



McDonald's Corporation Equity Research: Are the Arches truly Golden?

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*Dissertation submitted in partial fulfillment of requirements for the Executive master's in Finance and Management
Control, at the Universidade Católica Portuguesa*

December 2024

Dissertation written under the supervision of

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Abstract

The objective of this dissertation is to determine the target price for McDonald's Corporation, an American company listed on the New York Stock Exchange, and to issue a recommendation based on this analysis. The valuation was conducted through a comprehensive company, competitor, and market analysis. The primary method used was a WACC-based DCF valuation to uncover the intrinsic value, supplemented by a relative valuation using forward EV/EBITDA trading multiple. The first valuation method produced a price per share of \$280.54, while the second method yielded \$303.52. The target price is \$287.43 per share after a 70/30 weighted split. The result was compared to the closing price of \$303.76 per share on October 1, 2024. The obtained results indicated a potential downside of 5.37%, leading to a Hold recommendation.

Abstracto

O objetivo desta dissertação é determinar o preço-alvo para a McDonald's Corporation, uma empresa americana listada na bolsa de valores de Nova Iorque, e emitir uma recomendação com base nesta análise. A avaliação foi conduzida através de uma análise abrangente da empresa, dos concorrentes e do mercado. O método principal utilizado foi uma avaliação WACC-DCF de modo a determinar o valor intrínseco, complementado por uma avaliação relativa usando o múltiplo futuro EV/EBITDA. O primeiro método de avaliação gerou um preço por ação de \$280.54, enquanto o segundo método resultou em \$303.52. O preço-alvo determinado é \$287.43 por ação após uma ponderação de 70/30. Este resultado foi comparado com o preço de fecho de \$303.76 por ação, no dia 1 de outubro de 2024. Os resultados obtidos indicam uma potencial desvalorização de 5.37%, levando a uma recomendação neutra.

Acknowledgements

This past year has been incredibly challenging, yet despite the difficulties, the small victories along the way made it worthwhile. I recognize that this success is largely due to my own efforts, but it's important to acknowledge those whose support made these achievements possible and infinitely more enjoyable.

First, I would like to express my gratitude to Católica Lisbon School of Business and Economics for designing such a well-structured program. The lessons learned and the friendships gained will hopefully last a lifetime.

Secondly, I extend my heartfelt thanks to Professor José Tudela Martins, whose guidance and contributions to this dissertation have been invaluable.

Third, to my family, who have always encouraged me to reach higher while staying humble, reminding me not to define myself by past accomplishments, but by the person I aspire to be. A note of special gratitude to Eng. Júlio Castro, my grandfather, whose support made this journey possible, and who always reminded me that although learning occupies no space, it endlessly enriches the mind.

Lastly, I want to thank Mariana, who has held everything together during this demanding year when I've been less available. Her support and motivation have been my greatest source of inspiration during the writing of this thesis. She teaches me every day that it's neither the journey nor the destination that truly matters, but the company.

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List of Abbreviations

APM - Arbitrage Pricing Model

APV - Adjusted Present Value

CAGR - Compound Annual Growth Rate

CAPEX - Capital Expenditures

CAPM - Capital Asset Pricing Model

CCC - Cash Conversion Cycle

COGS - Cost of Goods Sold

CRP - Country Risk Premium

DCF - Discounted Cash Flow

DDM - Dividend Discount Model

DIJA - Dow Jones Industrial Average

DIO - Days Inventory Outstanding

DPO - Days Payable Outstanding

DSO - Days Sales Outstanding

EBIT – Earnings before Interest and Taxes

EBITDA – Earnings before Interest, Taxes, Depreciation and Amortization

EQT - Equity Value

EV - Enterprise Value

FCFE - Free Cash Flow to Equity

FCFF - Free Cash Flow to the Firm

GDP - Gross Domestic Product

IMF - International Monetary Fund

IPO - Initial Public Offering

IOM - International Operated Markets

ITS - Interest Tax Shield

IDL - International Developmental Licensed Markets

LSR - Limited-Service Restaurant

M&A - Mergers and Acquisitions

MRP - Market Risk Premium

NOPAT - Net Operating Profit After Tax

NTM - Next Twelve Months

PER - Price to Earnings Ratio

p.p – Percentage Point

PPE - Property, Plant, and Equipment

PV - Present Value

QSR - Quick Service Restaurant

ROIC - Return on Invested Capital

S&P 500 - Standard & Poor's 500

SG&A - Selling, General, and Administrative

TV - Terminal Value

WACC - Weighted Average Cost of Capital

YTM - Yield to Maturity

1. Introduction

This thesis marks the culmination of a journey in the field of Finance, and it is only fitting that the final project involves the valuation of a company to test what has been learned and possibly to prepare us for the challenges ahead.

The aim of this thesis is to determine the target price of McDonald's Corporation, a company listed on the New York Stock Exchange under the ticker "MCD", with the final purpose of giving a Hold, Buy or Sell recommendation. The results will point out whether the stock is overvalued or undervalued, comparing the price obtain with the actual share price at the date of the valuation, 1st of October of 2024.

Intrinsic and relative valuation methods were applied rigorously, with a thorough examination of the company's past financial performance and future projections, considering the expected growth of the company, the sector, and the company's position within the sector.

In the second chapter, a comprehensive literature review on company valuation methodologies was presented. Chapter three delves into a thorough analysis of the company and its industry. The fourth chapter focuses on the valuation process. Chapter five compares these findings with equity research reports from UBS. Finally, chapter six provides the overall conclusions of the analysis, culminating in the final recommendation.

2. Literature Review

2.1. Introduction to Valuation

“All successful investment involves trying to get into something where it’s worth more than you’re paying.”

Charlie Munger

But how do analysts determine whether an asset is undervalued or overvalued?

According to the Oxford dictionary¹, valuation can be defined as a professional judgment about how much money something is worth. It goes without saying that valuation is a foundational element in the financial ecosystem, often used for financial reporting, investment analysis, merger and acquisition (M&A), and taxation purposes.

The valuation process can be based on different methodologies. For many years, scholars and investment professionals have debated the best approaches for valuing an investment and whether there is a one-size-fits-all approach.

According to Damodaran (2012), analysts can in general use four different approaches to value a company: relative valuation, intrinsic valuation, asset-based valuation and contingent claim valuation.

Each method “has its own rationale, and each has an important place in corporate valuation” (Goedhart, Koller, and Wessels, 2020), also, and perhaps more important can yield different outcomes, so understanding the various approaches, their advantages and disadvantages, and when to use each is crucial.

The next chapter focuses on two of these methods: Relative Valuation and Intrinsic Valuation.

2.2. Valuation Methodologies

2.2.1. Relative Valuation – Multiples

Relative valuation, as the name suggests, involves valuing an asset by comparing it to the market values of similar or comparable assets. This method is widely used in the industry because it is straightforward and direct (Mauboussin and Callahan, 2024). In fact, almost everyone has performed some form of relative valuation in their lives. When someone wants to sell an item, they no longer need, the typical approach is to research similar items in the market and see the prices at which they are being traded. However, when making comparisons, it's important not only to find truly comparable items but also to consider standardized values, often referred to as multiples (Damodaran, 2012). Consider comparing a four-bedroom apartment and a one-bedroom apartment in the same building. At first glance, the four-bedroom apartment will naturally appear more expensive due to its larger overall price. However, to accurately determine which apartment offers better value, standardization is key. By dividing the price of each apartment by its area, you calculate the price per square meter. This figure can then be compared with the average price per square meter in the market, helping to identify whether an apartment is overpriced or undervalued. It's worth noting that, although this is an example, in residential real estate markets, smaller apartments often have a higher price per square meter than larger ones.

When valuing firms using this methodology, analysts must first identify comparable firms, creating a peer group and then obtain their market values. These market values are then converted into standardized values, this process creates price multiples. The multiples of the firm being analyzed are compared to those of the comparable companies. It's important to note that no two companies are identical, so analysts must account for these differences and their impact on the multiples (Damodaran, 2012).

Every multiple simply consists of a numerator and a denominator:

$$\text{Multiple} = \frac{\text{Numerator} = \text{What you are paying for the company}}{\text{Denominator} = \text{What you are getting in return}}$$

FOM-1: Multiple

Depending on the multiple choice, this type of valuation can be used to value all business or just the equity in the business. According to Damodaran, (2012), it is essential to maintain consistency when using these valuation multiples. Specifically, the numerator should either represent equity value or firm value, and the denominator should correspondingly be an equity measure or a firm measure. Under no circumstances should an equity value in the numerator be divided by a firm measure in the denominator, or vice versa.

The multiples can include earnings multiples, book value multiples, revenue multiples, and sector-specific multiples.

According to Mauboussin and Callahan (2024) the most used multiples are price to earnings ratio (PER) and enterprise value to Earnings Before Interest Taxes Depreciation and Amortization.

$$PER = \frac{\text{Market price per share}}{\text{Earning per share}}$$

FOM-2: Price to Earnings Ratio

An analyst can calculate two types of PE Ratios: a trailing PE, which is based on current earnings per share (EPS), or a forward PE, which is based on projected earnings per share for the next year.

$$EV/EBITDA = \frac{\text{Market Capitalization} + \text{Total Debt} - \text{Cash and Cash Equivalents}}{EBITDA}$$

FOM-3: Enterprise to EBITDA ratio

The problem with this methodology is that it doesn't genuinely reveal the intrinsic value of an asset. Instead, it only evaluates whether the current trading price is higher or lower compared to a peer group. This approach has a critical drawback: if the entire peer group is over or undervalued, the comparison can be misleading. Additionally, the simplicity of this method can be a disadvantage, as it reduces complex information to a single value. Lastly, multiples provide only a snapshot of a company's status, rather than reflecting its future potential.

Goedhart, Koller, and Wessels (2020), suggest that a more effective metric than traditional multiples as the ones mentioned above, is the ratio EV to Net Operating Profit after Tax (NOPAT) because “these multiples provide a more apples-to-apples comparison of company values.” The authors also emphasize the importance of finding truly comparable companies, not just within the

same industry, but also those with similar performance metrics, particularly Return on Invested Capital (ROIC) and growth. Finally, they defend that a combination of relative and intrinsic valuation should be performed, as relative valuation “can provide insights and help you summarize and test your valuation.”

2.2.2. Intrinsic Valuation - Discounted Cash Flow (DCF)

Considering the previous apartment scenario, now, imagine someone is deciding whether to buy an apartment that is currently leased, and the owner asks what price you would be willing to offer. The Discounted Cash Flow (DCF) method can be a valuable tool to help you determine the appropriate price to offer for the apartment. Note that now, instead of relying on relative valuation, intrinsic valuation based on the cash flow generated by the asset is being used.

According to Goedhart, Koller, and Wessels (2020), DCF analysis is the most precise and adaptable method for valuing projects, divisions, and companies. Therefore, managers focused on maximizing shareholder value should favor this approach. However, they caution that the accuracy of any analysis depends heavily on the reliability of the forecasts it is based on.

The core idea behind the method is to project the cash flows the company will generate in the future and then discount them back to the present value (PV) at a discount rate matched with the cash flow's risk (Fernandez, 2023).

The fundamental equation to determine the present value is:

$$DCF = \sum_{t=1}^{t=n} \frac{E(CF)_t}{(1 + r_n)^t} + \frac{Terminal\ Value_n}{(1 + r_n)^n}$$

Where:

$E(CF)_t$ = expect cash flow in period t

r = appropriate discount rate

n = number of years in the forecast period

$Terminal\ Value_n$ = value of cash flows beyond the forecast period

FOM-4: DCF model

Considering the example, the rents represent the expected cash flows, the rate reflects the return or yield that investors expect when considering investing in residential properties, n is the number of years plan to hold the property, and the terminal value (TV) represents the property's estimated value at the end of the holding period.

As in the relative approach, when valuing an investment using this methodology, an analyst can decide whether to value the entire business or just the equity in the business. This decision will influence the type of cash flows used and the appropriate discount rate applied to these cash flows. The next chapters will elaborate on this distinction.

2.2.2.1. Enterprise Valuation - Free Cash Flow to the Firm (FCFF)

For an analyst to find the intrinsic value of the entire business it must focus on the free cash flows to the firm (FCFF), meaning all cash flow available to all capital providers, both debt and equity holders. The FCFF reflects the company's operational performance after accounting for operating expenses, taxes, changes in working capital, and investments in fixed assets, but before interest payments. Also, all non-cash expenses like depreciation, need it to be added back.

The formula below illustrates this idea:

$$FCFF = EBIT(1 - t) + Depreciation - CAPEX - \Delta NWC$$

FOM-5: Free Cash Flow to the Firm

One way of thinking about it is to imagine that this is the cash flow for shareholders if the company had 0 debt, after making all investment necessary for growth.

Since these cash flows are used to determine the entire value of the business (debt plus equity), the discount rate should account for the required return to debt and the required return to equity, in proportion to their contribution to the company's financing (Fernandez, 2023). This rate is known as the Weighted Average Cost of Capital (WACC).

Using this approach transforms our DCF equation (FOM-4) to the following:

$$DCF = \text{Enterprise Value (EV)} = \sum_{t=1}^{t=n} \frac{E(FCFF)_t}{(1 + wacc)^t} + \frac{\text{Terminal Value}_n}{(1 + wacc)^n}$$

FOM-6: Enterprise Value

Please note that since this approach yields enterprise value, an additional step is required to determine the company's equity value (EQV), which involves subtracting the company's outstanding debt and adding the cash pile.

Equity value = Enterprise Value (EV) – market value of outstanding debt + Cash and cash equivalents

FOM-7: Equity Value

2.2.2.2. Enterprise Valuation - Adjusted Present Value (APV)

As stated in the last chapter to value the enterprise value, the appropriate discount rate is the weighted average cost of capital. However, “WACC-based models work best when a company maintains a relatively stable debt-to-value ratio.” (Goedhart, Koller and Wessels, 2020). If this ratio is expected to change, the APV approach is the recommended alternative to value a company. This approach requires analysts to determine the enterprise value in two distinct steps. The first step involves calculating the base case value, which entails finding the PV of the firm assuming it is entirely equity-financed.

This takes the FOM-6 and discounts the cash flows to the unlevered cost of equity.

$$PV_{Base\ Case} = \sum_{t=1}^{t=n} \frac{E(FCFF)_t}{(1 + \rho_u)^t} + \frac{Terminal\ Value_n}{(1 + \rho_u)^n}$$

Where:

ρ_u = unlevered cost of equity

FOM-8: Base case Present Value

The unlevered cost of equity is defined as the expected return that investors seek from another company with the same risk profile as the one being valued if they were 100% financed by equity (Luehrman, 1997). The cost of equity will be discussed further in chapter 2.2.3.1..

The second step is to find the PV of all financing side effects (interest tax shields, costs of financial distress, subsidized loans, hedges, issue costs, or other costs). Of the several possible side effects, this review only examines the interest tax shields (ITS), which arise because of the deductibility of

interest payments. Since the interest tax shields occur annually throughout the analysis, it is necessary to calculate the present value for each year and then sum them all to determine the total.

$$\text{Interest Tax Shield}_n = D_n * k_d * t$$

FOM-9: Interest Tax Shield

It's common to see the following equation, to find the PV of interest tax shields:

$$PV_{\text{Interest Tax Shields}} = D * k_d * t * a_{n;kd}$$

Where:

D_n = market value of debt in period n

k_d = cost of debt

t = tax rate

$a_{n;kd}$ = present value of an annuity factor with n periods at a discount rate of kd

It's essential to understand that this equation is only valid when the interest payments remain consistent over the years. However, in most cases, these amounts fluctuate because the outstanding debt balance needs to be amortized. When such adjustments occur, the following expression should be used:

$$PV_{\text{Interest Tax Shields}} = \sum_{t=1}^{t=n} \frac{E(\text{Interest Tax Shield})_t}{(1 + kd)^t} + \frac{\text{Terminal Value}_n}{(1 + kd)^n}$$

FOM-10: Present Value of ITS

As with any DCF methodology, a TV must be calculated at the end of the analysis. Luehrman (1997) argues that there is no consensus among academics regarding the risk associated with interest tax shields, leading to differing opinions on the appropriate discount rate, depending on the analyst. Also, the author notes that a common approach is to use the cost of debt, which is why it was demonstrated as such in the formulas above.

The third and final step is adding the previous values to reach the APV (if the firm had other financing costs, the present value of these should also be determined and added to the base case).

$$APV = PV_{Base\ Case} + PV\ of\ financing\ side\ effects$$

FOM-11: Adjusted Present Value

2.2.2.3. Equity Valuation - Free Cash Flow to Equity (FCFE)

When valuing only the equity in a business, a different approach must be taken concerning the cash flow and the discount rate used. In this scenario, one must determine the amount of cash available to equity shareholders, essentially isolating the portion of the FCFF that belongs to equity holders after accounting for debt obligations.

$$FCFE = FCFF - [\text{interest payments} \times (1 - T)] - \text{principal payments} + \text{new debt}$$

FOM-12: Free Cash Flow to Equity

As the company's equity is being valued, the appropriate discount rate should be the required return to equity (ke). This rate represents what equity investors expect to earn for investing in some other company with the same risk. Damodaran, (2012), explains that there are four models for estimate the ke : capital asset pricing model (CAPM), arbitrage pricing model (APM), multifactor model and proxy model. The simplest of the models, the capital asset pricing model (CAPM), which is "the default model for risk in real-world applications", will be reviewed in chapter 2.2.3.1..

Now the DCF equation becomes:

$$DCF = \text{Equity Value} = \sum_{t=1}^{t=n} \frac{E(FCFE)_t}{(1 + ke)^t} + \frac{\text{Terminal Value}_n}{(1 + ke)^n}$$

FOM-13: Equity Value

2.2.2.4. Equity Valuation - Dividend Discount Model (DDM)

The Dividend Discount Model (DDM) is another DCF methodology for valuing equity. In the DDM the value of a stock is the present value of future dividends. As this method aims to value equity, the appropriate discount rate is ke . This method usually provides the most conservative estimate of value for the equity in any firm, due to the fact most firms pay less in dividends than they can afford (Damodaran, 2004). It can be calculated through:

$$DCF = \text{Value per Share of a Stock} = \sum_{t=1}^{t=n} \frac{E(\text{Dividends})_t}{(1 + ke)^t} + \frac{\text{Terminal Value}_n}{(1 + ke)^n}$$

FOM-14: Value per Share of a Stock using DDM

The equation is used to value a stock for firms that have not yet reached stable growth. When valuing a stock in stable growth, the model to use is the Gordon Growth Model:

$$DCF = \text{Value per Share of stock in stable growth} = \frac{\text{Expected Dividends next year}}{\text{Cost of Equity} - g_n}$$

Where:

g_n = stable growth rate

FOM-15: Gordon Growth Formula

This model is criticized because, in addition to the challenge of estimating expected NOPLAT in future years (which already poses some level of complexity), we also need to make assumptions about the dividend policy of the company being valued throughout the forecast period.

2.2.3. Discount rate

As mentioned in the previous chapters, to properly use this approach, a rate must be calculated to discount the cash flows, according to the type of cash flows, different rates should be applied. To value the equity in the business the cost of equity (ke) should be used, to value the whole firm the WACC is the right choice.

2.2.3.1. Estimating Cost of Equity

One widely used approach for estimating the cost of equity is the CAPM (Pinto, Robinson, and Stowe, 2019). This model of William Sharpe (1964) and John Lintner (1965) calculates the expected return on a stock (which is equal to the cost of equity) by adding the risk-free rate of interest to a premium for bearing the stock's market risk. This premium includes the stock's sensitivity to changes in the market return, a measure known as beta:

$$E(R_i) = R_F + \beta_i[E(R_M) - R_F]$$

Where:

$E(R_i)$ = expected return on a stock i

R_F = risk-free rate of interest

β_i = the return sensitivity of stock i to changes in the market return

$[E(R_M) - R_F]$ = market risk premium

$E(R_M)$ = the expected return on the market

$E(R_M) - R_F$ = the expected market risk premium

FOM-16: Expected Return on a Stock

In the CAPM the market portfolio refers to the portfolio of all assets, traded and untraded, and as such most of the portfolio is unobservable, thus a proxy is necessary (Goedhart, Koller, and Wessels, 2020). The market's returns can be represented by liquid equity market indices like MSCI World Index, S&P 500, EuroStoxx, among others.

2.2.3.1.1. Risk-free rate

A risk-free rate (R_F) is the expected return on an asset that has no default risk and no reinvestment risk. As no investment is truly risk-free, commonly, analysts use a proxy, typically a zero-coupon default-free government instrument with a time horizon matching the period of the analysis being conducted and traded in the same currency as the forecast cash flows.

In mature markets, it is considered a good practice to use the 10-year bond rate as the risk-free rate (Damodaran, 2008).

2.2.3.1.2. Beta

As stated before, stock's beta (β_i) is the sensitivity of a stock i to changes in the market return. The formula below quantifies how much the stock's returns move in relation to the market's returns:

$$\beta_i^L = \frac{\sigma_{im}}{\sigma_m^2}$$

Where:

β_i^L = Levered Beta of a stock i

σ_{im} = covariance between the stock i and the market returns

σ_m^2 = variance of the market returns

If the return on stock i changes, on average, by 1.55% for each 1.00% change in the market return, then the β_i of the stock is 1.55.

FOM-17: Levered Beta

It is worth mentioning that estimating beta is an imprecise process. That's why (Goedhart, Koller, and Wessels, 2020) suggests that finding an industry beta is a way "to reduce the noise around beta estimates". The idea behind this thought is that companies in the same industry are challenged with the same operational risks, so they should have similar betas. After collecting the betas for the industry, a median or average is calculated. However, the authors note that this is not sufficient, as the effect of leverage must be removed as a company's beta reflects not only its operational risk but also its financial risk. This results in an unlevered beta.

2.2.3.1.3. Market Risk Premium (MRP) and Country Risk Premium (CRP)

The market risk premium (MRP) is the average extra return that investors expect to receive for investing in the equity market as opposed to the debt market.

There is no consensus amongst authors on the best way to estimate the MRP, usually a historical risk premium is applied, meaning the premium earned by stock of default-free securities over long time periods.

The country risk premium (CRP) is an additional premium added to a company with exposure to markets where investors perceive higher operating risk. According to Damodaran (2012), there are three methods for estimating the CRP: using default risk spreads, relative standard deviation (which measures equity market volatility), and a hybrid approach that combines the two.

The author's preferred approach allows for a company to experience a different level of country risk based on its specific exposure to that country. Mathematically, this is expressed as:

$$E(R_i) = R_F + \beta_i[E(R_M) - R_F] + \lambda(CRM)$$

Where:

λ = Country's revenue share

FOM-18: Cost of Equity with CRP

2.2.3.2. Estimating cost of debt

A company's cost of debt (kd) can be defined as the effective interest rate that it pays on its borrowed funds, such as bonds or loans. On the other hand, is the required return that the lender expects.

According to Berk and DeMarzo (2017), the cost of debt can be estimated using the yield to maturity of the company's outstanding bonds. Yield to Maturity (YTM) reflects the return that investors demand for holding the debt and accounts for both current interest payments and the bond's price. This is often considered the best estimate of the cost of debt when bonds are publicly traded.

For companies without significant bond issues or in cases where the bond market is not liquid, Damodaran (2012) suggests estimating the cost of debt using the company's credit rating. By referencing default spreads (additional interest over the risk-free rate) for various credit ratings, one can estimate the company's cost of debt.

$$\text{Cost of Debt (pre-tax)} = \text{Risk-free rate} + \text{Default Spread}$$

FOM-19: Credit-rating based approach

Despite of the way to reach the company's cost of debt, the interest tax shield must be incorporated, as follows:

$$\text{Cost of Debt (after tax)} = kd * (1 - t)$$

Where:

kd = cost of debt

t = tax rate

FOM-20: After Tax Cost of Debt

2.2.3.3. Estimating the WACC

Only after discovering the rates expressed above, it is possible to estimate the cost of capital, the following formula shows how to use kd and ke to find this rate:

$$WACC = \frac{E}{D + E} * K_e + \frac{D}{D + E} * K_d * (1 - t)$$

Where:

E = market value of equity

D = market value of debt

K_e = cost of equity

K_d = cost of debt before tax = required return to debt

t = tax rate

FOM-21: WACC

A common criticism of this method is that using the WACC assumes a constant debt-equity ratio throughout the valuation period, which may not always hold true. Companies can adjust their capital structures as needed, and as a company grows, its equity typically increases. To maintain a constant WACC, the company would need to leverage proportionally to its equity growth.

In a tax-free world, the capital structure wouldn't matter, as different structures would lead to the same cost of capital, according to the Modigliani-Miller (1958) theorem. However, since taxes do exist (and can be substantial), the capital structure becomes important, as interest expenses are tax-deductible. So, if the debt increases, ke increases, and the WACC decreases. This makes a lot of

sense when considering that a company taking on more debt will be viewed as riskier, prompting equity investors to demand a higher return to compensate for the additional risk. However, despite this increase in the cost of equity, the overall WACC decreases because debt is a cheaper source of capital compared to equity. Additionally, the tax shield provided by debt further reduces the WACC, as reduces the effective cost of debt.

2.2.4. Closure in Valuation - Terminal value

As forecasting cash flows indefinitely is impractical (Brealey, Myers, & Allen, 2014), computing the TV is a crucial final step using the DCF methodology. So crucial that according to Young, Sullivan, Nohkhasteh, and Holt (1999), the terminal value, on average, accounts for 94% of the total valuation when using three-year projections, 90% with five-year projections, and 79% with ten-year projections. Since the terminal value represents most of the total value, an incorrect assumption assumed in the long-term growth rate could distort the final valuation by a large margin, leading to inaccurate conclusions about the company's worth (Brealey, Myers, & Allen, 2014).

One of the most practical methods for computing TV involves considering an indefinite duration of future cash flows through a perpetuity with growth. Mathematically, this is represented as:

$$Terminal\ Value_n = \frac{E(CF_{n+1})}{(r_n - g_n)}$$

Where:

CF_{n+1} = expected cash flow in period $n + 1$

r_n = appropriate discount rate

g_n = stable growth rate

FOM-22: Terminal Value with Growth

Please note that by doing this, analysts can determine the terminal value in period n , which still needs to be discounted using the same discount factor used in period n .

The terminal value presents a significant challenge to analysts: determining the appropriate growth rate for the company being valued in perpetuity. Damodaran (2012) argues that the growth rate should not exceed the nominal Gross Domestic Product (GDP) for the economy that operates in,

as this would eventually lead to a situation where the company becomes larger than the economy in which it operates.

Damodaran (2012), also suggests this and two additional approaches for computing the TV: through multiples or determining the liquidation value. Although it is simple and straightforward, using the first method combines elements of both relative valuation and intrinsic valuation, which can lead to dangerous results. The second approach assumes that the firm has a finite lifespan and will be liquidated at the end of that period, although, in theory, a firm could continue to operate indefinitely. Brealey, Myers, & Allen (2014), state that there is no best method although they recommend a perpetuity with no growth, “because it forces managers to remember that sooner or later the competition catches up.”

$$Terminal\ Value_n = \frac{E(CF_{n+1})}{(r_n)}$$

FOM-23: Terminal Value without Growth

2.2.5. Final Remarks

Valuation is a complex yet essential process in finance, determining whether an investment is priced, undervalued, or overvalued. Through this review, it was explored the intricacies of different valuation methodologies, focusing on relative valuation and intrinsic valuation, which are the most used methods by analysts.

Relative valuation, while straightforward and widely employed, has its limitations. It provides a comparative measure but does not account for the intrinsic value of an asset, which can lead to misinterpretation if the peer group is incorrectly valued. On the other hand, intrinsic valuation methods like the DCF analysis provide a more detailed and company-specific assessment by focusing on the future cash flows and the inherent value these flows represent. However, these methods are not without their challenges, particularly in making accurate forecasts and assumptions about future growth rates and discount rates.

When valuing a company like McDonald's Corporation, it's crucial to select methodologies that capture the nuances of its business model, competitive position, and future growth prospects. In this context, two valuation approaches to McDonald's Corporation were applied: the DCF method, more precisely the FCFF approach, and relative valuation using the EV/EBITDA multiple. The

first approach assumes that the company will maintain its existing capital structure, while the second serves to summarize and validate the outcomes derived from the first.

3. Company Overview

3.1. Global Economic Outlook

The year 2024 continued to be marked by global economic challenges, driven by ongoing political tensions worldwide. This was compounded by the tightening of regulatory restrictions and monetary policies aimed at combating high inflation. The rise in global interest rates has affected many economic sectors, alongside fluctuations in oil and gas prices that have influenced the economies of various countries around the globe.

Global GDP growth is projected at 3.18% in 2024 and 3.23% in 2025². The economy is stabilizing, and inflation is coming down, but remains too high in some countries, forcing their central banks to keep interest rates elevated. These can create trade tensions, which could hold back overall growth.

Inflationary pressure impact consumer disposable income levels and spending habits which have a significantly influence in various industries, particularly those that are cyclical, such as the quick service restaurant industry, the industry that McDonald's operates in.

3.2. Global Industry Overview

A quick service restaurant (QSR) is a key segment of the foodservice industry. These establishments typically offer meals at lower price points, prioritizing fast service, a streamlined menu, and minimal table service.

Several key growth drivers have propelled the expansion of this industry. The demands of modern lifestyles have led to an increased preference for convenience, as consumers increasingly seek quick and hassle-free dining options. With dual-income households now common, there is less time available for meal preparation at home. Moreover, the affordability of QSRs has further amplified their popularity.

Commonly referred to as fast food restaurants outside the industry, the QSR sector in the United States is among the most well-established globally. Many of the world's leading QSR brands originated in the U.S. and continue to dominate a significant share of the global market.

In 2023, the global QSR industry had a market size of just over \$894 billion, with projections indicating it would surpass \$971 billion in 2024 and grow to \$1,930 billion by 2032, exhibiting a compound annual growth (CAGR) of 8.96% during this period³. McDonald's in 2023 had systemwide global sales of \$129.5 billion, representing approximately 14.5%.

3.3. History

“Luck is a dividend of sweat. The more you sweat, the luckier you get.”⁴

Ray Kroc

The history of McDonald's began in 1948 when two brothers, Richard and Maurice McDonald, opened a burger joint named McDonald's in San Bernardino, California. They introduced the groundbreaking Speedee Service System, which applied manufacturing production principles to the restaurant industry. The restaurant featured a limited menu, offering items like fifteen-cent hamburgers, shakes, and fries.

In 1954, Ray Kroc (1902-1984), a vendor of milkshake mixing machines, sold his machines to the McDonald brothers for use in their restaurants. Recognizing the business's potential, Ray Kroc partnered with the McDonald brothers as a franchisee and opened his first McDonald's restaurant in Illinois, Chicago, in 1955.

FIG-1: McDonald's Corporation Logo



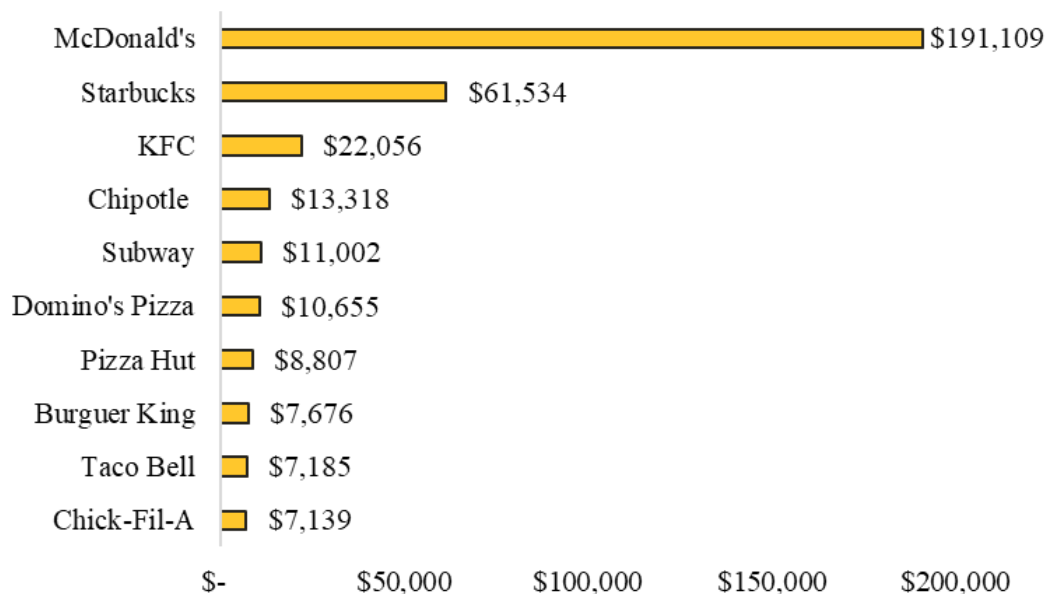
Source: McDonald's Corporation Website

In 1961, he bought out the McDonald brothers' stake for \$2.7 million, (equivalent to \$28.5 million in 2024⁵) becoming the owner of McDonald's Corporation. Under his leadership, he expanded the chain into a global franchise, ultimately making it the most successful fast-food corporation in the world. Appendix-1 provides additional details regarding McDonald's history.

Today, McDonald's Corporation is the largest restaurant company in the world. It serves a locally relevant menu of quality food and beverages in every community it operates in. It serves over 65 million customers daily in over 100 countries, employing 2.2 million people⁶.

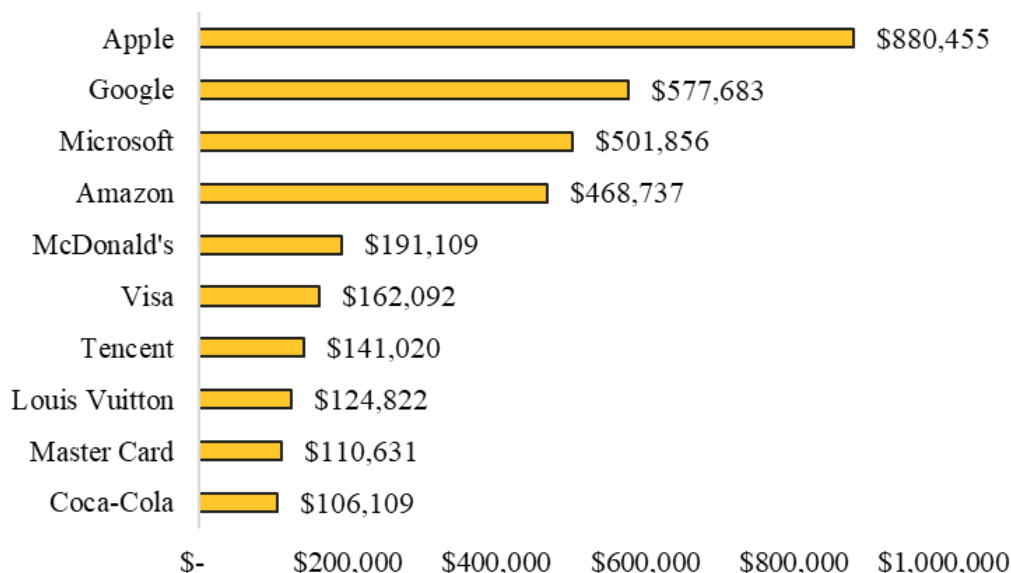
McDonald's has become a symbol of globalization and the spread of American Culture, its business model serves as an example for the QSR industry in terms of strategies, norms, and operational procedures. McDonald's is not only the most valuable brand in its industry, but also ranks among as one of the most valuable brands across all industries⁷.

FIG-2: Top 10 Most Valuable Global Brands of 2023 (in millions)



Source: Statista

FIG-3: Top 10 Most Valuable Global Brands of 2023 (in millions)



Source: Kantar, Worlds Most Valuable Brands, 2023

3.4. Business Model

Although at first glance McDonald's appears to be merely a burger-flipping restaurant chain, a closer examination suggests that it is in fact a real estate company, through its franchise business model where the company buys or leases the land and leases it back to the franchisee. Former McDonald's CFO, Harry J. Sonneborn is even quoted as saying, "we are not technically in the food business. We are in the real estate business. The only reason we sell fifteen-cent hamburgers is because they are the greatest producer of revenue, from which our tenants can pay us our rent."

The Company operates under an organizational structure which is divided in three different segments: U.S.; International Operated Markets (IOM); and International Developmental Licensed Markets & Corporate (IDL). The U.S. focuses on operations in the United States, the company largest market. IOM segment comprises operations and franchising of restaurant in 19 countries including Australia, Canada, France, Germany, Italy, Poland, Spain and the U.K. The IDL segment consists primarily of developmental licensee and affiliate markets in 78 countries including Brazil, China and Japan. Corporate activities are also reported in this segment⁸.

Note that total number of markets equals to 98 but due to reporting purposes some countries are consolidated into the markets totaling 115 countries⁹, where the company has restaurants.

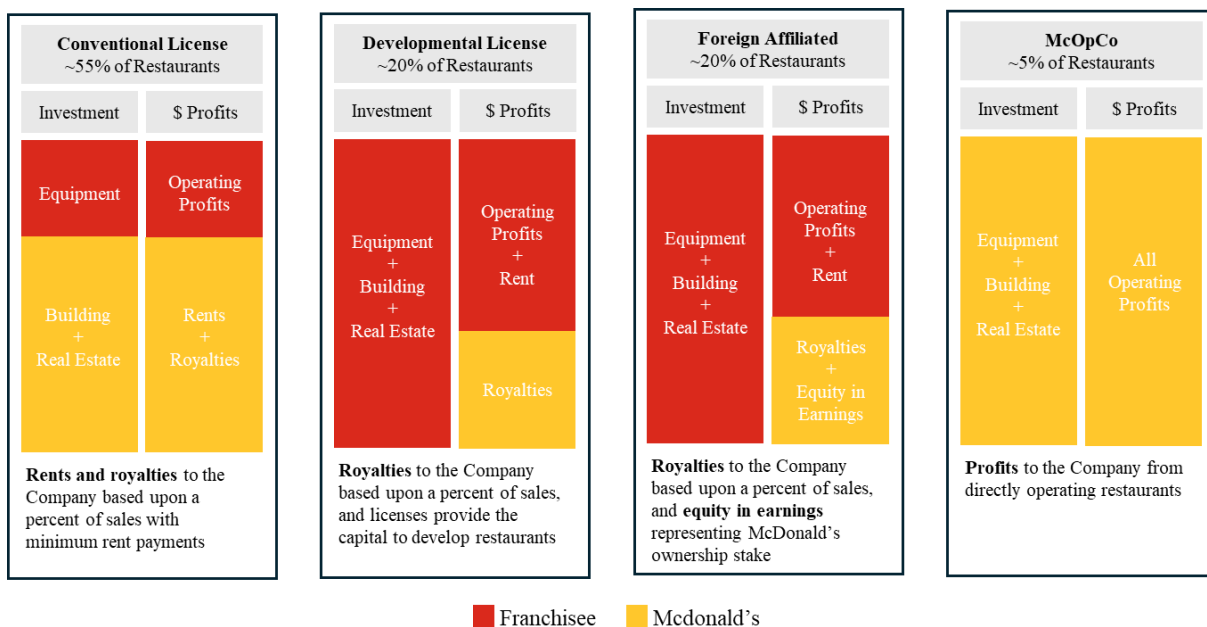
At year-end 2023 the Company had 41,822 including 13,457 in the US and 28,365 internationally, (see Appendix-2, for more details).

McDonald's operates mainly as a franchisor, working closely with franchisees to uphold high standards and boost business performance, which in turn elevates the brand's value.

Across the three different segments, there are two primary franchise arrangements:

1. **Conventional Licensed:** Franchisees pay rent and royalties based on a percentage of sales with minimum rent payments and initial fees. This model involves the franchisee operating the restaurant while adhering to McDonald's standards. These arrangements typically last for 20 years. When this period ends, McDonald's either renews the franchise agreement for another 20 years with the same or a new franchisee or opts to close the restaurant.
2. **Developmental License or Affiliate:** Licensees manage their businesses, provide capital, and develop new restaurants. McDonald's receives royalties based on sales and initial fees but typically does not invest capital.

FIG-4: McDonald's Business Model



Source: 2023 McDonald's Corporation Industry Overview

So, in summary, McDonald's revenues arise from sales by company-operated restaurants, rent, royalties and initial fees from franchised restaurants operated by conventional franchisees, developmental licensees and affiliates.

This heavily franchised model permits asset appreciation, control over locations, and aims for stable and predictable revenue cash flow streams while operating with a less resource intensive structure, providing an easier path to profitability.

Of the company 41,822 restaurants, approximately 95% were franchised.

In 2023, McDonald's achieved \$129.5 billion in Systemwide Sales and \$25,494 million in total revenue, with the U.S. market contributing 41%, the IOM accounting for 49%, and the IDL representing 10%.

Franchised restaurants contributed 61% of this revenue, with an 84% operational margin, while company-operated restaurants accounted for 38% of the revenue, with a 16% operational margin.

3.5. Mission, Values and Strategy

McDonald's mission is very clear "to make delicious feel-good moments easy for everyone." This is accomplished by providing quality food at convenient locations and hours, along with affordable prices, while striving to deliver speed, variety, and personalized options to their customers.

Its values, the backbone of the brand, which all business decisions are made are serve, inclusion, integrity, community and family.

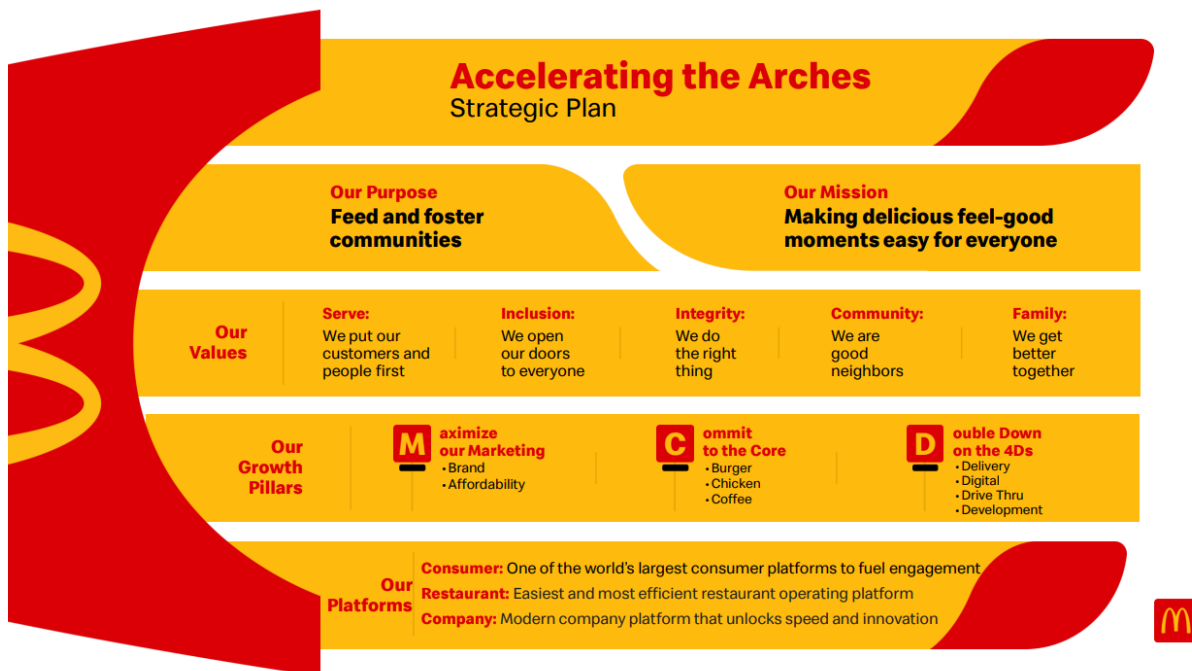
Accelerating the Arches Growth strategic plan is the ongoing McDonald's strategy to growth and innovate during this decade. Some of the company's goals include by 2027 reaching 50,000 restaurants, expanding its loyalty program from 150 million to 250 million active users, McDonald's mobile app originate 30% of deliver orders, and connecting thousands of restaurants globally through Google Cloud technology to enhance operations and improve the experiences of both customers and employees. To achieve these objectives, the company focuses on three key growth pillars, also known as "M-C-D" growth pillar: maximizing marketing, committing to the core, and doubling down on the 4 D's - delivery, digital, drive-thru, and development¹⁰.

Maximizing marketing involves enhancing customer engagement through personalized value and digital offers, such as those available on the McDonald's mobile app. Loyal customers are crucial, as they tend to visit more frequently, so a primary goal is to increase McDonald's interactivity with these customers by using data to deliver what they want, when and where they want it.

Committing to the core focuses on the classic menu items like beef, chicken, and coffee products that drive most sales. The company aims to keep delivering these items in new, creative ways while simplifying execution,

Doubling down on the 4 D's means scaling up delivery capabilities and expanding digital and drive-thru services. McDonald's is building a digital ecosystem to deliver more personalized customer experiences and enhance connections throughout the customer journey. Beginning in 2023 McDonald's rolled out a new, custom operating system for all digital platforms, including the mobile app, Loyalty program, and in-store kiosks. While AI is not new to McDonald's, these advancements will enable faster, more efficient, and tailored solutions through our GenAI models.

FIG-5: Accelerating the Arches Strategic Plan



Source: McDonald's website

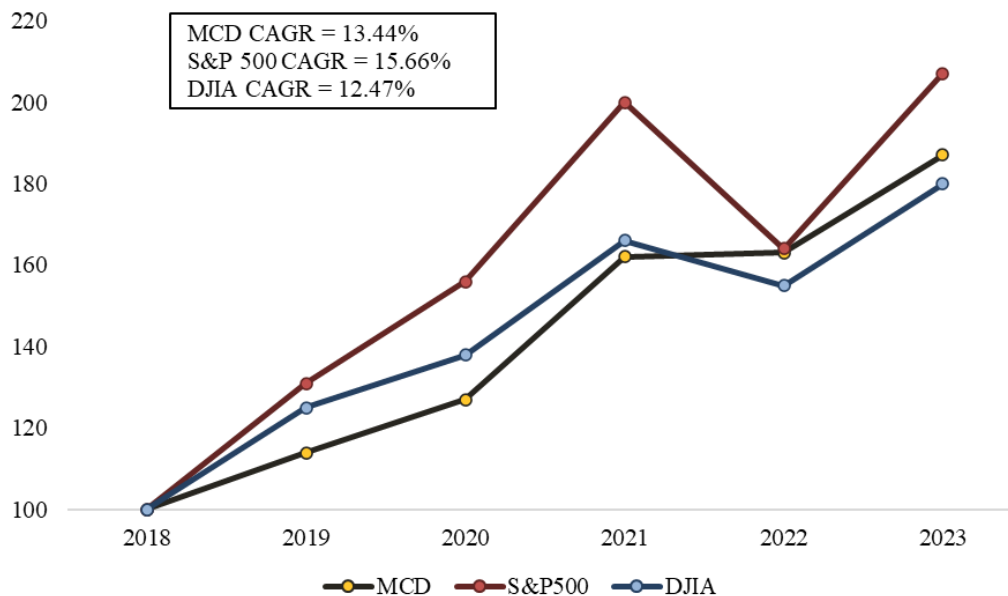
3.6. Stock & Dividends

McDonald's became the first fast-food company to go public with its initial public offering (IPO) on April 21, 1965. The shares were initially priced at \$22.50 each, representing nearly seventeen times the company's 1964 earnings, a very good premium for a company that was only 9 years old at the time. On the first day of trading, the stock quickly surged to \$30 per share. By the end of the first month, the shares were trading at \$50 each¹¹. In 1985, McDonald's made history (again) as the first fast-food company to be included in the prestigious Dow Jones 30 Industrials Average (DJIA) list.

McDonald's common stock is traded on the New York Stock Exchange (NYSE) under the symbol MCD. Since its IPO, the company has undergone 12 stock splits. Over this period, McDonald's stock has achieved a remarkable CAGR of 31.20%, excluding the reinvestment of dividends.

The following performance graph shows McDonald's cumulative total shareholder returns (price appreciation and reinvestment of dividends, relative to the Standard & Poor's 500 Stock Index ("S&P 500 Index") and to the DJIA companies for the five-year period ended December 31, 2023.

FIG-6: Comparison of Cumulative 5 Year Total Return



	2018	2019	2020	2021	2022	2023
MCD	100	114	127	162	163	187
S&P500	100	131	156	200	164	207
DJIA	100	125	138	166	155	180

Source: 2023 McDonald's Corporation Annual Report

On December 31, 2019, McDonald's board of directors authorized a \$15 billion share repurchase program with no set expiration. By the end of 2023, McDonald's had 723 million outstanding shares and returned \$7.6 billion to shareholders through a combination of dividends and share buybacks. In 2023, the company marked its 48th consecutive year of dividend payments, consistently increasing the payout at least once annually.

3.7. Investment Risks and SWOT Analysis

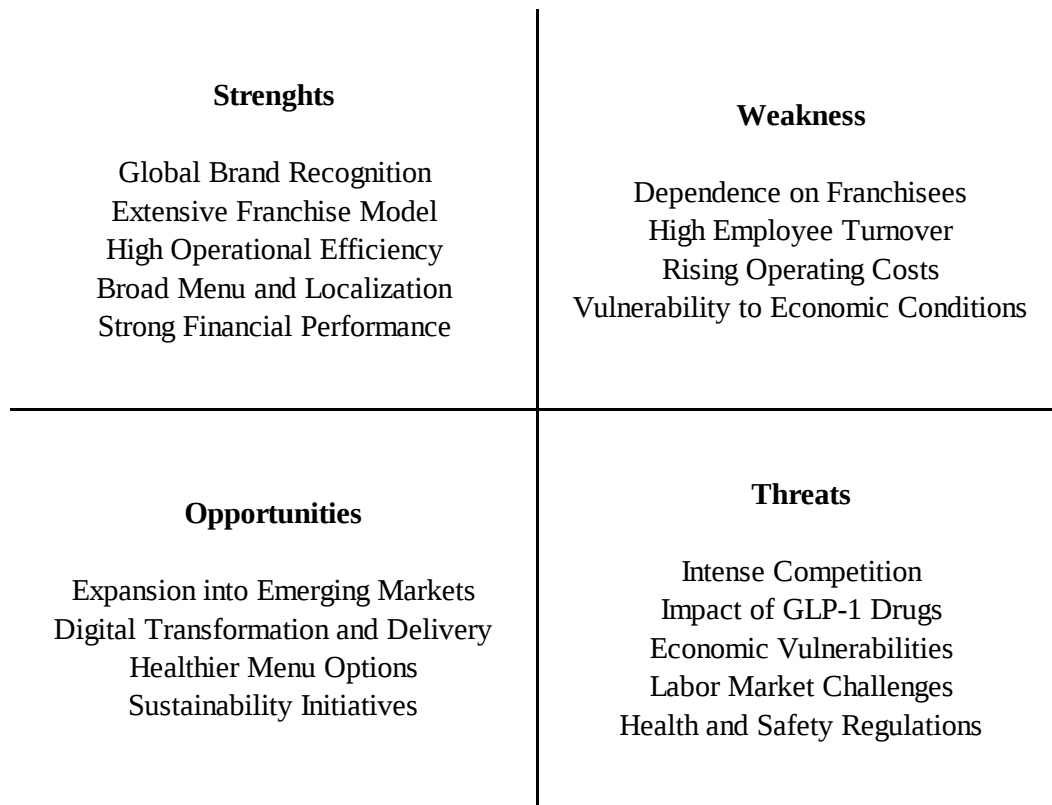
McDonald's, due to the nature of its business, carries a lot of risks. Its success depends heavily on the way the company can face these challenges and overcome them. Also, McDonald's stock price is notably sensitive to media coverage and news events. For instance, on October 20, 2024, former President Donald Trump visited a McDonald's location in Pennsylvania, which garnered significant media attention¹². On October 23, 2024, the Centers for Disease Control and Prevention linked an E. coli outbreak to McDonald's Quarter Pounder burgers. This health concern led to a significant decline in McDonald's stock, with shares falling approximately 5% on that day¹³.

Changes in consumer spending patterns, influenced by economic conditions like inflation or recessions, can impact McDonald's sales. If consumers cut back on dining out or shift preferences, McDonald's could see reduced revenue. Additionally, rising costs for ingredients, packaging, and logistics can erode profit margins if McDonald's cannot adjust prices accordingly.

McDonald's faces intense competition from other fast-food chains like Burger King, Wendy's, and newer players such as Chipotle and Starbucks. The increasing use of GLP-1 drugs like Ozempic and Wegovy, which are used to manage diabetes and weight loss, could pose a risk to McDonald's sales as these drugs are associated with appetite suppression. Labor shortages and increasing wages in many regions can challenge McDonald's profitability. With a significant portion of its workforce in customer-facing and food preparation roles, rising labor costs can put pressure on margins if they outpace revenue growth. Additionally, managing labor conditions and retaining employees is

essential to maintaining service quality. McDonald's strategy to expand its restaurant footprint can be a growth driver, but it also presents risks. Rapid expansion, particularly in new or underpenetrated markets, may involve higher upfront costs and uncertainty about customer reception. Missteps in selecting locations or managing new stores can impact returns. A significant portion of McDonald's revenue comes from franchised locations. While this model reduces operational costs and capital requirements, it also means that McDonald's is reliant on the performance and financial health of its franchisees. Challenges faced by franchisees, such as economic downturns or rising costs, can affect McDonald's overall performance.

FIG-7: McDonald's SWOT Analysis



Source: Author

3.8. Future and Growth

Although McDonald's is a 70-year-old company and a dividend king some might mistakenly believe the company has peaked and entered a stable state. Throughout time McDonald's had the ability to anticipate consumer behavior, reinvent itself with new products, and adopt innovative

marketing strategies while expanding into new markets. This trend persists today, evidenced using AI in automated restaurants and the launch of a new beverage-focused concept, CosMc's, designed to enter and solidify McDonald's presence markets like the U.S. coffee sector¹⁴.

The strategy planned for the next few years will be the "fastest period of growth" in its history. According to Chris Kempczinski, McDonald's Corporation Chairman and CEO, the plan is to build one of the largest and most productive consumer platforms in the world while growing their footprint globally to capture even more customers.

4. Company Valuation

In this section, intrinsic and relative valuation will be performed, to estimate the price target of the stock as of January 1st, 2025. The forecast period is six years from 2025 to 2030. The choice of the length of the period is that McDonald's already has a significant market share in a mature market, the implication here is that brand name can sustain excess returns and growth higher than the stable growth rate only for a short period of time. Beyond this, the growth is expected to converge with the overall market, reflecting the company's mature status and the limited room for aggressive expansion.

Following the structure of a typical DCF-WACC model, the FCFF will be calculated first, followed by the determination of the WACC. Lastly the terminal value and growth rate will be computed.

4.1. McDonald's Intrinsic Valuation

4.1.1. Forecast Assumptions

As stated by Goedhart, Koller, and Wessels, (2020) to forecast individual line items related to the income statement we must decide: what economic relationship drive the line item, estimate the forecast ratio and multiply the forecast ratio by an estimate of its driver.

4.1.1.1. Revenues Forecast

To estimate McDonald's futures revenues a *bottom-up* approach was applied. McDonald's revenue, in any market that operates, whether franchised or company-operated, is fundamentally tied to the number of restaurants. To project future revenues, it is essential to estimate the growth in the number of restaurants over the coming years.

TAB-1: Total Number of Restaurants

	2018	2019	2020	2021	2022	2023
Total	37,855	38,695	39,198	40,031	40,277	41,822
% of change		2.22%	1.30%	2.13%	0.61%	3.84%
Number of new units		840	503	833	246	1545

Source: McDonald's Annual Reports

The figure shows a relatively stable growth pattern. In 2020, there was a notable decline in new unit openings compared to 2019. In 2022, the company also divested its operations in Russia, further impacting overall growth. However, in 2023, there was a steeped spike (+3.84%), driven by the addition of 1545 units, driven by the "Accelerating the Arches" strategic plan.

Through the 2023 annual report, it was identified that the company aims to grow between 4% and 5%, targeting 50,000 restaurants by the end of 2027. For the period from 2024 to 2027, it was projected an average growth rate of 4%. The historical average growth rate of 2.02% from 2018 to 2023 was applied for the years 2028 to 2030.

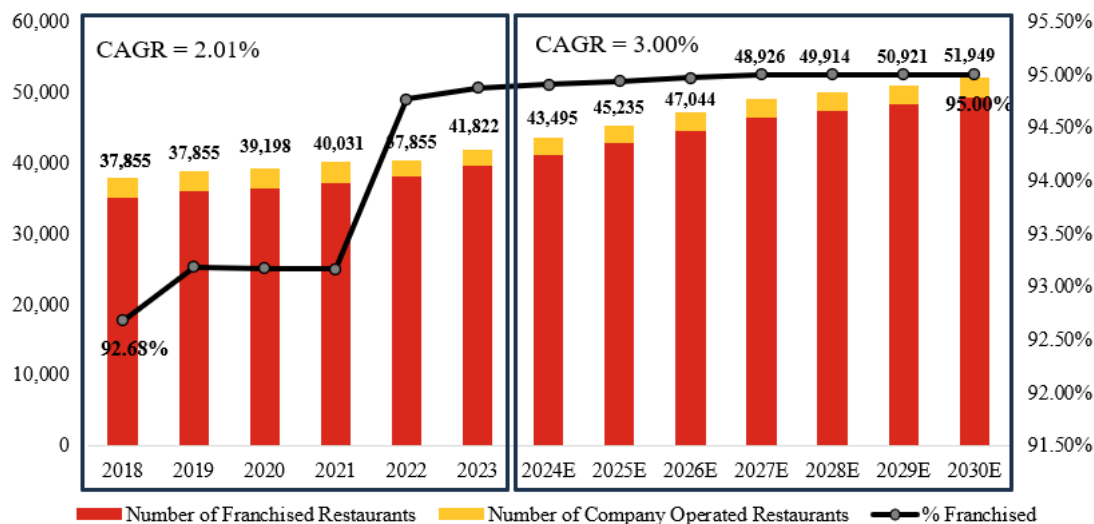
TAB-2: Expected Total Number of Restaurants

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Total	43,495	45,235	47,044	48,926	49,914	50,921	51,949
% of change	4.00%	4.00%	4.00%	4.00%	2.02%	2.02%	2.02%
Number of new units	1673	1740	1809	1882	988	1008	1028

Source: Author

The next step involves projecting the ratio of franchised restaurants to the total number of McDonald's locations in the future. According to several McDonald's Annual Reports, the ideal ratio is set at 95% franchised. In 2023, the ratio stood at 94.88%. A gradual increase is projected through 2027, with the ratio reaching 95% between 2028 and 2030.

FIG-8: Total Number of Restaurants by Type



Source: McDonald's Annual Reports (2018-2023), Author (2024-2030)

TAB-3: Total and Expected Number of Restaurants by Type

	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Company operated	2,770	2,636	2,677	2,736	2,106	2,142	2,214	2,289	2,366	2,446	2,496	2,546	2,597
% of change		-4.84%	1.56%	2.20%	-23.03%	1.71%	3.36%	3.39%	3.38%	3.38%	2.02%	2.02%	2.02%
Number of new units		-134	41	59	-630	36	72	75	77	80	49	50	51
Franchised	35,085	36,059	36,521	37,295	38,171	39,680	41,281	42,946	44,678	46,480	47,418	48,375	49,352
% of change		2.78%	1.28%	2.12%	2.35%	3.95%	4.03%	4.03%	4.03%	4.03%	2.02%	2.02%	2.02%
Number of new units		974	462	774	876	1509	1601	1665	1732	1802	938	957	977
% Franchised	92.68%	93.19%	93.17%	93.17%	94.77%	94.88%	94.91%	94.94%	94.97%	95.00%	95.00%	95.00%	95.00%
Total	37,855	38,695	39,198	40,031	40,277	41,822	43,495	45,235	47,044	48,926	49,914	50,921	51,949

Source: McDonald's Annual Reports (2018-2023), Author (2024-2030)

To gain a deeper understanding of restaurant revenue growth, an analysis of past revenues was conducted.

TAB-4: Total Revenue by Type (in \$ and millions)

	2018	2019	2020	2021	2022	2023
Company operated	10,013	9,421	8,139	9,788	8,748	9,742
% of change		-5.91%	-13.61%	20.26%	-10.63%	11.36%
Franchised	11,012	11,656	10,726	13,085	14,106	15,436
% of change		5.85%	-7.98%	21.99%	7.80%	9.43%
Other	233	288	343	351	329	316
% of change		23.72%	18.96%	2.48%	-6.27%	-4.07%
Total	21,258	21,365	19,208	23,224	23,183	25,494
% of change		0.50%	-10.10%	20.91%	-0.18%	9.97%

Source: McDonald's Annual Reports

Total revenue increased from \$21,258 million in 2018 to \$25,494 million in 2023, reflecting a growth of 19.93%. The significant decline in revenue in 2020 (-10.10%), was due to COVID-19 pandemic. However, 2021 has a strong recovery with a 20.91% increase.

Regarding company operated revenues, there was a decline from \$10,013 million in 2018 to \$9,742 in 2023 (-2.71%). This decline is linked to the sharp reduction in the number of this type of restaurants, dropping from 2,770 to 2,142 (-22.67%), as shown in TAB-3.

Revenue from franchised restaurants showed steady growth, rising from \$11,012 to \$15,436 million (+40.17%) over six years. The number of franchised units climbed from 35,085 to 39,680 (+13.10%). 2023 alone saw the opening of 1509 of franchised units.

For each restaurant, the average revenue generated per restaurant type (franchised and operated) was calculated by dividing the total revenue by the number of restaurants.

TAB-5: Average Revenue by Type per Unit (in \$ and millions)

	2018	2019	2020	2021	2022	2023
Company Operated	3.61	3.57	3.04	3.58	4.15	4.55
% of change		-1.1%	-14.9%	17.7%	16.1%	9.5%
Franchised	0.31	0.32	0.29	0.35	0.37	0.39
% of change		3.0%	-9.1%	19.5%	5.3%	5.3%

Source: McDonald's Annual Reports

In 2023 the average revenue for a company operated restaurant was \$4.55 million and for a franchised restaurant was \$390 thousand.

Future revenue projections by type per unit were made by applying inflation data from the International Monetary Fund (IMF). As all the figures are in U.S. Dollars, the inflation data used concerns the U.S. inflation projections.

Since the IMF projection only extends to 2029, the inflation projection for 2029 was applied to the year 2030 as well.

TAB-6: Inflation data, Average Consumer Prices U.S.

2024E	2025E	2026E	2027E	2028E	2029E	2030E
2.91%	2.00%	2.06%	2.10%	2.12%	2.14%	2.14%

Source: IMF, World Economic Outlook, April 2024, (2024-2029), Author (2030)

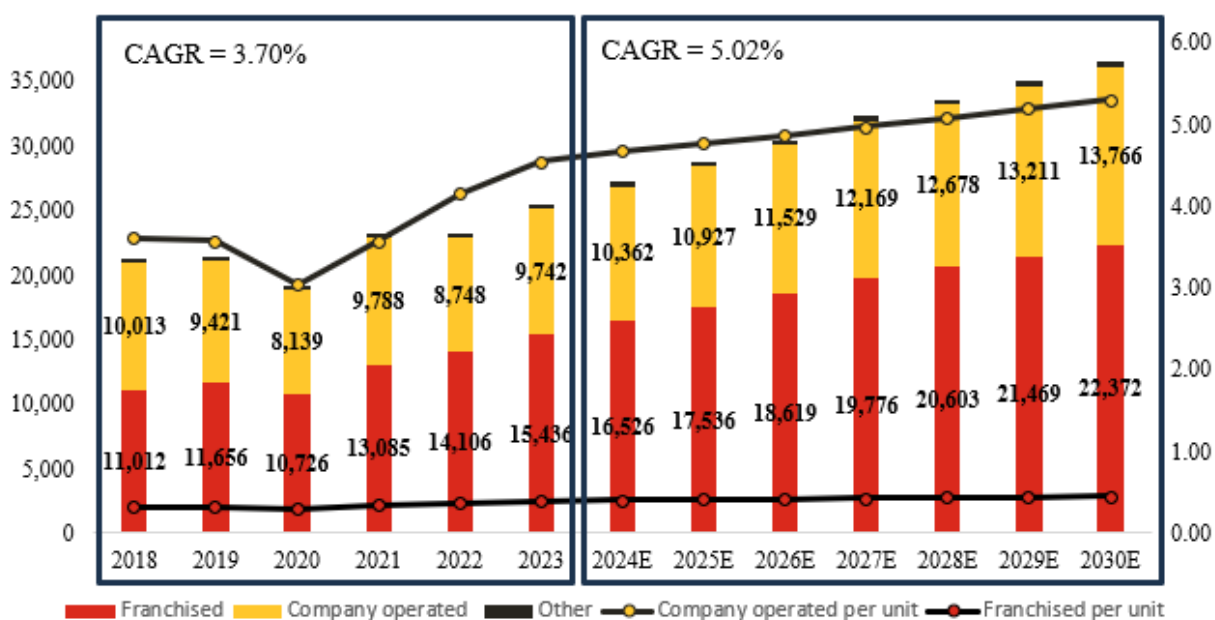
TAB-7: Expected Average Revenue by Type per Unit (in \$ and millions)

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Company Operated	4.68	4.77	4.87	4.97	5.08	5.19	5.30
% of change	2.91%	2.00%	2.06%	2.10%	2.12%	2.14%	2.14%
Franchised	0.40	0.41	0.42	0.43	0.43	0.44	0.45
% of change	2.91%	2.00%	2.06%	2.10%	2.12%	2.14%	2.14%

Source: Author

As a final point, for each year, the projected average revenue by type per unit was multiplied by the anticipated number of new restaurant openings to estimate total future revenues.

FIG-9: Expected Total Revenue (in \$ and millions)



Source: McDonald's Annual Reports (2018-2023), Author (2024-2030)

TAB-8: Expected Total Revenue by Type *(in \$ and millions)*

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Company operated	10,362	10,927	11,529	12,169	12,678	13,211	13,766
% of change	6.36%	5.45%	5.51%	5.55%	4.18%	4.21%	4.21%
Franchised	16,526	17,536	18,619	19,776	20,603	21,469	22,372
% of change	7.06%	6.11%	6.17%	6.22%	4.18%	4.21%	4.21%
Other	325	331	338	345	352	360	368
% of change	2.91%	2.00%	2.06%	2.10%	2.12%	2.14%	2.14%
Total	27,212	28,794	30,486	32,291	33,633	35,040	36,506
% of change	6.74%	5.81%	5.88%	5.92%	4.16%	4.18%	4.18%

Source: Author

As of the writing of this thesis, the company's revenue for the first half of the year has been reported through its quarterly earnings disclosures. Over the first six months, the company generated \$12,569 million, representing 46% of the total revenue forecast for the year. This performance is consistent with historical trends, where the first-half revenues typically range between 44% and 50% of the annual total.

Also note that a small portion of McDonald's revenue is categorized under "Other," which includes fees paid by franchisees to cover a portion of the costs McDonald's incurs for various technology platforms, as well as income from brand licensing agreements used to market and sell consumer packaged goods under the McDonald's brand. Future projections for this revenue segment have been calculated with consideration of U.S. inflation data mentioned in TAB-6.

When analyzing total revenue for the year 2024 to 2030, the data shows that revenue in the final year of the explicit period is projected to be 34.15% higher than in 2024. This value compares to the growth for the 2018-2023 period mentioned above (19.92%). Some may argue that the forecast projections reflect an optimistic or bullish outlook. However, when analyzing the 2018-2023 timeframe, two important factors stand out. First, this period was heavily impacted by the COVID-19 pandemic. Second, the percentage of franchised restaurants increased from 92.7% to 94.8%.

4.1.1.2. Operating Expenses

McDonald's operating expenses are divided into three main categories:

1. Restaurant Expenses: This includes costs for both company-operated and franchised restaurants. For company-operated locations, expenses consist of cost of goods sold (COGS), primarily food and paper, and payroll. For franchised restaurants, the main costs include lease expense.
2. Selling, General, and Administrative Expenses (SG&A): These cover the corporate structure and overall management of the business and consist primarily of payroll and employee benefit cost of non-restaurant support staff. This expense also includes advertising costs, and depreciation and amortization expenses related to office spaces and equipment.
3. Other Operating (Income) Expenses: This category includes gains from the sale of restaurant businesses, equity in earnings from unconsolidated affiliates, asset dispositions, impairments, and restructuring costs which primarily consist of employee termination benefits.

According to the 2023 annual report, the company aims to achieve an operating margin in the mid-to-high 40% range by 2024, with a long-term goal of continued operating margin expansion. For the first half of the year, as reported in the earnings reports, the operating margin stood at 44.6%.

TAB-9: Total Operating Cost and Expenses (in \$ and millions)

	2018	2019	2020	2021	2022	2023
Company-operated restaurant occupancy expenses	8,266	7,761	6,981	8,047	7,381	8,224
As a % total company operated restaurants revenue	82.55%	82.38%	85.77%	82.21%	84.37%	84.42%
Franchised restaurants occupancy expenses	1,973	2,201	2,208	2,335	2,350	2,475
As a % total franchised restaurants revenue	17.92%	18.88%	20.59%	17.84%	16.66%	16.03%
Other restaurant expenses	186	224	267	260	245	232
As a % total revenue	0.87%	1.05%	1.39%	1.12%	1.06%	0.91%
SG&A	2,200	2,229	2,546	2,708	2,862	2,817
As a % of total revenues	10.35%	10.43%	13.26%	11.66%	12.35%	11.05%
Other operating (income) expenses	-190	-120	-118	-483	974	99
As a % of total revenues	-0.89%	-0.56%	-0.61%	-2.08%	4.20%	0.39%
Total operating costs	12,435	12,295	11,884	12,867	13,812	13,847
As a % of total revenues	58.50%	57.55%	61.87%	55.40%	59.58%	54.32%

Source: McDonald's Annual Reports

Company operated expenses - In 2018, were practically the same as in 2023 (\$8,266 vs \$8,224 million), TAB-3 shows that number of this type of restaurants decreased from 2,770 to 2,142, this fact demonstrates that the average expense by this type of unit increased in the same period (\$2.98 vs \$3.84), possibly due to higher costs for labor and food, as a result inflationary pressures.

As the 95% ratio will be maintained in future years and it is expected that the overall number of restaurants growth, the total amount of operated expenses also must grow. For future years the average between 2022 and 2023 as a percentage of total company operated revenue was used, 84,40%. As noted in the SWOT analysis chapter, McDonald's is impacted by labor market challenges, including rising minimum wages and labor shortages. Historically, labor costs have consistently accounted for approximately 35% of total company-operated expenses, even during periods of labor shortages and increases in minimum wage. With that in mind, potential future labor market pressures are reflected in the projected company-operated expenses, as the percentage of

these expenses relative to company-operated revenues are relatively high compared to historical figures – except for 2020, which was an atypical year.

Franchised restaurant occupancy expenses - To estimate future costs, historical data was analyzed by dividing the total franchised occupancy expenses by the number of franchised restaurants.

Over the period, these costs ranged from \$56 thousand per restaurant in 2018 to \$62 thousand in 2023. This relatively narrow range demonstrates minimal variability in occupancy expenses, indicating a consistent cost structure for franchised units over the years.

For future projections, the average expense per unit in 2022 and 2023, \$62 thousand, was used as the basis. This average value was then multiplied by the forecasted number of franchised restaurants to estimate total occupancy expenses for the coming years.

Other restaurant expenses – these types of expenses are not clearly described throughout the annual reports. From 2018 to 2020 these expenses increased from \$186 million to a peak of \$267 million. Despite the 2020 anomaly, McDonald's managed to keep these expenses relatively low, averaging around 1% of total revenue in the six-year period. For the forecast period, the average percentage from 2018-2023 was utilized, excluding the outlier year of 2020. This resulted in an adjusted average of 1.00% of total revenue.

SG&A - analyzing the TAB-9, two years stand out. SG&A saw a significant increase in 2020, primarily driven by expanded marketing initiatives aimed at accelerating recovery from the impacts of the COVID-19 pandemic. And, 2022 figures, which reflect elevated costs due to investments in technology, additional expenses related to strategic initiatives, the company's 2022 Worldwide Owner/Operator convention¹⁵, and proxy contest, as well as the effects of inflationary cost pressures. 2023 saw a reduction of 2%, reflecting lower employee costs because of the Accelerating the Organization Strategy. The company plans to improve labor cost efficiency, and in line with this objective, the forecast anticipates a moderate increase in SG&A expenses. The projection estimates an average annual increase of \$121 million, compared to \$103 million during the historical period.

Other operating (income) expenses - these lines are difficult to forecast and find a rationale due to mainly the volatility of non-recurring items such as sale of business and asset dispositions, and

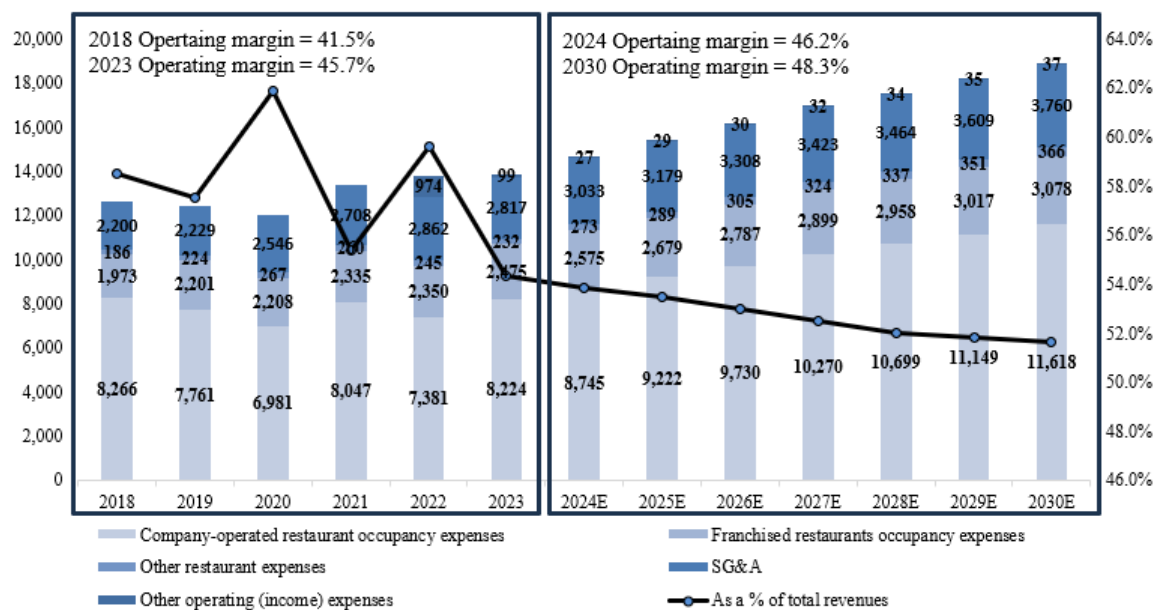
fluctuations in equity earnings. The historical average as a percentage of total revenue was utilized, amounting to 0.1%, which can be considered negligible.

TAB-10: Expected Total Operating Costs (in \$ and millions)

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Company-operated restaurant occupancy expenses	8,745	9,222	9,730	10,270	10,699	11,149	11,618
As a % total company operated restaurants revenue	84.40%	84.40%	84.40%	84.40%	84.40%	84.40%	84.40%
Franchised restaurants occupancy expenses	2,575	2,679	2,787	2,899	2,958	3,017	3,078
As a % total franchised restaurants revenue	15.58%	15.28%	14.97%	14.66%	14.36%	14.05%	13.76%
Other restaurant expenses	273	289	305	324	337	351	366
As a % total revenue	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
SG&A	3033	3179	3308	3423	3464	3609	3,760
As a % of total revenues	11.15%	11.04%	10.85%	10.60%	10.30%	10.30%	10.30%
Other operating (income) expenses	27	29	30	32	34	35	37
As a % of total revenues	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Total operating costs	14,653	15,397	16,161	16,948	17,492	18,162	18,859
As a % of total revenues	53.85%	53.47%	53.01%	52.49%	52.01%	51.83%	51.66%

Source: Author

FIG-10: Expected Total Operating Costs (in \$ and millions)



Source: Annual Reports (2018 – 2023), Author (2024 – 2030)

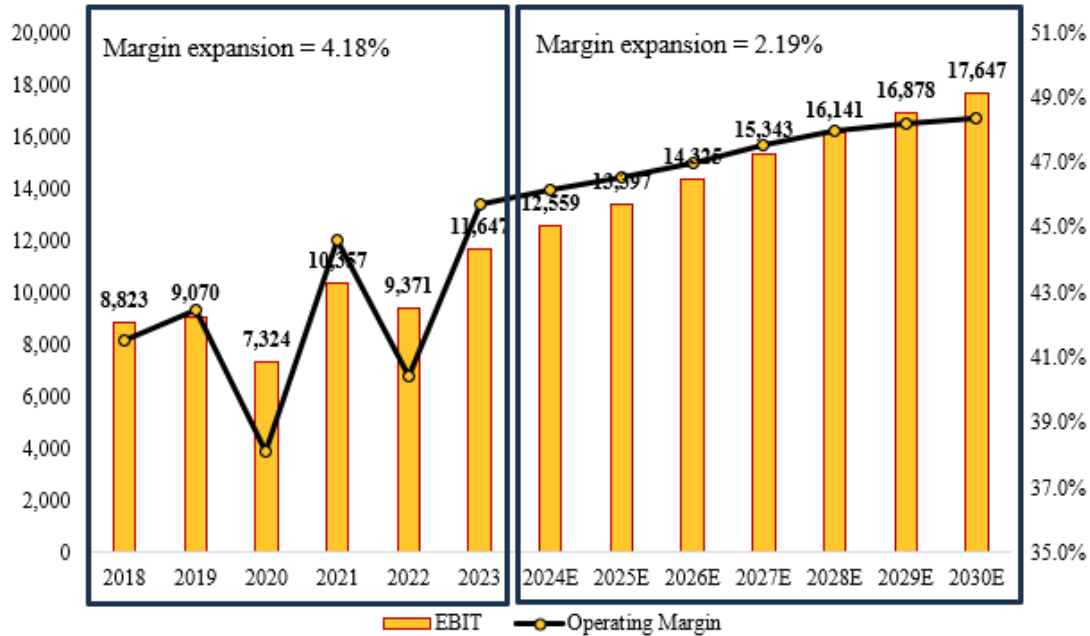
Even though company-operated restaurants account for an average of only 5% of all restaurants from 2018 to 2030, they contribute an average of 60.64% to the total operating costs.

4.1.1.3. EBIT

Earnings before interest and taxes (EBIT) were calculated by subtracting total operating costs from total revenue as forecasted in the previous two chapters. During the 2018-2023 period, the operating margin rose from 41.5% to 45.7%, primarily driven by the growing proportion of franchised restaurants compared to company-operated locations.

The annual report's long-term outlook states that the company wants to continue to expand the operating margin, reaching mid-to-high 40% range.

FIG-11: Total Operating Costs per Unit (in \$ and millions)



Source: McDonald's Annual Reports (2018 – 2023), Author (2024 – 2030)

Although the margin increased from 2018 to 2023, it's worth noting that it declined in 2020 due to the impact of COVID-19, and again in 2022 due to a misalignment between inflation and the pricing of menu items.

Based on the projected revenues and costs, the operating margin is expected to increase from 46.2% to 48.3%, reflecting a more modest growth compared to the analyzed period. This forecasted growth is primarily attributed to the continued expansion of franchised restaurants and improvements in operational efficiencies.

4.1.1.4. Tax

As reported in their annual reports, McDonald's effective tax rate from the period 2018-2023 shows a range between 24.2% to 19.5%. US tax reform legislation enacted on 22 December 2017 (P.L. 115-97) reduced the corporate income tax rate on resident corporations to a flat 21% rate for tax years beginning after 31 December 2017¹⁶. Damodaran, (2012), argues that the safer choice is to use the marginal rate. As McDonald's operates in various countries the marginal rate differs from

country to country. The author explains one way to estimate a “global” marginal tax rate is by calculating a weighted average of the marginal tax rates across the countries in which a company operates. The weights are based on the proportion of income generated in each country. This method ensures that the tax rate reflects the distribution of the company's earnings across various tax jurisdictions, giving a more accurate representation of the company's overall tax burden globally. As McDonald's do not report the income of each country that operates in, the marginal tax rate of the country in which the company is incorporated was used, the assumption here is that the income generated abroad will have to pay the home country's marginal tax rate on those earnings.

The marginal tax rate is the sum of the federal plus the state tax rate. In McDonald's case 21% plus 1.8%. McDonald's at the end of 2023 had net operating loss carryforwards of \$1,113 million, of which \$924.8 million has an indefinite carryforward. This amount was divided by the forecast period and used to reduce the taxable amount.

4.1.1.5. Capital Expenditures

Capital Expenditures (CAPEX) can be defined as the amount of money a company has to incur to maintain their operations and/or to grow them.

To truly know the amount of CAPEX the company spent, one must look at the cash flow statement and analyze the investment activities section to find the net CAPEX, this can be calculated by adding together the cash inflows and cash outflows.

McDonald's divides the investment activities section into different segments: CAPEX, purchases of restaurants business, sales of restaurants, sales of properties, and others. All, except two are self-explanatory. CAPEX segment under the investment activities primarily focusses on opening new restaurants and maintaining existing ones, with a smaller portion allocated to corporate equipment and office-related expenses. Others are not described in the annual report but can involve items like investments in technology platforms, franchise rights, and/or digital innovation, as such others was considered as CAPEX and used to calculate the net CAPEX.

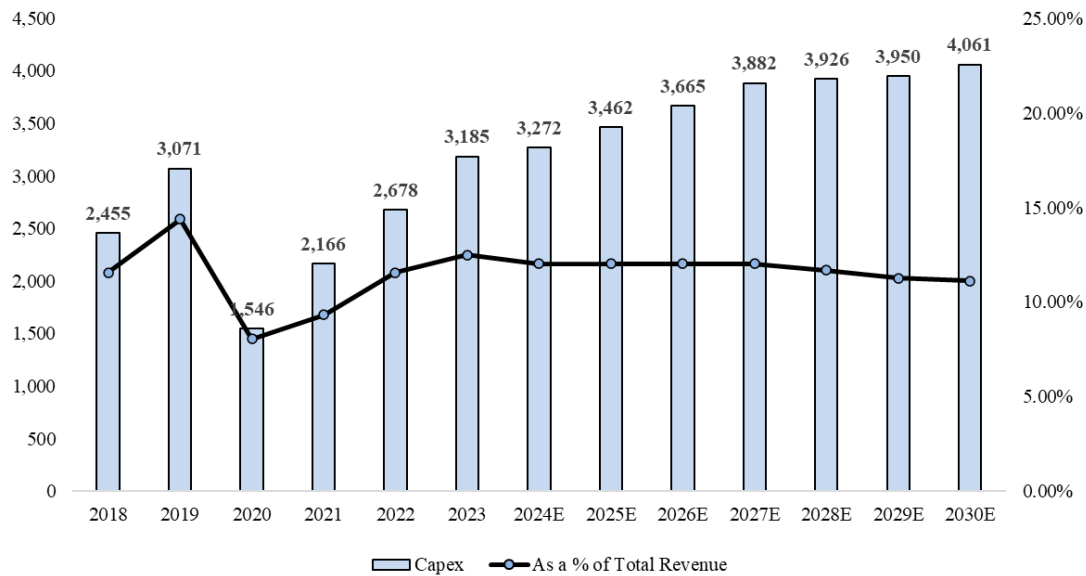
TAB-11: Net CAPEX (in \$ and millions)

	2018	2019	2020	2021	2022	2023
Capital Expenditures	-2,742	-2,394	-1,641	-2,040	-1,899	-2,357
As % of total revenue	12.90%	11.20%	8.54%	8.78%	8.19%	9.25%
Purchases of restaurants businesses	-102	-541	-66	-374	-807	-441
As % of total revenue	0.48%	2.53%	0.34%	1.61%	3.48%	1.73%
Sales of restaurant businesses	531	341	76	196	446	195
As % of total revenue	2.50%	1.60%	0.40%	0.84%	1.92%	0.77%
Sale of property	160	151	27	106	39	94
As % of total revenue	0.75%	0.71%	0.14%	0.46%	0.17%	0.37%
Other	-303	-629	57	-54	-457	-676
As % of total revenue	3.84%	8.01%	0.75%	0.62%	4.85%	6.51%
Net CAPEX	-2,455	-3,071	-1,546	-2,166	-2,678	-3,185
As % of total revenue	11.55%	14.37%	8.05%	9.33%	11.55%	12.49%

Source: McDonald's Annual Reports

Future net CAPEX is projected to follow the average levels of 2022 and 2023 through to 2027 as a percentage of total revenue. However, after 2027, given that the number of new restaurant units is expected to decline over this period, CAPEX is anticipated to experience a gradual decrease.

FIG 12: Net CAPEX (in \$ and millions)



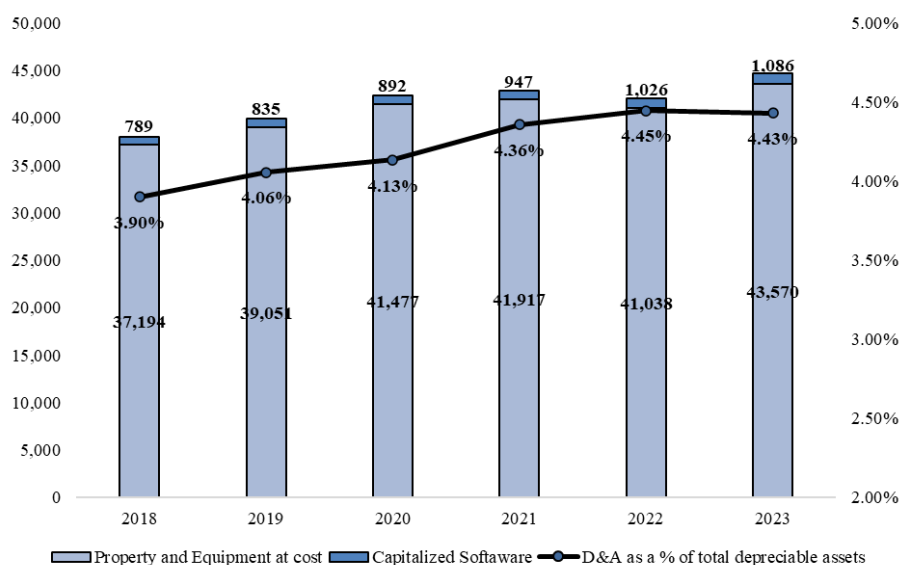
Source: McDonald's Annual Reports (2018 – 2023), Author (2024 – 2030)

Another metric analyzed was the annual CAPEX per restaurant. Excluding the 2020/2021 period, this value showed minimal variability, with an average of \$71 thousand.. In the forecasted period, the average increases slightly to \$77 thousand per restaurant. %.

4.1.1.6. Depreciation and Amortization

The gross accounting values for non-current assets that are subject to depreciation or amortization were gathered: Property and Equipment (PPE) and capitalized software. PPE are stated at cost, with depreciation and amortization provided using the straight-line method over the following estimated useful lives: buildings up to 40 years; leasehold improvements - the useful life is the lesser of the asset's useful life or the lease term, including any applicable option periods, and equipment - 3 to 12 years. Capitalized Software is also stated at cost and amortized using the straight-line method over the estimated useful life of the software, which primarily ranges from 3 to 10 years.

FIG-13: Depreciable Assets (in \$ and millions)



Source: McDonald's Annual Reports

The values for depreciation and amortization (D&A) were also gathered.

TAB-12: Total D&A (in \$ and millions)

	2018	2019	2020	2021	2022	2023
D&A property and equipment	1,303	1,392	1,469	1,531	1,454	1,502
D&A capitalized software	179	226	282	337	417	477
Total D&A (in millions)	1,482	1,618	1,751	1,868	1,871	1,978
D&A as a % of total depreciable assets	3.90%	4.06%	4.13%	4.36%	4.45%	4.43%

Source: McDonald's Annual Reports

To estimate future accounting values for PPE and capitalized software, the following expression was used:

$$(\text{Depreciable Assets})_t = (\text{Depreciable Assets})_{t-1} + \text{CAPEX}_t$$

FOM-24: Depreciable assets

TAB-13: Depreciable Assets (in \$ and millions)

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Property and Equipment at cost	46,760	50,138	53,714	57,502	61,332	65,186	69,147
As a % of total	97.56%	97.56%	97.56%	97.56%	97.56%	97.56%	97.56%
Capitalized Software	1,168	1,252	1,341	1,436	1,532	1,628	1,727
As a % of total	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%	2.44%
Total depreciable assets	47,928	51,390	55,055	58,937	62,863	66,813	70,874

Source: Author

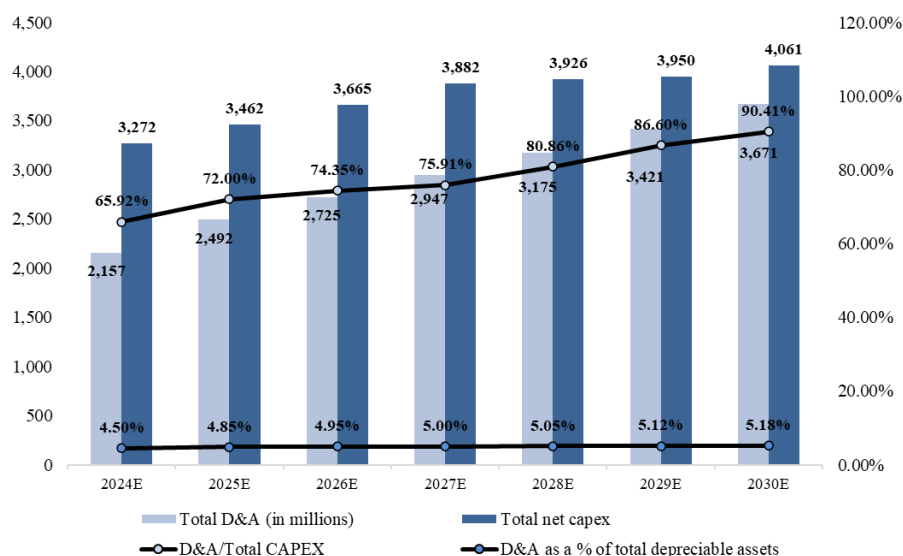
The percentage of PP&E and capitalized software relative to the total has remained relatively stable over the years. For projecting future values, the 5-year historical average was utilized (97.56% and 2.44%) in both cases, as this stability suggests a consistent trend.

Analyzing the TAB-11, the total D&A has been increasing gradually from \$1,482 to \$1,978 million, reflecting an increase in asset base. The values for total of depreciable assets fluctuate slightly each year showing a general upward trend which is normal due to the investment in assets in this period. Over the six-year period the ratio increased from 3.90% to 4.43%, indicating that a higher percentage of asset value is being depreciated, this could be due to changes in asset mix (e.g. more short-lived assets, or higher CAPEX, leading to greater D&A costs).

For the explicit period it was projected an increase from 4.50% to 5.00%, from 2024-2027, and a 5.12% average for the remaining period till 2030, this aligns with upward trend and that the company will invest more in shorter-lived assets.

Finally, a “sanity check” was conducted to understand if the company in the last year of the explicit period was in stable state, meaning that the amount of CAPEX spent is used not to growth the business but to maintain it. For this test the ratio between D&A and total CAPEX was measured.

FIG-14: D&A and Net Capex (in \$ and millions)



Source: Author

As time progresses the CAPEX will be used to replace or maintain existing assets rather than for growth. As this ratio increases the company is moving towards a steady state. In the final forecast year, the ratio hits 90.41%.

4.1.1.7. Changes in Net Working Capital

To analyze working capital, a detailed selection of all operating assets and liabilities was extracted from McDonald's previous annual reports. In these reports, some financial items are categorized alongside operational ones. For this analysis, operating working capital is defined to exclude any financial items related to investments or financing activities. Therefore, all financial components were removed from the operational categories to ensure an accurate estimate of working capital.

For the following items: accounts receivable, inventories and accounts payable, projections were based on the cash conversion cycle (CCC). The CCC is a financial metric that measures how long it takes for a company to convert its investments in inventory and other operational inputs into cash from sales. A shorter CCC indicates that the company is more efficient in turning its resources into cash, which improves liquidity and reduces the need for external financing.

The CCC formula is given by:

$$CCC = DIO + DSO - DPO$$

Where:

Days Inventory Outstanding (DIO) is the average number of days a company takes to convert its inventory into sales.

Days Sales Outstanding (DSO) indicates the average number of days it takes for a company to collect payments after a sale.

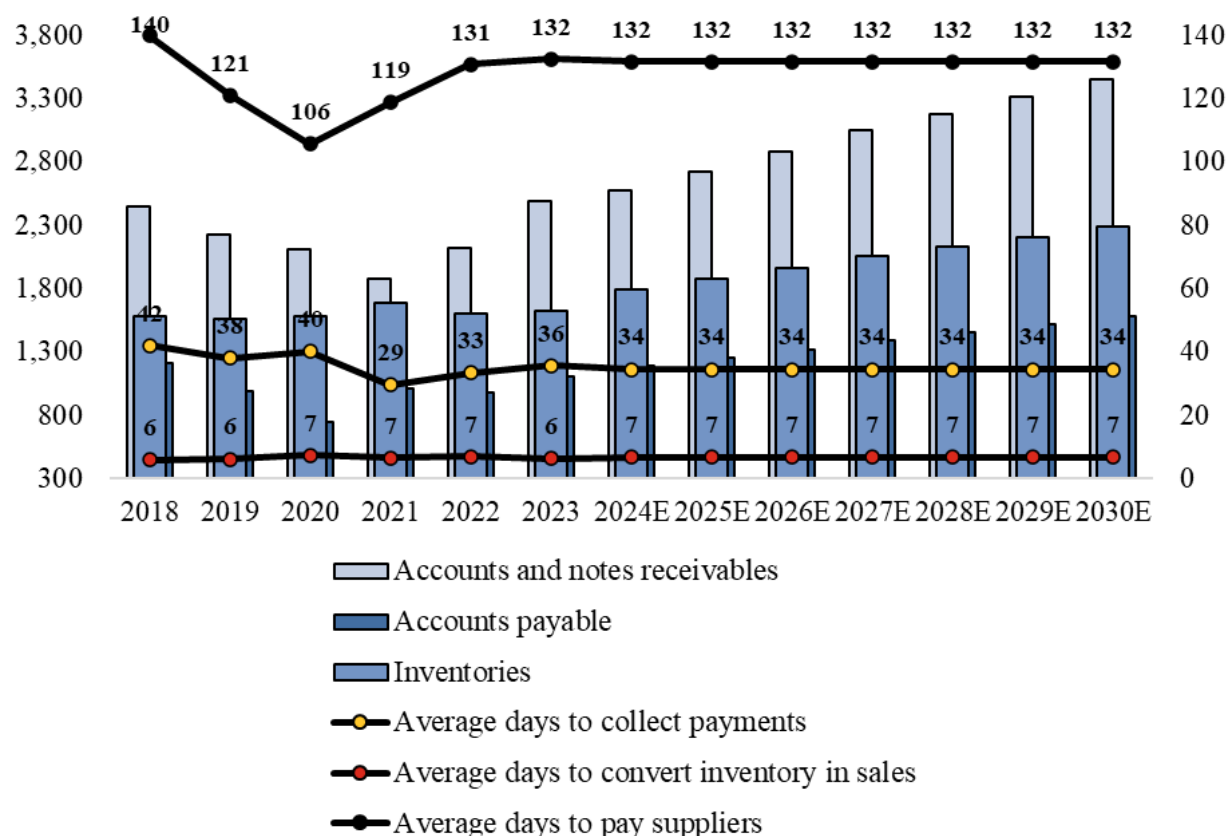
Days Payable Outstanding (DPO) reflects the average number of days a company takes to pay its suppliers.

FOM-25: Cash Conversion Cycle

Imagine the number of days McDonald's takes to source meat, deliver it to restaurants, and sell it as Big Macs, combined with the time it takes to collect cash from customers. Then, subtract the days McDonald's takes to pay its suppliers. In 2023, the CCC was -91 days (7 days for inventory + 34 days for receivables - 132 days for payables). This negative CCC indicates that McDonald's receives cash before settling its obligations, a typical scenario for businesses in the retail and restaurant industries.

To calculate the DIO and DPO, COGS was used, while the DSO was based on total revenue. For forecasting, the average of the previous two years was applied.

FIG-15: McDonald's Cash Conversion Cycle



Source: McDonald's Annual Reports (2018 – 2023), Author (2024 – 2030)

Prepaid expenses, income taxes, other taxes, deferred revenues, deferred taxes, and other long-term liabilities were also included in this section. Each item was projected as a percentage of total revenue, except for deferred taxes, which were projected as a percentage of EBITDA. In both cases, the percentage was based on the average of the past two years.

Additionally, since McDonald's operates restaurants, it requires a certain amount of cash at the start of each day. To forecast this amount, historical cash levels were reviewed in annual reports, and the average of the last two years was calculated by dividing the year-end operating cash balance by the number of company-operated restaurants, then further divided by 365 days resulting in \$880 at the beginning of each day. This average was then multiplied by the forecasted number of operated restaurants to estimate future cash requirements. Goedhart, Koller, and Wessels, (2020) suggest using 2% of total revenue as a rule of thumb for operational cash. Based on the approach mentioned

above, the average for the forecast period is 2.44% (see Appendix-3, for full detail in each WC item).

4.1.1.8. Forecasted Free Cash Flow

As all the necessary variables were calculated. It is now possible to estimate the FCFF, through the FOM-5 described during the literature review.

TAB-14: FCFF (in \$ and millions)

	2025E	2026E	2027E	2028E	2029E	2030E
Total Revenue	28,794	30,486	32,291	33,633	35,040	36,506
Operating Expenses	15,397	16,161	16,948	17,492	18,162	18,859
EBIT	13,397	14,325	15,343	16,141	16,878	17,647
(-) Taxes	3,004	3,215	3,447	3,629	3,797	3,973
Applied Tax Rate	22.80%	22.80%	22.80%	22.80%	22.80%	22.80%
(-) Changes in Net WC	-49	-50	-52	-42	-53	-55
(-) CAPEX	3,462	3,665	3,882	3,926	3,950	4,061
(+) D&A	2,492	2,725	2,947	3,175	3,421	3,671
FCFF	9,473	10,220	11,012	11,802	12,604	13,340

Source: Author

4.1.2. Discount Rate

The first step in this DCF model was concluded, the second step involves estimating the WACC. To determine this rate, four components were discovered, market value of equity, cost of equity, market value of debt and cost of debt. Note that there is a fifth element, the tax rate, which has already been estimated in chapter 4.1.2.2.

4.1.2.1. Market Value of Equity and Cost of Equity

To determine the market value of equity, the value of the market cap was retrieved, from Thomson Reuters Eikon for the day of valuation: 01/10/2024 The market cap stood at \$217,900 million, and there were 717 million shares outstanding.

The cost of equity derived, using the CAPM , amounts to 7.95%.

To estimate this value, FOM-16 was used, and four variables were computed: the risk-free rate, the equity risk premium, the country risk premium and a beta.

As mentioned in chapter 2.2.3.1.1., no investment is completely risk-free, so a proxy must be chosen. In this case, the U.S. 10-year Treasury Note was used due to its alignment with the company's currency, it's very low risk of default, and its high liquidity. On October 1st, 2024, the mentioned bond yield was 3.969%.

The ERP for the American market, at the date of the valuation was 4.60%¹⁷. For multinational companies like McDonald's, it's important to consider the Country Risk Premium of the various markets where they operate. Since McDonald's doesn't report the exact EBITDA contributions by country, the CRP was calculated based on the number of restaurants in each country. This weighted CRP was then multiplied by the percentage of total revenue that each broader market segment (U.S., International Operated Markets, and International Developmental Licensed Markets) contributes to derive an accurate CRP for the company's global operations. The total CRP stood at 0.70%. Note that the CRP is relatively low since the U.S market has a 41.24% revenue and a 32.27% restaurant market share. Appendix 4 outlines the calculations that led to this figure.

Although Goedhart, Koller, and Wessels, (2020) argue that using an industry beta may lead to more accurate results when estimating the cost of equity, this approach was not applied in this valuation. McDonald's operates both as a real estate company and a restaurant business, making industry average betas potentially less reliable and prone to distorting the results. Instead, the 5-year monthly levered beta of the company was obtained from Thomson Reuters Eikon. On the date of the valuation, the beta was 0.7146.

$$ke = 3.97\% + (0.7146 * 4.60\%) + 0.70\%$$

$$ke = 7.95\%$$

FOM-28: McDonald's Cost of Equity

4.1.2.2. Market Value of Debt and Cost of Debt

McDonald's has primarily incurred debt through public and private offerings, as well as bank loans. According to Thomson Reuters Eikon, McDonald's debt structure consists entirely of bonds. Note

that the market value of debt differs from its book value because it reflects the amount investors are willing to pay for the debt at a given moment.

As demonstrate in the figure below, to determine the market value of this type of debt, two steps were taken: 1) multiplying the number of bonds outstanding by the price retrieved on the valuation day and 2) converting the market value of debt issued in foreign currencies to U.S. dollars using the relevant forex rates as of October 1.

TAB-15: Market Value of 2024 Maturing Traded Debt (in millions)

Description	Issued Amount	Currency	Last Price	Market Value	Foreign Currency to \$	Market Value in US
MCD 0.170 04-Oct-2024 MTN	473,092,844	Swiss Franc	99.995	473,069,189	1.1732	554,984,971
MCD 2.375 27-Nov-2024 MTN	556,700,000	Euro	99.812	555,653,404	1.1031	612,941,270

Source: Thomson Reuters Eikon, Author

To calculate the cost of traded debt, the Yield to Maturity (YTM) for each bond issuance was identified. For bonds issued in foreign currencies, an additional step was taken: the spread between the bond's YTM and the YTM of a government bond with the same maturity in that currency was determined. This spread was then added to the YTM treasury bond with the same maturity.

TAB-16: Yield to Maturity of Traded Debt Maturing in 2024

Description	Issued Amount	Currency	YTM	YTM in US
MCD 0.170 04-Oct-2024 MTN	473,092,844	Swiss Franc	0.17%	4.18%
MCD 2.375 27-Nov-2024 MTN	556,700,000	Euro	2.39%	4.07%

Source: Thomson Reuters Eikon, Author

Finally, the weighted average cost of debt was calculated by considering the market value of each bond issuance relative to the total debt value and multiplying that by the respective YTM in U.S. dollars.

TAB-17: Weighted Cost of Traded Debt Maturing in 2024

Description	Issued Amount	Currency	Market Value	Foreign Currency to \$	Market Value in US	% of Total MV	YTM	YTM in US	Weighted Cost of Traded Debt
MCD 0.170 04-Oct-2024 MTN	473,092,844	Swiss Franc	473,069,189	1.1732	554,984,971	1.42%	0.17%	4.18%	0.06%
MCD 2.375 27-Nov-2024 MTN	556,700,000	Euro	555,653,404	1.1031	612,941,270	1.57%	2.39%	4.07%	0.06%

Source: Thomson Reuters Eikon, Author

The above process was conducted for each bond series. The total market value of McDonald's traded debt amounts to \$38,980 million, resulting in an overall cost of traded debt of 4.49%. For detailed calculations, please refer to Appendix 5.

Although McDonald's has no credit debt, it holds a significant portfolio of real estate through ground leases, where the land is leased, and McDonald's typically owns the building. These leases must be treated as debt. To determine the market value of these leases, the amounts were discounted using a cost of debt of 5.77%, calculated from the 20-year U.S. Treasury yield (4.30%) plus a default spread of 1.47%¹⁸ based on the company's BBB+/Baa1 credit rating. The total market value of non-traded debt is \$10,286 million.

TAB-18: Market Value of Non-Traded Debt (in millions)

	2025	2026	2027	2028	Thereafter
Year	1	2	3	4	13
Operational Lease	1,094	1,046	1,018	981	12,132
DF	0.95	0.89	0.85	0.80	0.48
PV	1,034	935	860	784	5,851

	2025	2026	2027	2028	Thereafter
Year	1	2	3	4	24
Financial Lease	79	80	81	81	2,083
DF	0.95	0.89	0.85	0.80	0.26
PV	75	72	68	65	542

Market Value of non traded debt	10,286
--	---------------

Source: 2023 McDonald's Annual Report, Author

Finally, the weights of traded debt (79.1%) and non-traded debt (20.9%) were applied to calculate the overall cost of debt, resulting in a final cost of 4.76%.

$$kd = 79.1\% * (4.49\%) + 20.9\% * (1.47\% + 4.30\%)$$

$$kd = 4.76\%$$

FOM-29: McDonald's Cost of Debt

4.1.2.3. WACC

Now that the market value of debt and equity is known, these can be weighted to determine the WACC.

The weight of debt stands at 18.44%, while the weight of equity is 81.56%. The resulting WACC is 7.16%.

$$WACC = 18.44\% * 4.76\% * (1 - 22.80\%) + 81.56\% * 7.95\%$$

$$WACC = 7.16\%$$

FOM-30: McDonald's WACC

4.1.4. Growth rate

Ideally, the perpetuity growth rate should reflect the nominal GDP growth of the specific economies where McDonald's operates as the upper limit. However, given McDonald's global presence in over 100 countries, the expected global nominal GDP was used as the upper limit instead. Using the IMF database, the world's real GDP growth rate and inflation rate (TAB-6) were reviewed. By combining these figures, the nominal GDP growth rate was determined.

TAB-19: Nominal World GDP Growth

	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Real GDP Growth	3.18%	3.23%	3.16%	3.14%	3.09%	3.08%	3.08%
Inflation Rate	2.91%	2.00%	2.06%	2.10%	2.12%	2.14%	2.14%
Nominal GDP Growth	6.09%	5.23%	5.22%	5.24%	5.21%	5.22%	5.22%

Source: IMF, World Economic Outlook, April 2024, (2024-2029), Author (2030)

The growth rate used was 2.50%. This value was chosen based on the belief that McDonald's will grow at a rate higher than inflation (2.14%) and considering best practices, which suggest that the perpetuity growth rate should remain between 2% and 3%.

4.1.5. Discount FCFF and Terminal Value

The FCFF was discounted to 01/01/2025, by the cost of capital (7.16%) from 2025-2030, resulting in a present value of \$53,363 million. Using the FOM-22 to compute the TV, with a 2.50% as perpetual growth rate in perpetuity and after discounting, the resulting value is \$193,609 million, which represents 78.39% of the EV.

TAB-20: McDonald's DCF Valuation (in \$ and millions)

	2025E	2026E	2027E	2028E	2029E	2030E
Total Revenue	28,794	30,486	32,291	33,633	35,040	36,506
% of change	5.81%	5.88%	5.92%	4.16%	4.18%	4.18%
Operating Expenses	15,397	16,161	16,948	17,492	18,162	18,859
% of change	5.08%	4.96%	4.87%	3.21%	3.83%	3.84%
EBIT	13,397	14,325	15,343	16,141	16,878	17,647
% of change	6.67%	6.93%	7.10%	5.20%	4.57%	4.56%
(-) Taxes	3,004	3,215	3,447	3,629	3,797	3,973
Applied Tax Rate	22.80%	22.80%	22.80%	22.80%	22.80%	22.80%
(-) Changes in Net WC	-49	-50	-52	-42	-53	-55
(-) CAPEX	3,462	3,665	3,882	3,926	3,950	4,061
(+) D&A	2,492	2,725	2,947	3,175	3,421	3,671
FCFF	9,473	10,220	11,012	11,802	12,604	13,340
Discount Factor	0.93	0.87	0.81	0.76	0.71	0.66
Present Value of Cash Flows	8,840	8,900	8,948	8,949	8,918	8,808
Discount Factor						0.66
Terminal value						293,226
Present Value FCFF (2025-2030)						53,363
Present Value of Terminal Value						193,609
Enterprise Value						246,973

Source: Author

4.1.6. From Enterprise value to Equity Value

The value of the business's core operations was discovered, the next crucial step is to derive the value of equity. This involves adjusting the enterprise value (the total value of the company's operations) to reflect the specific interests of the shareholders.

TAB-21: McDonald's Equity Value (in \$ and million) except Shares Outstanding

	1/1/2025
Enterprise Value	246,973
(+) Excess Cash	4,888
(+) Financial Assets	209
(-) Debt	38,980
(-) Leases	10,286
(-) Retirement obligations	418
(-) Financial Liabilities	189
(-) Employee Stock Options	952
Equity Value	201,245
Number of Shares Outstanding	717
Share Price	280.54

Source: Author

In 2023, operating cash was 12.35% of total cash. It was assumed that the same percentage would apply for 2024, dividing the estimated total cash by this percentage, which resulted in \$5,623 million. The estimated operating cash was then deducted from the operational cash estimated in chapter 4.1.2.5., arriving at an excess cash of \$4,888 million. Financial assets result from hedging activities. In chapter 4.1.1.7., they were subtracted to calculate the working capital. In this section, the assets are added back, and the liabilities arising from hedging activities are subtracted. These amounts were assumed to remain the same as at the end of 2023. Retirement obligations were forecast assuming the average percentage of SG&A for 2022 and 2023, 13.8%. Employee stock options are forecast to remain the same by the end of 2024.

The resulting equity value is \$201,245 million, with 717 million shares outstanding as of the valuation date, leading to an estimated target price per share of \$280.54.

4.1.7. Sensitivity Analysis

Intrinsic DCF valuation relies heavily on the assumptions used to develop forecasts. Therefore, it's crucial to analyze the impact of potential deviations from these assumptions to strengthen and refine our conclusions. In this chapter total revenues and operating costs variability were studied with changes of $\pm 2.5\%$. Cost of capital and perpetual growth were also tested to changes of $\pm 0.25\%$.

FIG-16: Sensitivity Analysis

Total Revenue						
Operating Expenses	WACC = 7.16%	-5.00%	-2.50%	0%	2.50%	5.00%
	Growth Rate = 2.50%					
	5.00%	224.67	243.07	261.47	279.87	298.27
	2.50%	234.21	252.61	271.01	289.40	307.80
	0.00%	243.74	262.14	280.54	298.94	317.34
	-2.50%	253.28	271.68	290.08	308.48	326.88
	-5.00%	268.82	281.22	299.62	318.02	336.42

WACC						
Growth Rate		7.66%	7.41%	7.16%	6.91%	6.50%
	2.00%	224.51	238.20	253.22	269.77	288.10
	2.25%	234.99	249.83	266.18	284.29	304.46
	2.50%	246.49	262.65	280.54	300.47	322.79
	2.75%	259.16	276.84	296.53	318.58	343.46
	3.00%	273.19	292.64	314.43	339.01	366.95

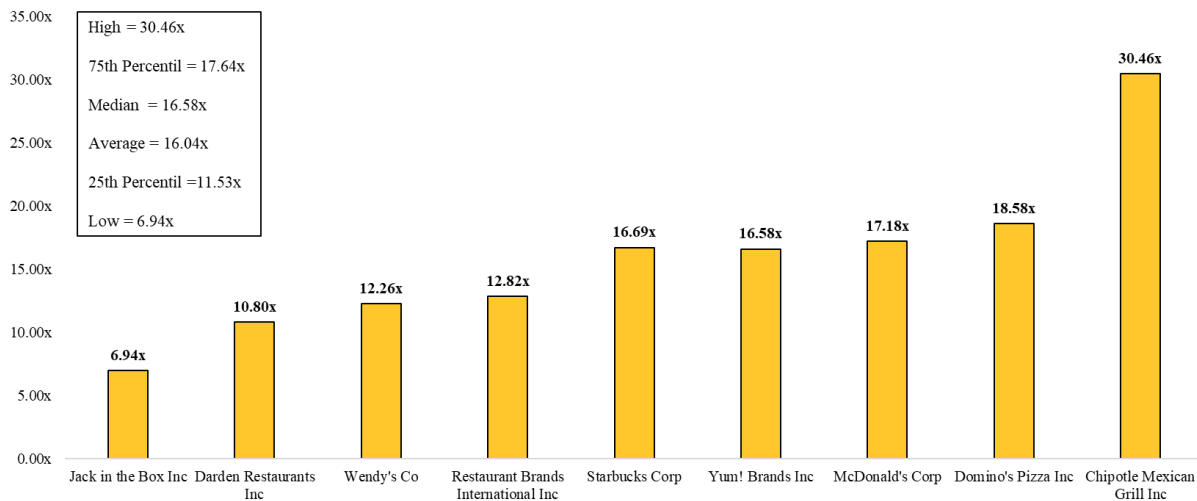
Source: Author

4.2. McDonald's Relative Valuation

A forward-looking multiples-based valuation approach was conducted. Since the previous chapters focused on enterprise value, this section utilizes the EV/EBITDA multiple. The first step in the process was to establish a peer group.

The peer group was initially created by identifying the main publicly traded companies aligned with McDonald's industry, geographic focus, and target customer base. From this, a preliminary list of peer companies was compiled.

FIG-17: McDonald's Peer Group



Source: Thomson Reuters Eikon

Each company in the group operates QSR sector, ensuring industry consistency. Additionally, the selected companies offer similar products, particularly focusing on burgers, fries, and beverages. They also share a comparable global footprint and brand presence, mirroring McDonald's extensive market reach and customer appeal.

However, it was crucial to identify the most comparable companies. To achieve this, a detailed financial analysis was conducted, focusing on two key variables: operating margin and earnings growth. The variability between them was too significant to draw definitive conclusions. For instance, McDonald's operating margin in 2023 was 45.68%, the highest in the group, while the second highest, YUM! Brands Inc. stood at 33.14%, a notable difference. For that reason, it was decided to include all companies in the preliminary peer group created.

The median multiple of the peer group was calculated, yielding a value of 16.58x. Generally, it is considered best practice to use the median rather than the average in relative valuation, as peer group multiples can be skewed (Damodaran, 2012). To support this value Damodaran's EV by sector (US) was consulted. At the time of this valuation the EV/EBITDA multiple for the restaurant industry was 16.60x very much aligned with the median calculated above. The figure was multiplied by the forecast 2025 EBITDA. The resulting EV was estimated at \$263,453 million. As in chapter 4.1.6. same process to derive the EQV was conducted, reaching a value of \$217,726 million, which translates to a price per share of \$303.52.

4.3. Valuation Summary

As previously mentioned, the valuation date was 01/10/2024, on that day, McDonald's shares closed at \$303.76. The DCF valuation resulted in a price per share of \$280.54, which represents a downside potential of -7.64%. The multiples approach amounts to a price of \$303.52. As these two valuation methods yield different outcomes, to reach the price target a weighted average was computed. Although doing this mixes intrinsic and relative valuation, using weighted averages is a common practice in equity research, because it helps analysts balance the strengths and weaknesses of various methods to arrive at a more robust and realistic price target. A 70/30 split was used as it is believed that the intrinsic value better reflects the company potential. The price target, after applying the weighted split, is \$287.43 per share.

5. Comparison to an Investment Bank

An equity research paper developed by UBS was used to compare the valuation results on this thesis.

UBS issued a Buy rating for McDonald's on July 30, 2024. They estimate a price target of \$305 (a 16.7% upside potential) for McDonald's as of July 30, 2025, using a forward EV/EBITDA multiples approach. To compare UBS' price target with the price target in this thesis, a capitalization for an additional 7 months at the McDonald's ke of 7.95% had to be performed, as the valuation date in this analysis is set for January 1, 2025. This adjustment results in a revised price target of \$300.56.

The table below shows the main differences assumptions between the two:

TAB-22: Comparison between UBS equity Research and Dissertation

	UBS	Thesis	UBS	Thesis	UBS	Thesis	UBS	Thesis	UBS	Thesis
	2024E		2025E		2026E		2027E		2028E	
Revenues	26,058	27,212	27,385	28,794	29,137	30,486	31,046	32,291	33,130	33,633
EBIT	12,176	12,559	12,757	13,397	13,669	14,325	14,596	15,343	15,720	16,141
D&A	2,010	2,157	2,000	2,492	2,000	2,725	2,000	2,947	2,000	3,175
EBITDA	14,186	14,716	14,757	15,890	15,669	17,051	16,596	18,290	17,720	19,316

Source: UBS, McDonald's Value in Focus to Improve Pressure Growth, 2024. Author

The key difference lies in the approach to D&A values: UBS maintains a constant D&A figure throughout the forecast period, while this thesis assumes a gradual increase. Additionally, this thesis adopts a more optimistic outlook on McDonald's revenue starting point, but not in overall growth (5.44% CAGR vs UBS 6.19%).

Their \$305 price target was based on an approximately 16.5x NTM EBITDA. One key element of the difference in prices is that at the time of UBS valuation shares outstanding amount to a total of 736 million, as in valuation the amount stands at 717 million.

6. Conclusion

In this thesis, both intrinsic and relative valuation methods were applied to estimate the fair value of McDonald's as of January 1, 2025. The DCF valuation method resulted in a price per share of \$280.54. A sensitivity analysis was conducted to test the robustness of key assumptions, including the cost of capital, perpetual growth, total revenues, and COGS. Additionally, a relative valuation was performed, yielding a price of \$303.52. By applying a 70/30 weighting to the intrinsic and relative valuations, respectively, a target price of \$287.43 was determined.

Compared to the current valuation date, this target price suggests a 5.37% downside potential, leading to a Hold recommendation.

Appendix

Appendix-1: McDonald's Timeline

1948 - The McDonald brothers temporarily close their restaurant for three months for renovations. In December, they reopen with a simplified, self-service drive-in model featuring a nine-item menu: hamburger, cheeseburger, soft drinks, milk, coffee, potato chips, and pie. The standout item is the 15-cent hamburger.

1949 - French fries replace potato chips, and Triple Thick Milkshakes debut on the McDonald's menu.

1954 - Ray Kroc, a Multimixer salesman, visits the McDonald brothers' restaurant in San Bernardino. Impressed by their efficient operation, he learns they're seeking a franchising agent and becomes inspired to turn his future toward the hamburger business.

1955 - The First McDonald's Opens. On April 15, Kroc opens his first McDonald's in Des Plaines, Illinois. The eye-catching red and white building, designed in 1953 by architect Stanley Meston, features the Golden Arches. First-day sales totaled \$366.12.

1956 - Fred Turner is hired as a counter man at the Des Plaines McDonald's. He would go on to define McDonald's standards for quality, service, and cleanliness, eventually becoming Chairman of the company.

1961 - Hamburger University opens in the basement of a McDonald's in Elk Grove Village, Illinois, where graduates earn degrees in Hamburgerology.

1965 - The Filet-O-Fish, created by Cincinnati franchisee Lou Groen to cater to his Catholic customer base, becomes the first nationally added menu item.

1968 - The Big Mac, created by Pittsburgh franchisee Jim Delligatti, is added to the national menu.

1973 - The Quarter Pounder and Quarter Pounder with Cheese join the McDonald's menu.

1974 - The first Ronald McDonald House opens in Philadelphia, inspired by Philadelphia Eagles player Fred Hill's need for a family support facility when his child was treated for leukemia.

1975 - The Egg McMuffin, created by Herb Peterson in Santa Barbara, California, is introduced to the national menu.

1983 - Chicken McNuggets debut in U.S. McDonald's locations.

1984 - McDonald's founder Ray Kroc dies on January 14.

1990 - On January 31, the first McDonald's in Moscow opens on Pushkin Square, serving more than 30,000 customers on its first day.

1993 - The world's first McCafé opens in Melbourne, Australia.

1995 - McFlurry desserts, invented by Canadian operator Ron McLellan, are introduced in McDonald's Canada.

2002 - McDonald's releases its first Social Responsibility Report on April 15.

2003 - McDonald's launches its first global ad campaign, "I'm Lovin' It," on September 2 in Munich, Germany.

2015 - McDonald's USA introduces All Day Breakfast.

2017 - Global McDelivery Day on July 26 marks the launch of McDelivery in partnership with UberEATS.

2020 - McDonald's opens its first net zero-designed restaurant at Walt Disney World Resort, producing enough renewable energy to cover 100% of its annual energy needs.

2023 – McDonald's opens its first CosMc's, a new small-format, beverage-led concept, in Illinois.

Appendix-2: Restaurant count by market and by country, 2023

U.S.		IOM	IDL									
U.S.	13,457	Australia 1,049	Brunei 5	Finland 75	Chile 97	Suriname 2	Turkey 255					
		Austria 199	India 581	Georgia 23	Colombia 76	Trinidad 4	UAE 203					
		Belgium 111	Indonesia 312	Greece 32	Costa Rica 73	Uruguay 33						
		Canada 1,466	Malaysia 371	Hungary 111	Curacao 5	Venezuela 83						
		Czech Republic 119	Phillippines 740	Israel 226	Dominican Republic 23	Virgin Islands 5						
		France 1,560	Singapore 151	Latvia 14	Ecuador 33	Bahrain 33						
		Germany 1,385	Taiwan 409	Lithuania 17	El Salvador 22	Cyprus 24						
		Irelan 95	Thailand 230	Malta 9	French Guiana 3	Egypt 189						
		Italy 709	Vietnam 33	Moldova 9	Guadeloupe 9	Jordan 46						
		Luxembourg 12	South Korea 399	Morocco 70	Guatemala 110	Kuwait 87						
		Netherlands 263	Macau 39	Norway 79	Honduras 10	Lebanon 23						
		New Zealand 170	Hong Kong 254	Romania 102	Martinique 10	Mauritus 16						
		Poland 546	Mainland China 5,903	Serbia 33	Mexico 369	Oman 34						
		Portugal 199	Japan 2,982	Slovenia 23	Nicaragua 8	Pakistan 78						
		Slovakia 43	Azerbaijan 22	Sweden 196	Panama 81	Qatar 75						
		Spain 605	Bulgaria 42	Argentina 223	Paraguay 24	Reunion Island 16						
		Switzerland 179	Croatia 46	Aruba 3	Peru 29	Saudi Arabia 412						
		UK 1,436	Denmark 107	Bahamas 3	Puerto Rico 95	South Africa 377						
		Ukraine 117	Estonia 11	Brazil 1,130	St. Matrten 3	Sri Lanka 12						
Total 13,457		Total 10,263		Total 18,102								

Appendix-3: Changes in Net WC

	2025E	2026E	2027E	2028E	2029E	2030E
Operating current assets						
Cash	735	760	786	802	818	835
Operating cash per day per operated restaurant	880	880	880	880	880	880
Accounts and notes receivables	2,719	2,878	3,049	3,175	3,308	3,447
DSO	34	34	34	34	34	34
Inventories	63	67	70	73	76	80
DIO	7	7	7	7	7	7
Prepaid expenses	907	961	1,018	1,060	1,104	1,150
As % of total revenue	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Operating non current assets						
Net deferred tax	3,509	3,752	4,019	4,228	4,421	4,622
As % of total EBITDA	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%
Operated current liabilities						
Accounts payable	1,251	1,320	1,393	1,452	1,513	1,576
DPO	132	132	132	132	132	132
Income taxes	569	602	638	665	692	721
As % of total revenue	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Other taxes	310	328	347	362	377	393
As % of total revenue	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
Accrued payroll and other liabilities	1,540	1,631	1,727	1,799	1,874	1,953
As % of total revenue	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
Operated non current liabilities						
Income taxes	697	738	782	814	848	884
As % of total revenue	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
Deferred revenues	917	971	1,028	1,071	1,116	1,162
As % of total revenue	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Other long term liabilities	1,073	1,136	1,203	1,253	1,305	1,360
As % of total revenue	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Net deferred taxes	2,395	2,561	2,742	2,885	3,017	3,154
As % EBITDA	17.9%	17.9%	17.9%	17.9%	17.9%	17.9%
WC	-817	-867	-919	-961	-1,014	-1,069
Change in WC	-49	-50	-52	-42	-53	-55

Appendix-4: McDonald's CRP Calculation

Weighted CRP by number of Restaurants													
U.S.	CRP	IOM	CRP	IDL	CRP	CRP	CRP	CRP	CRP	CRP	CRP	CRP	
U.S.	0.00%	Australia	0.00%	Brunei	0.88%	Finland	0.58%	Chile	1.24%	Suriname	14.63%	Turkey	9.51%
		Austria	0.58%	India	3.21%	Georgia	4.40%	Colombia	2.78%	Trinidad	4.40%	UAE	0.72%
		Belgium	0.88%	Indonesia	2.78%	Greece	3.66%	Costa Rica	6.58%	Uruguay	5.26%		
		Canada	0.00%	Malaysia	1.75%	Hungary	2.78%	Curacao	2.78%	Venezuela	23.49%		
		Czech Republic	0.88%	Phillippines	2.78%	Israel	1.03%	Dominican Republic	5.26%	Virgin Islands	0.00%		
		France	0.72%	Singapore	0.00%	Latvia	1.75%	Ecuador	14.63%	Bahrain	8.04%		
		Germany	0.00%	Taiwan	0.88%	Lithuania	1.24%	El Salvador	19.23%	Cyprus	2.78%		
		Irelan	0.88%	Thailand	2.34%	Malta	1.24%	French Guiana	10.36%	Egypt	10.97%		
		Italy	3.21%	Vietnam	4.40%	Moldova	9.51%	Guadeloupe	0.00%	Jordan	6.58%		
		Luxembourg	0.00%	South Korea	0.72%	Morocco	3.66%	Guatemala	3.66%	Kuwait	1.03%		
		Netherlands	0.00%	Macau	0.88%	Norway	0.00%	Honduras	6.58%	Lebanon	23.49%		
		New Zealand	0.00%	Hong Kong	0.88%	Romania	3.21%	Martinique	0.00%	Mauritus	3.21%		
		Poland	1.24%	Mainland China	1.03%	Serbia	4.40%	Mexico	2.78%	Oman	3.66%		
		Portugal	1.74%	Japan	1.03%	Slovenia	1.75%	Nicaragua	9.51%	Pakistan	14.63%		
		Slovakia	1.24%	Azerbaijan	3.66%	Sweden	0.00%	Panama	2.78%	Qatar	0.88%		\
		Spain	2.34%	Bulgaria	2.34%	Argentina	17.15%	Paraguay	3.66%	Reunion Island	6.28%		
		Switzerland	0.00%	Croatia	2.78%	Aruba	2.78%	Peru	2.34%	Saudi Arabia	1.03%		
		UK	0.88%	Denmark	0.00%	Bahamas	6.58%	Puero Rico	0.00%	South Africa	4.40%		
		Ukraine	17.55%	Estonia	1.03%	Brazil	4.40%	St. Matriten	4.40%	Sri Lanka	17.55%		
Weighted CRP 0.00%		Weighted CRP 0.94%		Weighted CRP 2.37%									

Weighted CRP		Revenue Share	Weighted CRP by number of restaurants and total revenue share
IOM	0.94%	48.66%	0.46%
IDL	2.37%	10.10%	0.24%

U.S. ERP = 4.60%

McDonald's CRP = 0.46% + 0.24% <=> 0.70%

Appendix-5: Market Value and Cost of Non-Traded Debt

Description	Issued Amount	Currency	Last Price	Market Value	Foreign Currency to \$	Market Value in US	% of Total MV	YTM	YTM in US	Weighted Cost of Traded Debt
MCD 0.170 04-Oct-2024 MTN	473,092,844	Swiss Franc	99.995	473,069,189	1.1732	554,984,971	1.42%	0.17%	4.18%	0.06%
MCD 2.375 27-Nov-2024 MTN	556,700,000	Euro	99.812	555,653,404	1.1031	612,941,270	1.57%	2.39%	4.07%	0.06%
2024	1,029,792,844			1,028,722,593		1,167,926,241	3.00%			0.12%
MCD 3.125 04-Mar-2025 '25	739,426,205	Canadian Dollar	99.589	736,387,163	0.7383	543,699,914	1.39%	3.19%	3.83%	0.05%
MCD 3.375 26-May-2025 '25 MTN	700,000,000	US Dollar	99.134	693,940,800	1.0000	693,940,800	1.78%	3.48%	3.48%	0.06%
MCD 3.300 01-Jul-2025 '25 MTN	750,000,000	US Dollar	99.054	742,904,250	1.0000	742,904,250	1.91%	3.50%	3.50%	0.07%
MCD 1.450 01-Sep-2025 '25 MTN	500,000,000	US Dollar	97.36	486,800,500	1.0000	486,800,500	1.25%	1.96%	1.96%	0.02%
MCD 2.875 17-Dec-2025 MTN	389,690,000	Euro	99.945	389,475,671	1.1031	429,630,612	1.10%	2.88%	4.48%	0.05%
2025	3,079,116,205			3,049,508,384		2,896,976,076	7.43%			0.26%
MCD 3.700 30-Jan-2026 '26 MTN	1,750,000,000	US Dollar	99.353	1,738,682,750	1.0000	1,738,682,750	4.46%	3.78%	3.78%	0.17%
MCD 0.900 15-Jan-2026 '26 MTN	556,700,000	Euro	96.932	539,620,444	1.1031	595,255,312	1.53%	1.35%	3.07%	0.05%
MCD 3.450 08-Sep-2026 '26 MTN	138,260,000	Australian Dollar	98.37	136,006,362	0.6844	93,082,754	0.24%	3.70%	3.97%	0.01%
2026	2,444,960,000			2,414,309,556		2,427,020,816	6.23%			0.22%
MCD 3.500 01-Mar-2027 '26 MTN	850,000,000	US Dollar	98.729	839,193,100	1.0000	839,193,100	2.15%	3.65%	3.65%	0.08%
MCD 1.875 26-May-2027 MTN	668,040,000	Euro	97.829	653,536,852	1.1031	720,916,501	1.85%	2.08%	3.86%	0.07%
MCD 3.500 01-Jul-2027 '27 MTN	1,000,000,000	US Dollar	98.567	985,670,000	1.0000	985,670,000	2.53%	3.73%	3.73%	0.09%
MCD 3.625 28-Nov-2027 '27 MTN	612,370,000	Euro	102.528	627,850,714	1.1031	692,582,122	1.78%	2.95%	4.72%	0.08%
2027	3,130,410,000			3,106,259,665		3,238,361,723	8.31%			0.33%
MCD 6.375 08-Jan-2028	150,000,000	US Dollar	105.521	158,281,650	1.0000	158,281,650	0.41%	5.97%	5.97%	0.02%
MCD 3.800 01-Apr-2028 '28 MTN	1,050,000,000	US Dollar	99.072	1,040,256,000	1.0000	1,040,256,000	2.67%	3.91%	3.91%	0.10%
MCD 1.750 03-May-2028 MTN	835,050,000	Euro	96.573	806,432,837	1.1031	889,576,062	2.28%	2.08%	3.80%	0.09%
MCD 4.800 14-Aug-2028 '28 MTN	600,000,000	US Dollar	102.479	614,876,400	1.0000	614,876,400	1.58%	4.24%	4.24%	0.07%
MCD 0.250 04-Oct-2028 '28 MTN	556,700,000	Euro	90.461	503,596,387	1.1031	555,517,174	1.43%	1.71%	3.44%	0.05%
2028	3,191,750,000			3,123,443,274		3,258,597,286	8.36%			0.33%
MCD 3.800 08-Mar-2029 '28 MTN	276,520,000	Australian Dollar	97.012	268,257,582	0.6844	183,595,489	0.47%	4.17%	4.10%	0.02%
MCD 5.000 17-May-2029 '29 MTN	500,000,000	US Dollar	103.484	517,420,000	1.0000	517,420,000	1.33%	4.21%	4.21%	0.06%
MCD 2.375 31-May-2029 '29 MTN	779,380,000	Euro	97.939	763,316,978	1.1031	842,014,959	2.16%	2.70%	4.43%	0.10%
MCD 2.625 11-Jun-2029 MTN	445,360,000	Euro	99.106	441,378,482	1.1031	486,884,603	1.25%	2.70%	4.43%	0.06%
MCD 2.625 01-Sep-2029 '29 MTN	1,000,000,000	US Dollar	93.639	936,392,000	1.0000	936,392,000	2.40%	3.38%	3.38%	0.08%
MCD 1.500 28-Nov-2029 MTN	556,700,000	Euro	93.548	520,781,716	1.1031	574,474,311	1.47%	2.11%	3.84%	0.06%
2029	3,557,960,000			3,179,289,176		3,357,185,873	8.61%			0.36%
MCD 2.125 01-Mar-2030 '29 MTN	750,000,000	US Dollar	90.062	675,468,000	1.0000	675,468,000	1.73%	3.31%	3.31%	0.06%
MCD 4.000 07-Mar-2030 '30 MTN	556,700,000	Euro	104.814	583,499,538	1.1031	643,658,340	1.65%	3.22%	4.99%	0.08%
MCD 2.850 12-Jun-2030 MTN	87,035,232	Japanese Yen	106.443	92,642,912	0.0068	631,083	0.00%	2.54%	5.78%	0.00%
MCD 3.600 01-Jul-2030 '30 MTN	1,000,000,000	US Dollar	97.107	971,067,000	1.0000	971,067,000	2.49%	3.95%	3.95%	0.10%
2030	2,393,735,232			2,322,677,450		2,290,824,423	5.88%			0.24%
MCD 3.875 20-Feb-2031 '30 MTN	779,380,000	Euro	104.517	814,584,595	1.1031	898,568,266	2.31%	3.16%	4.94%	0.11%
MCD 1.600 15-Mar-2031 '30 MTN	556,700,000	Euro	91.538	509,592,046	1.1031	562,130,986	1.44%	2.42%	4.19%	0.06%
MCD 4.857 21-May-2031 '31	739,426,205	Canadian Dollar	105.42	779,503,105	0.7383	575,533,893	1.48%	3.96%	4.87%	0.07%
2031	2,075,506,205			2,103,679,746		2,036,233,146	5.22%			0.25%
MCD 5.875 23-Apr-2032 MTN	334,250,000	British Pound	107.498	359,312,065	1.3122	471,489,292	1.21%	5.37%	5.19%	0.06%
MCD 4.600 09-Sep-2032 '32 MTN	750,000,000	US Dollar	101.718	762,883,500	1.0000	762,883,500	1.96%	4.38%	4.38%	0.09%
2032	1,084,250,000			1,122,195,565		1,234,372,792	3.17%			0.15%
MCD 4.950 14-Aug-2033 '33 MTN	600,000,000	US Dollar	103.742	622,450,200	1.0000	622,450,200	1.60%	4.48%	4.48%	0.07%
MCD 0.875 04-Oct-2033 '33 MTN	556,700,000	Euro	82.203	457,624,101	1.1031	504,805,146	1.30%	2.62%	4.38%	0.06%
2033	1,156,700,000			1,080,074,301		1,127,255,346	2.89%			0.13%
MCD 2.950 15-Mar-2034 '33 MTN	401,100,000	British Pound	86.017	345,014,187	1.3122	452,727,616	1.10%	4.23%	5.99%	0.07%
MCD 5.200 17-May-2034 '34 MTN	500,000,000	US Dollar	105.662	528,309,500	1.0000	528,309,500	1.36%	4.48%	4.48%	0.08%
MCD 3.000 31-May-2034 '34 MTN	668,040,000	Euro	97.863	653,763,965	1.1031	721,167,052	1.85%	3.22%	4.98%	0.09%
2034	1,569,140,000			1,527,087,672		1,702,204,168	4.37%			0.22%
MCD 4.250 07-Mar-2035 '34 MTN	556,700,000	Euro	107.018	595,769,206	1.1031	657,193,011	1.69%	3.52%	5.28%	0.09%
MCD 4.125 28-Nov-2035 '35 MTN	835,050,000	Euro	105.751	883,073,726	1.1031	974,118,627	2.50%	3.53%	5.29%	0.13%
MCD 4.700 09-Dec-2035 '35 MTN	750,000,000	US Dollar	101.103	758,273,250	1.0000	758,273,250	1.95%	4.61%	4.61%	0.09%
2035	2,141,750,000			2,237,116,182		2,389,584,888	6.13%			0.31%
MCD 6.300 15-Oct-2037 MTN	850,000,000	US Dollar	114.048	969,407,150	1.0000	969,407,150	2.49%	5.35%	5.35%	0.13%
2037	850,000,000			969,407,150		969,407,150	2.49%			0.13%
MCD 6.300 01-Mar-2038 MTN	750,000,000	US Dollar	113.753	853,150,500	1.0000	853,150,500	2.19%	5.37%	5.37%	0.12%
MCD 3.750 31-May-2038 '38 MTN	534,800,000	British Pound	86.751	463,944,348	1.3122	608,787,773	1.56%	4.97%	4.80%	0.07%
2038	1,284,800,000			1,317,094,848		1,461,938,273	3.75%			0.19%
MCD 5.700 01-Feb-2039 MTN	350,000,000	US Dollar	108.209	378,732,200	1.0000	378,732,200	0.97%	5.16%	5.16%	0.05%
2039	350,000,000			378,732,200		378,732,200	0.97%			0.05%
MCD 4.875 15-Jul-2040 MTN	300,000,000	US Dollar	98.609	295,826,700	1.0000	295,826,700	0.76%	4.96%	4.96%	0.04%
2040	300,000,000			295,826,700		295,826,700	0.76%			0.04%
MCD 3.700 15-Feb-2042 MTN	500,000,000	US Dollar	83.936	419,682,000	1.0000	419,682,000	1.08%	4.71%	4.71%	0.05%
2042	500,000,000			419,682,000		419,682,000	1.08%			0.05%
MCD 3.625 01-May-2043 MTN	500,000,000	US Dollar	81.975	409,875,000	1.0000	409,875,000	1.05%	4.77%	4.77%	0.05%
2043	500,000,000			409,875,000		409,875,000	1.05%			0.05%
MCD 4.600 26-May-2045 '44 MTN	600,000,000	US Dollar	93.068	558,409,200	1.0000	558,409,200	1.43%	5.05%	5.05%	0.07%
MCD 4.875 09-Dec-2045 '45 MTN	1,750,000,000	US Dollar	96.904	1,695,814,750	1.0000	1,695,814,750	4.35%	5.08%	5.08%	0.22%
2045	2,350,000,000			2,254,223,950		2,254,223,950	5.78%			0.29%
MCD 4.450 01-Mar-2047 '46 MTN	1,050,000,000	US Dollar	91.266	958,291,950	1.0000	958,291,950	2.46%	5.02%	5.02%	0.12%
2047	1,050,000,000			958,291,950		958,291,950	2.46%			0.12%
MCD 4.450 01-Sep-2048 '48 MTN	750,000,000	US Dollar	90.815	681,113,250	1.0000	681,113,250	1.75%	5.05%	5.05%	0.09%
2048	750,000,000			681,113,250		681,113,250	1.75%			0.09%
MCD 3.625 01-Sep-2049 '49 MTN	1,750,000,000	US Dollar	78.556	1,374,733,500	1.0000	1,374,733,500	3.53%	5.02%	5.02%	0.18%
2049	1,750,000,000			1,374,733,500		1,374,733,500	3.53%			0.18%
MCD 4.200 01-Apr-2050 '49 MTN	750,000,000	US Dollar	86.202	646,518,000	1.0000	646,518,000	1.66%	5.11%	5.11%	0.08%
2050	750,000,000			646,518,000		646,518,000	1.66%			0.08%
MCD 5.150 09-Sep-2052 '52 MTN	750,000,000	US Dollar	99.743	748,071,750	1.0000	748,071,750	1.92%	5.17%	5.17%	0.10%
2052	750,000,000			748,071,750		748,071,750	1.92%			0.10%
MCD 5.450 14-Aug-2053 '53 MTN	800,000,000	US Dollar	103.985	831,876,000	1.0000	831,876,000	2.13%	5.19%	5.19%	0.11%
2053	800,000,000			831,876,000		831,876,000	2.13%			0.11%
MCD 4.125 11-Jun-2054 MTN	401,100,000	British Pound	80.333	322,215,663	1.3122	422,811,393	1.08%	5.32%	7.08%	0.08%
2054	401,100,000			322,215,663		422,811,393	1.08%			0.08%
Total				37,902,016,524		38,979,553,894	100.00%			4.49%

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