (Re) and cost of debt (Rd)
Source: Analysts' Estimates

Share Price		TV (G)				
	177,42	0,66%	1,85%	3,05%	4,83%	6,61%
WACC	8,34%	163,56	179,40	202,40	265,65	458,63
	8,83%	152,92	166,16	184,87	233,43	359,68
	9,32%	143,50	154,66	170,06	208,20	296,34
	10,03%	131,65	140,48	152,34	180,10	236,72
	10,73%	121,47	128,56	137,86	158,67	197,41

Figure 81: Sensitivity Analysis (1)
Source: Analysts' Estimates

The valuation model heavily relies on a set of assumptions, so it is essential to run a sensitivity analysis to assess the effect of changing some of them at the same time. Regarding WACC computation, the value of 9,07% was obtained for the calculated costs of debt and equity. The first sensitivity was exactly about these inputs, with Rd going from the risk-free rate, 2,99%, until the estimated Re, 10,16%, and the Re ranging from 9,44% and 11,23% (*fig. 80*). This interval was obtained through the usage of the average industry unlevered beta and the respective 95% confidence interval in which it would fall, considering the unlevered betas of all competitors and the one from Marriott itself. This gave a range of values between 1,13 and 1,55, that immediately were relevered with Marriott's target capital structure, 18%, and adjusted with the Bloomberg estimate for a final interval of 1,20 until 1,53. These values were applied in CAPM formula to reach the different costs of equity.

Share Price		TV (G)				
	177,42	0,66%	1,85%	3,05%	4,83%	6,61%
WACC	8,43%	161,39	176,69	198,76	258,74	435,37
	8,75%	154,46	168,06	187,35	237,84	371,90
	9,08%	148,06	160,20	177,15	220,08	324,83
	9,39%	142,29	153,20	168,22	205,18	289,41
	9,70%	136,93	146,76	160,12	192,17	261,09

***Figure 82*:** Sensitivity Analysis (2)
Source: Analysts' Estimates

In figure 81, one can observe that with those variations, WACC goes from 8,34% to 10,73%, with an average value of 9,32%. To get the overall effect on share price, it was decided to change the growth rate against the WACC since most of the value comes from the longer term. The interval of values of g was defined as the minimum being the case in which reinvestment rate maintains at 7% while Marriott cannot find new opportunities to invest and create value, so its RONIC assumes the same value of WACC, 9,07% giving a g of 0,66%, and the maximum limit is the nominal GDP growth estimated to be 6,61% in the long run. This sensitivity implies the share price averaging a stock price of $196,99 for a total shareholder return of 51,65%. Although this is true, there is a high downside potential that need to be consider, principally if the company does not find new ways of creating value or decreasing the cost of the capital used.

Additionally, a sensitivity analysis was also made to evaluate the risk of having slightly different capital structures than the one chosen. Following the same procedure as before, it was done the 95% confidence interval where the industry debt-to-equity ratio would fall, considering the values of Marriot's competitors for the normal distribution. Hence, the WACC was computed through each different financing structure, while maintaining the Rd and the Re equal to the ones computed in the standard model. This led to an average share price of $209,45, ranging from $136,93 to $435,37. Once again, the upside potential is still higher than the downside, reinforcing the perspective that Marriott's stock is being traded at an undervalued price (*fig. 82*).

Scenario Analysis

Moving on to the risks that can have a significant impact in Marriott's cash flows, two situations were defined as the most problematic and the ones that can bring greater volatility to the company's future returns. Therefore, it is of paramount importance to use a scenario analysis to incorporate them when determining the total value of equity. In this section it was used 3 possibilities for each event: (i) the base one, which is nothing more than the initial forecasts; (ii) the conservative case, which consider the likelihood of occur but without severe damages; (iii) the worst-case scenario, which considers the highest losses. Firstly, Marriott, as like any other company operating in Europe and depending on tourism, it is exposed to the recent war climate in Ukraine. The new study of Economist Intelligence Unit (2022) states that European tourism sector will not return to pre-pandemic values in 2023, as previously forecasted. It also adds that restriction on airlines, the loss of Russian and Ukrainian tourists (accounted for 5% of global tourists) and principally the implied increase of prices will delay this recovery. To account for this risk, the conservative case expects that war will continue for a while

Scenario 1		Base Scenario	Conservative Scenario	Worst-Case Scenario
2022	Inflation Rate	6,80%	8,30%	8,80%
	Industry Rooms (Sold)	15 378 804	85% of Base	75% of Base
2023	Inflation Rate	4,10%	5,10%	5,60%
	Industry Rooms (Sold)	17 087 560	85% of Base	75% of Base
2024	Inflation Rate	3,50%	4,00%	4,50%
	Industry Rooms (Sold)	17 172 998	85% of Base	75% of Base
2025	Inflation Rate	3,30%	3,80%	4,30%
	Industry Rooms (Sold)	17 258 863	87,5% of Base	80% of Base
2026	Inflation Rate	3,30%	3,80%	4,30%
	Industry Rooms (Sold)	17 345 157	90% of Base	82,5% of Base
LT	Inflation Rate	3,20%	3,30%	3,20%
	Industry Rooms (Sold)		92,5% of Base	85% of Base

***Figure 83*:** Scenario Analysis I – Impact on variables
Source: Analysts' Estimates

Scenario 2 (in % of Base)		Base Scenario	Conservative Scenario	Worst-Case Scenario
2022	Rooms Managed	557 604	99,50%	97,50%
	Rooms Franchised	922 578	99,50%	97,50%
2023	Rooms Managed	563 185	99%	97%
	Rooms Franchised	956 786	99%	97%
2024	Rooms Managed	568 719	98,50%	96,50%
	Rooms Franchised	990 934	98,50%	96,50%
2025	Rooms Managed	574 207	98,25%	96,25%
	Rooms Franchised	1 025 023	98,25%	96,25%
2026	Rooms Managed	571 976	98%	96%
	Rooms Franchised	1 055 498	98%	96%
LT	Rooms Managed		98%	96%
	Rooms Franchised		98%	96%

***Figure 84*:** Scenario Analysis II – Impact on variables
Source: Analysts' Estimates

Scenario Analysis		Share Price	% Change	Expected Value
Scenario 1	Conservative	$169,97	-4,20%	$175,20
	Worst-Case	$155,38	-12,42%	
Scenario 2	Conservative	$165,18	-6,90%	$173,12
	Worst-Case	$152,62	-13,98%	

***Figure 85*:** Scenario Analysis – Share Price and respective Expected Value
Source: Analysts' Estimates

longer but will be restricted to Ukrainian territory, having consequences for the inflation rate (Forbes, 2022) and for the total number of rooms sold. Until 2026, inflation will be higher than forecasted by the IMF and then it will follow the same trend as previously predicted, while rooms sold will never return to its base case value since it is expected that people sentiment concerning tourism in European Eastern countries will persist in time and vice-versa (*fig. 83*). In the worst-case, the war will spread to neutral northern countries, as Russia already threatened them (BBC, 2022) and so, inflation will be even higher than the conservative case and the number of rooms sold will have a shaper fall in short-term and a slightly one in the future. All in all, if one considers that the conservative case has a 15% likelihood to happen and the worst one has a 5%, Marriott's share price would be $175,20 (*fig. 8*5). The second event identified is how Marriott's growth is too dependent on attracting third-party owners and franchisees to the platform, and there's a risk that these future arrangements might be unfavorable due to competitors' better offered conditions. The drivers affected by the occurrence of this event would be the number of rooms in managed and franchised segments and Marriott's market share. In figure 84, it is observable that in both scenarios the number of rooms estimated will be considerably lower, loosing 2% comparatively with the base case in each year from 2025 onwards in the conservative case, while in the worst this percentage increases for 4%. As competitors will gain ground and get more contracts than what it was forecasted, their market share will increase proportionality, whereas Marriott's goes in the opposite direction. If the conservative case is approached, that share will go down by 0,5% in every year compared with the base value, and worsens to a 1% decrease in the extreme case. Again, if one attributes the probability of 25% and 5% to the conservative and worst cases, respectively, Marriott will end up with a final share price of $173,12 (*fig 85*). Given the likelihood of either of those two adverse scenarios materializing itself is estimated to be relatively low, the respective probability of simultaneous occurrence would be residual. As such, it was assumed the mentioned scenarios would be mutually exclusive. Based on a more cautious perspective, it was defined that the value to be taken into account would be the lower of the two calculated above. Therefore, the final share price after incorporating this risk is $173,12 and the total shareholder return will be 11,66%, which will not change the final recommendation.

Final Recommendation

The lodging industry, much like the world in general, faced unprecedented challenges in the recent years. As the health crisis started to ease, a new light of hope shinned upon this sector. Led, majorly, by leisure travel, recovery is expected to continue in 2022 with pent-up demand and accumulated savings acting as catalysts for strong industry overall performance. With costumers' preferences being reshaped, client-centric visions, technology and environmental awareness will be pivotal to remain relevant in hospitality. In such a context, Marriott presents itself in a favorable position to capture this momentum. Leveraging its scale and outstanding brand reputation, Marriott has a clear strategic purpose forecasted to assure the maintenance of its position as industry leader. A reinforced commitment towards stakeholders, sustained net unit growth with significant focus on international markets, successfully enlarging and redesigning its Loyalty Program while continuing to find supplementary revenue streams, are the main pillars that will guide Marriott's future actions. Nevertheless, the possibility of an adverse macroeconomic context in light of present geopolitical tensions also needs to be accounted for when defining the path to follow as new challenges may be on the horizon. The conducted analysis culminated in an estimated price target of $173,12 for December 2022, yielding a total return of 11,66% which includes both capital and dividend gains. As such, compared with current share price of $162,33, a BUY recommendation is indicated.

MASTER IN FINANCE

MARRIOTT INTERNATIONAL INC

COMPANY REPORT

TRAVEL & TOURISM INDUSTRY

20 MAY 2022

STUDENTS: DANIEL NEVES | HUGO CORREIA

32347@novasbe.pt | 31883@novasbe.pt

Marriott International Inc. Equity Research

Consolidating a leading position amid recovery

- After the turmoil recently experienced, the lodging industry will benefit from pent-up demand and higher savings levels. Strong leisure demand is expected to propel recovery while business and group travel will take longer to return to pre-pandemic values. In aggregate, total number of rooms sold globally will surpass 6 billion in 2023.
- Marriott's asset light model, focused on the Management and Franchised segments, has proven to be quite resilient and will play a pivotal role in enabling rapid net unit growth. Company's property portfolio will grow at 3% CAGR on the 2021 – 2025 period with reduced capital investment needs.
- Guests' increasing preference towards longer stays, disproportionate increase of the Luxury market and technological innovation will disrupt industry dynamics. Marriott's core competencies place the North American hotel chain on the forefront to capture value from those trends.
- Present analysis established a price target of $173,12 per share for December 2022, implying a shareholder return of 11,66% encompassing both capital and dividends gains.

Company description

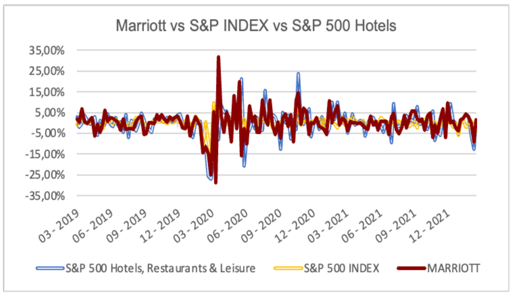
Marriott International Inc. is one of the world's leading hospitality service providers. Founded in 1927, the company is an operator, franchisor and licensor of hotel, residential and timeshare properties. With over 1.4 million guestrooms, Marriott operates across more than 130 countries under a distinct and diverse brand portfolio, composed by 30 highly valuable brands.

Recommendation:	**BUY**
Price Target FY22:	**173,12 $**
Price (as of 17-May-22)	**162,33 $**

Source: Bloomberg

52-week range ($)	127,23 – 195,90
Market Cap ($m)	52 968
Outstanding Shares (m)	326,3

Source: Bloomberg



Source: Bloomberg, Analysts' Estimates

(Values in $ millions)	2020	2021	2022F
Revenues	10 571	13 857	16 343
Gross Fee Revenues	1 252	2 148	4 408
Owned and Leased Revenues	515	749	844
Gross Margin	14,8%	20,6%	30,6%
EBITDA	671	2 094	4 128
EBIT	-48	1 572	3 747
Comprehensive Income	-41	893	2 800
Core ROIC	7,9%	47,9%	102%
EPS (in $)	-0.82	3,36	8,56
DPS (in $)	0,48	0,00	0,90
P/E	0,00	49,47	36,17

Source: Company Data, Analysts' Estimates

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY DANIEL NEVES AND HUGO CORREIA, MASTER IN FINANCE STUDENTS OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

Table of Contents

Company Overview

Founded in 1927, Marriott International Inc. started in Washington, DC. as a root beer stand, created by J. W. Marriott and Alice Marriott, under an A&W franchise. Soon after, the Marriott family changed the restaurant's name to Hot Shoppes and, in 1929, began building a regional chain. It was only nearly three decades later, in 1957, that a shift away from the restaurants' business changed the company's trajectory. In that year, the company launched its first hotel, the Twin Bridges Marriott Motor Hotel, in Arlington, Virginia. Once Bill Marriott, son of the founding couple, took the reins as CEO in 1972 the commitment to expand the hotel business became ever more clear. Leveraging the rise in airplane travel the company built several airport and convention hotels during the 1970s which fostered growth and enabled the company to surpass $1 billion in revenues by 1977. Not long after, the company began shifting its business model from one of hotel ownership to a more asset-light model, relying mainly on property management and franchising.

Being one of the most aggressive growth companies in the sector, throughout the years, Marriott expanded its brand portfolio both through in-house development and acquisitions of other hotel companies while spreading its operations all over the world and across a variety of price segments.

At present date, Marriott International (which resulted from a division of the original company in 1993), is the leading hotel company worldwide in terms of number of guestrooms, possessing a property portfolio of nearly 8.000 hotels, offering 1.47 million rooms in 139 countries and territories. The company controls an extensive and highly valuable portfolio of 30 brands including The Ritz-Carlton, JW Marriott, St. Regis, Sheraton and Courtyard.

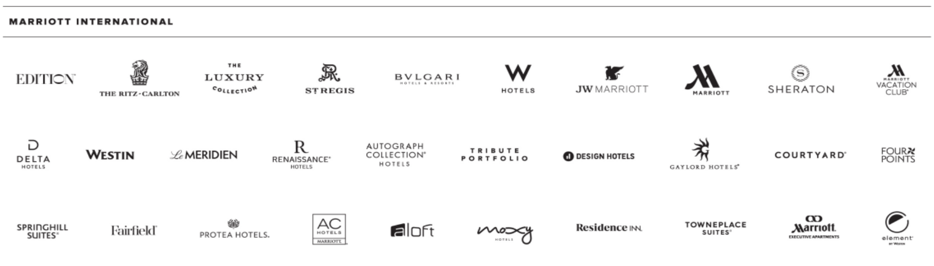


Figure 1: Marriott's Hotel Brands

Business Model

As an operator, franchisor and licensor of hotels and other lodging properties, Marriott's operations can, broadly, be separated in three different segments: Management, Franchise and Owned/Leased. Having an asset-light business model, the company typically manages or franchises hotels rather than owning

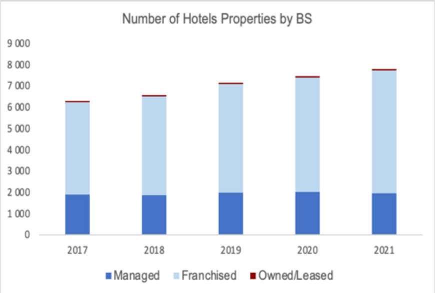


***Figure 2*:** Number of properties per business segment from 2017 - 2021
Source: Marriott's Annual Report

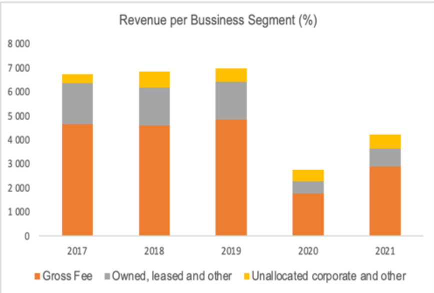


***Figure 3*:** Revenue per business segment from 2017-2021, in %
Source: Marriott's Annual Report

them (*fig. 2*). As of 2021, 74% of operating revenues are generated through asset-light management and franchise agreements (*fig. 3*).

Whilst an owner-operated hotel enables the owner to have full control over hotel operations, it requires substantial capital investment. In contrast, for a company like Marriott with strong brand reputation, franchised or managed model enables quicker rooms' growth due to lower capital investment needs. Consequently, the increased commitment to such models proved to be highly cash generative, leading to considerable returns on capital. In turn, such aspect drives the opportunity for Marriott to further reinvest in its business.

With 1.943 hotels under management, Marriott earns revenues on such long-term agreements, through both base and incentive fees. Base fees are earned based on the hotels' top-line item while incentive fees correspond to a percentage of profits obtained by the hotels. In addition, those contracts also include the reimbursement of costs Marriott incurs to assist properties managed (e.g. centralized reservations, marketing and Loyalty Program). In terms of franchises, which account for 72% of the company's property portfolio, revenues are, equally, earned on a fee-based model, where franchisees pay an initial application fee plus royalty fees as a defined percentage of revenues. As a counterpart, franchise and licensing agreements permit hotel owners and operators to use Marriott's brand names and systems. In contrast for the 64 properties owned/leased by Marriott, revenues are directly earned based on rooms sold as well as revenues on food and beverages.

Offering one of the most compelling range of hotels and brands in hospitality, the company is present in three different quality tiers, those being Luxury, Premium and Select, hence, covering a broad and diversified range of costumer needs.

Additionally, a smaller fraction of Marriott's revenues results from branding fees of licensed trademarks for the sale of residential real estate and from the recently created home rental unit, Homes & Villas.

Geographic Presence

With hotels and other lodging facilities all over the world, Marriott is indeed a global company. As a result of the way the chief operating decision maker assesses performance and allocates resources, currently, the hotel chain reports information according to two main regions "U.S. & Canada" and "International, being the latter subdivided into Greater China, Asia Pacific excluding China, Europe, Middle East & Africa and Caribbean & Latin America.

Notwithstanding such a broad worldwide presence, Marriott is still highly dependent on the North American region, having more than 70% of system-wide

Figure 4: Marriott's hotel properties distribution by region in 2021
Source: Marriott's Annual Report

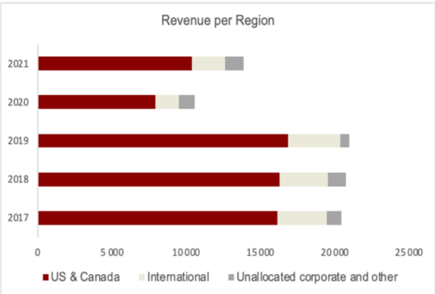


Figure 5: Revenues per region, in $ millions
Source: Marriott's Annual Report

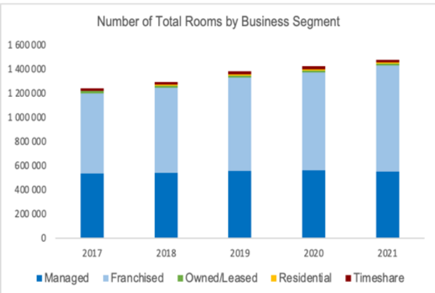


Figure 6: Number of total rooms by business segment
Source: Marriott's Annual Report

Figure 7: Evolution of hotel properties in the last 5 years
Source: Marriott's Annual Report

hotels in the US & Canada (*fig. 4*), accounting for 72% of revenues in the last fiscal year (*fig. 5*).

At a broad level, there is a clear strategic alignment between regions highlighted by the option for an asset-light model, with the total number of rooms managed and franchised, in aggregate representing approximately 97% of total rooms in both reportable segments (*fig. 6*). However, there is a considerable difference in the proportion of management and franchise agreements between regions. While on US & Canada, rooms under franchise agreements constitute over 73% and those under management account for only 23%. In the rest of the world, there is a greater predominance of management agreements with managed guestrooms representing 65% of the international portfolio while those resulting from franchises correspond to around 32%. Such difference can be explained due to the fact that branding is much less prevalent outside the U.S. with most markets being served primarily by independent operators. Thus being, even though, in the United States, operators mainly want to access Marriott's intellectual property and brand reputation, hence, opting more for franchise agreements, on the rest of the world hotel owners want to benefit from the company's know how and management experience. At the end of 2021, Marriott had approximately 16% share of the US hotel market and 4% share of the market outside the country, based on the number of rooms.

In terms of property portfolio growth, in the last five years Marriott has increased the number of lodging facilities in all regions with an overall CAGR of 5,74%. Throughout such period, the company had a more pronounced growth outside the U.S., finding opportunities in less saturated markets. Nonetheless, in the analysed period, Marriott was still able to obtain an average growth of 4,73% per year in the North American market as shown in Figure 7.

Ownership Structure

In 1953, Marriott International issued stock for the first time at a price of $10.25 per share. Since then, the hotel company has grown in such an exponential way, that led them to be one of the world's biggest hotel chains. As of 17th May 2022, Marriott's shares, which are traded on the Nasdaq stock market, represented a total market capitalization of $52.968 billion with 326 million common shares outstanding. Those are held by more than 34 thousand shareholders divided by institutional investors (61%), insiders (19%) and others (20%) (*fig. 8*). Specifically, John Marriott, the chairman of Marriott, is the one with the highest position (6.73%), followed by the investment advisor Vanguard Group (6.40%) and Richard Marriott (6.30%), the ex-executive vice president (*fig. 9*). It is

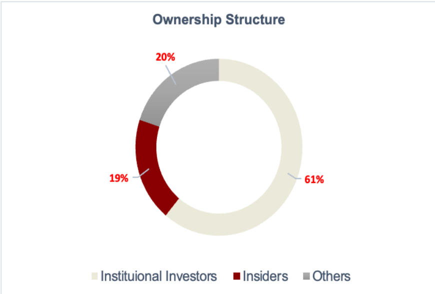


Figure 8: Ownership Structure of Marriott, in 2022
Source: Bloomberg

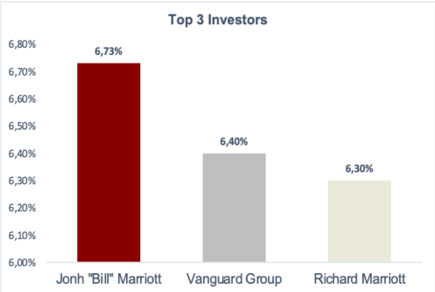


Figure 9: Top 3 investors with highest positions, in 2022
Source: Bloomberg

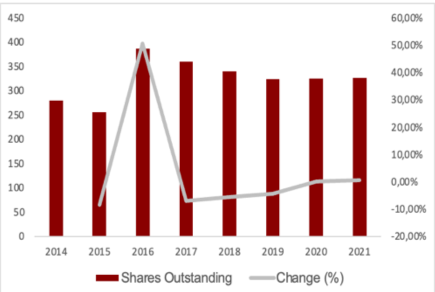


Figure 10: Number of Shares Outstanding from 2014 - 2021
Source: Macro Trends

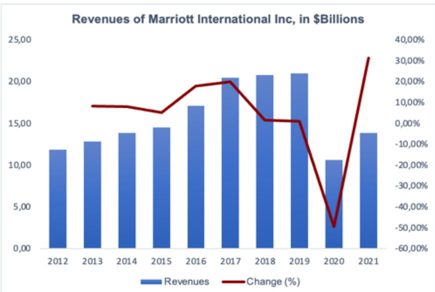


Figure 11: Revenues from Marriott International from 2012 – 2021, in $ Billions
Source: Marriott's Annual Report

relevant to mention that within this top 3, there are two insiders belonging to the Marriott family, which still accounts for 18% of company's shares.

Although this is true, institutional investors have a relevant weight but, in this case, shares are well distributed which means that none of them has a high ownership stake. Moreover, it is also relevant to observe that over the last six months insiders have strengthened their positions in the company since, in aggregate, they bought 436 thousand shares, net of the ones they sold. At a regional level, one can perceive that there is a large concentration of shares in the U.S. (69%), followed by the U.K (4%) and Switzerland (1.56%), which is relatively aligned with Marriott's geographical presence.

Regarding dividend policy, the company, in recent years, has been committed to adding value to shareholders through the increase of dividends quarterly distributed. Since 2017, in which Marriott paid $0.30 per share in the 1st quarter, it had grown at an annual rate of 16.9% until 2020 (0.48$ per share), which was the moment when dividends were suspended due to the pandemic crisis and the inherent uncertainty the company lived that seriously affected its leverage ratios. Likewise, Marriott had to stop its 25 million shares repurchase plan, that was approved by the board of directors in 2019. Hence, the consequent decrease in shares outstanding since the buyout of Starwood Hotels in 2016, was not observable in the last 2 years (*fig. 10*).

Accordingly, with Marriott estimations, it is expected that some level of capital returns can be distributed in the second half of 2022 and even higher ones from 2023 and beyond. This will obviously be correlated with the economic recovery's capacity, mainly in the T&T sector.

Performance Measurement

▪ Revenues Analysis

Historically, Marriott has obtained sustained above average revenue growth. Between 2012 and 2019, the company's revenues grew interruptedly, presenting a CAGR of 7,30%, despite considerable deceleration from 2017 to 2019 recording solely a CAGR of 0,84% (*fig. 11*). This overall revenue growth was mainly fuelled by a strong evolution of fee-based revenue from franchise and management agreements, partially offset by consecutive declines in revenues from owned and leased properties (*fig. 12*).

More recently, the Covid-19 outbreak brought along travel restrictions as well as lockdowns that, in turn, led to a severe crisis in the sector starting in 2020. Even for an industry leader like Marriott, it was not possible to avoid the consequences associated with historically low demand and, in 2020, total revenues declined by

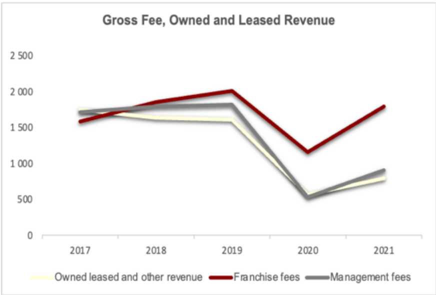


***Figure 12*:** Evolution of the different streams of revenue from 2017 – 2021, in $ millions
Source: Marriott's Annual Report

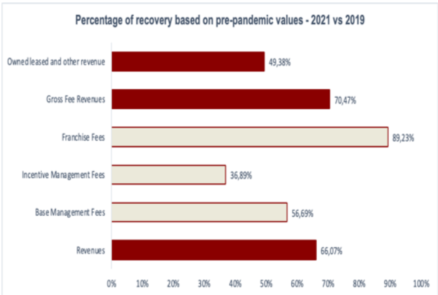


***Figure 13*:** Percentage of recovery based on pre-pandemic values – 2021 vs 2019, in %
Source: Marriott's Annual Report

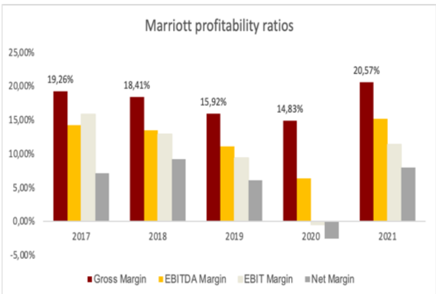


***Figure 14*:** Profitability margins from 2017 – 2021, in %
Source: Marriott's Annual Report

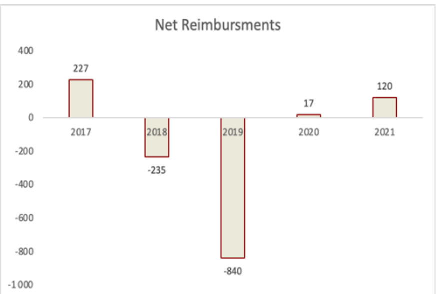


***Figure 15*:** Evolution of Net Reimbursements, in $ millions
Source: Marriott's Annual Report

nearly 50% in comparison to the previous period. Although signs of recovery have been shown in 2021, the company's revenues of $13,8B account only for 66% of pre-pandemic levels (*fig. 13*).

Notwithstanding the fact that there is still a long road ahead for Marriott to recover from the tremendous blow caused by the coronavirus, it is worth noting that the asset-light model in which Marriott relies as proven to be quite resilient, enabling the hotel chain not only to avoid further revenue declines when the pandemic hit but also to recover at a faster pace from this incident, in both cases outperforming industry as a whole. Concretely, revenue sources like initial franchise fees, which are independent of subsequent performance of the franchisor, have permitted total franchise revenues to remain at higher levels than the remaining segments. In aggregate, Marriott's management and franchise revenues have already recovered to 70% of 2019 levels, way above industry total revenues, which were only of 55% of the reference year.

- Profitability

Profitability margins are widely used ratios that allow stakeholders to assess the company's ability to create money and how its cost structure is designed, providing relevant insights regarding its flexibility in adapting to adverse conditions. This will be important to Marriott which operates in a very uncertain market and the year of 2020 was an evident test to evaluate those aspects throughout the lodging industry.

Observing figure 14, one can conclude that in the period 2017-2019 there was a slight decrease in the gross margin, going from 19.26% to 15.92% at a CAGR of -9.09%. This is because Marriott was not efficient in managing net reimbursements with the different hotel owners, leading always to a negative gap in this component, as it is demonstrated in figure 15. In 2020, the pandemic broke out and consequently the margin deteriorated even further, reaching 14.83%, but at the same time, the company was able to effectively manage the variable costs, mostly the net reimbursements, which worked as a buffer in neutralizing the negative shock. In the last year, the margin reached its highest value in the time frame analysed, 20.57%, which was directly related to the activity's recovery, which in turn led to higher revenues, and to a better-disciplined company, that came out of the pandemic more efficient in monitoring its cost structure.

By separating in business segments, one can perceive that both follow the same trends explained above but with a different particularity regarding their resiliencies to the economic crisis. While the gross margin of management and franchise remained relatively stable throughout the five years, reaching its peak

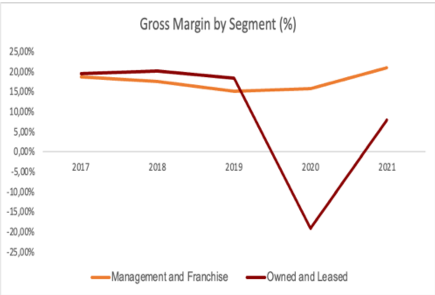


Figure 16: Gross Margin by segment, in %
Source: Marriott's Annual Report

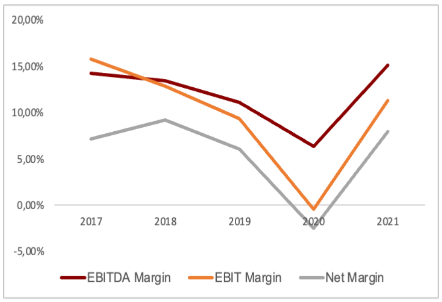


Figure 17: Evolution of EBITDA margin, EBIT margin and Net margin from 2017 – 2021, in %
Source: Marriott's Annual Report

in 2021 (*fig. 16*), the owned and leased segment suffered a tremendous decrease in the pandemic year, with its margin becoming negative (-19.19%). This is because, in owned hotels, fixed costs such as energy, housekeeping, wages, and maintenance cannot be simply adjusted to the activity level, whereas in the franchising segment the fixed costs are imputed to the franchisee and consequently, it translates in a higher degree of flexibility.

Secondly, it is relevant to analyse the margins of income that express what percentage is left for paying debt and shareholders after operating expenses are deducted, the EBIT and EBITDA margins. Both followed the same pattern as the gross margin, being 2020 the worst year which led to a negative EBIT margin of -0.45%, a 6.35% EBITDA margin and a CAGR 2017-2019 of -22,96% and -11,73%, respectively (*fig. 17*). In 2021, recovery took place and margins returned, at different paces, to close to pre-pandemic levels, highlighting the fact that EBITDA margin reached its peak at 15.11%, the highest value in these 5 years. The difference between both margins is mostly explained by considering non-cash expenses like depreciation and amortizations into EBITDA. Moreover, in the last year, there was a significant expense related to the loss on extinguishment of debt that did not allow the EBIT margin to surpass its pre-pandemic values.

Finally, the net margin had a CAGR 2017-2021 of 2.68% (*fig. 17*), which is positive and has shown Marriott's resilience if one takes into account that there was a long period in which due to government restrictions and travel bans, hotels were prevented from doing its daily operations. Additionally, the decrease in the U.S. statutory tax rate in 2017 and the governments' subsidies during pandemic times were also crucial to rapidly recover from the negative results the company faced in 2020.

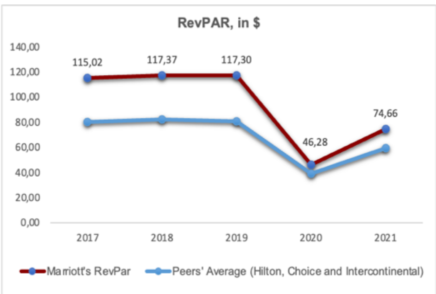


Figure 18: Evolution of RevPAR, in $
Source: Marriott's Annual Report

- Key Performance Indicators for Hotels

Occupancy rate and Average daily rate (ADR) are two of the most relevant metrics within the hospitality industry. Those elements enable the calculation of revenue per available room (RevPAR), a consensual measure of hotel performance. With both occupancy rates and ADR considerably above industry averages, Marriott has, historically, been able to sustain a high RevPAR, which was presenting a slight yearly increase prior to the coronavirus outbreak, ending 2019 at $117,30 (*fig. 18*). The US & Canada Luxury market stands out as the most profitable tier, with RevPAR of more than two-fold the overall company level. Even though, due to the cease of travel and prolonged lockdowns periods, much like the North American Upper Upscale and Europeans market, Luxury has been one of the most hit segments on 2020, favourable recovery prospects allied with an expressed commitment by the company to develop new projects in the sector can prove to be quite beneficial for Marriott's future growth (*fig. 19*).

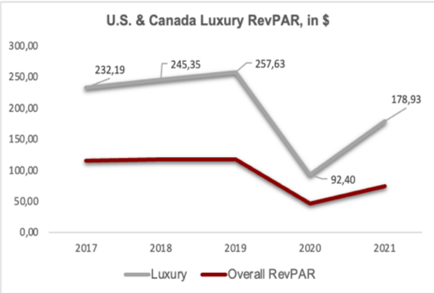


Figure 19: U.S & Canada Luxury RevPAR vs Overall Company RevPAR, in $
Source: Marriott's Annual Report

- Return on Invested Capital

Marriott's 2021 ROIC was 8.26%, which means that in general terms, the company was not yet able to create value in this upturn year comparatively with the estimated WACC. Despite its extraordinary recovery, if one takes into account the negative value this indicator presented in 2020, the return achieved in 2021 was slightly below the average cost of capital and hence, value was destroyed. Throughout the recent past, the highest variation happened precisely in 2020, when ROIC decreased to -0.33% explained by the negative total comprehensive income, which was considered to be an outlier due to the specific conjuncture and to its exogenous conditions. (*fig. 20*)

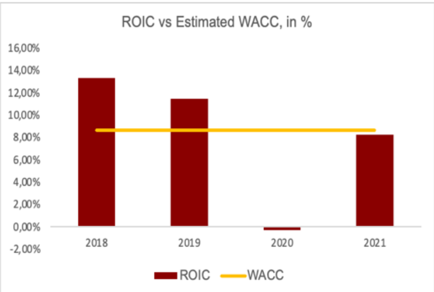


Figure 20: ROIC vs Estimated WACC, in %
Source: Marriott's Annual Report and Analyst Estimates

Focusing solely on the core part, the CAGR in the past four years was -8,01% but again, this was mostly affected by the decrease in the pandemic years. A good sign is that the Core ROIC of 2021 recovered and reached the value of 2019, 47,90%, meaning that Marriott is once more on the right path to obtaining attractive returns on its operating investments. If one goes deeper in the breakdown analysis of the Core ROIC, it is observable that the value is coming from the ability of the company to use its assets to generate revenues, since Core Asset Turnover is 496.51%. This is related with the fact that most revenues are coming from the franchise and management segment, that do not require significant capital investments (*fig. 21*).

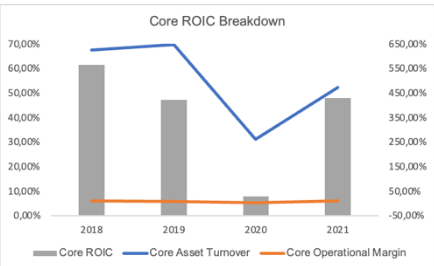


Figure 21: Core ROIC Breakdown, in %
Source: Marriott's Annual Report

- Return on Equity

Regarding the metric of ROE, one can conclude that until 2020, this ratio had significantly improved at a CAGR 2017-2019 of 64% but then, it suddenly suffered a sharp decrease, reaching a negative value of -62.09%, which is explained by the negative net income. Even though this pattern was also found in Marriott's competitors, the company outperformed the lodging industry average in 2021 since it got an ROE of 77.72% (*fig. 22*).

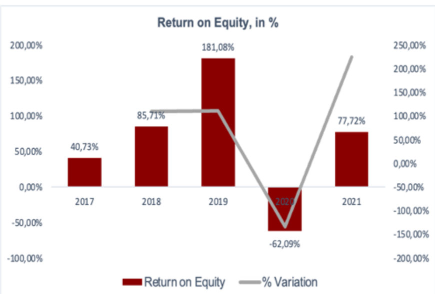


Figure 22: Return on Equity from 2017 – 2021 and its respective variation, in %
Source: Marriott's Annual Report

- Capital Structure and Liquidity Analysis

Similarly with what has happened to many other companies around the world, the intent to preserve financial flexibility in light of global market impact of COVID-19 has led Marriott to improve liquidity and its cash levels in recent years. There is a clear upward trend for the evolution of Marriott's current ratio from 2019 to 2021 (*fig. 23*), despite still demonstrating a somewhat sensitive position regarding the company's ability to comply with short-term obligations. It must be noted, however, that a substantial portion of Marriott's current liabilities (between 30 to

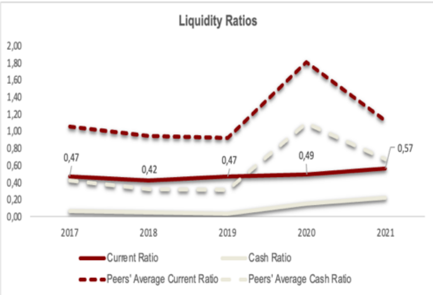


Figure 23: Liquidity Ratios – Current Ratio and Cash Ratio
Source: Marriott's Annual Report and Competitors' Data

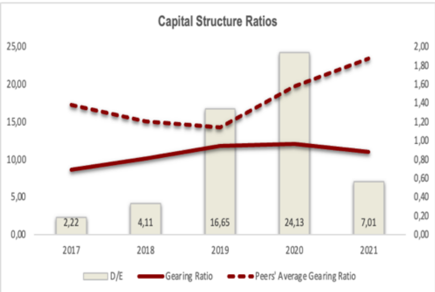


Figure 24: Capital Structure Ratios – D/E Ratio and Gearing Ratio
Source: Marriott's Annual Report and Competitors' Data

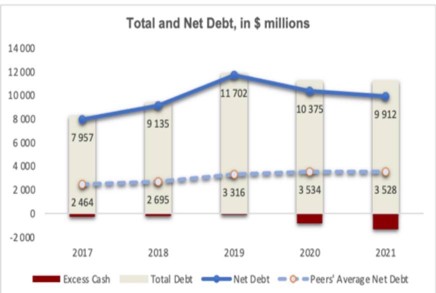


Figure 25: Net Debt composition and evolution from 2017 - 2021
Source: Marriott's Annual Report and Competitors' Data

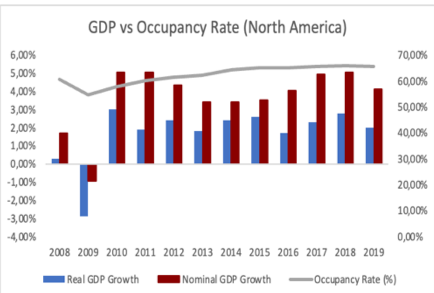


Figure 26: Correlation between GDP vs Occupancy Rate in North America from 2008 - 2019
Source: IMF and Statista

40% in the analysed time frame) respect future obligations concerning the Loyalty Program, which, for the most part, will not imply an actual cash outflow, thus hindering the direct conclusions derived from this metric.

Starting in 2020, the company took steps to increase cash savings and obtain further liquidity injections from external sources, through access to existent credit facilities, issue of over $3,6 billions in senior notes or by amending existent agreements to anticipate receipts from co-branded credit cards. When compared to 2019, Marriott's cash have increased more than six times as of end of 2021.

The pandemic drove an increase of Marriott dependence of debt financing, aggravating the already pronounced increase in the gearing ratio that was verified since 2017. Despite recording a slight decline in the last fiscal period, this metric average surpasses 0,85 over the course of the last five years (*fig. 24*). Such high leverage at a time of particularly uncertainty in the industry as is the present, can result in substantial financial risk for Marriott. Together with the credit rating downgrade the company witnessed during 2020, those factors can deteriorate future financing conditions for the company.

Understanding the adverse implications of excessive reliance on debt, Marriott has been declining its Net Debt amount, consecutively, since 2019 as highlighted in Figure 25. Either by increasing excess cash due to previously mentioned liquidity injections or by decreasing its total debt, the hotel chain seems to slowly be following a path of conversion towards a more conservative capital structure, closer to the industry average.

Macroeconomic Outlook

Gross Domestic Product (GDP) Growth

Performance of the hospitality industry is impacted by the overall state of the economy, existing a positive correlation between demand for hotel rooms and changes in GDP (*fig. 26).* In an expansionary context, as GDP increases so do wealth levels leading to higher predisposition to spend on travel. In reverse, at times of economic downturn, individuals tend to postpone this type of consumption, thus reducing the demand for hospitality services. Such relationship highlights the cyclical nature of the industry, which performance moves closely with the general economy. Thus being, it is of pivotal importance to understand how GDP will evolve in the future. Amid the current conflict in Ukraine that has raised uncertainty and brought to light new challenges, economic forecasts for the short run are being revised downwards albeit a growth is still expected for 2022 as economies recover from the effects caused by the pandemic. The International Monetary Fund forecasts real GDP growth rates above 3% starting next year, in line with the estimates for the long-term growth of the economy. As for the United States, the most significant country regarding Marriott's operations as of present date, predictions point to an average annual growth of around 1,7% in the long-term.

Inflation

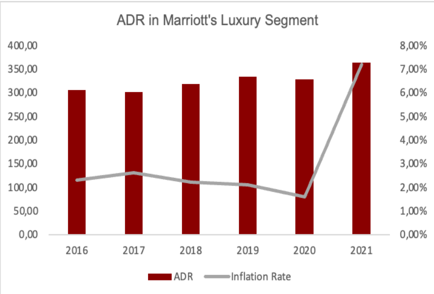


Figure 27: ADR in Marriott's Luxury Segment
Source: Marriott's Annual Report and IMF

Given the nature of the hotel accommodation service provision, which consists of uniquely short lease periods, hotels could, in theory, rapidly adjust prices to accommodate changes in inflation. As such, hotels are commonly perceived as a hedge against inflation. Bram Gallagher (2022) studied the relationship between inflation and hotel performance indicators, having concluded that there is a positive co-movement between inflation and ADR as well as a statistically significant positive correlation between inflation and hotel returns for the Luxury chain scale as demand in this category is more inelastic leading small adjustments in occupancy rates compared to the price variations. In figure 27, one can observe that Marriott's ADR has been relatively constant since 2016 for the luxury segment, except for 2021 when it suffered an increase of more than $30. This was precisely in the same year that inflation rose in U.S. from the target value of 2% to values close of 7%, which reinforces the argument that hotel operators might have some room to price adjustments in an inelastic industry such as the luxury one.

With consumer price indexes reaching record highs, if present inflation confirms to be more persistent than initially expected, an adequate pricing strategy by Marriott and its franchisees can enable the company to achieve increased returns, particularly in the Luxury scale where it leverages an advantageous position. It is predicted that world long-term inflation approximates the 3% per year accordingly with the international monetary fund.

Interest Rates

The present situation of rising inflation has already led central banks to adopt less expansionary approaches regarding monetary policy. Both the Federal Reserve and the Bank of England have increased interest rates and announced further increases over 2022 while the European Central Bank is expected to follow a similar path soon. As market interest rates respond to such adjustments, interest rate increases can have a two-folded effect for Marriott and for hoteliers in general: (i) higher cost of debt financing and (ii) higher hotel cap rates which imply lower hotel property valuations.

Given that Marriott is, currently, highly leveraged, interest rate increases can drive substantial additional costs for the 20% of total debt that does not have fixed rates as well as for future loans the company needs. On the other hand, the devaluation of owned properties and of third-party owners can worsen financial conditions either directly or indirectly by lowering future collateral for third party associates.

Lodging Industry

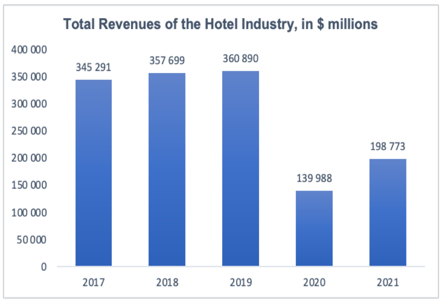


Figure 28: Total Revenues of the Hotel Industry from 2017 – 2021, in $ millions
Source: Statista

Included within Tourism & Travel, lodging is a highly competitive industry where Marriott competes against other major hotel chains, regional hotel chains, independent hotels and home sharing and rental services across national and international venues. In the last fiscal year, total industry revenue amounted to $198,8 billion, representing a more than 40% increase compared with the troublesome year of 2020 (*fig. 28*).

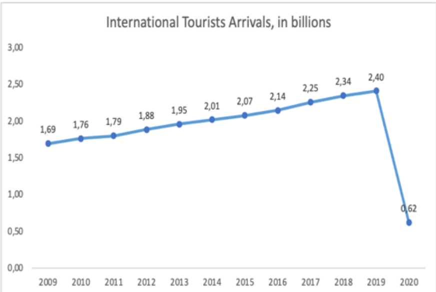


Figure 29: International Tourists Arrivals, in billions
Source: The World Bank

The industry's performance is closely related with general tourism evolution. On that regard, it should be pointed out that over the last ten years, the total number of international tourist arrivals has grown in all periods except for 2020 as a result of the health crisis (*fig. 29*). Such fact demonstrates a robust growth of the sector as well as an increasing consumer predisposition towards traveling, with Europe and North America as the preferred destinations, even though Greater China is the region presenting a more pronounced growth in recent times.

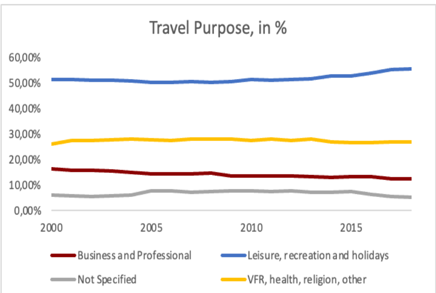


Figure 30: Travel Purpose, in %
Source: UNWTO

Looking at pre-pandemic data, since the beginning of the century, more than half of all travel is due to leisure, recreation and holidays, with the second most significant purpose being visiting friends and family, health and religious purposes. The weight of business travel has steadily decreased since 2000, accounting for 12,41% of total travel in 2018 (*fig. 30*). Undoubtedly, the coronavirus outbreak drove further disruption to the sector, and the composition of travel purposes is expected to face new trends in the near future.

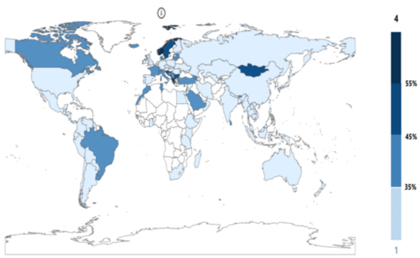


Figure 31: Level of seasonality by region
Source: UNWTO

In general, besides their co-movement with economic business cycles, the hospitality industry revenue fluctuates within each year due to seasonality driving uneven revenue distributions across the year, depending on location-specific characteristics. Albeit Marriott's wide international presence helps to partially offset said fluctuations, historical data shows that the company revenues still tend to fluctuate moderately across each period. Figure 31 presents world destinations according to their level of seasonality.

Deep diving into the industry and its characteristics will enable a better understanding of Marriott's position within the sector as well as facilitate comprehension on how lodging will perform and change in the future.

Competitive Set

in 2021	Marriott	Hyatt	Hilton	Intercontinental	Choice
Revenue	13 857	3 028	5 788	2 907	1 069
Net Income	1 099	-222	410	265	289
Mkt Cap	52 968	9 099	37 957	11 290	7 127
# Hotels Owned	258	38	54	19	6
# Hotels Asset-Light	7 731	1 162	6 783	5 972	7 024
Asset Light Business	96,77%	96,83%	99,21%	99,68%	99,91%
Geographic Presence	72,39% of Hotels in U.S. & Canada	69,08% of Hotels in U.S. & Canada	82,77% of Hotels in U.S. & Canada	71,24% of Hotels in U.S. & Canada	84,21% of Total Hotels in U.S.

***Figure 32*: Analysis of suitable competitors (in $ millions)**
Source: Marriott and Competitors' Data

As the lodging industry evolves, competition assumes a paramount role to assess which players are performing and recovering faster and defining the ones which will be able to get above-average returns in a near future. What we have seen so far, even before the pandemic started, is this gradual shift of big hotel chains in transforming their portfolios into asset-light ones, a trend that is expected to continue. So, based on this information and considering factors such as the core business, the market cap, the geographical presence and the respective number of properties it was defined that Hyatt, Hilton, Intercontinental and Choice Hotels would represent suitable comparables to Marriott (*fig. 32*).

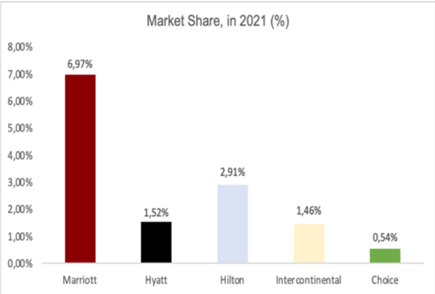


***Figure 33*: Market Share, in 2021 (%)**
Source: Marriott's Annual Report and Competitors' Data

In terms of market share, Marriott, in 2021, reached 6,97% (*fig. 33*), based on the total revenues of the hotel industry worldwide, which made them the market leader in such a fragmented sector with a lot of different service providers. Even if we sum up the revenues of the other relevant competitors, it would be insufficient to surpass that share.

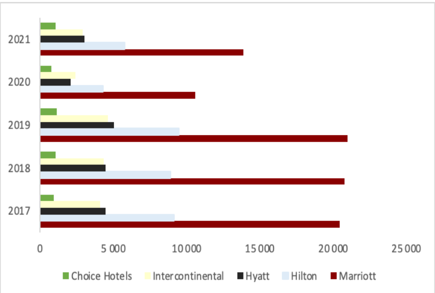


***Figure 34*: Revenues Evolution, in $ millions**
Source: Marriott's Annual Report and Competitors' Data

Regarding revenues evolution, Marriott and Hilton, in the period between 2017 to 2019, were the hotel chains with the slowest CAGR compared with the other competitors. It is mainly explained due to their already consolidated position in the market and consequently, to the difficulty they face to generate significant revenues' increments. Choice Hotels, in turn, is the fastest growing company and also the one that recover at a faster pace to pre-pandemic values (96%), which directly derived from its almost pure franchising model that allowed higher flexibility in adapting to market conditions' changes (*fig. 34*). Figure 35 supports this argument, with the actual difference between the profitability margins among the competitors. Whilst Marriott and Hilton are performing somehow at the same level, Choice Hotels has managed to obtain superior margins by almost double the amounts, as their operating costs are immaterial compared to the rest.

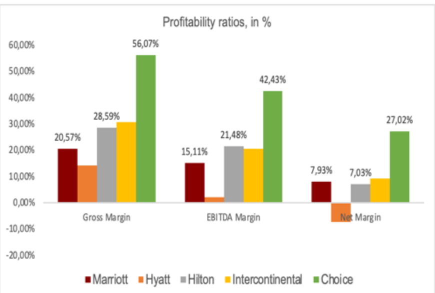
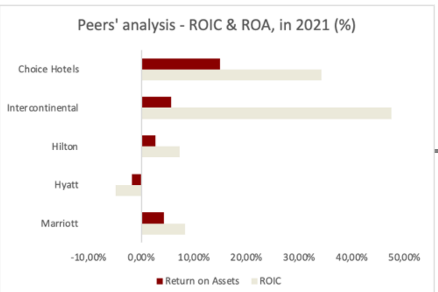


***Figure 35*: Profitability margins among competitors, in 2021 (%)**
Source: Marriott's Annual Report and Competitors' Data

Moreover, as it was observed, Marriott could not create value throughout these pandemic years since its overall ROIC was not above the WACC. Nevertheless, it presented a significant recovery and outperformed Hilton in 2021, its main competitor (8,26% vs 7,22%). It is misleading to do a straightforward comparison of this return indicator with companies as Choice and Intercontinental since in Marriott's case, intangible values such as Brands, strongly influence this ratio but do not represent recurrent cash investments. Due to its high valued portfolio, invested capital and the total amount of assets will be much higher which in turn, it will consequently decrease the ROIC and the ROA in comparison with the other competitors (fig. 36).



When it comes to the 3 relevant performance indicators, the occupancy rate, the average daily rate and the revenue per available room (RevPAR), one can observe that Marriott has been exceeding its competition. In general terms, although Hilton has been able to obtain a higher occupancy rate throughout the time frame analysed, Marriott has managed to charge the highest daily rates. In 2021, Marriott, due to its strong bargaining power, charged on average $17 more per room sold than Hilton and the difference in occupancy was not sufficient for not having the highest RevPAR. This trend has remained relatively constant since 2017 (*fig. 37*) and helps Marriott sustain its market-leading position.

Figure 36: ROIC & ROA – comparison with competitors, in 2021 (%)
Source: Marriott's Annual Report and

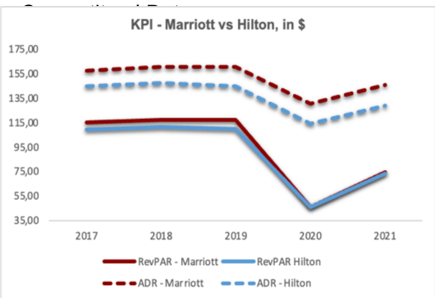


Figure 37: RevPAR and ADR comparison between Marriott and Hilton, in $
Source: Marriott's Annual Report and Hilton's Annual Report

Industry Trends

▪ Travel Appetite

The volatility faced by travel during the pandemic era made it ever more crucial to forecast lodging demand. With pent-up demand being unleashed and increased savings' levels, travel demand is expected to keep on recovering, mainly driven by leisure travel while business travel will recoup at a slower pace.

During almost two years of significant travel restrictions and lockdowns, consumers reduced spending patterns, leading to a rise in savings. The Accenture's Holiday Shopping Survey (2021) shows that 40% of respondents prioritize saving for a future trip away, highlighting a substantial eagerness to travel. As restrictions ease, international travel will be yet another driver of leisure demand during 2022, with younger wealthier individuals leading the return in the short-term (WTTC, 2021). Those aspects support Kalibri Labs (2021) prediction that leisure travel will recover to pre-pandemic levels in the present year.

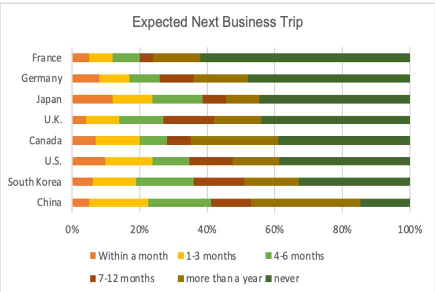


Figure 38: Time frame of next expected business trip among those who travelled for business at least three-times a year pre-pandemic
Source: Morning Consult

Business travel recovery has been occurring at a slower pace than that of leisure travel, with projections pointing for global business travel to increase 14% in 2022 but still falling below the volumes of 2019 (Morning Consult, 2021) (*fig. 38*). Even in the best-case scenario not all usual corporate travellers will immediately return to their pre-pandemic frequency, even more, when CEOs and CFOs are likely to maintain close scrutiny of travel spending and return on investment after two years of successfully operating with so few trips (Deloitte Travel Outlook, 2022).

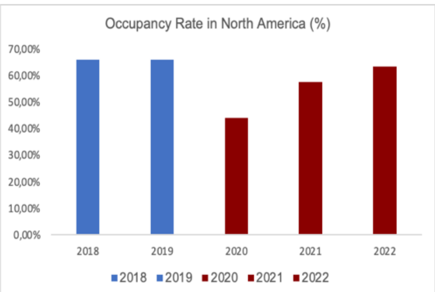


Figure 39: Occupancy Rate in North America (%)
Source: Oxford Economics + STR

Global industry occupancy is expected to continue its upward movement, approaching the values of 2019 (*fig. 39*). A similar pattern is forecasted for overall room revenues, despite ancillary spending, such as those earned from meetings, events and food and beverages, still lagging behind historical amounts (AHLA, 2022).

▪ Change in Consumer Preferences

Recent disruptive forces have contributed to accelerate changes in consumer preferences. In the future, hoteliers that are able to understand and address the needs of the new travellers can have a lot to gain from this trend.

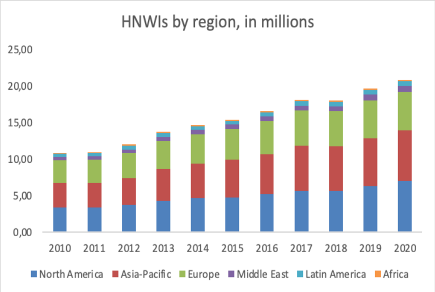


Figure 40: Number of high net worth individuals (HNWIs) by region, in millions
Source: Capgemini

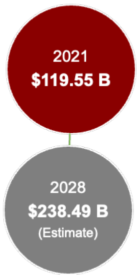


Figure 41: Global Luxury Hotel Market Size, in $ billions
Source: Fortune Business Insights

The advent of remote work during the health crisis and its subsequent normalization have driven the emergence of new traveller segments that blend leisure and business interests. As hybrid work models gain prevalence, the so-called, bleisure trips are expected to continue and increase in the future, thus propelling the desire for longer stays. In fact, a recent study of business travellers showed that, globally, 89% wanted to add a private holiday to their business trips (SAP Concur, 2021). In response to this pattern, hospitality groups are creating specialized packages to cater to consumers' bleisure needs. Concretely, Marriott has developed offers such as the "Play Pass" to facilitate workations and providing differentiating features to its guests.

In terms of booking channels, the lodging industry has been facing consolidation of preference for online reservations. For instance, Visa found that are predominantly booking hotels through their smartphones (Interface Tourism Spain, 2021). Being highly likely that this trend will persist in the long-term, hoteliers need to respond with engaging and innovative strategies to attract customers while aggressively competing with online booking platforms for direct channel reservations. Besides alterations in how individuals opt to make hotel bookings, the industry is also facing a realignment concerning chain-scale preferences with substantial growth being forecasted for the luxury segment. In one hand, the previously referred increased savings are expected to drive travel expenditure up, partially due to a greater willingness, matched by sufficient buying power, of consumers to stay in higher quality hotels (WTTC, 2021). On the other hand, the blooming of the overall T&T industry together with the continued rise in the number of high-net-worth individuals (fig. 40) are two longer-term factors reinforcing expansion and growth of the luxury segment. According to Fortune Business (2021) insights estimates, this segment is projected to grow at a 10,4% CAGR from 2021 to 2028 (fig. 41).

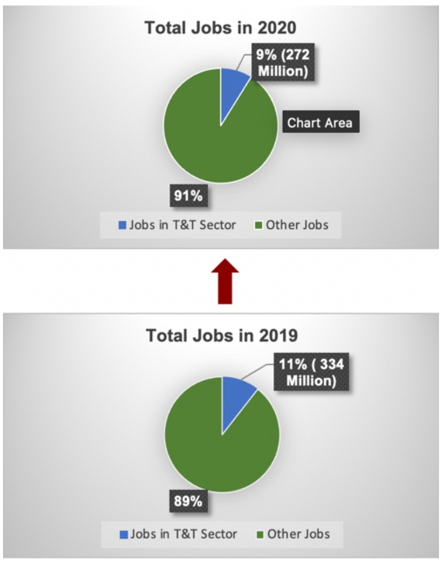


Figure 42: Number of employees in the Travel & Tourism sector, in millions
Source: WTTC

- Staff Shortages

Travel & Tourism is one of the largest sectors globally, accounting for a substantial part of existing jobs, displaying an important role as a catalyst of job creation (WTTC, 2021) (*fig 42*). Accentuated by the COVID-19 pandemic, the sector is currently facing staff shortages, mainly in developed countries. Particularly at a time where demand for travel and jobs has started to increase, a sufficient work force is needed to feel existent vacancies and enable the sector to grow, hence, this issue can hamper the recovery of the lodging industry.

The World Tourism & Travel Council in collaboration with Oxford Economics (2021) analysed the present relationship between demand and supply for labour in the sector within six different countries, with results pinpointing staff shortages

Country	Labor Demand (000s)	Shortfall (000s)	Ratio
U.S.	6,565	690	11% (1 in 9)
U.K.	1,676	205	12% (1 in 8)
France	1,454	219	15% (1 in 7)
Spain	1,047	93	9% (1 in 11)
Italy	1,798	263	15% (1 in 7)
Portugal	475	85	18% (1 in 6)

Figure 43: Staff Shortfalls as share of labour demand
Source: WTTC

in all the regions as demand outstrips available labour supply as show in Figure 43. The study found that, despite the decline in global unemployment, the sector is struggling to attract talent with, inclusively, a part of the laid off and furloughed employees of the lodging industry opting to work in other sectors.

Moving forward, hoteliers will need to better address the needs of prospective workers in order to mitigate current employment imbalances. Concretely, putting more emphasis on flexible work schedules, enabling work-life balance, offering personalized learning journeys and more attractive salaries will be of crucial importance, factors that can also potentially drive companies' costs up.

- Technology

As travellers' preferences and needs evolve, technology is increasingly displaying a crucial role in enabling the hotel industry to adapt and respond to such changes. Therefore, when assessing the future of the sector, understanding the main technological trends in hospitality is of considerable importance.

It may come as no surprise that the trend towards digital and contactless services obtained new momentum since 2020. In one hand it is expected that the personalization of technology will take another leap forward, with hotels leveraging digital technologies to increase individual guest satisfaction by offering differentiated guest experiences (AHLA, 2022). The use of such technologies will progressively help hotels gain knowledge about customers, allowing for a more tailored guest experience that meets or exceeds service expectations. On the other hand, the widespread adoption of mobile self-service devices is permitting guests to navigate much of the traditional guest journey without having to interact directly with staff. Consequently, hotel employees will spend less time on task like check-in processing and may pursue initiatives with greater impact on overall guest experience. Increased reliance on technology-assisted options and systems of automation can likewise contribute to reduce employees' workload, helping address the previously mentioned staff shortages, as explained by Webster and Ivanov (2017).

Moreover, industry analysis led by the American Hotel Lodging Association (2022), points to further integration and development of Property Management Systems (PMS) is forecasted, hoteliers will turn to PMS that benefit from a growing network of integration patterns. In turn, expanded usage of Information Technology will lead to more efficient operations and improved performance (Sunny Ham, 2005).

Technology will, undoubtedly, continue driving opportunities for innovation and growth, however, new challenges have also emerged, concretely, regarding cybercrime. Thus being, a greater investment is predicted to be made by hotels to increase cyber resilience and prevent against events as those that occurred with Marriott at the time of the Starwood data breach (WTTC & Microsoft, 2022).

- Redefining Loyalty Programs

Even traditionally, the hotel industry has relied on points-based schemes as a means to foster costumers' loyalty. With such programs, long-term custom earned rewards and recognition, with business travellers accounting for a substantial part of regular travellers, around which such loyalty programs are built.

It is usually, the access to value across a broad network that drives consumers to join loyalty programs. In turn, consumers will then tend to increase spending in order to realize tiered benefits, thus increasing switching costs. Additional expenditure creates value for the hotel chains by driving RevPAR premiums, while increased memberships help not only to reduce distribution costs as the number of direct bookings rises but also to generate additional cash flows from monetization/partner programs such as co-branded credit cards. Ultimately, the generated benefits will reinforce brand value, enabling further unit growth and network expansion, creating a virtuous cycle (Goldman Sachs, 2020).

However, recent disruptive forces have permanently reshaped the mix of leisure and business travel. In the future, a greater number of people is expected to travel less frequently and, as a result, point-based schemes centred on the needs of business travellers and that are based on frequency of travel will tend to become less adequate with the behaviour of the new traveller. Therefore, to fully engage consumers, there is the need to redefining loyalty programs in order to align them with new demand patterns, making the programs more suitable for people who travel less and for leisure purposes (Accenture, 2021).

As detailed in the Lodging Primer elaborated by Goldman Sachs (2020), Marriott presently has a loyalty scheme more targeted to the business segment, concretely, to large-sized business employees, offering better returns than most direct competitors for those who travel on expense accounts rather than using credit cards. Nonetheless, the company possesses a relatively worse position when analysing ability, the attractiveness of its program for leisure costumers, with hotel chains like Hyatt and Hilton offering greater returns and better conditions for that costumer segment.

Despite departing from a somewhat less favourable position in light of future trends, quickly adapting to change can still lead Marriott to retain its position has the hotelier with the largest number of members in its loyalty program and even attract new ones (*fig..44*).

- Sustainability

Figure 44: Loyalty Program Members, in millions
Source: Marriott's Annual Report and Competitors' Data

Even though sustainability has been an important topic in the lodging industry for some time, the pandemic made it ever more prominent. As a recent study conducted by Accenture (2021) highlighted, the health crisis prompted consumers to examine and rethink their priorities and values, with sustainability being among their top concerns in terms of how they live and travel. Increasing awareness has led travellers' expectations to rise, demanding brands to meet and correspond to such values, fully embracing sustainable practices be it in regard to environmental impact or socio-economic considerations with respect to local communities. Hence, hotel companies that are able to do so can gain from higher attraction and retention of both customers and employees, leveraging improved brand reputation while mitigating risks associated with lagging behind rapidly changing regulations.

Reinforced commitment of individuals to take actions to preserve the present and future of our planet will be reflected in travel choices, with 83% of global travellers intending to make sustainable travel a priority in the future (Booking.com, 2021). Indeed, as Kim et al. (2017) showed, this trend is also accompanied by the willingness to pay a premium for sustainable accommodation.

All in all, this is undoubtedly a long-term unavoidable trend from which will arise new opportunities.

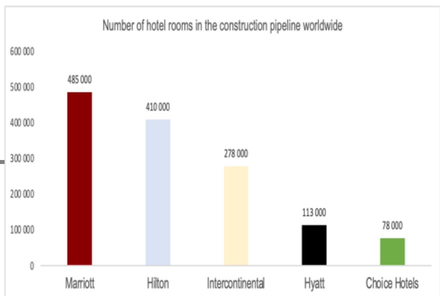
Forecasts

Future Strategy

As one starts looking forward in time, Marriott has established some important strategic priorities that will serve as guidance in terms of what is expected of the company in the years to come.

Firstly, the hotel chain intends to maintain a strong focus on the three most crucial constituents, those being, its associates, guests as well as its owner and franchisee community. With all of them representing an essential part for the company's success, there is a clear commitment to create an adequate environment to retain and attract top talent, enabling the provision of high-quality service to guest while maintaining a close and transparent relationship with owners and franchisees that promotes trust and increases willingness for future agreements (Morgan Stanley Global Consumer & Retail Conference, 2021).

Another key strategic priority is net unit growth, As depicted in Figure 45, at the end of Q1 2022, Marriott had the largest pipeline in the industry with 2 878 hotels under development, accounting for nearly 485 000 rooms. This pipeline reveals a



noteworthy focus on the international market with 60% of current developments being out of the United States. In an interview to Bloomberg's "Chief Future Officer", Leeny Oberg, Marriott International CFO (2021), highlighted that the company projects substantial growth opportunities to arise in the international segment because, as previously reported, the hotel chain's market share, based on the number of rooms, is considerably smaller than the share in US & Canada. Already it can be seen a disproportionate part of Marriott's new developments occurring in China and in the Middle East when compared with their respective share in the existent rooms, highlighting the firm's ambition to boost its presence in those two attractive markets. Being satisfied with current breadth of its brand portfolio, Marriot projects net unit growth to be mostly organic, despite still being open to good M&A opportunities (Capuano, 2022).

The third component of the strategic priorities respects the loyalty program. In this field, Marriott not only aims to expand the program in aggregate but also to find new ways to engage members and drive activation similar to what was achieved by collaborating with Uber (Yahoo Finance, 2021).

Lastly, the hotel chain will continue to look for opportunities to innovate around its business, be it by rebuilding and supplementing core technology (Cobbold, 2022) or by looking for business adjacencies with the potential to become new revenue streams like the recent launch of the company's travel insurance (Marriott News Center, 2022).

Revenues

Methodology-wise, revenues were forecasted according to four main captions, namely, (i) Gross fees, which encompass revenues generated from management and franchise agreements plus branding fees of licensed trademarks for the sale of residential real estate, (ii) Owned, leased and other revenues, including all revenues earned from hotels detained by Marriott, (iii) Unallocated, corporate and other revenues, respecting fees obtained from timeshare as well as of other business adjacencies as are co-branded credit card fees and (iv) Cost reimbursement revenue. Throughout the present section, an in-depth analysis will be provided concerning the projections for the first three revenue elements. Regarding cost reimbursement revenues, its amount was estimated to fully match reimbursed expenses because, as explained in the company's Annual Report, there is no objective to obtain a profit trough this mechanism.

- Key Value Drivers

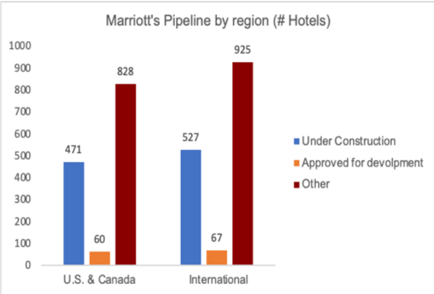


Figure 46: Marriott's Pipeline - # of hotels by phase of completion
Source: Marriott's Annual Report

As a starting point, it is essential to pinpoint the main drivers for each of the revenue rubrics to be estimated and understand their respective evolution across time.

Marriott's Lodging Facilities: At date of writing, the hotel chain's worldwide development pipeline is composed by 998 properties under construction, estimated to be operating in a period no longer than three years and 127 properties approved for development but not yet subject to signed contracts, being forecasted that those properties will enter into operations within the next five years. Moreover, Marriott identifies additional 1.753 new hotels, which are not yet in either of the two previous cases, therefore, assumed to enter the firm's portfolio only in subsequent periods until 2035 (*fig. 46*). Thus being, the company's expansion plan outlines a more pronounced growth of its lodging facilities until 2025, with more moderate growth thereon while, in line with the defined growth strategy, it also fosters international expansion with over 60% of new room additions being outside North America. The short-term hike in property development is partially explained by the increased number of independent operators that, after the recent turmoil in the industry, now want to better protect against adverse scenarios by being under the umbrella of a strong brand like Marriott International.

Deep-diving concretely into the evolution of managed properties, after some years of consecutive declines in the number of hotels managed in the US & Canada, which were either due to deflations or within-brand conversions to franchise agreements, it is forecasted that, in future periods, Marriott will be able to maintain the current property levels in North America, presently, accounting for 638 hotels. As for the International segment, the development plan will result in an average annual net unit growth of 3,3% in the first expansion phase, decreasing to around 1% afterwards.

Figure 47: Evolution of the hotels in the asset-light segment, in U.S. & Canada
Source: Analysts' Estimates

Concerning franchised properties, despite already possessing a remarkable position in the North American market, Marriott will, nonetheless, continue enlarging its regional offer, projecting an increase in franchised hotels of nearly 1.5% per year in the in the next three years, followed by positive annual growth rates below 1%. It is, however, also in the international markets that the company will witness the largest growth. In fact, under the established plan, the number of franchised units in the international segment will more than double until 2030 as illustrated in figure 48. Such evolution reflects the increased importance of branding in the industry, even outside the United States.

Figure 48: Evolution of the hotels in the asset-light segment, in International
Source: Analysts' Estimates

Thirdly, Marriott will continue to engage in new residential development projects, translated by consecutive positive net new additions in the forecasted period.

Figure 49: Total Number of Rooms Sold in the Lodging Industry
Source: Analysts' Estimates

As per strategic orientation, Marriott is increasingly focuses on its asset light business model, hence, no further growth is forecasted for either for the owned and leased hotels or the timeshare properties. It is projected that new additions will only serve to compensate for retirement of a given asset.

Occupancy Rate: The occupancy rate provides an insightful glance at the demand Marriott will face moving forward. This metric, not only accounts for company-specific aspects as is the number of rooms it has available but, equally, incorporates wider industry factors, being the total rooms sold in the industry and the share Marriott is able to grasp from those sales the two main determinants of the rooms the firm will sell. Regarding overall industry sales, increased savings and pent-up demand will be the catalysts of a strong leisure demand that will contribute to a substantial rise of rooms sold vis-à-vis 2021. Notwithstanding, the slower recovery of business and group travel will result in forecasted values for rooms sold in the present year still below pre-pandemic values, representing around 90% of the 2019 benchmark. Only in 2023 full recovery is expected, with a CAGR of 0,5% projected for the years to follow (*fig. 49*). Those trends were already verified in the first quarter of 2022, with only leisure-room nights surpassing 2019 levels (Bloomberg, 2022). As of 2021, Marriott's market share based on earned revenues was of 6,97%, a value that, like the one from 2020, was more than one percentage point above the corresponding share before the health crisis, resulting from a better than average resilience of the company during such troubled period. Due to rare and valuable core competencies of Marriott such as its brand reputation and massive scale, which are not only hard to replicate but have neither perfect substitutes, perceived as sustainable competitive advantages of the hotelier, it is forecasted that the company will maintain its leading position in the industry, sustaining and even slightly growing its market share within as represented in figure 50, reaching 7,4% after 2030 (Sharma, A., 2018).

Market Share (Marriott)	
[2021 - 2025]	6,97%
[2026 - 2030]	7,20%
[2031 - Long-Term]	7,40%

Figure 50: Marriott's Market Share
Source: Analysts' Estimates

Figure 51 provides graphical representation of the estimates for Marriott's system-wide occupancy rate based on the aforementioned inputs. Following the short-term demand boost whereby individuals will compensate for the last two years of restrained travelling, occupancy rate is expected to gradually decrease towards 73%, in line with historical values. This overall occupancy can be further decomposed between the rate faced hotels integrated in the asset light model and the one respecting owned and leased facilities.

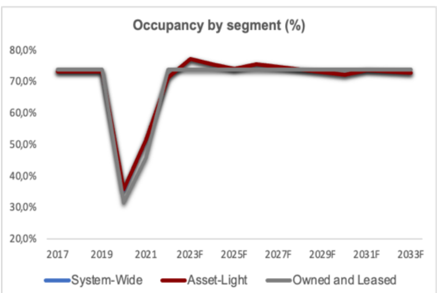


Figure 51: Occupancy by segment, in %
Source: Analysts' Estimates

Given that the asset light component of Marriott's portfolio represents over 99% of available rooms, the mentioned fluctuations in system-wide occupancy are driven by corresponding changes in the demand for this type of rooms, while occupancy for owned and leased properties is forecasted to remain more stable

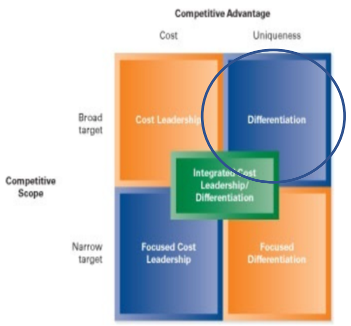


Figure 52: Marriott's Business Level Strategy
Source: Management: Concepts and Cases, 12th edition

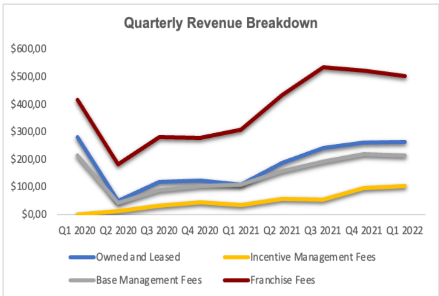


Figure 53: Quarterly Revenue Breakdown, in $ million
Source: Bloomberg

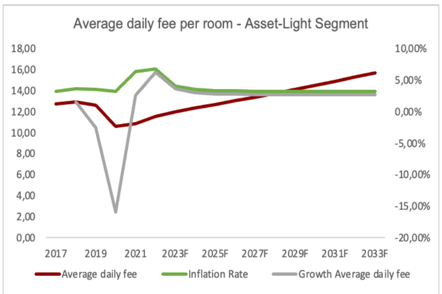
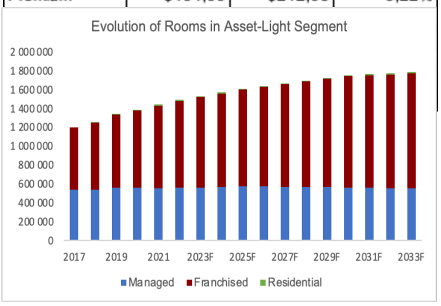


Figure 54: Average daily fee per room in the Asset-Light segment
Source: Analysts' Estimates

ADR - Owned and Leased Segment

Segment	Q1 2019	Q1 2022	% Change
Luxury	$376,42	$474,84	26,15%
Premium	$194,99	$212,96	9,22%



as those account for a small number of hotels subject to region-specific factors regarding demand.

Average daily revenue per room: Marriott's business level strategy is centred on differentiation. Operating in a diverse range of chain scales, the firm offers a service that uniquely satisfies customer needs, having earned a reputation for high quality and innovation standards (*fig. 52*). Hence, by increasing the value created for guests, while maintaining a competitive cost structure, Marriott benefits from considerable pricing power charging a premium for its services (Hitt, A., 2016). As previously referred in the report, the company earn different types of revenues depending on whether the properties are owned/leased or not.

In its managed and franchised facilities, Marriott earns revenue according to the pre-established percentages defined in the contracts between the company and its community of owners and franchisees. The average daily fee per room reflects the expected fee earned by Marriott on daily basis per room sold under the mentioned agreements plus a residual component that concerns the fees from residential developments. Hence, this metric depends not only on the pricing power of the overall hotel chain but also on the company's bargaining power when negotiating contracts. In what concerns the latter aspect, it is expected that Marriott will maintain and enter into new agreements for which terms are, in general, similar to those currently in place.

Even though, hotel revenues for owners and franchisees of Marriott hotels are forecasted to resemble those of 2019 already in the current fiscal year, the average daily fee per room will lag behind this referenced date values mainly because of slower recovery of incentive fees. Those depend on earned profits, which are expected to, in the short-term, be reduced by higher non-operating expenses resulting from increased leverage (*fig. 53*). Consequently, despite presenting a positive growth pattern, only in 2025 are those fees expected to rise above the benchmark of $12.62 Thereon, the rate will continue to grow, closely matching the inflation rate (*fig. 54*).

Regarding the lodging facilities owned or leased by Marriott, the average daily rate reflects revenues earned on rooms sold plus extras like food and beverage or bookings of meeting rooms. With historical high inflation in the United States, price pressures have fully been accommodated by increased rates in the region. This, alongside with tremendous increase in spending in the Luxury sector have driven North American ADR above 2019 levels in this year's first quarter, while the International daily rate is slightly below reference amounts (*fig. 55*). Being likely that such trend will prevail in the short-term, ADR for owned and leased properties is expected to grow 17% in the present year. On the long-term its evolution is predicted to occur in line with global inflation.

Co-branded credit card fees: Similarly to timeshare-associated revenues, credit card fees are an important driver of Unallocated, corporate and other revenue. In particular, fees from Marriott's co-branded credit cards have proven to be a very resilient revenue stream in the last couple of years. As the company keeps on expanding its network of partners it is projected that adherence and usage of these credit cards will continue to follow an upward trend. Fees are expected to grow at a CAGR of 3,7% in the 2021-2030 period.

- Gross Fees

In regard to gross fees, said revenue stream, broadly, depends on the number of rooms under management, franchise and residential development agreements, the demand for those rooms, which is reflected on the occupancy rate and the applicable pricing dynamics, projected through the analysis of future average daily fee that Marriott will receive per room.

In aggregate, the aforementioned property expansion plan will drive a sustained increase in the number of Marriott's rooms within its asset light model (*fig. 56*), even despite the slight decrease in average number of rooms per hotel in new additions, which partially offsets the referred rise, particularly in managed facilities. Based on its three value drivers, gross fees will grow in accordance to figure 57, with base case projections pointing to over $5B of annual gross fees being earned from 2023 onwards.

- Owned Leased and Other

With no substantial net unit growth expected for this segment, changes in revenues will be largely driven by alterations in the average daily rate. Figure 58 depicts the forecasted trajectory for Owned/Leased and other revenue, pinpointing a continued recovery of this element in future years while ancillary spending will still lag behind historical values in the short-term.

- Unallocated, Corporate and Other

Majorly drive by timeshare and credit card fees revenues, it can be seen in figure 59 that revenue this revenue stream will, likewise, witness an upward movement. With timeshare rates broadly following global inflation and expanded range of users for Marriott's co-branded credit cards, it can be expected that Unallocated, corporate and other revenue will continue to account for nearly 2% of total revenue, excluding cost reimbursement revenues.

- General, Administrative and Other Expenses

In 2021, General, Administrative and other expenses represented the second largest source of operating costs for Marriott. This caption, which includes

Figure 56: Evolution of Rooms in Asset-Light Segment
Source: Analysts' Estimates

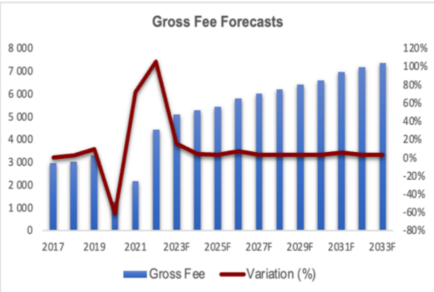


Figure 57: Gross Fee Forecasts, in $ millions
Source: Analysts' Estimates

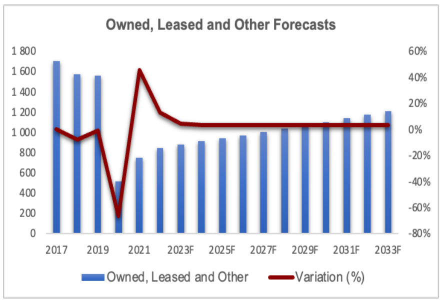


Figure 58: Owned, Leased and Other Forecasts, in $ millions
Source: Analysts' Estimates

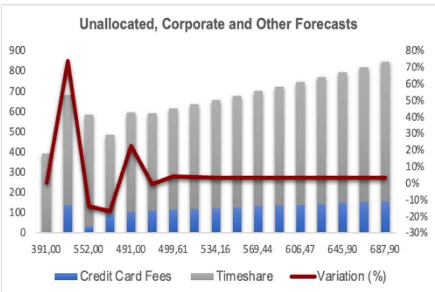


Figure 59: Unallocated, Corporate and Other, in $ millions
Source: Analysts' Estimates

corporate and business overhead costs and several general expenses such as utilities and insurances, has declined in recent years due to reduced activity and to a corporate restructuring aimed at augmenting efficiency and cutting costs. However, even though it is forecasted that this type of costs will account for a relatively stable percentage of sales over time, estimates point for a substantial increase compared with the previous year, accounting for an increase close to 18%. This hike in costs comes as a consequence of the present macroeconomic context, where significant price pressures seem to persist. This adds up to the industry-specific labour constrains that have also contributed for a rise in wages since late 2020 (*fig. 60*) and similarly push G&A expenses above 2019 levels. As shown in figure 61, following 2021, G&A expenses' growth rate will progressively decline.

Figure 61: General, Administrative and Other Expenses Forecasts, in $ millions
Source: Analysts' Estimates

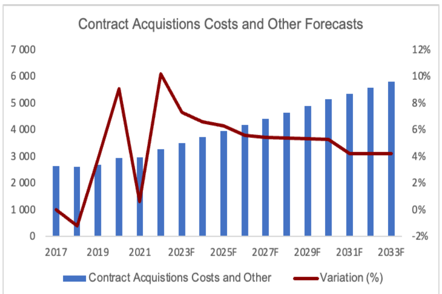


Figure 62: Contract Acquisitions Costs and Other Forecasts, in $ millions
Source: Analysts' Estimates

Figure 63: Liability for Guest Loyalty Program Forecasts, in $ millions
Source: Analysts' Estimates

- Contract Acquisitions Costs and Other

Constituting an important caption of Marriott's balance sheet, it is composed by the costs incurred by the hotel chain to obtain and fulfil management and franchise agreements, which are capitalized. The gross value of contract acquisition cost is, mainly, driven by the average cost incurred per contract and the number of contracts the company is able to establish. Provided that in the base case scenario it is expected that Marriott will maintain its current bargaining power in regard to its customers, average cost per contract is estimated to accompany general price levels, hence, hence, the most part of future increase in this asset element is explained by projections of increased number of contracts as Marriott executes its expansion plan. The net book value of contracts is forecasted to reach $5B in 2030 (*fig. 62*).

- Liability for Guest Loyalty Program

Representing the monetary amount of obligation performance of Marriott concerning the program members, the amount of liabilities expressed in this caption will be closely related with the evolution of the number of members of Marriott Bonvoy. A deceleration of Marriott's Loyalty program subscriptions is likely to occur as a consequence of the sluggish recovery of business travel. Nonetheless, reinforced intents to more adequately cater the needs of leisure travelers and extend the program's network of partners and benefits will generate an average annual growth of 2.5% in total members until 2025 (*fig. 63*). As more members join, point redemption and needs for service provision by Marriott will rise accordingly, leading to the forecasted increase in the analysed caption, as illustrated in figure 63.

- Capital Expenditure (CAPEX)

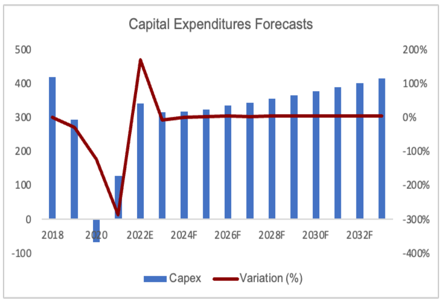


Figure 64: Capex Forecasts, in $ millions
Source: Analysts' Estimates

Operating under a predominantly asset light model, Marriott's current business model has no substantial requirements in terms of capital expenditure. Nevertheless, given that the company still owns some of its hotels, there are still needed investments to replace or improve existing plant assets. Together with recurrent corporate or system-related investments, that described situations will imply future annual CAPEX levels of above $300 M, beginning in 2022 (*fig. 64*). Consistent with the historical pattern, the estimated amounts of capital expenditure serve, once more, as evidence of the expected ability of Marriott International to achieve outstanding unit growth with reduced capital requirements.

Intrinsic Valuation

From Marriott's intrinsic valuation, after taking relevant insights of its past performance in conjunction with what is expected to happen in the future, it was determined that Marriott's stock price is worth $177,42. Currently, it is being traded at $162,33 which leads us to the conclusion that the stock is undervalued. Moreover, if one investor decides to buy this stock at its purchase price, he will end up with an annualized return of 16,45% in December 2022, which includes capital gains and dividends paid.

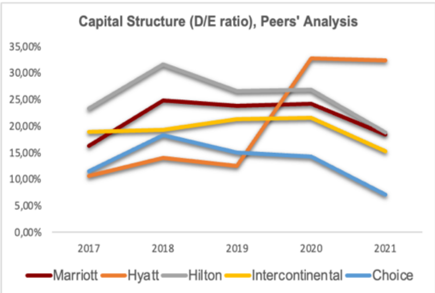


Figure 65: Capital Structure (D/E) of Marriott's Peers
Source: Marriott's Annual Report and Competitors' Data

Discounted Cash Flow (DCF)

To have a proper valuation, it is of paramount importance to use the best model that will suit the company's fundamentals and at the same time, allows the simplification of calculations to be made based on assumptions that are simply an approximation of reality. Having said that, one can observe that Marriott's capital structure has been relatively stable in the past years and has been converging to the industry average, 18% in 2021 (*fig. 66*). It is reasonable to assume that this financing structure will maintain in the future, being Marriott aligned with the industry average debt-to-equity ratio. Therefore, Discounted Cash Flow model (DCF) is the most suitable method to quantify Marriott's equity value, which means that weighted average cost of capital (WACC) will be used to discount the company's operating free cash flows and the non-core business and debt will be estimated based on their respective 2022 book value. Concerning the required return that shareholders and debtholders demand to provide capital to the company, the following inputs were computed and described below. Given that, the estimated WACC was 9,07%.

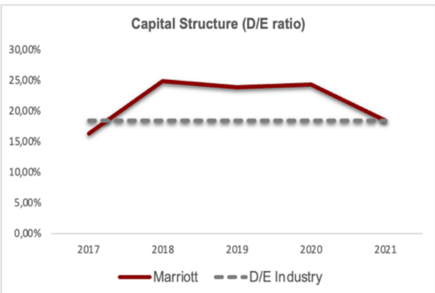


Figure 66: Marriott's Debt-to-Equity Ratio from 2017 – 2021, in %
Source: Marriott's Annual Report and Competitors' Data

Operating Free Cash Flow

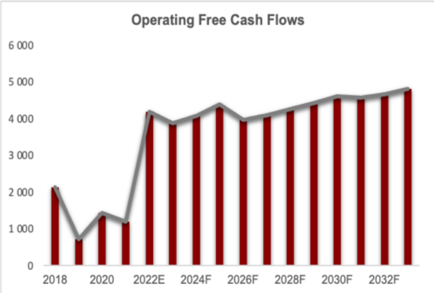


Figure 67: Marriott's Operating Free Cash Flows, in $ millions
Source: Analyst Estimates

Figure 67 represents effectively what the company is generating in terms of cash flows on its operating activities, after taking out non-cash movements from the accounting core result. This assumes a central role in defining Marriott's equity values as the model highly relies on the assumptions made to forecast future cash flows, that were described and analysed in the chapter before. By evaluating the graph, one can observe that the company will be capable of generating and maintaining a high level of cash flow until it reaches the steady state equilibrium in 2033.

WACC Inputs

Capital Asset Pricing Model – Exogenous Rates

	Marriott
Market Risk Premium	5,37%
Risk-free Rate (10y TB)	2,99%

Figure 68: CAPM Inputs: Risk-free Rate and Market Risk Premium
Source: Bloomberg, Damodaran

As one will observe further in this report, CAPM will be extremely important to computing some returns based on their respective systematic risk (Betas). To correctly use the model, one needs to get the appropriate rates, namely risk-free rate and market risk premium, that must match the time frame of the free cash flows estimated and present themselves as an alternative for investors to put their capital.

Risk-Free Rate: According to Bloomberg, the U.S. Treasury Yield for securities with a 10-year maturity, as of 17/05/2022, was 2,99%. This rate was chosen as a relevant proxy of the risk-free rate since T-Bills are considered nearly free of default risk, as they are backed up by the U.S government, and are not so susceptible to inflation risk, comparatively with the 30-year maturity T-Bill.

Market Risk Premium: The extra return of holding the market portfolio (MRP) was 5,37% since the premium estimated by Aswath Damodaran (2022) was perceived as a reasonable proxy to use in the model.

Cost of Debt (Rd)

By Rating	A and above	BBB	BB	B	CCC
Avg. Beta	< 0.05	0.10	0.17	0.26	0.31
By Maturity	(BBB and above)	1–5 Year	5–10 Year	10–15 Year	> 15 Year
Avg. Beta		0.01	0.06	0.07	0.14

Figure 69: Beta of Debt by rating and by maturity
Source: S. Schafer and I. Strebulaev, "Risk in Capital Structure Arbitrage"

Cost of debt was estimated through two different methods, being the first one based on the yield to maturity (YTM) of Marriott's long-term bond, adjusted with the respective probability of default and to the expected loss in that specific case. In the second method, it was used the S. Schafer and I. Strebulaev paper (2006), which basically allocates the Beta of debt to companies depending solely on their ratings.

	Marriott
Return on Debt (Rd)	4,34%
**YTM Corporate Bond	4,35%
*Loss Given Default	0,6
*Probability of default	0,0113%
Implied βd	0,25

Figure 70: Method 1 – Estimation of Cost of Debt with YTM
Source: Bloomberg, FINRA

In method 1, it is essential to calculate the yield of a corporate bond that has a long-term maturity since this represents the effective return bondholders require to hold Marriott's debt. Having this in mind, it was chosen the bond issued until 2034 with a yield to maturity of 4,35%, according to FINRA. Then, the rate needs to be adjusted with Marriott's probability of default, 0,0113%, times the average

	Marriott
Return on Debt (Rd)	3,53%
Risk.Free Rate	2,99%
MRP	5,37%
*Credit Rating	BBB- / Ba3
**Implied βd	0,10

Figure 71: Method 2 – Estimation of Cost of Debt with Credit Rating
Source: Bloomberg, S. Schafer and I. Strebulaev, "Risk in Capital Structure Arbitrage"

	MARRIOTT
βe	1,54
Cov (MAR;M)	0,001
Stdev (M)	2,96%
Var (M)	0,09%
Target D/E (Market Values	0,18
D/EV	0,16
E/EV	0,84
D (Market Value)	9 912
E (Market Cap.)	53 918
Enterprise Value	63 830
D/E (Market Value)	0,18
R2	49%

Figure 72: Marriott's returns regressed against the market index (S&P 500) – Beta Levered Computation
Source: Analysts' Estimates

Relevered Beta (Re)	
	MARRIOTT
βu (Industry)	1,30
βe	1,50
βe Adjusted	1,34
Re	10,16%

Figure 73: Levered Beta Estimation
Source: Analysts' Estimates

WACC Inputs	
	MARRIOTT
MRP	5,37%
Risk-Free Rate	2,99%
Tax Rate	21%
D/EV	0,16
E/EV	0,84
Target D/E	0,18
βu (Industry)	1,30
βe Adjusted	1,34
βd	0,18
Re - Levered Cost of Capi	10,2%
Ru - Unlevered Cost of Ca	10,0%
Rd - Cost of Debt	3,93%
WACC	9,07%

Figure 74: WACC Inputs
Source: Analysts' Estimates

loss in case Marriott actually defaults ,60%. This led to a final cost of debt of 4,34% and an implied Beta of debt of 0,25.

In the second case, as Marriott has a BBB- credit rating attributed by S&P, the implied beta of debt for these cases is 0,10, as stated in figure 69. Therefore, using the CAPM, the cost of debt in method 2 gave a value of 3,53%.

In order to account with both methods, it was done the average implied Beta of debt of the two situations, so the value considered was 0,18 and consequently, the cost of debt gave a result of 3,93%.

- Cost of Equity (Re)

In the process of estimating cost of equity, the first procedure is to compute the levered Beta of Marriott, that will explain how the company's returns have been moving in relation to the overall market. In other terms, it represents Marriott's systematic risk. This can be done by regressing the hotel chain's returns against a representative index of the market, which in this case was the S&P500 index. This is generally accepted as a good benchmark since it is constituted by the best 500 U.S. companies, all having a wide market breadth in common, with a high degree of liquidity, presenting itself as a good alternative to investors. Therefore, it was used the weekly returns over the past 3 years to get the Beta Levered of 1,54 (*fig. 72*). Although this is true, the Beta was computed focusing solely on past performance with past financing structures, so it is important to adjust it for considering future changes.

Marriott's capital structure has been converging to the industry average, and already in 2021, the debt-to-equity ratio, in market value terms, was the same. As it was assumed that Marriott, in the long-term, will continue evolving towards industry's performance, it is of paramount importance to get the unlevered Beta of the industry, which will be an average of Marriott's Beta and the ones form its competitors, without the financial effects of leverage. To do that, first it was adopted the same method for calculating the beta of debt of competitors as it was done for Marriott, and after that, all levered Betas were unlevered based on the company's particular capital structure, assuming the risk of tax shields are the same as the assets. The average gave an industry Beta of 1,30, in which it was applied the target financing structure of Marriott, 18%, that relevered the Beta to a value of 1,50 (*fig. 73*).

Furthermore, as the author Damodaran emphasizes in its paper "Estimating Risk Parameters" (1999), in the long run, there is a general tendency for Betas of all companies to converge towards one, so it was applied the Bloomberg adjustment to the levered Beta, which gave a final value of 1,34 and consequently, through CAPM, a cost of equity of 10,16%.

Steady-State Equilibrium

▪ Core ROIC and RONIC

As we have seen so far, Marriott and the main hotel chains are in this gradual process of shifting to an even more asset-light business, which implies that in the future the expected returns will not need the amount of capital that is required these days and hence, the core ROIC will be higher. In Marriott's particular case it is expected to reach a value of 218% in the steady-state, 2033. This superior efficiency in resource allocation is also noted in the equilibrium RONIC (42%), although its evolution is non-linear due to the low increments, and even decreases, in future core invested capital. All in all, the company is creating value since WACC is inferior to core ROIC throughout the time frame of cash flows estimated, meaning that there are still some opportunities to be exploited by Marriott's strategy.

▪ Perpetual Growth Rate (g)

The year that is expected that Marriott's cash flows will stabilize and start to grow at a constant perpetual rate is 2033. From that point onwards, they will increase by 3,05% each year, in nominal terms, and consequently so will the value of the company as a whole. This rate can be breakdown in two components, the reinvestment rate and the return on the new invested capital (RONIC), which will assume the equilibrium values of 7,28% and 42%, respectively.

From IMF projections, the inflation rate in the long term will be slightly above the 3% due to uncertainty in markets and economic turmoil that particularly affects emerging and developing economies (Brookings, 2022), which particular relevant for Marriott since they intend to explore those markets in the future. So, with an inflation rate of 3,2% and a forecasted real GDP growth of 3,30%, this leads to nominal GDP growth of 6,61%. Comparatively with Marriott's growth, one can conclude that the company will lose weight in future economic composition. However, this will always be subject to how Marriott's expansion plan will evolve and how the company will be able to differentiate itself from current competition and new entrants that intend to satisfy the same needs.

Marriott's Equity Value

The final objective is to understand what is the true value that is left to Marriott's shareholders. Aggregating all components that have been discussed until this point, one must use the WACC (9,07%) to discount the forecasted operating free cash flows and the respective terminal value, which is calculated through the perpetuity formula with the correspondent growth rate (3,05%). This resulted in

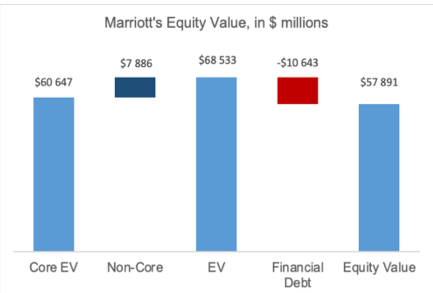


Figure 75: Decomposition of Marriott's Equity Value
Source: Analysts' Estimates

$60B, which is nothing more than the core enterprise value. The non-operating part, which was estimated through its 2022 book value, must be added to get Marriott's valuation of the entire business, which gave a total of $68B. Since the intended value is the one that will be left to shareholders, it is essential to deduct the financial responsibilities, amounting $11B in 2022, to finally get an equity value of $57B (*fig. 75*). The share price is simply gotten by dividing this amount by the number of shares outstanding, which in this case is 326m, to end with an intrinsic price of $177,42 per share.

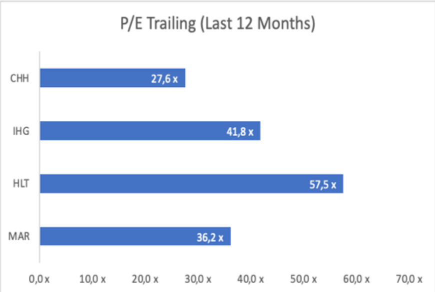


Figure 76: P/E Trailing – Last 12 months
Source: Bloomberg

Multiples Valuation

	P/E	Share Price
Minimum	27,6 x	$ 92,57
1st Quartile	34,0 x	$ 114,29
Industry Medi	39,0 x	$ 131,04
3rd Quartile	45,8 x	$ 153,74
Maximum	57,5 x	$ 193,30
Average		$ 136,99

Figure 77: P/E Quartile Analysis – Last 12 months
Source: Bloomberg

According to Mckinsey's article (2018), multiples complement DCF valuation in the sense that compares a company's performance with the one of its competitors, and through that, it helps in the process of forecasting future returns, giving some kind of perspective of what the market expects from this particular industry, while assessing if Marriott is strategically well-positioned to create above-average value.

Furthermore, to do this analysis it was used the suitable competitors identified before and it was selected 3 multiples: P/E ratio, EV/EBITDA and EV/Revenues. Although the first multiple is widely used across investors, the other two will be essential to put aside the effects of different capital structures in the final value of the company.

	EV/EBITDA	Share Price
Minimum	18,3 x	$ 87,32
1st Quartile	23,0 x	$ 117,22
Industry Medi	26,3 x	$ 138,14
3rd Quartile	33,2 x	$ 182,68
Maximum	96,7 x	$ 589,86
Average		$ 223,05

Figure 78: EV/EBITDA Quartile Analysis – Last 12 months
Source: Bloomberg

Observing figure 76, Marriott has the second-lowest P/E ratio which might be an indicator that its equity is being undervalued, but at the same time, if one uses a quartile analysis based on the competitors' ratio, Marriott will end up, on average, with a stock price of $136,99 (*fig. 77*). This is because the last-12 months' earnings were largely affected by Covid-19 and hence, this ratio gives a narrow perspective of what Marriott's true value is. To purge this effect, it was used the average forward 1-year P/E multiplied by the EPS estimated ($8,56) to get the final value of $243,03, which points out in the same direction as DCF valuation.

	EV/Revenues	Share Price
Minimum	4,2 x	$ 147,98
1st Quartile	4,3 x	$ 153,08
Industry Medi	4,6 x	$ 166,24
3rd Quartile	7,4 x	$ 283,45
Maximum	7,5 x	$ 288,97
Average		$ 207,95

Figure 79: EV/Revenues Quartile Analysis – Last 12 months
Source: Bloomberg

For the EV/EBITDA and EV/Revenues multiples, one gets the same conclusion since the average change, using the quartiles method, gives a stock value of $222,36 and $207,31 respectively (fig. 78 & fig. 79). This reinforces the vision that the market is undervaluing Marriott's equity and therefore, it supports the forecasts made in the intrinsic valuation. As before, forward-looking EV/EBITDA was also computed and the values ranged between the interval $181,19 and $220,28, being the first related with the lowest competitor's multiple, in this case, Choice Hotels, and the last one with the maximum multiple belonging to Hilton. The average change implied a price of $198,96 for Marriott's stock.

Besides the trailing P/E indicator, all other multiples went in accordance with the intrinsic price estimated, not being far from the $177,42 per share, which means that relative valuation emphasizes the sentiment that Marriott is being undervalued by the market.

Risk Analysis

Sensitivity Analysis

WACC		Re				
	9,07%	9,44%	9,61%	10,16%	10,72%	11,23%
Rd	2,99%	8,34%	8,48%	8,95%	9,42%	9,85%
	3,46%	8,40%	8,54%	9,01%	9,48%	9,91%
	3,93%	8,46%	8,60%	9,07%	9,54%	9,97%
	7,05%	8,84%	8,98%	9,45%	9,92%	10,35%
	10,16%	9,22%	9,36%	9,83%	10,30%	10,73%

Figure 80: Sensitivity Analysis of cost of equity (Re) and cost of debt (Rd)
Source: Analysts' Estimates

Share Price		TV (G)				
	177,42	0,66%	1,85%	3,05%	4,83%	6,61%
WACC	8,34%	163,56	179,40	202,40	265,65	458,63
	8,83%	152,92	166,16	184,87	233,43	359,68
	9,32%	143,50	154,66	170,06	208,20	296,34
	10,03%	131,65	140,48	152,34	180,10	236,72
	10,73%	121,47	128,56	137,86	158,67	197,41

Figure 81: Sensitivity Analysis (1)
Source: Analysts' Estimates

Share Price		TV (G)				
	177,42	0,66%	1,85%	3,05%	4,83%	6,61%
WACC	8,43%	161,39	176,69	198,76	258,74	435,37
	8,75%	154,46	168,06	187,35	237,84	371,90
	9,08%	148,06	160,20	177,15	220,08	324,83
	9,39%	142,29	153,20	168,22	205,18	289,41
	9,70%	136,93	146,76	160,12	192,17	261,09

Figure 82: Sensitivity Analysis (2)
Source: Analysts' Estimates

The valuation model heavily relies on a set of assumptions, so it is essential to run a sensitivity analysis to assess the effect of changing some of them at the same time. Regarding WACC computation, the value of 9,07% was obtained for the calculated costs of debt and equity. The first sensitivity was exactly about these inputs, with Rd going from the risk-free rate, 2,99%, until the estimated Re, 10,16%, and the Re ranging from 9,44% and 11,23% (*fig. 80*). This interval was obtained through the usage of the average industry unlevered beta and the respective 95% confidence interval in which it would fall, considering the unlevered betas of all competitors and the one from Marriott itself. This gave a range of values between 1,13 and 1,55, that immediately were relevered with Marriott's target capital structure, 18%, and adjusted with the Bloomberg estimate for a final interval of 1,20 until 1,53. These values were applied in CAPM formula to reach the different costs of equity.

In figure 81, one can observe that with those variations, WACC goes from 8,34% to 10,73%, with an average value of 9,32%. To get the overall effect on share price, it was decided to change the growth rate against the WACC since most of the value comes from the longer term. The interval of values of g was defined as the minimum being the case in which reinvestment rate maintains at 7% while Marriott cannot find new opportunities to invest and create value, so its RONIC assumes the same value of WACC, 9,07% giving a g of 0,66%, and the maximum limit is the nominal GDP growth estimated to be 6,61% in the long run. This sensitivity implies the share price averaging a stock price of $196,99 for a total shareholder return of 51,65%. Although this is true, there is a high downside potential that need to be consider, principally if the company does not find new ways of creating value or decreasing the cost of the capital used.

Additionally, a sensitivity analysis was also made to evaluate the risk of having slightly different capital structures than the one chosen. Following the same procedure as before, it was done the 95% confidence interval where the industry debt-to-equity ratio would fall, considering the values of Marriot's competitors for the normal distribution. Hence, the WACC was computed through each different financing structure, while maintaining the Rd and the Re equal to the ones computed in the standard model. This led to an average share price of $209,45, ranging from $136,93 to $435,37. Once again, the upside potential is still higher than the downside, reinforcing the perspective that Marriott's stock is being traded at an undervalued price (*fig. 82*).

Scenario Analysis

Moving on to the risks that can have a significant impact in Marriott's cash flows, two situations were defined as the most problematic and the ones that can bring greater volatility to the company's future returns. Therefore, it is of paramount importance to use a scenario analysis to incorporate them when determining the total value of equity. In this section it was used 3 possibilities for each event: (i) the base one, which is nothing more than the initial forecasts; (ii) the conservative case, which consider the likelihood of occur but without severe damages; (iii) the worst-case scenario, which considers the highest losses. Firstly, Marriott, as like any other company operating in Europe and depending on tourism, it is exposed to the recent war climate in Ukraine. The new study of Economist Intelligence Unit (2022) states that European tourism sector will not return to pre-pandemic values in 2023, as previously forecasted. It also adds that restriction on airlines, the loss of Russian and Ukrainian tourists (accounted for 5% of global tourists) and principally the implied increase of prices will delay this recovery. To account for this risk, the conservative case expects that war will continue for a while longer but will be restricted to Ukrainian territory, having consequences for the inflation rate (Forbes, 2022) and for the total number of rooms sold. Until 2026, inflation will be higher than forecasted by the IMF and then it will follow the same trend as previously predicted, while rooms sold will never return to its base case value since it is expected that people sentiment concerning tourism in European Eastern countries will persist in time and vice-versa (*fig. 83*). In the worst-case, the war will spread to neutral northern countries, as Russia already threatened them (BBC, 2022) and so, inflation will be even higher than the conservative case and the number of rooms sold will have a sharper fall in short-term and a slightly one in the future. All in all, if one considers that the conservative case has a 15% likelihood to happen and the worst one has a 5%, Marriott's share price would be $175,20 (*fig. 85*). The second event identified is how Marriott's growth is too dependent on attracting third-party owners and franchisees to the platform, and there's a risk that these future arrangements might be unfavorable due to competitors' better offered conditions. The drivers affected by the occurrence of this event would be the number of rooms in managed and franchised segments and Marriott's market share. In figure 84, it is observable that in both scenarios the number of rooms estimated will be considerably lower, loosing 2% comparatively with the base case in each year from 2025 onwards in the

Scenario 1		Base Scenario	Conservative Scenario	Worst-Case Scenario
2022	Inflation Rate	6,80%	8,30%	8,80%
	Industry Rooms (Sold)	15 378 804	85% of Base	75% of Base
2023	Inflation Rate	4,10%	5,10%	5,60%
	Industry Rooms (Sold)	17 087 560	85% of Base	75% of Base
2024	Inflation Rate	3,50%	4,00%	4,50%
	Industry Rooms (Sold)	17 172 998	85% of Base	75% of Base
2025	Inflation Rate	3,30%	3,80%	4,30%
	Industry Rooms (Sold)	17 258 863	87,5% of Base	80% of Base
2026	Inflation Rate	3,30%	3,80%	4,30%
	Industry Rooms (Sold)	17 345 157	90% of Base	82,5% of Base
LT	Inflation Rate	3,20%	3,30%	3,20%
	Industry Rooms (Sold)		92,5% of Base	85% of Base

***Figure 83*: Scenario Analysis I – Impact on variables**
Source: Analysts' Estimates

Scenario 2 (in % of Base)		Base Scenario	Conservative Scenario	Worst-Case Scenario
2022	Rooms Managed	557 604	99,50%	97,50%
	Rooms Franchised	922 578	99,50%	97,50%
2023	Rooms Managed	563 185	99%	97%
	Rooms Franchised	956 786	99%	97%
2024	Rooms Managed	568 719	98,50%	96,50%
	Rooms Franchised	990 934	98,50%	96,50%
2025	Rooms Managed	574 207	98,25%	96,25%
	Rooms Franchised	1 025 023	98,25%	96,25%
2026	Rooms Managed	571 976	98%	96%
	Rooms Franchised	1 055 498	98%	96%
LT	Rooms Managed		98%	96%
	Rooms Franchised		98%	96%

***Figure 84*: Scenario Analysis II – Impact on variables**
Source: Analysts' Estimates

Scenario Analysis		Share Price	% Change	Expected Value
Scenario 1	Conservative	$169,97	-4,20%	$175,20
	Worst-Case	$155,38	-12,42%	
Scenario 2	Conservative	$165,18	-6,90%	$173,12
	Worst-Case	$152,62	-13,98%	

***Figure 85*: Scenario Analysis – Share Price and respective Expected Value**
Source: Analysts' Estimates

conservative case, while in the worst this percentage increases for 4%. As competitors will gain ground and get more contracts than what it was forecasted, their market share will increase proportionality, whereas Marriott's goes in the opposite direction. If the conservative case is approached, that share will go down by 0,5% in every year compared with the base value, and worsens to a 1% decrease in the extreme case. Again, if one attributes the probability of 25% and 5% to the conservative and worst cases, respectively, Marriott will end up with a final share price of $173,12 (*fig 85*). Given the likelihood of either of those two adverse scenarios materializing itself is estimated to be relatively low, the respective probability of simultaneous occurrence would be residual. As such, it was assumed the mentioned scenarios would be mutually exclusive. Based on a more cautious perspective, it was defined that the value to be taken into account would be the lower of the two calculated above. Therefore, the final share price after incorporating this risk is $173,12 and the total shareholder return will be 11,66%, which will not change the final recommendation.

Final Recommendation

The lodging industry, much like the world in general, faced unprecedented challenges in the recent years. As the health crisis started to ease, a new light of hope shinned upon this sector. Led, majorly, by leisure travel, recovery is expected to continue in 2022 with pent-up demand and accumulated savings acting as catalysts for strong industry overall performance. With costumers' preferences being reshaped, client-centric visions, technology and environmental awareness will be pivotal to remain relevant in hospitality. In such a context, Marriott presents itself in a favorable position to capture this momentum. Leveraging its scale and outstanding brand reputation, Marriott has a clear strategic purpose forecasted to assure the maintenance of its position as industry leader. A reinforced commitment towards stakeholders, sustained net unit growth with significant focus on international markets, successfully enlarging and redesigning its Loyalty Program while continuing to find supplementary revenue streams, are the main pillars that will guide Marriott's future actions. Nevertheless, the possibility of an adverse macroeconomic context in light of present geopolitical tensions also needs to be accounted for when defining the path to follow as new challenges may be on the horizon. The conducted analysis culminated in an estimated price target of $173,12 for December 2022, yielding a total return of 11,66% which includes both capital and dividend gains. As such, compared with current share price of $162,33, a BUY recommendation is indicated.

References

Accenture. (2021). *Travel loyalty—winning travelers' hearts and minds*.
Retrieved from https://www.accenture.com/us-en/insights/travel/loyalty
Accenture. (2022). U.S. Shoppers to Show Generosity of Spirit This Holiday Season Accenture Survey Finds. Retrieved from https://newsroom.accenture.com/news/us-shoppers-to-show-generosity-of-spirit-this-holiday-season-accenture-survey-finds.htm
Accenture. (2021). The responsible travel company.
Retrieved from https://www.accenture.com/in-en/services/travel/travel-sustainability
AHLA. (2022). The Year of the "New" Traveler.
Retrieved from https://www.ahla.com/sites/default/files/AHLA%20SOTI%20Report%202022%201.24.22.pdf
BBC News. (2022). Ukraine War: Russia warns Sweden and Finland against Nato membership.
Retrieved from https://www.bbc.com/news/world-europe-61066503
Bloomberg. (2022). North America Leads Marriott Revpar Recovery: Earnings Outlook.
Bloomberg. (2021). Chief Future Officer: Leeny Oberg, Marriott International.
Retrieved from https://www.youtube.com/watch?v=imV9MDFGm94
Booking.Com. (2021). New research reveals increased desire to travel more sustainably.
Retrieved from https://partner.booking.com/en-gb/click-magazine/new-research-reveals-increased-desire-travel-more-sustainably
Brookings. (2022). Inflation could wreak vengeance on the world's poor.
Retrieved from https://www.brookings.edu/blog/future-development/2022/03/18/inflation-could-wreak-vengeance-on-the-worlds-poor/
CBRE. (2022). are-hotels-a-hedge-against-inflation-in-the-modern-era.
Retrieved from https://www.cbre.com/insights/viewpoints/are-hotels-a-hedge-against-inflation-in-the-modern-era
Retrieved from https://finra-markets.morningstar.com/BondCenter/BondDetail.jsp?ticker=C667385&symbol=MAR4437598
CBRE. (2022). CBRE Forecasts Continued Hotel Recovery in 2022 Despite Increasing Risks.
CNN Business. (2022). Federal Reserve issues biggest interest rate hike in 22 years.
Retrieved from https://edition.cnn.com/2022/05/04/economy/federal-reserve-interest-rate-hike/index.html
Retrieved from https://www.cbre.com/press-releases/cbre-forecasts-continued-hotel-recovery-in-2022-despite-increasing-risks
Cobbold, L. (2021). Amadeus Announces Agreement with Marriott International to Deploy Transformative, Cloud- based CRS Solution. Retrieved from https://amadeus.com/en/insights/press-release/marriott-international-to-deploy-transformative-crs-solution
Damodaran, A. (2022).
Retrieved from https://pages.stern.nyu.edu/~adamodar/
Damodaran, A. (1999). Estimating Risk Parameters.
Retrieved from https://pages.stern.nyu.edu/~adamodar/pdfiles/papers/beta.pdf
Deloitte. (2022). Deloitte Travel Outlook 2022.
Retrieved from https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consumer-business/us-2022-travel-outlook.pdf
Economist Intelligence Unit. (2022). How the war in Ukraine will affect tourism in 2022.
Retrieved from https://www.eiu.com/n/campaigns/how-the-russia-ukraine-war-will-affect-tourism/
EHL Insights. (2022). 2022 Top Hospitality Industry Trends.
Retrieved from https://hospitalityinsights.ehl.edu/hospitality-industry-trends
Eisen, D. (2020). Hotel Demand and GDP Have a Strong Correlation and That's a Problem.
Retrieved from https://www.hotstats.com/blog/hotel-demand-and-gdp-have-a-strong-correlation-and-thats-a-problem
EY. (2021). How asset-light strategies and models can boost business growth.
Retrieved from https://www.ey.com/en_gl/strategy-transactions/how-asset-light-strategies-and-models-can-boost-business-growth
FINRA. (2022). Bonds Detail.
Fortune Business Insights. (2021). Luxury Hotel Market Size, Share & COVID-19 Impact Analysis, By Room Type (Luxury, Upper-upscale, and Upscale), Category (Chain and Independent), and Regional Forecast, 2021–2028.
Retrieved from https://www.fortunebusinessinsights.com/luxury-hotel-market-104408
Globetrender.(2022). How the war in Ukraine will affect European tourism.
Retrieved from https://globetrender.com/2022/04/28/how-the-war-in-ukraine-will-affect-european-tourism/
Goedhart, M., Koller, T., & Wessels, D. (2018). The right role for multiples in valuation.
Retrieved from https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-right-role-for-multiples-in-valuation
Goldman Sachs. (2020). Lodging Primer 2020.
Retrieved from https://www.newmoney.gr/wp-content/uploads/2021/01/GS-Hotels-Primer.pdf
Ham, S. (2005). Effect of information technology on performance in upscale hotels.
Retrieved from https://www.sciencedirect.com/science/article/pii/S0278431904000714
Hitt, M. A., Ireland, D. R., & Hoskisson, R. E. (2016). Strategic Management: Concepts and Cases: Competitiveness and Globalization (12th ed.).
HVS Global Hospitality Services. (2015). Decisions, decisions. . . Which hotel operating model is right for you.

Retrieved from https://www.hvs.com/StaticContent/3672.pdf
Interface Tourism. (2021). Sustainability, security and instant travel: influencer campaigns of 2021. Retrieved from https://interfacetourism.es/en/2021/03/25/travel-generation-z/
Kalibri Labs. (2021). TOTAL U.S. - 2021 YTD REVIEW. Retrieved from https://static1.squarespace.com/static/5637877ee4b0e3bf6b1a4aec/t/611d2bd3d7db4f138ad55e30/1629301718733/Mindthe Gap+Edition+10+08_18_21.pdf
Kim, W.G., Li, J., Han, J.S., Kim, Y. (2015). The influence of recent hotel amenities and green practices on guests' price premium and revisit intention. Retrieved from https://journals.sagepub.com/doi/abs/10.5367/te.2015.0531
Lodging Econometrics. (2022). At Year-End 2021, Global Hotel Construction Pipeline Counts Essentially Even Year-Over-Year. Retrieved from https://lodgingeconometrics.com/at-year-end-2021-global-hotel-construction-pipeline-counts-essentially-even-year-over-year/
Lodging Econometrics. (2022). Marriott, Hilton, and IHG Account for 67% of U.S. Construction Pipeline Projects. Retrieved from https://lodgingeconometrics.com/marriott-hilton-and-ihg-account-for-67-of-u-s-construction-pipeline-projects/
Marriott International Newscenter (US). (2022). Marriott Guests Can Now Seamlessly Purchase Travel Insurance When They Book Directly with Marriott. Retrieved from https://news.marriott.com/news/2022/01/12/marriott-guests-can-now-seamlessly-purchase-travel-insurance-when-they-book-directly-with-marriott
Marriott International Newscenter (US). (2022). Marriott International CEO to Speak at J.P. Morgan Gaming, Lodging, Restaurant & Leisure Management Access Forum March 7; Remarks to Be Webcast. Retrieved from https://news.marriott.com/news/2022/02/24/marriott-international-ceo-to-speak-at-j-p-morgan-gaming-lodging-restaurant-leisure-management-access-forum-march-7-remarks-to-be-webcast
Morgan Stanley. (2021). Morgan Stanley Virtual Global Consumer & Retail Conference – Anthony Capuano, CEO. Retrieved from https://marriott.gcs-web.com/static-files/d0ce4b6a-7f93-4b2f-ae08-8e9a757ecb9d
Morning Consult. (2021). The State of Travel and Hospitality. Retrieved from https://go.morningconsult.com/rs/850-TAA-511/images/211207_Report_State_of_Travel.pdf
SAP Concur. (2021). Travel Booking LP. Retrieved from https://www.concur.com/newsroom/article/survey-uncovers-travelers-requirements-return-to-business-travel
Seeking Alpha. (2016). Overview Of Marriott's Business Model. Retrieved from https://seekingalpha.com/article/4032181-overview-of-marriotts-business-model
Schaefer, S. M. and Strebulaev, I. (2006). Risk in Capital Structure Arbitrage.
Strauss, A. (2022). The Reasons Why A War In Ukraine Will Make Inflation Worse. Retrieved from Forbes. https://www.forbes.com/sites/adamstrauss/2022/01/27/the-reasons-why-a-war-in-ukraine-will-make-inflation-worse/?sh=45ee79cbc2d3
The Motley Fool. (2018). Competitive Advantages Marriott International Wants Shareholders to Grasp. Retrieved from https://www.fool.com/investing/2018/09/13/4-competitive-advantages-marriott-international-wa.aspx
UNWTO. (2022). UNWTO Tourism Recovery Tracker | Tourism Dashboard. Retrieved from https://www.unwto.org/tourism-data/unwto-tourism-recovery-tracker
Webster & Ivanov. (2017). Adoption of Robots, Artificial Intelligence and Service Automation by Travel, Tourism and Hospitality Companies – A Cost-Benefit Analysis. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3007577
WTTC & Microsoft. (2022). Codes to Resilience. Retrieved from https://wttc.org/Portals/0/Documents/Reports/2022/WTTC_x_Microsoft-Codes_To_Resilience.pdf
WTTC and Oxford Economics. (2021). Staff Shortages. Retrieved from https://wttc.org/Portals/0/Documents/Reports/2021/WTTC-Staff-Shortages.pdf
WTTC. (2021). Travel & Tourism Economic Impact 2021. Retrieved from https://wttc.org/Portals/0/Documents/Reports/2021/Global%20Economic%20Impact%20and%20Trends%202021.pdf
WTTC. (2021). Trending in travel. Retrieved from https://pages.trip.com/images/group-home/2021_Trending_in_Travel_EN.pdf
Yahoo Finance. (2021). Yahoo is part of the Yahoo family of brands. Retrieved from https://finance.yahoo.com/news/marriotts-mar-bonvoy-partners-uber-150403322.html

Appendix

Financial Statements

Income Statement:

($ in millions)	2017	2018	2019	2020	2021	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F
CORE OPERATIONS																	
Revenues	20 452	20 758	20 972	10 571	13 857	16 343	17 419	17 972	18 520	19 188	19 677	20 172	20 676	21 188	21 738	22 109	22 488
Gross Fee Revenues	2 951	3 024	3 297	1 252	2 148	4 408	5 081	5 262	5 439	5 807	5 995	6 190	6 390	6 597	6 966	7 155	7 348
Contract Investment Amortization	-50	-58	-62	-132	-75	-97	-78	-84	-89	-94	-99	-104	-110	-115	-120	-125	-131
Net Fee Revenues	2 901	2 966	3 235	1 120	2 073	4 310	5 003	5 179	5 350	5 713	5 896	6 086	6 281	6 482	6 846	7 029	7 218
Owned leased and other revenue	1 705	1 571	1 556	515	749	844	879	910	940	971	1 002	1 034	1 067	1 101	1 136	1 173	1 210
Unallocated corporate and other	391	678	582	484	593	590	613	634	655	677	698	721	744	767	792	817	843
Cost reimbursement revenue	15 455	15 543	15 599	8 452	10 442	10 599	10 924	11 250	11 575	11 828	12 080	12 333	12 585	12 838	12 964	13 090	13 216
Operating Costs and Expenses	17 789	18 237	19 034	10 220	12 099	12 679	13 071	13 466	13 860	14 584	14 912	15 242	15 574	15 908	16 119	16 318	16 519
Owned leased and other-direct	1 411	1 306	1 316	677	734	743	734	759	784	810	836	863	891	919	949	979	1 010
Depreciation	231	256	346	322	138	239	249	258	267	275	284	293	303	312	322	333	343
Amortization and other	124	117	116	133	131	128	130	132	133	135	137	139	141	144	146	148	150
General administrative and other	921	927	938	762	823	971	1 035	1 067	1 100	1 535	1 574	1 614	1 654	1 695	1 739	1 769	1 799
Reimbursed expenses	15 102	15 631	16 318	8 326	10 273	10 599	10 924	11 250	11 575	11 828	12 080	12 333	12 585	12 838	12 964	13 090	13 216
Core Result Before Taxes	2 663	2 521	1 938	351	1 758	3 664	4 348	4 506	4 660	4 604	4 764	4 930	5 102	5 280	5 618	5 791	5 968
Statutory Taxes	-932	-529	-407	-74	-369	-769	-913	-946	-979	-967	-1 001	-1 035	-1 071	-1 109	-1 180	-1 216	-1 253
Tax Adjustments	307	54	2	42	17	303	346	360	377	375	387	399	412	425	447	460	473
Core Result	2 038	2 046	1 533	320	1 405	3 197	3 781	3 919	4 058	4 012	4 151	4 294	4 443	4 597	4 886	5 035	5 188
Restructuring and merger-related charges	159	155	138	267	8	0	0	0	0	0	0	0	0	0	0	0	0
Gains and other income net	688	194	154	9	10	75	80	82	85	88	90	92	94	97	99	101	103
Interest income	38	22	26	27	28	32	30	31	32	33	34	35	36	37	38	38	39
Equity in (losses) earnings	40	103	13	-141	-24	9	9	10	10	10	11	11	11	12	12	12	13
Non-Core Result Before Taxes	607	164	55	-372	6	115	119	123	126	131	134	138	141	145	149	152	154
Statutory Taxes	-212	-34	-12	78	-1	-24	-25	-26	-27	-28	-28	-29	-30	-30	-31	-32	-32
Tax Adjustments	-787	0	8	60	151	7	9	8	9	3	3	3	3	3	3	3	3
Foreign currency translation adjustments	478	-391	35	229	-212	-150	-98	-39	-54	-111	-90	-78	-74	-82	-87	-82	-81
Derivative instrument adjustments and other net c	2	21	-5	-3	5	4	4	4	4	4	4	4	4	4	4	4	4
Non-Core Result	87	-240	81	-8	-51	-48	9	69	59	0	23	38	44	40	38	44	48
FINANCIAL																	
Interest expense	288	340	394	445	420	442	448	451	454	459	471	483	495	507	521	535	549
Loss on extinguishment of debt	0	0	0	0	164	0	0	0	0	0	0	0	0	0	0	0	0
Financial Result Before Taxes	288	340	394	445	584	442	448	451	454	459	471	483	495	507	521	535	549
Statutory Taxes (Tax Shield)	-101	-71	-83	-93	-123	-93	-94	-95	-95	-96	-99	-101	-104	-107	-109	-112	-115
Financial Result	187	269	311	352	461	349	354	357	358	362	372	381	391	401	411	422	434
Total Comprehensive Income	1 938	1 536	1 303	-40	893	2 800	3 436	3 632	3 759	3 650	3 802	3 950	4 096	4 236	4 512	4 657	4 803

Balance Sheet:

($ in millions)	2017	2018	2019	2020	2021	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F
CORE BUSINESS																	
Operating Cash	102	104	105	53	69	82	87	90	93	96	98	101	103	106	109	111	112
Accounts and notes receivable net	1 973	2 133	2 395	1 768	1 982	1 808	1 928	1 989	2 049	2 123	2 177	2 232	2 288	2 345	2 405	2 447	2 488
Accounts payable	783	767	720	527	726	812	907	1 015	1 134	1 160	1 185	1 211	1 236	1 262	1 276	1 291	1 305
NWC	1 292	1 470	1 780	1 294	1 325	1 078	1 108	1 064	1 008	1 060	1 091	1 122	1 155	1 188	1 238	1 266	1 296
Prepaid expenses and other	235	249	252	172	251	195	201	207	213	224	229	234	240	245	248	251	254
Accrued Expenses and Other	1 291	963	1 383	1 309	1 152	1 456	1 662	1 837	2 028	2 251	2 472	2 715	2 982	3 273	3 358	3 415	3 474
Accrued Payroll and Benefits	1 214	1 345	1 339	831	1 187	1 373	1 540	1 707	1 999	2 085	2 174	2 266	2 362	2 462	2 551	2 645	2 741
Property and equipment, net	1 793	1 956	1 904	1 514	1 503	1 605	1 671	1 730	1 787	1 846	1 905	1 966	2 028	2 093	2 160	2 229	2 301
Brands	5 922	5 790	5 954	6 059	5 979	6 386	6 647	6 880	7 107	7 342	7 577	7 819	8 069	8 327	8 594	8 869	9 153
Contract Acquistions Costs and Other	2 622	2 590	2 687	2 930	2 947	3 247	3 484	3 714	3 947	4 166	4 391	4 627	4 872	5 129	5 345	5 570	5 804
Deferred Taxes, net	-512	-314	-136	166	59	70	57	41	23	0	0	0	0	0	0	0	0
Operating Lease Assets	0	0	888	752	1 062	1 134	1 181	1 222	1 262	1 304	1 346	1 389	1 433	1 479	1 526	1 575	1 626
Liability for Guest Loyalty Program	4 940	5 461	5 718	6 271	6 471	7 274	7 456	7 642	7 833	7 911	7 990	8 070	8 151	8 233	8 315	8 398	8 482
Deferred Revenue	583	731	840	1 542	1 181	1 463	1 637	1 773	1 919	2 087	2 247	2 419	2 604	2 801	2 874	2 923	2 973
Invested Capital Core Business	3 324	3 241	4 049	2 934	3 135	2 149	2 055	1 898	1 569	1 607	1 654	1 686	1 700	1 694	2 013	2 380	2 762
NON-CORE BUSINESS																	
Assets held for sale	149	8	255	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Goodwill	9 207	9 039	9 048	9 175	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073	9 073
Equity method investments	734	732	577	422	387	400	413	426	440	454	469	485	500	517	534	551	569
Notes receivable net	142	125	117	159	144	144	153	158	163	169	173	177	182	186	191	194	198
Other noncurrent assets	593	587	595	616	604	613	653	674	695	720	738	756	775	795	815	829	843
Other noncurrent liabilities	2 610	2 372	2 236	2 366	2 002	2 343	2 497	2 576	2 655	2 751	2 821	2 892	2 964	3 037	3 116	3 170	3 224
Covid-19 Restructuring Charges	0	0	0	143	15	0	0	0	0	0	0	0	0	0	0	0	0
Invested Capital Non-Core Business	8 215	8 119	8 356	7 871	8 191	7 886	7 795	7 755	7 715	7 665	7 632	7 600	7 567	7 533	7 497	7 478	7 459
Total Invested Capital	11 539	11 360	12 405	10 805	11 326	10 036	9 850	9 652	9 285	9 272	9 287	9 286	9 267	9 227	9 510	9 858	10 222
FINANCIAL																	
Excess cash	281	212	120	824	1 324	1 398	1 316	1 178	1 028	874	896	918	941	965	990	1 007	1 024
Operating lease liabilities	0	0	882	823	1 098	1 134	1 181	1 222	1 262	1 304	1 346	1 389	1 433	1 479	1 526	1 575	1 626
Long-term debt	8 238	9 347	10 940	10 376	10 138	10 906	11 015	11 074	11 095	11 193	11 477	11 763	12 051	12 339	12 661	12 992	13 334
Net Debt and Other Claims	7 957	9 135	11 702	10 375	9 912	10 643	10 881	11 118	11 329	11 623	11 927	12 233	12 543	12 853	13 198	13 561	13 936
EQUITY	3 582	2 225	703	430	1 414	-607	-1 031	-1 466	-2 045	-2 351	-2 640	-2 948	-3 276	-3 627	-3 688	-3 703	-3 714

($ in millions)	2017	2018	2019	2020	2021	2022E	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F
CORE																	
Core Result Before Taxes	**2 663**	**2 521**	**1 938**	**351**	**1 758**	**3 664**	**4 348**	**4 506**	**4 660**	**4 604**	**4 764**	**4 930**	**5 102**	**5 280**	**5 618**	**5 791**	**5 968**
Statutory Taxes	-932	-529	-407	-74	-369	-769	-913	-946	-979	-967	-1 001	-1 035	-1 071	-1 109	-1 180	-1 216	-1 253
Tax Adjustments	307	54	2	42	17	303	346	360	377	375	387	399	412	425	447	460	473
NOPLAT	**2 038**	**2 046**	**1 533**	**320**	**1 405**	**3 197**	**3 781**	**3 919**	**4 058**	**4 012**	**4 151**	**4 294**	**4 443**	**4 597**	**4 886**	**5 035**	**5 188**
Amortization and other	124	117	116	133	131	128	130	132	133	135	137	139	141	144	146	148	150
Depreciation	231	256	346	322	138	239	249	258	267	275	284	293	303	312	322	333	343
Gross Cash Flows	**2 393**	**2 419**	**1 995**	**775**	**1 674**	**3 564**	**4 160**	**4 309**	**4 458**	**4 423**	**4 572**	**4 727**	**4 887**	**5 052**	**5 354**	**5 515**	**5 682**
Change in NWC		178	310	-486	31	-248	30	-44	-56	52	31	32	33	33	49	29	29
Change in Other Current Assets and Liabilities		211	-411	502	-120	-546	-367	-337	-476	-298	-305	-330	-357	-386	-172	-148	-152
Capex		419	294	-68	127	342	315	317	324	334	343	354	366	377	389	402	415
Change in Intangible Assets		-47	377	481	68	834	628	594	594	589	597	617	637	659	628	648	668
Change in Operating Lease Assets		0	888	-136	310	72	47	41	40	42	42	43	44	46	47	49	50
Change in Other Non-Current Assets and Liabilities		-471	-188	-953	54	-1 074	-369	-339	-354	-270	-239	-252	-265	-279	-155	-132	-134
Operating Free Cash Flow		**2 129**	**725**	**1 435**	**1 204**	**4 183**	**3 875**	**4 077**	**4 386**	**3 975**	**4 103**	**4 262**	**4 429**	**4 603**	**4 566**	**4 668**	**4 806**
NON-CORE																	
Non-Core Result	**87**	**-240**	**81**	**-8**	**-51**	**-48**	**9**	**69**	**59**	**0**	**23**	**38**	**44**	**40**	**38**	**44**	**48**
Change in Assets held for sale		-141	247	-247	-8	0	0	0	0	0	0	0	0	0	0	0	0
Change in Goodwill		-168	9	127	-102	0	0	0	0	0	0	0	0	0	0	0	0
Change in Equity method investments		-2	-155	-155	-35	13	13	13	14	14	15	15	16	16	17	17	18
Change in Notes receivable net		-17	-8	42	-15	0	9	5	5	6	4	4	4	5	5	3	3
Change in Other noncurrent assets		-6	8	21	-12	9	40	21	21	25	18	19	19	19	21	14	14
Change in Other noncurrent liabilities		-238	-136	130	-364	341	154	79	79	96	70	71	72	73	79	53	54
Change in Covid-19 Restructuring Charges		0	0	143	-128	-15	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Free Cash Flow		**-144**	**-156**	**477**	**-371**	**257**	**101**	**110**	**98**	**50**	**55**	**70**	**77**	**73**	**74**	**63**	**67**
Total Unlevered Free Cash Flows		**1 985**	**569**	**1 911**	**833**	**4 440**	**3 976**	**4 186**	**4 484**	**4 025**	**4 159**	**4 333**	**4 506**	**4 676**	**4 640**	**4 731**	**4 873**
FINANCIAL																	
Financial Result	-187	-269	-311	-352	-461	-349	-354	-357	-358	-362	-372	-381	-391	-401	-411	-422	-434
Change in Net Financial Debt		1 178	2 567	-1 327	-463	730	238	237	212	293	304	307	309	311	345	363	375
Equity CF		-2 893	-2 825	-233	91	-4 821	-3 860	-4 067	-4 338	-3 956	-4 090	-4 258	-4 424	-4 586	-4 573	-4 672	-4 814
Total Financing		**-1 985**	**-569**	**-1 911**	**-833**	**-4 440**	**-3 976**	**-4 186**	**-4 484**	**-4 025**	**-4 159**	**-4 333**	**-4 506**	**-4 676**	**-4 640**	**-4 731**	**-4 873**

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by Daniel Neves and Hugo Correia, Master in Finance students of Nova School of Business and Economics (“Nova SBE”), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and master graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, neither the author of this report nor his/her academic supervisor is registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für Finanzdienstleistungsaufsicht* ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Master's student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or

particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

The content of each report has been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fundraising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.

This report may not be reproduced, distributed or published, in whole or in part, without the explicit previous consent of its author, unless when used by Nova SBE for academic purposes only. At any time, Nova SBE may decide to suspend this report reproduction or distribution without further notice. Neither this document nor any copy of it may be taken, transmitted or distributed, directly or indirectly, in any country either than Portugal or to any resident outside this country. The dissemination of this document other than in Portugal or to Portuguese citizens is therefore prohibited and unlawful.