Yum China (NYSE: YUMC)

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Sources: SEC filings, transcripts, presentations; quotes from Tegus and InPractice

Yum China Holdings (NYSE: YUMC): Overview ($m)

Stock Price (4/21/21 close)	$58.47	2019 Revenue	8,776
Market Cap	24,808	2020 Revenue	8,263
(+) Financial Debt	0	*2019 Restaurant-Level Margin*	*16.0%*
(-) Cash and ST Investments	(4,263)	*2019 Operating Profit Margin*	*10.3%*
TEV	20,545		
		2019 Total KFC Revenue	6,040
TEV / FY21 Revenue (Consensus)	2.3x	*2019 KFC Restaurant Margin*	*17.8%*
TEV / FY21 EBITDA (Consensus)	14.3x	2019 Total Pizza Hut Revenue	2,054
Price / FY21 Earnings (Consensus)	30.0x	*2019 PH Restaurant Margin*	*11.1%*

Notes: (i) I show 2019 figures in this overview because those are more indicative of run-rate given COVID disruption; (ii) KFC and Pizza Hut are the two largest segments, although there is a third segment for smaller brands; (iii) Full model can be found in the appendix

Investment Overview:

Yum China (NYSE: YUMC) runs the KFC and Pizza Hut brands in China. I think the company makes for a great long-term investment because it is by far the dominant fast-food operator in China, with scale advantages and brand loyalty that competitors can't match. This allows the company to capitalize on very attractive unit level economics for new KFC units (~2 year payback period, ~50% ROIC), and significant white space to build new restaurants in Tier 3-6 cities. As a result, YUMC should be able to invest capital at high incremental returns for many years to come. Further, YUMC is attractively valued relative to global restaurant companies, trading at a discount to many of them despite growing faster. Aside from being a pure-play China operator which investors may be cautious about, I believe the reason for the valuation discount stems from investors not fully appreciating the company's scale advantages in providing a competitive advantage and long growth runaway.

I value YUMC in two ways, both of which imply a low double digit annual return over the next five years: (i) by placing a 25x NTM multiple on expected 2026 net income and accounting for cash build-up during the projection period (~10% annual return); (ii) through an annual holding period return based on the distribution yield, rate of growth of earnings, and potential multiple compression (~11%-12% annual return). Both valuation methodologies are covered in detail toward the end of this write up.

As a quick backdrop: KFC is where the expansion opportunities lie (it makes up 70% of revenue and 84% of restaurant level operating profit). Pizza Hut units have generally remained stable as the company focuses on driving same store sales rather than expanding the brand. YUMC also has Chinese cuisine brands which it franchises (Little Sheep, Huang Ji Huang, and East Dawning). These are relatively insignificant in the operating model.

Strong brands, and significant white space to invest at high incremental ROIC

(i) Strong brands synonymous with western dining in China: The first KFC opened in Beijing in 1987, and the first Pizza Hut opened in 1990. For many Chinese consumers, these brands are synonymous with Western dining, and represent formative life experiences. As a former executive in the industry puts it: "*A lot of people will talk about their first experience in a western kind of exposure as KFC*". KFC still wins plaudits for the #1 fast food brand in China (Western or otherwise), and has an advantage because Chinese consumers prefer chicken over beef. Although various Western competitors have introduced burgers, coffee, and pizza to the Chinese consumer, Western-style chicken is totally dominated by KFC (Popeyes only opened its first Chinese store in May 2020). YUMC's brand equity is reflected in the unit count vs Western competitors (units at 2020 end): KFC dominates with ~7.2k units vs Starbucks at ~4.9k and McDonald's at ~3.8k. Pizza Hut holds its own with ~2.4k units (please see Exhibit 1 in the Appendix).

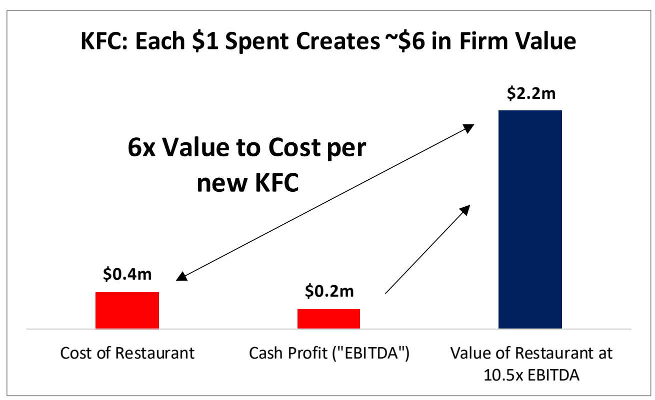
Another nuance is that KFC and Pizza Hut feature western-style food while also catering to local Chinese tastes (for example, at Pizza Hut only ~30% sales actually come from pizza). I would also note that, while YUMC competes with both local and international firms, it is a standalone company solely focused on China following its 2016 spinoff from YUM Brands. This means that YUMC is not burdened by global hierarchy and has the freedom to act quickly.

(ii) Attractive unit level economics: Unlike many restaurant companies in the United States, which are majority franchised, Yum China is primarily an owner/operator of its KFC and Pizza Hut brands. This makes sense because unit economics are incredibly attractive for its core brands, particularly for KFC, which is where growth will come from. The payback period on each new KFC is <2 years (~$400k investment for a cash margin of ~23% on ~$900k annual sales). Said differently, the pre-tax cash ROI on new units is ~50%+. This ~2 year payback period has generally remained stable over the past few years because there is so much white space (covered in the next section), but returns for a new KFC restaurant would still be attractive even if the brand does start to achieve cannibalization. If annual sales for a new KFC hypothetically declined to ~90% of what they are today (and cash margins fell 500bp to ~18%), the payback period would still be less than 3 years, and would imply a pre-tax ROI of ~40%. Although Pizza Hut is not currently growing because it is in the middle of a brand turnaround, if YUMC decides to grow it again, the payback period for a new Pizza Hut is 3-4 years, or an attractive ~30% pre-tax ROI. For context, franchisees in the United States are willing to invest in Pizza Hut units with a payback period of 5-7 years. Said differently, each dollar spent building a KFC creates ~$6 in firm value at YUM's 3 year pre-COVID average EBITDA multiple. These are very attractive unit economics to support growth.

KFC (Unit Level Economics)

Current Unit Level Economics	**RMB**	**USD**
Average Unit Volume	RMB 6.0m	$0.9m
Cash Margin	*23.0%*	*23.0%*
Cash Profit	RMB 1.4m	$0.2m
Store Build Cost	RMB 2.5m	$0.4m
ROI on New Units (pre-tax)	***55%***	***55%***
Payback Period	**1.8 years**	**1.8 years**

Sensitivity: AUV 10% lower, margin falls 500bp	**RMB**	**USD**
Average Unit Volume	RMB 5.4m	$0.8m
Cash Margin	*18.0%*	*18.0%*
Cash Profit	RMB 1.0m	$0.1m
Store Build Cost	RMB 2.5m	$0.4m
ROI on New Units (pre-tax)	***39%***	***39%***
Payback Period	**2.6 years**	**2.6 years**



Per CapIQ, 10.5x was YUMC's average NTM EBITDA multiple from 12/31/16 - 12/31/19 (i.e. pre-COVID)

Source: 2019 Investor Day, includes 3% royalty fee to YUM Brands; Exchange rate of 0.15 Yuan per USD

(iii) Significant white space to deploy capital at high returns: Yum China not only has attractive new unit economics, but a significant potential growth runaway. At 2020 end, China had 5.1 KFCs per million people vs 12.0 in the USA, 13.8 in the UK, 9.1 in Japan, 22.5 in Malaysia. This implies room for ~2-5x more KFCs at a similar penetration to these other countries. Chain restaurants as a whole are also underpenetrated in China, making up ~17% of consumer foodservice vs ~40%+ in other countries. This gives further comfort that there is ample space to expand (and that this expansion can handle multiple fast food brands). Although YUMC's scale advantages are covered in the next section, it is important to note that they have the internal resources to grow quickly. For example, YUMC has 1k development managers (average 10 years' experience) working in 32 provinces and 1.2k cities (per 2019 Analyst Day).

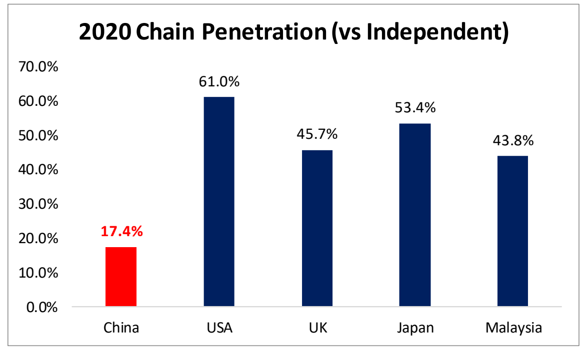
KFC Penetration Comparison (2020)

	China	USA	UK	Japan	Malaysia
Number of Units	7,166	3,943	928	1,140	743
Population (m)	1,404	329	67	125	33
KFC per Million	5.1	12.0	13.8	9.1	22.5
Potential Units at Penetration	**7,166**	**16,802**	**19,371**	**12,771**	**31,611**
Implied Growth vs Current		2.3x	2.7x	1.8x	4.4x

Pizza Hut Penetration Comparison (2020)

	China	USA	UK	Japan	Malaysia
Number of Units	2,355	6,536	571	444	416
Population (m)	1,404	329	67	125	33
KFC per Million	1.7	19.8	8.5	3.5	12.6
Potential Units at Penetration	**2,355**	**27,852**	**11,919**	**4,974**	**17,699**
Implied Growth vs Current		11.8x	5.1x	2.1x	7.5x

Source: Population data from Statista; Unit count data from Yum Brands and YUMC



Source: Euromonitor International, Consumer Foodservice by Type

Scale advantages in all aspects of the business – from expansion to unit economics

I believe that YUMC's scale advantages allow for a position-based competitive advantage composed of economies of scale and customer captivity. However, I believe that these scale advantages are underappreciated by investors.

(iv) YUMC controls its own supply chain distribution, which allows it to expand into Tier 3-6 cities: Much of YUMC's growth is coming not in the more penetrated Tier 1-3 cities, but in the less penetrated Tier 3-6 cities. YUMC has a major competitive advantage in expanding to these lower tier cities: unlike Western competitors that have relied on third parties, YUMC controls its own distribution (which it started doing back in 1997). The supply chain is quite large and includes 25 logistics centers, seven consolidation centers, and 800 independent suppliers. It is one of the most advanced logistics networks in China. In fact, a former executive at a Chinese competitor called it *"probably the most efficient logistical infrastructure in China"*. According to YUMC, this gives them 50% cheaper logistics costs than the industry average (or 1.5%-2% on a margin basis). With restaurant-level margins of ~16%-18% for KFC and 10%-14% for Pizza Hut, 2% represents a significant portion of operating profit. Competitors with third party distribution cannot expand to lower tier cities at scale because it is uneconomic to do so. In fact, Burger King China (>1k units) only listed Tier 1 and Tier 2 cities as their development focus in the prospectus for a 2018 IPO that was eventually pulled ("TAB Food Investments"). As an aside, the prospectus noted that Burger King China had 70 employees on the development team, vs the aforementioned 1,000 for YUMC.

(v) Differentiated customer experience through supply chain control: Control over its supply chain also gives YUMC great flexibility in introducing new menu items at scale, and in providing a differentiated year-round experience to customers in various parts of the country, depending on local tastes. This is critical in maintaining a fresh customer experience and continuing to drive same store sales growth. As an example of this innovation focus, KFC introduced ~60 new products during 2018, some of these being successful limited time items like their Crayfish Burger. In 2020, YUMC introduced 500 new or improved products across all their concepts. This innovation is possible because the company's distribution allows them the flexibility to test new items and roll them out at scale. It might seem trivial, but innovation is necessary for maintaining strong brand value when selling fast food, which is in many ways a commodity product. This is why the most successful fast-food companies consistently introduce limited time items as additions to their core menus. Competitors that don't control their own distribution can't innovate to quite the same extent and are at a competitive disadvantage.

(vi) YUMC's massive loyalty program creates customer captivity: Yum China has a loyalty program for each of its brands, and the scale of the membership base is massive. As of 4Q FY20 end, KFC had ~275m members (~89m monthly active users) and Pizza Hut had ~85m members (~13m monthly active users). For reference, Starbucks has 21.8m 90-day active members in the U.S. and 15.4m 90-day active members in China. Very simplistically, active members eat from KFC and Pizza Hut more often and spend more when they do (~2x greater ARPU). However, the benefits of a large member base are more nuanced than this, as it gives YUMC a captive audience of loyal users that are easy to reach and cheap to promote to. At a 2020 conference, former Starbucks CFO Patrick Grismer noted that, largely due to Starbucks' loyalty program, *"marketing spend is about 1% whereas others in the category are in the mid-single digits"*. YUMC spends 4-5% on marketing (as a % of company sales). Thus, as members become more embedded in their digital ecosystem, marketing is a potential source of margin expansion for YUMC. More importantly, though, this captive audience should allow YUMC to steadily grow same store sales through personalized cross-sell / upsell opportunities. In fact, KFC shows unique menus for each digital customer, including tailored item recommendations. For another tangible example of the benefits of this reach, when COVID broke out, YUMC was able to immediately inform members about contactless delivery. The large captive audience also allows YUMC to innovate in ways that should add value to the product (and/or make operations more profitable). As an example, YUMC recently launched their own payment app in partnership with state-backed UnionPay. As another example, YUMC has a "privilege" program similar to Amazon Prime, which includes free delivery on two orders a day for a month (for ~$3). They have other privilege programs which give discounts on certain menu items for a monthly fee. These drive upsell / cross-sell, but likely only make sense financially in the context of a large loyalty program (a la. Amazon) over which the fixed costs can be spread. In short, YUMC's loyalty program provides customer captivity, and when coupled with its other scale advantages, barriers to entry. I would also note that restaurant operations are an area in which tech disruption is actually helping the largest incumbents, who can afford to invest in a fulsome digital experience (for example, YUMC is investing ~$1bn in transforming digital capabilities over the next few years). In many ways, this is increasing barriers to entry by making the cost of competitive operations much greater. Finally, having a large member base with whom YUMC maintains direct relationships allows the company to bypass meal aggregators on many orders. Aggregators such as Meituan often charge a ~20% commission. Again, this is a large advantage over smaller restaurants that don't have the same scale and customer captivity.

(vii) Scale as a competitive advantage in delivery: Delivery is an important driver of sales for YUMC. In the most recent quarter, 27% of KFC sales and 33% of Pizza Hut sales came from delivery. YUMC does its own delivery, but also works with aggregators where needed. Typically, YUMC does its own delivery for the most important orders (e.g. last-mile delivery for all Pizza Hut orders) and has recently transitioned to a trade-area delivery model that supports multiple brands (vs having riders assigned to a restaurant or set of restaurants). This kind of model benefits from scale. The more rides per hour, the lower the fixed costs per delivery (i.e. the gas, the hourly wage can be amortized across more stops). There is also efficiency in terms of restaurant operating performance because orders can be made at restaurants with more capacity at the time of order placement. Drivers are now assigned by an AI dispatching system, which calculates optimal routes. This model should lead to lower fixed costs per delivery, and has also improved delivery times, meaning that food gets to customers faster and hotter (85% of KFC orders are fulfilled in 30 minutes or less vs 69% previously). Only the largest restaurants can take advantage of this scale. As YUMC builds more restaurants, trade zones will get smaller and more efficient.

(viii) Potential as a restaurant operating platform (upside): YUMC's scale allows it to incubate new brands and products more cheaply than others and gives investors a free call option on a restaurant operating platform similar to a Darden in the United States. At this point, the idea of YUMC as a platform is in its infancy. However, as one example of potential in this area, in 2015 YUMC started to focus on building out coffee capabilities by using its scale. The company recently created its own standalone coffee brand called COFFii & JOY (thus far only ~40 units), formed a joint venture with Lavazza, and also sells coffee within KFC at "K Coffee", which is almost a sub-brand of KFC. Amazingly, the company sold 140m cups of coffee at KFC in 2020, making it one of the largest coffee retailers in China. YUMC's scale also makes M&A attractive as a capital deployment mechanism, should returns on new units go down, since competitors likely can't realize the same G&A (including tech/digital) and procurement synergies. I believe that YUMC's ability to become a restaurant operating platform significantly increases its ability to reinvest for growth, which is crucial for a long-term investment.

Proven management team that thinks long-term, coupled with strong corporate governance

(ix) Management has demonstrated an ability to overcome challenges and thinks long-term: One reason I am confident owning this business is that I believe in the Yum China management team. The entire C suite is relatively new (to their positions, not to YUMC) – see Exhibit 2 of the Appendix, and has proven that they can overcome challenges and answer difficult questions. Prior to this management team taking charge, Yum China was struggling. A look back at equity research from 2016/17 reveals worries about competition, innovation, and stagnation. KFC in particular had not been doing well, partly because of food safety issues, but also because of operational missteps. However, the management team adopted a more flexible, innovative approach focused on providing an ever-evolving customer experience buffeted by KFC's core chicken capabilities. This led to 3.5% annual same store sales growth from 2016-2019. They are currently undergoing a similar turnaround with Pizza Hut that seems to be working. I am also impressed by management's ability to think, and act, with a long-term perspective. This has been demonstrated in their creation of a massive loyalty program, through forward-thinking initiatives such as their own payments app, and in resisting the urge to increase prices at Pizza Hut while undergoing a turnaround. However, management is also realistic and acknowledges potential problem areas, and invests ahead of time to position the company to overcome them. As one example of this, on the most recent earnings call, management said that YUMC will invest $1bn over the next few years to transform the company's digital capabilities. As a point of reference, total capex in 2019 was $435m so this is a substantial investment (guided capex for 2021 is almost 40% higher than 2019 capex). YUMC is doing this because the management team understands that potential Chinese labor inflation (due to an aging population) is the biggest impediment to long-term success. This incremental capex will be used to try to automate as much as possible. The investment will hurt short-term profitability due to higher depreciation expense, but the long-term returns for investors could be material. I calculate that each 1% increase in cash margin increases the ROI on a new KFC by 2-3%. Only the largest companies can make this kind of investment (another way technology is changing the industry). Smaller Chinese restaurant operators will struggle in an environment with high labor inflation, which will allow YUMC to take share, assuming the investments bear success. Anecdotally, management has demonstrated success in optimizing labor, as the store count grew from ~7k in 2015 to ~10k today, while the number of employees has stayed similar. I also appreciate that the company is conservatively run, with no debt. This allows management to quickly react from a position of strength in the event of industry upheaval.

(x) Strong corporate governance: This is subjective, but I believe the Board of Directors includes impressive, relevant experience in both China and the West. For space considerations, I will not include the Board members' bios here, but would encourage a look on the YUMC website (https://ir.yumchina.com/board-of-directors).

Valuation

(i) Reasonable relative valuation: I describe my intrinsic valuation in the next section. However, at a high level, YUMC seems to be reasonably valued for a high-quality business with barriers to entry and the ability to deploy capital at a high ROIC. As can be seen in Exhibit 3 of the appendix, YUMC generally trades at a substantial discount to global restaurant peers despite growing faster than many of them.

(ii) Intrinsic valuation methodology: I value YUMC in two ways, both of which imply a low double digit annual return over the next five years. My first method involves placing a multiple on out-year earnings: I built a line by line operating model, split by segment (KFC, Pizza Hut, Other). I apply a 25x NTM P/E multiple to my estimate of 2026 net income and add cash generated in the interim (as well as current balance sheet cash). I arrive at a ~10% annual return through 2025 end. I think that 25x is a reasonable NTM P/E multiple because YUMC will still be growing revenue at high single digits in 2026, and the whitespace opportunity / competitive position will not have changed. 25x is also lower than the current FY21 (consensus) multiple of ~30x. My second valuation methodology is based on a value investing framework. I first calculate an Asset Value and an Earnings Power Value. The Earnings Power Value exceeds the Asset Value by > 1.5x, which indicates barriers to entry (not surprising given the earlier analysis). I then calculate an annual Holding Period Return by adding estimates for: (i) Distribution Yield; (ii) Rate of Growth of Earnings; (iii) Potential Multiple Compression. This implies an annual holding period return of 10.9% with multiple compression and 11.7% without multiple compression, similar to the annual return produced by the first valuation methodology. I walk through my operating model assumptions below and describe the value investing framework in detail after that.

Operating Model Assumptions:

Same Store Sales: I model existing KFC restaurants getting back to average 2019 sales levels by 2021 end. From 2022-2026, I model same store sales growth of 3% per year. I think this is readily achievable given the company's huge loyalty program and proven ability to consistently innovate to create a good customer experience. This 3% compares to average same store sales growth of 3.5% from 2016-2019 – thus I think there is upside to my estimates. I would also note pre-COVID 10 and 20 year averages for McDonald's global same store sales growth of 3.4% (for both time periods). I similarly model Pizza Hut getting back to 2019 average sales per restaurant by 2021 end. From 2022-2026, I model same store sales growth of 2.5%. I think this is justified given the turnaround momentum and YUMC's current scale. Also, comfortingly, Pizza Hut has grown same store sales through volume and not through price increases over the past few years (thus there is latent pricing power). As I do not model new unit growth for Pizza Hut, I assume that YUMC's full focus will be on operational performance, and not on growth.

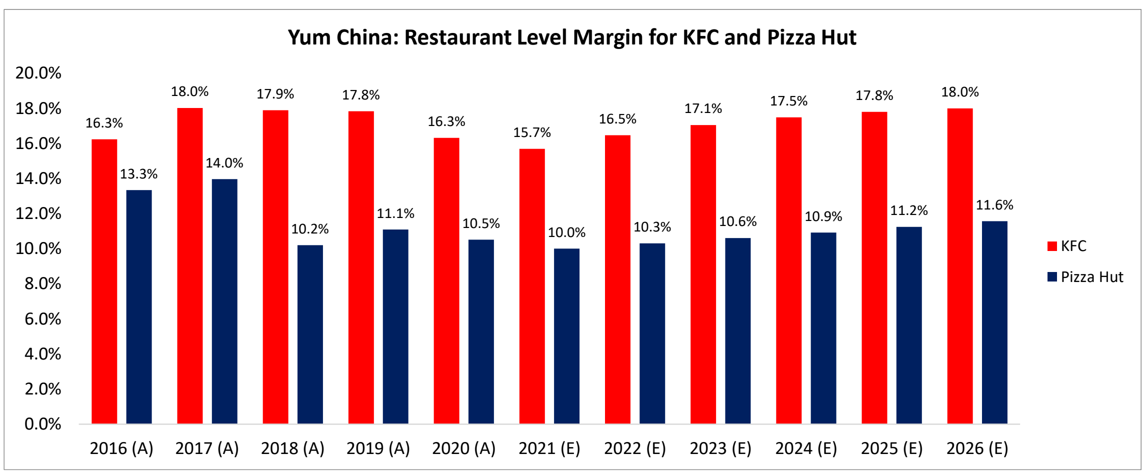
Unit Growth: Given the highly attractive return on each new KFC, I assume that the company will continue to grow new KFC units at a high single digit rate (or 500-600 new units per year). Since the majority of these KFCs are being built in Tier 3-6 cities (vs Tier 1-3), I assume that they generate sales ~25-30% lower than the company's existing KFC restaurants. This implies ~9.4k company owned units at 2026 end. As shown in Exhibit 4 of the Appendix, this is still far lower than the KFC per person penetration in other countries (hence white space past 2026). Out of conservatism, I assume that YUMC will focus on maintaining operational momentum at Pizza Hut rather than expanding the brand. Therefore, I assume a 1% decline in company-operated Pizza Hut units per year.

Costs: I model costs on a per-restaurant basis by brand (e.g. labor costs per KFC restaurant). The major cost buckets are: (i) Payroll and employee benefits; (ii) Food and paper; (iii) Occupancy and other (this includes rent, depreciation, marketing, the 3% franchise fee paid to Yum! Brands). I assume that each of these three cost buckets would be 2% lower per restaurant in 2021 vs 2019, as YUMC keeps some efficiencies from more lean COVID operations.

Payroll and employee benefits: I assume annual labor inflation of 4% from 2022-2026, as the Chinese economy moves to more of a service model and wage costs start to catch up with developed markets (China also has an aging population). While labor inflation could be higher than 4%, I assume that YUMC's massive investment into automation/digital (~$1bn over the next few years) will somewhat stem labor inflation.

Food and Paper / Occupancy and Other: I assume that these will both grow at 1.5% since they are costs that YUMC has some control over. Given YUMC's supply chain and strong delivery ecosystem, a lot of the food costs should be leverageable, and less should go to waste (on the margin, YUMC can pick and choose ingredients). As for Occupancy / Other, these costs are partially made up of rent and marketing. Rent should generally be less competitive as some businesses are possibly hit by COVID and landlords have less bargaining power. As YUMC moves into Tier 3-6 cities, it will also presumably have more leverage in rent negotiations. Meanwhile, marketing costs should go down as YUMC gains more loyalty members, and is able to market to them directly through its app. As mentioned earlier, YUMC currently spends ~4-5% on marketing, while Starbucks spends ~1%.

Sanity check: These estimates imply 2025 KFC restaurant level margins back to their 2017 levels by 2026 and Pizza Hut restaurant level margins lower than the 2017 level by 2026. Thus, these estimates do not appear too aggressive. Please see below.



Capex / D&A: I model capex in three parts: (i) growth capex related to new stores; (ii) maintenance capex; (iii) growth capex related to incremental digital / tech spend. I tie growth capex related to new stores to the average cost of a new KFC / Pizza Hut, as disclosed at the 2019 Investor Day. I back into historical implied maintenance capex as a percentage of company sales per concept (and assume this percentage continues going forward). I back into growth capex related to incremental tech spend based on the company's $600m capex guidance for FY21. I model D&A as a percentage of capex. Please see the Appendix for a summary of KFC and Pizza Hut estimates, and for a model summary.

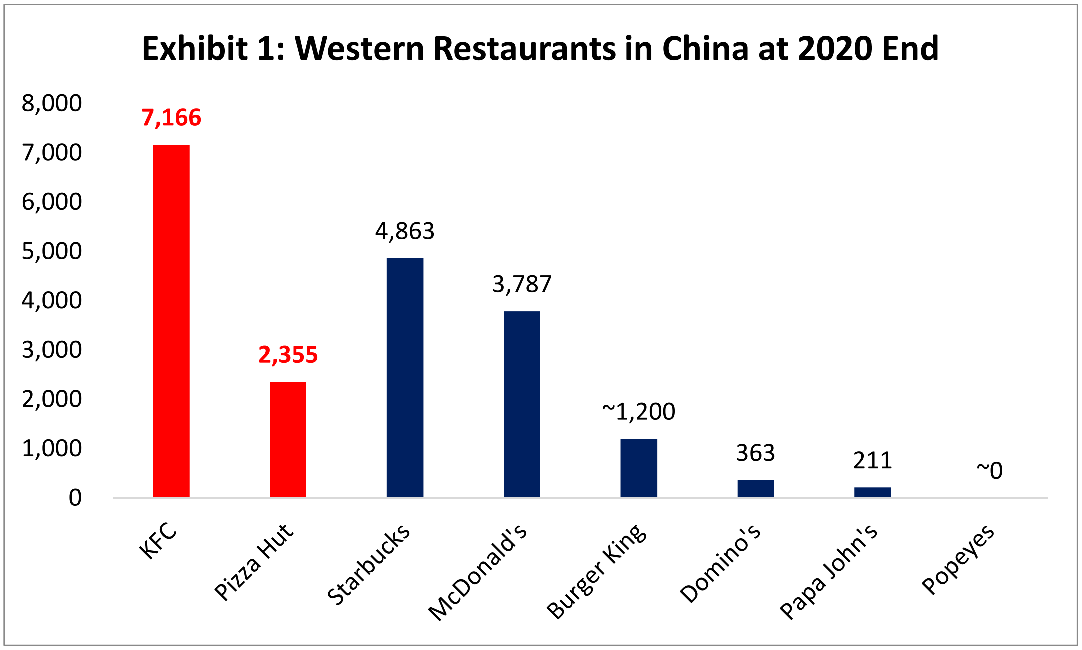
Overview of Value Investing Methodology:

Asset Value of Equity: I estimate the Asset Value as ~$11.3bn. Please see the full calculations in Exhibit 5 of the appendix. However, my methodology is as follows: I took book equity from the balance sheet and adjusted for: (i) the brand value; (ii) the cost of recreating the workforce; (iii) the value of the product portfolio; (iv) potential PP&E discrepancies stemming from historical balance sheet accounting; (v) goodwill attributable to fully integrated acquisitions. I wanted to add brand value onto the balance sheet since the KFC and Pizza Hut brands are very well known in China, in part due to consistent marketing spend. I also wanted to capture the cost of recreating the workforce, given it is large (>400k employees, of which 136k are full-time). Since PP&E is marked at historical cost on the balance sheet, I adjusted it where I thought prudent. Given that YUMC has acquired restaurants from franchisees and/or JV partners, I also wanted to adjust Goodwill for acquisitions that were fully integrated into the operations. I assumed that 50% of Goodwill was a result of acquisitions that were fully integrated, which I removed from the balance sheet. I assumed that the other 50% of acquisitions could function on a standalone basis so I did not remove that goodwill. I also made a small adjustment for investments into food innovation that YUMC makes every year. To note, the company's three largest assets as a percentage of total 2020 balance sheet assets are: (i) Cash and Short Term Investments (39%); (ii) Operating Lease Right of Use Assets (20%); (iii) net PP&E (16%).

Earnings Power Value: I estimate the EPV as ~$18.8bn. Since EPV > Asset Value (more than 1.5x greater), the valuation indicates barriers to entry. I made the following adjustments when calculating EPV: (i) I added back the brand growth expense (direct marketing expenses in excess of estimated brand amortization); (ii) I added back estimated over-depreciation. When over-depreciation is included, YUMC earnings incorporate more expenses than required for maintenance; (iii) made a small (negative) adjustment for product growth expense (i.e. investments into food innovation). I used YUMC's 2019 revenue in my calculation because 2020 revenue was artificially depressed from COVID. I similarly used my estimated 2026 EBIT margin instead of the misleading 2020 margin to think about a run-rate margin (which is typically not cyclical). Finally, I used a 7% discount rate as that would be my risk tolerance for what I view as a great business with barriers to entry. Please see Exhibit 6 for the full calculations.

Growth (i.e. Holding Period Return): I arrive at a HPR of 10.9% with multiple compression, and 11.7% without. Please see Exhibit 7 for the full calculations. I first calculate the distribution yield, which includes buybacks and dividends. The yield is not that high (2.2%), which makes sense since YUMC reinvests into the business. I then estimate the rate of growth of earnings as 9.5%. This takes a few steps. I assume an incremental ROIC of ~40%, which compares to a pretax ROIC for new KFCs of ~50%+ and ~30% for new Pizza Huts. I estimate that 20% of NOPAT will be allocated to growth. Over the past five years, this percentage was ~13%. However, YUMC's capex guidance for 2021 is ~40% higher than 2019 capex due to incremental investment in tech/digital. Thus, I assume that more of NOPAT will go to growth (hence the 20%). Lastly, I estimate the organic growth rate at 1.5%, based on half of an assumed same store sales growth rate of 3%. I think there is a chance that the YUMC multiple can decline from the current 20.9x EV / NTM EBIT to the 3 year average of 20.1x. I assume this will happen over 5 years in my multiple compression case, which is also my base case.

Appendix



Source: Company Filings; ~5.9k KFC units are company owned - the rest are franchised or unconsolidated

Exhibit 2: Fresh Management Team, with Demonstrated Ability to Turn around Same Store Sales

Officer:	Position Since:
CEO: Joey Wat	March 2018
CFO: Andy Yeung	October 2019
GM *of KFC:* Johnson Huang	February 2017
GM of Pizza Hut: Jeff Kuai	November 2017
Chief Supply Chain Officer: Danny Tan	October 2016
Chief Technology Officer: Leila Zhang	March 2018

Sources: company filings, equity research, YUMC website

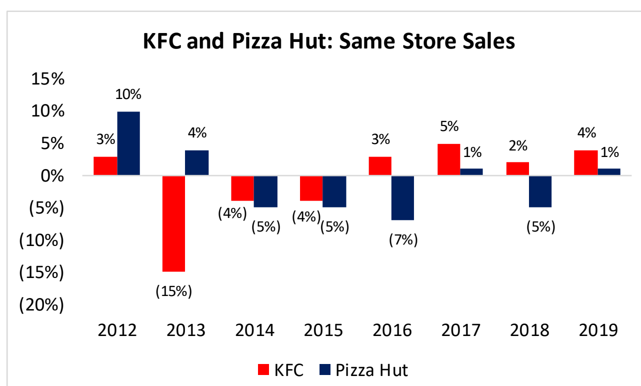
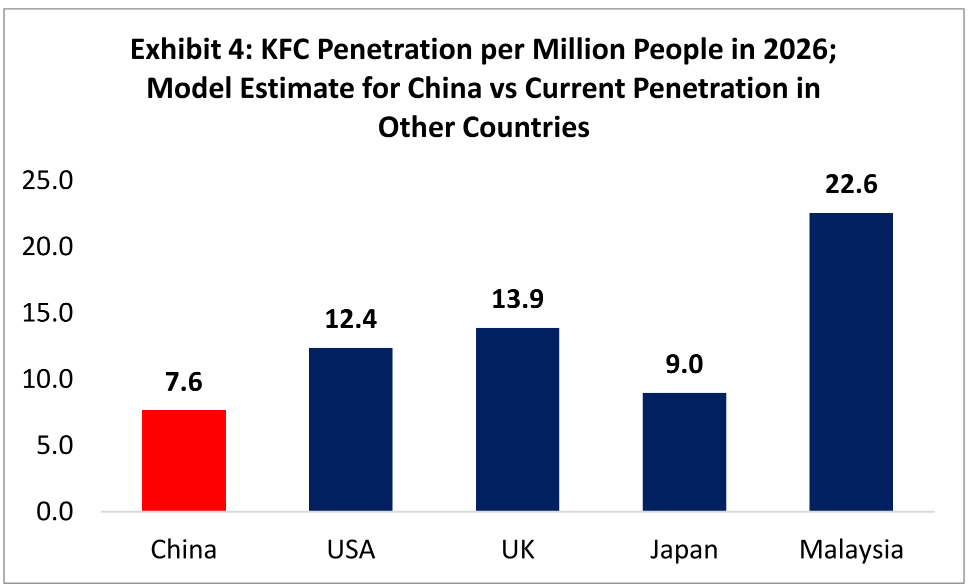


Exhibit 3: YUMC Valuation vs Restaurant Peers (FY22 Consensus Estimates)

	TEV/EBITDA	TEV/EBIT	P/E	FY23/FY22 Rev. Growth
Franchisors				
Restaurant Brands International	14.2x	15.9x	21.8x	*5.5%*
Yum! Brands	19.6x	20.9x	25.8x	*6.8%*
McDonald's	18.4x	21.9x	25.1x	*6.5%*
Average	**17.4x**	**19.6x**	**24.2x**	***6.3%***
Median	**18.4x**	**20.9x**	**25.1x**	***6.5%***
Company Operated / Mix				
Starbucks	22.0x	27.3x	33.6x	*10.0%*
Darden	16.0x	21.5x	20.6x	*7.5%*
Chipotle	31.2x	38.4x	48.4x	*12.6%*
Brinker	11.9x	18.7x	14.9x	*5.3%*
Texas Roadhouse	17.5x	25.6x	29.2x	*9.1%*
Average	**19.7x**	**26.3x**	**29.3x**	***8.9%***
Median	**17.5x**	**25.6x**	**29.2x**	***9.1%***
Yum China	12.6x	17.8x	25.4x	*9.7%*
YUMC vs Franchisors (Median)	**(5.9x)**	**(3.0x)**	**0.4x**	***3.2%***
YUMC vs Company Operated / Mix (Median)	**(5.0x)**	**(7.8x)**	**(3.8x)**	***0.5%***

Source: CapitalIQ, Consensus Estimates; CapIQ includes operating leases in the TEV calculation, as of 4/21/21 close



Note: Based on ~9.4k company owned units and ~1.4k franchised and unconsolidated units; 2026 China population estimates from Statista

Exhibit 5: Asset Value of Equity Calculations

AV of Equity		Notes:
Book Equity	6,206	<- From balance sheet
(+) Brand Value	5,243	<- Marketing investments into brand capitalized
(+) Value of Workforce	86.5	<- Cost to re-hire workforce
(+) PP&E Adjustment	175	<- Any PP&E adjustment (otherwise PP&E at historical value)
(+) Value of Product Portfolio	3.7	<- Value of R&D which improves YUMC's food products
(-) Goodwill Adjustment	(416)	<- Remove portion of goodwill attributable to acquisitions that have been fully integrated
AV of Equity	**11,298**	

Brand Value	
Direct Marketing (Company-Owned Restaurants)	307
Direct Marketing (Franchisee & Unconsolidated Restaurants)	60
Total Direct Marketing	367
Discount at 7% Rate	7%
Brand Value Estimate	**5,243**

Workforce Reproduction		
Payroll and Employee Benefits	1,730	
Reproduction Rate	5%	<- Assumed low reproduction rate given blue collar workforce
Workforce Reproduction	**86.5**	

PP&E Adjustment	FY2020	Adj. FY2020	Notes:
Buildings and improvements	2,367	2,840	<- 20% appreciation
Finance leases, primarily buildings	36	36	<- No change
Machinery and equipment and construction in progress	1,490	1,192	<- 80% of balance sheet value
(-) Accumulated depreciation	(2,128)	(2,128)	<- No change
Total	1,765	1,940	
PP&E Adjustment		**175**	

Value of Product Portfolio (adjustment for food innovation expenses)		Notes:
Average past 3 years R&D	3.7	
Product Life Cycle	1.0 year	<- Assumed short life cyle given R&D relates to food innovation
Value of Product Portfolio	**3.7**	

Goodwill Adjustment	FY2020
2020 Goodwill	832
50% Goodwill Adjustment	**(416)**

Many of YUMC's acquisitions relate to acquiring ownership from franchisees / unconsolidated affiliates
Assume that many of these acquisitions are fully integrated into the company, and thus adjust 50% of Goodwill out

Exhibit 6: Earnings Power Value Calculations

EPV		Notes:
2019 Revenue	8,776	<- Use 2019 revenue because 2020 was artifcially depressed from COVID
EBIT Margin	11.6%	<- 2026 margin from my model, as that is more representative of a run-rate margin
EBIT	1,018	
(+) Over-Depreciation	324	
(+) Brand Growth Expense	17	
(-) Product Growth Expense	(1)	
Sustainable Operating Profit	**1,359**	
Assumed Tax Rate	25.0%	
Sustainable NOPAT	**1,020**	<- Assumed WACC of 7%, which would be my risk tolerance
Assumed WACC	7.0%	for what I view to be a great busines with barriers to entry
EPV	**14,565**	
(-) Debt	0	<- No debt
(+) Cash	1158	
(+) ST Investments	3105	
EPV of Equity	**18,828**	<-EPV exceeds APV, indicating barriers to entry

Note:		
Market Value of Equity	25,164	
Value of Growth Asssigned by Market	6,336	<- Market Value of Equity - EPV of Equity

Brand Growth Expense		Notes:
2020 Direct Marketing (Company-Owned Restaurants)	307	
2020 Direct Marketing (Franchisee & Unconsolidated Restaurants)	60	
2020 Total Direct Marketing	367	
Discount at 7% Rate	7%	
Brand Value Estimate	5,243	
Amortization Period	15	
Implied Brand Amortization	350	
2020 Total Direct Marketing	367	
Implied Brand Growth Expense	**17**	<- Difference between 2020 Expense and Implied Amortization

Product Portfolio Growth Expense		
Average past 3 years R&D	3.7	<- Small expense related to food innovation
Product Life Cycle	1.0 year	<- Assumed short life cycle because relates to food innovation
Value of Product Portfolio	3.7	
Amortization Period	1.0 year	
Implied Product Amortization	3.7	
2020 R&D Expense	3.0	
Implied Product Growth Expense	**(0.7)**	

Over-Depreciation	
2020 D&A	450
2020 Capex	419
Assume 30% to Maintenance	126
Over-Depreciation (D&A - Maintenance Capex)	**324**

Per 2017 Investor Day, 25% of capex is maintenance. Use 30% out of conservatism

Exhibit 7: Holding Period Return Calculations

HPR	Multiple Compression (Base Case)	Stable Multiple
Distribution Yield	2.2%	2.2%
Rate of Growth of Earnings	9.5%	9.5%
Multiple Compression	(0.8%)	0.0%
HPR	**10.9%**	**11.7%**

Distribution Yield

Market Cap (4/21/21)	24,808	
(+) Debt	0	<-no debt
(-) Cash	(1,158)	
(-) ST Investments	(3,105)	
EV	20,545	
Dividend	181	<- 2019 dividend because YUMC reduced this in 2020 due to COVID
Buybacks	265	<- 2019 buyback, reduced in 2020 because of COVID
Distribution	446	
Distribution Yield	**2.2%**	

Growth as % of NOPAT

	2016	2017	2018	2019	2020
D&A (1)	402	409	445	428	450
Capex (2)	436	415	470	435	419
Acquisition (3)	0	25	91	0	288
Growth Investment (2+3-1)	34	31	116	7	257
EBIT	634	777	940	901	961
NOPAT (25% tax rate)	475	583	705	676	721
Growth / NOPAT	**7%**	**5%**	**16%**	**1%**	**36%**

Estimated Incremental Annual Tech-Related Capex	150	
% of 5 Year Average NOPAT	24%	<- Assume portion will be allocated toward growth, will increase ROIC across the system

5 Year Average % to Growth	13.1%
(+) Modifier due to increased Tech Spend	7.0%
% of NOPAT Allocated to Growth	**20.1%**

Estimating Organic Growth Rate

Estimated Price Growth	2.0%	
Estimated Volume Growth	1.0%	
Same Store Sales	3.0%	<- Organic growth proxy, 3.5% avg 2016-2019; McDonald's global 10 and 20 year avg of 3.4% (pre-COVID)
Rate of Growth of Earnings	**1.5%**	<- 50% of Same Store Sales Growth

Rate of Growth of Earnings

% Invested Into Growth	20.1%	
Incremental ROIC	40.0%	<- ROIC on new KFCs ~50%, ROIC on new Pizza Huts ~30%
Growth Investment % * ROIC	8.0%	
(+) Organic Growth	1.5%	
Rate of Growth of Earnings	**9.5%**	

Multiple Change?

Current NTM EV/EBIT Multiple	20.9x	<- Capital IQ
3 Year Average	20.1x	<- Capital IQ
Annual decline over 5 Year Period	**(0.8%)**	

Model Summary

KFC and Pizza Hut: Restaurant Level Profit Summary

Figures in $ millions, Dec-31 Year-End	2016 (A)	2017 (A)	2018 (A)	2019 (A)	2020 (A)	2021 (E)	2022 (E)	2023 (E)	2024 (E)	2025 (E)	2026 (E)
KFC											
Same Store Sales Growth	*3.0%*	*5.0%*	*2.0%*	*4.0%*	*(8.0%)*	*9.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
New Company Unit Growth (2020 includes consolidation of ~250 prev. unconsoldiated units)	*2.4%*	*5.1%*	*11.8%*	*10.6%*	*15.5%*	*9.5%*	*9.0%*	*8.5%*	*8.0%*	*7.5%*	*7.0%*
Company Sales	**4,572**	**4,863**	**5,495**	**5,839**	**5,633**	**6,778**	**7,500**	**8,262**	**9,059**	**9,890**	**10,751**
YoY Growth (new units mainly in Tier 3-6 cities so lower sales than existing units)		*6.4%*	*13.0%*	*6.3%*	*(3.5%)*	*20.3%*	*10.7%*	*10.2%*	*9.7%*	*9.2%*	*8.7%*
Food and Paper Costs	(1,374)	(1,455)	(1,679)	(1,835)	(1,801)	(2,190)	(2,386)	(2,592)	(2,809)	(3,035)	(3,268)
% of KFC Company Sales	*30.1%*	*29.9%*	*30.6%*	*31.4%*	*32.0%*	*32.3%*	*31.8%*	*31.4%*	*31.0%*	*30.7%*	*30.4%*
Payroll and Employee Benefits	(932)	(1,013)	(1,167)	(1,245)	(1,247)	(1,483)	(1,654)	(1,841)	(2,042)	(2,259)	(2,492)
% of KFC Company Sales	*20.4%*	*20.8%*	*21.2%*	*21.3%*	*22.1%*	*21.9%*	*22.1%*	*22.3%*	*22.5%*	*22.8%*	*23.2%*
Occupancy and Other (includes 3% fee to Yum)	(1,523)	(1,518)	(1,665)	(1,717)	(1,665)	(2,040)	(2,225)	(2,419)	(2,623)	(2,835)	(3,055)
% of KFC Company Sales	*33.3%*	*31.2%*	*30.3%*	*29.4%*	*29.6%*	*30.1%*	*29.7%*	*29.3%*	*29.0%*	*28.7%*	*28.4%*
Restaurant Level Profit	**743**	**877**	**984**	**1,042**	**920**	**1,064**	**1,236**	**1,410**	**1,585**	**1,761**	**1,936**
% of Company Sales	*16.3%*	*18.0%*	*17.9%*	*17.8%*	*16.3%*	*15.7%*	*16.5%*	*17.1%*	*17.5%*	*17.8%*	*18.0%*
Pizza Hut											
Same Store Sales Growth	*(7.0%)*	*1.0%*	*(5.0%)*	*1.0%*	*(14.0%)*	*16.0%*	*2.5%*	*2.5%*	*2.5%*	*2.5%*	*2.5%*
New Company Unit Growth	*9.0%*	*5.3%*	*1.0%*	*(0.5%)*	*2.4%*	*(1.0%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*
Company Sales	**1,993**	**2,090**	**2,106**	**2,045**	**1,721**	**2,012**	**2,044**	**2,077**	**2,111**	**2,147**	**2,183**
YoY Growth		*4.9%*	*0.8%*	*(2.9%)*	*(15.8%)*	*16.9%*	*1.6%*	*1.6%*	*1.7%*	*1.7%*	*1.7%*
Food and Paper Costs	(527)	(566)	(637)	(633)	(529)	(631)	(634)	(637)	(640)	(643)	(646)
% of Pizza Hut Company Sales	*26.4%*	*27.1%*	*30.2%*	*31.0%*	*30.7%*	*31.3%*	*31.0%*	*30.7%*	*30.3%*	*29.9%*	*29.6%*
Payroll and Employee Benefits	(484)	(519)	(538)	(549)	(471)	(547)	(563)	(580)	(597)	(615)	(633)
% of Pizza Hut Company Sales	*24.3%*	*24.8%*	*25.5%*	*26.8%*	*27.4%*	*27.2%*	*27.5%*	*27.9%*	*28.3%*	*28.6%*	*29.0%*
Occupancy and Other (includes 3% fee to Yum)	(716)	(713)	(716)	(636)	(540)	(633)	(636)	(640)	(644)	(648)	(652)
% of Pizza Hut Company Sales	*35.9%*	*34.1%*	*34.0%*	*31.1%*	*31.4%*	*31.5%*	*31.1%*	*30.8%*	*30.5%*	*30.2%*	*29.9%*
Restaurant Level Profit	**266**	**292**	**215**	**227**	**181**	**201**	**211**	**221**	**231**	**241**	**253**
% of Company Sales	*13.3%*	*14.0%*	*10.2%*	*11.1%*	*10.5%*	*10.0%*	*10.3%*	*10.6%*	*10.9%*	*11.2%*	*11.6%*

Yum China Model Summary and Valuation

Figures in $ millions, Dec-31 Year-End	2016 (A)	2017 (A)	2018 (A)	2019 (A)	2020 (A)	2021 (E)	2022 (E)	2023 (E)	2024 (E)	2025 (E)	2026 (E)
Company Sales	6,622	6,993	7,633	7,925	7,396	8,832	9,587	10,382	11,215	12,081	12,978
Franchise Fees and Income	129	141	141	148	148	152	156	160	164	168	172
Revenue from Transactions with Franchisees and Unconsolidated	299	599	603	654	647	674	702	731	762	794	828
Other Revenue	25	36	38	49	72	87	121	161	209	260	311
Total Revenue	**7,075**	**7,769**	**8,415**	**8,776**	**8,263**	**9,745**	**10,565**	**11,435**	**12,349**	**13,304**	**14,290**
YoY Growth		*9.8%*	*8.3%*	*4.3%*	*(5.8%)*	*17.9%*	*8.4%*	*8.2%*	*8.0%*	*7.7%*	*7.4%*
Company Restaurant Expenses	(5,613)	(5,823)	(6,435)	(6,659)	(6,298)	(7,568)	(8,142)	(8,753)	(9,400)	(10,079)	(10,789)
Restaurant Level Profit	**1,009**	**1,170**	**1,198**	**1,266**	**1,098**	**1,264**	**1,445**	**1,629**	**1,815**	**2,002**	**2,189**
% of Company Sales	*15.2%*	*16.7%*	*15.7%*	*16.0%*	*14.9%*	*14.3%*	*15.1%*	*15.7%*	*16.2%*	*16.6%*	*16.9%*
G&A	(429)	(495)	(456)	(487)	(479)	(530)	(564)	(601)	(639)	(678)	(716)
% of Total Revenue	*6.1%*	*6.4%*	*5.4%*	*5.5%*	*5.8%*	*5.4%*	*5.3%*	*5.3%*	*5.2%*	*5.1%*	*5.0%*
Franchise Expenses	(72)	(71)	(71)	(71)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
Expenses for Txn with Franchisees and Unconsolidated	(295)	(592)	(595)	(645)	(633)	(660)	(687)	(717)	(747)	(780)	(814)
Other operating costs and expenses	(15)	(28)	(29)	(37)	(57)	(74)	(103)	(139)	(180)	(225)	(270)
Closure & Impairment	(78)	(47)	(41)	(36)	(55)	(23)	(23)	(23)	(23)	(23)	(23)
Other Income, net	61	64	152	60	285	45	45	45	45	45	45
Operating Profit	**634**	**777**	**940**	**901**	**961**	**870**	**1,025**	**1,182**	**1,340**	**1,499**	**1,658**
Operating Margin	*9.0%*	*10.0%*	*11.2%*	*10.3%*	*11.6%*	*8.9%*	*9.7%*	*10.3%*	*10.9%*	*11.3%*	*11.6%*
Interest Income	11	25	36	39	43	45	47	49	51	53	55
Investment Gain (loss)	0	0	(27)	63	104	0	0	0	0	0	0
Changes in Fair Value of Financial Instruments	21	0	0	0	0	0	0	0	0	0	0
Pretax Income	666	802	949	1,003	1,108	915	1,072	1,231	1,391	1,552	1,713
Tax Expense	(156)	(379)	(214)	(260)	(295)	(229)	(268)	(308)	(348)	(388)	(428)
Effective Tax Rate	*23.4%*	*47.2%*	*22.5%*	*25.9%*	*26.6%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*
Net Income Total	**510**	**423**	**735**	**743**	**813**	**686**	**804**	**923**	**1,043**	**1,164**	**1,285**
Net Income to NCI	(12)	(26)	(28)	(30)	(29)	(27)	(32)	(37)	(42)	(47)	(51)
Net Income to Shareholders	**498**	**397**	**707**	**713**	**784**	**659**	**772**	**886**	**1,001**	**1,117**	**1,233**
Diluted Shares Outstanding (sold shares on HK stock exchange in September 2020)	369	398	395	388	402	430	430	430	430	430	430
YoY Growth		*7.9%*	*(0.8%)*	*(1.8%)*	*3.6%*	*7.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Diluted EPS	1.35	1.00	1.79	1.84	1.95	1.53	1.80	2.06	2.33	2.60	2.87

Capex / D&A and Free Cash Flow

	2016 (A)	2017 (A)	2018 (A)	2019 (A)	2020 (A)	2021 (E)	2022 (E)	2023 (E)	2024 (E)	2025 (E)	2026 (E)
Capex	436	415	470	435	419	600	615	632	648	662	674
% of Revenue	*6.2%*	*5.3%*	*5.6%*	*5.0%*	*5.1%*	*6.2%*	*5.8%*	*5.5%*	*5.2%*	*5.0%*	*4.7%*
D&A	402	409	445	428	450	590	605	622	637	651	663
% of Capex	*92.2%*	*98.6%*	*94.7%*	*98.4%*	*107.4%*	*98.4%*	*98.4%*	*98.4%*	*98.4%*	*98.4%*	*98.4%*
Free Cash Flow											
Net Income			707	713	784	659	772	886	1,001	1,117	1,233
(+) D&A			445	428	450	590	605	622	637	651	663
(+/-) Change in OWC			188	454	233	(348)	82	87	91	95	99
(+) Impairment			41	36	55	23	23	23	23	23	23
(-) Capex			(470)	(435)	(419)	(600)	(615)	(632)	(648)	(662)	(674)
Free Cash Flow			**911**	**1,196**	**1,103**	**325**	**867**	**986**	**1,106**	**1,225**	**1,344**

Valuation and Key Assumptions

Valuation	
2026 Net Income to Shareholders	1,233
NTM Multiple	25.0x
Equity Value at 2025 End	30,835
(+) Current Cash + ST Inv. (No Financial Debt)	4,263
(+) Cash Generated (FY21-FY25)	4,508
Total Equity Value	39,606
2025 Diluted Shares	430
2025 End Stock Price	**92**
Current Price (4/21/21 close)	**58**
CAGR to 12/31/2025	***10.2%***

Key Assumptions	
KFC Same Store Sales Growth (FY22-FY26)	*3.0%*
Pizza Hut Same Store Sales Growth (FY22-FY26)	*2.5%*
KFC Unit Growth CAGR (FY21-FY26)	*8.0%*
Pizza Hut Unit Growth CAGR (FY21-FY26)	*(1.0%)*
Labor per store y/y change (FY22-FY26)	*4.0%*
Food / paper per store y/y change (FY22-FY26)	*1.5%*
Occupancy / other per store y/y change (FY22-FY26)	*1.5%*