MASTER OF SCIENCE

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MASTER'S FINAL WORK

PROJECT

EQUITY RESEARCH:

WALMART INC.

RUI ANTÓNIO FRANCO BATISTA

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SUPERVISOR:

INÊS PINTO

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Abstract

Walmart Inc. (WMT) is a leading retailer and wholesaler that sells affordable food and non-food items through its "every day low prices" mantra. Each week, approximately 220 million customers visit the company's 10,500 stores and clubs under 48 banners in 24 countries and eCommerce websites. In fiscal year 2021, WMT recorded half a trillion dollars in Revenue (the largest *Fortune 500* company in the world) and employed over 2.3 million associates.

WMT has a BUY recommendation with a 2022YE price target of $164.56/share, implying an upside potential of 20%, or a potential annualized return of 17%, from the October 1st, 2021 closing price of $137.05/sh., although with medium risk.

The current undervaluation is mainly explained by the downward trend in operating margins over the last few years. The retail phase of selling uniformly through a "one format fits all" channel, where customers are served purely through brick and mortar stores, are gone. The modern-day customer requires an omnichannel approach where brick and mortar stores are integrated with online platforms to create a superior shopping experience. The dynamic process of selling products online, and its challenging economics, has been the main driver for the operating margin performance of Walmart.

The present research studies the impacts of the investments announced by WMT's Executive team from fiscal year 2022 onwards, and the potential outcomes of its operational performance. In the event that key operational risks materialize throughout the forecast horizon, the outlook for the Price Target changes to $127.2/sh., or a potential downside of 7% from the October 1st, 2021 price. A more optimistic scenario indicates a Price Target of $193.1/share, or a 41% upside potential.

JEL classification: G10; G31; G32; G35
Keywords: Walmart Inc.; Retail & Wholesale; Food Retail; E-Commerce; Equity Research; Valuation; Risk Analysis

Resumo

A Walmart Inc. é uma empresa líder no comércio retalhista e grossista de produtos alimentares e não alimentares, tendo como foco estratégico "preços baixos todos os dias". A cada semana, cerca de 220 milhões de clientes visitam 10,500 lojas de 48 diferentes representações em 24 países e plataformas online. No ano fiscal de 2021, a Walmart registou mais de 500 mil milhões em vendas (sendo maior empresa da *Fortune 500* global), e empregou mais de 2.3 milhões de pessoas.

A Walmart tem uma recomendação de investimento para "COMPRA", com um preço alvo de $164.56/ação no final do 2022, implicando uma potencial valorização de 20% face ao preço de fecho de $137.05/ação no dia 1 de Outubro de 2021, no entanto com risco médio.

A atual subvalorização da empresa é maioritariamente explicada pela tendência decrescente das margens operacionais nos últimos anos. A fase do retalho em que se baseava numa venda de produtos através de um único canal, pura e exclusivamente através de lojas físicas, deu-se por terminada. O consumidor moderno requer uma integração das lojas físicas com as plataformas digitais no sentido de criar uma experiência de compra mais conveniente e ajustada às suas necessidades. O processo dinâmico de vender produtos online, e a desafiante tarefa de obter retorno neste canal, tem sido o principal condutor de performance das margens operacionais da Walmart.

O presente relatório estuda os impactos dos investimentos anunciados pela direção executiva da Walmart a partir do ano fiscal de 2022, e os potenciais resultados na performance operacional da empresa. Na possibilidade de certos riscos operacionais relevantes se materializarem, o preço alvo muda para $127.2/ação, com uma potencial desvalorização de 7% face ao preço de 1 de Outubro de 2021. Uma visão mais otimista, indica que o preço alvo poderá chegar aos $193.1/ação, ou uma potencial valorização de 41%.

Classificação JEL: G10; G31; G32; G35
Palavras-Chave: Walmart Inc.; Comércio Retalhista & Grossista; Retalho Alimentar; Comércio Digital; Equity Research; Avaliação de Empresas; Análise de Risco

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Para os meus pais, para o Ricardo e para a Valéria. Obrigado por terem sido sempre o apoio que eu precisei ao longo da vida, obrigado pelo carinho e compreensão, pelos sacrifícios que fizeram para que esta etapa da minha vida fosse possível. Todas as minhas conquistas são dedicadas a vocês.

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Equity Research – Walmart Inc. | New York Stock Exchange

Date: October 1st, 2021 **Current Price: USD 137.05** **Recommendation: BUY (20% Upside)** Medium-risk

Ticker: WMT **Price Target: USD 164.56** 2022YE **Annualized Return: 17%**

Table 1: WMT's Market Data

Market Profile	
Closing Price (October 1st)	137.05
52w Price Range	126.3 - 153.7
52w Daily Volume	7.9M
Shares Outstanding	2,831M
Market Cap.	388.0B
Free Float	51.6%

Source: Walmart, Reuters

WMT: Leading in the new wave of retail

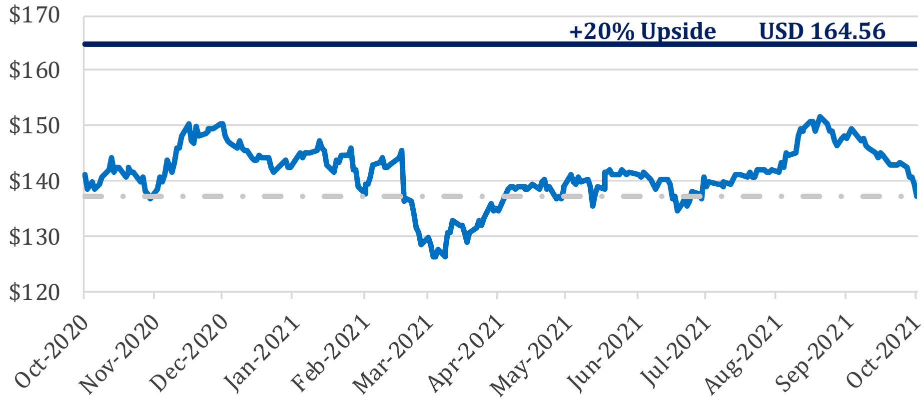
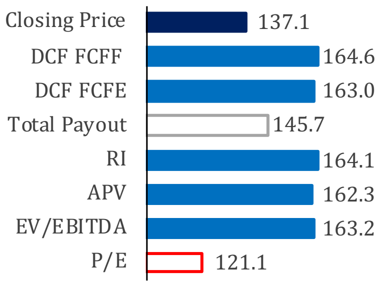


Figure 1: WMT Price Target



Source: Author estimates

Research Snapshot

WMT has a **BUY** recommendation with a Price Target of $164.6/share for 2022YE using a DCF model, thus implying a 20% upside potential from the closing price of $137.1 on October 1st, 2021, with medium risk. The recommendation lays on the following catalysts: (1) Walmart is set to invest at a pace not seen for the past five years, and with the strong momentum from fiscal 2021, the company will be able to build operational efficiency, (2) the dominant market position in the U.S. grocery business will enable WMT to maintain stable cash-flows during the higher-intensity investment years, and capitalize on superior growth post-FY2025, (3) the company added in 2020 alternative profit pools to its core business to diversify the bottom line.

Investing to build efficiency: Walmart is going to step up the investments internally, starting from the current FY2022, with a 36% increase YoY in CAPEX to about $14 billion, and increase the CAPEX to Sales ratio to the range of 2.5% to 3% in the coming years (+50 to 100 bps the 5-year average). The strategic investments in initiatives to improve efficiency in the supply chain and fulfillment of online orders, namely with the scaling of Market Fulfillment Centers, will attenuate substantially the increased operating costs of selling online *versus* in-store. The gains in efficiency are going to be felt post-FY2025, as the company builds capacity throughout the period, leading the OPEX to Sales ratio to decrease to 20.7% by FY2028 (less 76 bps than the peak level of FY2018).

Figure 2: Financial Highlights

	FY 2021	FY 2022F	FY 2028F
Revenues ($Bn)	559.2	565.2	695.9
EBITDA ($Bn)	33.7	35.3	46.6
EBITDA Mg. (%)	6.0%	6.2%	6.7%
Net Profit ($Bn)	13.5	15.0	21.2
NPM (%)	2.4%	2.7%	3.0%
CFO ($Bn)	36.1	23.3	37.4
CAPEX ($Bn)	10.3	14.0	14.8
Debt to Capital (%)	41.9%	42.2%	38.0%
Debt/EBITDA (x)	1.9	1.9	1.5
Int. Coverage (x)	9.7	13.6	15.2
ROIC (%)	13.4%	14.7%	17.6%
ROE (%)	15.7%	17.1%	19.3%

Source: Author estimates

It all starts with the core business: WMT is the leading player in the U.S. Food Retail industry, with a market share of 22% during the last FY. This is more than twice the share of the second largest player (Kroger). The company has added market share during the last 5 years (~60 bps) due to price investments and superior selling infrastructure. Going forward, WMT is expected to continue leading in the factors that count the most in this business: price and location. The superior selling capabilities both in-store and online, will enable a continued increase in market share.

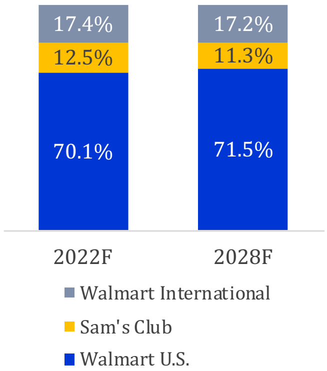
The potential of going digital: The eCommerce market in the U.S. is expected to grow at a 5-year CAGR of 15% until 2025F. Walmart, through strategic acquisitions and partnerships, grew to become the second largest "e-tailer" in the country. This level of growth will enable the expansion of the general merchandise business as more brands and partners are added to the online platform. Additionally, the new initiatives in fulfillment services to third-party vendors, the creation of a Membership program called *Walmart+*, and the success that Walmart Connect (advertising business) is enjoying, will help the company to improve its consolidated operating margins by 70 bps *versus* FY2021 level.

		Bear Case	Base Case	Bull Case
WMT **Three Investment theses**	The **value driver behind the PT** outlook is the WMT U.S. segment. Different scenarios were forecasted to estimate the **potential upside and downside** for the company's stock.	. Invests to stay as it is, downward trend in EBIT Mg. . Failed product mix diversification, (Sales CAGR 22F-28F: 2.7%) . Vicious cycle of high costs in eCommerce **Price Target:** $127.2 **Downside:** 7%	. Investments build OPEX leverage, ~20.7% OPEX/Sales . Faster growth in General Merch vs. Grocery (Sales CAGR 22F-28F: 3.9%) . EBIT Mg. expands marginally, to reach 5.9% by FY2028 **Price Target:** $164.6 **Upside:** 20%	. Best-in-class EBIT margins, 6.4% by FY2028F . 8% Mkt. Share in General Merchandise by FY2028F (Sales CAGR 22F-28F: 5.4%) . Solid in-store organic growth **Price Target:** $193.1 **Upside:** 41%

Business Description

Walmart Inc. (NYSE: WMT) is a leading retailer and wholesaler based in the United States. The company operates different store formats, from smaller formats that sell mostly food and consumables, to Supercenters, which comprise full lines of grocery and general merchandise such as apparel and home items. Additionally, larger stores include health and wellness products/services from pharmacy and OTC drugs to optical services. Over the years, the company also added online platforms in each segment to provide an "omnichannel" experience to customers, i.e., combining brick and mortar retail with online retail. Walmart operates in the United States under the Walmart U.S. and Sam's Club segments, whereas international operations are under tutelage of Walmart International. The major value driver for the Group is Walmart U.S., which contributed to 76% of consolidated EBITDA in the fiscal year 2021. Walmart's mission "save money and live better" sets the tone for a customer-centric model based on everyday low prices across 24 different countries, passing savings from great scale and shrewd selection of products to over 220 million weekly customers and members.

Figure 3: Sales by Segment in Fiscal Year 2022F vs 2028F



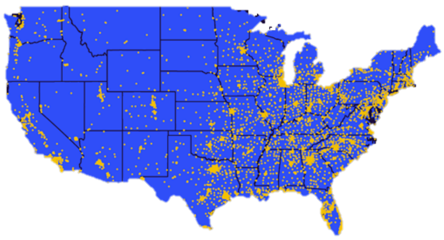
Source: Author analysis

The History of the company

Walmart was founded in 1962 when Sam Walton, the founder of the company, opened the first store located in Rogers, Arkansas. After studying the retail business for several years and running stores on his own during that time, Mr. Sam believed in a business opportunity that would be the future of retailing: the discount store. Today it is a familiar concept, but in the 60s this was still an unproven enterprise and there were doubts about its viability giving the thin margins to sustain the cost structure. The principles of everyday low prices and everyday low costs that the company praises today were set in stone in the 60s.

The company started doing business in the so called "small town" America out of necessity, they were underfinanced and undercapitalized, so Mr. Sam would commit to control expenses. For instance, he would not pay more than $1.00 a square foot in rent and he would go by himself on trips to acquire merchandise directly from vendors to eliminate middlemen, such as distributors. Most of his competitors at the time refused to explore small sized markets, so the company turned a necessity into an opportunity. By providing good merchandise at the lowest prices, they earned loyalty in untapped regions and that proved crucial for their future expansion.

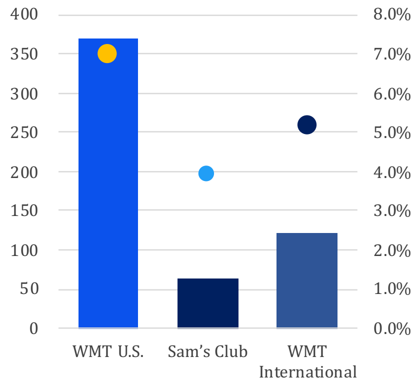
Figure 4: Walmart Store footprint in continental U.S. (excl. Sam's Club)



Source: Corporate website & Yahoo Finance

In 1967 the Walton family owned about 24 stores with $12.7 million in annual sales and in 1970 Walmart became a public traded company. From 1970 to 1980, Walmart grows into a billion-dollar business, with 276 stores and annual revenues of $1.2 billion, representing a 44.14% CAGR for the period, while profits were about $41 million. In the 80s the company introduced Sam's Club and the first Walmart Supercenter. The 90s were characterized by international expansion through acquisitions and joint ventures in Mexico, Canada, China, and the United Kingdom. Since the 2000s, Walmart's focus is on using their vast store network with online platforms to create the "retailer of the future", where customers have a seamless shopping experience, whether they are online or in a store. In FY2021, the company recorded over half a trillion dollars in revenue, with approximately 10,500 stores and 2.2 million associates worldwide.

Figure 5: Sales (in Bil. USD) & EBITDA Margin in FY2021



Source: Company data & Author analysis

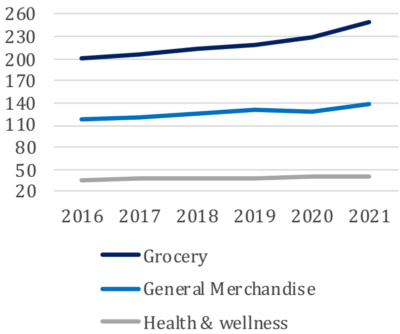
Walmart's business segments

The company's operations are conducted in three reportable segments: Walmart U.S., Sam's Club and Walmart International. Each segment is defined as the operations whose results the chief operating decision maker regularly reviews to analyze performance and allocate resources. The company sells similar individual products and services in each of its segments. For the International segment, Walmart does not report sales on product categories, sales are reported by region.

Walmart U.S.

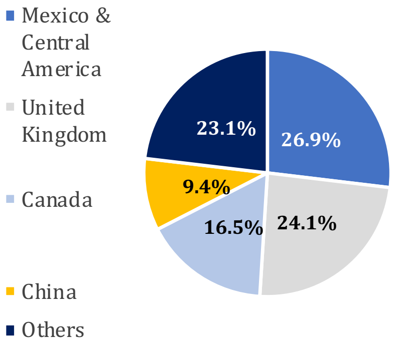
Walmart U.S. is the centerpiece of the company's operations, both in size and as a value driver. The segment operates three primary store formats across the United States: Walmart Supercenter (grocery and general merchandise), Walmart Discount Store (general merchandise and limited grocery) and Walmart Neighborhood Market (grocery). The average size of these stores is between 42,000 and 178,000 square feet and they employ between 95 to 300 associates each (see Appendix 3). Over 4,700 stores are supplied by more than 150 distribution centers strategically placed and by their private fleet of trucks that travel around 700 million miles each year. On the digital front, pickup and delivery proved to be a crucial factor to navigate through the challenges of the COVID-19 pandemic, as demand on the website and app increased substantially leading to growth of 79% in E-Commerce sales for FY2021 (approx. $43 billion). Currently, pickup is present in 3,800 locations while delivery is available in 3,200 locations, with margin to further improve capacity. Net Sales amounted to $370 billion in FY2021 (+8.5% YoY), about 67% of Walmart's consolidated Net Sales, while commercial area remained flat at 703 million square feet, representing $526 sales per square ft. Grocery products account for 56% of the segment's sales, and registered a 4.52% CAGR during FY2016-2021, with a strong performance of FY2021 (+8.31% YoY). Walmart U.S. has the highest

Figure 6: Product mix in the United States (in Bil. USD)



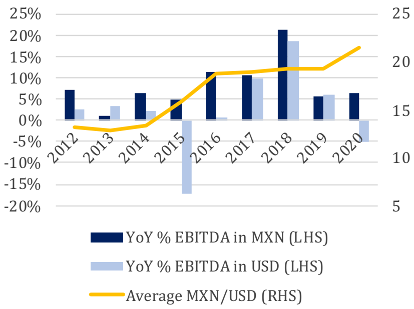
Source: Company data & Author analysis

Figure 7: International sales by region FY2021



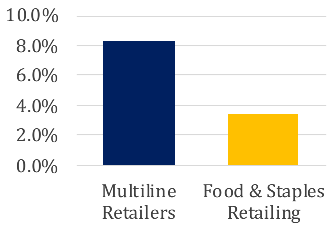
Source: Company data & Author analysis

Figure 8: Currency effects on USD EBITDA of Walmex



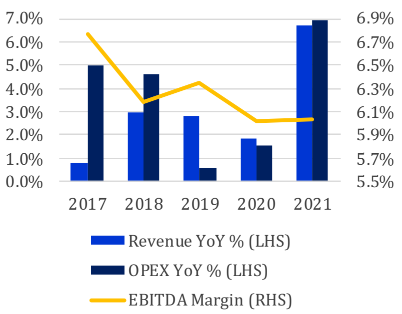
Source: Company data & Author analysis

Figure 9: 2020 Median EBIT Margins in Food vs. Multiline Retailers



Source: Bloomberg & company reports

Figure 10: OPEX Leverage vs EBITDA Margin



Source: Company data & Author analysis

EBITDA margin among all segments, around 7%, and contributed with $19 billion of operating income in FY2021, or 85% of consolidated EBIT, translating an operating margin of 5.17%.

Sam's Club

The Sam's Club segment has 600 stores across the U.S., with an average size per store of 134,000 square feet, and contributes to approximately 12% of consolidated sales, a total of $64 billion in FY2021. The segment's business model is based on membership-only warehouse clubs, where products are sold in bulk, the SKU store selection is typically around 3,000 to 4,000, and the industry's gross margins are razor-thin, between 8 to 14 percent. The model extracts most of its operating income from annual membership fees. Between regular Club memberships of $45/year and Plus memberships of $100/year, Sam's Club offers a value proposition of member-exclusive benefits ranging from fuel discounts to cash rewards, always with a focus on adding members and creating lasting relationships that will translate into high renewal rates. The company does not disclose data regarding the number of paid members, nor the proportion of members per membership program. The largest competitor by revenue, Costco Wholesale Corp., reported in FY2020 over 58 million paid members and $3.5 billion in membership fees, around 65% of its operating income. As with Walmart U.S., Sam's Club grocery and consumables represent the core business, retaining 65% of the segment's sales in FY2021, which grew at a staggering 20% YoY to over $42 billion. Sam's Club EBIT increased 16% YoY in FY2021 to $1.9 billion, with a strong performance across the board amid the COVID-19 pandemic. Both average ticket and transactions increased by 6.3% and 8.9%, respectively, while membership income increased 9.1% YoY, according to the earnings presentation. Also, the addition of capacity in the digital front, by launching curbside pickup in all stores, was certainly a strong contributor to +40% growth in E-Commerce, reaching sales of $5.3 billion.

Walmart International

Walmart International comprises the company's operations outside the U.S. and it contributed in FY2021 with 22% of consolidated Sales. Besides operating the same store concepts as in the U.S., with Walmart Supercenters and Sam's Club warehouse-clubs, the segment also has a strong local focus without losing the identity of communities that it serves. For instance, there are close to 50 banners operating around the world with regional store concepts such as *Mas x Menos* in Costa Rica or *Bodega Aurrera* in Mexico.

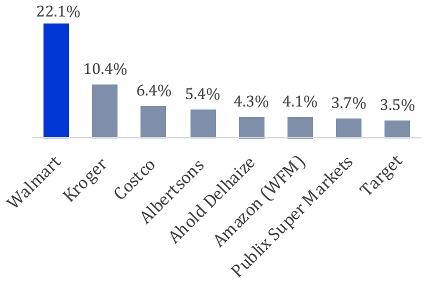
Wal-Mart de México S.A.B. de C.V. (MSE: WALMEX) is a subsidiary of Walmart Inc. (71% ownership) responsible for operations in Mexico and Central America and is a public traded company, alone it contributed with 27% of Walmart's international sales in FY21. With close to 3,500 units, 75% of those in Mexico, annual sales increased at 7.6% CAGR 2010-2020 to more than 30 billion USD, while EBITDA grew at 8.5% CAGR for the same period. The company has a strong competitive position in Mexico, with same-store sales outpacing the market as measured by ANTAD for six consecutive years. The consolidation of results from the company has been negatively affected since 2012 by the significant devaluation of the Mexican peso in relation to the US dollar (see Figure 8). This has impacted the overall US dollar performance of Walmart International, especially because Walmex contributes with more than half of the segment's USD EBITDA (~55% in FY21). Despite of this economic reality, the fundamentals of the business are strong.

The company sold in the current FY the U.K. and Japan operations; the U.K. operations alone contributed with almost a quarter of the segment's sales (see Figure 7). This move was justified as an effort to concentrate the international presence in higher growth markets. The segment also has strong presence in Canada and China, both contributing in FY2021 with 16.5% and 9.4% to international sales, respectively. These markets have responded positively to the Walmart brand, with more than 700 Walmart Supercenters currently operating in those regions.

Key drivers of profitability

Starting from a top-line analysis, the most impactful factor comes from the selling product mix regarding grocery, general merchandise, and health & wellness. Median EBIT margins for Food Retailers are around 3.4%, while for Multiline Retailers this figure is ~8% (see Figure 9). Therefore, a sizable growth gap in food can have a meaningful impact on the overall profitability, starting with Gross Margin reduction due to price competition and relatively high level of commoditized products. A model example of a pure Multiline Retailer is a player like Target Corp., with grocery sales representing less than 20% of the total (7% EBIT in FY20), while a pure Food Retailer looks more like Kroger, where food represents roughly 80% of total sales (2.1% EBIT in FY20). Walmart is a crossover between a food retailer and a multiline retailer, and its business model is designed to leverage the scale of the food business to cross sell in other higher margin products (see Appendix 9). Consequently, margins fall in between those two format categorizations, with Walmart U.S. registering a 5.2% EBIT margin in the FY2021. Grocery revenue grew at a 4.5% CAGR between FY16-21, or 59 bps above Gen. Merch growth and 127 bps above Health & wellness growth for the same period. That influenced the 30 bps decrease in gross profit margins over that period as the company invested in price gaps to fuel market share growth. Healthy operating performance is manifested

Figure 11: 2020 Market Share in U.S. Food Retail



Source: J.P. Morgan research

through solid grocery figures accompanied by growth in categories such as apparel and home improvement that build margin potential in the product mix. In the coming years, Walmart's profitability will also be shaped by a more diversified profit pool coming from up-and-coming businesses, such as advertising, that can add momentum to the bottom line (see Figure 16 & Appendix 4).

From the cost side of the equation, the most meaningful figure is the operational efficiency that is exacerbated by the revenue growth compared to OPEX growth. From FY2016-18, OPEX deleverage significantly affected the operating profitability of Walmart (see Figure 10). This was mainly a result of increased wage investments for U.S. associates (starting wage +50% since 2014) and expansion of the e-commerce penetration in sales, which can dent margins when the revenue base has yet to reach the economies of scale to cover additional logistics and last mile costs (see Appendix 5 & 6). On a short-medium term basis, the operating margins will remain flattish amid the hot labor market that affects seasonal hiring in the U.S. and normalization of demand post FY2022 (see Industry overview). For the medium-long term, post FY2025, as online sales gain more scale, the associated fixed costs will be spread more easily to a growing number of orders and the overall selling process will become more profitable as unitary costs decrease. The expected OPEX to Sales will decrease to about 20.7% by fiscal 2028F, down 32 bps when compared to the 5Y historical average. Profitability is expected to gain traction after the planned investments between FY2022-25 position the company for margin expansion.

Figure 12: Top factor in selecting a grocery store in 2021

Source: McKinsey survey (2021)
n = 4,691

The Strategic Plan

- **Leading with the U.S. food and consumables moat**: Walmart is the primary destination for grocery shopping in the U.S. with ~22% market share (incl. Sam's Club), well over 2x the share of Kroger, the second biggest player. Over the last 5 years Walmart increased price investments versus direct competitors, leading to a cumulative gain in market share of 62 bps. Store location is another basis for competitive advantage, as no other player has the reach and logistics to supply over 5,300 stores ranging from small to large formats across the country like Walmart. Going into 2021, store location and pricing will continue to be a central piece in the food and consumables moat (see Figure 12). In the 2Q of the current fiscal year, Walmart reported increased store traffic with comp transactions up 6.1% leading to increased market share in grocery.
- **Investing for the future**: In 2021, Walmart is expected to boost Capex by +36% YoY, an increment of ~$3.7 billion, largely driven by investments in automation, technology, and supply chain. Over the next few years, the company will expand CAPEX to around 2.5% to 3% of sales, considerably above the 2% average for the last 5 years. Walmart is trying to capitalize on the strong momentum in performance from 2020 to build more capacity and improve quality of service, especially online, to deepen customer relationships going forward.

"Walmart 2014 Annual Report

Our customers continue to search for value, a broad assortment and a shopping experience that **saves them time and money**. With **greater convergence of digital and physical retail**, we're investing in capabilities to provide customers even more choice and convenience."

Doug McMillon
President and CEO of Walmart Inc.

- **Reshape the International Portfolio:** The Walmart International team has divested its operations in lagging markets such as the U.K. and Japan to focus on higher growth regions. The divestitures were completed in the 1Q of FY2022, and operations will be deconsolidated starting in the current Fiscal Year. The expected impact on sales is estimated at a 20% decrease YoY. On the other hand, this change will unlock more investment for operations in Mexico, China, and India, where there is superior growth potential in the coming years (see Critical M&A deals). Furthermore, the operating margins will improve as Mexican operations contribute more in relative terms to the segment's sales.
- **Build alternative profit pools:** Walmart is scaling alternative profit streams that are going to complement its core business and create tailwinds from a margin perspective. These opportunities include marketplace and fulfillment services, advertising, *Walmart+* membership, financial services, and healthcare (see Appendix 9). These initiatives are starting to blossom and will be a significant part of Walmart U.S. in the longer term.

Figure 13: Market Fulfillment Center (MFC), illustration

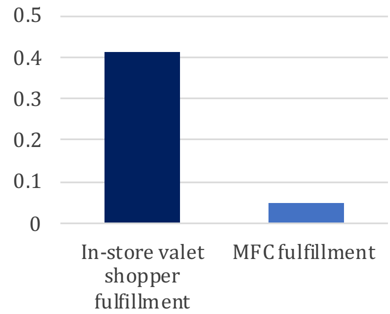
Source: Walmart Corporate (adapted)

What is new: Walmart U.S. is adding capabilities

The Walmart U.S. segment has been a busy bee since last year, and they are undergoing significant change that will shape the future margins and the competitive firepower of Walmart as a whole. They are positioning themselves for more attractive operating margins coming from fees on the E-commerce business, the order fulfilment process that is getting more efficiency, the membership program that was created to build deeper bonds with customers, and they are using their position as #2 e-commerce player in the U.S. to build a strong advertising business.

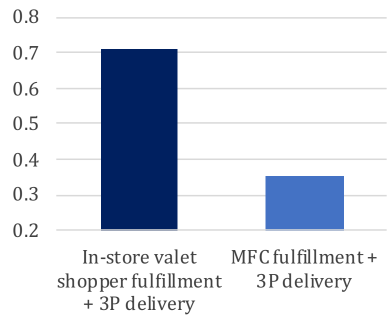
Scaling Market Fulfillment Centers (MFCs) | Walmart U.S. has a competitive advantage with a vast infrastructure of stores fully operational throughout the country. By leveraging this asset, they are

Figure 14: Incremental labor cost/unit of pickup in-store of grocery item over traditional store sale (in USD)



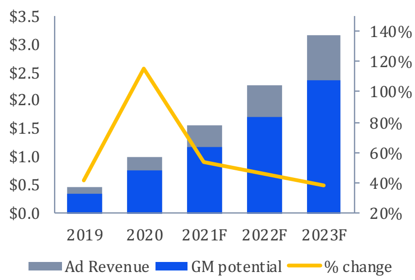
Source: MWPVL

Figure 15: Incremental labor cost/unit in online delivery of grocery item over traditional store sale (in USD)



Source: MWPVL

Figure 16: Advertising revenues & Gross Profit potential (in $bn)



Source: eMarketer (2021) & Author estimates

Table 2: 2021 Top 10 U.S. Retail E-Commerce Companies (in $bn)

	Revenue	Direct Competitor
1. Amazon	$367.19	
2. Walmart	**$64.62**	
3. eBay	$38.67	
4. Apple	$33.62	
5. Best Buy	$20.34	
6. Target	$20.23	✓
7. Home Depot	$20.02	
8. Kroger	$15.04	✓
9. Costco	$14.58	✓
10. Wayfair	$13.88	

Source: eMarketer

scaling Market Fulfillment Centers (MFC) to expand pickup and delivery capabilities. A MFC is a compact, modular warehouse built within, or added to, a store – and it is highly automated. It can store thousands of items from consumables to electronics (see Figure 13). The potential here is that instead of an associate walking the store to fulfill an order from the store's shelves, automated bots will handle the orders within the fulfillment center. At the same time, the associates can focus on handpicking fresh items like produce, meat, and seafood. This will bring massive efficiency gains and higher level of service to customers. One MFC can fulfill orders for many stores, which means that efficiency gains can reach also more geographical coverage at a faster pace. The company is already scaling dozens of locations, with many more to come. To enlighten the cost savings potential of this investment, the logistics/supply chain consultant MWPVL analyzed the additional labor costs per unit in different fulfillment options for a grocery item sold online *versus* a traditional sale in-store. The results show that when the customer chooses either pickup or delivery, the savings are huge for MFCs when compared to an in-store valet shopper (see figures 14 & 15). For pickup, MFCs reduce incremental costs to $0.05/unit (minus 88%), while for delivery the incremental costs/unit stay at $0.35 (minus 51%). This can significantly improve the overall P/L of online sales in grocery, which is traditionally the product segment with the most challenging economics in the online dislocation.

Launching a Membership program called *Walmart+* | Walmart U.S. launched in 2020 a membership program called *Walmart+* that provides in-store and online benefits. Members have access to unlimited free delivery with in-store prices on more than 160,000 items from over 4,700 stores, with 3,200 of those already providing same day delivery. The membership program also includes fuel discounts and access to time saving initiatives in-store such as Scan & Go. It costs $98/year or $12.95 a month. The company does not disclose figures regarding its membership programs, adding complexity to forecasting its performance especially when combined with the membership programs from Sam's Club already in place. Going forward, Walmart's CEO has said on multiple earnings calls that the target here is to first build capacity and quality of service to increase *Walmart+* membership penetration with high Net Promoter Scores.

Walmart Fulfillment Services | Fulfillment services were launched in 2020 and will help expand the marketplace assortment, especially in general merchandise, while earning fees. Walmart Fulfillment Services enables 3P vendors to leverage Walmart's supply chain capabilities to handle all the logistics side of an E-commerce sale, from storing to handling returns. Not only Walmart will be able to capture more marketplace partners and earn referral fees from sales there (usually 8% to 15% depending on product category), but they will also earn fees for providing that logistics support. This will be important to differentiate Walmart's E-commerce business when compared to its brick & mortar peers and compete more openly with Amazon.

Advertising: Walmart Connect | Walmart has well publicized ambitions in advertising, the company's executives have mentioned that the target is to be within the top 10 advertising platforms in the U.S. five years from now, ahead of players like Hearst, Fox, and Twitter. The company has a strong platform, first as a leader in physical store traffic with millions of shoppers every week, but also with an ever-increasing popularity in digital offering and valuable data gathered from shoppers' activity. According to Apptopia, in 2020 the Walmart App was the #2 most downloaded shopping app in the U.S. with 34 million downloads. The company does not disclose figures on the segment, even though estimates from eMarketer point to $1.01 billion in 2020 Ad Revenues, a 115% YoY growth (see Figure – eMarketer). By 2023, Ad Revenues can reach $3.14 billion. This business has a much higher margin when compared to core retail, J.P. Morgan research points to a 75% Gross Profit Margin potential, therefore it could add accumulated Gross Profits of $5.2 billion between 2021-23F.

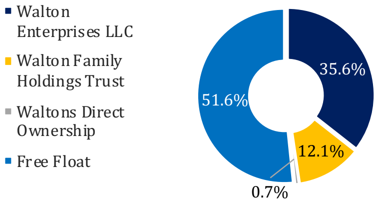
Critical M&A deals

Since Mr. Doug McMillion took over the CEO role in 2014, scaling the digital retail business was a strategic priority, thus WMT completed acquisitions and partnership deals that positioned the company for higher growth opportunities. Consequently, between FY2016 and FY2021, Goodwill grew at a 11.7% CAGR, to ~$29 billion. Since then, Walmart has become the second largest U.S. E-Commerce player, with a sizable gap to its direct brick and mortar competitors (see Table 2).

U.S. | Walmart's push into E-Commerce started relatively late, as the company only launched its site to store service in 2007. In 2016, WMT completed the acquisition of jet.com, a U.S. based e-commerce company. Jet had one of the fastest growing e-commerce businesses in the U.S., a broad online product assortment that WMT was looking for (~12 million SKUs), over 2,400 retailers and brand partners, and a growing customer base that was attractive, mainly composed by urban and millennial users. The deal was seen by investors and analysts as a way for Walmart to gain the digital savvy of Jet's founder and his team, whom had vast e-commerce experience and were integrated into Walmart's leadership roles. Eventually, the acquired company was discontinued in 2020, but WMT's digital presence and capabilities exploded. The digital platform was redesigned, the supply chain improved to accommodate two-day and same-day delivery and the product assortment sold online increased to about 80 million SKUs, per J.P. Morgan research. Between 2018 and 2020, E-commerce revenues grew at 62% CAGR.

China | Walmart has a meaningful physical presence in China with almost 400 Supercenters and 33 Sam's Club units. China is the biggest e-commerce market in the world, almost 3x the size of the U.S. market, with 2021YE revenue estimates of $2.56T and online penetration of 47.2%, per eMarketer. By 2025, its size could reach $3.7T, representing a 10.2% CAGR**.** Reinforcing the digital presence in the market is a must. In 2016, WMT sold assets to JD.com relating to Yihaodian, their e-commerce operations in China, including the Yihaodian brand, website, and application in exchange for ~5% of JD's outstanding ordinary shares. Later that year, WMT purchased an additional 5% stake for $1.9 billion, totaling a 10% ownership interest. JD.com (NASDAQ: JD) is currently a leading Chinese E-commerce player and one of the fastest growing retailers at scale in the world. Besides the acquisition of the minority stake, Walmart formed a partnership with the company to expand its Chinese E-commerce presence by having access to JD's online platform and delivery capabilities such as same-day delivery from WMT stores in that market. Currently, the fair value of its minority stake is estimated to be worth around $10.7 billion.

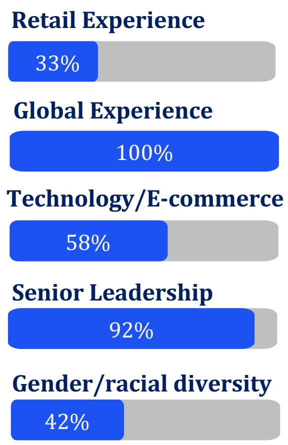
Figure 17: Shareholder's Structure



Source: 2021 Proxy Statement & Factiva

India | In 2018, the company acquired 81 percent of the outstanding shares, or 77 percent of the diluted shares, of Flipkart, an Indian-based E-Commerce marketplace, for cash consideration of approximately $16 billion. Before the acquisition of Flipkart, Walmart had a small presence in the Indian market, operating around 20 Best Price cash-and-carry stores. At the time of the deal, Flipkart's GMV was $7.5 billion and made 500 thousand deliveries daily in more than 800 cities. The Indian market is another promising region for retail as consumption is expected to reach $3.2T by 2025, representing a 10% CAGR 2019-2025F, and the size of the retail market should top $1.3T in 2025, according to BCG research. Besides the promising economic growth and expansion of the middle class, the Indian retail market is still very fragmented and there is margin for growth, in the next decade the top 5 retailers can reach 10 to 12% market share, today they have less than 5%. There is, on the other hand, concern about regulatory actions directed at e-commerce companies like Flipkart and Amazon to guarantee fair competition with smaller players, which could limit the operating practices of the company. Despite of the regulatory pressures, in 2021 a funding round raised $3.6 billion from international investors and valued Flipkart at $37.6 billion, with Walmart retaining a 74% stake.

Figure 18: Board relevant skills & experience



Source: Company data

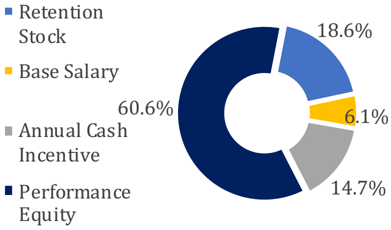
Shareholder structure

Walmart's ownership structure is deeply connected with the Walton family, despite of being a public company since 1970, thus reinforcing the generational commitment regarding the long-term performance of the company. Walton Enterprises LLC holds a 35.72% ownership interest and Walton Family Holdings Trust holds a further 12.1% interest. Alice L. Walton, Jim C. Walton, and S. Robson Walton, the heirs of Walmart's founder Sam Walton, share voting and dispositive power in both holding entities. Individually, they also directly control ownership positions totaling 0.73% of shares outstanding. The company enjoys a diversified base of institutional shareholders, with relevance for The Vanguard Group's stake of 2.43% and BlackRock Fund Advisors' 2.14%.

Corporate Governance

Mr. Doug McMillon is the President and CEO of Walmart Inc. and leads the executive management team since 2014. He has worked at Walmart for 30 years, starting as a teenager unloading trucks and eventually worked his way up to upper management positions in all of Walmart's business segments. Under his leadership, the company has been pushing for more digital presence to serve customers beyond Walmart's vast brick-and-mortar store network. Also, the company has taken significant steps towards better working conditions and environment friendly initiatives.

Figure 19: CEO Compensation scheme

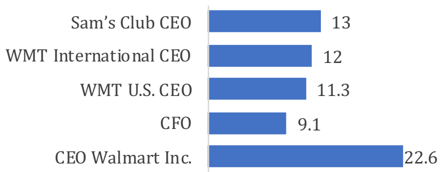


Source: 2021 Proxy Statement

Board Structure and Remuneration Policy

Walmart's Board of Directors ("the board") is composed by 12 members, of whom 8 are independent and 11 are non-management. Despite of the substantial ownership in the company by members of the Walton family, they have held only 3 seats on the board. There's a thoughtful board refreshment as the median tenure is 7.5 years and independent directors have a 12-year term limit, also 41% of the board's members were appointed in the last 5 years. The board had 6 meetings during FY2021 and 20 board committee meetings with an overall attendance rate of 98%. Walmart separates the Chair and CEO roles since 1988 and has a Lead Independent Director since 2004. The remuneration policy is defined by the Compensation and Management Development Committee which is fully independent. The CEO's target remuneration for FY2021 is 75.3% performance based while for the rest of the executive team this figure is 73.3%. Performance metrics include sales, operating income, ROI, and stock performance. To guarantee that the management interests are aligned with those of shareholders, compensation paid in stock normally has 2 to 3 years of vesting period and the CEO must maintain beneficial ownership of unrestricted shares with a market value equal to seven times his base salary (5x for other executives and directors). Regarding the compensation of members of

Figure 20: FY2021 Executive team total compensation (in $Mil.)



Source: 2021 Proxy Statement

Figure 21: Board structure

Source: 2021 Proxy Statement

Table 3: ESG Metrics

Key ESG Metrics	
Rank (Industry)	5th
ESG Score	85 out of 100
Environment	**83**
Emission	78
Resouce Use	93
Innovation	78
Social	**89**
Human Rights	92
Product Responsability	82
Workforce	90
Community	97
Governance	**79**
Management	86
Shareholders	60
CSR Strategy	71

Source: Refinitiv

the board, the mix between stock awards and compensation paid in cash is more even when compared to the compensation of the executive team (See Appendix 11).

Governance Model and Shareholders

The board has six standing committees: the Strategic Planning and Finance Committee, the Technology and eCommerce Committee, the Audit Committee, the Compensation and Management Development Committee, the Nominating and Governance Committee and the Executive Committee (see Appendix). The Governance committees are fully independent, complying with the Exchange Act, the SEC's rules and the NYSE listed company rules.

The board nominees are elected for a one-year term during every Annual Shareholders Meeting and are subject to a voting majority. According to Walmart's Bylaws, each share entitles the stockholder to one vote, and he may exercise his right in person or by proxy. Shareholders also vote yearly on executive officer compensation and the ratification of independent accountants, even though the results are "votes of confidence" rather than binding to the company. For the past three years an average of 91.3% of all outstanding shares were represented at the Annual Shareholders Meeting, while the election of each board nominee received on average affirmative votes of 97% of the shares voted for the same period. Three generations of Walton family members have served on the board since Walmart was founded, their long-term orientation and 25% representation in the board ensures that minority shareholders are protected, despite of the considerable voting power retained by the family. Stockholders can also request special meetings, providing that in the aggregate they represent at least 10% of the voting power of the shares outstanding. The company's good governance practices have earned an ISS Quality Score of 2 out of 10, with 1 being the lowest level of governance risk.

ESG Profile

The importance of the Environmental, Social and Governance profile of companies has been rising over the last several years as investors grow their concerns about the impacts of their investments. Walmart is heavily scrutinized in terms of ESG risks, particularly regarding labor and sourcing decisions. The executive team lead, by Mr. Doug McMillon, has taken several steps since 2014 to improve, on the labor side starting wages increased by 50% and the company expanded benefits and training for associates. For sourcing, giving the global network of suppliers that Walmart is engaged with, the company is collaborating with suppliers to reduce or avoid 1 gigaton of emissions in the supply chain by 2030, as well as source commodities such as palm oil and coffee that have a high standard of sustainability. The company's work on the field has earned an ESG score of 85 out of 100 from Refinitiv and a place on CDP's 2020 "A list" for climate change.

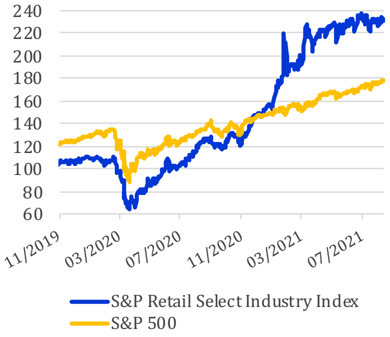
Building sustainable operations

In 2006, Walmart established three aspirational goals tied to sustainability: create zero waste, operate with 100 percent renewable energy, and sell products that protect limited resources and the environment. To achieve such goals, Walmart has set targets for its own operations as well as for the supply chain. Most emissions in the retail sector lie in product supply chains rather than in stores and distribution centers, therefore Walmart adhered to Project Gigaton to avoid 1 billion MT (a gigaton) of emissions in their collective value chains by 2030. So far, more than 3,100 suppliers signed on to the project and have reported the avoidance of 416 MMT of CO_2 since 2017, by acting on energy use, sustainable agriculture, waste, packaging, deforestation, and product use. The company estimates that 36% of the electricity needs in FY2021 were supplied by renewable sources and by the end of 2025 this figure is expected to reach 50%. Waste, particularly food waste and plastic waste, is also a big part of retail, in this segment Walmart has approximately 71% of its global waste recycled/reused and 81% of unsold products, packaging and other operational materials were diverted from landfills and incineration globally.

Scale brings socioeconomic challenges

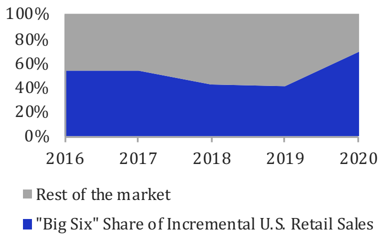
Walmart employs 2.2 million people worldwide and serves over 200 million customers weekly, thus the social and economic impacts are significant. The company's social score of 89 by Refinitiv indicates strong policies towards human rights, workforce, and community projects, earning distinct recognitions such as being part of Bloomberg's 2020 Gender-Equality Index and Diversity Inc's 2021 Top 50 companies. Walmart's CEO has treated the increase in wages as a priority and a strategic investment. Since 2015, starting wages have increased by more than 50% with an average wage in the U.S. of $15.25/hour. Retaining workforce is important and Walmart has done a lot in terms of training and promotions, in the U.S. over 300,000 associates were promoted to jobs of greater responsibility and higher pay and more than 1.8 million associates have received training in the Walmart Academy since 2016. Over 46% of U.S. management promotions are attributed to women and 39% to people of color. The work in communities around the world is a big part of Walmart, the company has made a total of $1.4 billion of cash and in-kind donations globally during FY2021. Associates in the U.S. have volunteered more than 630,000 hours in 2020 and the company hired more than 250,000 U.S. veterans with 42,000 of those receiving promotions.

Figure 22: Market Performance, Prices Rebased as 02/01/2019



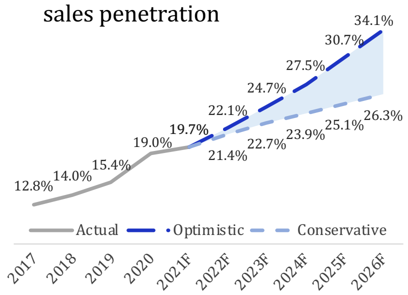
Source: S&P Global & Author analysis

Figure 23: Market concentration in incremental U.S. Retail Sales



Source: U.S. Census Bureau, Company data & Author estimates

Figure 24: U.S. online core retail sales penetration



Source: J.P. Morgan Research & Author estimates

Figure 25: U.S. Retail sales growth vs Economic Growth

Source: Bureau of Economic Analysis & Author estimates

Industry Overview and Competitive Positioning

Industry snapshot

Turning a negative into a positive | For the last 15 years, core Retail Sales[1] in the U.S. grew at a 3.23% CAGR, while in 2020 growth reached 6.97% YoY. The market size topped the 4 trillion USD mark and is continuing its solid performance in 2021 with a 1Q YoY growth of 13%, according to U.S. Census Bureau data. The strong results across the industry have led the retail composite index to outperform the S&P 500 since the end of 2020 (see Figure 22). Large players had strong comp sales, with Walmart registering a 9% LFL annual sales growth in the U.S., excl. fuel.

Big players got bigger | From a demand perspective, the pandemic created the perfect storm that brought a mix of government stimulus, limited traveling, and a shift in demand that only the largest retailers could accommodate. No one benefited more from this high-flying demand than the six juggernauts in the U.S. retail industry: Walmart, Amazon, Kroger, Costco, Home Depot and Lowe's. In 2020, for every dollar of incremental retail sales in the U.S., these players earned collectively ~70 cents, a major increase from the 40 to 50 cents mark over the last few years (see Figure 23).

The secular trend | The global pandemic brought cyclical effects but also accelerated a secular trend in the retail industry, the digital commerce. It is a trend that could be seen from miles away with the buildup of factors like the massification of mobile devices with reliable online browsing capabilities, trustworthy online payment methods, and improved convenience through faster order fulfillment and deliveries. The online dislocation is a complex process and depends on factors such as perishability, level of involvement by the customer, and shipping costs. Regardless, in 2020 the overall E-commerce penetration reached 19% of U.S. core retail sales, up 358 bps YoY (see Figure 24). Optimistic estimates target E-commerce penetration to reach 30% of U.S. core retail sales by 2025 and over 40-50% in the long term. Conservative estimates, based on historical penetration rates, point to 25% penetration by 2025 and 30% in the long term.

Demand Drivers

Economic Outlook

Core retail sales have shown a strong positive correlation with the GDP growth and Disposable Personal Income (DPI) growth over the years (see Figure 25). In 2020, services-related expenditures largely migrated to goods. The household consumption expenditure for services decreased 6.5% YoY in 2020, a $600 billion plus reduction, as people stayed at home during the peaks of the pandemic. Transportation-related expenditures were also reduced, such as gasoline and other energy goods which fell 25.6% YoY, enabling households to spend more on food related products and home improvement. From the income side, in 2020 U.S. households maintained stable levels of compensation, while the DPI increased 7.5% YoY, or ~$1.2 trillion, with a large contribution of government social benefits of $1.09 trillion, per Bureau of Economic Analysis.

In 2021 the global economy will recover, as measured by IMF's GDP growth expectations, while economic agents still navigate through a substantial level of uncertainty. Global GDP is expected to grow 11% YoY, from a downfall of 3.2% in 2020, whereas the U.S. economy will grow 8.4% YoY from a decrease of 2.3% in 2020. The global GDP is projected to grow at a 5.45% CAGR between 2021-26F, while the U.S. economy is expected to grow 4.05% for the same period (IMF, 2021).

U.S. Market Outlook

The retail industry in the U.S. will see yet another strong year in 2021, according to eMarketer estimates 2021YE sales will reach ~$6.1 trillion USD (incl. auto & fuel), or 7.8% growth YoY. The level of growth in DPI, aligned with solid demand in key categories such as food and a rebound in category losers from 2020, will sustain growth prospects for 2021. Retail sales in the U.S. are expected at ~7 trillion USD by 2025, representing a 4.43% CAGR, this is close to 100 bps more than the industry sales CAGR for the last 5 years. The main driver for retail sales growth will be E-commerce sales, as brick and mortar growth prospects will be flattish. The omnichannel strategy, i.e., combining in-store and online shopping services for customers, will prove to be crucial for traditional B&M players to capture growth. Omnichannel customers spend an average of 4% more on every shopping occasion in the store and 10% more online than single-channel customers, according to research published in the Harvard Business Review on 46,000 customers of a U.S. retailer.

Opportunity in Food & Consumables

The food and consumables business represents a large share of U.S. Retail Sales, in 2020 households spent over 1.13 trillion USD in food and beverage, up 10.55% YoY. Yet it is one of the segments with lowest online penetration. COVID-19 has impacted dramatically the online adoption, and the success of fulfillment options such as curbside pickup, pulled forward online penetration by 700 bps YoY to ~10%, according to J.P. Morgan research. Product category is still a relevant variable in adoption, as

[1] Core Retail sales exclude food services, drinking places, automobile & other motor vehicle dealers and gasoline stations. *US Census Bureau* data.

consumers still prefer to buy fresh food in-store, while packaged food sales have more propensity to online channels. Pandemic-related restrictions and contactless shopping were underlying motives for the increase in online penetration, a vast customer base was exposed to the convenience and time savings from pickup/delivery, which should serve as central motives for continued adoption. According to a survey from Mercatus of 60,000 respondents in the U.S., curbside pickup is the preferred mode of online fulfillment and has a customer satisfaction of 79%. The main friction points are related with availability of product selection and same/next-day pickup, showing that limitations arise from the level of capacity rather than the model itself. Overall, the average basket size in online orders is higher than in physical purchases, representing an opportunity for market players that minimize friction points (see figure 28).

Capacity outlook

Mixed Sentiment in Physical Stores

The U.S. market is characterized by overcapacity in selling space, when compared to other mature markets such as the U.K. and Germany, as it has at least 5x more retail sqr. ft. per capita, while retail sales per capita are ~2.4x or lower. The market is making corrections in excessive selling space and certain categories are suffering more than others, with high levels of store closures in Apparel, Consumer Electronics and Department Stores. For the last couple of years, the store count has been reduced as the level of closures largely outpaced store openings. In 2020, store openings were 3,304, while store closures totaled 8,741, according to Coresight. Also, store closures peaked in 2019 at 9,832, while 2021 could surpass that level with 10,000 closures expected. Mall-based players and legacy retailers like Macy's and J.C. Penney are among the participants in this downsizing spree. On the other hand, growth has been noted on the dollar stores and discounters' side, with players like Dollar General, Dollar Tree and Aldi expanding store footprint. The Dollar Store concept has expanded because it is relatively well protected against e-commerce, with small store formats that serve as quick fill-in trips at a low price. Furthermore, Americans are increasingly price sensitive, as the number of adults who live in low-income households has increased from 25% in 1971 to 29% in 2019, per Pew Research Center. This economic reality has also encouraged hard discounters such as Aldi to expand in recent years, by leveraging their private label offering while U.S. consumers become less attached to pricier CPGs. The U.S. market has been insulated against this format when compared to other western countries (see Figure 29).

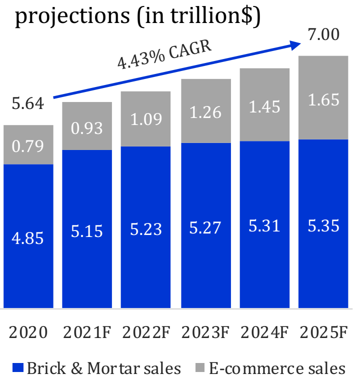
Red Hot Warehouse Market

Building up capacity in logistics is increasingly more expensive as the industrial real estate market is booming, with low vacancy rates and high demand. The logistics footprint not only is the backbone of store network supply, but it is increasingly important in the age of E-commerce expansion, with retailers and 3PL players focused on last-mile efficiencies and responsive product return policies. Huge sums of capital flooded the market with deals made by the likes of Alternative Investment Management companies like Blackstone. In 2019, the firm acquired a portfolio of urban, infill logistics assets from GPL spanning 179 million sqr. ft. for $18.7 billion, nearly doubling the size of Blackstone's existing U.S. industrial real estate footprint. According to CBRE Research, an increment of $1 billion of e-commerce sales requires an additional 1.25 million sq. ft. of warehouse space. The net absorption is projected to reach 250 million sqr. ft in 2021, up 18% in comparison to the 5Y annual average. This will spur new construction and strong preleasing of speculative projects. This market dynamic should be presented as an opportunity for big players like Amazon and Walmart that not only leverage their selling platform with a marketplace, but also complement that with Fulfillment Services to smaller competitors that usually struggle to build an expensive logistics network, thus outsourcing these capabilities.

A labor-intensive industry

The retail industry is labor-intensive and labor force is one of the most immediate and consequential capacity factors when demand builds up. Walmart is the largest private employer in the U.S. with 1.3 million associates, a fraction of the total 2.2 million employed worldwide. Their reach in the labor market sets the floor of compensation for every big business, the average hourly wage is ~$15.25/hour, and since 2015 they have raised the minimum starting wage by 50%. The economics of e-commerce have margin to negatively affect profitability of industry players, that starts with increased compensation for supply chain workers when compared to store workers. At Walmart the average hourly wage for e-commerce fulfillment roles is $20.37/hour. The U.S. Bureau of Labor Statistics projects a loss of 470 thousand jobs in Retail and Wholesale trade by 2029, while Transportation and Warehousing will gain 326 thousand for the same period. Retailers are going all out to retain employees, Target recently announced that they are going to cover 100% of college tuition in select programs for their 340 thousand employees, representing a $200 million investment over 4 years. Lastly, surveys from the New York Federal Reserve show that the average lowest wage that workers with no college degree will accept for a new job jumped by 19% since the beginning of the pandemic, the sharpest such increase since at least 2014.

Figure 26: U.S. Retail Sales projections (in trillion$)

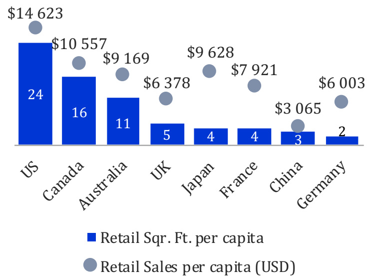


Source: eMarketer

Figure 27: 2017 Average basket sizes in grocery shopping

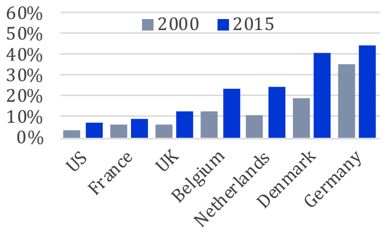
Source: GlobalData consumer survey

Figure 28: 2018 Retail space vs Sales per capita, by country



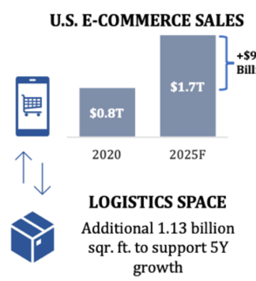
Source: Morgan Stanley Research, ICSC

Figure 29: Discounters' Market Share in 2000 vs 2015, by country



Source: Planet Retail & BCG analysis

Figure 30: U.S. logistics demand from E-Commerce growth



Source: CBRE Research & eMarketer; Author estimates

Competitive Positioning

S

- **Unmatched scale** of operations, currently the largest company in the World by Revenue.
- **Global presence**, with operations in 24 countries.
- **Dominant market position in the core business**, with 22% market share in the U.S. Food Retail business (+2x the second largest player).
- **Diversified supply chain network**, with more than 200 thousand suppliers worldwide.
- **Well recognized private label offering** in General Merchandise, 13 labels classified as "billion-dollar" brands, and 3 apparel lines that are "two billion-dollar" brands.
- **Stable Operating Cash Flows** well above $25 billion/year unlock superior investments internally and externally.
- **Proven financial strength** and creditworthiness to financial institutions, manifested through AA rated long-term debt.
- **Pragmatic action towards protection of the environment**, with compromise to reduce 1 billion metric tons of emission in the supply chain by 2030 through Project Gigaton (since 2017, 416 MMT were already avoided).

W

- **Operating margins were flattish to slightly lower** on a consolidated basis for the last 5 years.
- **Low internal investment since FY2018**, with asset utilization exceeding CAPEX. The U.S. business could've come out stronger from the Covid pandemic.
- **Doesn't have first mover advantages in online retail,** the company underestimated pure-play online retailers for way too long in the beginning of the 2000s. Today, WMT could have a market share in general merchandise as dominant as the share in the food retail business.

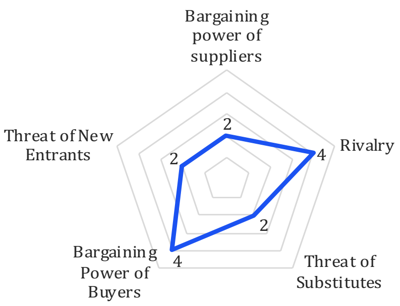
O

- **Attractive international portfolio** in fast-growing retail markets (Mexico, India, China).
- **E-commerce growth in the U.S.** projected to grow at a 15.9% CAGR between 2020-25F.
- Added **new services** to diversify the bottom-line (Advertising, Walmart+, Fulfillment Services, tech-driven financial services through a new Fintech startup in partnership with Ribbit Capital).

T

- Increased level of **investment fails to materialize** operating margin expansion, especially in Walmart U.S.
- **Cannibalization of physical stores' sales** with the expansion of online channels, increasing the pressure from fixed expenses related to stores (although it is far better to cannibalize yourself than have someone else do it, as one Amazon executive once said).
- The efforts of retailers in shifting business models to provide **services outside the core business** have the risk of offering too much for too many people, creating an identity crisis and a possible profit erosion in the industry.

Figure 31: Porter's Five Forces



Source: Author analysis

Porter's 5 Forces

Walmart competes mainly in the mass merchant/discount store segment of retail, where sources of competitive advantage come from cost advantage and location. The major factors preventing higher levels of profitability come from competitive pressures and customer's price sensitivity. With most of sales coming from commoditized products, margins remain low, and the customer is king. This is a high-volume business, industry players need to sell in vast quantities to minimize transportation and inventory costs per unit, while savings from efficiency are passed along to customers by keeping prices lower than the player next door and purchasing frequency high. By being trusted on those day-to-day consumption items, Walmart can cross-sell higher margin products in store visits or online purchases.

Bargaining Power of Suppliers

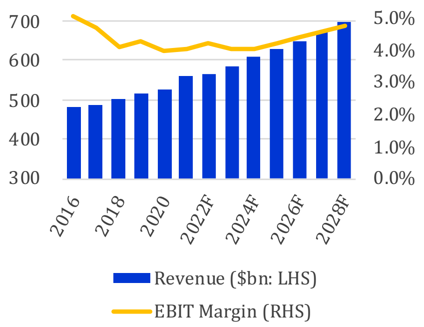
Suppliers' low influence in the value chain has to do with low concentration and dependence on purchasing contracts from big retail players. Walmart alone has more than 200 thousand suppliers, and usually those companies depend on the high volumes of the purchasing contracts of the firm. Because there are only a handful of major retail players that can move a lot of products around, suppliers will compete for that channel and therefore agree with more reasonable pricing. This advantage is less visible if the supplier/manufacturer has strong brand recognition, such as companies in the CPG category, although diverse product offering for limited shelve space as well as higher quality in private label products can increase the negotiating leverage of retail players.

Threat of New Entrants

Currently, established physical retailers are expanding online efforts and pure-play internet retailers are enhancing their physical presence. Giving the higher growth rates expected from the e-Commerce side of business, threat of entry is higher there than in physical retail. Walmart is stepping up investments in supply chain and automation that cannot be matched by other players. Even before the announced increase in CAPEX, in 2020YE Walmart invested 2.4x more than Kroger in the U.S. operations. To compete meaningfully in physical retail takes years if infrastructure is not in place, and outsourcing logistics limits substantially the profit potential. Amazon, the largest online retailer in the world, chose to pay $14 billion to acquire Whole Foods and expand their food retail aspirations instead of creating their own supply and store network from scratch. The most significant barriers to entry in this omnichannel battle are the supply-side economies of scale, high capital requirements and expected retaliation. These factors narrow down the entry threats of newcomers trying to join the market, rather the competition comes from established players that are expanding selling capabilities and building trust with customers.

Bargaining Power of Buyers
Customers have substantial leverage because they are price sensitive in baskets of goods with high purchasing frequency, and they have low switching costs. This is one of the reasons that justify a solid membership program, it can engage customers differently, when people pay for a membership, they will use it. Because customers demand different services for different shopping needs, players like Walmart must invest in different store formats, from smaller neighborhood stores to supercenters, to keep competition at bay. With the increased customer empowerment over the internet, customers can compare more easily product offering and expect costly investments from market players that enhance their convenience, such as efficient delivery and pickup capabilities, thus putting pressure on retailers' margins.

Figure 32: Consolidated Revenue vs. EBIT Margins

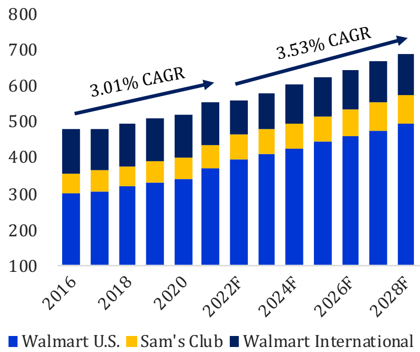


Source: Company data & Author estimates

Threat of Substitutes
Substitution risk is perceived as low, especially for big box retailers, because there is no other reliable alternative to sell products and provide the service that customers need in an alternative fashion. E-commerce presented itself more as a complementary service and an opportunity, than a substitution or threat. Also, customers still find value in visiting stores whether for product experimentation, instant purchasing satisfaction or a quick fill-in trip for an item in need. Digital retail *can be* a threat however, if players fail to update their channel offering and rely solely on store sales. Players with considerable resources have come to adapt, offering both channels as alternatives, as in the case of Walmart which is the largest brick-and-mortar player and currently the 2nd largest online retailer in the United States.

Rivalry Among Existing Competitors
The competitive challenge for Walmart comes from fierce competition from large players on multiple product categories and/or retail formats. The company competes in general merchandise and online retail with Amazon and Target, in food and consumables with Kroger, in warehouse clubs' format with Costco, on the home improvement segment with Home Depot and Lowe's, and on the health and wellness segment with Walgreens Boots Alliance and CVS Health. This is both a blessing and a curse, it amplifies Walmart's reach but also brings additional competitive pressure. The most representative segment for Walmart, which is food and consumables, is also one with the lowest margins as products generally have less differentiation and inherent characteristics such as product perishability. This incentivizes price cuts to generate more volume, thus creating friction between players based on price competition.

Figure 33: Sales Projections



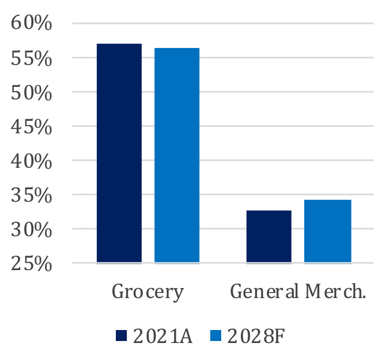
Source: Company data & Author estimates

Investment Summary

WMT has a BUY recommendation, with a 2022YE Price Target of $164.6/share, representing a 20% upside potential, or an annualized return of 17%, to the company's stock price of $137.05 on October 1st, 2021, but with medium risk. Walmart is trading at a discount mainly due to the downward trend in operating margins from the increased costs of transitioning to an omnichannel retailer. The reinforcement of investments (+10.1% CAGR fiscal 2022-2025), aligned with a growing market share for Walmart U.S. in General Merchandise (6.5% by 2028F), a strong market position in U.S. grocery (above 22% between fiscal 2022F-28F), and the margin tailwinds from recently launched initiatives should support the investment recommendation.

Key value drivers
Walmart U.S. is set to grow more profitable: Walmart U.S. has a clear advantage in food retail against its direct competitors, and it will be able to respond to customer's shopping preferences. For instance, the company currently has 1.7x the infrastructure of its closest competitor to respond to online sales fulfilled by pickup (see Appendix 8) and it still has margin for expansion. The ability to sell at a superior scale, and the capacity to maintain price gaps through investments in efficiency, will enable a stable growth of 3.5% between fiscal 2022F to 2028F, while still expanding market share to 19% at the end of the forecast horizon.

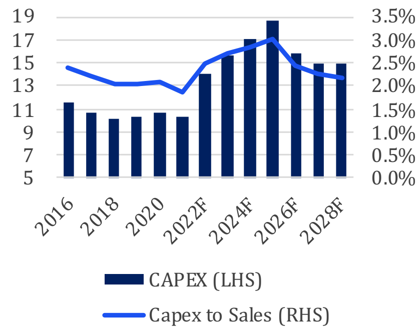
Figure 34: Share of selling Product Mix in WMT U.S.



Source: Company data & Author estimates

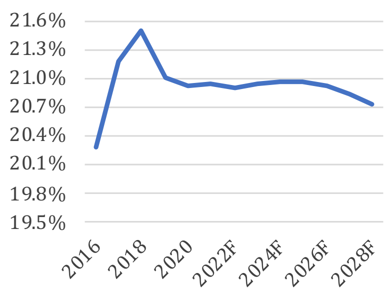
A large store format under the Walmart banner has around 120 thousand SKUs, the website's SKUs are around 80 million with online partners. This brings a vast opportunity for general merchandise, which has a higher online sales penetration than food. For instance, research from J.P. Morgan indicates that the U.S. market for apparel & accessories has a 23% online penetration compared to just 10% for grocery. This is where the executives' focus is, with a push to add more brands and partners. The company already added 78 bps of market share in Gen. Merch since fiscal 2016 and is expected to reach 6.5% by the end of fiscal 2028. With the projected 5-year double digit growth in eCommerce for the U.S. market (~15% until 2025F), WMT will be able to expand General

Figure 35: Historical vs Projected CAPEX (in $bn)



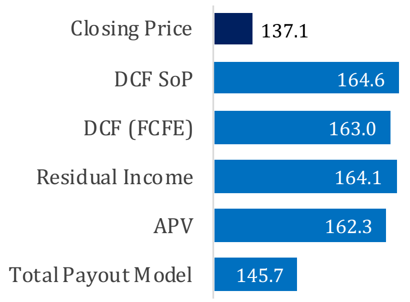
Source: Company data & Author estimates

Figure 36: Projected OPEX to Sales



Source: Company data & Author estimates

Figure 37: WMT Price Target (USD)



Source: Author estimates

Table 4: Walmart's Price Target

Segment	Model	g	%	mUSD
Walmart U.S.	FCFF	2.00%	91.3%	449 477
Sam's Club	FCFF	0.75%	6.5%	31 919
Walmart International	FCFF	3.04%	9.7%	47 609
Corporate & Support	FCFF	2.03%	-7.4%	(36 607)
Adjustments to EV				(54 686)
Equity Value				**437 712**
Shares outstanding				2 736
Price Target 2022YE without JD				**159.97**
Minority stake in JD.com				4.60
Price Target 2022YE (USD)				164.56

Source: Author estimates

Merchandise sales by 4.8% between fiscal 2022 to 2028. This will push down the weight of food in the selling product mix, while Gen. Merch is expected to increase by 150 bps its contribution, reaching 34.4% at the end of the forecasted period (see figure 34).

Alternative profit pools: A lot has been done to complement the core business model and leverage Walmart's capabilities to diversify the bottom-line potential. The company launched *Walmart+*, fulfillment services and a fintech startup to provide financial services. Yet, these activities are still in unknown territory since the announcements and cannot be price in for the 2022YE target. The advertising business is an exception. Walmart Connect is expected to grow at a CAGR of 23.9% between fiscal 2022 and 2028, reaching $5.6 billion. This business is in a high-growth phase and will be aligned with the projected online penetration of WMT U.S. sales of 25% by 2028.

Shrinking the cost base: The push to expand online sales has come at a cost, OPEX grew at a 3.7% CAGR between fiscal 2016-21, around 68 bps higher than revenue, thus the company is expanding the level of investment to 2.5% to 3% of Sales to shrink the operational cost base (see Figure 35). The savings in labor costs from the scaling of the MFCs will be a major factor to enable the OPEX reduction post fiscal 2025, when investments have already built up enough capacity. By 2028F, OPEX to Sales will decrease to 20.7%, around 76 bps lower than the higher point of OPEX intensity in fiscal 2018.

Walmart U.S. is the centerpiece to achieve WMT's price target for 2022YE, as it is the main contributor to the company's sales with 71.5% in 2028F, followed by Walmart International (17.2%) and Sam's Club (11.3%). The international portfolio is set to grow 3.3% for the forecasted period, yet with reservations due to foreign exchange exposure that affects the consolidation of accounts, especially in Mexico (see Appendix 37). Sam's Club will growth at a stable pace (CAGR of 1.9% in 2022F-28F), yet with flatter EBIT margins around 2.6% giving that the business is much more reliant on food sales (64.7% contribution in 2028F) and membership income.

Strong Cash Flows Generation: Despite of Walmart stepping up investments, the company has the scale and market position of a mature company, thus FCFF will continue to be strong for the forecasted period. Until 2025F, FCFF will remain stable around $14 billion, and after the company starts to free more cash from operations, by reducing CAPEX post 2025F, the FCFF will grow to $23.6 billion by 2028F.

Valuation Methods

The DCF model based on a Sum of the Parts FCFF by segment yielded a Price Target of $164.56 per share. In addition, alternative DCF valuation models were applied (Figure 37), with all of them showing upside potential in comparison to the closing price. Forward multiples for the EV/EBITDA and P/E ratios were also applied, considering the peer group selected from a SARD approach. The forward EV/EBITDA supports the BUY recommendation with a Price Target of $163.2, representing a 19% upside. Yet the forward P/E multiple resulted in a $121.1 price target, or 12% downside, mainly because Walmart has been trading at a premium price multiple than its peers. The minority stake in JD.com added $4.6/sh. to the price target calculations, based on conservative estimates of the 2022 price target for the company (see Appendix 32).

Risks to Achieve Price Target

The most impactful aspect towards the price target outlook is the performance of Walmart U.S. regarding its ability to expand operating margins. Investors should be aware of the operational risk adjacent to the segment not being able to improve sales in higher margin products and/or control operating expenses from the planned investments. This would lead to a margin corrosion, amplified by additional OPEX from eCommerce. If these risks materialize throughout the forecast horizon, the estimated price target shows a potential downside of 7%, or $127.2 for 2022YE, thus changing the outlook to a Sell recommendation (see Scenario Analysis, Walmart U.S.). Yet, the probability of these risks materializing is just 6.3%, according to the Monte Carlo simulation (see Price Target sensitivity).

Valuation

Capturing value through a Sum of the Parts (SoP) Approach

Walmart was valued using a FCFF SoP approach to reach the Enterprise Value of each operational segment (Walmart U.S., Sam's Club, Walmart International, and Corporate & Support). This method resulted in a 2022YE Price Target of $164.56 per share (Appendix 27). The valuation efforts are more about finding a useful range than a pinpoint, therefore other methods were used to complement the base model. Regarding DCF models, these include the Flow to Equity (FCFE), Total Payout, Residual Income, and APV. Ultimately, a market-base valuation with forward multiples was also applied, supporting a consensual BUY recommendation. The critical factors influencing the valuation are the following:

Favorable selling product mix in Walmart U.S.

The Walmart U.S. segment is expected to increase sales at a 3.86% CAGR between fiscal 2022F and fiscal 2028F. This follows a normalization of demand post FY2021, with growth expected to increase 46 bps when compared to the pre-pandemic period of fiscal 2016-20. More importantly, growth will not come at the expense of operating profitability, EBITDA is expected to grow at a 5.2% CAGR for the forecasted period due to a favorable selling product mix, with general merchandise at the core of growth. Scaling of MFCs will also significantly reduce the additional costs of the online dislocation, and this will prove crucial as the level of online sales penetration is expected to reach 25% by fiscal 2028F. Below, it is presented a detailed product segment analysis for Walmart U.S.:

Grocery & Consumables | The grocery business will continue to represent the largest share of revenue for Walmart U.S. during the forecasted period, as it is at the center of its business model. Yet, the share of the selling pie will reduce from 56.3% in FY2021 to 55.3% in FY2028. This product category has a record of stable growth, and due to its non-cyclicality, it is less likely to suffer major swings, thus a 3.45% CAGR between 22F-28F is expected. Furthermore, Walmart has and is expected to maintain, advantage in the factors that matter the most in this business: location and competitive pricing. Superior selling capabilities in physical stores or online compared to its direct peers in Grocery, will position the company for a market share increment in line with historical figures, reaching 19% by 2028F.

General Merchandise | As mentioned on the key drivers of profitability, multiline retail is a higher margin business than food retail, Walmart executives are aware of this reality. That is why Mr. Doug McMillon has mentioned in the 2021 Investment Community Meeting the following: "We continue to add assortment and brands (referring to eCommerce); Our emphasis here is on general merchandise. We've got a lot of upside in apparel, home and hardlines."; this reinforces the commitment to push GM performance. Going forward, General Merchandise is expected to grow at a 4.8% CAGR between fiscal 2022F-28F. This will be the major driver for the expansion in operating margins by a cumulative 63 bps during the forecasted period, reaching 5.9% by 2028F.

Health & Wellness | This product segment is mainly composed of pharmacy and OTC drugs, and it registered significantly higher sales during 2020 (+5.4% YoY). Superior demand is expected to continue the momentum in 2021. Post fiscal 2022, sales start to normalize, leading to growth in revenues at a 2.4% CAGR, 30 bps below the pre-pandemic levels to reflect a more conservative view on this market.

Advertising | The projections from eMarketer point to Advertising revenue reaching $3.9 billion by fiscal 2024F, that represents a 45.9% CAGR between fiscal 2021-24F. After this higher growth period, revenue is expected to follow the e-commerce sales growth, with a 15.6% CAGR until 2028F, giving that the advertising value proposition is closely related with website traffic and reach of the customer base. By the end of the forecast horizon, and assuming a 75% gross margin potential from J.P. Morgan estimates, advertising is expected to contribute as much as $4.2 billion to gross profits, ~2.4% of the consolidated gross profit of Walmart.

Sam's Club

The pre-pandemic sales growth of Sam's Club was relatively flattish, at a modest 0.85% CAGR between fiscal 2016-20, while the operating income grew 0.93% for the same period. A strong fiscal 2021 revitalized the business with a huge increase in grocery sales (+20.3% YoY) and in membership income (+9.1% YoY). With the investments planned for the U.S. market and the momentum from last year, Sam's Club is expected to increase sales at a 1.9% CAGR between fiscal 2022F and 2028F. Because the operating margins for the warehouse-club business model are much more rigid in comparison to those of Walmart U.S., EBIT margins should not suffer major swings, averaging 2.6% over the forecast horizon, roughly the same level as the pre-pandemic margins.

Walmart International

For Walmart International, revenue CAGR is expected at 3.3% between fiscal 2022F and 2028F. The growth prospects result from individual country forecasts where Walmart operates. The main value driver for the segment is the Mexican operations, which have been plagued by the continued devaluation of the Mexican peso in relation to USD, and in turn flattened the USD revenue contribution. Despite of its strong fundamentals, Mexico & Central America USD revenue should grow at a conservative 2.2% CAGR for the forecast horizon, after considering a further devaluation of MXN/USD. A scenario analysis was built to provide a range of outcomes on the Price Target for 2022YE based on these effects (see Appendix 37). The overall EBITDA margin is expected to increase 80 bps in fiscal 2022F after the sale of the U.K. and Japan operations and the improved contribution from Mexico. Margins should stabilize at 6.39% by the end of fiscal 2028F.

WACC Assumptions

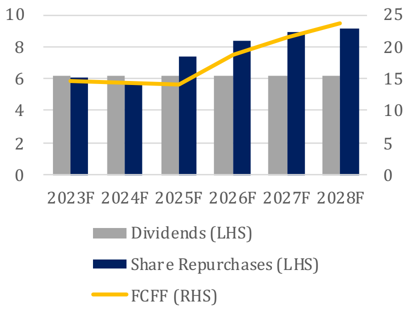
The calculations for the cost of capital were adjusted to different perceived risks between the U.S. and International operations. Applying the CAPM model, the Cost of Equity in the forecasted period ranges

Table 5: Walmart's WACC

WACC Assumptions	2023F	Terminal
U.S. Operations		
Cost of Equity	5.9%	6.9%
Pre-tax Cost of Debt	3.4%	4.5%
Tax Rate	31.0%	31.0%
After-tax cost of Debt	2.3%	3.1%
Weight of Equity	87.3%	80.0%
Weight of Debt	12.7%	20.0%
U.S. WACC	**5.5%**	**6.1%**
International Operations		
Cost of Equity	9.1%	10.1%
Pre-tax Cost of Debt	3.4%	4.5%
Tax Rate	31.0%	31.0%
After-tax cost of Debt	2.3%	3.1%
Weight of Equity	87.3%	80.0%
Weight of Debt	12.7%	20.0%
International WACC	**8.3%**	**8.7%**

Source: Author estimates

Figure 38: Total Cash Returns vs FCFF (in $bn)



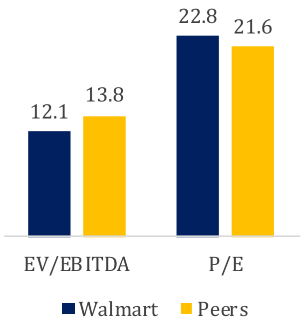
Source: Author estimates

Table 6: Peer Group

Peers	Operating Margin (2020YE)	Mkt Cap ($bn)
Costco Wholesale Corp.	3.41	204.48
Dollar Tree, Inc.	8.03	20.87
Dollar General Corp.	10.11	51.90
The Kroger Co.	2.03	34.86
Target Corp.	8.29	119.23

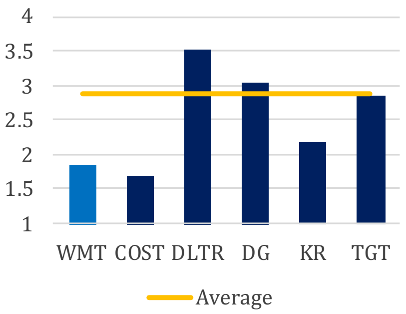
Source: Bloomberg

Figure 39: 2022F Valuation Multiples



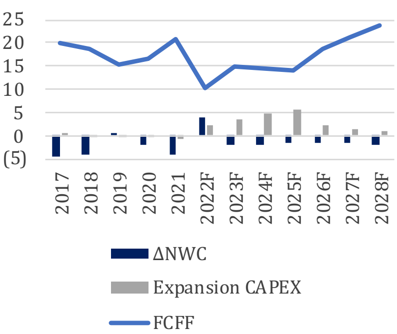
Source: Bloomberg

Figure 40: 2020YE CAPEX to Sales (in %)



Source: Bloomberg

Figure 41: Historical vs Projected FCFF (in $bn)



Source: Company data & Author estimates

between 5.9% and 6.4% in the U.S., while for the international operations this figure falls between the 9.1% and 9.7% range. The Risk-Free data was retrieved from IMF (2021) projections regarding the 10Y U.S. Government Bond yield, in FY2023F the RFR is projected at 2.2% and 2.7% in FY2028F. To account for regional risks embedded in the international operations, a Country Risk Premium of 2.5% was added to the cost of equity calculations based on the spread of foreign RFRs where Walmart operates versus the U.S. RFR. The Beta calculations yielded a value of 0.7, which is consistent for both the pure-play method using peers and regressing Walmart's returns against the DJIA. The MRP was chosen from the survey conducted by Fernandez et. al (2021) regarding the countries where Walmart operates, always considering the relative weights from sales.

For the Cost of Debt calculations, four different methods were considered: Effective interest rates on Gross and Net Debt, YTM of outstanding bonds with the same risk profile, and Credit spread over the RFR based on the company's creditworthiness (Appendix 24). The final cost of debt resulted from an average between all methods considered, yielding a rate between 3.4% and 4.5% between 2023F and the terminal period.

The market capital structure in the forecasted period is expected to remain stable at around 13% D/V, slightly below the current market D/EV of 15%. The projected market E/V was based on the historical P/B multiplied by the projected book value of Equity in the coming years. Lastly, the target capital structure for the terminal period is expected at 20% D/V, defined as the 5Y historical average of the market capital structure.

Overall, the WACC for U.S. operations will range between 5.5% in FY2023 and 6% in FY2028, while for international operations an 8.3% and 8.8% range is expected for the same period.

Cash Returns to Shareholders

Walmart has a strong record of cash distributions to shareholders; the current FY marked the 48th consecutive year of dividend per share increases. In the last 10 years, dividends and share repurchases reached a cumulative $130 billion. Going forward, a $20 billion share repurchase program was approved recently, with planned execution in the next 3 years according to the executive team guidelines. Noteworthy is the distribution of dividends in total value *versus* dividends per share. As the company repurchases shares, these are retired and returned to unissued status, reducing the number of outstanding shares. DPS increased 4 cents/share YoY, or at a 1.9% CAGR 2016-21, although the total distribution decreased at a 0.6% CAGR for the same period. Assuming a constant level of shares outstanding for the forecasted period, despite of the share repurchase program, would inflate the total cash outflow of dividends distributed. For this reason, outstanding shares are expected to be reduced by 1.7% YoY in accordance with the past 3-year decrease. This yields total dividend distributions around $6 billion, and DPS increases of 4 cents YoY, both consistent with historical dividend records. After the company starts to free up cash from the high level of investment in operations between 2023F-25F, share repurchases will increase at a 7% CAGR between 2025F-28F. Overall, total cash returns are expected to increase at a 4.4% CAGR for the 2023F-2028F period.

Peer Selection

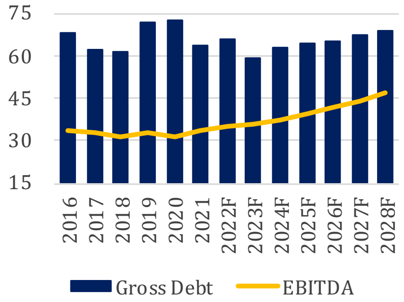
To complete a market-based valuation through multiples, a set of comparable companies was selected based on the Sum of Absolute Rank Differences (SARD) approach presented by Knudsen et al. (2017). The potential peer group was selected from the S&P 500 index, as its constituents better represent Walmart's position as one of the largest publicly traded companies in the United States. After ranking each constituent based on several measures for efficiency, profitability, and solvency, the peer group was further filtered according to its industry. The priority was selecting companies that compete in retail and are primary brick and mortar operators. The final group is presented in table 6.

Relative Valuation

To complement the DCF methods, it was used a relative valuation based on EV/EBITDA and Price/Earnings multiples. The EV/EBITDA multiple yielded a price target of $163.23, supporting the upside potential. The EBITDA multiple is considered the most appropriate on the EV range giving that the peer group has very different levels of capital utilization (see Figure 40). The Price/Earnings multiple indicates a sell recommendation with a $121.05 price target, yet it is viewed as the most biased giving that Walmart has traded at a premium P/E multiple compared to its peers. Walmart has an attractive international portfolio in high growth markets, while the peer group is mainly concentrated in the U.S., this should be a strong reason for the Price multiple differentiation.

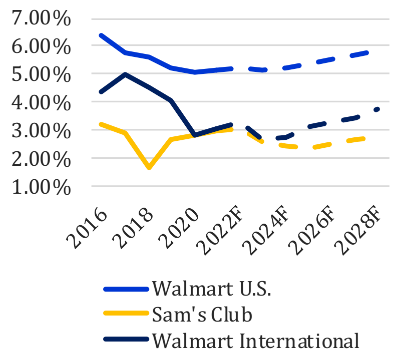
Financial Analysis

Figure 42: Gross Debt vs EBITDA (in $bn)



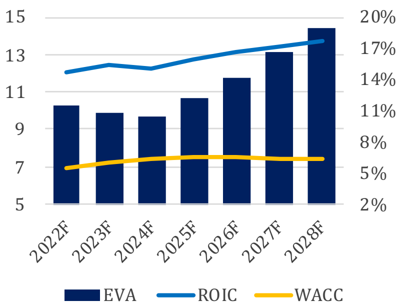
Source: Company data & Author estimates

Figure 43: EBIT Margins, Historical vs Forecasted



Source: Company data & Author estimates

Figure 44: Projected EVA (in $bn), ROIC & WACC



Source: Author estimates

Cash Flow Outlook

Operating Cash Flows will grow at an 8.2% CAGR 22F-28F, with superior growth coming in the latter part of the forecast as investments start to build momentum in the company. Walmart's working capital requirements are consistently negative, thus freeing up cash from operations to other purposes such as debt management or cash distributions. Also, the current Cash Ratio of 19%, significantly above the 5Y historical average of 11%, provides flexibility for the years ahead of increased investment. Over the next few years, FCFF is expected to take a hit as the company steps up investment levels, only in FY2022 CAPEX will be +36% YoY. In FY2022, FCFF will hit a low $10.3 billion (down 49% YoY), from the aforementioned increase in CAPEX and also from one-off investments in inventory to face continued challenges in supply chain and inventory shortage that affected the company in 2020 and will continue to some extent in 2021. Walmart is set to recover from FY2025 onwards, with FCFFs growing at a +14.8% CAGR 22F-28F.

Debt Management

Walmart is a creditworthy company, with Long-term debt ratings of AA/Aa2 from Standard & Poor's and Moody's, respectively. Corporate bonds that mature in the next 5 years currently have yields being traded slightly below 1%. The company leveraged its capital structure after issuing $15.9 billion of long-term debt in FY2019 for the Flipkart acquisition, increasing the book D/E from 0.75 to 0.90. Walmart lowered its Book Debt to Capital by ~600 bps to 41.95% in FY2021, as a result of repaying over $5 billion of debt, a 54% decrease YoY in share repurchases, and reduced lease obligations from the sale of the U.K. and Japanese segments. Going forward, the growth in EBITDA (+4.74% CAGR from 2022F-28F), aligned with a flattish debt growth, ~1% for the same period, will drive Total Debt/EBITDA down from 1.88 in FY2022F to 1.47 in FY2028F. Consequentially, the Interest Coverage Ratio will increase from 10x in FY2021 to 15x in FY2028F.

Operational performance by Segment

Walmart U.S. registered strong EBITDA growth in FY2021, +7.94% YoY, with high demand across all product categories, especially in General Merchandise (+10% YoY sales growth). In the coming years EBITDA margins will rise from 6.94% in FY2021 to 7.50% in FY2028F. This will be the result of gains in product mix with higher margin, as the segment is expected to grow its general merchandise business at a 4.8% CAGR FY2022F-28F. Investments in automation and supply chain will enable scaling E-commerce, which will lead to leveraging OPEX and spread fixed costs associated with logistics.

Sam's club sales growth in FY2021 of 8.7% was mainly due to strong grocery and consumables demand (+20% growth YoY), and solid home and apparel sales. EBITDA margins for the segment are thinner than for Walmart U.S., around 3.9%, and rely more on the success of its *Plus* and *Club* membership programs. EBITDA grew 12% YoY, largely reflecting the increase in membership income of 9.4%, which registered high renewal rates (+400 bps) and 6x member growth YoY. Going forward, a rather conservative approach is taken, as EBITDA margins will stabilize starting in FY2023 at 3.6%.

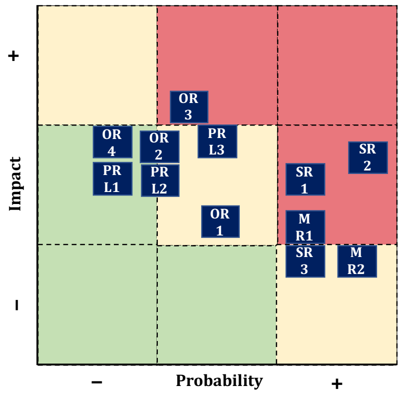
Walmart International is undergoing several changes, as Walmart sold in the current FY lagging operations in the U.K. and Japan and is focusing on higher growth markets such as China and India. In FY2021, revenues recorded a shy growth of 1% YoY, as the segment was negatively affected by a depreciation in exchange rates in Mexico against the US Dollar. Despite this, the economics of the business are strong as sales in Mexican pesos increased by 9% YoY, and EBITDA margins were close to 11%, much higher in comparison to the U.S. operations. Canada and China operations drove sales growth for the segment, with 8.53% and 7.11% YoY growth, respectively. In FY2022 sales are expected to decrease ~20%, after the deconsolidation of businesses sold, whereas EBITDA margins will increase to ~6%, reflecting continued demand growth in 2021 and the higher contribution for the overall operational profitability coming from Mexico. By FY2028F, EBITDA margins will be around 6.39%.

Solid Record of Value Creation

Walmart has recorded solid ROE, on average 15.35% over the last 6 years, and creates value consistently by earning a high spread on its invested capital when compared to the cost of capital, in FY2022 ROIC is expected at 14.7% while the cost of capital is 5.5%. Going forward, the value creation measured by EVA®, will grow at a 5.7% CAGR FY22F-28F to $14.3 billion. This figure mostly reflects the expected improvement in margins for the company over the forecasted period.

Investment Risks

Figure 45: Risk Matrix



Source: Author analysis

Strategic Risks

Implementation of Omnichannel strategy (SR1)

The retail business continues to evolve, and consumers increasingly embrace digital shopping. Consequently, total consumer expenditures with retailers occurring through digital platforms is increasing and the pace of this increase is expected to accelerate. The company's past investments in technology, acquisitions, and joint ventures, as well as store remodels may not be able to capitalize on this shift in customer preferences. Additionally, these investments might not compensate the slower pace of store openings and the ability to maintain its market position. Greater concentration of eCommerce sales, including increasing online grocery sales, could result in a reduction in the store traffic, leading to reduced opportunities to cross-sell merchandise products in-store and affect the overall revenue generation of physical retail.

Competitive Pressure (SR2)

Competitive forces interplay in a multidimensional space. Walmart competes with price at which it sells merchandise, merchandise selection and availability, store location and store hours, shopping convenience and overall shopping experience. Competition ranges from a local to global level, and with diverse offerings both from pure brick and mortar retailers, pure eCommerce retailers, omnichannel retailers, wholesale club operators and retail intermediaries. This multi-level pressure can affect the future market position of the company, and the consequential financial performance in the coming years.

Changing Consumer Preferences (SR3)

The success of Walmart's business depends on accurately predicting consumer demand, availability of merchandise, and the related impact on the demand for existing products. In this era of customer empowerment through digital tools and social media, it is increasingly important to increase price transparency, the assortment of goods available, customer experience, convenience, ease, and speed of shipping. Additionally, failing to timely identify and respond to changes in consumer tastes and preferences such as sustainability, can affect Walmart's brand and trust from its customers.

Table 7: Mitigation of Strategic Risks

Risks	Mitigation
Strategic Risks	
SR1. Implementation of Omnichannel Strategy	Vast Brick & Mortar presence enables leveraging the infrastructure already in-place
	Profit potential from complementary activities (Advertising, Membership fees, Fulfillment Services)
SR2. Competitive Pressure	Market leader in the core business
	Strategic Acquisitions & Partnerships
	Reinforcement of Investment starting in FY2022
SR3. Changing Consumer Preferences	Improving convenience through pickup & delivery options
	Digital catalog with millions of listed products
	Successful private label brands in General Merchandise/Apparel

Source: Author analysis

Operational Risks

Pandemic Risk (OR1)

Despite of the strong performance during FY2021, Walmart has faced operational challenges due to the COVID-19 pandemic. Customer demand became more volatile, thus additional challenges were added to inventory management, with some categories going out-of-stock, and delays in delivery of those products. To avoid these conditions, the company must tie more cash flow to its operations and hold superior levels of inventory. The incremental operating costs related to the pandemic for last year were about $4 billion. Depending on the evolution of the global health crisis, Walmart could add more pressure to its operating profitability.

Supply chain (OR2)

The products that Walmart sells are sourced from a wide variety of domestic and international suppliers. The company sets certain required standards of conduct regarding labor, safety, anti-corruption, and environmental aspects, thus the ability to find qualified suppliers that uphold the standards, and to access the products in a timely manner in the volumes that Walmart requires is a significant challenge especially outside the United States. Factors such as availability of raw materials to suppliers, merchandise safety and quality issues, and disruptions in transportation of merchandise, can have a negative impact on how the company is able to sell product and affect the brand and financial performance.

Security of Information Systems (OR3)

Walmart receives and stores in its information systems personal information about customers, associates, and vendors. Some of that information is stored digitally in connection with the company's digital platforms, and through third-party service providers. The third-party service providers may have access to information that the company holds. Additionally, the increased threat of cyber-attacks can lead to misappropriation of customer information, including credit cards and payment information, and/or cause system failures and disruptions. A meaningful security breach could be also very publicized and affect the trust of customers when shopping with Walmart, causing reputational damages difficult to repair.

Attract and retain qualified workers (OR4)

The company is one of the largest private employers in the world, the ability to conduct and expand operations depends on the ability to attract and retain qualified associates globally. Finding qualified personnel to fill positions in existing stores, clubs, distribution and fulfillment centers, corporate offices, while controlling wages and related labor costs is generally subject to numerous external factors, including the labor market and unemployment levels, the prevailing wage rates, changing

Table 8: Mitigation of Operational Risks

Risks	Mitigation
Operational Risks	
OR1. Pandemic Risk	Proximity: 90% of U.S. population within 10 miles of a Walmart store
	Adding capacity to fulfill more online order
OR2. Supply chain	Diversified network of suppliers: 200 thousand globally
	Superior bargaining power due to scale and selling platform that moves millions of products
	Vertical cooperation to improve efficiency in setting orders and quality of product components
OR4. Attract and retain qualified workers	Walmart Academy
	High level of promotions from within the company (upper & lower management)

Source: Author analysis

demographics, health and other insurance costs, labor laws and regulations. Changes in one way or another that increase the costs of hiring and retaining workers can negatively impact the operating profitability of Walmart.

Table 9: Price Target Sensitivity to MXN/USD exchange rate

		Price Target
MXN/USD by 2028F	**29.1**	**164.6**
	32.8	163.9
	21.5	166.4
	18.9	167.5
	15.9	169.0

Source: Author estimates

Market Risks

Fluctuations in Foreign Exchange Rates (MR1)

Walmart's operations outside the U.S. are conducted primarily in the local currency of those foreign countries. The company's consolidated financial statements are denominated in USD, and to prepare those financial statements a translation of assets, liabilities, net sales, and other expenses is conducted. The fluctuations in foreign exchange rates against the USD can provide an inaccurate picture of financial performance, outside the sphere of operational performance. That has significantly affected the Mexican operations, which have suffered from the continued devaluation of the Mexican peso in comparison to the USD, thus obfuscating the strong performance of the business in the local currency. The base price target recommendation has priced in a continued devaluation of the MXN/USD. Additionally, the company may pay for inventory from different regions across the globe, with a currency other than the local currency in which the goods will be sold. Unfavorable fluctuations in exchange rates can increase the selling costs, with WMT incurring the risk of not being able to pass on these increments to the pricing of the products.

Table 10: Mitigation of Market Risks

Risks	Mitigation
Market Risks	
MR1. Fluctuations in Foreign Exchange Rates	Hedging through swap contracts (pay fixed-rate cross-currency swaps). The nominal amount of these contracts was $6.32 billion in FY2021
MR2. Macroeconomic Factors	Market leader in a non-cyclical business (food & consumables)
	Ability to source goods from a diversified supply chain network

Source: Author analysis

Macroeconomic Factors (MR2)

As with every other company, Walmart is exposed to general economic conditions both domestically and internationally. The rise of commodity prices can affect the supply chain due to increased operational costs such as transportation costs, or cost of goods manufactured, that would increase the cost of goods sold. A general slowdown in economic activity and consequential labor and income disruptions could affect the selling product mix, leading to greater markdowns in inventory to offset slower inventory turnover.

Political, Regulatory and Legal Risks

Legal and Regulatory constraints (PRL1)

Walmart faces the risk of political instability outside the U.S. and regulatory constraints. Regulation regarding product and service offerings and foreign ownership restrictions (India), as well as antitrust and competition laws (Mexico, Canada, and India) can have an impact in the performance of Walmart International and provoke disruption in how the company operates in those markets, as well as negatively affect the operating performance of the business.

Trade Laws and Taxation (PRL2)

Tariffs and government regulations affecting trade between the U.S. and other countries where the company sources product, can have an adverse effect in financial performance. A significant portion of the general merchandise that the company sells in the U.S. stores and clubs is manufactured in other countries. Any such actions including the imposition of further tariffs and imports could increase the cost to sell general merchandise and lead to price increases that materially affects selling performance. Additionally, the company is subject to income taxes and other taxes in both the U.S. and the foreign jurisdictions in where it operates. Therefore, Walmart is exposed to future tax legislation both domestically and internationally that can impact future tax provisions.

Regulatory action and Litigation (PRL3)

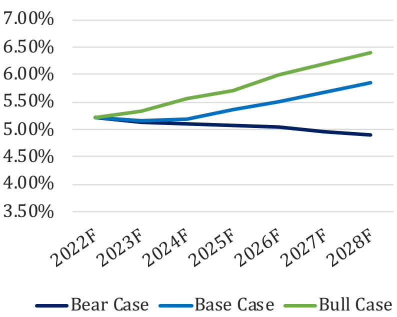
The company is subject to numerous federal, state, and local regulations in the U.S., including licensing affecting the health and wellness operations. These regulations include federal and state registration of pharmacies and compliance with various regulatory authorities that regulate the distribution and dispensing of pharmaceuticals and controlled substances. Not complying with these authorities can lead to the imposition of significant criminal, civil and administrative sanctions for violations of these laws and regulations. Walmart is also subject to data privacy and protection laws that can have the effect of requiring the company to modify the data processing practices and policies, incurring significant costs and expenses to comply. Walmart is a defendant in several cases and has been responding to subpoenas, information requests and investigations from governmental entities related to nationwide controlled substances dispensing and distribution practices involving opioids.

Price Target Sensitivity

Table 11: Scenario Analysis: Three investment theses for Walmart U.S

Scenarios – Walmart U.S.	Bear Case	Base	Bull Case
The Food and Consumables moat ensures customer interactions and the possibility to cross sell higher margin products/services	Competitive pressures make a dent in the food & consumables dominance	Continues the pace of market share gains from the last 5 years	Widens the gap to peers with best in-class store and online purchasing experience
Food Retail Market Share by FY2028	18.41%	19.00%	19.40%
E-Commerce development accelerates the General Merchandise business	Investments fail to capitalize on higher growth E-commerce sales	Leadership in food retail and additional investments position Walmart U.S. for incremental share gains	Maintain strong in-store General Merchandise sales, while expanding rapidely the marketplace and order fulfillment efficiency
Gen. Merch Market Share by FY2028	5.64%	6.50%	8.00%
Health and Wellness brings stronger customer engagement and higher margin services	Lower growth in food affects negatively its pharmacy and other health services, "snowball effect"	Stable growth and market share after strong COVID-related sales	Improved customer engagement in the Walmart ecosystem translates into more Health & Wellness sales
Health & Wellness Market Share by FY2028	10.66%	10.90%	11.60%
Revenue CAGR FY2022F-2028F	**2.69%**	**3.86%**	**5.42%**
Operating Margins by FY2028	**4.90%**	**5.85%**	**6.40%**
Price Target in USD	**127.19**	**164.56**	**193.14**
% change from current price	**-7%**	**20%**	**41%**

Figure 46: Walmart U.S. EBIT Margin Scenarios



Source: Author estimates

Medium Risk:

- **Sell** ≤ - 5%
- - 5% > **Reduce** ≤ 5%
- 5% > **Hold** ≤ 15%
- 15% > **Buy** ≤ 30%
- **Strong Buy** > 30%

To assess the materialization of risks regarding the Price Target, it is central to assess the range of possibilities regarding the performance of Walmart US.

The bear case materializes the proposition that Walmart U.S. will grow at a much slower pace than the past six years (minus 170 bps CAGR). Lagging sales in general merchandise, and a stagnant market share in food during the forecast horizon would lead to a revenue CAGR of 2.7% and operating margins of 4.9% by fiscal 2028 (minus 65 bps than the six-year average, and less 27 bps than the current EBIT margins for the segment). With the reinforcement of investments during the forecasted period, the free cash flow generation would get affected (cumulative FCFFs down 13% compared to the base case), thus the company would be investing to be in worse shape. The scenario would result in a Sell recommendation, with a 7% downside from the current price.

The bull case materializes the scenario where the segment will be able to grow at a very optimistic level of growth, around 156 bps higher than the base case. The strong performance across the product categories and the successful implementation of investments would lead to EBIT margins of 6.4% by fiscal 2028F. Ultimately, the price target outlook would result in a 41% upside potential and strong buy recommendation.

Sensitivity Analysis

Terminal Growth Rate & Terminal Cost of Capital: Walmart U.S. contributes to 91% of the consolidated Enterprise Value, therefore changes on the key inputs for the terminal period can have a meaningful shift in the price target for 2022YE. By holding the growth constant, the terminal cost of capital needs to increase by more than 90 bps to provide downside potential. On the other hand, by holding the Terminal WACC constant, terminal growth rates would need to drop 30 bps to change the PT to a Hold recommendation, and more than 100 bps to eradicate upside potential (less than 1% g). Other segments were also analyzed regarding these inputs, yet the oscillations do not alter the Buy recommendation (see Appendix 35 & 36).

Table 12: Sensitivity Analysis for Terminal Value inputs of Walmart U.S.

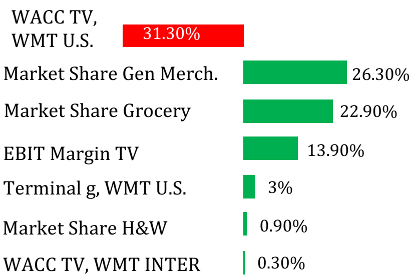
	Price Target	Terminal Growth Rate - Walmart U.S.										
	164.6	1.5%	1.6%	1.7%	1.8%	1.9%	**2.0%**	2.1%	2.2%	2.3%	2.4%	2.5%
Terminal Cost of Capital (WACC)	4.6%	207.4	213.3	219.5	226.2	233.3	241.1	249.4	258.4	268.2	278.9	290.5
	4.9%	191.9	196.8	201.9	207.4	213.3	219.5	226.2	233.3	241.1	249.4	258.4
	5.2%	178.9	183.0	187.4	191.9	196.8	201.9	207.4	213.3	219.5	226.2	233.3
	5.5%	167.9	171.4	175.1	178.9	183.0	187.4	191.9	196.8	201.9	207.4	213.3
	5.8%	158.4	161.4	164.6	167.9	171.4	175.1	178.9	183.0	187.4	191.9	196.8
	6.1%	150.1	152.7	155.5	158.4	161.4	**164.6**	167.9	171.4	175.1	178.9	183.0
	6.4%	142.8	145.1	147.6	150.1	152.7	155.5	158.4	161.4	164.6	167.9	171.4
	6.7%	136.4	138.4	140.6	142.8	145.1	147.6	150.1	152.7	155.5	158.4	161.4
	7.0%	130.6	132.5	134.4	136.4	138.4	140.6	142.8	145.1	147.6	150.1	152.7
	7.3%	125.5	127.1	128.8	130.6	132.5	134.4	136.4	138.4	140.6	142.8	145.1
	7.6%	120.8	122.3	123.9	125.5	127.1	128.8	130.6	132.5	134.4	136.4	138.4

Table 13: Monte Carlo - Simulation Statistics

Simulation Statistics	
Trials	100 000
Target Price	USD 164.56
Mean	USD 182.17
Mean Upside %	33%
Median	USD 177.36
Standard deviation	41.12
Coeficient of Variance	0.23
Skewness	0.90
Kurtosis	6.30
% above 15% upside	70.63%

Source: Crystal Ball

Figure 47: PT assumptions sensitivity



Source: Crystal Ball (adapted)

Monte Carlo Simulation

To assess how WMT's stock price would be affected by uncertainty, a Monte Carlo simulation with 100k iterations was performed. In the simulation, the following parameters were stressed:

1) Market share by product category for Walmart U.S.
2) EBIT Margins for Walmart U.S.
3) Terminal growth rate for each segment (WMT U.S., Sam's Club, WMT International, and Corporate & Support)
4) Terminal Cost of Capital for each segment

Results: It was observed that 70.6% of the results yield a share price more than 15% above the current price, thus creating a solid foundation for the **BUY** recommendation. Furthermore, only 6% of the results indicated a price target below the Bear Case scenario from the Scenario Analysis.

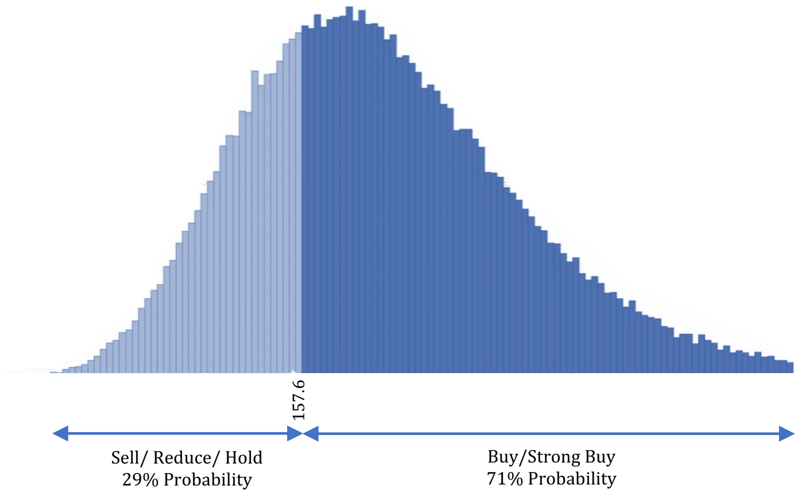


Figure 48: Monte Carlo Simulation output

Appendices

Appendix 1: **Walmart's Global Presence**

U.S. and Canada

3,913 **Supercenters**
437 **Discount Stores**
683 **Neighborhood Markets**
92 **E-commerce Acquisition / C-Stores**
599 **Warehouse Clubs**

Walmex & South America

3,427 **Local Banners**
324 **Walmart Supercenters**
165 **Warehouse Clubs (Sam's Club)**
68% **in Mexico**

China & India

386 **Supercenters**
33 **Warehouse Clubs (Sam's Club)**
29 **Best Price Modern Wholesale**
~74% **Ownership in Flipkart (India)**
~9.3% **Ownership in JD.com**

Africa

413 **Local Banners**
88% **in South Africa**

Source: Company data, Author analysis

Appendix 2: **United States Retail Market in 2020**

U.S. GDP 2020 – $ 20.9 Trillion

Net Exp.	Consumption	Investment	Government
$ (0.65)T	$ 14.05T	$ 3.64T	$ 3.86T

Retail Sales
$ 6.22T

Discretionary

Electronics stores	1.2%
Furniture stores	1.9%
Sporting Goods stores	1.4%
Home improvement stores	6.8%
Motor Vehicles dealers	18.4%
Auto Parts stores	1.6%

Mix

Non-store Retailer	14.9%
General Merchandise stores	11.9%
Miscellaneous Retailer	2.1%
Food Services	10.0%

Staples

Food & Beverage stores	13.9%
Clothing stores	3.3%
Health and personal care stores	5.6%
Gas stations	6.9%

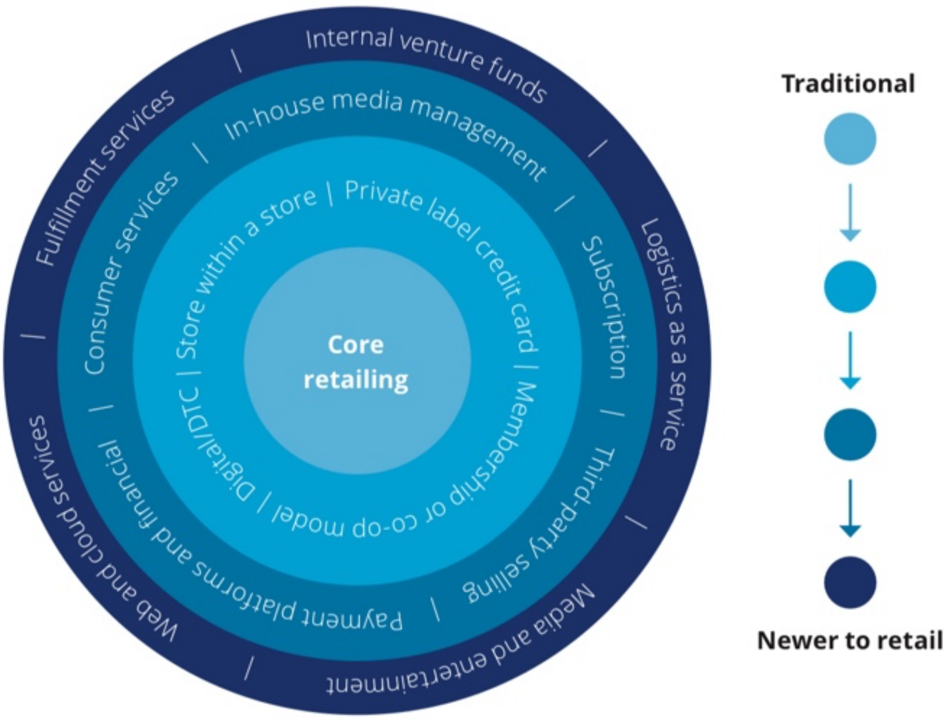
Source: US Census Bureau, Bureau of Economic Analysis & Author estimates

Appendix 3: Store Formats in Food Retail

	Conventional Supermarkets	Specialty Food Retailers	Hard Discount	Club Stores	Mass/Supercenters
Average Store Size	40,000 to 80,000 Square Feet	20,000 to 45,000 Square Feet	15,000 Square Feet	120,000 Square Feet	170,000 Square Feet
Average SKU Count	15,000 to 60,000	10,000 to 40,000	2,000	3,000 to 4,000	100,000
Key Attributes	Full line offering of groceries (dry grocery, snacks, dairy, meat, produce, frozen food, beverages). May include also deli & bakery	. Focus on fresh, perishable, natural/organic, ethnic offerings . More focused assortment than Conventionals	. Low priced offerings . High private label penetration . Limited merchandise assortment	. Limited product assortment . Warehouse-type environment . Products sold in bulk sizes . 60% to 70% product assortment composed of grocery	. Broad assortment of food and non-food items . Around 40% product assortment composed of grocery
Top Players	Kroger, Albertsons, Ahold Delhaize	Sprouts Farmers Market, Whole Foods Market, The Fresh Market	Aldi, Lidl, Save A Lot	Costco Wholesale, Sam's Club, BJ's	Walmart, Target

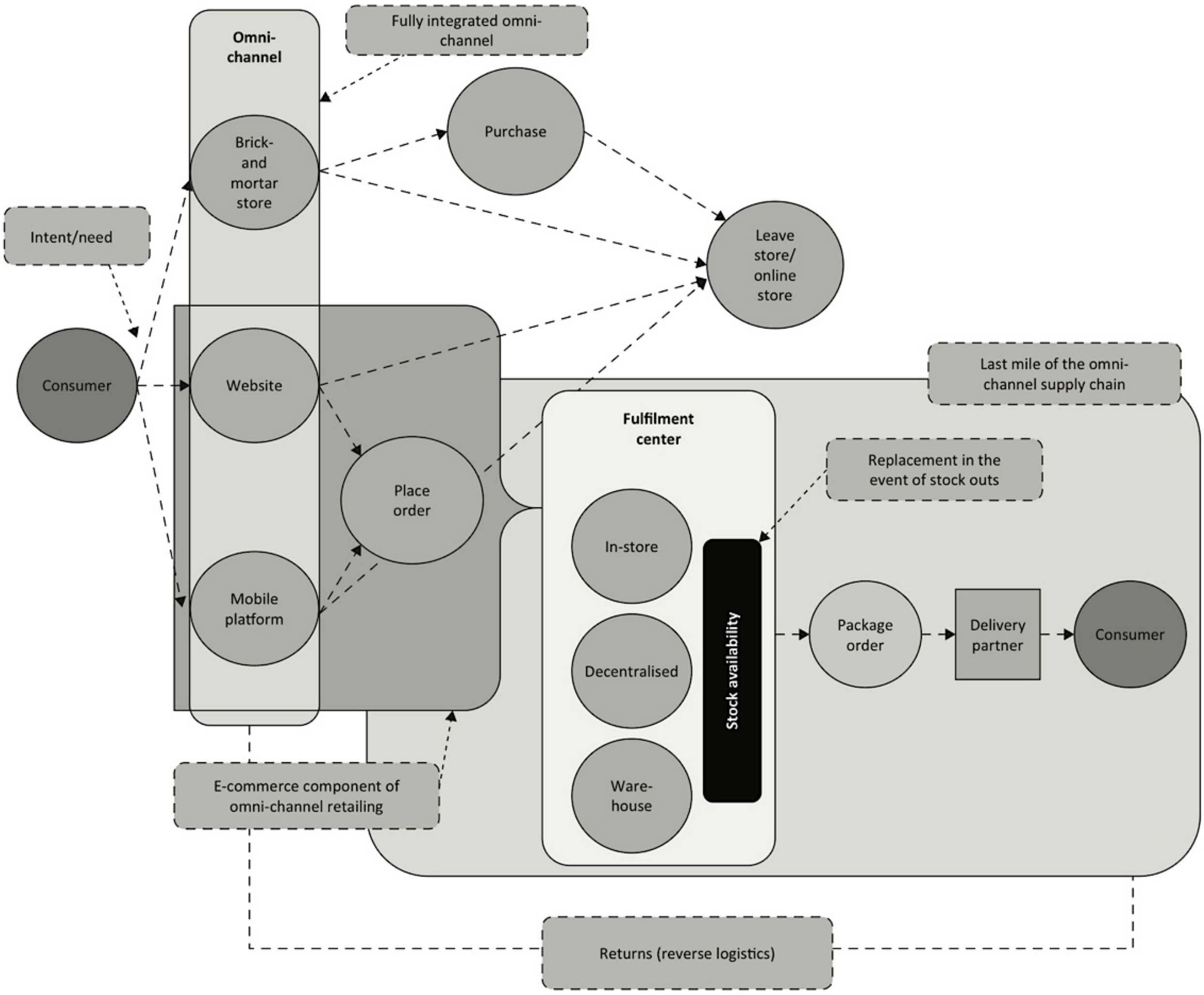
Source: Morgan Stanley Research, Company Data

Appendix 4: Retail Business Models have evolved to create new profit drivers



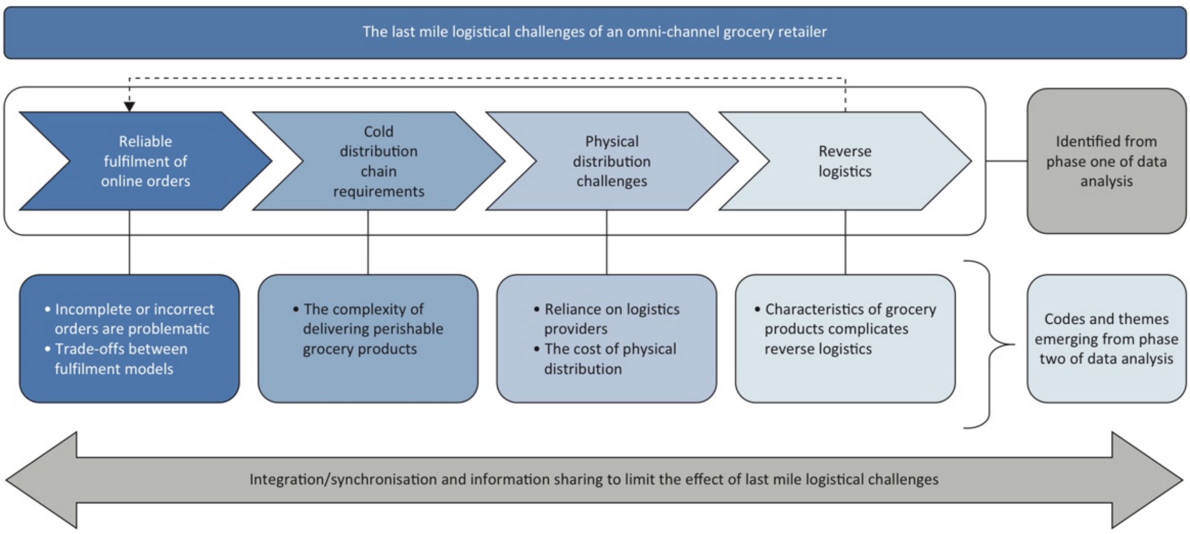
Source: Deloitte

Appendix 5: Generic Process of Omnichannel Retailing



Source: Weber, A.N. & Badenhorst-Weiss, J.A. (2018)

Appendix 6: The last mile logistical challenges of an omnichannel grocery retailer



Source: Weber, A.N. & Badenhorst-Weiss, J.A. (2018)

Appendix 7: Fulfilment Options in E-Commerce sales

Ship from factory	Ship inventory in transit	Ship from warehouse or distribution center	Ship from dark store	Ship from retail store	Ship from pop-up node	Consumer
Offshore factory Nearshore factory		Central DC operated by retailer Decentral DC operated by retailer or 3PL Decentral DC operated by partner Decentral DC operated by wholesale partner		Ship from own store Ship from partner store Ship from wholesale-partner's store	Mobile node Temporary node Market production 3-D printing	Returns utilization
Shipment from factory/ production facility in offshore or nearshore country Typically located in low-cost countries	Products shipped to destination based on specific customer order or demand sensing	Shipment from warehouse/ distribution center Operated internally, by partner, wholesaler, or 3PL	Shipment from noncustomer-facing miniwarehouse—small scale, not automated Located in or close to a city/densely populated area	Shipment from retail stores using back-of-house or in-store inventory Fulfilling walk-in customer purchases Can be own stores, partner stores, or wholesaler stores	Shipment from nonstandardized node, used on as-needed basis (eg, special events) Examples: truck/van/bike, etc carrying a low quantity of products that shoppers order via app; temporary DC with a plug-and-play concept	Customer returns used to fulfill new orders

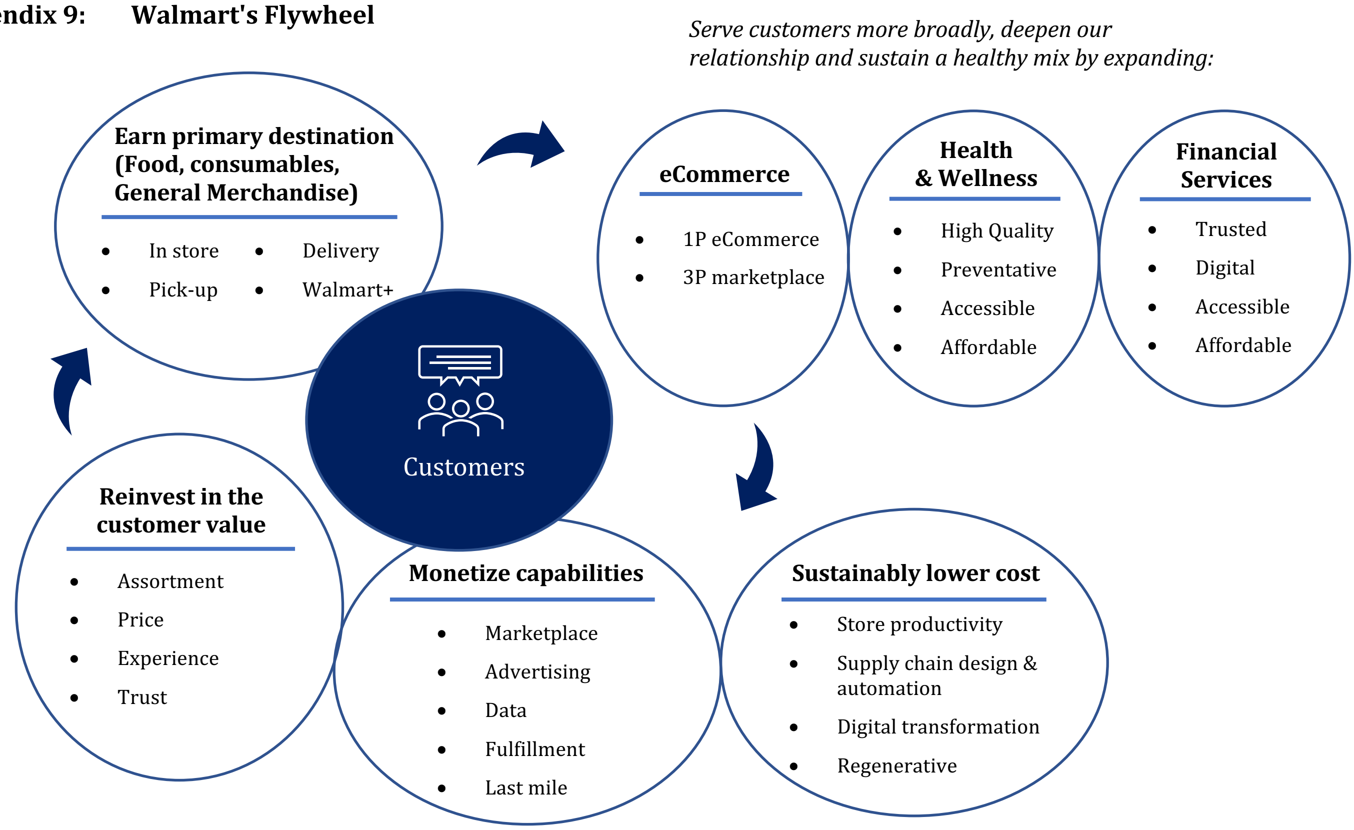
Source: McKinsey

Appendix 8: Curbside and Delivery capabilities in U.S. Food Retail

		Walmart	Target	Costco Wholesale	Kroger	amazon / Whole Foods Market
Pickup	Pickup Service	Curbside	Curbside	In-warehouse	Curbside	Curbside
	Number of Pickup Locations	3,800	1,750	565	2,223	500+
	Pickup Fee	Free	Free	Free	Currently free due to COVID-19; typically $4.95	Free for Prime Members
	Pickup Times	One hour window or as soon as same day	Ready within 1-2 hours	Standard delivery time	One-hour window	Within an hour ($4.99 fee within 30 minutes)
Delivery	Same-day Delivery	Express Delivery in 3,200 locations (70% US population) on $35 minimum order	All markets (including perishables)	All markets (including perishables)	98% of KR households and nearly 2,700 locations.	2,000+ cities
	Same-day Delivery Fee	Free with $98 (or $12.95/month) membership, $7.95-$9.95 without membership.	Free on orders >$35 with $99/annual fee	Free on COST website; $7.99/$5.99 for Instacart (along with marked-up prices) without $149 annual membership	Free over $35; $5 on orders below (may vary by region)	Free on orders $35+ with Prime Membership
	Same-day Delivery Partners	3rd party delivery partners, Spark (in-house delivery provider)	Shipt (acquired in 2018)	Instacart partnership	3rd party delivery partners	Owned (Amazon Fresh, Whole Foods, & Prime Now)

Source: Company data & J.P. Morgan research

Appendix 9: Walmart's Flywheel



Source: Walmart Corporate

Appendix 10: Board Competencies

The following table presents Director nominees that were elected during the 2021 Annual Shareholders Meeting (April 9, 2021):

Director Nominee	Experience and Skills Relevant to the Successful Oversight of our Strategy: Retail	Global or International Business	Technology or eCommerce	Marketing or Brand Management	Experience and Skills Relevant to Effective Oversight and Governance: Senior Leadership	Finance, Accounting, or Financial Reporting	Regulatory, Legal, or Risk Management
Cesar Conde		○	○	○	○		
Tim Flynn		○			○	○	○
Sarah Friar		○	○		○	○	
Carla Harris		○			○	○	○
Tom Horton		○			○	○	○
Marissa Mayer		○	○	○	○		
Doug McMillon	○	○	○		○		
Greg Penner	○	○	○		○	○	
Steve Reinemund		○		○	○		
Randall Stephenson		○	○	○	○	○	○
Rob Walton	○	○			○		○
Steuart Walton	○	○	○				○
TOTAL	4	12	7	4	11	6	6

Appendix 11: Board Remuneration

Director	Age	Independent	Position	Compensation (USD)	Term
Greg Penner	51	No	Non-Executive Chairman	500 160	2021
Doug McMillon	54	No	President and CEO, Walmart Inc.	22 574 358	2021
Tom Horton	59	Yes	Lead Independent Director	329 984	2021
Rob Walton	76	No	Retired Chairman, Member	274 984	2021
Cesar Conde	47	Yes	Member	274 984	2021
Tim Flynn	64	Yes	Member	299 974	2021
Sarah Friar	48	Yes	Member	294 849	2021
Carla Harris	58	Yes	Member	274 932	2021
Marrissa Mayer	45	Yes	Member	274 996	2021
Steve Reinemund	73	Yes	Member	297 113	2021
Randall Stephenson	61	Yes	Member	N/A (recently appointed)	2021
Steuart Walton	39	No	Member	294 849	2021

Appendix 12: Income Statement (Walmart Inc.)

For the fiscal year ended January 31, in millions USD

Consolidated Income Statement	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F	CAGR 22F-28F
Revenues	514 405	523 964	559 151	565 156	584 523	605 927	627 594	648 788	672 246	695 915	3.53%
Net sales	510 329	519 926	555 233	560 774	579 990	601 228	622 727	643 756	667 033	690 519	3.53%
Membership and other income	4 076	4 038	3 918	4 383	4 533	4 699	4 867	5 031	5 213	5 397	3.53%
Cost of sales	385 301	394 605	420 315	424 225	439 633	455 610	470 781	486 036	502 943	519 960	3.45%
Gross Profit	129 104	129 359	138 836	140 931	144 890	150 316	156 812	162 751	169 303	175 955	3.77%
Operating, selling, general and administrative expenses	107 147	108 791	116 288	117 211	121 457	125 951	130 556	134 614	138 910	143 131	3.39%
Operating income	21 957	20 568	22 548	23 720	23 434	24 365	26 257	28 137	30 393	32 824	5.56%
Financial Costs	2 129	2 410	2 194	1 438	1 555	1 487	1 517	1 580	1 542	1 456	0.21%
Debt	1 975	2 262	1 976	1 441	1 607	1 492	1 680	1 763	1 814	1 944	5.11%
Capital lease and financing obligations	371	337	339	298	313	292	274	259	245	221	-4.85%
Interest income	(217)	(189)	(121)	(302)	(365)	(297)	(437)	(442)	(517)	(709)	15.31%
Other (gains) and losses	8 368	(1 958)	(210)	0	0	0	0	0	0	0	—
Income before income taxes	11 460	20 116	20 564	22 282	21 878	22 877	24 740	26 557	28 851	31 368	5.87%
Provision for income taxes	4 281	4 915	6 858	6 912	6 787	7 097	7 675	8 239	8 950	9 731	5.87%
Net income	7 179	15 201	13 706	15 369	15 091	15 780	17 065	18 319	19 901	21 637	5.87%
Non-controlling interest	(509)	(320)	(196)	(375)	(313)	(307)	(366)	(374)	(404)	(443)	2.82%
Net income attributable to Walmart shareholders	6 670	14 881	13 510	14 994	14 778	15 473	16 699	17 945	19 497	21 194	5.94%

Shares Outstanding (millions)	2 929	2 850	2 831	2 783	2 736	2 690	2 645	2 600	2 556	2 513	-1.69%
Earnings Per Share (Basic)	2.28	5.22	4.77	5.39	5.40	5.75	6.31	6.90	7.63	8.43	7.75%
Dividends Per Share	2.08	2.12	2.16	2.20	2.24	2.28	2.32	2.36	2.40	2.44	1.71%
Share Repurchases (mUSD)	7 410	5 717	2 625	6 469	6 103	5 665	7 430	8 379	8 909	9 072	5.80%

Consolidated Income Statement (Common Size)	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Revenues	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Net sales	99.2%	99.2%	99.3%	99.2%	99.2%	99.2%	99.2%	99.2%	99.2%	99.2%
Membership and other income	0.8%	0.8%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Cost of sales	74.9%	75.3%	75.2%	75.1%	75.2%	75.2%	75.0%	74.9%	74.8%	74.7%
Gross Profit	25.1%	24.7%	24.8%	24.9%	24.8%	24.8%	25.0%	25.1%	25.2%	25.3%
Operating, selling, general and administrative expenses	20.8%	20.8%	20.8%	20.7%	20.8%	20.8%	20.8%	20.7%	20.7%	20.6%
Operating income	4.3%	3.9%	4.0%	4.2%	4.0%	4.0%	4.2%	4.3%	4.5%	4.7%
Financial Costs	0.4%	0.5%	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
Debt	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
Capital lease and financing obligations	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Interest income	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Other (gains) and losses	1.6%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Income before income taxes	2.2%	3.8%	3.7%	3.9%	3.7%	3.8%	3.9%	4.1%	4.3%	4.5%
Provision for income taxes	0.8%	0.9%	1.2%	1.2%	1.2%	1.2%	1.2%	1.3%	1.3%	1.4%
Net income	1.4%	2.9%	2.5%	2.7%	2.6%	2.6%	2.7%	2.8%	3.0%	3.1%
Non-controlling interest	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Net income attributable to Walmart shareholders	1.3%	2.8%	2.4%	2.7%	2.5%	2.6%	2.7%	2.8%	2.9%	3.0%

Appendix 13: Balance Sheet (Walmart Inc.)

For the fiscal year ended January 31, in millions USD

Consolidated Balance Sheet	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F	CAGR 22F-28F
Current assets	61 897	61 806	90 067	74 647	70 229	76 020	77 349	81 728	90 059	99 760	4.95%
Cash and cash equivalents	7 722	9 465	17 741	16 572	10 998	15 609	15 797	19 152	26 264	34 728	13.12%
Receivables, net	6 283	6 284	6 516	6 667	6 909	7 140	7 453	7 668	7 926	8 222	3.56%
Inventories	44 269	44 435	44 949	48 980	49 895	50 843	51 671	52 481	53 441	54 383	1.76%
Prepaid expenses and other	3 623	1 622	20 861	2 428	2 428	2 428	2 428	2 428	2 428	2 428	0.00%
Non-Current assets	157 398	174 689	162 429	171 713	174 979	179 417	185 030	187 249	188 493	189 520	1.66%
Property and equipment, net	104 317	105 208	92 201	94 599	98 213	102 746	108 162	110 395	111 703	112 724	2.96%
Operating lease right-of-use assets	0	17 424	13 642	13 490	12 296	11 185	10 171	9 264	8 164	6 996	-10.37%
Finance lease right-of-use assets, net	0	4 417	4 005	4 553	4 250	3 988	3 763	3 570	3 220	2 845	-7.54%
Property under capital lease and financing obligations, net	7 078	0	0	0	0	0	0	0	0	0	—
Goodwill	31 181	31 073	28 983	28 983	28 983	28 983	28 983	28 983	28 983	28 983	0.00%
Other long-term assets	14 822	16 567	23 598	30 087	31 237	32 515	33 951	35 038	36 424	37 971	3.96%
Total Assets	**219 295**	**236 495**	**252 496**	**246 360**	**245 208**	**255 438**	**262 379**	**268 978**	**278 552**	**289 280**	**2.71%**
Current liabilities	77 477	77 790	92 645	82 625	86 790	90 369	90 195	92 565	95 918	99 552	3.16%
Short-term borrowings	5 225	575	224	589	0	1 005	1 350	1 452	1 559	1 987	22.46%
Accounts payable	47 060	46 973	49 141	49 585	52 058	54 333	56 005	57 652	59 649	61 855	3.75%
Accrued liabilities	22 159	22 296	37 966	26 056	26 907	27 785	28 692	29 629	30 597	31 596	3.27%
Accrued income taxes	428	280	242	475	475	475	475	475	475	475	0.00%
Long-term debt due within one year	1 876	5 362	3 115	3 014	4 721	4 360	1 480	1 381	1 381	1 381	-12.20%
Operating lease obligations due within one year	0	1 793	1 466	2 189	2 017	1 861	1 697	1 527	1 665	1 665	-4.45%
Finance lease obligations due within one year	0	511	491	717	613	551	496	449	593	593	-3.11%
Capital lease and financing obligations due within one year	729	0	0	0	0	0	0	0	0	0	—
Non-Current liabilities	62 184	77 153	72 320	73 713	66 362	69 602	73 495	74 406	76 305	77 429	0.82%
Long-term debt	43 520	43 714	41 194	44 205	38 076	42 470	47 384	49 177	52 810	55 476	3.86%
Long-term operating lease obligations	0	16 171	12 909	11 301	10 279	9 324	8 474	7 737	6 498	5 331	-11.77%
Long-term finance lease obligations	0	4 307	3 847	3 836	3 637	3 437	3 267	3 121	2 626	2 252	-8.50%
Long-term capital lease and financing obligations	6 683	0	0	0	0	0	0	0	0	0	—
Deferred income taxes and other	11 981	12 961	14 370	14 370	14 370	14 370	14 370	14 370	14 370	14 370	0.00%
Equity	79 634	81 552	87 531	90 022	92 056	95 467	98 689	102 007	106 328	112 298	3.75%
Common stock	288	284	282	282	282	282	282	282	282	282	0.00%
Capital in excess of par value	2 965	3 247	3 646	3 646	3 646	3 646	3 646	3 646	3 646	3 646	0.00%
Retained earnings	80 785	83 943	88 763	91 163	93 708	97 384	100 521	103 955	108 414	114 411	3.86%
Accumulated other comprehensive loss	(11 542)	(12 805)	(11 766)	(11 574)	(11 922)	(12 017)	(11 819)	(11 833)	(11 898)	(11 892)	0.45%
Noncontrolling interest	7 138	6 883	6 606	6 505	6 341	6 171	6 060	5 957	5 884	5 851	-1.75%
Total Liabilities & Shareholders Equity	**219 295**	**236 495**	**252 496**	**246 360**	**245 208**	**255 438**	**262 379**	**268 978**	**278 552**	**289 280**	**2.71%**

Consolidated Balance Sheet	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Current assets	28.2%	26.1%	35.7%	30.3%	28.6%	29.8%	29.5%	30.4%	32.3%	34.5%
Cash and cash equivalents	3.5%	4.0%	7.0%	6.7%	4.5%	6.1%	6.0%	7.1%	9.4%	12.0%
Receivables, net	2.9%	2.7%	2.6%	2.7%	2.8%	2.8%	2.8%	2.9%	2.8%	2.8%
Inventories	20.2%	18.8%	17.8%	19.9%	20.3%	19.9%	19.7%	19.5%	19.2%	18.8%
Prepaid expenses and other	1.7%	0.7%	8.3%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	0.8%
Non-Current assets	71.8%	73.9%	64.3%	69.7%	71.4%	70.2%	70.5%	69.6%	67.7%	65.5%
Property and equipment, net	47.6%	44.5%	36.5%	38.4%	40.1%	40.2%	41.2%	41.0%	40.1%	39.0%
Operating lease right-of-use assets	0.0%	7.4%	5.4%	5.5%	5.0%	4.4%	3.9%	3.4%	2.9%	2.4%
Finance lease right-of-use assets, net	0.0%	1.9%	1.6%	1.8%	1.7%	1.6%	1.4%	1.3%	1.2%	1.0%
Property under capital lease and financing obligation	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Goodwill	14.2%	13.1%	11.5%	11.8%	11.8%	11.3%	11.0%	10.8%	10.4%	10.0%
Other long-term assets	6.8%	7.0%	9.3%	12.2%	12.7%	12.7%	12.9%	13.0%	13.1%	13.1%
Total Assets	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Current liabilities	35.3%	32.9%	36.7%	33.5%	35.4%	35.4%	34.4%	34.4%	34.4%	34.4%
Short-term borrowings	2.4%	0.2%	0.1%	0.2%	0.0%	0.4%	0.5%	0.5%	0.6%	0.7%
Accounts payable	21.5%	19.9%	19.5%	20.1%	21.2%	21.3%	21.3%	21.4%	21.4%	21.4%
Accrued liabilities	10.1%	9.4%	15.0%	10.6%	11.0%	10.9%	10.9%	11.0%	11.0%	10.9%
Accrued income taxes	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Long-term debt due within one year	0.9%	2.3%	1.2%	1.2%	1.9%	1.7%	0.6%	0.5%	0.5%	0.5%
Operating lease obligations due within one year	0.0%	0.8%	0.6%	0.9%	0.8%	0.7%	0.6%	0.6%	0.6%	0.6%
Finance lease obligations due within one year	0.0%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Capital lease and financing obligations due within one	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Current liabilities	28.4%	32.6%	28.6%	29.9%	27.1%	27.2%	28.0%	27.7%	27.4%	26.8%
Long-term debt	19.8%	18.5%	16.3%	17.9%	15.5%	16.6%	18.1%	18.3%	19.0%	19.2%
Long-term operating lease obligations	0.0%	6.8%	5.1%	4.6%	4.2%	3.7%	3.2%	2.9%	2.3%	1.8%
Long-term finance lease obligations	0.0%	1.8%	1.5%	1.6%	1.5%	1.3%	1.2%	1.2%	0.9%	0.8%
Long-term capital lease and financing obligations	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Deferred income taxes and other	5.5%	5.5%	5.7%	5.8%	5.9%	5.6%	5.5%	5.3%	5.2%	5.0%
Equity	36.3%	34.5%	34.7%	36.5%	37.5%	37.4%	37.6%	37.9%	38.2%	38.8%
Common stock	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Capital in excess of par value	1.4%	1.4%	1.4%	1.5%	1.5%	1.4%	1.4%	1.4%	1.3%	1.3%
Retained earnings	36.8%	35.5%	35.2%	37.0%	38.2%	38.1%	38.3%	38.6%	38.9%	39.6%
Accumulated other comprehensive loss	-5.3%	-5.4%	-4.7%	-4.7%	-4.9%	-4.7%	-4.5%	-4.4%	-4.3%	-4.1%
Noncontrolling interest	3.3%	2.9%	2.6%	2.6%	2.6%	2.4%	2.3%	2.2%	2.1%	2.0%
Total Liabilities & Shareholders Equity	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Appendix 14: Cash Flow Statement (Walmart Inc.)

Cash Flow Statement	2022F	2023F	2024F	2025F	2026F	2027F	2028F	CAGR 22F-28F
Cash Flow From Operating Activities	23 296	29 304	30 355	31 770	33 417	35 347	37 430	8.22%
Consolidated Net Income	15 369	15 091	15 780	17 065	18 319	19 901	21 637	5.87%
Non-Cash Charges	11 602	12 046	12 602	13 266	13 540	13 700	13 825	2.96%
Changes in Net Working Capital	(3 676)	2 168	1 973	1 439	1 559	1 746	1 968	n.a.
Cash Flow From Investing Activities	(14 000)	(15 660)	(17 135)	(18 682)	(15 772)	(15 008)	(14 846)	0.98%
Additions to Fixed and Intangible Assets and Other Items	(14 000)	(15 660)	(17 135)	(18 682)	(15 772)	(15 008)	(14 846)	0.98%
Cash Flow From Financing Activities	(10 465)	(19 219)	(8 609)	(12 900)	(14 291)	(13 227)	(14 120)	5.12%
Proceeds from issuance of Debt	7 902	0	11 016	8 916	5 720	7 098	6 751	-2.59%
Repayments of Debt	(5 296)	(6 509)	(7 351)	(7 777)	(5 023)	(4 809)	(5 198)	-0.31%
Dividends paid	(6 125)	(6 130)	(6 132)	(6 133)	(6 132)	(6 129)	(6 124)	0.00%
Dividends paid to noncontrolling interest	(476)	(477)	(477)	(477)	(477)	(477)	(476)	0.00%
Purchase of Company Stock	(6 469)	(6 103)	(5 665)	(7 430)	(8 379)	(8 909)	(9 072)	5.80%
Change in Cash & Cash Equivalents	(1 169)	(5 574)	4 612	188	3 354	7 113	8 464	n.a.
Beginning Cash & Cash Equivalents	17 741	16 572	10 998	15 609	15 797	19 152	26 264	6.76%
Ending Cash & Cash Equivalents	16 572	10 998	15 609	15 797	19 152	26 264	34 728	13.12%

Cash Flow Statement	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Cash Flow From Operating Activities	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Consolidated Net Income	66.0%	51.5%	52.0%	53.7%	54.8%	56.3%	57.8%
Non-Cash Charges	49.8%	41.1%	41.5%	41.8%	40.5%	38.8%	36.9%
Changes in Net Working Capital	-15.8%	7.4%	6.5%	4.5%	4.7%	4.9%	5.3%
Cash Flow From Investing Activities	-60.1%	-53.4%	-56.4%	-58.8%	-47.2%	-42.5%	-39.7%
Additions to Fixed and Intangible Assets and Other Items	-60.1%	-53.4%	-56.4%	-58.8%	-47.2%	-42.5%	-39.7%
Cash Flow From Financing Activities	-44.9%	-65.6%	-28.4%	-40.6%	-42.8%	-37.4%	-37.7%
Proceeds from issuance of Debt	33.9%	0.0%	36.3%	28.1%	17.1%	20.1%	18.0%
Repayments of Debt	-22.7%	-22.2%	-24.2%	-24.5%	-15.0%	-13.6%	-13.9%
Dividends paid	-26.3%	-20.9%	-20.2%	-19.3%	-18.3%	-17.3%	-16.4%
Dividends paid to noncontrolling interest	-2.0%	-1.6%	-1.6%	-1.5%	-1.4%	-1.3%	-1.3%
Purchase of Company Stock	-27.8%	-20.8%	-18.7%	-23.4%	-25.1%	-25.2%	-24.2%
Change in Cash & Cash Equivalents	-5.0%	-19.0%	15.2%	0.6%	10.0%	20.1%	22.6%
Beginning Cash & Cash Equivalents	76.2%	56.6%	36.2%	49.1%	47.3%	54.2%	70.2%
Ending Cash & Cash Equivalents	71.1%	37.5%	51.4%	49.7%	57.3%	74.3%	92.8%

Appendix 15: Key Financial Ratios

Key financial ratios	unit	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Liquidity ratios											
Current Ratio	times	0.80	0.79	0.97	0.90	0.81	0.84	0.86	0.88	0.94	1.00
Quick Ratio	times	0.18	0.20	0.26	0.28	0.21	0.25	0.26	0.29	0.36	0.43
Cash ratio	times	0.10	0.12	0.19	0.20	0.13	0.17	0.18	0.21	0.27	0.35
Efficiency ratios											
Total asset turnover	times	2.43	2.30	2.29	2.27	2.38	2.42	2.42	2.44	2.46	2.45
Fixed asset turnover	times	4.55	4.39	4.72	5.08	5.14	5.21	5.23	5.29	5.46	5.67
Receivables Turnover	times	86.48	83.39	87.37	85.74	86.12	86.26	86.01	85.81	86.22	86.20
Collection period (DSO)	days	4.22	4.38	4.18	4.26	4.24	4.23	4.24	4.25	4.23	4.23
Inventory Turnover	times	8.75	8.90	9.40	9.03	8.89	9.05	9.18	9.33	9.50	9.64
Days in Inventory (DIO)	days	41.71	41.02	38.81	40.41	41.05	40.35	39.74	39.11	38.44	37.84
Payables Turnover	times	8.28	8.40	8.76	8.68	8.67	8.58	8.55	8.57	8.59	8.57
Payables Period (DPO)	days	44.07	43.47	41.68	42.07	42.11	42.53	42.70	42.61	42.48	42.57
Operating Cycle	days	45.93	45.40	42.99	44.66	45.28	44.58	43.98	43.36	42.67	42.08
Cash conversion cycle	days	1.86	1.93	1.31	2.59	3.18	2.06	1.29	0.76	0.19	-0.49
Operating Expense/Net Sales	%	21.00%	20.92%	20.94%	20.90%	20.94%	20.95%	20.97%	20.91%	20.83%	20.73%
Solvency ratios											
Debt to capital ratio	%	47.39%	47.04%	41.95%	42.25%	39.20%	39.76%	39.39%	38.86%	38.70%	37.95%
LT Debt to capital ratio	%	40.24%	41.69%	38.43%	38.07%	34.34%	34.85%	36.31%	35.98%	35.71%	34.84%
Equity Multiplier	times	2.75	2.90	2.88	2.74	2.66	2.68	2.66	2.64	2.62	2.58
Debt to Equity Ratio	times	0.90	0.89	0.72	0.73	0.64	0.66	0.65	0.64	0.63	0.61
Debt to EBITDA	times	2.20	2.30	1.88	1.86	1.67	1.70	1.62	1.56	1.52	1.47
Net Debt to EBITDA	times	1.96	2.00	1.35	1.40	1.36	1.28	1.22	1.10	0.93	0.73
Interest coverage	times	9.36	7.91	9.74	13.64	12.20	13.66	13.44	13.92	14.76	15.16
Profitability ratios											
Gross Profit Margin	%	25.10%	24.69%	24.83%	24.94%	24.79%	24.81%	24.99%	25.09%	25.18%	25.28%
EBITDA Margin	%	6.34%	6.02%	6.03%	6.25%	6.07%	6.10%	6.30%	6.42%	6.56%	6.70%
Operating Margin	%	4.27%	3.93%	4.03%	4.20%	4.01%	4.02%	4.18%	4.34%	4.52%	4.72%
Net profit margin	%	1.40%	2.90%	2.45%	2.72%	2.58%	2.60%	2.72%	2.82%	2.96%	3.11%
ROA	%	3.27%	6.43%	5.43%	6.24%	6.15%	6.18%	6.50%	6.81%	7.14%	7.48%
ROE	%	9.01%	18.64%	15.66%	17.07%	16.39%	16.53%	17.29%	17.96%	18.72%	19.27%
ROE - DuPont Approach	%	9.01%	18.64%	15.66%	17.07%	16.39%	16.53%	17.29%	17.96%	18.72%	19.27%
NI / S	times	1.4%	2.9%	2.5%	2.7%	2.6%	2.6%	2.7%	2.8%	3.0%	3.1%
S / A	times	2.35	2.22	2.21	2.29	2.38	2.37	2.39	2.41	2.41	2.41
A / E	times	2.75	2.90	2.88	2.74	2.66	2.68	2.66	2.64	2.62	2.58
ROIC	%	13.27%	13.03%	13.35%	14.72%	15.31%	15.09%	15.85%	16.56%	17.12%	17.63%
NOPAT	mUSD	13 755	15 543	15 028	16 361	16 164	16 806	18 111	19 408	20 964	22 641
Invested Capital	mUSD	103 645	119 306	112 566	111 174	105 549	111 348	114 273	117 201	122 425	128 400
ROCE	%	14.50%	13.36%	14.95%	15.22%	15.48%	15.37%	16.12%	16.86%	17.52%	18.14%
Capital Employed	mUSD	151 377	153 985	150 777	155 874	151 398	158 475	162 837	166 852	173 461	180 984
Value Creation											
Economic Value Added (EVA®)	mUSD	—	—	—	10 289	9 865	9 678	10 685	11 779	13 102	14 377
Retail ratios											
Walmart U.S. Revenue per square foot	$, per sq.ft.	470.68	484.68	526.26	556.65	576.47	596.99	617.87	637.78	657.92	678.93
Sam's Club Revenue per square foot	$, per sq.ft.	720.83	732.71	796.50	871.65	859.48	874.33	889.08	903.91	941.72	971.55
U.S. E-commerce sales penetration	%	4.72%	6.98%	11.13%	12.87%	14.99%	17.36%	19.34%	21.57%	22.87%	23.82%
U.S. retail market share	%	11.96%	12.08%	12.69%	12.67%	12.52%	12.57%	12.61%	12.64%	12.70%	12.76%

Appendix 16: Income Statement Assumptions

Assumptions	Unit	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Notes
Sales by Segment and other Income									
Walmart U.S.	mUSD	393 186	409 125	425 710	442 693	459 133	475 885	493 426	See Appendix 18.
Sam's Club	mUSD	69 990	69 061	70 305	71 541	72 786	75 884	78 343	See Appendix 18.
Walmart International	mUSD	97 598	101 804	105 213	108 493	111 837	115 265	118 749	See Appendix 20.
Membership and other income	% Revenue	0.78%	0.78%	0.78%	0.78%	0.78%	0.78%	0.78%	Walmart does not disclose valuable information to forecast Membership Income, such as # of members and income by type of Membership. Plus, it includes other income items not specified. Thus, the 6Y median % of Revenue is aplied to have a conservative projection.
Operational Costs									
Consolidated Cost of Sales	% Net Sales	75.65%	75.80%	75.78%	75.60%	75.50%	75.40%	75.30%	On a Consolidated basis, Walmart is expected to continue with a higher than historical average % Cost of Sales until FY2027. Afterwards the company is able to capitalize on greater scale in higher margin product mix and alternative profit pools, thus leading to slight decreases.
Operating SG&A expense leverage (excl. D&A)	Bps	55	-17	6	10	15	20	25	Operating expense leverage, measured by the excess growth of Net Sales over OPEX, will recover in FY22 as the company reduces COVID related expenses ($4 billion last year) and the U.S. segment presents solid growth. WMT is expected to continue leveraging expenses as current investments in supply chain and automation build up.
EBITDA									
Walmart U.S.	% Net Sales	6.96%	6.89%	6.93%	7.12%	7.23%	7.36%	7.50%	See Appendix 21.
Sam's Club	% Net Sales	4.03%	3.54%	3.47%	3.41%	3.59%	3.68%	3.72%	See Appendix 21.
Walmart International	% Net Sales	5.99%	5.50%	5.58%	5.95%	6.07%	6.19%	6.39%	See Appendix 21.
Corporate & Support	% Contrib. EBITDA	-1.96%	-2.08%	-2.27%	-2.26%	-2.15%	-1.96%	-1.81%	Based on historical corporate overhead not attributed to any specific segment and expected operational expenses.
D&A by Segment									
Walmart U.S.	mUSD	6 820	7 064	7 404	7 791	7 949	8 046	8 119	See Appendix 22 for detailed forecast.
Sam's Club	mUSD	696	677	714	764	769	781	790	See Appendix 22 for detailed forecast.
Walmart International	mUSD	2 665	2 850	2 950	3 097	3 178	3 207	3 237	See Appendix 22 for detailed forecast.
Corporate & Support	mUSD	1 422	1 453	1 533	1 613	1 643	1 665	1 680	See Appendix 22 for detailed forecast.
Financial Items									
Financial expense on Debt	% interest	3.24%	3.36%	3.49%	3.51%	3.51%	3.49%	3.49%	Financial expense on debt will be calculated as Interest-bearing debt in t-1 * estimated cost of debt in t.
Financial expense on Financial Leases	% interest	6.87%	6.87%	6.87%	6.87%	6.87%	6.87%	6.87%	Finance lease liabilities outstanding will be target to the effective interest rate implied in FY2021 of 6.87%.
Financial Income	% yield	1.70%	2.20%	2.70%	2.80%	2.80%	2.70%	2.70%	Financial income will be calculated as the Cash & Cash Equivalents account in t-1 * the assumed Risk Free rate, the Projected Ten Year Government bond rate by IMF (2021)
Other (gains) and losses	mUSD	0	0	0	0	0	0	0	This item will be a big driver of differences between the actual reported net income and my own projections. It is merely an accounting matter from FASB "ASU 2016-01" Financial Instruments that requires unrealized gains or losses on equity investments to be presented on the Income Statement.
Other Items									
Effective tax rate	%	31%	31%	31%	31%	31%	31%	31%	Assumed as the 6Y average Effective Tax Rate.
Non-controlling interest	% EBIT	-1.58%	-1.34%	-1.26%	-1.39%	-1.33%	-1.33%	-1.35%	3Y Moving Average as a % of Operating Income.
Shareholder Returns									
Shares Outstanding	Mil. Shares	2 783	2 736	2 690	2 645	2 600	2 556	2 513	Consistent decrease YoY from Share Buyback policy. Giving the continued purchasing program, the number reflects a YoY decrease of -1.69%, based on 19-21 CAGR.
Dividends per common share	USD	2.20	2.24	2.28	2.32	2.36	2.40	2.44	48 years of consecutive DPS increase. Followed the historical 4 cents/share YoY increment.
Share Repurchases	mUSD	6 469	6 103	5 665	7 430	8 379	8 909	9 072	The level of Share Repurchases will depend on the OCFs and intensity of capital used internally. The company will repurchase shares in par with the historical average, and as WMT uses less funds internally, the repurchase program will reach the levels of FY17-18.

Appendix 17: Balance Sheet Assumptions

Assumptions	Unit	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Notes
Current Assets									
Receivables	% of Sales	1.19%	1.19%	1.19%	1.20%	1.19%	1.19%	1.19%	Traditionally very stable. For Walmart, Receivables is not a significant working capital investment. Thus, assume 6Y moving average.
Inventory	Inventory Turnover	9.03	8.89	9.05	9.18	9.33	9.50	9.64	Consistently increased YoY. Last year, unexpected demand and supply chain disruption caused by the pandemic lead to low inventory levels. In FY22, the company will purchase more inventory to meet continued challenges, thus the ratio will decline. Afterwards assume slight increases in line with historical performance.
Prepaid expenses and other	mUSD	2 428	2 428	2 428	2 428	2 428	2 428	2 428	FY2021 included assets held for sale related to operations in the U.K. and Japan, the sale was completed in 1Q of FY22. Assume 5Y average afterwards.
Non-current Assets									
Total Capex	% of Sales	2.50%	2.70%	2.85%	3.00%	2.45%	2.25%	2.15%	Announced Capex for FY2022 around 14 Billion USD. Until FY25, the spending policy will be around 2.5% to 3% of Net Sales, afterwards this item will converge to historical %. See Appendix 22.
Property and equipment	mUSD	94 599	98 213	102 746	108 162	110 395	111 703	112 724	PP&E in t = PP&E in t-1 + Capex in t - Depreciation in t.
Goodwill	mUSD	28 983	28 983	28 983	28 983	28 983	28 983	28 983	Walmart was active in M&A, as it is reflected by a Goodwill account with a CAGR 16-20 of 16.80%. The reduction in FY21 is mostly tied to businesses sold. There is no announced deal nor there is a reason to establish impairments in the future, so I assume the same value as FY2021.
Other long-term assets	mUSD	27.5%	3.8%	4.1%	4.4%	3.2%	4.0%	4.2%	Mainly composed by fair value of equity investments, but also fair value of derivatives and intangible assets (such as acquired trade names; not amortized, only tested for impairment). This value has increased consistently YoY, with a CAGR of 31% between 2016-21, to maintain consistency in the asset structure, this account should increase over time.
Current Liabilities									
Short-term borrowings	% Debt	0.89%	0.00%	1.59%	2.10%	2.24%	2.32%	2.89%	Net change in Short-term borrowings was determined by the target Debt to Capital ratio of 38%.
Accounts payable	% of Sales	8.84%	8.98%	9.04%	8.99%	8.96%	8.94%	8.96%	In FY21, Acc. Payable decreased as % Net Sales from tighter supply chain conditions as the pandemic caused disruption. This year we will likely see a slight decrease and afterwards the company will reinforce their position by increasing paying terms.
Accrued liabilities	YoY	3.27%	3.27%	3.27%	3.27%	3.27%	3.27%	3.27%	This account has been growing consistently as part of WMT operations, including accrued wages and benefits, therefore I will assume the historical CAGR 2016-2020. Exclude the effects of FY21, as it relates to businesses that were held for sale until 1Q FY22.
Accrued income taxes	mUSD	475	475	475	475	475	475	475	6Y median amount for the forecasted period. Too erratic to forecast.
Long-term debt due within one year	mUSD	3 014	4 721	4 360	1 480	1 381	1 381	1 381	Based on disclosed annual maturities of LT debt provided by WMT that will mature in the time horizon of the forecast.
Operating lease obligations due within one ye	mUSD	2 189	2 017	1 861	1 697	1 527	1 665	1 665	Based on projected Operating Lease Commitments provided on the notes to the Financial Statements. After FY2026, commitments were spread by the remaining lease term.
Finance lease obligations due within one yeai	mUSD	717	613	551	496	449	593	593	Based on projected Finance Lease Commitments provided on the notes to the Financial Statements. After FY2026, commitments were spread by the remaining lease term.
Non-current Liabilities									
Long-term debt	% Debt	67.1%	64.2%	67.4%	73.9%	75.8%	78.7%	80.8%	Debt Issuance was considered, after debt repayments, in order to achieve the target Debt to capital ratio of 38%.
Long-term operating lease obligations	mUSD	11 301	10 279	9 324	8 474	7 737	6 498	5 331	Assumed to reflect only the lease commitments already disclosed by the company. Based on PV of annual Op. lease obligations @ discount rate provided by WMT. The Remaining lease term is 12.5 years.
Long-term finance lease obligations	mUSD	3 836	3 637	3 437	3 267	3 121	2 626	2 252	Assumed to reflect only the lease commitments already disclosed by the company. Based on PV of annual Fin. lease obligations @ discount rate provided by WMT. The Remaining lease term is 13.7 years.
Deferred income taxes and other	mUSD	14 370	14 370	14 370	14 370	14 370	14 370	14 370	Equal to FY21 nominal value and expected to remain constant.

Appendix 18: Revenue Projections by product category in the United States

Food & Consumables (mUSD)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Market Size	1 133 920	1 203 675	1 239 648	1 276 696	1 314 852	1 354 148	1 394 619	1 436 299
% Market Share								
Walmart U.S.	18.38%	18.50%	18.60%	18.69%	18.79%	18.88%	18.95%	19.00%
Sam's Club	3.72%	3.75%	3.60%	3.55%	3.50%	3.45%	3.51%	3.53%
Revenue								
Walmart U.S.	208 413	222 680	230 513	238 615	246 995	255 663	264 280	272 897
Sam's Club	42 148	45 138	44 627	45 323	46 020	46 718	49 016	50 701
Total Revenue	**250 561**	**267 818**	**275 140**	**283 937**	**293 015**	**302 381**	**313 297**	**323 598**

General Merchandise (mUSD)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Market Size	1 908 959	2 060 736	2 172 278	2 247 194	2 322 762	2 400 659	2 480 810	2 562 714
% Market Share								
Walmart U.S.	6.26%	6.10%	6.15%	6.25%	6.35%	6.40%	6.45%	6.50%
Sam's Club	0.98%	1.05%	0.98%	0.97%	0.96%	0.95%	0.95%	0.95%
Revenue								
Walmart U.S.	119 406	125 705	133 595	140 450	147 495	153 642	160 012	166 576
Sam's Club	18 722	21 638	21 288	21 798	22 299	22 806	23 568	24 346
Total Revenue	**138 128**	**147 343**	**154 883**	**162 247**	**169 794**	**176 448**	**183 580**	**190 922**

Health & Wellness (mUSD)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Market Size	348 713	357 135	365 761	374 595	383 642	392 908	402 398	412 117
% Market Share								
Walmart U.S.	11.05%	11.35%	10.91%	10.83%	10.74%	10.72%	10.75%	10.90%
Sam's Club	0.87%	0.90%	0.86%	0.85%	0.84%	0.83%	0.82%	0.80%
Revenue								
Walmart U.S.	38 522	40 535	39 923	40 568	41 222	42 136	43 250	44 905
Sam's Club	3 040	3 214	3 146	3 184	3 223	3 261	3 300	3 297
Total Revenue	**41 562**	**43 749**	**43 068**	**43 752**	**44 444**	**45 398**	**46 550**	**48 202**

U.S. Market Position (mUSD)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Market Size	3 391 592	3 621 546	3 777 686	3 898 485	4 021 257	4 147 716	4 277 827	4 411 129
% Market Share	12.69%	12.67%	12.52%	12.57%	12.61%	12.64%	12.70%	12.76%
Total Revenue	**430 251**	**458 909**	**473 091**	**489 937**	**507 253**	**524 227**	**543 426**	**562 722**

U.S. Advertising Revenue (mUSD)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Market Size	140 030	169 457	193 181	220 226	251 058	286 206	314 827	346 309
Walmart Ad Revenue (estimates)	1 010	1 550	2 270	3 140	3 925	4 514	5 037	5 610
Market Share	0.72%	0.91%	1.18%	1.43%	1.56%	1.58%	1.60%	1.62%
Other Categories	2 612	2 716	2 825	2 938	3 056	3 178	3 305	3 437

Source: Company data, Author Estimates

Walmart's top line in the U.S. was forecasted based on a Top-Down approach. To project the company's massive level of sales (#1 company in the world by Revenue, according to *Fortune*), a first level analysis was taken into macroeconomic projections by making use of valuable data provided by the IMF and the Bureau of Economic Analysis on both GDP and personal income projections. After having a growth benchmark, a sales segmentation was executed based on product category. Walmart's revenue reporting method in the United States (Walmart U.S. and Sam's Club) enabled this analysis as sales on the three major product categories, that is Food & Consumables, General Merchandise, and Health & Wellness, are disclosed yearly. To gain a proxy of market size in each of these segmentations, data from the U.S. Department of Commerce/Census Bureau was considered, specifically Monthly Retail Trade figures. Here, it is possible to find a proxy for market size with the aggregated level of sales by diverse categories, from food to home improvement sales. Additionally, industry research from J.P. Morgan and eMarketer further confirmed market size proxies and expectations regarding future growth per product segment. Lastly, a market share analysis was conducted based not only on historical figures and performance, but also on the market positioning of both Walmart U.S. and Sam's Club. Because there are risks inherent to the analysis, especially regarding Walmart U.S. due to its outsized contribution to the company's results, a scenario analysis and sensitivity analysis were created based on different outcomes of market positioning for the forecasted period and its impacts on the Price Target for 2022YE (see Price Target Sensitivity).

Appendix 19: U.S. E-Commerce sales penetration by Segment

U.S. E-Commerce Retail Sales (mUSD)	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
E-Commerce Market Size	506 115	578 501	762 675	933 000	1 089 000	1 262 000	1 449 000	1 648 000	1 842 464	2 026 710
% Market Share										
Walmart U.S.	3.10%	4.17%	5.64%	5.76%	5.92%	6.13%	6.14%	6.21%	6.11%	6.00%
Sam's Club	0.53%	0.66%	0.69%	0.63%	0.66%	0.69%	0.72%	0.75%	0.74%	0.72%
E-Commerce Revenue										
Walmart U.S.	15 700	24 100	43 000	53 750	64 500	77 400	89 010	102 362	112 598	121 605
Sam's Club	2 700	3 800	5 300	5 878	7 187	8 708	10 433	12 360	13 567	14 592
E-Commerce as a % of Segment Sales										
Walmart U.S.	4.73%	7.07%	11.62%	13.90%	15.96%	18.44%	20.43%	22.69%	24.10%	25.16%
Sam's Club	4.67%	6.46%	8.29%	8.54%	10.41%	12.39%	14.58%	16.98%	17.88%	18.63%

Source: Company data, Author Estimates

Both segments will see increased online sales penetration YoY, in line with industry projections (see Industry Snapshot). Sam's Club is expected to lag Walmart U.S. in online sales penetration due to business model differences, the warehouse club experience is more propense to a store purchase, where customers visit these large warehouse-type stores for purchases in bulk sizes on the limited selection of SKUs (see Appendix 3), whereas the Walmart U.S. segment has a broader selection, especially in general merchandise, that enables online purchases to play a bigger role. Physical store expansion is not expected, giving the CAPEX policy defined by the company (see Appendix 22), rather WMT will dedicate a share of the investment budget to organic growth by remodeling existing stores. Going forward the projection of a widely used metric in retail, sales per square ft., will grow at a 15.5% CAGR 21-22F for E-Commerce, compared to a 1.37% CAGR for brick & mortar store sales in the same period.

Sales by channel (per Sqr. Ft.)	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Average Sqr. Ft. (in Mil. Sqr. Ft.)								
Walmart U.S.	703.00	706.35	709.71	713.09	716.48	719.90	723.32	726.77
Sam's Club	80.24	80.30	80.35	80.41	80.47	80.52	80.58	80.64
B&M Sales per Sqr. Ft. (in USD)								
Walmart U.S.	465.09	480.55	485.58	488.45	493.64	495.59	502.25	511.61
Sam's Club	730.45	798.45	770.03	766.04	759.43	750.41	773.35	790.59
E-Commerce Sales per Sqr. Ft. (in USD)								
Walmart U.S.	61.17	76.10	90.88	108.54	124.23	142.19	155.67	167.32
Sam's Club	66.05	73.20	89.45	108.29	129.65	153.50	168.37	180.96
Total Sales per Sqr. Ft. (in USD)								
Walmart U.S.	526.26	556.65	576.47	596.99	617.87	637.78	657.92	678.93
Sam's Club	796.50	871.65	859.48	874.33	889.08	903.91	941.72	971.55

Source: Company data, Author Estimates

Appendix 20: Walmart International Sales Breakdown

Sales by Region	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Mexico & Central America	32 642	34 274	35 302	36 044	36 765	37 500	38 250	39 015
United Kingdom	29 234	Sold	Sold	Sold	Sold	Sold	Sold	Sold
Canada	19 991	20 991	21 977	22 461	22 775	23 094	23 440	23 792
China	11 430	12 390	13 084	13 791	14 521	15 262	16 010	16 762
Other	28 063	29 943	31 440	32 918	34 432	35 982	37 565	39 180
Total	**121 360**	**97 598**	**101 804**	**105 213**	**108 493**	**111 837**	**115 265**	**118 749**

Source: Company data, Author Estimates

Real GDP growth projections	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Mexico	5.0%	3.0%	2.1%	2.0%	2.0%	2.0%	2.0%
Canada	5.0%	4.7%	2.2%	1.4%	1.4%	1.5%	1.5%
China	8.4%	5.6%	5.4%	5.3%	5.1%	4.9%	4.7%
Emergent Economies	6.7%	5.0%	4.7%	4.6%	4.5%	4.4%	4.3%

Source: IMF (2021)

The reporting method of Walmart Inc. for the International portfolio is based on regional sales, with little to inexistent disclosures regarding specifics of each region in terms of operational efficiency and profitability. Additionally, the segment is undergoing a downsizing with operations sold in the U.K. and Japan in the 1Q FY2022. Management's recent guidelines point to a ~20% YoY decrease in sales, which is consistent with my own projections. Other than Mexico & Central America, there is no public information sufficiently credible to forecast future performance, therefore it is impossible to provide the same level of detail allocated to the U.S. operations. Each segment's sales performance was estimated according to Real GDP growth projections for each region by the IMF (2021), as this metric should be a reasonable benchmark of performance across the total portfolio of operations.

Appendix 21: EBITDA breakdown per Segment

EBITDA per Segment	2019	2020	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Walmart U.S. (in mUSD)	23 587	23 788	25 677	27 350	28 175	29 501	31 520	33 175	35 032	36 987
EBITDA Margin	7.1%	7.0%	6.9%	7.0%	6.9%	6.9%	7.1%	7.2%	7.4%	7.5%
Contribution	72.3%	75.4%	76.2%	77.43%	79.4%	79.8%	79.8%	79.6%	79.4%	79.3%
Sam's Club (in mUSD)	2 159	2 247	2 505	2 822	2 446	2 437	2 443	2 614	2 793	2 913
EBITDA Margin	3.7%	3.8%	3.9%	4.0%	3.5%	3.5%	3.4%	3.6%	3.7%	3.7%
Contribution	6.6%	7.1%	7.4%	7.99%	6.9%	6.6%	6.2%	6.3%	6.3%	6.2%
Walmart International (in mUSD)	7 473	6 052	6 293	5 843	5 596	5 868	6 453	6 784	7 132	7 594
EBITDA Margin	6.2%	5.0%	5.2%	6.0%	5.5%	5.6%	5.9%	6.1%	6.2%	6.4%
Contribution	22.90%	19.18%	18.67%	16.54%	15.77%	15.88%	16.33%	16.28%	16.17%	16.28%
Corporate & Support (in mUSD)	(584)	(532)	(775)	(693)	(737)	(840)	(893)	(896)	(864)	(845)
Contribution	-1.8%	-1.7%	-2.3%	-2.0%	-2.1%	-2.3%	-2.3%	-2.2%	-2.0%	-1.8%

Appendix 22: Walmart's CAPEX and D&A Policy

CAPEX (in Mil. USD)	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Walmart U.S.	6 131	8 635	9 690	10 641	11 676	9 700	9 129	9 109
Sam's Club	488	731	806	900	1 020	798	735	646
Walmart International	2 436	3 071	3 449	3 855	4 297	3 549	3 401	3 467
Corporate & Support	1 209	1 563	1 714	1 739	1 689	1 726	1 742	1 625
Total	10 264	14 000	15 660	17 135	18 682	15 772	15 008	14 846

CAPEX Assumptions	Unit	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Note
CAPEX to Net Sales	%	2.50%	2.70%	2.85%	3.00%	2.45%	2.25%	2.15%	
Allocation of CAPEX by Segment									
Walmart U.S.	%	61.68%	61.88%	62.10%	62.50%	61.50%	60.83%	61.35%	Share of CAPEX was determined by historical figures and expected Capital needs according to potential growth over the years.
Sam's Club	%	5.22%	5.15%	5.25%	5.46%	5.06%	4.90%	4.35%	
Walmart International	%	21.94%	22.03%	22.50%	23.00%	22.50%	22.66%	23.35%	
Corporate & Support	%	11.16%	10.94%	10.15%	9.04%	10.94%	11.61%	10.94%	

Investment Community Meeting 2021:

“ As we accelerate investment, CAPEX is expected to be around **$14 Billion this year** with most of the increase versus last year in the US. Over the next few years, we expect CAPEX to be around **2.5% to 3% of sales.**
While this is higher than the past few years, it is far below the CAPEX peak of 4% to 5% of sales during the period of heavy Supercenter growth. ”


Brett M. Biggs
CFO & Executive Vice President, Walmart Inc.

For the last four years, Walmart recorded more D&A than CAPEX, which is not ideal to position the company for superior growth. After a strong FY2021, the company needs to capitalize on the momentum to boost investments in fulfillment capacity, supply chain, technology, and automation. These investments will enable the company to fulfill more online orders and at a lower cost, both crucial aspects in scaling the E-Commerce business. This will also improve the marketplace and recent fulfillment services business, as the company will leverage capacity to attract 3P vendors. Despite of the low levels of CAPEX expansion in the last few years, the company was already investing more than 50% of its annual CAPEX in these growth initiatives, which proved determinant to navigate 2020 successfully. Going forward, the U.S. operations will continue to retain most of the investment to build a stronger digital business but also remodel existing stores, while expansion of new stores will continue to be negligible as the company already possesses a vast store network. On the International scene, with the divestitures and projections of Walmart's CFO, CAPEX share will decline to 21.94% in FY2022, while steadily recovering share as the business grows throughout the forecasted period.

D&A (in Mil. USD)	2021	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Walmart U.S.	6 561	6 820	7 064	7 404	7 791	7 949	8 046	8 119
Sam's Club	599	696	677	714	764	769	781	790
Walmart International	2 633	2 665	2 850	2 950	3 097	3 178	3 207	3 237
Corporate & Support	1 359	1 422	1 453	1 533	1 613	1 643	1 665	1 680
Total	11 152	11 602	12 046	12 602	13 266	13 540	13 700	13 825

D&A by Segment	Unit	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Note
Allocation of D&A by Segment									
Walmart U.S.	%	58.78%	58.65%	58.75%	58.73%	58.71%	58.73%	58.72%	The level of D&A allocated to each segment was determined by historical figures and the intensity of capital allocated to each one.
Sam's Club	%	6.00%	5.62%	5.66%	5.76%	5.68%	5.70%	5.72%	
Walmart International	%	22.97%	23.66%	23.41%	23.35%	23.47%	23.41%	23.41%	
Corporate & Support	%	12.25%	12.07%	12.17%	12.16%	12.13%	12.15%	12.15%	

Allocation of D&A was determined by historical levels, as well as projected capital intensity of each segment. The D&A rates were determined by the 3Y historical average of the rates that the company employed in its D&A policy.

Appendix 23: Cost of Equity

To capture different risk profiles within Walmart's operations, three different WACC rates were calculated. One for the U.S. operations, including Walmart U.S. and Sam's Club, one for the Walmart International segment, and finally a rate for the company as a whole. The company sells similar products and services across the different business segments; thus, the market sensitivity is assumed equivalent. The major differentiation factors come from distinct Market Risk Premium and Country Risk Premium rates, as regional risks should be taken into accounted. The capital structure was determined on a consolidated basis, from estimated market values, and the target capital structure is expected to be composed of 80% equity and 20% debt, the equivalent of the 5Y historical average structure based on market values.

Cost of Equity: CAPM model with Country Risk Premium

$$Re = RFR + CRP + \beta \times MRP$$

Risk Free Rate (RFR): For the forecasted period, the RFR was based on the projected 10-year U.S. Government Bond rates from the IMF Country Report (2021) for the United States, and for the terminal period the 20-year average of the 10-year U.S. Government Bond rate was used.

Beta: The estimates for Walmart's Beta yielded the following results

	Method A: Regressions		Method B: Pure Play Method using the Unlevered Beta of the Industry	Method C: Pure Play Method using Peers
	DJIA	NYSE		
Beta	0.67	0.61	1.21	0.68

Method A: To reach the raw beta, two regressions were executed considering WMT's monthly returns for 5 years (60 observations) and two indices, the *New York Stock Exchange* (NYSE) and the *Dow Jones Industrial Average* (DJIA). Afterwards, the Blume Adjustment was performed on the yielded results. Giving the higher R-square for the regression considering the DJIA, this estimate should be assumed superior to the one based on NYSE.

Method B: Based on a Pure Play Method using the Industry's Unlevered Beta corrected for cash, retrieved from Damodaran's data, then the levered beta was achieved by considering Walmart's D/E ratio and tax rate.

Method C: Lastly, a Pure Play Method using Peers was computed. The first step was the choice of peers, in this regard the candidates had to be within the top 15 biggest retailers in the world by revenue and have as their main operating concept hypermarket/supermarket stores. Walmart's Mexican subsidiary, which is publicly traded, was also added to the peers list as it has a similar business model and is an important component of the systematic risk of the international segment. Deloitte's Global Powers of Retailing 2021 was a helpful guidance for the selection. Retrieved data from *Factiva* regarding each peer enabled the calculations that yielded the unlevered betas. Finally, the Book D/E was used to reach the levered beta as it yielded much more consistent results when compared to *Method A*.

	D/E (Market Values)	D/E (Book Values)	Tax Rate
Walmart Inc.	0.19	0.72	31.02%

Walmart Inc.	Levered Beta	D/E	Unlevered Beta
Target Corporation	0.99	1.04	0.55
The Kroger Co.	0.59	2.15	0.22
Tesco PLC	0.69	1.27	0.35
Costco Wholesale Corporation	0.77	0.61	0.54
Aeon Co., Ltd.	0.93	3.24	0.50
Ahold Delhaize	0.63	1.17	0.32
Wal-Mart de México SAB de CV	0.87	0.35	0.69
Average			0.45
Walmart Inc.	**0.68**		

Market Risk Premium (MRP): The data used for the MRP is based on the survey conducted by Fernandez et. al (2021) *Market Risk Premium and Risk-Free Rate used for 88 countries in 2021*. The MRP used in the Cost of Equity for Walmart U.S. and Sam's Club was the median MRP for the United States. For the International segment, the MRP was determined by a weighted average of regional MRPs and the weight of Sales from each foreign region. Lastly, the MRP for the Cost of Equity of the consolidated operations makes use of the same methodology, considering the different regional MRPs and relative weights of sales.

Country Risk Premium (CRP): Walmart International operates in high growth markets such as China, India, and Mexico. To account for country-specific risks, a CRP was added to the CAPM model. The CRP was based on median RFR from the Fernandez et. al (2021) survey and was calculated as the spread between the RFR of foreign countries where Walmart operates and the RFR of the United States. A similar approach was used as in the MRP, where the relative weight of sales from different regions is accounted to the outcome of the CRP of each segment.

Group Sales By Region	2022F	2023F	2024F	2025F	2026F	2027F	2028F
United States	82.6%	82.4%	82.5%	82.6%	82.6%	82.7%	82.8%
Mexico	6.1%	6.1%	6.0%	5.9%	5.8%	5.7%	5.7%
Canada	3.7%	3.8%	3.7%	3.7%	3.6%	3.5%	3.4%
China	2.2%	2.3%	2.3%	2.3%	2.4%	2.4%	2.4%
Rest of the World	5.3%	5.4%	5.5%	5.5%	5.6%	5.6%	5.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Walmart International sales by region	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Mexico	35.1%	34.7%	34.3%	33.9%	33.5%	33.2%	32.9%
Canada	21.5%	21.6%	21.3%	21.0%	20.6%	20.3%	20.0%
China	12.7%	12.9%	13.1%	13.4%	13.6%	13.9%	14.1%
Rest of the World	30.7%	30.9%	31.3%	31.7%	32.2%	32.6%	33.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Rest of the World sales are mainly composed by operations in India, Chile, Costa Rica, and South Africa.

Cost of Equity by segment

Cost of Equity	2022F	2023F	2024F	2025F	2026F	2027F	2028F	TV
Walmart Consolidated								
Risk Free Rate	1.7%	2.2%	2.7%	2.8%	2.8%	2.7%	2.7%	3.1%
Beta (β)	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Market Risk Premium (MRP)	5.67%	5.67%	5.67%	5.67%	5.67%	5.67%	5.67%	5.67%
Country Risk Premium (CRP)	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%	0.44%
Cost of Equity	6.00%	6.50%	7.00%	7.10%	7.10%	7.00%	6.99%	7.43%
Walmart U.S.								
Risk Free Rate	1.7%	2.2%	2.7%	2.8%	2.8%	2.7%	2.7%	3.1%
Beta (β)	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Market Risk Premium (MRP)	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Cost of Equity	5.4%	5.9%	6.4%	6.5%	6.5%	6.4%	6.4%	6.9%
Sam's Club								
Risk Free Rate	1.7%	2.2%	2.7%	2.8%	2.8%	2.7%	2.7%	3.1%
Beta (β)	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Market Risk Premium (MRP)	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Cost of Equity	5.4%	5.9%	6.4%	6.5%	6.5%	6.4%	6.4%	6.9%
Walmart International								
Risk Free Rate	1.7%	2.2%	2.7%	2.8%	2.8%	2.7%	2.7%	3.1%
Beta (β)	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Market Risk Premium (MRP)	6.48%	6.48%	6.48%	6.49%	6.50%	6.50%	6.51%	6.51%
Country Risk Premium (CRP)	2.54%	2.53%	2.53%	2.53%	2.54%	2.54%	2.54%	2.54%
Cost of Equity	8.6%	9.1%	9.6%	9.7%	9.8%	9.7%	9.7%	10.1%

Appendix 24: Cost of Debt

Cost of Debt: To arrive at the cost of debt, four different methods were used and ultimately combined to achieve a final cost of debt.

Current Rating	Commercial Paper	Long-term Debt
Standard & Poor's	A-1+	AA
Moody's Investors Service	P-1	Aa2
Fitch Ratings	F1+	AA

Method A: By making use of the recorded interest expense and the carrying values of debt, including Capital Leases, the Effective Interest Rates were calculated. The average Effective Interest Rate was used to compute the forecasted cost of debt.

Method A: Effective Interest Rate	2016	2017	2018	2019	2020	2021
Carrying Value of Debt (incl. Capital Leases)	50 034	45 938	46 487	58 033	54 469	48 871
Interest Expense	2 548	2 367	2 330	2 346	2 599	2 315
Effective Interest Rate	5.09%	5.15%	5.01%	4.04%	4.77%	4.74%

Method B: Yield data provided by FINRA, on a portion of outstanding Corporate Bonds issued by Walmart were analyzed based on maturity, yields at offering and last traded yields. Each bond has the same rating, a necessary condition to compare these issues. Maturities of 30 years were used as a proxy for the Terminal Period, while maturities between 7 to 10 years were used for the forecast horizon.

Method B: Yield of Corporate Bonds	Offering Date	Yield at Offering	Last Traded Yield	Maturity Date	Maturity (years)	Rating Moody's/S&P
WMT.GG (Senior Unsecured Debenture)	06/10/1993	6.77%	0.43%	15/10/2023	30	Aa2/AA
WMT.GP (Senior Unsecured Note)	09/02/2000	7.56%	1.51%	15/02/2030	30	Aa2/AA
WMT.HV (Senior Unsecured Note)	24/08/2005	5.28%	1.97%	01/09/2035	30	Aa2/AA
WMT.IJ (Senior Unsecured Note)	24/03/2010	5.68%	2.44%	01/04/2040	30	Aa2/AA
WMT4117477 (Senior Unsecured Note)	15/04/2014	3.35%	0.70%	22/04/2024	10	Aa2/AA
WMT4647490 (Senior Unsecured Note)	20/06/2018	3.60%	0.75%	26/06/2025	7	Aa2/AA
WMT4822453 (Senior Unsecured Note)	16/04/2019	3.07%	0.90%	08/07/2026	7	Aa2/AA
WMT4886982 (Senior Unsecured Note)	19/09/2019	2.39%	1.47%	24/09/2029	10	Aa2/AA
WMT4887055 (Senior Unsecured Note)	19/09/2019	3.02%	2.45%	24/09/2049	30	Aa2/AA

Forecast period Cost of Debt	2014-2019	Current Cost of Debt (Bloomberg)
Average Last Traded Yield for Medium-term Bonds	0.95%	0.90%

Terminal Value Cost of Debt	1993-2010	2019	Average	Note
30 Year Bond Average Yields @ Offering	6.32%	3.02%	4.67%	For the same risk profile, Long-term Yields fell over the years. To offset the effects of the current low rate environment in the TV, an average between the two time periods was used.

Method C: Using the Fair Value of Debt provided on the notes to the financial statements of Walmart, the Cost of Net Debt was also calculated. The historical average cost of Net Debt was used for the computation of Walmart's cost of debt.

Method C: Cost of Net Debt	2016	2017	2018	2019	2020	2021
Fair Value of Debt (incl. Capital Lease)	56 040	52 269	51 470	62 207	63 162	58 802
Interest Expense	2 548	2 367	2 330	2 346	2 599	2 315
Cash & Cash Equivalents	8 705	6 867	6 756	7 722	9 465	17 741
Interest Income	81	100	152	217	189	121
Cost of Net Debt	5.21%	4.99%	4.87%	3.91%	4.49%	5.34%

Method D: Walmart's credit spread, based on the interest coverage ratio and rating status of debt, was added to the projected US 10Y Government Bond Rates (RFR). The level of credit spread was determined by Damodaran's 2021 data.

Method D: Credit Spread	FY2021
Interest Coverage Ratio	9.74
Rating Agencies	AA/Aa2
WMT Credit Risk Spread	0.69%

Projected Cost of Debt

Walmart Projected Cost of Debt	2022F	2023F	2024F	2025F	2026F	2027F	2028F	TV
Method A: Effective Interest Rate	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%
Method B: Yield of Corporate Bonds	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	4.67%
Method C: Cost of Net Debt	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%	4.80%
Method D: Credit Spread	2.39%	2.89%	3.39%	3.49%	3.49%	3.39%	3.39%	3.83%
Cost of Debt	**3.24%**	**3.36%**	**3.49%**	**3.51%**	**3.51%**	**3.49%**	**3.49%**	**4.53%**

Capital Structure: To perform the WACC calculations, a market capital structure was estimated. To obtain a proxy for the market value of equity in the forecast horizon, a P/B approach was used, where the multiple corresponds to the median quarterly P/B for the last 3 years. The current market capital structure is composed of 15.7% of debt. For the Terminal Period, the target capital structure was defined as 20% debt and 80% equity, which corresponds to the 5Y historical average structure based on market values.

P/B Approach	2022F	2023F	2024F	2025F	2026F	2027F	2028F
P/B Ratio	4.43	4.43	4.43	4.43	4.43	4.43	4.43
Book Value of Equity	90 022	92 056	95 467	98 689	102 007	106 328	112 298
Market Value of Equity	398 348	407 346	422 441	436 699	451 381	470 501	496 920
Debt	65 852	59 343	63 008	64 148	64 845	67 133	68 686
E/V	85.81%	87.28%	87.02%	87.19%	87.44%	87.51%	87.86%
D/V	14.19%	12.72%	12.98%	12.81%	12.56%	12.49%	12.14%

Appendix 25: WACC by Segment

WACC inputs	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Terminal Value
Weight of Equity	85.81%	87.28%	87.02%	87.19%	87.44%	87.51%	87.86%	80.00%
Weight of Debt	14.19%	12.72%	12.98%	12.81%	12.56%	12.49%	12.14%	20.00%
Effective Tax Rate	31.02%	31.02%	31.02%	31.02%	31.02%	31.02%	31.02%	31.02%
WACC by Segment								
Walmart Consolidated	5.46%	5.97%	6.40%	6.50%	6.51%	6.42%	6.44%	6.57%
Walmart U.S.	4.98%	5.48%	5.91%	6.01%	6.02%	5.93%	5.95%	6.12%
Sam's Club	4.98%	5.48%	5.91%	6.01%	6.02%	5.93%	5.95%	6.12%
Walmart International	7.73%	8.27%	8.70%	8.81%	8.83%	8.75%	8.79%	8.71%

Appendix 26: Terminal Growth Rate

Walmart U.S. Stable Growth Model	
CAPEX	98 830
D&A	79 317
ΔNWC	(14 681)
EBIT	258 043
Tax Rate	31%
Reinvestment Rate	**2.72%**
ROE	**16.63%**
g	**0.45%**

Sam's Club Stable Growth Model	
CAPEX	8 364
D&A	7 988
ΔNWC	(2 517)
EBIT	20 996
Tax Rate	31%
Reinvestment Rate	**-14.79%**
ROE	**16.63%**
g	**-2.46%**

Walmart International Stable Growth Model	
CAPEX	38 292
D&A	34 320
ΔNWC	(4 661)
EBIT	47 107
Tax Rate	31%
Reinvestment Rate	**-2.12%**
ROE	**16.63%**
g	**-0.35%**

To arrive at the terminal growth rate, the stable growth model was used, where cash flows grow perpetually at a continuous rate defined by the reinvestment rate times the ROE. This method proved unfitting for the growth profile of each segment of Walmart as the operating cycle of the company is a large source of funds, thus leading to low/negative reinvestment rates. Large retail players usually can manage their operating cycle and have negative working capital requirements, in the case of Walmart the negative WCR outpaces the level of expansion capex, yielding a lower-than-expected growth rate. As an alternative, the sustainable growth rate was calculated, where the additions to retained earnings, net of cash distributions to shareholders, represents the profit retention rate and is multiplied by the ROE. For both methods, the values presented represent the cumulative amounts between FY2017-28F, as an effort to normalize TV growth.

Self-Sustainable Growth	
Additions to Retained Earnings	24 390
Earnings after Tax	184 065
Retention Rate	**13.25%**
Net Income	184 065
Revenue	6 983 884
Total Assets	2 957 826
Equity	1 106 941
ROE	**16.63%**
NI/S	2.64%
S/A	2.36
A/E	2.67
g	**2.20%**

Terminal Growth Rate	
Walmart U.S.	2.00%
Sam's Club	0.75%
Walmart International	3.04%
Walmart Inc.	2.03%

The self-sustainable growth rate was used as a reference point in terms of terminal value growth. The U.S. businesses' TV growth were both defined as the 2021-28F revenue CAGR by segment minus the self-sustainable growth rate, to reflect the different growth potentials of Walmart U.S. and Sam's Club. Regarding the Walmart International TV growth, the previous method yielded a growth figure that underestimates the growth potential in high growth markets such as India and China. Thus, the TV growth was linked to the projected Real GDP growth, with a weighted average based on regional sales contribution. The highlighted regions were Mexico, China, Canada, and Emergent Economies, yielding a growth of 3.04%. The weighted average TV growth for Walmart Inc. is around 2.03%.

Appendix 27: Sum of the Parts (SoP) Analysis

DCF for Core segments

I have computed the FCFF for all three segments of Walmart Inc., by taking into consideration the specifics of each business and their growth potentials, as well as their different risk profiles by applying a WACC specific to each segment. In addition, the Corporate & Support division was considered as it concentrates corporate overhead and investment requirements not attributable to any segment. For this division, the TV growth was based on the Walmart Inc. (group) terminal growth, as it is expected to evolve with the overall business growth.

Walmart U.S. (mUSD)	2022F	**2023F**	2024F	2025F	2026F	2027F	2028F	Terminal Value
EBIT	20 530	21 111	22 097	23 729	25 226	26 986	28 868	29 112
Tax Rate	31%	31%	31%	31%	31%	31%	31%	31%
NOPAT	14 161	14 562	15 242	16 368	17 400	18 614	19 913	20 081
Non-cash Charges	6 820	7 064	7 404	7 791	7 949	8 046	8 119	7 651
Changes in NWC	2 577	(1 529)	(1 397)	(1 023)	(1 112)	(1 246)	(1 406)	(1 286)
CAPEX	8 635	9 690	10 641	11 676	9 700	9 129	9 109	8 873
FCFF	**9 769**	**13 465**	**13 402**	**13 506**	**16 761**	**18 777**	**20 329**	**20 145**
PV of FCFF		82 650	72 975	63 097	52 572	37 967	20 329	
PV of Terminal Value		366 826	386 921	409 807	434 441	460 600	487 936	
Enterprise Value		**449 477**	**g = 2.00%**					

Sam's Club (mUSD)	2022F	**2023F**	2024F	2025F	2026F	2027F	2028F	Terminal Value
EBIT	2 126	1 768	1 724	1 679	1 844	2 012	2 123	2 077
Tax Rate	31%	31%	31%	31%	31%	31%	31%	31%
NOPAT	1 466	1 220	1 189	1 158	1 272	1 388	1 464	1 433
Non-cash Charges	696	677	714	764	769	781	790	745
Changes in NWC	459	(258)	(231)	(165)	(176)	(199)	(223)	(209)
CAPEX	731	806	900	1 020	798	735	646	629
FCFF	**973**	**1 349**	**1 234**	**1 067**	**1 420**	**1 632**	**1 832**	**1 757**
PV of FCFF		7 350	6 330	5 398	4 591	3 361	1 832	
PV of Terminal Value		24 569	25 915	27 448	29 098	30 850	32 681	
Enterprise Value		**31 919**	**g = 0.75%**					

Walmart International (mUSD)	2022F	**2023F**	2024F	2025F	2026F	2027F	2028F	Terminal Value
EBIT	3 178	2 745	2 918	3 356	3 606	3 924	4 357	4 688
Tax Rate	31%	31%	31%	31%	31%	31%	31%	31%
NOPAT	2 192	1 894	2 013	2 315	2 487	2 707	3 005	3 234
Non-cash Charges	2 665	2 850	2 950	3 097	3 178	3 207	3 237	3 050
Changes in NWC	640	(380)	(345)	(251)	(271)	(302)	(338)	(315)
CAPEX	3 071	3 449	3 855	4 297	3 549	3 401	3 467	3 377
FCFF	**1 146**	**1 675**	**1 453**	**1 366**	**2 388**	**2 815**	**3 113**	**3 221**
PV of FCFF		10 116	9 139	8 355	7 604	5 677	3 113	
PV of Terminal Value		37 492	40 593	44 124	48 011	52 251	56 826	
Enterprise Value		**47 609**	**g = 3.04%**					

Corporate & Support (mUSD)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Terminal Value
EBIT	(2 115)	(2 191)	(2 374)	(2 507)	(2 539)	(2 529)	(2 525)	(2 444)
Tax Rate	31%	31%	31%	31%	31%	31%	31%	31%
NOPAT	(1 459)	(1 511)	(1 637)	(1 729)	(1 751)	(1 744)	(1 741)	(1 686)
Non-cash Charges	1 422	1 453	1 533	1 613	1 643	1 665	1 680	1 583
CAPEX	1 563	1 714	1 739	1 689	1 726	1 742	1 625	1 583
FCFF	**(1 600)**	**(1 771)**	**(1 843)**	**(1 804)**	**(1 835)**	**(1 821)**	**(1 686)**	**(1 685)**
PV of FCFF		(9 302)	(7 980)	(6 529)	(5 032)	(3 406)	(1 686)	
PV of Terminal Value		(27 306)	(28 935)	(30 788)	(32 788)	(34 923)	(37 166)	
Enterprise Value		**(36 607)**			**g = 2.03%**			

FCFF Valuation Sum of the Parts	
Walmart U.S.	449 477
Sam's Club	31 919
Walmart International	47 609
Corporate & Support	(36 607)
Enterprise Value	**492 398**
Net Debt	(48 345)
Minority Interests	(6 341)
Investment in JD.com	12 574
Equity Value	**450 285**
Shares Outstanding	2 736
Price Target (in USD)	**164.56**

Exit Multiples	
EBITDA, mUSD	46 649
EBIT, mUSD	32 824
Terminal Value, mUSD	540 277
EV/EBITDA	**11.58x**
EV/EBIT	**16.46x**

Appendix 28: FCFE Valuation

The Equity Value in the FCFE was adjusted to include the minority stake in JD.com. For the forecasted period, net borrowings were based on the difference between the issuance of debt and debt repayments recorded on the Cash Flow Statement. Regarding the terminal period, a first approach was used based on net borrowings corresponding to investments in expansion CAPEX (net of D&A) and NWC, following the target capital structure of 20% D/EV. Giving that the company has negative changes in working capital requirements that reflect the self-funded nature of its operating cycle, the level of net borrowings would be reduced substantially with this method as it only assumes a debt policy to fund operations. The original method neglects borrowings used for other purposes such as cash distributions to shareholders. To maintain a more coherent debt policy, the average level of cash distributions to shareholders between FY2022-28 was added to the formula. Finally, the perpetual g was selected based on the self-sustainable growth rate, with a conservative spread of 20 bps to reflect the leverage effect of the target capital structure.

$$Net\ Borrowings_{Terminal\ Period} = \frac{D}{EV} \times (CAPEX - D\&A + \Delta NWC + Cash\ Distributions\ to\ Shareholders_{FY2022-28})$$

Walmart Inc. (mUSD)	2022F	2023F	2024F	2025F	2026F	2027F	2028F	Terminal Value
Net income	14 994	14 778	15 473	16 699	17 945	19 497	21 194	21 625
Non Cash Charges	11 602	12 046	12 602	13 266	13 540	13 700	13 825	13 029
Changes in NWC	3 676	(2 168)	(1 973)	(1 439)	(1 559)	(1 746)	(1 968)	(1 809)
CAPEX	14 000	15 660	17 135	18 682	15 772	15 008	14 846	14 462
Net Borrowing	2 606	(6 509)	3 665	1 140	697	2 288	1 553	2 637
FCFE	**11 527**	**6 822**	**16 578**	**13 862**	**17 968**	**22 224**	**23 693**	**24 637**
PV of FCFE		83 223	81 366	69 322	59 396	44 368	23 693	
PV of Terminal Value		350 191	372 952	399 052	427 374	457 704	489 721	
Equity Value		**433 414**			g = 2.4%			

Price Target	
Equity Value	433 414
(+) Investment in JD.com	12 574
Equity Value after adjustments	445 987
Shares Outstanding	2 736
Price Target (in USD)	**162.99**

Appendix 29: Residual Income

A Multistage Residual Income Valuation was estimated to arrive at a Price Target for Walmart. The company has consistently distributed and increased its dividend for 48 consecutive years and has repurchased shares with consistency, thus creating here a friction point for this method as discrepancies between Book Value of Equity and Market Value become clear. To solve the underestimation of Book Value of Equity in relation to the Market Value, a Premium based on P/B multiples was included at the end of the forecast horizon to reflect these differences. The result supports the range achieved from the DCF models, yielding a price target of $164.07 per share.

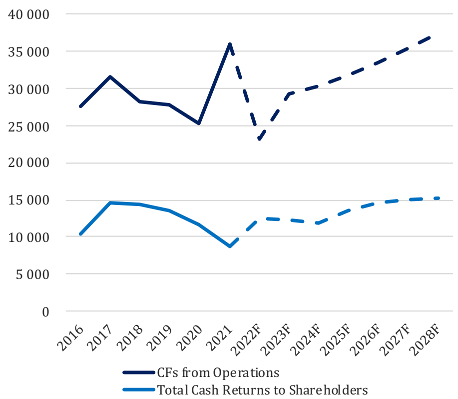
Residual Income	2022F	2023F	2024F	2025F	2026F	2027F	2028F
Book Value of Equity (Mil. USD)	90 022	92 056	95 467	98 689	102 007	106 328	112 298
Shares Outstanding (Mil. Shares)	2 783	2 736	2 690	2 645	2 600	2 556	2 513
Book Value of Equity Per Share	32.34	33.64	35.49	37.32	39.23	41.60	44.68
Cost of Equity	—	6.50%	7.00%	7.10%	7.10%	7.00%	6.99%
Equity Charge	—	2.10	2.35	2.52	2.65	2.74	2.91
Earnings Per Share	—	5.40	5.75	6.31	6.90	7.63	8.43
Residual Income	—	**3.30**	**3.40**	**3.80**	**4.25**	**4.88**	**5.52**

Price Target	
Projected P/B in FY2028F	4.43
BV of Equity Per Share in FY2028	44.68
Projected Stock Price in FY2028	197.73
Premium over BV of Equity FY2028	153.05
PV of Premium over BV Equity	109.44
PV of Residual Income	20.99
Book Value in FY2023	33.64
Price Target (in USD)	**164.07**

Appendix 30: Total Payout Model

To arrive at a price target based on total cash returns to shareholders, dividends plus share repurchases, the Total Payout Model was used based on a two-stage model with a H-model for the Terminal Period. For the H-model, a short-term growth rate of ~8% was used, mimicking the Operating Cash Flow growth of the forecasted period 22F-28F. This reflects the positive correlation of OCFs with the cash distributions to shareholders over the years. This higher growth period is expected to last for 5 years, stabilizing afterwards in the terminal period to 3%, which reflects the FY16-28F CAGR of Cash Returns to Shareholders. Total Cash Returns to Operating CFs between FY2016-21 were on average 42.3%, while for the forecasted period between FY22F-28F this figure will slightly increase to 43.4%. Despite of predictable Dividends Per Share, the total payout policy of Walmart is very difficult to anticipate, from the share repurchases side of the equation. The recently approved $20 billion share repurchase program is expected to be executed in the next 3 years, according to Walmart's CFO presentation in the 2021 Investment Community Meeting. These figures comply with my own projections. The uncertainty is higher for the longer term, thus the importance of tying up cash distributions to projected growth in Operating CFs. As a result of these challenges, this model should be viewed more as a reference point than a reliable estimate of Equity Value.

Total Payout Model	2023F	2024F	2025F	2026F	2027F	2028F
Dividends Per Share	2.24	2.28	2.32	2.36	2.40	2.44
Shares Outstanding	2 736	2 690	2 645	2 600	2 556	2 513
Dividends	6 130	6 132	6 133	6 132	6 129	6 124
Share Repurchases	6 103	5 665	7 430	8 379	8 909	9 072
Total Shareholder cash-flows	**12 233**	**11 797**	**13 563**	**14 511**	**15 038**	**15 196**



Total Payout Model - Price Target	
Cash Returns in FY2028	15 196
H	5
Long-term Growth	3.0%
Short-term Growth	8.2%
Terminal Cost of Equity	7.43%
Terminal Value	442 821
PV of Cash Returns to Shareholders	69 475
PV Terminal Value	316 653
Equity Value	386 128
(+) Investment in JD.com	12 574
Shares Outstanding	2 736
Equity Value per share (in USD)	**145.71**

Appendix 31: APV Method

Walmart Inc. (mUSD)	2023F	2024F	2025F	2026F	2027F	2028F	Terminal Value
FCFF	14 718	14 246	14 135	18 735	21 403	23 588	24 377
Pre-tax WACC	6.1%	6.5%	6.6%	6.6%	6.6%	6.6%	6.8%
PV of FCFF	90 057	79 936	69 987	59 560	43 539	23 588	
PV of Terminal Value	369 523	392 066	417 717	445 445	475 052	506 202	
Value Created by Debt							
Financial Expenses	1 920	1 784	1 954	2 022	2 059	2 165	2 209
Tax Rate	31%	31%	31%	31%	31%	31%	31%
Interest Tax Shield	596	554	606	627	639	672	685
Cost of Debt	3.4%	3.5%	3.5%	3.5%	3.5%	3.5%	4.5%
PV of Interest tax shield	3 388	2 886	2 414	1 871	1 288	672	
PV of TV tax shield	23 192	23 971	24 807	25 679	26 580	27 507	

Terminal g	2.03%

APV Method - Price Target	
PV of Free Cash Flows	90 057
PV of Terminal Value	369 523
Value created by Debt	**26 580**
Net Debt	(48 345)
Non-controlling interests	(6 341)
Investment in JD.com	12 574
Equity Value	**444 047**
Shares outstanding	2 736
Price Target (in USD)	**162.28**

Appendix 32: Minority Stake in JD.com

Since 2016, the JD.com partnership/minority stake has proven to be a great investment for Walmart. Not only it leverages Walmart's internal growth in China by partnering with a leading player in the biggest E-commerce market in the world, but it also brought appreciation of capital in its ownership position. From 2016, Walmart's stake has appreciated ~217%, to more than $10.7 billion, based on current market prices. According to the Global Powers of Retailing 2021 by Deloitte, JD.com ranked #2 in FY2020 by revenue growth in the world (+27.6% YoY) among the top 25 global retailers. To bypass the huge pandemic-related growth, if we consider the FY2019 revenues, JD.com was already a top 15 retailer in the world (#13) and was ranked #5 in the fastest 50 retailers from FY2014-19 (if the numbers are based on growth at scale, JD.com is first).

Walmart's share holdings include 72 million American Depositary Shares (ADS), which are quoted on NASDAQ, and over 145 million Class A ordinary shares quoted in the Hong Kong Stock Exchange. The last tranche is subject to exchange rate risk and can either affect positively or negatively the fair value of this stake, depending on the evolution of exchange rate HKD/USD. The calculations were based on the spot exchange rate (HKD/USD of 7.7843). The 12-month price target for both shares was based on estimates from 38 analysts covering the ADS and 19 analysts covering the Hong Kong shares, per the *Financial Times* database. Three scenarios were considered: the Bear case, the Base case and the Bull case, these scenarios were based on the low, median, and high estimates, respectively. Furthermore, a probability was assigned to each case to provide a more conservative estimate of the future value of the investment. The bear case was assigned a 30% probability, despite of consensual buy/outperformance recommendations, thus deeming the probability distribution conservative. The current market price for JD.com ADS is $74.15 and 290.8 HKD for the Hong Kong shares.

American Depositary Shares	Bear Case	Base Case	Bull Case
12-Month Price Target	61.99	96.48	124.98
Fair Value of Stake in JD.com (USD)	4 466 425 869	6 951 456 167	9 004 902 485
Fair Value (mUSD)	4 466	6 951	9 005
Probabilities	30%	55%	15%
Expected Value (mUSD)	**6 514**		

Hong Kong Shares	Bear Case	Base Case	Bull Case
12-Month Price Targets	164.3	369.76	485.68
Fair Value of Stake in JD.com (HKD)	23 815 654 675	53 597 543 960	70 400 408 780
Fair Value (USD)	3 058 582 762	6 883 393 561	9 041 341 910
Fair Value (mUSD)	3 059	6 883	9 041
Probabilities	30%	55%	15%
Expected Value (mUSD)	**6 060**		

Expected Fair Value JD.com (mUSD)	12 574

Appendix 33: Peer Selection

By using the Sum of Absolute Rank Differences (SARD) approach presented by Knudsen et al. (2017), a group of peers was selected to compare with Walmart. Starting with a broader group of companies, the dataset selected was based on the S&P 500 index, as it constitutes a solid basis for comparing Walmart with the largest publicly traded companies in the United States. Afterwards, each company was ranked depending on fundamental data for profitability, solvency, and efficiency. To arrive at the SARD values for the subject company *i*, in this case Walmart, and the company *j* (potential peer), the following formula was used:

$$\mathrm{SARD}_{i,j} = \left|r_{X,i} - r_{X,j}\right| + \left|r_{Y,i} - r_{Y,j}\right| + \cdots \left|r_{Z,i} - r_{Z,j}\right|,$$

Where SARD is the sum of the absolute rank differences between company *i* and company *j*, $r_{X,i}$ is the rank of company *i* in terms of the variable *x*, and $r_{X,j}$ the rank of company *j* in terms of the variable *x*, and so on. Because the potential peer and the target company share similar fundamental economics, the comparable group of companies should present a low SARD value. Besides the SARD value yielded from the calculations, the final group was selected based on competitors in the retail industry, with an emphasis for brick and mortar retail.

SARD	Company	ROE (TTM)	Rank	ROA (TTM)	Rank	Net Margin	Rank	EBIT Margin	Rank	D/(D+E)	Rank	D/E	Rank	Current Ratio	Rank	Div. Yield	Rank	Asset Turnover	Rank	Inventory Turnover	Rank
0	Walmart Inc.	20.2	177	7.2	182	1.8	307	3.1	318	33.3	222	0.5	222	1.0	266	1.6	158	2.3	8	8.9	103
26	Costco Wholesale Corp.	29.6	104	8.5	144	2.6	305	2.5	321	27.0	271	0.4	269	1.0	256	0.7	239	3.4	4	12.0	76
144	Dollar Tree, Inc.	20.8	173	7.2	181	5.8	270	5.8	296	31.5	236	0.5	234	1.3	210	0.0	270	1.2	39	4.9	198
186	Dollar General Corp.	38.9	69	9.9	119	7.5	243	7.5	275	40.4	177	0.7	174	1.1	245	0.8	224	1.3	32	4.4	219
330	The Kroger Co.	28.5	117	5.6	227	0.9	313	2.0	322	57.7	79	1.4	79	0.8	307	2.1	121	2.7	5	14.9	63
378	Target Corp.	44.7	57	12.6	86	6.3	262	6.4	289	43.8	157	0.8	157	1.0	255	1.6	160	2.0	12	6.2	150

Appendix 34: Market-Based Valuation

Selected Peer	Mkt Cap (mUSD)	EV (mUSD)	EV/EBITDA	P/E
Costco Wholesale Corp.	204 479	204 073	22.47	39.44
Dollar Tree, Inc.	20 874	29 830	11.03	14.49
Dollar General Corp.	51 900	65 533	15.74	19.67
The Kroger Co.	34 859	51 734	8.08	15.09
Target Corp.	119 233	127 106	11.56	19.12
Average			**13.8**	**21.6**

EV/EBITDA	
Peers Average	13.8
2022YE EBITDA	35 479
Total Enterprise Value	488 763
Adjustments to EV	(42 112)
Equity Value	446 651
Price Target 2022YE	**163.23**

Price/Earnings	
Peers Average	21.6
2022YE Earnings	14 778
Equity Value	318 649
Investment in JD.com	12 574
Price Target 2022YE	**121.05**

Multiple	Price Target 22YE	Upside Potential
Price/Earnings	121.05	-11.69%
EV/EBITDA	163.23	19.08%

Appendix 35: Sensitivity Analysis for Sam's Club

Terminal g - Sam's Club

Terminal Cost of Capital (WACC)	0.35%	0.45%	0.55%	0.65%	0.75%	0.85%	0.95%	1.05%	1.15%
4.7%	166.6	166.9	167.1	167.4	167.7	168.0	168.4	168.7	**169.1**
4.9%	166.1	166.4	166.6	166.9	167.1	167.4	167.7	168.0	168.4
5.1%	165.7	165.9	166.1	166.4	166.6	166.9	167.1	167.4	167.7
5.3%	165.3	165.5	165.7	165.9	166.1	166.4	166.6	166.9	167.1
5.5%	164.9	165.1	165.3	165.5	165.7	165.9	166.1	166.4	166.6
5.7%	164.6	164.7	164.9	165.1	165.3	165.5	165.7	165.9	166.1
5.9%	164.2	164.4	164.6	164.7	164.9	165.1	165.3	165.5	165.7
6.1%	163.9	164.1	164.2	164.4	**164.6**	164.7	164.9	165.1	165.3
6.3%	163.7	163.8	163.9	164.1	164.2	164.4	164.6	164.7	164.9
6.5%	163.4	163.5	163.7	163.8	163.9	164.1	164.2	164.4	164.6
6.7%	163.2	163.3	163.4	163.5	163.7	163.8	163.9	164.1	164.2
6.9%	162.9	163.0	163.2	163.3	163.4	163.5	163.7	163.8	163.9
7.1%	162.7	162.8	162.9	163.0	163.2	163.3	163.4	163.5	163.7
7.3%	162.5	162.6	162.7	162.8	162.9	163.0	163.2	163.3	163.4
7.5%	**162.3**	162.4	162.5	162.6	162.7	162.8	162.9	163.0	163.2

		Upside
Max. Price Target (USD)	169.1	23%
Min. Price Target (USD)	162.3	18%

Appendix 36: Sensitivity Analysis for Walmart International

Terminal g - Walmart International

Terminal Cost of Capital (WACC)	1.84%	2.14%	2.44%	2.74%	3.04%	3.24%	3.44%	3.64%	3.84%
6.7%	166.8	167.9	169.1	170.4	172.0	173.3	174.6	176.2	**177.9**
7.0%	166.0	167.0	168.0	169.3	170.7	171.7	172.9	174.3	175.8
7.2%	165.3	166.2	167.1	168.2	169.5	170.4	171.5	172.6	173.9
7.5%	164.7	165.5	166.3	167.3	168.4	169.3	170.2	171.2	172.3
7.7%	164.1	164.8	165.6	166.5	167.5	168.2	169.1	170.0	170.9
8.0%	163.6	164.2	164.9	165.7	166.7	167.3	168.0	168.8	169.7
8.2%	163.1	163.7	164.3	165.1	165.9	166.5	167.1	167.9	168.6
8.5%	162.6	163.2	163.8	164.4	165.2	165.7	166.3	167.0	167.7
8.7%	162.2	162.7	163.2	163.9	**164.6**	165.1	165.6	166.2	166.8
8.9%	161.8	162.3	162.9	163.5	164.1	164.6	165.1	165.6	166.2
9.1%	161.5	162.0	162.5	163.1	163.7	164.1	164.6	165.1	165.6
9.3%	161.3	161.7	162.2	162.7	163.2	163.7	164.1	164.6	165.1
9.5%	161.0	161.4	161.8	162.3	162.9	163.2	163.7	164.1	164.6
9.7%	160.7	161.1	161.5	162.0	162.5	162.9	163.2	163.7	164.1
9.9%	160.5	160.9	161.3	161.7	162.2	162.5	162.9	163.2	163.7
10.1%	**160.3**	160.6	161.0	161.4	161.8	162.2	162.5	162.9	163.2

		Upside
Max. Price Target (USD)	177.9	30%
Min. Price Target (USD)	160.3	17%

Appendix 37: Scenario Analysis MXN/USD exchange rate

The Enterprise Value of Walmart International is subject to foreign exchange risk, especially from the MXN/USD exchange rate. The Mexican operations have very strong fundamentals, sales grew at a 8.1% CAGR between 2015 and 2020 in MXN, and EBITDA grew at a faster pace, ~10.9% for the same period. Yet, when translating the results for USD in the consolidation of Walmart Inc. accounts, the segment has severely lagged, with a 1.75% sales CAGR for the last 5 years. This is the result of the depreciation in MXN/USD exchange rate, with the average rate increasing from 15.9 in 2015 to 21.5 in 2020. The future exchange rate will impact the revenue projections all the way down to the USD EBIT for the segment, and therefore impact the FCFF in USD. From an operating margin perspective, the exchange rate fluctuation does not influence the ratio as the revenue is at the same currency base as costs. To provide more insight on the potential impacts on the Price Target for 2022YE, a scenario analysis was conducted with both the perspectives of a Mexican peso appreciation (+USD FCFF), or a further MXN depreciation (-USD FCFF). Note that the Base Case is the predefined scenario for the FCFF valuation.

Scenarios for MXN/USD	2015	2020	2027F	Note
Base Case	15.9	21.5	29.1	Assumes a continued devaluation of the mexican peso, yet at a slower rate than the 5Y historical CAGR
Scenario 1	15.9	21.5	32.8	Mexican peso continues to depreciate at the same 5Y CAGR towards the end of the forecast horizon
Scenario 2	15.9	21.5	21.5	Assumes a fixed spot MXN/USD throughout the forecast horizon based on 2020 spot rates
Scenario 3	15.9	21.5	18.9	Mexican peso appreciates against USD when compared to 2020 spot rates, based on 5Y average starting from 2021F onwards
Scenario 4	15.9	21.5	15.9	Mexican peso appreciates relative to the USD, returning to 2015 exchange rate levels

Values in Millions, except MXN/USD & Price Target	2022F	2023F	2024F	2025F	2026F	2027F	Enterprise Value - WMT International	Price Target 2022YE
Revenue Projection (in MXN)	804 817	861 914	923 066	988 564	1 058 715	1 133 851		
Base Case	22.8	23.9	25.1	26.4	27.7	29.1	47 609	164.56
Revenue translation to USD	35 302	36 044	36 765	37 500	38 250	39 015		
Scenario 1	24.3	25.8	27.4	29.1	30.9	32.8	45 857	163.92
Revenue translation to USD	33 177	33 450	33 726	34 004	34 284	34 567		
Scenario 2	21.5	21.5	21.5	21.5	21.5	21.5	52 743	166.44
Revenue translation to USD	37 433	40 089	42 933	45 980	49 243	52 737		
Scenario 3	18.9	18.9	18.9	18.9	18.9	18.9	55 645	167.50
Revenue translation to USD	42 508	45 524	48 754	52 213	55 918	59 886		
Scenario 4	19.3	18.9	18.7	15.9	15.9	15.9	59 807	169.02
Revenue translation to USD	41 700	45 604	49 362	62 174	66 586	71 311		

The definition of scenarios might have limitations, due to the extremely unpredictive nature of future exchange rates, thus affecting yearly cash flows differently. The main goal here is to provide more insight on how the Price Target for Walmart Inc. is positively or negatively affected by the evolution of the exchange rate MXN/USD for the forecasted horizon. The Price Target is not largely affected with the oscillations, giving that the U.S. operations represent most of the total EV.

Appendix 38: Worst Case vs. Best Case scenario for the JD.com minority stake

A constant exchange rate for HKD/USD was assumed, giving its stable historical performance.

Worst Case Scenario	Price Target
ADS (in USD)	61.99
Hong Kong Shares (in USD)	21.10
Fair Value of Investment (mUSD)	7 525
Price Target for Walmart Inc.	**162.72**

Best Case Scenario	Price Target
ADS (in USD)	124.98
Hong Kong Shares (in USD)	62.37
Fair Value of Investment (mUSD)	18 046
Price Target for Walmart Inc.	**166.56**

Appendix 39: Abbreviations

Adjusted Present Value (APV)
Basis points (bps)
Bn. (billions)
BoD (Board of Directors)
Capital Asset Pricing Model (CAPM)
Capital Expenditure (CAPEX)
Chief Executive Officer (CEO)
Chief Financial Officer (CFO)
Coumpounded Annual Growth Rate (CAGR)
Comparable (Comp.)
Debt to Enterprise Value (D/EV)
Depreciation & Amortization (D&A)
Discounted Cash Flow (DCF)
Dividend Discount Model (DDM)
Dividends per Share (DPS)
Earnings Before Interest, Taxes, Depreciations and Amortizations (EBITDA)
Earnings Before Interest and Taxes (EBIT)
Enterprise Value (EV)
Environmental, Social and Governance (ESG)
Forecasted (F)
Fiscal Year (FY)
Free Cash Flow to Equity (FCFE)
Free Cash Flow to the Firm (FCFF)
Gross Domestic Product (GDP)
Household Disposable Income (HDI)
International Monetary Fund (IMF)
Market Risk Premium (MRP)
Mergers & Acquisitions (M&A)
Net Working Capital (NWC)
Price to Book (P/B)
Price to Earnings (P/E)
Return on Equity (ROE)
Risk-Free Rate (RFR)
Share (Sh)
Stock Keeping Unit (SKU)
Sum of the Parts (SoP)
Target Price (TP)
Trillion (T)
Weighted Average Cost of Capital (WACC)
Walmart Inc. (WMT)
Walmart U.S. (WMT U.S.)
Year End (YE)
Year on Year (YoY)

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Recommendation System

Level of Risk	SELL	REDUCE	HOLD/NEUTRAL	BUY	STRONG BUY
High Risk	0%≤	>0% & ≤10%	>10% & ≤20%	>20% & ≤45%	>45%
Medium Risk	-5%≤	>-5% & ≤5%	>5% & ≤15%	>15% & ≤30%	>30%
Low Risk	-10%≤	>-10% & ≤0%	>0% & ≤10%	>10% & ≤20%	>20%