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CFA Institute Research Challenge

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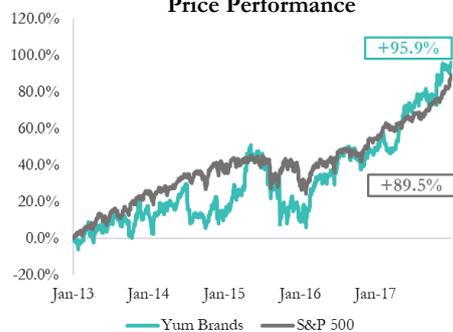
Team B

Date: 12-Jan-2018
Ticker: NYSE:YUM

Closing Price: **\$83.62**

Recommendation: **Sell (-11.03% From Closing Price)**
Target Price: **\$74.40**

Figure 1: Historical Share Price Performance



Executive Summary

YUM! Brands ("YUM" or the "Company") is a franchisor or operator of over 43,500 restaurants in 135 countries and territories. Through the three concepts of Kentucky Fried Chicken ("KFC"), Taco Bell, and Pizza Hut, the firm works to market a proprietary menu of competitively priced food items. Stores are operated directly by YUM or by independent franchisees under the terms of franchise or license agreements.

Investment Recommendation and Highlights

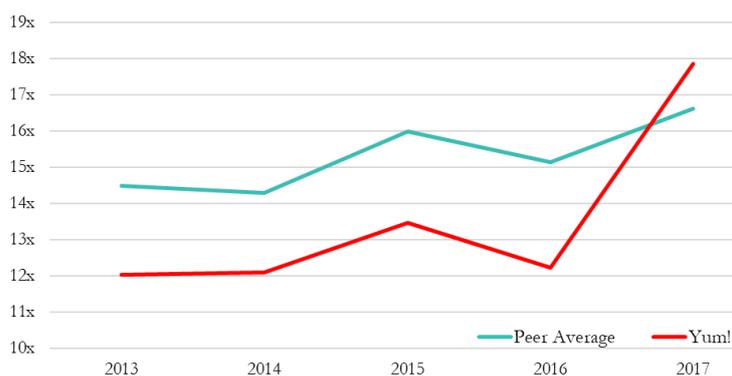
We issue a **Sell** recommendation on YUM with a target price of \$74.40, an 11.03% discount to its 1/12/2018 closing price of \$83.62. Our target price is calculated by a Discounted Cash Flow valuation, comparison to publicly traded peers by the EV/EBITDA ratio, and a Forward Price/Earnings ratio analysis. The combined results of our valuation methodologies suggest that the common stock of YUM is currently overvalued. Our recommendation is primarily driven by:

- Industry Outlook:** YUM is in an extremely competitive industry. Rising labor costs, technological advances, and consumer spending preferences are putting downward pressure on prices. New market entrants, bettering the consumer experience through fast casual restaurants, and increasing emphasis on dietary concepts put YUM! Brands' restaurants in intense competition for customers.
- Competitive Positioning:** There are many similar competitors that are increasingly favored by customers over YUM restaurants across all three concepts. KFC risks health-conscious consumers moving away from fried chicken. Pizza Hut continues to lose market share as competitors in the pizza space have pursued more viable growth strategies. Healthier alternatives in the Mexican food space have put pressure on Taco Bell to retain customer base.
- High Leverage:** More stable cash flows have allowed YUM! Brands to increase leverage towards a goal of 5x EBITDA [Figure 2]. With guidance on reducing Capital Expenditures, YUM will use the debt largely to repurchase shares. Evolving market conditions and legislation may render large amounts of debt less advantageous than in previous market environments.
- Current Overvaluation of YUM! Brands' Common Stock:** YUM has experienced a 48.59% increase in EV/EBITDA over the last 5 years [Figure 3] while revenue growth prospects that drive higher multiples have decreased. Comparatively, the mean EV/EBITDA for peer restaurants over the same time period has only increased 14.61%. We believe YUM's EV/EBITDA should be more in line with peers, and is subject to a pull-back if market confidence dwindles.
- Financial Engineering:** YUM committed to returning \$13.5 billion to shareholders between Q4 2014 and 2019, largely through share repurchases. This massive reduction in share count has boosted EPS as revenue continues to decline. We believe these financial engineering tactics to prop up earnings are unsustainable, especially as organic growth opportunities begin to diminish.

Figure 2: Summary of Market, Financial and Valuation Data

Market Data					
Closing Price					\$83.62
Shares Outstanding					336,993,674
Market Cap (\$ mm)					\$28,179
Price / Earnings (LTM)					25.5x
Enterprise Value (\$ mm)					\$37,046
EV / EBITDA (LTM)					18.0x
Financial Data					
	2013	2014	2015	2016	LTM
Rev. Growth	-4.0%	-49.7%	-2.2%	-1.1%	-2.7%
EPS Growth	-4.3%	-28.8%	1.6%	9.3%	8.5%
Gross Margin	26.2%	38.8%	40.8%	42.3%	44.2%
EBITDA Margin	21.1%	28.3%	28.7%	30.9%	33.1%
ROE	46.5%	51.8%	72.3%	NM	NM
ROA	14.4%	11.3%	11.6%	15.3%	14.0%
Interest Coverage	15.8	10.7	10.8	5.4	4.1
Debt / Equity	1.4	2.2	4.3	NM	NM
Net Debt / EBITDA	1.1	1.8	2.1	4.6	4.8
Valuation Results					
Valuation Date:	January 12th, 2018				
Methodology	Weighting	Value / Share			
DCF: Exit Multiple	25.0%	\$72.72			
DCF: Gordon Growth	25.0%	\$73.44			
Public Comparables: EV / EBITDA	25.0%	\$71.45			
Public Comparables: P / E	25.0%	\$80.00			
Target Share Price		\$74.40			
Implied Discount		11.03%			
Target Share Price Range		\$71.45 - \$80.00			
Implied Discount Range		4.33% - 14.55%			

Figure 3: Historic EV / EBITDA Multiple



Source: Capital IQ

Figure 4: Yum Price Projection Range



Source: Yahoo Finance

Figure 5: YUM Brands' Business Structure

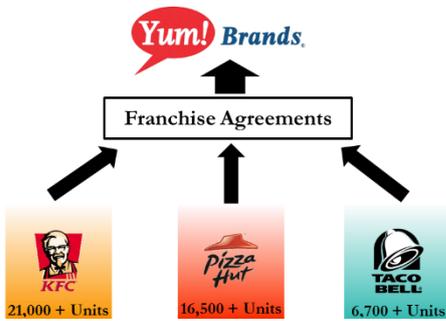
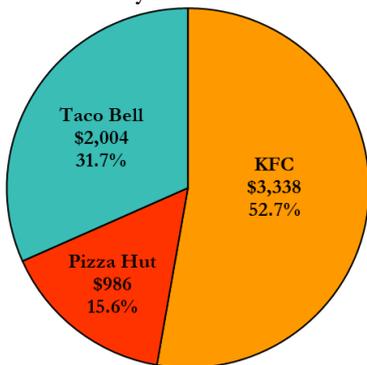


Figure 6: LTM Revenue (\$mm) by Division



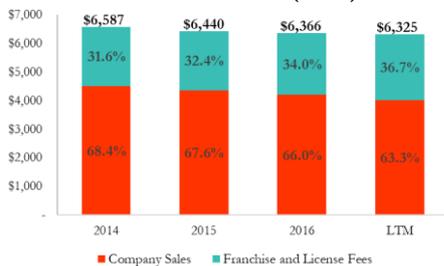
Source: Company Filings

Figure 7: Franchise Formats

	Store-Level Agreements	Master Agreements
Royalties:	~4-6% of Sales	Reduced Royalty Rates due to Scale
Fee Paid:	Initial Fee to YUM	Initial Fee to YUM or Sub-Franchisees pay to Master Franchisee
Scale:	Single Store Basis	Development and Sub-Franchising in a Specified Territory
Engagement:	Low	High

Source: Company Filings

Figure 8: Company vs Franchise Sales (\$mm)



Source: Company Filings

Figure 9: Post Spin-Off Share Performance



Source: Yahoo Finance

Business Description

YUM

YUM is a franchisor or operator of over 43,500 restaurants consisting of the three concepts of KFC, Taco Bell, and Pizza Hut, in 135 countries and territories. Stores are operated directly by YUM or by independent franchisees under the terms of franchise or license agreements, which require initial startup fees as well as payment of sales-based royalties for use of the specified brand. YUM has set a goal to become 98% franchised by 2019. Refranchising can provide a more stable earnings outlook, but the new structure should negatively impact the company's top line. Ability to generate revenue growth is reliant on franchisees ability to generate same store sales growth and new unit growth.

Restaurant Concepts

Through the 3 concepts of KFC, Taco Bell, and Pizza Hut, YUM develops, operates, or franchises a worldwide network of restaurants that offer proprietary menu of competitively priced food options. Most restaurants of each type offer the ability to dine in and/or carry out food and many locations offer a drive-thru option. Pizza Hut and KFC (primarily in China) also offer delivery services.

- **KFC:** KFC restaurants offer fried and non-fried chicken products, as well as a variety of other entrees suited to local preferences and tastes. KFC now operates in 128 countries and territories throughout the world and, as of November 1st, 2017, had 21,063 units, 93% of which were franchised.
- **Taco Bell:** Taco Bell specializes in Mexican-style food products, as well as breakfast items in its U.S. stores. Taco Bell currently operates in 22 countries throughout the world and, as of November 1st, 2017, had 6,738 units (primarily located in the U.S.), 86% of which were franchised.
- **Pizza Hut:** Pizza Hut features a variety of pizzas that are offered with a wide assortment of toppings suited to local preferences and tastes. The concept also offers pasta and chicken wings, with 5,900 stores in the U.S. offering wings under the WingStreet brand. Pizza Hut operates in 103 countries and territories throughout the world and, as of November 1st, 2017, had 16,551 units, 97% of which were franchised.

Franchise Format: Store-Level and Master Franchise Agreements

Under store-level agreements, franchisees supply capital in terms of an up-front franchise fee, purchasing or leasing the land, building, equipment, and supplies, and by reinvesting in the business. Franchisees contribute a percentage of their sales (usually 4-6%) [Figure 7] to YUM! Brands. Under master franchise agreements, master franchisees operate restaurants and sub-franchise within certain geographic territories. Master franchisees are responsible for overseeing development within their territories and collect franchise fees and royalties from sub-franchisees. The franchising model causes YUM to be heavily reliant on the franchisee's ability to generate revenue and increase store count. The company's goal to reach over 98% of units franchised by FYE 2018 will disconnect corporate's ability to drive new unit growth. Over the last twelve months 36.7% of revenues were earned from franchisees [Figure 8].

Location Types

YUM operates both traditional and non-traditional Quick Service Restaurants ("QSR"). Traditional locations feature dine-in, carryout, and, in some instances, drive-thru or delivery services. Non-traditional locations include express units and kiosks which have a limited menu, lower sales volumes, and operate in locations where traditional outlets are impractical, such as malls and airports. Traditional locations are feeling pressure from the fast food industry to increase delivery presence and user experience. Non-traditional locations are seeing increasing competition from pop-up restaurants.

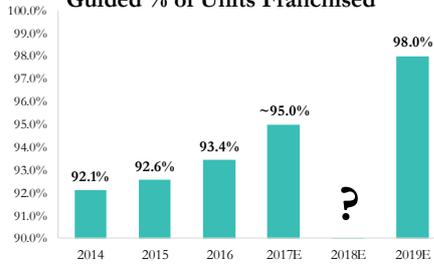
Supply and Distribution

YUM and its franchisees function as substantial purchasers of a number of food and paper products, as well as equipment and other restaurant supplies that have had histories of volatile pricing. Domestically, almost all of these products are sourced exclusively through McLane Foodservice, while internationally they are handled through a less reliable decentralized network of over 5,800 suppliers.

Spin-Off of Yum China

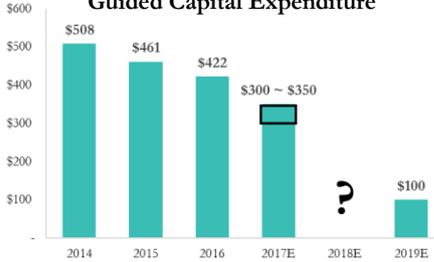
On October 31, 2016 (the "spin-off date") YUM completed the spin-off of their Chinese business into an independent, publicly traded company under the name of Yum China Holdings, Inc. (NYSE:YUMC). On the spin-off date, each shareholder of record received one share of YUMC for each share of YUM held in a tax-free distribution for U.S. shareholders. As a result of this transaction, the financial performance of Yum China is presented as discontinued operations in the Company's operating results. Concurrent with the spin-off, the Company entered into a master license agreement with Yum China for the rights to use and sublicense the use of YUM intellectual

Figure 10: Historic & Management's Guided % of Units Franchised



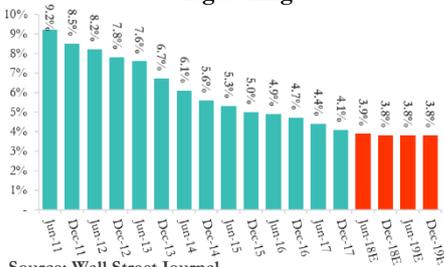
Source: Company Filings

Figure 11: Historic & Management's Guided Capital Expenditure



Source: Company Filings

Figure 12: U.S. Unemployment Tightening



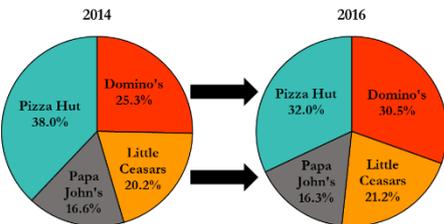
Source: Wall Street Journal

Figure 13: U.S. Food & Drinking Place Hourly Earnings and Growth



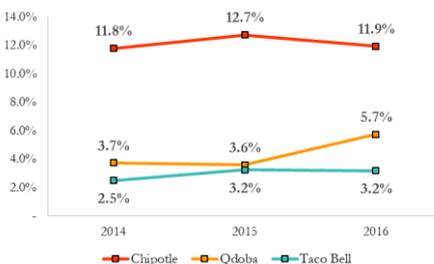
Source: Bureau of Labor Statistics

Figure 14: Top 4 Pizza Chains Market Share Progression



Source: PMQ

Figure 15: Top 3 Mexican Chain Annual Store Unit Growth



Source: Company Filings

property for the development and operation of KFC, Pizza Hut, and Taco Bell restaurants. Despite Yum China bringing in \$6.9 billion of revenue and having nearly 7,250 restaurants while the two were consolidated, standalone YUM shares are now trading at pre-spinoff levels in just over one year since the transaction.

Management

YUM's executive management team consists of 7 officers who have served in senior management positions at the Company for an average of approximately 8 years. Management intends to create value for shareholders through a number of transformative strategic initiatives, such as:

- **More Franchised:** YUM is looking to continue franchising its company owned restaurants with the goal of increasing franchise ownership to 98% [Figure 10] of its total restaurant units. Increasing franchise ownership is intended to raise the Company's margins and allow them to return more cash to shareholders.
- **More Efficient:** In line with the goal to have higher franchise ownership, YUM looks to (1) reduce its annual capital expenditures to \$100 million by FYE 2019 [Figure 11], (2) reduce its G&A expenses by ~\$300 million over the next three years, all while (3) maintaining an internally established "optimal" leverage ratio of 5.0x EBITDA.
- **Return Cash to Shareholders:** Over the next 3 years, YUM intends to return ~\$6.5-\$7.0 billion of cash to shareholders through dividends and share repurchases funded through (1) free cash flow and (2) refranchising proceeds (which is estimated to be about \$2 billion, net of tax).

Industry Overview and Competitive Positioning

Coordinated Global Growth

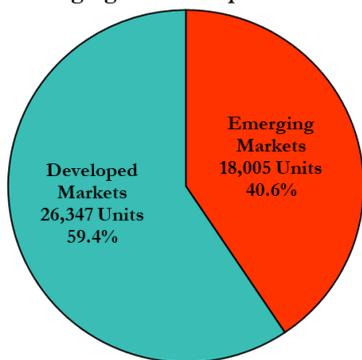
Over the past year, global growth was higher than expected. Indices around the world, including the three major US indices; DJIA, S&P 500, and NASDAQ, hit all-time highs. In Europe, the European Central Bank ("ECB") continued its expansionary monetary policy by holding rates steady and continuing its quantitative easing program. As of December 17, 2017, the ECB estimated GDP growth of 2.4% in 2017 and 2.3% in 2018 (5). In Asia, China reported strong growth and higher than expected inflation while Japan received a surge in capital spending extending its growth streak to seven consecutive quarters (2, 3, 4). Likewise, despite perceived political risk, emerging markets such as India, Brazil, and Russia continued growing (1).

Quick Service Restaurant Industry

The Quick Service Restaurant makes up 50% of sales in the broader restaurant industry, but it currently faces significant challenges. Wage pressures, healthier food choices, increasing consumer preference towards fast casual restaurants and non-traditional locations, and increasing competition makes YUM vulnerable to losing customers.

- **Wage Pressures:** Although the franchise-focus positions the company to weather wage increases better than many of its competitors, its franchisees are still going to be subject to the negative effects that wage pressure has on the QSR industry. This impact on franchisee bottom line could make franchisees more reluctant to open new stores. In turn, franchisors could be impacted on a new unit growth basis, ultimately effecting YUM's growth. As unemployment is forecasted to continue tightening [Figure 12], wage inflation in the QSR space is likely to continue higher [Figure 13].
- **Healthier Food Choices:** Consumers have begun to put more emphasis on dietary decisions that ever before. Focus on healthier ingredients and increasing the amount of healthy options on restaurant menus have shifted the types of restaurants consumers prefer to dine at. With their core foods being fried chicken, pizza, and various Mexican dishes, YUM faces the risk of potentially losing customers unless more efforts are put towards offering healthier options.
- **Fast Casual and Non-Traditional Locations:** The traditional fast food industry has recently taken a hit as consumers are beginning to value different customer experiences. Fast casual restaurants are viewed as offering higher quality food than traditional fast food restaurants, while having similar prices. Non-traditional locations, such as pop-up restaurants, are gaining traction as consumer's value the unique user experience and the convenience of quick-dining.
- **Competition in Fast Food:** Despite the growth of alternative types of restaurants, the core fast food restaurant market continues to remain intensely competitive. KFC experiences fast food chicken competition from restaurants such as Popeye's and Chick-fil-A, which we believe are competitively positioned ahead of KFC due to shifting consumer preferences toward higher food quality and a more positive customer experience. Pizza Hut continues to lose market share to Domino's, Papa John's, and Little Ceasars [Figure 14]. Taco Bell, while it has established a strong customer base from its variety of cheap options and a large menu, faces increasing competition from faster

Figure 16: Number of Units in Emerging vs. Developed Markets



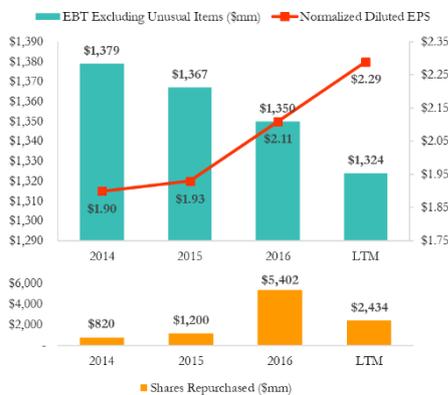
Source: Company Filings

Figure 17: Competitor Technology



Source: WSJ, CNN

Figure 18: Decreasing EBT and Increasing EPS as Share Repurchases Remain Strong



Source: Company Filings

growing Mexican restaurants that offer healthy menu options, such as Chipotle and Qdoba [Figure 15].

Emerging Markets

Emerging markets such as China, India, Brazil, Russia, and South Africa are high potential growth sites for the QSR industry. Many of the largest QSR operators have moved to capture the growth in these markets. Although YUM has been historically successful in international and emerging markets, they must continue to grow while facing increasing competition. [Further breakdown of international exposure can be found in Appendix J].

Demand Drivers

Menu Prices

Apart from healthier food options and fast casual popularity, food prices are an extremely important factor for engaging customers and increasing demand. QSR customers are typically cost-conscious and promotions such as dollar menus and enjoyable food at cheap prices can drive higher levels of demand. Taco Bell has seen success from utilizing these strategies. Subsequently, other QSR restaurants have developed a dollar menu. For example, on January 4th, 2018 McDonald's rolled out a \$1 \$2 \$3 Dollar Menu to return to value offerings and compete with similar chains.

Need for Convenience

The QSR industry was founded upon the premise of serving the consumer preference for convenience and is facing pressure to continue to innovate. Although pop-up stores, as previously mentioned, are gaining popularity, they are not the only driver behind convenience. Technology such as apps, ordering stations, and delivery services have increased convenience to customers [Figure 17]. However, the extensive amount of services now offered by larger players has removed any edge one might have over another.

Investment Summary

We issue a **Sell** recommendation on YUM with a price target of **\$74.40**/share. This represents a current market overvaluation of **11.03%** as of **JANUARY 12, 2018**. After we performed our valuation and computed a price target in the sell range, we conducted further research on the qualitative aspects of the Company to see if they also supported a sell position. After further analysis on the Company's merits and concerns, we believe the stock is vulnerable to a price setback during 2018. Our sell position reflects our suggestion for investors to consider exiting their position or risk underperformance.

Merits:

- High Franchising goal of 98% leads to more predictable earnings, less capital expenditures and greater FCF distribution
- Improving margins are favored by investors

Concerns:

- High leverage: Net Debt/EBITDA grew from 2x in 2015 to 4.8x in 2017, aiming to reach 5x
- Lack of revenue growth: Seeing considerable declines due to the increase in franchising
- Restaurant reputation/competition: Operates in an extremely competitive market
- Aggressive share repurchases: Financial engineering driving EPS growth as revenue falls [Figure 18]
- Record-high multiples: Trading at record high EV/EBITDA multiple due to large debt and market valuation [Figure 25]

YUM Historic Share Price and News Flow



Source: Bloomberg

Figure 19: Model Output
Averages: Share Price

	Low	Mean	High
P/E Model	64.00	80.00	96.00
EV/EBITDA	58.13	71.45	106.43
DCF: EMM	69.30	72.72	80.43
DCF: Perpetuity	66.36	73.44	78.51
Average	64.45	74.40	90.34

Figure 20: Weighted Average
Cost of Capital Calculation

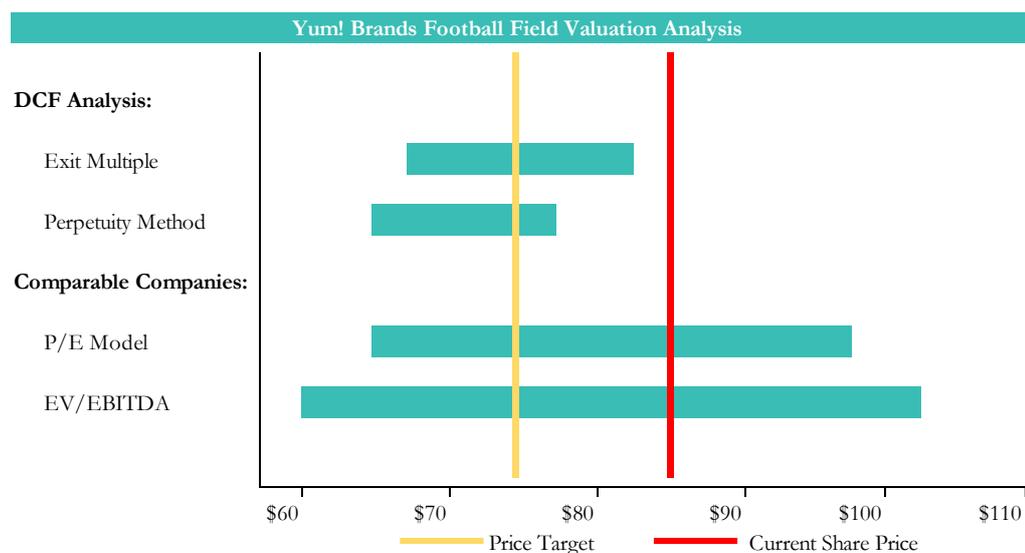
WACC Calculation	
Target Capital Structure	
Debt-to-Total Capitalization	26.59%
Equity-to-Total Capitalization	73.41%
Cost of Debt	
Cost-of-Debt	5.09%
Tax Rate	22.20%
After-tax Cost of Debt	3.96%
Cost of Equity	
Risk-free Rate*	2.32%
Market Risk Premium**	7.08%
Levered Beta	0.88
Size Premium	0.00%
Cost of Equity	8.54%
WACC	7.32%

Figure 21: Base Case DCF
Share Calculation

	EMM	Perpetuity
EV	34,568	34,823
Less: Net Debt	- 8,871	- 8,871
Equity Value	25,697	25,952
Diluted Shares	353.39	353.39
Per Share	72.72	73.44
(Over)/Undervalued	-13.04%	-12.18%
Average	73.08	

Valuation

Four valuation methods were used, equally weighted, to derive a price target for YUM [Figure 19]. The methodologies include a five-year **Discounted Cash Flow Analysis** using both the Exit Multiple Method and the Gordon Growth Perpetuity Method, a **Forward Price to Earnings Model**, and **EV/EBITDA Approach**.



WACC

To determine a discount rate for our valuation, we calculated the Weighted Average Cost of Capital [Figure 20] using historical data. We calculated levered Beta by selecting a group of publicly traded comparable companies, taking the mean unlevered beta, and then re-levering Beta based off YUM's capital structure. We determined the pre-tax cost of debt by dividing total interest expense in 2016 by average debt between 2015 and 2016. Cost of debt was then multiplied by one minus the tax rate, which was adjusted down to include our best estimates for the new tax legislation, to get after-tax cost of debt. Cost of Equity was determined by using the Capital Asset Pricing Model (CAPM). [See more on WACC Calculations in Appendix D3].

DCF

We used a Discounted Cash Flow Analysis to determine the intrinsic value of YUM! Brands' common shares. A five-year model was used to include the effect of reaching the franchising goal of 98% occurring by the end of 2018, and the subsequent effects the new franchising ratio will have on cash flow. We estimate top-line revenue will decrease through 2019, while both EBITDA and EBIT margins will increase. Revenue decline is primarily based on the refranchising structure that YUM will undergo through 2019, and growth after 2019 is estimated based on unit growth. The model ultimately depends on free cash flow, which is calculated by adjusting EBIAT for the various effects of Depreciation and Amortization, Capital Expenditures, and changes in Net Working Capital to arrive at Unlevered Free Cash Flow. The Present Value of FCF was used by implementing the Weighted Average Cost of Capital of 7.32% as the discount rate. Following the calculation of the Present Value of FCF, two separate methods, equally weighted, were used to determine Terminal Value and, subsequently, Enterprise Value. [See more on DCF Calculation in Appendix B].

Exit Multiple Method: The Exit Multiple Method was used to calculate the remaining value of the Company's Free Cash Flow produced after the 5-year projection period. An EBITDA Multiple of 16.61x was applied based on the current peer average. The Exit Multiple was then applied to the 5th year projected EBITDA, discounted to Present Value using WACC, and combined with PV of FCF to derive Enterprise Value. This 5-year DCF EMM calculation computed a price target of \$72.72 [Figure 21]. The EMM assumption is highly sensitive to both the selected exit multiple applied and the discount rate, and therefore was subjected to a sensitivity analysis [Appendix B2].

Gordon Growth Perpetuity Method: The Perpetuity Growth Method was used to calculate the remaining value of the Company's Free Cash Flow produced after the 5-year projection period by subjecting the terminal year FCF to a perpetuity growth formula at an assumed growth rate. A growth formula of 2.7% was applied to approximately match the long-term inflation rate. The Terminal Value derived from the perpetuity formula is then subjected to the Weighted Average Cost of Capital to determine Present Value, then added to PV of FCF to determine Enterprise Value. This 5-year DCF PGM calculation computed a price target of \$73.44 [Figure 21]. The PGM calculation is highly sensitive to both the assumed perpetuity growth rate and WACC, and therefore was subjected to a sensitivity analysis [Appendix B3].

Figure 22: Forward P/E Valuation

Forward P/E Valuation				
		Forward P/E		
		20x	25x	30x
EPS	3.15	63	78.75	94.5
	3.2	64	80	96
	3.25	65	81.25	97.5
Average		80		

Figure 23: 2017 Peer EV/EBITDA Multiple

Peer TEV/LTM EBITDA	
DNKN	15.57x
DPZ	22.63x
MCD	15.15x
WEN	15.39x
QSR	14.32x
Average	16.61x

Source: Capital IQ

Figure 24: Peer Average EV/EBITDA Price Calculation

EV/EBITDA Valuation	
Avg. EV from Multiple	34,121.05
Less: Net Debt	-8871
Equity Value	25,250.05
Diluted Shares	353.39
Average Price per share	71.45

Figure 25: Historic Peer EV/EBITDA Comparison

	Historic EV/EBITDA		Premium/ (Discount)
	Peer Avg	YUM	
2013	14.50x	12.02x	-17.07%
2014	14.28x	12.10x	-15.27%
2015	15.98x	13.47x	-15.71%
2016	15.14x	12.22x	-19.31%
2017	16.61x	17.86x	7.51%

Source: Capital IQ

Figure 26: 2017 YUM vs. Consumer Discretionary Sector XLY ETF



Source: Yahoo Finance

Forward P/E

We used a five-year Forward P/E Multiple using High, Low, and Average estimates. We determined an assumed price target based on expected future EPS. Currently, YUM is trading at near all-time high ratios, reflective of what we believe is overconfidence in EPS growth and future earning capabilities of the Company. Aggressive share repurchase agreements have drastically reduced YUM's share count from 2015 through 2017, despite revenue and earnings growth actually declining. Although the aggressive share repurchases have boosted EPS growth, financial engineering driving growth is generally not sustainable. Once financial engineering-boosted growth slows, YUM may struggle to grow EPS and could see negative impact on the share price. The assumed forward P/E ratios were then multiplied in a matrix-like calculation [Figure 22] to determine low, average, and high 12-month price targets. The model then returned an estimated future share price of \$80 based on an average estimated P/E ratio for 2018 of 25x and EPS estimates of \$3.20 [Appendix A1]. This model returned the highest price target, which we believe is due to the market's overconfidence in YUM's ability to organically grow earnings. Although the Company's revenues have been decreasing, massive share repurchases and all-time high multiples lead us to believe the market is overvaluing YUM's true financial outlook.

Peer EV/EBITDA

The EV/EBITDA analysis for YUM is an essential aspect of the Company's valuation. We selected a subset of the Company's peer group to find five peers we felt were most comparable to YUM! Brands based on similar franchising structure, margins, and market capitalizations. The peer group we considered most relevant for a YUM peer valuation consisted of: Dunkin' Brands, Domino's, McDonald's, Wendy's, and Restaurant Brands International [Figure 23]. We felt using historic multiples for YUM may not be entirely accurate to the significant repositioning and restructuring of the Company over the recent years, so we felt publicly traded peer Company trading multiples were most effective for determining an appropriate price target for YUM. Based on industry standards, we determined the most relevant multiple for YUM was EV/LTM EBITDA. Enterprise Value to EBITDA focuses on the implied total value of a Company (Market Capitalization plus Net Debt) relative to its cash flow generating ability, and is commonly used in analysis of leveraged companies in this industry.

YUM's peer group has an average EV/LTM EBITDA of 16.61x [Figure 23]. When applied to YUM's LTM EBITDA, it returns an intrinsic value of \$71.45 per share [Figure 24], resulting in a 14.55% overvaluation relative to current market valuation [See Appendix A3 for EV/EBITDA calculations]. For reference, despite YUM's current EV/LTM EBITDA multiple being approximately 17.80x, the average 5-year historic multiple is a mere 13.36x. Applying YUM's 5-year historic multiple results in a share price of \$53.56, a 35.95% overvaluation of current market conditions. This overvaluation compared to peers leads us to believe that the market has placed a high level of confidence in YUM's growth outlook, which we believe is not warranted.

Identical Peer with Better Margins

We further examined peers to determine reasons YUM may deserve higher trading multiples than peers. We chose to utilize Restaurant Brands International (QSR) as an identical peer, due to their highly franchised structure (100%), international presence, and high leverage (Total Debt/EBITDA 5.9x). Despite having better gross profit, EBITDA, and EBIT margins, QSR trades at an EV/EBITDA multiple of only 14.32x, 19.8% less than YUM. QSR has traded at relatively consistent multiples over the last few years, while YUM has seen a significant run-up recently [Figure 25]. We believe this exemplifies investors' overconfidence in the Company.

Share Price vs. Consumer Discretionary

YUM's share price increased by approximately 30% during 2017, largely outperforming the Consumer Discretionary ETF (XLY) at 18% [Figure 26] over the same period, as well as the overall market of 19-20%.

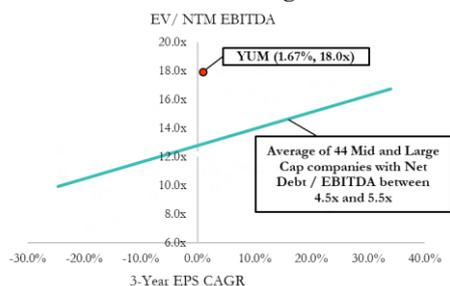
Companies with Similar Leverage

YUM! Brands has a high Total Debt/EBITDA ratio of nearly 5x. We chose a group of companies trading at Net Debt/EBITDA multiples between 4.5x and 5.5x. The average EV/NTM EBITDA multiple of the group is 13.42x [Figure 27], while YUM's EV/NTM EBITDA is 17.31x. Clearly, the market does not value other highly leveraged companies as highly as it's currently valuing YUM.

Equal Weighting Adjustment

To ensure that our valuation was not too heavily reliant on specific assumptions in our valuation methodology, we analyzed a variety of alternative weighting scenarios. Applying a 50% weighting to the EV/EBITDA method, a 25% weighting to the Forward P/E method, and splitting the remaining 25% between the two DCF methods, we calculated a price target of \$73.99, which is lower than our initial price target, supporting our sell [Scenario 1, Figure 28]. In another scenario [Scenario 2, Figure 28], we gave a 50% weighting to the Forward P/E method, a 25% weighting to the EV/EBITDA method, and split the remaining 25% between the two DCF approaches. Although this scenario did yield \$76.13 per share, higher than our initial price target, the number

Figure 27: YUM vs Companies with Similar Leverage



Source: Capital IQ

Figure 28: Various Weighting Scenarios

Various Weighting Scenarios		
	Price Target	% Overvalued
Scenario 1	73.99	-11.51%
Scenario 2	76.13	-8.96%

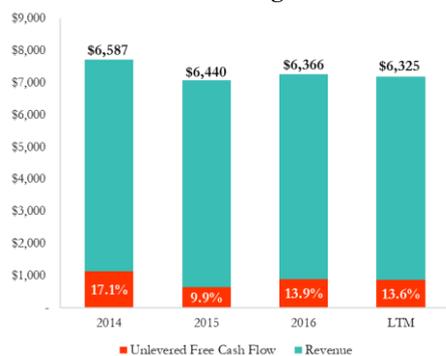
remains within our sell range. These various weighting scenarios support our analysis, showing we were not too reliant on one methodology that could have skewed our results in one direction.

Financial Analysis

Selected Key Financials (\$ in millions)					
	2013	2014	2015	2016	LTM
Revenue ⁽¹⁾	13,084	6,587	6,440	6,366	6,325
Revenue Growth	-4.0%	-49.7%	-2.2%	-1.1%	-0.6%
Gross Profit	3,425	2,558	2,627	2,690	2,742
Gross Margin	26.2%	38.8%	40.8%	42.3%	43.4%
EBITDA	2,758	1,861	1,847	1,964	2,054
EBITDA Growth	-5.0%	-32.5%	-0.8%	6.3%	4.6%
EBITDA Margin	21.1%	28.3%	28.7%	30.9%	32.5%
EBIT	2,037	1,533	1,525	1,655	1,774
Less: Taxes	(640)	(411)	(393)	(407)	(394)
Add: Depreciation	721	328	322	309	280
Less: Changes in Net Working Capital ⁽²⁾	(116)	183	(353)	(249)	(439)
Less: Capital Expenditures	(1,049)	(508)	(461)	(422)	(358)
Unlevered Free Cash Flow	953	1,125	640	886	863
Unlevered Free Cash Flow Yield	2.8%	3.3%	1.9%	3.0%	2.3%

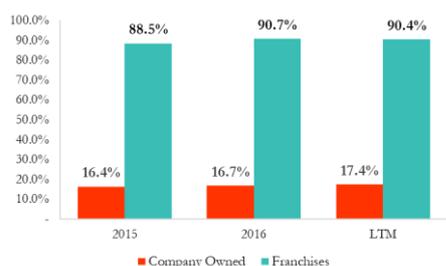
- (1) Yum completed the spin-off of its Yum China division in the third quarter of 2016, but the above financials are restated back to 2014 as if the spin-off had occurred at the end of fiscal year 2013. All restated financials were provided by YUM! Brands
- (2) 2015 increase in Net Working Capital primarily due to \$934 million Current Liability from discontinued Yum China operations

Figure 29: Historic Revenue (\$mm) and FCF Margin



Source: Company Filings

Figure 30: Gross Margins on Company Owned vs Franchised Stores



Source: Company Filings

Ratio Analysis

	2013	2014	2015	2016	LTM
Liquidity Analysis					
Current Ratio	0.75x	0.64x	0.55x	1.08x	1.42x
Quick / Acid-test Ratio	0.43x	0.40x	0.22x	0.83x	0.96x
Profitability Analysis					
Net Profit Margin	8.3%	16.0%	20.1%	25.4%	19.1%
Fixed Asset Turnover	15.8x	15.8x	15.8x	15.8x	15.8x
Return on Assets	14.4%	11.3%	11.6%	15.3%	14.0%
Return on Equity ⁽¹⁾	46.5%	51.8%	72.3%	NM	NM
Credit Analysis					
Interest Coverage Ratio	15.8x	10.7x	10.8x	5.4x	4.1x
Net Debt / EBITDA	1.1x	1.8x	2.1x	4.6x	4.8x
Other					
Payout Ratio	56.4%	63.7%	56.5%	46.0%	42.3%
Shares Bought Back (\$ in millions)	\$770	\$820	\$1,200	\$5,402	\$2,434

- (1) Return on Equity was not measurable in 2016 or for the Last Twelve Months due to a negative book equity value that was a result of YUM's significant share repurchases in 2016

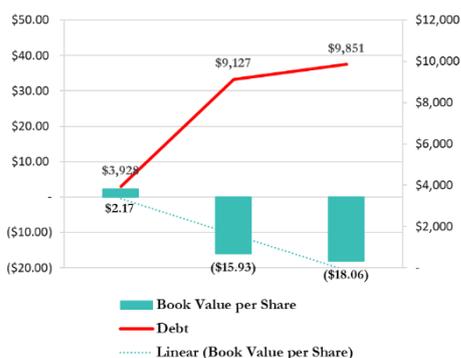
Declining Revenue Post Yum China Spin-Off

Upon spin-off of YUM China in Q3 of 2016, YUM's revenue declined significantly as YUMC represented over \$6.9 billion in 2015 revenue. All KFC, Pizza Hut, and Taco Bell stores previously owned by YUM! Brands in China will now be franchised, and YUM! Brands will receive 3% of net sales from all stores owned by Yum China as part of their Master Franchising Agreement.

Increasing Gross Margins Due to Re-Franchising Program

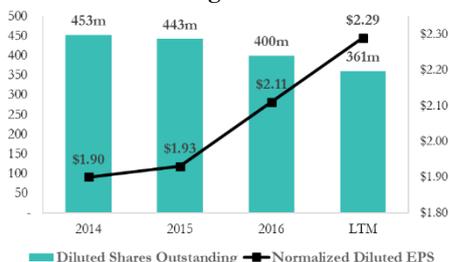
Gross margins over the last twelve months were 44.2%, over 180 basis points higher than the 26.2% earned in 2013. This meaningful increase in gross margin has been primarily due to the re-franchising program YUM is pursuing to have over 98% of its store franchised by end of year 2018. The process of re-franchising involves losing the store's overall revenue and costs to a new franchisee and replacing it with smaller but much higher margin franchise royalty fees [Figure 30]. These fees are typically a percentage of the franchised store's top line revenue and involve no unit food, labor or supplies costs. This transformation will result in a slower growing, but more stable YUM! Brands.

Figure 31: Debt and Negative Book Value



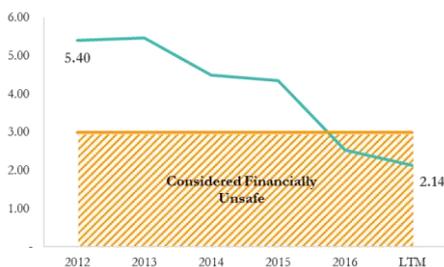
Source: Capital IQ

Figure 32: Shares Outstanding and EPS



Source: Capital IQ

Figure 33: Historic Altman Z-Score



Source: Capital IQ

Figure 34: Net Fee Revenue

	2014	2015	2016
Initial Fees (Incl. Renewals)	76	78	81
Refranchising (Gain) Loss	(2)	(6)	(9)
Net	74	72	72

Source: Company Filings

Larger Debt Burden Pursued as Cash Flows Stabilize

In early to mid-2016 as part of the Yum China spinoff and refranchising transformation, YUM issued \$4.6 billion of new debt [Figure 31]. This issuance was due to YUM! Brands' new target Debt/EBITDA ratio of 5.0x, believed by the Company to be a supportable level following more stable cash flow estimates. Additionally, this issuance was completed as part of YUM's goal to return \$6.2 billion to shareholders before it spun off its Chinese operations in Q3 of 2016. Although this increased debt load should be manageable for a perceived more stable YUM, the market sees risk. Standard & Poor's downgraded YUM's credit rating from BBB to BB upon announcement of the new 5.0x goal, putting YUM debt squarely in junk territory. As of September 30, 2017, YUM's total leverage ratio was 4.8x, nearing their total leverage ratio covenant.

Aggressive Capital Return Program Implementation

As mentioned above, in December of 2015, YUM committed to returning \$6.2 billion of capital to shareholders before the YUM China spin-off. This capital return was done primarily through raising debt to buy back shares, effectively increasing each investor's representative stake [Figure 32]. As part of this capital return plan, the Company also announced a goal to return \$13.5 billion to shareholders by 2019, primarily through share repurchases. This increased capital return plan can be seen in the above ratio analysis, as the Company has spent \$2.4 billion on share buybacks in the last twelve months versus \$820 million in fiscal year 2014, an increase of about 300%.

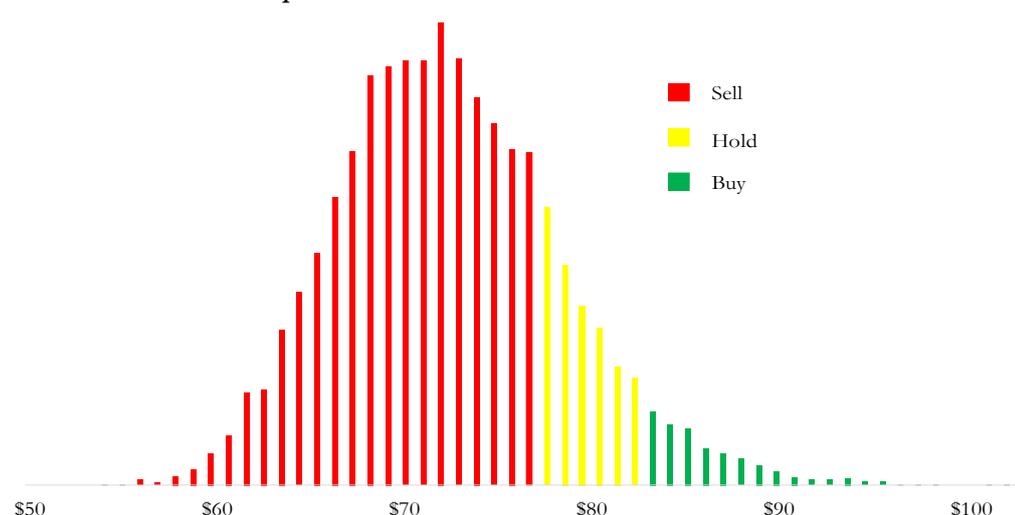
Altman Z-Score

The Altman Z-Score measures a Company's credit strength, and then gauges the Company's likelihood of going bankrupt. The calculation includes a ratio analysis of profitability, leverage, liquidity, solvency, and activity to estimate the probability of bankruptcy of a public Company. As mentioned, YUM carries a high amount of leverage that we believe is concerning [Figure 33]. A Z-score above 3 deems the Company financially safe, while the lower the score gets, the more cause for concern over bankruptcy probabilities. A score between 1.8 and 2.7 deems the Company likely to be bankrupt within 2 years, while a score below 1.8 causes high concern for bankruptcy. YUM's Z-score calculation comes out to be 2.14, down from 5.4 in 2012 [Figure 33]. For comparison, McDonald's has a Z-score of 5.5. Although the bankruptcy calculation has been a questionable record of predicting bankruptcy, we believe bankruptcy risk is still a cause for concern, showing that YUM is, once again, positioned behind its peers.

Sensitivity Analysis – Monte Carlo Simulation

We used a Monte Carlo Analysis to analyze the effects of varying inputs on our price target derived from the Discounted Cash Flow analysis. The simulation sensitizes factors such as revenue growth, EBITDA and EBIT margins, WACC, exit multiple, and long-term growth rate. These inputs led to a 12-month price target of \$73.52 with a 95% confidence level in our sell recommendation [See in depth description of Monte Carlo Simulation in Appendix B7].

Monte Carlo – DCF Graph



New Accounting Pronouncement Not Yet Adopted

In March and April 2016, the FASB announced that it would amend the implementation of recognizing revenue from Contracts with Customers. YUM plans to adopt the new standard in the first quarter of 2018. Currently, YUM recognizes upfront franchise fees (both initial and renewal) when services occur. Under the new standards, the revenue received from the customer in these transactions must be allocated to each separate and distinct performance obligation, and then amortized throughout the lifetime of the obligation. In 2016, these transactions accounted for \$81M of YUM's income [Figure 34]. YUM is evaluating the impact the standards will have on various other revenue contributors, so this new effect should be monitored closely.

Investment Risks

Figure 35: Risk Matrix

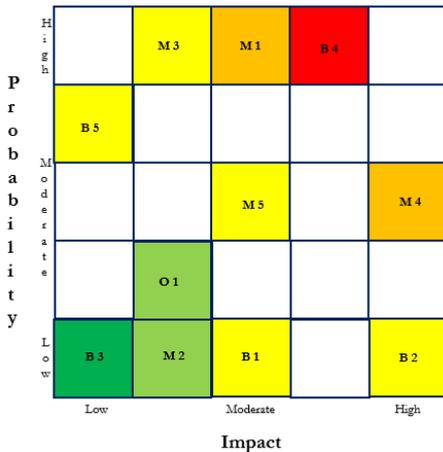
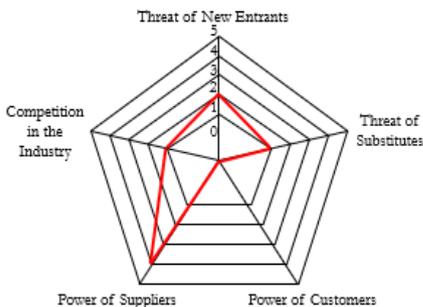
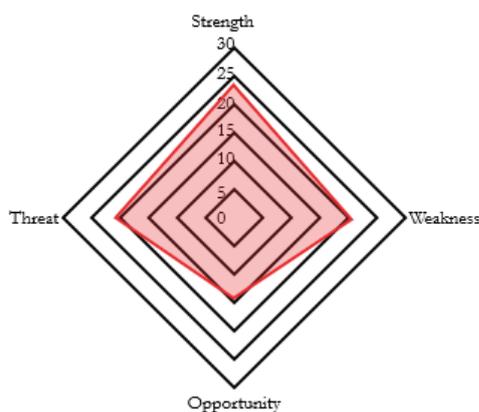


Figure 36: Porter's 5 Forces



See Appendix L for Porter's 5 Forces Explanation

Figure 37: SWOT Analysis



See Appendix M for SWOT Analysis Explanation

Business and Operational Risks

YUM! Brands faces significant operational risks related to an increasing reliance on franchisees and heavy indebtedness. Additional business risks include food-borne illnesses, pricing pressure due to competition, supply chain risk, and mismanagement of social media [Figure 35].

(B 1) Execution Risk Relating to Strategic Transformation Initiatives

By 2019, YUM plans to be at least 98% franchised, up from approximately 93% at the end of Q3 2017. This strategy significantly increases the Company's reliance on franchisee success. Any decline in top-line growth for these franchisees could affect YUM's earnings significantly. Long-term system sales growth depends on net system unit growth which depends on new openings by franchisees. If franchisees do not meet target new openings, become financially distressed, or struggle to implement key initiatives, YUM would suffer.

(B 2) YUM Operates as a Highly Leveraged Company

In 2016, the Company increased its debt burden from \$4 billion to approximately \$9 billion. Most of the increase was used to return capital to shareholders through share repurchases and dividends. YUM's interest coverage ratio was 4.1x at the end of Q3 2017, down from 5.4x in 2016, and 10.8x in 2015. Net Debt/EBITDA is up to 4.8x as compared to 2.1x before the \$5 billion raised in 2016, and 1.1x in 2013. In the event of economic weakness, or other difficulties, the Company may not be able to produce the necessary cash flow to adequately service its debt.

(B 3) Food-Borne Illnesses and Negative PR Could Lead to Meaningful Business Disruptions

Food-borne illnesses and the related negative publicity could also cause a loss of revenues and profits. Competitors have experienced huge losses because of food-borne illnesses and YUM's use of the same suppliers or distributors could become problematic. For Taco Bell, any illnesses such as Salmonella, C. jejuni, or Shigella linked to beef could cause negative publicity and a loss of customers. Any other instances linking YUM and its Concepts' restaurants to food-borne illnesses, whether real or perceived, could cause harm to the Company. As seen by CMG's experience, the market can heavily punish companies for cases of food-borne illness.

(B 4) The Company Faces Intense Price Competition from Competitors

Pricing pressure from competition poses a risk to YUM's Concepts' restaurants, especially KFC and Pizza Hut. With more competitors introducing Dollar Menus, Taco Bell may struggle to differentiate itself to price conscious consumers. At KFC and Pizza Hut, pricing pressure may cut margins down, leading to a loss in profits for franchisees and in the remaining Company owned stores.

(B 5) Raw Materials Prices Have Historically Been Volatile

YUM depends on large quantities of raw materials such as cheese, eggs, oil, flour, meats, and vegetables for operations. Fluctuations in these prices, as well as other inventory items may adversely affect revenues and profits for franchisees and Company owned stores. The Company has historically not hedged the risk created by these price fluctuations and attempts to mitigate it through pricing agreements with suppliers.

Market Risks

(M 1) Execution Risk relating to YUM's expansion into Emerging Markets

YUM's management has indicated that most of their future top-line revenue growth will be coming from their expansion into emerging markets, namely, China, India, and Brazil. This exposes them to a number of different challenges unique to these markets, including political instability and interference, trouble adapting to consumer preferences (YUM's rebranding of Taco Bell as Californian food in China), and trouble sourcing ingredients, among others. Trouble executing these growth initiatives could adversely affect revenue [See Appendix J for further breakdown of international exposure].

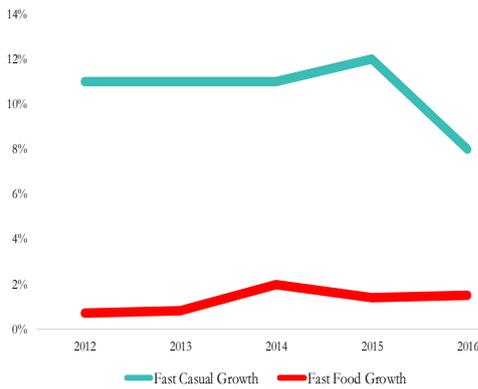
(M 2) Exposure to the Chinese Market

Through YUM China, the Company has significant exposure to the Chinese market. The Chinese market brings unique risks including, but not limited to, general economic conditions, government regulation and intervention, consumer preferences, and currency exposure. Changes in U.S.-Chinese relations may negatively impact earnings and limit growth. Over 17% of YUM! Brands' restaurants were located in China as of November 1st, 2017.

(M 3) YUM can Experience Losses Due to Unfavorable Currency Exchange Rates

Due to YUM's large international presence (51.3% of revenue), foreign currency risk should be considered. An increase in the value of the dollar relative to the value of the native currencies of countries YUM does business in could adversely affect earnings. Specifically, fluctuations in the

Figure 38: Fast Casual vs. Fast Food Revenue Growth



Average Growth During Period

Fast Casual	Fast Food
10.60%	1.29%

Source: Restaurant.org

Figure 39: 2016 Same Store Sales Growth

Restaurant Growth in 2016

Company	SSSg
Domino's	7.93%
Starbucks	6.00%
McDonald's	3.80%
Wendy's	2.70%
Dunkin' Donuts	1.60%
Peer Average	4.41%
YUM Brands	1.00%

Source: Company Filings

Figure 40: YUM ISS QualityScore

2	Audit
2	Board
5	Shareholder Rights
6	Compensation

Ratings are on a scale of 1(highest)-10(lowest)

Source: Yahoo Finance

Figure 41: YUM Censile.co Mindful Investing Summary

3	Carbon Footprint
2	Pollution Prevention
3	Water Conservation
1	Consumer Health, Wellness, & Safety
2	Employee Ownership, Satisfaction, Benefits, & Pay
2	Workplace Health & Safety
2	Integrity of Corporate Governance
2	Diversity of Coporate Leadership

Ratings are on a scale of 1(lowest)-5(highest)

Source: Censible.co

value of Chinese yuan and restrictions on the conversion of yuan to U.S. dollars stemming from a trade war with China could substantially affect financial results. Though historically YUM has not hedged foreign currency risk outside of contracts relating to intercompany receivables and payables, as of September 30, 2017 the Company entered into forward contracts with U.S. dollar amounts of \$319 million intended to reduce volatility from Thai Baht denominated proceeds related to refranchising of KFC Thailand. These forwards matured in December 2017.

(M 4) The Continued Success of YUM's Concepts rely on Favorable Consumer Trends

Changes in consumer trends could negatively impact the Company. Shifts in consumer preference towards health conscientiousness or home cooking, among others, could adversely affect revenue and earnings if YUM and its Concepts' are unable to adjust. Fast casual dining continues to grow at a faster pace than traditional fast food [Figure 38], while YUM also lags behind fast food peers [Figure 39].

(M 5) YUM's Concepts Operate in Low-Margin Environments and are Subject to Wage Inflation

YUM's reliance on qualified service-oriented labor exposes the Company to increases in labor costs. Competition for labor in the QSR industry is highly competitive. If YUM is unable to maintain or decrease employee turnover, revenue and profits may suffer. Strikes, work slowdowns, and reductions in productivity could also prove detrimental.

Other Risks/ Cause for Concern

(O 1) Potential Lapses in Cybersecurity Could Lead to Disruptions in Business

Deficiencies in the integrity and security of personal information of employees and consumers, as well as Company data could expose the Company to lawsuits, negative publicity, and significant financial costs. Failure to remain compliant with ever-changing cybersecurity regulation could result in legal liability and brand impairment.

Buy Scenario

Better than expected results from U.S. Tax Reform

Although we worked a positive reaction into our assumptions, the true effect of the tax legislation will not be revealed until YUM's earnings call on February 8, leaving us reliant on our estimates. A significant reduction in the effective tax rate would be to YUM's benefit. Along with improved tax benefits, the EBITDA exit multiple would need to increase to 19x, and the perpetuity growth rate would need to increase to 3% to result in a buy recommendation.

Without substantial improvement from U.S. Tax Reform

To become a buy with less than expected benefit from the tax legislation, YUM would need to generate greater revenue growth than we assumed in our base case years 2020-2022. Accompanied with increased revenue growth, YUM would need to see greater margin expansion, an increased EBITDA exit multiple to 18x, and an increased perpetuity growth rate to 3%. These results would be consistent with our Bull Case Scenario, in which we would support the stock with a buy recommendation.

Corporate Governance

YUM is a middle-of-the-road Company in terms of corporate governance. According to the ISS QualityScore, the Company does well in the areas of Audit and Board, whereas they only earn moderate scores in Shareholder Rights and Compensation [Figure 40]. However, Censible's Mindful Investing Summary, a test that measures how well the firm does in the ESG arena, shows YUM is behind many of its peers [Figure 41].

Management

YUM's executive management team is a key driver in the success or failure of the Company. Most of YUM's senior management has been with the Company for long periods of their career and have served in a number of different roles within the Concepts and executive management team. Despite this, they tend to stay in their roles for short periods of time and most have been in their current roles for 3 or less years. At the same time, in the past 12 months, key executives have been selling YUM stock in the open market [Appendix F3], possibly indicating a lack of confidence that these insiders have about the price of YUM's stock. Additionally, females are underrepresented on the key executive team, with only 1 of the 7 members being women [See Appendix H for in depth Management Descriptions].

Board of Directors

YUM's board of Directors consists of 11 individuals, 10 of which are independent. The board is relatively inexperienced, apart from two long-serving members. Excluding these veterans, the average tenure on the board is ~3 years (with these two members the average increases to ~8 years). Females are also underrepresented on the board, making up only 2 of the 11 board seats [See Appendix I for Board of Directors].

Appendix A: Valuation Summary

Appendix A1: Forward P/E Ratio Matrix

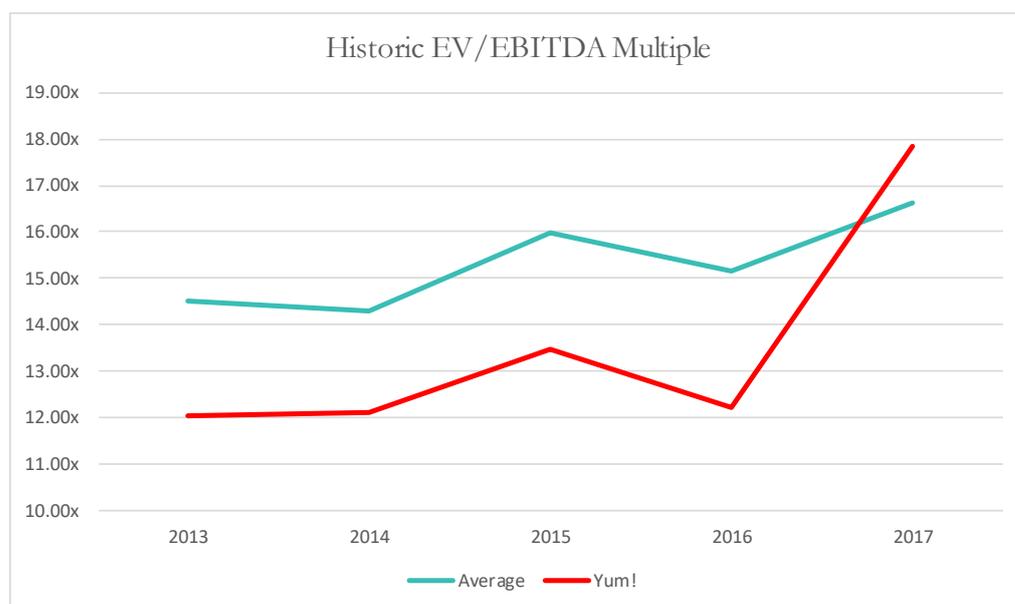
Forward P/E Valuation for Yum! Brands 2018E				
Selected Forward P/E				
		20	25	30
Projected EPS	3.15	63	78.75	94.5
	3.2	64	80	96
	3.25	65	81.25	97.5
Average Price Target		80		

Appendix A2: Forward P/E Matrix Price Ranges

Low Price Target	64
Mean Price Target	80
Median Price Target	80
High Price Target	96

Appendix A3: EV/EBITDA Peers

5 Year EV/EBITDA					
Company	2013	2014	2015	2016	2017
Dunkin Brands	18.50x	18.29x	16.86x	15.27x	15.57x
Domino's	18.29x	16.81x	18.87x	20.27x	22.63x
McDonalds	10.81x	10.49x	11.84x	13.94x	15.15x
Wendy's	10.38x	11.85x	12.33x	12.45x	15.39x
Restaurant Brands International	N/A	13.96x	20.00x	13.79x	14.32x
Average	14.50x	14.28x	15.98x	15.14x	16.61x
Yum!	12.02x	12.10x	13.47x	12.22x	17.86x
Premium/Discount	-17.07%	-15.27%	-15.71%	-19.31%	7.51%



Appendix A4: EV/EBITDA Peer Calculation

Segment	Valuation Method	Statistic	Peer Multiple				Peer Enterprise Value			
			Low	Mean	Median	High	Low	Mean	Median	High
Yum! Brands	LTM EBITDA	2,054.00	14.32x	16.61x	15.39x	22.63x	29,413.28	34,121.05	31,611.06	46,482.02
Total Firm Value							29,413.28	34,121.05	31,611.06	46,482.02
Less: Net Debt							-8871	-8871	-8871	-8871
Total Equity Value							20,542.28	25,250.05	22,740.06	37,611.02
Fully Diluted Shares Outstanding							353.39	353.39	353.39	353.39
EV/2017E EBITDA Equity Value (per share)							58.13	71.45	64.35	106.43
Current Market Share Price							83.62	83.62	83.62	83.62
Unvalued/(Overvalued) to current market valuation							-30.48%	-14.55%	-23.05%	27.28%
Average Price Target							71.45			
Average Price Target							71.45			
Low Price Target							58.13			
High Price Target							106.43			

Appendix A5: EV/EBITDA YUM Historic Multiple Calculation

Segment	Valuation Method	Statistic	YUM 5-Year Historic Multiple				YUM 5-Year Historic Enterprise Value			
			Low	Mean	Median	High	Low	Mean	Median	High
Yum! Brands	LTM EBITDA	2,054.00	12.02x	13.53x	12.22x	17.86x	24,689.08	27,798.84	25,099.88	36,684.44
Total Firm Value							24,689.08	27,798.84	25,099.88	36,684.44
Less: Net Debt							-8871	-8871	-8871	-8871
Total Equity Value							15,818.08	18,927.84	16,228.88	27,813.44
Fully Diluted Shares Outstanding							353.39	353.39	353.39	353.39
EV/2017E EBITDA Equity Value (per share)							44.76	53.56	45.92	78.70
Current Market Share Price							83.62	83.62	83.62	83.62
Unvalued/(Overvalued) to current market valuation							-46.47%	-35.95%	-45.08%	-5.88%
Average Price Target							53.56			
Average Price Target							53.56			
Low Price Target							44.76			
High Price Target							78.70			

Appendix B: Discounted Cash Flow Analysis

Appendix B1: 5- Year Forecast: Base Case

Operating Scenario	Projection Period					
	2017E	2018E	2019E	2020E	2021E	2022E
Sales	5896.19	4698.67	4142.82	4184.25	4267.93	4395.97
% growth	-7.38%	-20.31%	-11.83%	1.00%	2.00%	3.00%
Cost of Goods Sold	3003.19	1963.77	1731.46	1673.70	1621.81	1670.47
Gross Profit	2893.00	2734.90	2411.36	2510.55	2646.12	2725.50
% margin	49.07%	58.21%	58.21%	60.00%	62.00%	62.00%
Selling, General and Administrative	866.00	701.90	328.36	313.82	362.77	329.70
EBITDA	2027.00	2033.00	2083.00	2196.73	2283.34	2395.80
% margin	34.38%	43.27%	50.28%	52.50%	53.50%	54.50%
Depreciation and Amortization	250.00	170.00	100.00	146.45	149.38	153.86
EBIT	1777.00	1863.00	1983.00	2050.28	2133.97	2241.95
% margin	30.14%	39.65%	47.87%	49.00%	50.00%	51.00%
Taxes	359.49	251.26	267.44	276.51	287.80	302.36
EBIAT	1417.51	1611.74	1715.56	1773.77	1846.17	1939.58
Plus: Depreciation and Amortization	250.00	170.00	100.00	146.45	149.38	153.86
Less: Capital Expenditures	-340.40	-210.80	-185.86	-187.72	-191.48	-197.22
Less: Inc/(Dec) in Net Working Capital	-117.92	-93.97	-82.86	-83.68	-85.36	-87.92
Unlevered Free Cash Flow	1209.19	1476.97	1546.84	1648.81	1718.71	1808.30
WACC	7.32%					
Discount Period		1.00	2.00	3.00	4.00	5.00
Present Value of Free Cash Flow		1376.18	1342.92	1333.76	1295.43	1269.94

Appendix B2: Exit Multiple Method: Base Case

Exit Multiple Enterprise Value	
Cumulative Present Value of FCF	6618.22
Terminal Year	5
Terminal Value	
Terminal Year EBITDA (2022E)	2395.80
Exit Multiple	16.61x
Terminal Value	39,799.10
WACC	7.32%
Present Value of Terminal Value	27,950.25
% of Enterprise Value	80.85%
Enterprise Value	34,568.48

Appendix B3: Gordon Growth Perpetuity Method: Base Case

Implied Perpetuity Growth Rate	
Cumulative Present Value of FCF	6618.22
Terminal Year	5
FCF Terminal Year	1808.30
Terminal Growth Rate	2.70%
WACC	7.32%
Terminal Value	40,161.35
PV of Terminal Value	28,204.66
% of Enterprise Value	80.99%
Enterprise Value	34,822.88

Appendix B4: Per Share Calculation: Base Case

Fair Value per Share		
	Exit Multiple	Perpetuity
Enterprise Value	34,568	34,823
Less: Net Debt	- 8,871	- 8,871
Equity Value	25,697	25,952
Diluted Shares	353.39	353.39
Equity Value per share	72.72	73.44
Market Premium/(Discount)	-13.04%	-12.18%
Average	73.08	

Appendix B5: Exit Multiple Method Sensitivity Analysis: Base Case

Exit Multiple Sensitivity Analysis						
	Exit Multiple					
72.72	16.50x	17.00x	17.50x	18.00x	18.50x	
6.50%	75.70	78.18	80.65	83.13	85.60	
7.00%	73.55	75.97	78.38	80.80	83.22	
7.50%	71.45	73.81	76.17	78.54	80.90	
8.00%	69.41	71.72	74.03	76.33	78.64	
8.50%	67.43	69.68	71.93	74.19	76.44	

WACC

Appendix B6: Perpetuity Growth Sensitivity Analysis

Implied Perpetuity Growth Rate Sensitivity Analysis						
	Terminal Growth Rate					
73.44	1.00%	1.50%	2.00%	2.50%	3.00%	
6.50%	62.21	69.44	78.28	89.33	103.53	
7.00%	55.04	60.95	68.05	76.73	87.57	
7.50%	49.01	53.92	59.73	66.69	75.21	
8.00%	43.87	48.01	52.83	58.53	65.37	
8.50%	39.45	42.97	47.03	51.76	57.35	

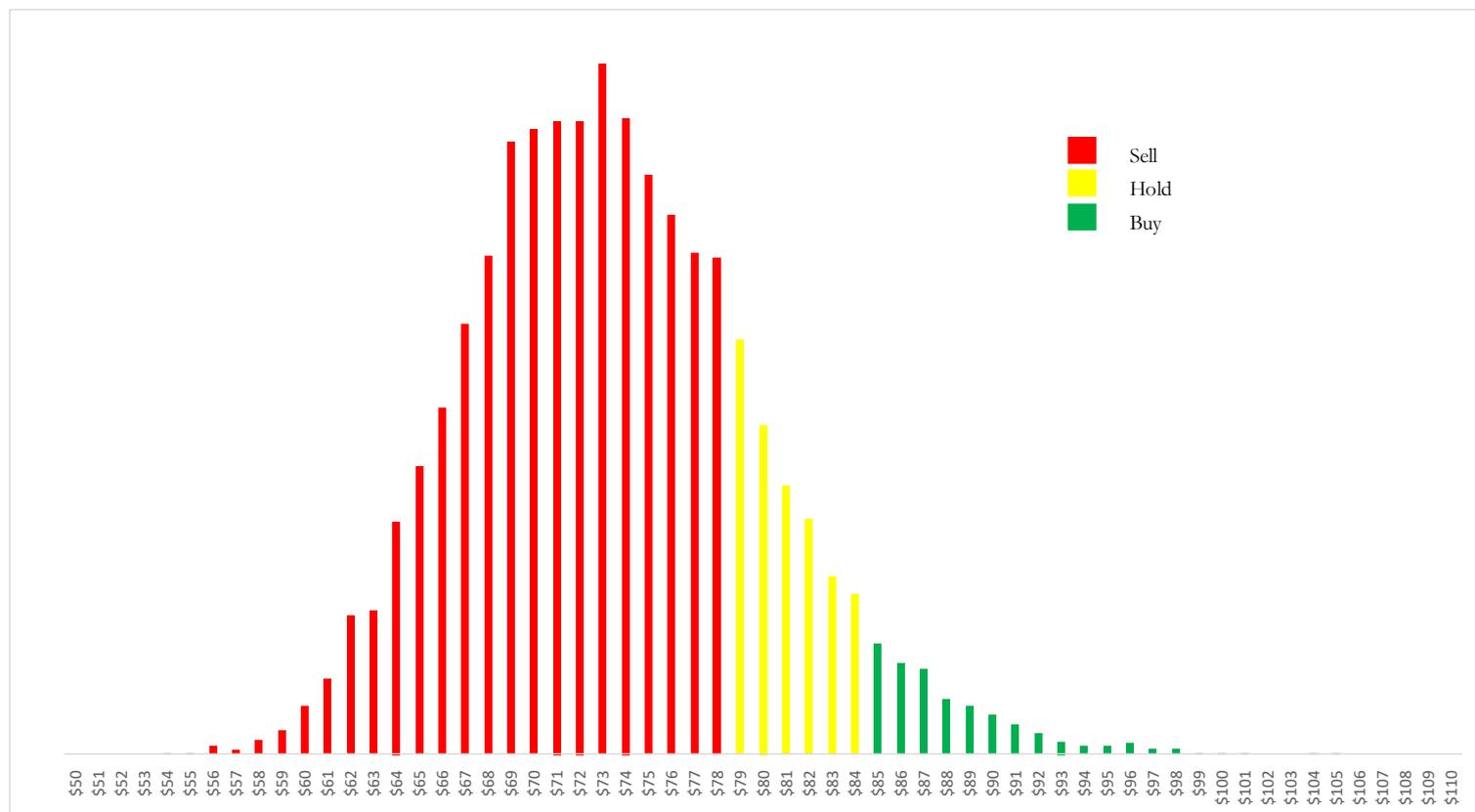
WACC

Appendix B7: Monte Carlo Analysis

The Monte Carlo Analysis accounted for 14 different variables within the DCF Analysis which lead to different share price calculations. The following inputs were sensitized based off of a normal inverse, random variable calculation with mean and standard deviation inputs.

Uncertain Inputs	Cell Address	Creation of Random Variables for the Normal Distribution	Mean	Standard Deviation	Explanation
2018 Sales Growth	\$I\$8	-0.220756217	-20.31%	1.50%	Accounts for risk of change in expectations for revenue growth
2019 Sales Growth	\$J\$8	-0.126742289	-11.83%	1.50%	Accounts for risk of change in expectations for revenue growth
2020 Sales Growth	\$K\$8	0.019109758	1.00%	1.50%	Accounts for risk of change in expectations for revenue growth
2021 Sales Growth	\$L\$8	-0.008181339	2.00%	2.00%	Accounts for risk of change in expectations for revenue growth
2022 Sales Growth	\$M\$8	0.048512243	3.00%	2.00%	Accounts for risk of change in expectations for revenue growth
2018 EBITDA Margin	\$I\$10	0.432704016	43.27%	1%	Accounts for the risk of change in expectations for EBITDA margin
2019 EBITDA Margin	\$J\$10	0.516969551	50.28%	1%	Accounts for the risk of change in expectations for EBITDA margin
2020 EBITDA Margin	\$K\$10	0.538788286	52.50%	1%	Accounts for the risk of change in expectations for EBITDA margin
2018 EBIT Margin	\$I\$13	0.389464804	39.65%	1%	Accounts for the risk of change in expectations for EBIT margin
2019 EBIT Margin	\$J\$13	0.477301928	47.87%	1%	Accounts for the risk of change in expectations for EBIT margin
2020 EBIT Margin	\$K\$13	0.478843386	49.00%	1%	Accounts for the risk of change in expectations for EBIT margin
WACC	\$C\$20	0.079162757	7.32%	0.50%	Accounts for the risk of change in discount rate for YUM
Exit Multiple	\$C\$31	16.60891647	16.61x	1.50%	Accounts for the risk of change in Exit EBITDA Multiple for the Industry
Long Term Growth Rate	\$S\$7	0.030048736	2.70%	0.50%	Accounts for the risk of change of long term growth rate

Our Monte Carlo Analysis was ran 10,000 times to represent a large amount of data. The analysis yielded a share price of \$73.52 with a standard deviation of \$6.41. The results yielded from our analysis support our sell position on YUM.



Statistics

Mean:	73.52
Standard Deviation:	6.41
Median:	73.10
Min:	54.00
Max:	105.00

Appendix C: Capital Structure

	(in millions)		With Amort of Debt Issuance			As of 7:01 PM (11/8/17)	
	Amount	Interest Rate	Effective Interest Rate	Maturity	Anticipated Repayment*	Interest Rates	
Fixed Rate Senior Secured Notes (Class A-2-I)	800	3.832%	4.180%	May 2046	4 yrs after Issuance	Libor (3 Month):	1.40%
Fixed Rate Senior Secured Notes (Class A-2-II)	500	4.377%	4.590%	May 2046	7 yrs after Issuance	Base Rate:	1.25%
Revolving Facility, \$100 mm borrowing, \$50 mm notes (Class A-1)	0				Prior to May 2021		
Fixed Rate Senior Secured Notes (Class A-2-III)	1,000	4.970%	5.140%	May 2046	10 yrs after Issuance		
Revolving Facility	0	3.40%	3.40%	5 yrs after issuance	*Directly from 10-k		
Term Loan A Facility	500	3.40%	3.01%	7 yrs after Issuance			
Term Loan B Facility	2,000	4.15%	3.91%		2021		
Senior Unsecured Notes (1)	1,050	5.00%	5.16%		2024		
Senior Unsecured Notes (2)	1,050	5.25%	5.39%		2026		

Appendix D: Detailed WACC Calculation

Appendix D1: Beta Analysis

Company	Comparable Companies Unlevered Beta					
	Predicted Levered Beta	Market Value of Debt	Market Value of Equity	Debt / Equity	Marginal Tax Rate	Unlevered Beta
Chipotle	0.19	-	9,242	0.00%	39.50%	0.19
McDonalds	0.57	28,618	138,368	20.68%	32.50%	0.50
Domino's	0.87	3,160	9,235	34.22%	32.40%	0.71
Restaurant Brands International	1.24	11,620	14,790	78.57%	16.70%	0.75
Darden Restaurants	0.79	937	12,109	7.73%	23.70%	0.75
The Wendy's Corporation	1.22	2,726	4,178	65.25%	44.20%	0.89
Jack in the Box	0.67	1,145	2,733	41.90%	36.50%	0.53
Red Robin Gourmet Burgers	0.65	288	721	39.91%	24.60%	0.50
Starbucks	1.02	3,933	85,937	4.58%	33.20%	0.99
Aramark	0.81	5,269	10,823	48.68%	29.40%	0.60
Dunkin' Brands Group	0.85	2,421	5,816	41.63%	38%	0.68
Buffalo Wild Wings	1	425	2,435	17.46%	28.20%	0.89
Texas Roadhouse	0.99	52	4,141	1.26%	27.90%	0.98
Bloomin Brands	1.05	1,201	2,040	58.86%	23%	0.72
Mean	0.85			32.91%		0.69
Median	0.86			37.06%		0.71

Appendix D2: Relevered Beta

Yum! Brands Relevered Beta				
Relevered Beta	Mean Unlevered Beta	Target Debt / Equity	Target Marginal Tax Rate	Relevered Beta
	0.69	34.96%	22.20%	0.88

Appendix D3: Weighted Average Cost of Capital

WACC Calculation

Target Capital Structure

Debt-to-Total Capitalization	26.59%
Equity-to-Total Capitalization	73.41%

Cost of Debt

Cost-of-Debt	5.09%
Tax Rate	22.20%
After-tax Cost of Debt	3.96%

Cost of Equity

Risk-free Rate*	2.32%
Market Risk Premium**	7.08%
Levered Beta	0.88
Size Premium	0.00%
Cost of Equity	8.54%

WACC

7.32%

*10-year T-bill

**referenced online

Beta: To appropriately determine a discount rate for our valuation methodologies, calculations were performed to derive the appropriate Weighted Average Cost of Capital to apply. Beta was calculated by first selecting a group of publically comparable peer companies and recording each company's levered beta, Debt-to-Equity ratio, and marginal tax rate. Given this data for each company, each peer's Unlevered Beta was computed by dividing the Levered beta by one plus the Debt/Equity ratio, multiplied by one minus the marginal tax rate. Upon this, the mean Unlevered Beta was used as an input to calculate the YUM Beta. Using the peer Unlevered Beta of .69, along with YUM's Debt/Equity structure of 34.96% and marginal tax rate of 22.2%, a Levered Beta of .88 was determined.

Cost of Debt: After-tax Cost of Debt was computed by first calculating the pre-tax cost of debt. This was derived by dividing the 2016 Interest Expense by the average debt outstanding between 2015 and 2016. The pre-tax cost of debt was determined at 5.09%. This was then multiplied by one minus the marginal tax rate, giving an after-tax cost of debt of 3.96%.

Cost of Equity: Cost of Equity was determined by using the Capital Asset Pricing Model (CAPM). The risk-free rate was determined by the 10-year T-bill rate of 2.32% at the time of the calculation. A market risk premium of 7.08% was determined using various sources. These inputs, along with the Beta calculated above, returned a Cost of Equity of 8.54%.

WACC: After gathering the individual components of the equation, we calculated YUM! Brands' Weighted Average Cost of Capital to be 7.32%.

Appendix E: Diluted Shares

Appendix E1: Diluted Shares Calculation

Calculation of Fully Diluted Shares Outstanding

Basic Shares Outstanding	337
Plus: Shares from in-the-money Options	32
Less: Shares Repurchased	15.61
Net New Shares from Options	16.39
Plus: Shares from Convertible Securities	0
Fully Diluted Shares Outstanding	353

Options/Warrants

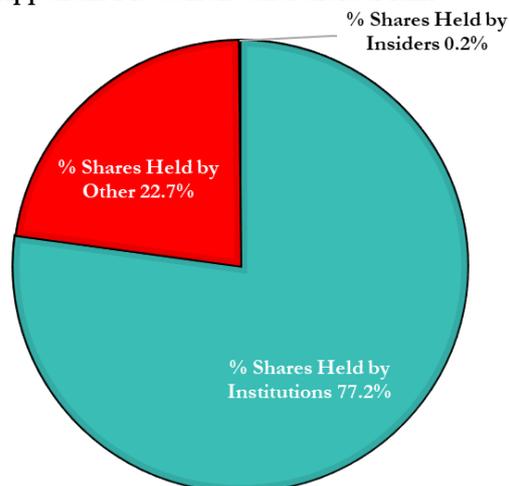
Tranche	Number of Shares Outstanding	Exercise Price	In-the-Money Shares	Proceeds
Tranche 1	21.2	40.78	21.2	864.536
Tranche 2	4.3	40.78	4.3	175.354
Tranche 3	6.5	40.78	6.5	265.07
Total	32		32	1304.96

Appendix E2: Diluted Shares Assumptions

Assumptions	
Current Share Price	83.62
Basic Shares Outstanding	337
Diluted Shares Outstanding	353

Appendix F: Shareholder Summary, Top 10 Holders, Insider Ownership

Appendix F1: Current Shareholder Mix



Appendix F2: Top 10 Holders of YUM

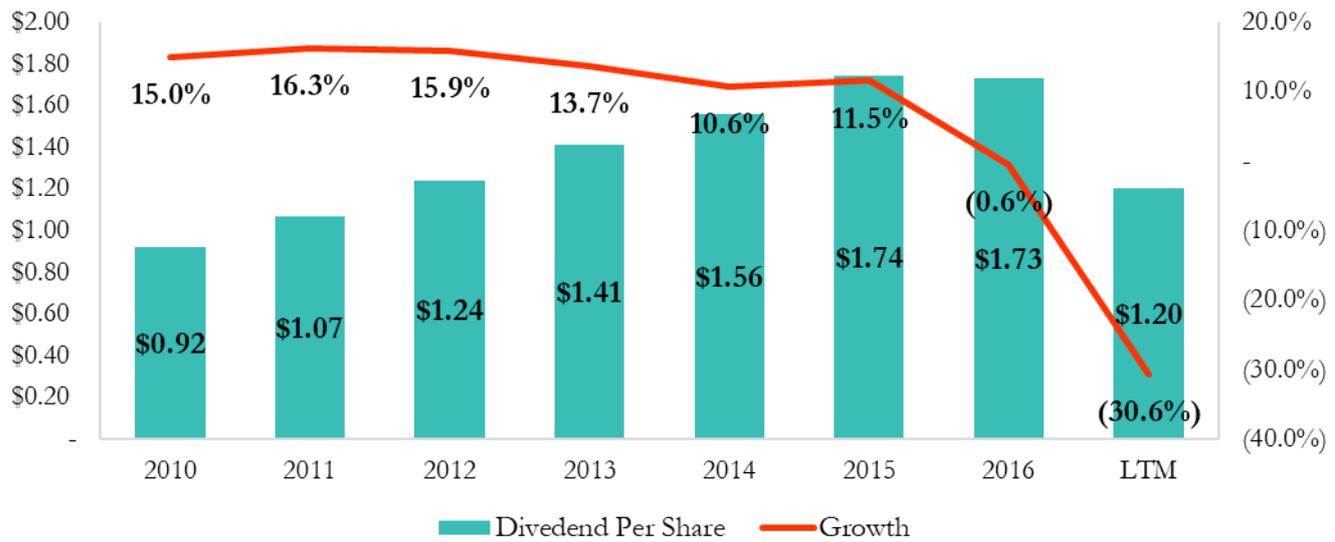
Market Data is as of 1/24/18

Firm	Shares Held	% of Outstanding	Latest Change	13F Filing Date
T. Rowe Price Group Inc	33,955,501	10.08%	8,019,110	12/31/2017
Vanguard Group	23,287,803	6.91%	682,930	9/30/2017
Blackrock	20,321,150	6.03%	20,321,150	12/31/2017
Magellan Asset Management Ltd.	15,444,321	4.58%	(2,531)	9/30/2017
State Street Corp.	13,842,223	4.11%	(233,975)	9/30/2017
BNY Mellon	7,910,196	2.35%	1,220,537	9/30/2017
Loomis Sayles & Company LP	6,943,237	2.06%	179,192	9/30/2017
Bank of America Corporation	6,692,948	1.99%	640,379	9/30/2017
Capital Group Companies Inc	5,175,556	1.54%	195,994	9/30/2017
Northern Trust Corporation	4,418,444	1.31%	290,213	9/30/2017

Appendix F3: Insider Activity over Past Year

Insider	Position	Date	Buy/Sell	Shares	Trade Price
Brian Niccol	CEO of Taco Bell	1/22/18	Sell	2,294	\$84.90
Brian Niccol	CEO of Taco Bell	1/2/18	Sell	1,104	\$82.37
Brian Niccol	CEO of Taco Bell	12/1/17	Sell	927	\$83.46
David Gibbs	President & CFO	11/8/17	Sell	4,318	\$80.56
Brian Niccol	CEO of Taco Bell	11/3/17	Sell	3,588	\$79.90
David Gibbs	President & CFO	8/9/17	Sell	8,336	\$74.00
Brian Niccol	CEO of Taco Bell	7/3/17	Sell	1,487	\$73.82
Brian Niccol	CEO of Taco Bell	6/1/17	Sell	1,471	\$72.64
David Gibbs	President & CFO	5/10/17	Sell	8,125	\$68.83
Brian Niccol	CEO of Taco Bell	5/4/17	Sell	7,986	\$68.01
David Gibbs	President & CFO	2/15/17	Sell	11,938	\$68.33
Brian Niccol	CEO of Taco Bell	2/10/17	Sell	14,487	\$68.17

Appendix G: Dividend History



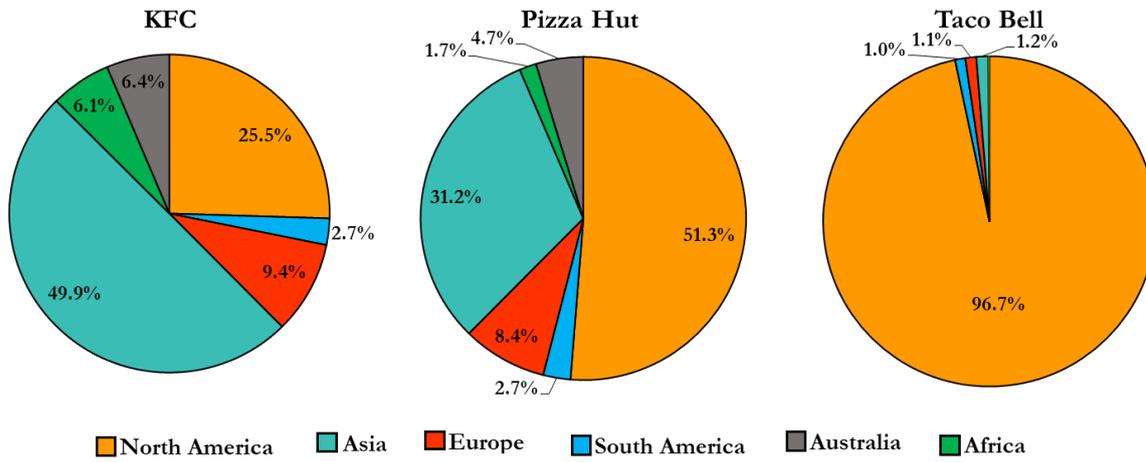
Appendix H: Key Executives

Name	Title	Major Positions Held within YUM	Background
Greg C. Creed	Chief Executive Officer	CEO Since 2015 Director Since 2014 CEO of Taco Bell 2014-2014 CEO of Taco Bell U.S. 2011-2013 President of Taco Bell U.S. 2006-2011 CCO of Taco Bell U.S. 2006-2011	Mr. Greg Creed has held a number of positions with YUM over his 24-year history with the Company, including CEO, an independent director, CEO of Taco Bell, CEO of Taco Bell U.S., President of Taco Bell U.S., and Chief Concept Officer of Taco Bell U.S. From 1978 to 1994, he served in key senior management positions in sales and marketing at Unilever including category director of Lever Bros. He has been an Independent Director of Whirlpool Corporation since February 20, 2017. He has been Non-Independent Director of YUM since November 2014. He served as a Director of International Game Technology since September 2010. Mr. Creed earned a Bachelor Degree in Business with a major in marketing from the Queensland University of Technology.
Roger Eaton	Chief Executive Officer of KFC Division	CEO of KFC Since 2015 President of KFC 2014-2015 COO 2011-2015 CEO of KFC U.S. 2011-2011 Operational Excellence Officer 2011-2011	Roger Eaton has held a number of positions with YUM in his 20+ year career with the Company, including CEO of KFC U.S., President of KFC Corporation (U.S.), Chief Operating and Development Officer for YUM and Senior Vice President/Managing Director of Yum! Restaurants International South Pacific (SOPAC). Earlier in his career, he was Regional Operations Director of KFC SOPAC, General Manager of KFC New Zealand and Finance Director of KFC SOPAC.
David Gibbs	President, Chief Financial Officer of YUM	CFO Since 2016 CEO of Pizza Hut 2015-2016 President of Pizza Hut U.S. 2014-2014 President of YRI 2012-2013 CFO of YRI 2011-2013 CFO of Pizza Hut U.S. 2005-2010	David Gibbs has held a number of different positions during his tenure with YUM, including President, CFO, CEO of the Pizza Hut Division, and President of Pizza Hut U.S. Prior to Pizza Hut, he was President and CFO of Yum! Restaurants International ("YRI"), having a number of responsibilities relating to managing growth of the Concepts outside the U.S. and China. He has a strong track record as a CFO and in senior leadership roles in asset development, real estate, supply chain and information technology. Gibbs holds an MBA from the Fuqua School of Business at Duke University and a BS in Mathematical Science from Johns Hopkins University. Since March 2016, Gibbs has served as an independent director on the board of Sally Beauty Holdings, where he also serves on the Audit Committee.
Marc Kesselman	General Counsel, Corporate Secretary, Chief Government Affairs Officer	General Counsel 2016 since 2016 Corporate Secretary since 2016 Government Affairs Officer since 2016	Marc Kesselman has only recently joined YUM, where he serves as General Counsel, Corporate Secretary, and Chief Government Affairs Officer. Kesselman joined YUM from Dean Foods where he held a similar role, and has a unique combination of expertise in global business, corporate law as well as food and agriculture policy and regulatory affairs. Previously, he was Senior Vice President & General Counsel at PepsiCo America's Foods where he oversaw a wide variety of complex commercial, transactional, litigation, regulatory, and government affairs issues relating to PepsiCo's food businesses in North and South America. Prior to joining PepsiCo, he served as General Counsel of the U.S. Department of Agriculture (USDA), where he advised the Secretary of Agriculture and directed all legal activity for the Department. For the previous three years, he served as Deputy General Counsel in the White House Office of Management and Budget, where he handled a variety of regulatory, budgetary and legal policy matters. Marc also worked at the U.S. Department of Justice as Senior Counsel in the Office of Legal Policy and as a Trial Attorney in its Civil Division. His work there earned him the John Marshall Award, the Attorney General's highest recognition for trial of litigation. He holds a JD in law from the University of Pennsylvania, and a BS in Government from Cornell University.
Brian Niccol	Chief Executive Officer of Taco Bell Division	CEO of Taco Bell since 2015 President of Taco Bell 2014-2014 President of Taco Bell U.S. 2013-2013 CMIO of Taco Bell U.S. 2011-2013 General Manager of Pizza Hut U.S. 2011-2011 CMO of Pizza Hut U.S. 2007-2011	Brian Niccol has served in a number of positions with YUM, including CEO of Taco Bell Division, President of Taco Bell Division, President of Taco Bell U.S., Chief Marketing and Innovation Officer of Taco Bell U.S., General Manager of Taco Bell U.S., and Chief Marketing Officer of Pizza Hut U.S. Before joining Pizza Hut, Niccol spent 10 years in various brand management positions at Procter & Gamble. Niccol holds an undergraduate degree from Miami University (OH) and an MBA from The University of Chicago Booth School of Business. Niccol serves as Chairman of the Taco Bell Foundation for Teens and serves on the Board of Governors for the Boys & Girls Club of America.
David Russell	Senior Vice President, Finance, Corporate Controller	Senior President, Finance since 2012 Corporate Controller since 2011 Vice President, Controller Designate 2010-2011 Assistant Controller 2008-2010	David Russell has served in a number of positions with YUM during his 16 year tenure, including Senior Vice President, Finance and Corporate Controller, interim CFO, Vice President, Financial Planning, Controller-Designate Vice-President, Financial Planning, Vice-President and Assistant Controller and Senior Director, Finance. David has over 20 years of finance and accounting experience and has served in various finance and accounting positions within YUM.
Tracy Skeans	Chief Transformation and People Officer	CTO since 2016 CPO since 2016 President of Pizza Hut Intl 2015-2015 CPO of Pizza Hut 2013-2014 CPO of Pizza Hut U.S. 2011-2013 Director of HR for Pizza Hut U.S. 2006-2011	Tracy Skeans has served in a number of positions with YUM during her 18 year tenure, including Chief Transformation and People Officer ("CTO" and "CPO"), President of Pizza Hut International, Before leading HR, Skeans spent the first half of her career in Finance roles including strategic planning, asset development and accounting at Pizza Hut. Prior to YUM, Skeans worked in an international treasury role at Union Switch & Signal, a leading global developer of equipment for light rail systems and as a senior auditor with Price Waterhouse LLP. Skeans holds an MBA in Finance from the Katz School of Business at the University of Pittsburgh and a BS in accounting from Lehigh University.

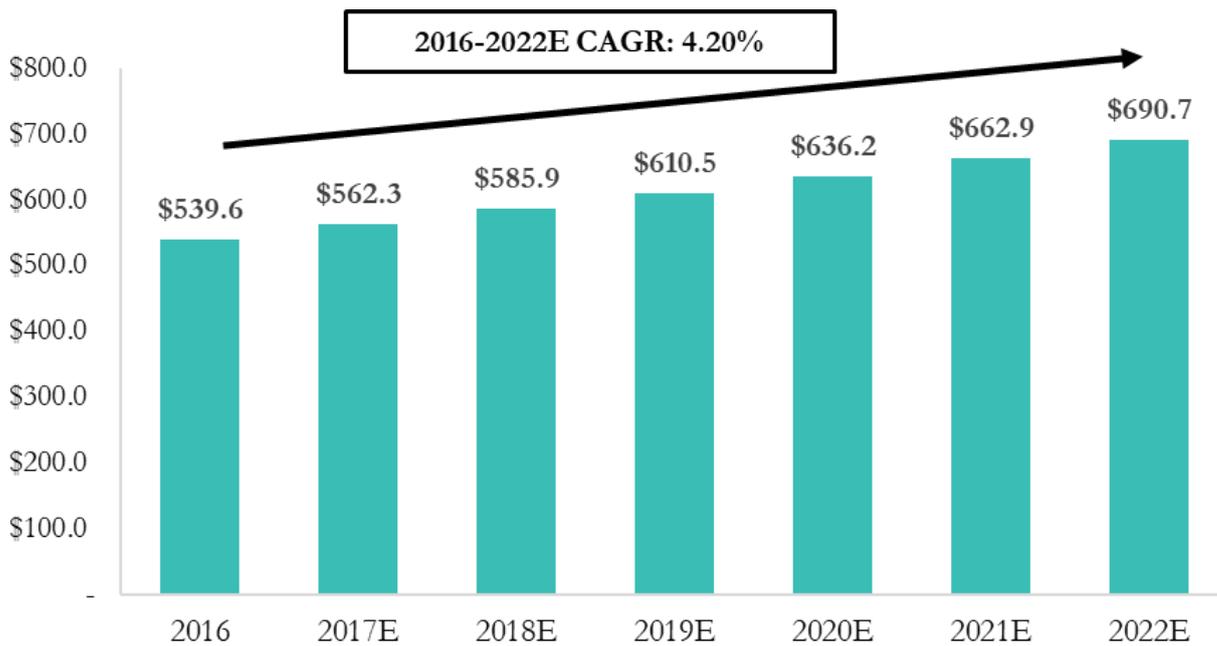
Appendix I: Board Members

Name	Title	Background	Tenure	Independent	Committees
Greg Creed	Director	See Appendix 9	4 years	No	None
Paget Alves	Director	Paget Alves serves on the Boards of Directors of International Game Technology PLC, Ariel Investments LLC and Synchrony Financial. He previously served on the Boards of Directors of GTECH Holdings Corporation and Herman Miller, Inc. He served as Chief Sales Officer of Sprint Corporation, from January 2012 to September 2013, after serving as President of the Business Markets Group since 2009. Mr. Alves earned a Bachelor of Science degree in Industrial and Labor Relations and a Juris Doctor degree from Cornell University.	2 Years	Yes	Audit
Michael J. Cavanagh	Director	Michael J. Cavanagh is Senior Executive Vice President and Chief Financial Officer of Comcast Corporation, a global media and technology company. He has held this position since July 2015. From July 2014 to May 2015 he served as Co President and Co Chief Operating Officer for The Carlyle Group, a global investment firm, and he was also a member of the Executive Group and Management Committee of The Carlyle Group. Prior to this, Mr. Cavanagh was the Co Chief Executive Officer of the Corporate & Investment Bank of JPMorgan Chase & Co. from 2012 until 2014.	5 Years	Yes	Corporate Governance, Nominating
Chris Conner	Director	Christopher Conner served as Executive Chairman of The Sherwin-Williams Company, a global manufacturer of paint, architectural coatings, industrial finishes and associated supplies, until 2016. Mr. Conner held a number of executive positions at Sherwin-Williams beginning in 1983. He served as Chief Executive Officer from 1999 to 2015, Chairman from 2000 to 2015, and served as Executive Chairman during 2016. Mr. Conner is Chairman of the Rock & Roll Hall of Fame in Cleveland and serves on the board of Eaton Corporation plc.	1 Year	Yes	Audit
Brian Cornell	Director	Brian Cornell is board chairman and CEO of Target Corp. Prior to joining Target in August 2014, Mr. Cornell served as CEO of PepsiCo Americas Foods where he oversaw the company's global food business, the largest of PepsiCo's four divisions. Before joining PepsiCo in 2012, Mr. Cornell served as president and CEO of Sam's Club, a division of Wal-Mart Stores, Inc. Mr. Cornell serves on the board for UCLA's Anderson School of Management Board of Visitors, providing strategic guidance to the dean in advancing the school's mission, as well as the boards of the Retail Industry Leaders Association (RILA) and the Smithsonian's National Museum of African American History and Culture.	3 Years	Yes	Corporate Governance, Executive, Finance, Management/Organization Development, Nominating
Tanya Dormier	Director	Ms. Dormier is Chief Executive Officer of Advantage Solutions, a leading North American provider of outsourced sales, marketing and business solutions to consumer goods manufacturers and retailers. She served as President and Chief Operating Officer of Advantage Solutions from 2010–2013. Ms. Dormier joined Advantage Solutions in 1990 from The J.M. Smucker Company and has held a variety of executive-level positions in sales, operations and marketing. In addition to her duties as CEO, Ms. Dormier is a member of the Board of Directors of Nordstrom, Inc. and Enactus, an international nonprofit organization promoting entrepreneurship for college students.	<1 Year	Yes	None
Marian M. Graddick-Weir	Director	Marian M. Graddick Weir serves as Executive Vice President of Human Resources for Merck & Co., Inc., a pharmaceutical company. She has held this position since 2008. From 2006 until 2008, she was Senior Vice President of Human Resources of Merck & Co., Inc. Prior to this position, she served as Executive Vice President of Human Resources and Employee Communications of AT&T Corp from 2004 to 2006. Ms. Graddick Weir served as a director of Harleysville Group Inc. from 2000 until 2012.	4 Years	Yes	Corporate Governance, Management/Organization Development, Nominating
Thomas C. Nelson	Director	Thomas C. Nelson has served as the President and Chief Executive Officer of National Gypsum Company, a building products manufacturer, since 1999 and was elected Chairman of the Board in January 2005. From 1995 to 1999, Mr. Nelson served as the Vice Chairman and Chief Financial Officer of National Gypsum Company. He is also a General Partner of Wakefield Group, a North Carolina based venture capital firm. Mr. Nelson previously worked for Morgan Stanley & Co. and in the United States Defense Department as Assistant to the Secretary and was a White House Fellow. He serves as Director of Carolinas Healthcare System and as lead Director of Belk, Inc. Effective January 2015, Mr. Nelson will serve as a director for the Federal Reserve Bank of Richmond.	12 Years	Yes	Corporate Governance, Executive, Finance, Nominating
Justin Skala	Director	Justin Skala is Chief Operating Officer, North America, Europe, Africa/Eurasia and Global Sustainability of the Colgate-Palmolive Company. Prior to serving as President of North America, Mr. Skala was President of Latin America, President of Greater Asia and President of Hill's Pet Nutrition, North America. He holds a BA from Northwestern University and the Institut d'Etudes Politiques (Paris) and an MBA from Harvard Business School.	2 Years	Yes	Audit
Elane B. Stock	Director	Elane B. Stock has served as a Yum! Brands' Director since 2014. She also served as Group President of Kimberly Clark International, a division of Kimberly Clark Corporation, a leading consumer products company, from 2014 to 2016. From 2012 to 2014 she was the Group President for Kimberly Clark Professional. Prior to this role, Ms. Stock was the Chief Strategy Officer from 2010, when she first joined Kimberly Clark, to 2012.	4 Years	Yes	Audit
Robert D. Walter	Non-Executive Chairman	Robert D. Walter became Non-Executive Chairman of Yum! Brands, Inc. on May 20, 2016. Walter has served on Yum! Brands Board since 2006 and currently leads YUM's Board of Directors. Mr. Walter retired from Cardinal Health, a company he founded, in June 2008. Prior to his retirement from Cardinal Health, he served as Executive Director from November 2007 to June 2008. From April 2006 to November 2007, he served as Executive Chairman of the Board of Cardinal Health. From 1979 to April 2006, he served as Chairman and Chief Executive Officer of Cardinal Health. Mr. Walter also serves as a director of American Express Company and Nordstrom, Inc. From 2000 to 2007, he was a director of CBS Corporation and its predecessor, Viacom, Inc.	12 Years	Yes	Corporate Governance, Executive, Finance, Management/Organization Development, Nominating

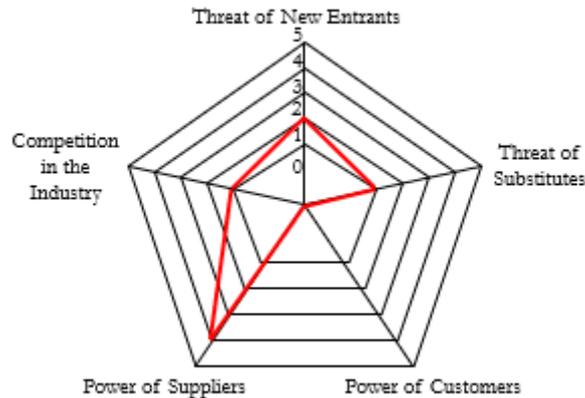
Appendix J: Geographic Breakdown (# of stores per country per brand)



Appendix K: Global Fast Food Industry Growth and Forecast (USD Billions)



Appendix L: Porter's Five Forces



To determine YUM's competitive positioning relative to its peers, we utilized a Porter's Five Forces analysis. This analysis determines a firm's position in the industry by analyzing five areas: competition in the industry (1), potential of new entrants into the industry (2), the power of suppliers (3), the power of customers (4), and the threat of substitutes (5). We have issued a rating of 0-5 (0 being no advantage, 5 being strong) based upon how YUM has positioned itself in the industry.

Competition in the Industry (2)

The QSR industry is an intensely competitive space to operate in and YUM is not immune to these pressures. Although the company attempts to position itself as a lower cost alternative, there are a large number of competitors, both multinational corporations and small local businesses, adopting the exact same strategy with the only differentiator being the food products offered. For these reasons, we feel that YUM's competitive positioning in this area as a 1.

Potential of New Entrants into the Industry (1)

The QSR industry exists with little to no barriers to entry. Turnover in the industry is extremely high due to the negative effects factors such as consumer preferences, food price volatility, and wage pressures can have on the already low margin operating environment. Although YUM's high brand image recognition gives it a slight inherent advantage against new entrants in the QSR space, new entrants such as grocery stores with fully functioning restaurant services are more challenging to compete against. Due to the lack of barriers to entry present in this area, we have rated YUM's competitive positioning in this area as a 1.

Power of Suppliers (4)

Due to its scale, YUM has a large amount of negotiating power with its suppliers. Domestically, a majority of YUM's food products are sourced exclusively with McLane Foodservice, Inc., a relationship YUM has managed to leverage for better pricing. Because this sourcing is decentralized internationally, it's harder to determine how well YUM can leverage these relationships. However, the Company's scale would certainly allow them to exercise a large degree of negotiating power. This allows them to source inputs at lower costs and mitigate some of the risk stemming from the volatility of input prices and gives them an advantage over competitors with much less scale. For these reasons, have rated YUM's competitive positioning in this area as a 4.

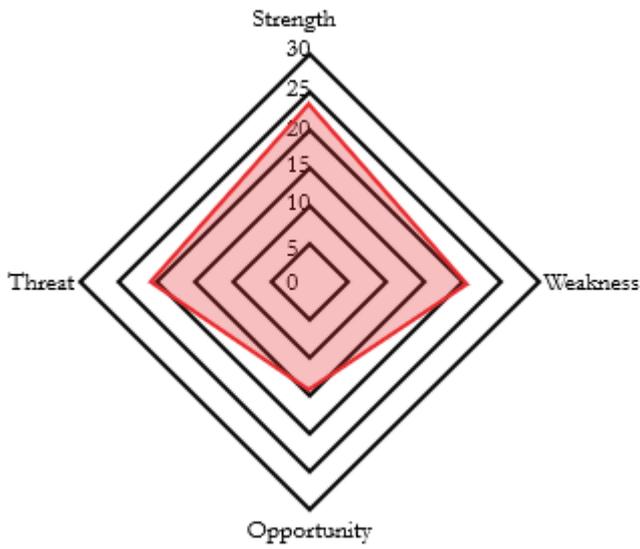
Power of Customers (0)

In the QSR industry, and the greater restaurant industry, consumers have the ultimate power of choosing where they want to do business. Restaurants exist purely at the mercy of consumer preferences, which can quickly change. As the operator and franchisor of restaurants, YUM is far from being immune to this environment. For these reasons, we have rated YUM's competitive positioning in this area as a 0.

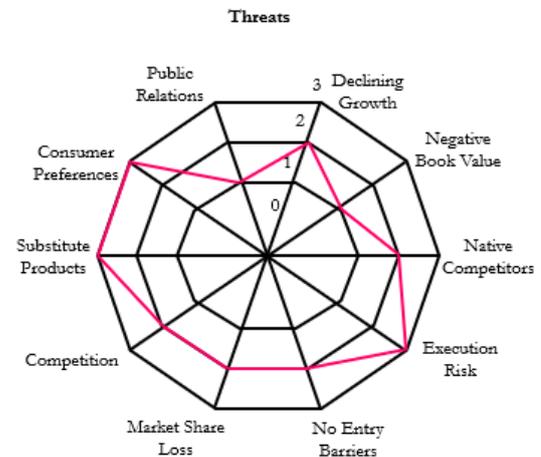
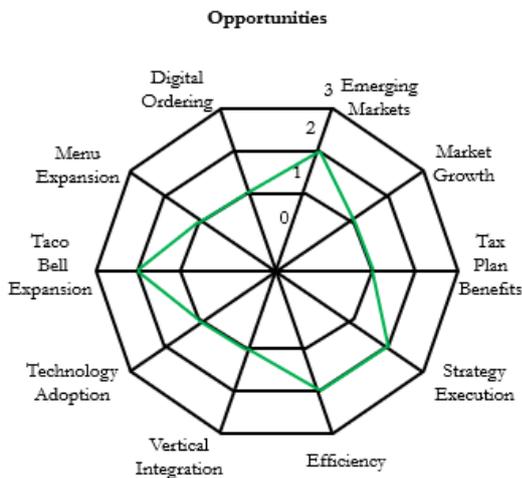
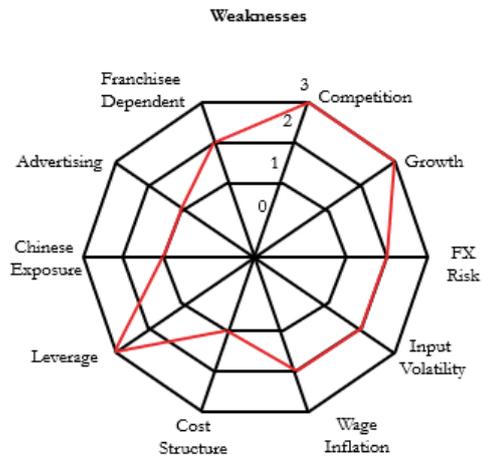
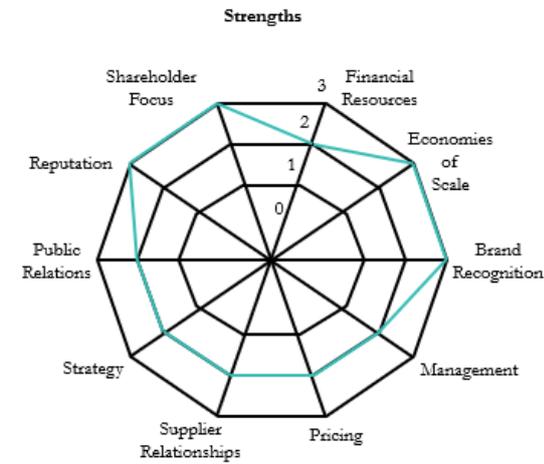
Threat of Substitutes (1)

Due to the lack of barriers to entry in the restaurant industry, none of YUM's concepts are exempt from the potential for substitutes to overtake them in certain markets. For example, KFC already faces competition from firms such as Raising Canes, Zaxby's, and Chick-fil-a, the latter of which has a product offering that is perceived as higher quality while having similar pricing. Pizza Hut faces direct competition from Papa John's and Domino's. Taco Bell competes with Chipotle and Qdoba, both of which are perceived as higher quality and healthier. Through this reasoning, we have rated YUM's competitive positioning in this area as a 1.

Appendix M: SWOT Analysis



S	Strengths <ul style="list-style-type: none"> Financial Resources Brand Recognition Economies of Scale Strategy Management Reputation Pricing Shareholder Focus Supplier Relations 	W	Weaknesses <ul style="list-style-type: none"> Competition Growth FX Risk Wage Inflation Input Volatility Franchisee Dependent Cost Structure High Leverage Chinese Exposure
O	Opportunities <ul style="list-style-type: none"> Tax Plan Benefits Taco Bell Expansion Emerging Markets Strategy Execution Vertical Integration Menu Expansion Digital Ordering Technology Adoption 	T	Threats <ul style="list-style-type: none"> Declining Growth Negative Book Value Share Repurchases Competition No Entry Barriers Native Competition Execution Risk Substitute Products Consumer Preferences



Appendix N: Comparable Company Analysis

Appendix N1: LTM Financial Statistics

Company	Ticker	Market Valuation				LTM Financial Statistics						
		Equity Value	Total Debt	Net Debt	Enterprise Value	Sales	Gross Profit	EBITDA	EBIT	Net Income	Diluted EPS	
Yum! Brands	YUM	28,179	9,851	8,871	37,050	6,325	2,788	2,054	1,754	1,177	3.24	
Companies:												
Chipotle	CMG	9,242	0	-	548	8,693	4,401	731	401	241	234	5.16
McDonalds	MCD	138,368	28,618	-	25,947	164,315	23,509	10,514	10,777	9,378	5,085	6.93
Domino's	DPZ	9,235	3,160	-	3,099	12,334	2,716	840	539	497	338	5.24
Restaurant Brands Internationa	QSR	14,790	11,620	-	8,013	28,302	4,453	2,393	1,900	1,722	996	1.45
Darden Restaurants	DRI	12,109	937	-	790	13,083	7,392	1,612	976	712	488	3.90
The Wendy's Corporation	WEN	4,178	2,726	-	2,539	6,717	1,224	698	349	227	113	0.25
Jack in the Box	JACK	2,733	1,145	-	1,138	3,871	1,554	591	355	266	167	4.40
Red Robin Gourmet Burgers	RRGB	721	288	-	273	994	1,330	270	109	16	45	0.95
Starbucks	SBUX	85,937	3,933	-	1,242	87,186	22,387	6,855	5,202	4,135	3,493	1.97
Aramark	ARMK	10,823	5,269	-	5,030	15,863	14,604	1,615	1,316	808	598	1.49
Dunkin' Brands Group	DNKN	5,816	2,421	-	2,154	7,970	849	757	482	441	228	2.29
Buffalo Wild Wings	BWLD	2,435	425	-	394	2,829	2,026	397	246	93	102	3.84
Texas Roadhouse	TXRH	4,141	52	-	62	4,091	2,159	413	271	180	108	1.73
Bloomin Brands	BLMN	2,040	1,201	-	1,102	3,153	4,130	670	301	110	164	0.77

Appendix N2: Estimates

Company	Ticker	Estimates											
		2017E Sales	2018E Sales	2019E Sales	2017E EBITDA	2018E EBITDA	2019E EBITDA	2017E EBIT	2018E EBIT	2019E EBIT	2017E Net Income	2017E Diluted EPS	2018E Diluted EPS
Yum! Brands	YUM	5,893	4,781	4,413	2,068	2,068	2,155	1,798	1,862	2,005	1,018	3.17	3.72
Companies:													
Chipotle	CMG	4,489	4,897	5,349	462	589	705	298	416	527	190	6.71	11.93
McDonalds	MCD	22,693	20,429	20,005	10,307	10,327	10,894	9,048	9,075	9,571	5,349	6.52	7.00
Domino's	DPZ	2,813	3,118	3,413	563	639	714	518	586	662	274	5.78	6.89
Restaurant Brands Internationa	QSR	4,598	4,975	5,268	2,127	2,332	2,521	1,871	2,126	2,325	959	2.00	2.66
Darden Restaurants	DRI	7,170	8,037	8,381	940	1,114	1,190	685	809	878	493	3.83	4.44
The Wendy's Corporation	WEN	1,228	1,270	1,317	406	443	482	282	325	369	110	0.44	0.54
Jack in the Box	JACK	1,557	1,421	1,394	345	357	362	258	272	275	135	4.04	4.80
Red Robin Gourmet Burgers	RRGB	1,369	1,383	1,409	137	148	157	43	52	65	29	2.26	2.68
Starbucks	SBUX	22,387	24,548	26,853	4,975	6,015	6,698	3,908	4,939	5,553	2,885	1.97	2.32
Aramark	ARMK	14,663	15,202	15,758	1,411	1,513	1,618	830	933	1,070	374	1.96	2.21
Dunkin' Brands Group	DNKN	854	874	914	486	498	527	465	477	503	222	2.43	2.64
Buffalo Wild Wings	BWLD	2,071	2,058	2,074	271	283	300	118	132	149	79	4.98	5.53
Texas Roadhouse	TXRH	2,219	2,424	2,695	295	324	360	200	222	259	137	1.94	2.15
Bloomin Brands	BLMN	4,182	4,155	4,303	409	403	411	214	210	214	133	1.33	1.38

Appendix N3: Margins and Investment Statistics

Company	Ticker	LTM Profitability Margins				Return on Investment			Implied Div. Yield (%)
		Gross Profit (%)	EBITDA (%)	EBIT (%)	Net Income (%)	ROIC (%)	ROE (%)	ROA (%)	
Yum! Brands	YUM	44.08%	32.47%	27.73%	18.60%	28.25%	N/A	15.77%	1.51%
Companies:									
Chipotle	CMG	16.61%	9.12%	5.48%	5.31%	10.32%	9.31%	7.52%	0.00%
McDonalds	MCD	44.72%	45.84%	39.89%	21.63%	25.11%	N/A	15.52%	2.38%
Domino's	DPZ	30.93%	19.86%	18.29%	12.45%	97.27%	N/A	41.59%	1.00%
Restaurant Brands Internationa	QSR	53.74%	42.65%	38.66%	22.36%	8.23%	13.59%	5.12%	1.29%
Darden Restaurants	DRI	21.80%	13.20%	9.63%	6.60%	20.74%	25.53%	9.28%	3.07%
The Wendy's Corporation	WEN	57.02%	28.54%	18.58%	9.21%	4.06%	16.65%	4.11%	1.93%
Jack in the Box	JACK	38.01%	22.85%	17.12%	10.75%	21.67%	N/A	12.67%	1.54%
Red Robin Gourmet Burgers	RRGB	20.32%	8.17%	1.21%	3.37%	2.83%	2.24%	2.67%	0.00%
Starbucks	SBUX	30.62%	23.24%	18.47%	15.60%	27.43%	50.07%	18.00%	2.09%
Aramark	ARMK	11.06%	9.01%	5.53%	4.09%	7.16%	15.55%	4.66%	0.97%
Dunkin' Brands Group	DNKN	89.09%	56.80%	51.91%	26.82%	10.98%	N/A	8.11%	2.19%
Buffalo Wild Wings	BWLD	19.60%	12.16%	4.61%	5.05%	9.43%	15.89%	7.04%	0.00%
Texas Roadhouse	TXRH	19.14%	12.56%	8.32%	4.98%	14.90%	16.15%	10.42%	1.64%
Bloomin Brands	BLMN	16.21%	7.30%	2.67%	3.97%	7.79%	45.86%	5.27%	1.88%
Mean		33.49%	22.24%	17.17%	10.87%	19.14%	21.08%	10.86%	1.43%
Median		26.21%	16.53%	13.38%	7.91%	10.65%	16.02%	7.82%	1.59%
High		89.09%	56.80%	51.91%	26.82%	97.27%	50.07%	41.59%	3.07%
Low		11.06%	7.30%	1.21%	3.37%	2.83%	2.24%	2.67%	0.00%

Appendix N4: LTM Leverage Ratios

Company	Ticker	LTM Leverage Ratios		
		Debt / Tot. Cap (%)	Debt / EBITDA (x)	Net Debt / EBITDA (x)
Yum! Brands	YUM	26.59%	4.80x	4.32x
Companies:				
Chipotle	CMG	0.00%	0.00x	-1.37x
McDonalds	MCD	17.42%	2.66x	2.41x
Domino's	DPZ	25.62%	5.86x	5.75x
Restaurant Brands Internationa	QSR	41.06%	6.12x	4.22x
Darden Restaurants	DRI	7.16%	0.96x	0.81x
The Wendy's Corporation	WEN	40.58%	7.80x	7.27x
Jack in the Box	JACK	29.59%	3.23x	3.20x
Red Robin Gourmet Burgers	RRGB	28.94%	2.65x	2.51x
Starbucks	SBUX	4.51%	0.76x	0.24x
Aramark	ARMK	33.21%	4.00x	3.82x
Dunkin' Brands Group	DNKN	30.38%	5.02x	4.47x
Buffalo Wild Wings	BWLD	15.03%	1.72x	1.60x
Texas Roadhouse	TXRH	1.27%	0.19x	-0.23x
Bloomin Brands	BLMN	38.08%	3.98x	3.66x
Mean		22.35%	3.21x	2.74x
Median		27.28%	2.94x	2.86x
High		41.06%	7.80x	7.27x
Low		0.00%	0.00x	-1.37x

Appendix N5: Share Price Info

Company	Ticker	Current Share Price	52 Week High	% of 52 Week High	Equity Value
Yum! Brands	YUM	83.62	84.29	99.21%	28,179
Companies:					
Chipotle	CMG	312.12	499.00	62.55%	9,242
McDonalds	MCD	174.06	175.09	99.41%	138,368
Domino's	DPZ	185.04	221.58	83.51%	9,235
Restaurant Brands International	QSR	61.00	68.89	88.55%	14,790
Darden Restaurants	DRI	88.41	95.22	92.85%	12,109
The Wendy's Corporation	WEN	15.51	16.66	93.10%	4,178
Jack in the Box	JACK	51.43	52.00	98.90%	2,733
Red Robin Gourmet Burgers	RRGB	53.20	74.11	71.79%	721
Starbucks	SBUX	58.29	64.87	89.86%	85,937
Aramark	ARMK	42.46	44.12	96.24%	10,823
Dunkin' Brands Group	DNKN	61.37	61.66	99.53%	5,816
Buffalo Wild Wings	BWLD	156.40	168.45	92.85%	2,435
Texas Roadhouse	TXRH	52.09	53.61	97.16%	4,141
Bloomin Brands	BLMN	20.87	22.47	92.88%	2,040

*As of 1/15/2018

Mean	89.94%
Median	92.86%
High	99.53%
Low	62.55%

Appendix N6: Enterprise Value Multiples

Company	Ticker	Enterprise Value /											
		LTM Sales (9/30/2017)	2017E Sales	2018E Sales	2019E Sales	LTM EBITDA	2017E EBITDA	2018E EBITDA	2019E EBITDA	LTM EBIT	2017E EBIT	2018E EBIT	2019E EBIT
Yum! Brands	YUM	5.86x	6.29x	7.75x	8.40x	18.04x	17.91x	17.91x	17.19x	21.12x	20.60x	19.90x	18.48x
Companies:													
Chipotle	CMG	1.98x	1.94x	1.78x	1.63x	21.66x	18.81x	14.77x	12.33x	36.03x	29.21x	20.89x	16.50x
McDonalds	MCD	6.99x	7.24x	8.04x	8.21x	15.25x	15.94x	15.91x	15.08x	17.52x	18.16x	18.11x	17.17x
Domino's	DPZ	4.54x	4.38x	3.96x	3.61x	22.87x	21.91x	19.31x	17.28x	24.83x	23.80x	21.03x	18.64x
Restaurant Brands International	QSR	6.36x	6.16x	5.69x	5.37x	14.90x	13.30x	12.14x	11.22x	16.44x	15.13x	13.31x	12.17x
Darden Restaurants	DRI	1.77x	1.82x	1.63x	1.56x	13.41x	13.92x	11.74x	10.99x	18.38x	19.09x	16.17x	14.91x
The Wendy's Corporation	WEN	5.49x	5.47x	5.29x	5.10x	19.23x	16.54x	15.17x	13.93x	29.54x	23.85x	20.69x	18.19x
Jack in the Box	JACK	2.49x	2.49x	2.72x	2.78x	10.90x	11.23x	10.83x	10.69x	14.55x	15.02x	14.24x	14.07x
Red Robin Gourmet Burgers	RRGB	0.75x	0.73x	0.72x	0.71x	9.15x	7.25x	6.70x	6.34x	61.76x	23.28x	19.23x	15.31x
Starbucks	SBUX	3.89x	3.89x	3.55x	3.25x	16.76x	17.52x	14.50x	13.02x	21.09x	22.31x	17.65x	15.70x
Aramark	ARMK	1.09x	1.08x	1.04x	1.01x	12.05x	11.25x	10.48x	9.81x	19.63x	19.10x	17.01x	14.83x
Dunkin' Brands Group	DNKN	9.39x	9.33x	9.12x	8.72x	16.52x	16.41x	16.00x	15.13x	18.08x	17.13x	16.70x	15.84x
Buffalo Wild Wings	BWLD	1.40x	1.37x	1.37x	1.36x	11.48x	10.44x	10.00x	9.42x	30.28x	23.92x	21.37x	19.03x
Texas Roadhouse	TXRH	1.89x	1.84x	1.69x	1.52x	15.09x	13.86x	12.61x	11.37x	22.78x	20.46x	18.43x	15.79x
Bloomin Brands	BLMN	0.76x	0.75x	0.76x	0.73x	10.46x	7.72x	7.83x	7.68x	28.59x	14.75x	15.03x	14.75x
Mean		3.64x	3.65x	3.67x	3.60x	15.18x	14.27x	13.06x	12.10x	25.37x	20.39x	17.98x	16.09x
Median		3.19x	3.19x	3.14x	3.01x	15.17x	14.93x	13.55x	11.85x	21.10x	20.53x	18.27x	15.81x
High		9.39x	9.33x	9.12x	8.72x	22.87x	21.91x	19.31x	17.28x	61.76x	29.21x	21.37x	19.03x
Low		0.75x	0.73x	0.72x	0.71x	9.15x	7.25x	6.70x	6.34x	14.55x	14.75x	13.31x	12.17x

Appendix N7: Other Peer Statistics

Company	Ticker	LTM		Price /			FCF		
		EBITDA Margin	Total Debt / EBITDA	LTM Diluted EPS	2017E Diluted EPS	2018E Diluted EPS	LTM EPS Growth	LTM Margin	Per Share
Yum! Brands	YUM	32.47%	4.80x	25.81x	26.38x	22.48x	118.90%	-4.50%	2.92
Companies:									
Chipotle	CMG	9.12%	0.00x	60.49x	46.52x	26.16x	107.40%	4.60%	19.42
McDonalds	MCD	45.84%	2.66x	25.12x	26.70x	24.87x	29.80%	13.50%	3.35
Domino's	DPZ	19.86%	5.86x	35.31x	32.01x	26.86x	30.60%	7.10%	1.40
Restaurant Brands International	QSR	42.65%	6.12x	42.07x	30.50x	22.93x	20.10%	22.30%	15.19
Darden Restaurants	DRI	13.20%	0.96x	22.67x	23.08x	19.91x	28.80%	9.00%	0.93
The Wendy's Corporation	WEN	28.54%	7.80x	62.04x	35.25x	28.72x	-63.10%	14.40%	0.77
Jack in the Box	JACK	22.85%	3.23x	11.69x	12.73x	10.71x	32.30%	8.90%	0.26
Red Robin Gourmet Burgers	RRGB	8.17%	2.65x	56.00x	23.54x	19.85x	-59.10%	1.90%	1.16
Starbucks	SBUX	23.24%	0.76x	29.59x	29.59x	25.13x	3.70%	9.30%	1.89
Aramark	ARMK	9.01%	4.00x	28.50x	21.66x	19.21x	31.40%	3.10%	0.98
Dunkin' Brands Group	DNKN	56.80%	5.02x	26.80x	25.26x	23.25x	62.00%	32.00%	2.96
Buffalo Wild Wings	BWLD	12.16%	1.72x	40.73x	31.41x	28.28x	-31.00%	6.50%	1.98
Texas Roadhouse	TXRH	12.56%	0.19x	30.11x	26.85x	24.23x	4.30%	4.70%	1.61
Bloomin Brands	BLMN	7.30%	3.98x	27.10x	15.69x	15.12x	44.60%	2.50%	1.07
Mean		22.92%	3.32x	34.93	27.14	22.51	24.05%	9.02%	372.60%
Median		21.36%	2.94x	29.85	26.77	23.74	29.30%	8.00%	175.00%
High		56.80%	7.80x	62.04	46.52	28.72	107.40%	32.00%	1942.00%
Low		7.30%	0.00x	11.69	12.73	10.71	-63.10%	1.90%	26.00%

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