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Equity Valuation: Target Corporation

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Abstract

This dissertation has as its main objective the valuation of Target Corporation, being its major output the resulting intrinsic value of the company's stock. To unveil the most appropriate methods to follow and apply in order to obtain this output, a review of the main articles and literature of some of the greatest minds in the finance field was firstly performed. Even though many models were studied and reviewed, only some of them were chosen to execute the valuation, due to its greatest practical applications in *"real-life"* examples.

Resultingly, the first and main method used was the Discounted Cash Flow, which is one if not the most known model to perform valuations. By performing the forecast of the company's financial statements, it was possible to consequently forecast the free cash flows to the firm, and then achieve the Equity Value. Finally, the fair price of Target's stock deemed by this model was of $259.83 per share. The second model applied was the Relative Valuation Model. By performing this valuation using P/E, EV/EBITDA, and EV/Sales multiples, intrinsic values of $220.62, $307.28, and $286.09 per share were achieved.

The overall conclusion yielded by both these models is that Target's stock is undervalued, being its intrinsic value greater than its market price. However, the report provided by Morningstar found otherwise, opinionating that its valuations conclude that the stock is overvalued and fairly priced at 159$ per share, being this different fair price the result of different assumptions and report timings.

Abstrato

A presente dissertação tem como objetivo principal a avaliação da Target Corporation, sendo o seu resultado o valor intrínseco das ações da empresa. Inicialmente, para descobrir os métodos mais apropriados a serem aplicados a fim de obter este valor, uma revisão dos principais artigos e literatura das maiores mentes da área de finanças foi realizada. Embora diversos modelos tenham sido revistos, apenas alguns deles foram escolhidos para fazer a avaliação, devido às suas maiores aplicações práticas em exemplos da "vida real".

Consequentemente, o primeiro e principal método utilizado foi o *Discounted Cash Flow*, que é um dos, senão mesmo o modelo mais conhecido para realizar avaliações. Ao realizar a previsão das demonstrações financeiras da empresa, foi possível prever os *Free Cash Flows* para a empresa e, atingir o *Enterprise Value*. Finalmente, o preço justo das ações da Target considerado por este modelo foi de US $259.83. O segundo modelo de avaliação aplicado foi o de *Relative Valuation*. Ao realizar esta avaliação usando múltiplos como P/E, EV/EBITDA e EV/Sales, foram obtidos valores intrínsecos de $220.62, $307.28, and $286.09 por ação.

A conclusão geral produzida por ambos os modelos é que as ações da Target estão subvalorizadas, sendo o seu valor intrínseco maior do que o preço de mercado. No entanto, o relatório fornecido pela Morningstar concluiu o contrário, opinando que a ação está sobrevalorizada e com um preço justo de 159$ por ação, sendo este preço diferente o resultado de diferentes suposições e horizontes temporais.

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On what was possibly the last stage of my academic career, this dissertation puts an iconic stop this student lifestyle, at least for the foreseeable future, welcoming warmly the upcoming opportunities as an employed worker.

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Introduction

The process of valuing the distinguished American retailer Target Corporation's equity is a lengthy and complex procedure. Target is one of the biggest actors in the so competitive retailing industry. Other major players that also are part of this business sector are giant companies such as Amazon or Walmart.

The overall objective of this dissertation is to reach the intrinsic value of Target's stock, to understand whether the company's shares are either undervalued, correctly priced, or overvalued. Consequently, this conclusion will then yield a recommendation of whether to buy, hold or sell the stock, according to the comparison between the fair value determination and the market price.

To get to this final objective, several different paths can be followed. Therefore, the literature review of the different approaches that can be employed to value the company should aid on deciding which methods are the finest to determine Target's stock intrinsic value.

Thereafter, before practically employing the methods that are deemed as the most appropriate to be used, it is of extreme relevance to get to know the company, the industry and the macroeconomic conditions in which Target will have to operate in. These will be the foundation to the assumptions inputted that will further generate forecasts in the models.

Furthermore, the specific methods will be applied, heavily relying on the assumptions that the previously mentioned knowledge obtained will produce. Additionally, these assumptions will be converted into specific data in the form of forecasts. In turn, it will produce the specific objective of the dissertation, which is the computation of the fair value of Target's stock.

Finally, these findings will be compared to an Investment Banking report provided by Morningstar, allowing to assess the impact of different assumptions in the fair price and recommendations regarding Target's shares.

Literature Review

There are many paths one can take to perform a valuation of a company. In order to reflect and choose the best methods to do so, a literature review on the many models available and their strengths and weaknesses comes in extremely useful.

1. Fair Value vs Market Value

Fair Value and Market Value are terms that are frequently used in Finance. Fair Value or Intrinsic Value is obtained through analytical procedures and will be the final output of this dissertation. When it comes to the Market Value of a stock however, it reflects not only the intrinsic value of the company, but also extrinsic and often extremely volatile market conditions such as the supply and demand for this asset on the stock market at that specific moment. According to Bogdan Cosmin Gomoi et al. (2014), while "the market value comes out implicitly from the voluntarily negotiated transactions in a well determined context", "the fair value involves a choice, having a high degree of subjectivism". Additionally, according to Damodaran (2006), "fair value accounting, at best, will provide a delayed reflection of what happens in the market.".

The fact that the Market Value is not built upon the company's financial situation and statements exclusively may be one of the reasons why the final value derived by this thesis, the Fair Value, may be different than the value at which the stock was traded at the point in time at which the information used in this thesis refers to. In fact, according to Bogdan Cosmin Gomoi et al. (2014), "the accounting information reliability would be much higher by using the market value only if the reporting period was much shorter than a year.". Another one could be that some inputs for the computation of the Fair Value in methods like the Discounted Cash Flow are, as mentioned before, subjective, meaning that these procedures are not an exact path to follow, and some discrepancies may arise along the process.

2. Discounted Cash Flow Model

As an attempt to understand how much an asset (such as a stock, for example) is worth at the moment, it is necessary to obtain a present value of all future Cash Flows of a firm, and, as a result, the Discounted Cash Flow (DCF) Model presents itself as the approach who gets the most play in academia and comes with the best theoretical credentials (Damodaran, 2006) in Finance to perform these valuations.

Firstly, the inputs needed to compute this value are: the expected Cash-Flows of the firm, and the discount and growth rates for those corresponding periods of time. The discount rate that is normally used is the Weighted Average Cost of Capital (WACC), which will be further developed in this section.

According to Damodaran (2006), to obtain the value of an asset, "the present value of the expected cashflows on the asset, discounted back at a rate that reflects the riskiness of these cashflows" must be computed.

Thus, the formula presented below is derived through the DCF model. It corresponds to an annuity, where the CF_t (expected future cash flows of the firm) are discounted at r (the appropriate discount rate), according to the t (number of periods of time).

$$PV = \sum_{t=1}^{t=\infty} \frac{CF_t}{(1+r)^t}$$

However, it is also relevant to denote that if the CFs reach a perpetual and stable state of growth, the Terminal Value should be computed, through a perpetuity, assuming the growth rate to be constant from that point in time onwards.

$$PV = \frac{\frac{CF_N}{r-g}}{(1+r)^{N-1}}$$

Nevertheless, the DCF model has its limitations. Firstly, it is heavily reliant on its diverse and complex assumptions, and consequently, so is the quality of its output. It is very toughly fully accurate, as one can never predict the future surely, namely in the specificity required to estimate this data correctly. The only certain data is historical, which can only be used to provide forecasts for the future and will not be exercised directly in this model. Moreover, oftentimes the Terminal Value, which is even more complicated to estimate, represents a large weight in the determination of the DCF value, resulting on increased uncertainty on the output of this method.

3. Equity Valuation

Equity Value is the portion of the Firm Value that is accrued solely to the shareholders. When added to the value of Debt of the firm, it results on the Firm Value. In other words, it is the part of the Firm Value that belongs to the shareholders.

According to Damodaran (2006), the Free Cash Flow to Equity is only perceived when net of debt payments and reinvestment needs for prospective growth.

$$FCFE = Net\ Income + Depreciation - Capital\ Expenditures - \Delta\ non\text{-}cash\ Working\ Capital - (New\ Debt\ Issued - Debt\ repayments)$$

Additionally, there is a specific discount rate to consider the specific Free Cash Flows to Equity, which is K_E, the Cost of Equity, which can be found through the Capital Asset Pricing Model (CAPM). However, this method will be further mentioned ahead in the dissertation. Alternatively, according to Farrell (1985), it is also computed through the simplified version of his Dividend Capitalization Model:

$$k_E = \frac{DPS_{t+1}}{P} + g$$

Where D_{t+1} is t+1's forecasted dividend per share, P the stock's price and g the perpetual dividend growth rate.

Finally, the Equity Value will be obtained by discounting each FCFE by the Cost of Equity, as shown below:

$$EV = \sum_{t=1}^{t=\infty} \frac{FCFE_t}{(1 + K_E)^t}$$

Damodaran (2006) also found that, in the case that the growth rate included in the model is smaller or equal than the economy's growth rate and that the firm is at a stable and steady growth rate perpetually, then its Equity Value can be computed using the following perpetuity, given by the constant growth FCFE model:

$$EV = \frac{FCFE_{t+1}}{(K_E - g)}$$

Nevertheless, the market value of equity can also be obtained through a simpler and more direct way:

$$EV = Price\ per\ Share \times Number\ of\ Shares\ Outstanding$$

4. Dividend Discount Model

According to Damodaran (2006), there can be two sources of income for stockholders from holding a specific stock: dividends that the company chooses to distribute, and the price variation since the moment an investor buys a stock until the moment he sells it.

Firstly, in order to calculate the main input to this model, which is the Dividends per Share, Farrell (1985) determined the following formula:

$$DPS_{t+1} = Earnings_{t+1} \times Payout\ Ratio$$

According to Farrell (1985), if all stockholders' expected cash flows regarding the ownership of their stock, discounted at each appropriate discount rate, which, in this case, would be the Cost of Equity, would be summed, then this would equal the present value of that same stock.

$$PV = \sum_{t=1}^{t=\infty} \frac{E(DPS_t)}{(1+K_E)^t}$$

The assumptions here are that the stockholders can expect to receive cash flows in form of dividends and not from the price difference, meaning that the investors are keeping the stock forever in their portfolio, and that it is plausible to assume that all Dividends can be forecasted individual and perpetually.

Notwithstanding, Gordon and Shapiro (1956) also discovered that, through the Gordon Growth Model, one could compute the stock value through its perpetuity formula presented below. However, it is worth mentioning that the same assumptions that regarded the perpetuity shown in the previous section apply to this one as well.

$$PV = \frac{DPS_{t+1}}{(K_E - g)}$$

Where D_{t+1} is t+1's forecasted dividend per share, K_E the Cost of Equity and g the perpetual dividend growth rate.

The main setback about the Gordon Growth Model is that, although this model has its utilities as being easy to implement, it is also super sensitive to changes in all its inputs. Firstly, it is farfetched to assume that a firm does not change their Dividend Payout Policy perpetually.

Secondly, if the cost of equity and the growth rates are even slightly incorrectly estimated and inputted, then the model can yield very-far-from-reality results.

Eventually, a mix of these two models called the Two-Stage Dividend Discount Model can be applied to firms who are not at stable growth state just yet, but will be in the near future. However, Damodaran (2006) critics this model in that it is very difficult to predict correctly when this transition between non-stable and stable growth states happens, compromising the quality of this model.

5. Firm Valuation

An alternative way to look at a business is to look at it as a whole, and not just at its equity. By performing a Firm Valuation, one is complementing the equity value with its debt value, which can be as meaningful in determining how much a real firm's worth. Once the Equity Valuation is done, one can compute the Firm Value by deducting the Cash or Cash Equivalents and adding the market value of all outstanding Debt (short- or long-term).

According to Damodaran (2006), when it comes to the Free Cash Flows to the Firm, these are the cash flows originated by the firm's assets, "prior to any debt payments but after any reinvestment the firm has made to create growth assets.", which is reflected by the formula presented below:

$$FCFF = After-tax\ Operating\ Income - (CAPEX - Depreciation) - Change\ in\ non-cash\ Working\ Capital$$

Thereupon, similarly to what has been discussed previously in this Literature Review, the Firm Value can also be achieved in several ways: Annuity, Perpetuity, or even a method that involves both.

Primarily, if the FCFF are forecasted until eternity and each of them is discounted at the Weighted Average Cost of Capital of the firm (WACC), then the Firm Value can be found through the annuity formula presented below.

$$FV = \sum_{t=1}^{t=\infty} \frac{FCFF_t}{(1+WACC)^t}$$

The bonus here comes from the fact that the WACC considers both the cost of Equity, the cost of Debt, and consequently, the benefits of the Tax Shields. However, this will be studied more in depth ahead in this Literature Review.

Additionally, if the assumptions discussed previously (such as in the FCFE model) to undergo the perpetuity can be assumed, then the following perpetuity formula can be used to determine the Firm Value.

$$FV = \frac{FCFF_{t+1}}{(WACC - g)}$$

Where g is the constant growth rate of the firm in the stable state.

6. Adjusted Present Value

The Adjusted Present Value (APV) is the model that, according to Damodaran (2006), starts by valuing the firm as it was solely financed by equity, and then considers "the marginal effects on value, positive and negative, of borrowing money", or, in other words, the benefits or costs of having debt. On the one hand, having debt can aid the firm by creating tax shields, as interest expenses are tax deductible. On the other hand, debt increases the riskiness of a business, meaning that the probability of bankruptcy increases and thus needs to be considered.

This approach has 3 inputs that need to be calculated. It starts by computing the unlevered Value of the company, by discounting the expected Free Cash Flows to the Firm by the unlevered cost of equity.

Secondly, the value of tax shields can be calculated through the formula presented below. However, Damodaran adds that three notes should be addressed regarding the inputs: using the correct tax rate, and making sure that if it changes over time, these variations are appropriately accounted for; using the correct debt to make sure the interest tax shields are computed accordingly, and making sure that if this debt varies, these variations are once again appropriately accounted for; and that the discount rate used (in this case, the cost of debt), is the correct one.

$$PV\ of\ Tax\ Benefits = \sum_{t=1}^{t=\infty} \frac{(Tax\ rate_t)(Interest\ rate_t)(Debt_t)}{(1 + Cost\ of\ Debt)^t}$$

$$= \frac{(Tax\ rate)(Cost\ of\ Debt)(Debt)}{Cost\ of\ Debt} = (Tax\ Rate)(Debt)$$

The last input needed to be computed is the present value of the expected bankruptcy costs. This changes as a function of the probability of bankruptcy and the present value of the bankruptcy costs, as shown below:

$$PV\ (Expected\ Bankruptcy\ Cost) = (Probability\ of\ Bankruptcy)(PV\ of\ Bankruptcy\ Cost)$$

Finally, when all these variables are estimated, then the Firm Value can be computed through the following computation:

$$FV = Value\ of\ business\ with\ 100\%\ equity\ financing + Present\ value\ of\ Expected\ Tax\ Benefits\ of\ Debt - Expected\ Bankruptcy\ Costs$$

7. Economic Value Added

Another method to obtain the Firm Value is using the Economic Value Added (EVA) variant. According to Damodaran (2006), the EVA measures how much surplus each additional investment (or portfolio of investments) brings into the firm, if the firm decides to undertake it. Consequently, it is computed through the following formula:

$$Economic\ Value\ Added = (Return\ on\ Capital\ Invested - Cost\ of\ Capital)\ (Capital\ Invested) = After-tax\ operating\ income - (Cost\ of\ Capital)\ (Capital\ Invested)$$

Notwithstanding, Damodaran (2006) states that the NPV and the EVA are connected, as they "allows us to link the value of a firm to the economic value added by that firm", where "The net present value of the project is the present value of the economic value added by that project over its life", as the formula below lays out.

$$NPV = \sum_{t=1}^{t=n} \frac{EVA_t}{(1+WACC)^t}$$

Resultingly, the computation of the firm value can be found through the following expression and its development, as a function of the firm's value of assets in place and of future projects:

$$FV = Value\ of\ Assets\ in\ Place + Value\ of\ Expected\ Future\ Growth =$$
$$= Capital\ Invested_{Assets\ in\ Place} + NPV_{Assets\ in\ Place}$$
$$+ \sum_{t=1}^{t=\infty} NPV_{Future\ Projects,t}$$

Thus, as a result of a merger of the previous computations, if a firm sums its capital invested in assets in place, its present value of the economic value added by these assets and its expected present value of the economic value that will be added by future investments, the firm will obtain its Firm Value, as demonstrated by the formula below.

$$FV = Capital\ Invested_{Assets\ in\ Place} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,Assets\ in\ Place}}{(1+WACC)^t} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,Future\ Projects}}{(1+WACC)^t}$$

Finally, Damodaran adds that it is incorrect to compute EVA with Book Values. The author states that it is of extreme importance that the capital invested in assets in place and the cost of capital are measured as market values.

8. Relative Valuation

In relative valuation, one decides how much an asset values by looking at how much the market is valuing rather similar assets. This valuation can be different than the one yielded by the Discounted Cash Flow method, if the market prices are not equal to the ones computed with the method, meaning that the market can be over or underpricing those assets. However, if the estimations do not differ that much, it generally can mean that the DCF valuation should be correctly computed, confirming the power and utility of this methodology. As a matter of fact, according to Damodaran (2002), "almost 90% of equity research valuations and 50% of acquisition valuations use some combination of multiples and comparable companies and are thus relative valuations."

Despite this type of valuation seems a bit more simplistic compared to the DCF model, the subjectivity that its inputs require can undermine its efficiency. When performing a correct relative valuation, some relevant concerns arise regarding the choices on how to choose a comparable basis. Actually, this might be the most difficult step in this model.

Firstly, it is often extremely complicated to select a peer group that is coherent and in fact equivalent to the firm of choice. To determine if two firms are similar, one should look at several factors, and see if they match. These factors should be, for example, profitability,

growth rate, D/E ratio, size, and business area/markets, where the first two factors are the most relevant of all in the choice of the peer group.

Furthermore, the election of which multiples to use appears. Three underlying decisions must be taken: historical or forward, market or transaction, and which specific multiple to compare.

When deciding on using historical or forward multiples, it is more correct to use forward multiples, as all valuations are about the future. However, using historical multiples is much more secure, as it gives a sense of certainty due to the data used being already actual and confirmed, leaving no space for error of estimation, or forecasting.

Next up, the decision lies between market or transaction multiples. The greatest strength about the market multiples is their availability of data: whenever needed, they are always available. Nonetheless, transaction multiples can consider some other factors such as premiums. Moreover, if the market is incorrectly pricing some securities, the market multiples may be compromised. On the other hand, transaction multiples are less likely to be so. To correctly use transaction multiples, one has to be careful about how similar the companies involved in the transaction are, how similar the transactions are, and how old the data on the transaction is.

Finally, what is left is to choose which multiple to use. These might be more general or more industry specific. However, the most important thing is that it makes sense to use them as a base of comparison. These can be P/E, the most used, due to its ability to link value and profit, easiness to compute and accessibility of information, or Enterprise Value multiples, such as EV/EBIT or EV/EBITDA, and EV/Sales, which can be extremely useful to perform asset valuation. Therefore, all of the previously mentioned multiples will be used except EV/EBIT, due to their practical applications. Nonetheless, if one wants to find equity values, net debt must be subtracted.

9. Cost of Capital

In order for the Free Cash Flows to be correctly discounted, the appropriate discount rate has to be found. In a firm's business, the Weighted Average Cost of Capital (WACC) is the most appropriate discount rate, as it considers the amount of risk that each component of a firm's business brings into the table.

9.1.Weighted Average Cost of Capital (WACC)

As mentioned before, the Weighted Average Cost of Capital (WACC) expresses the firm's cost of capital, as a function of the risks of their capital components, debt, and equity, as demonstrated by its formula below.

$$WACC = \frac{D}{V} \times k_d \times (1 - t) + \frac{E}{V} \times k_e$$

Where clearly the first part regards the cost of debt, and the second part regards the cost of equity. This discount rate is the most appropriate to discount the Free Cash Flows to the Firm, in order to obtain the present value of the Firm. An important remark in this formula is the relevance of using the effective tax rate as an input, to make sure that the interest tax shields are properly accounted for.

Nonetheless, this model has its limitations. According to Fernandez (2007), it is only correct and appropriate to use the WACC in firms with a stable and constant capital structure. Once this assumption is voided, then the WACC will not only no longer be the proper discount rate, but it will also create discrepancies in the calculation of tax shields. Thus, the greatest drawback of the WACC is its restriction of use to firms with constant capital ratios.

9.2.Cost of Debt

The first part of the formula presented above regards the firm's cost of Debt. This corresponds to the amount that a company pays for their debt, in interests. Similarly, it is the return that lenders require for their loan. Damodaran (2002) states that a firm's cost of debt depends on three variables: the risk-free rate; the default risk of the company, which is expressed by the default spread of the firm; and the tax advantage of debt, as debt is tax deductible, and therefore generates tax shields, and the higher the tax rate, the higher the tax benefits. The formula stated below does not take into account this value of tax benefits just yet, which will only be considered further, when computing the firm's WACC.

$$Cost\ of\ Debt = Risk - free + Company\ Default\ Spread$$

According to Damodaran (2006), however, the more direct way to estimate a firm's cost of debt is through looking at the market price of the bond, its coupon, maturity and most importantly, its credit rating, that the famous credit rating agencies (Standard and Poor's, Moody's, and Fitch) attribute to them. Each of these ratings has a corresponding default spread associated, and that is how one can find out a firm's default risk to input in the formula above.

9.3.Cost of Equity

Lastly, the cost of equity is the rate of return that investors require to invest in a firm. The most common way to compute this rate is through the Capital Asset Pricing Model (CAPM). It is one if not the most famous models in the Finance world, due to its wide applications. It can be used to measure portfolios performances and to estimate firm's cost of capital, to say the least.

$$E(R_A) = r_f + \beta_A(E(R_M) - r_f)$$

As stated by the formula above, the CAPM rewards investors for the time value of their money, given by the risk-free rate (which is generally given by the rate of a 10-year treasury bond), and for the amount of risk premium associated for the exposure to the market. Moreover, this exposure to the market is measured by the Beta, and the market risk premium which, in this case is the difference between the return on the market, and the risk-free rate.

More specifically, the Beta represents the systematic risk of the firm's stock, and the market risk premium, and can be computed through the following formula.

$$\beta = \frac{Cov(R_A, R_m)}{\sigma_m^2}$$

Target Corporation: The Company

Target Corporation is one of the largest retailers in the United States, headquartered in Minneapolis, Minnesota. As a result, its shares are traded in the NYSE and the company is a component of both the S&P100 and S&P500 indices. As of 13th of October 2021, Target operates exclusively in the US, with 46 Distribution Centers and 1 915 stores in all the 50 different states. On a sidenote, there is also an Australian retailer named Target, but it is unrelated to this American company that is being analyzed.

Target operates within distinct types of stores. Besides the regular Target store, which has around 135 thousand square feet, there is also the SuperTarget Hypermarkets (derived from the firstly denominated Target Greatland) which have around 174 000 square feet, and the smaller CityTarget that have an area of around 80 000 square feet and finally the TargetExpress, the smaller Target stores with an area of 14 000 to 21 000 square feet.

Together with many private labels that Target owns, the company also has another source of revenue that yields a significant fraction of their sales, which is through their website, once partnered with Amazon from 2002 to 2009. Launched in 2000, their e-commerce platform *Target.com* grew 145 percent in 2020, most likely boosted by the effects of the global pandemic. Also in 2020, the digital originated sales corresponded to 17.9% of the company's total revenues. This platform has enabled Target to distribute to internationalize in their own way, distributing their products worldwide.

What is more, in ***Table 1*** are represented dates represented the most important marks on Target Corporation's history as a firm:

Table 1 *List of Target Corporation's important historical remarks*

Date	Event
1902	Dayton Dry Goods Company, the company that would then found Target, was founded.
1962	After Dayton making it official in 1961, the first Target store opens doors in the Twin Cities area.
1967	Dayton's company Initial Public Offering.
1969	In Fridley, the first Distribution Center is created. Dayton Corporation merges with Hudson Company.
1975	By 1975, Target has become the biggest revenue income for the Dayton-Hudson Corporation.

1979	Target stores reaches 1$ billion in annual revenues.
1995	The first SuperTarget opens doors in Omaha, Nebraska.
1999	Target.com is launched, Target's first online move.
2000	Dayton-Hudson Corporation changes identity and becomes Target Corporation.
2001	By then, Target had already marked presence in 47 states.
2008	Target opens its first food DC in Lake City. Target opens its first store outside the continental US, in Alaska.
2009	Target opens its first store in Hawaii.
2011	Target announces that it is making its first international move to Canada, by opening their first store there in 2013.
2013	Target announces a major data and security breach
2014	The first TargetExpress store opens in Minneapolis.
2015	Target interrupts its international journey by closing 133 Canada stores just 2 years after entering that market. Target announces a deal with CVS Health to enter the pharmaceutic industry.
2017	Becomes the official partner of Major League Soccer. Target acquires Shipt, to aid with same-day delivery services.
2019	A new leadership takes place

Source: Target Corporate. (2015). *Target History*

1. Segmentation

Table 2 *Target's Sales by Channel*

Sales by Channel	2018	2019	2020	1st Semester 2021
Stores originated	92.9%	91.2%	82.1%	82.3%
Digitally originated	7.1%	8.8%	17.9%	17.7%
Total	100%	100%	100%	100%

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

As for Target's revenues, they can either occur through two channels: their physical stores, or online. ***Table 2*** states the clear evolution (doubling the weight of the total revenue from 2019 to 2020) of the online channel. Notwithstanding, the last two figures for these

weights may well be inflated due to the increase of demand of the online shopping that was caused by the recent global pandemic.

Table 3 *Target's Stores by State as of January 30, 2021*

Rank	State	Stores
1	California	307
2	Texas	153
3	Florida	126
4	Illinois	99
5	New York	87

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Moreover, ***Table 3*** shows that there is a clear abundance of physical stores in certain states such as California, but all-around, excluding these 5 top states, the rest of the Target stores are quite well distributed among the US territory.

Table 4 *Target's Revenues by product line*

Share of Revenues	2018	2019	2020	1st Semester 2021
Apparel and accessories	18%	19%	16%	19%
Beauty and household essentials	26%	27%	26%	27%
Food and beverage	20%	19%	20%	20%
Hardlines	17%	16%	18%	16%
Home furnishings and décor	19%	19%	20%	19%

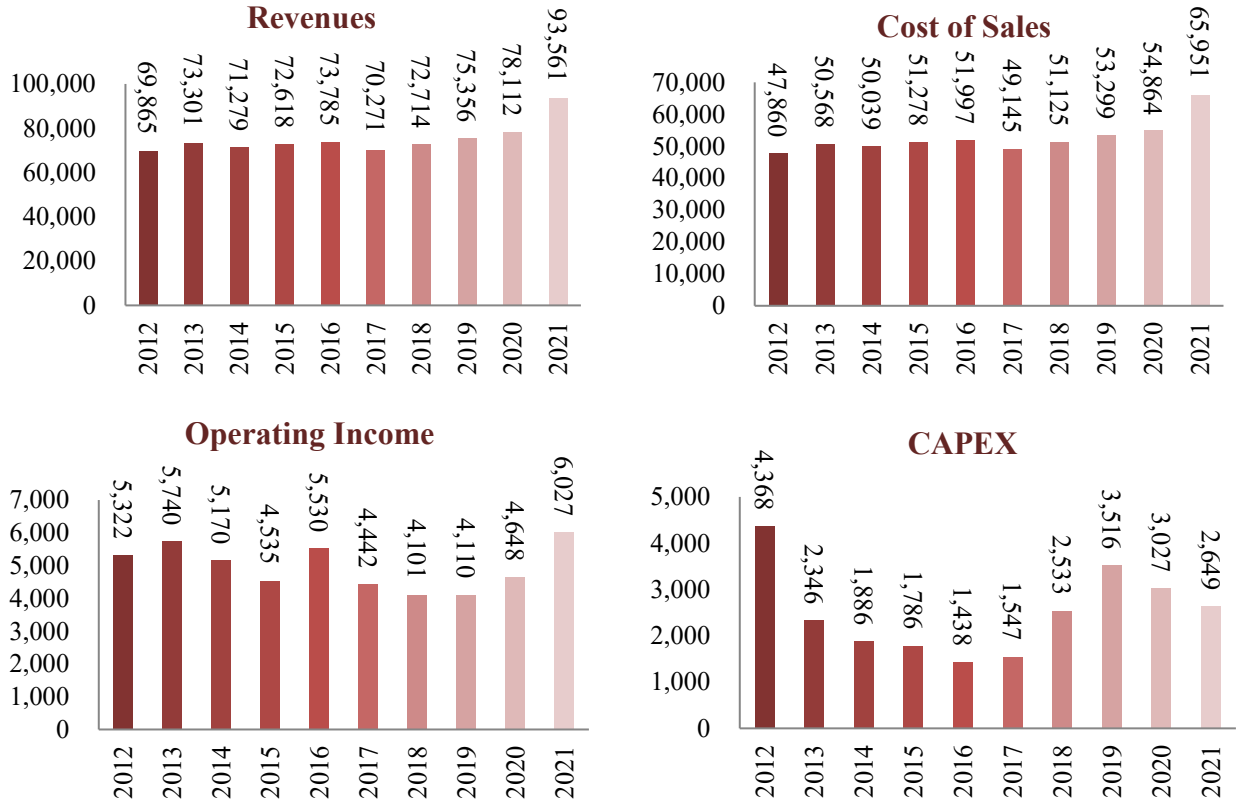
Source: Target Corporation. (2021). *sec filings | Target Corporation*.

In addition, ***Table 4*** illustrates a sense that all product sections produce a quite similar amount of revenues for the company, as the weights are split almost evenly throughout the entirety of the period considered. Nevertheless, it is important to mention that Beauty and Household essentials is the type of products that brings more income into Target.

2. Key Financial Figures

Following, an analysis on the most relevant financial figures (in million US$) for Target such as revenues, cost of revenues, operating income and CAPEX is going to be conducted, as presented in ***Figure 1***.

Figure 1 *Target's Main Financial Figures*



Source: Reuters

First and foremost, when looking at revenues, it is observable that these have been quite constant until 2018, with very similar values. However, ever since then, an increasing trend is clearly taking over, with last year's revenues being clearly above the rest of the years, representing a y/y growth of nearly 20%. As expected, it is also noticeable that cost of revenues should consequently follow the same trend as revenues.

Not so deeply related, the operating income has been varying quite a bit recently, yet it is remarkable that last year was the most profitable when it comes to operating income for Target.

Ultimately, it is also observable that Target has spent a reasonable amount on Capital Expenditures more recently, yet in this case it is harder to build a connection to either of the previously mentioned variables.

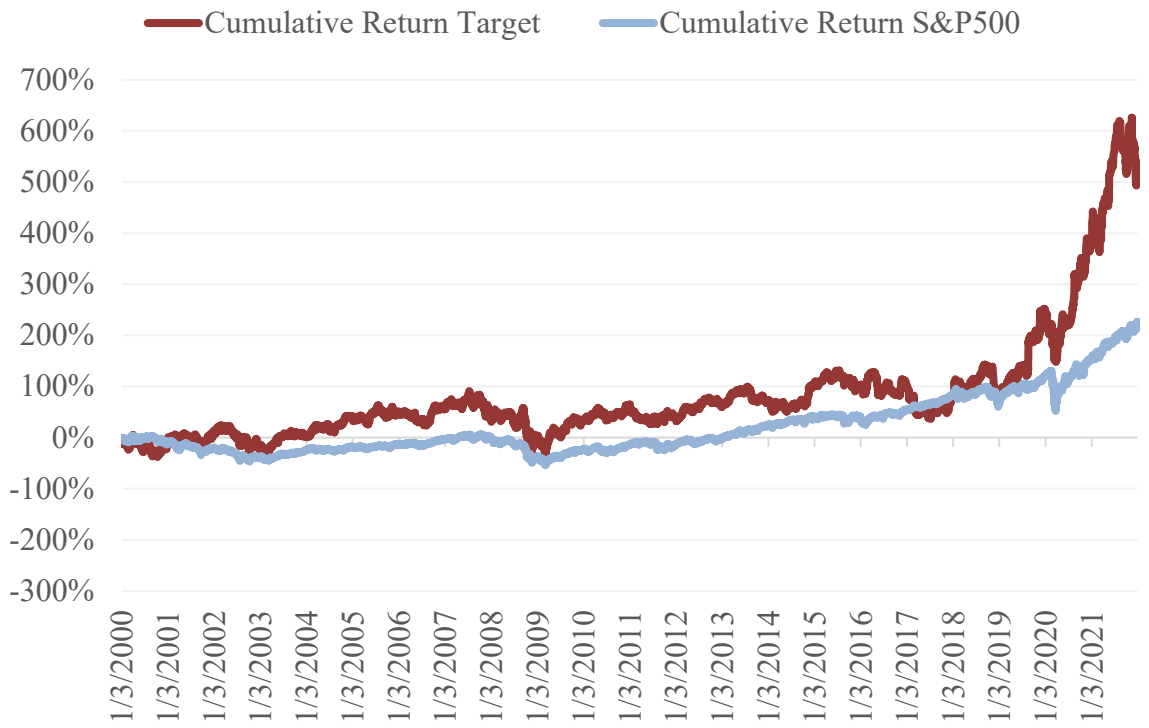
Table 5 *Target's Comparable Sales History*

Comparable Sales		2015	2016	2017	2018	2019	2020	1st Semester 2021
Comparable sales change		2.1%	-0.5%	1.3%	5.0%	3.4%	19.3%	15.3%
Drivers of change in comparable sales	Number of transactions	1.3%	-0.8%	1.6%	5.0%	2.7%	3.7%	14.8%
	Average transaction amount	0.8%	0.3%	-0.3%	0.1%	0.7%	15.0%	0.5%

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Lastly, ***Table 5*** provides additional insight into the company's same-store sales. More generally, it is observable that it each store has been increasing sales on average, which is a very pleasant indication for Target. Moreover, it is important to denote 2020's significant increase on average transaction amounts, which leads to the belief that each customer tried to avoid going shopping as much as possible to decrease their exposition to COVID by buying more items each time they went shopping. Additionally, 2021's first semester number of transactions may show the overturn of this phenomenon, where people are no longer so afraid of the virus, and start to come out more, wishing to return to their normal pre-pandemic life routine. Nonetheless, what is more relevant to observe is that each Target store has been increasing, on average, their yearly sales.

Figure 2 *Target's and S&P500's 21st Century Cumulative Returns*



Source: Reuters and Compustat

Figure 2 illustrates their stock price variation and consequent cumulative returns of both Target's stock and the S&P500 since the beginning of this century until the 31st of December. It is very much noticeable that the stock price has increased much more in the recent past (since 2019, sensitively) than in the rest of the period, even though it registered a considerable drop in the beginning of 2020 due to the release of earnings below expectations and the start of the so impactful global pandemic. Nonetheless, for the majority of this start of the century, the stock has presented higher cumulative returns than the index. It is also noticeable that the stock and the index present quite similar movements, which may justify the stock's Beta being close to 1.

Moreover, this summer the company has presented its highest share price in their history on the 10th of August 2021, registering a share price of $264.07. On the other hand, the company's historical lowest was on the 19th of December 1974, recording a price of just $6.625 per share.

3. Strategic Plan

What is left is to look at how Target plans to move and act from this point onwards. More recently, Target Corporation has released two major statements about their plan for future ventures.

The first was released on March 2nd 2021, just after the 2020's record-breaking results became public, and Target announced their intention to "invest approximately $4 billion annually during the next several years to continue scaling capabilities across its retail platform", and their desire to "accelerate new store openings and store remodels, enhance fulfillment services and strengthen its supply chain as it provides guests with a safe, easy and convenient shopping experience.".

What this means is that Target explicitly says that their Capital Expenditures, after several years lagging behind this amount and going on a decreasing trend, will revert this tendency and be increased to approximately $4 billion annually.

More specifically, when it comes to the enhancement of the fulfilment services and store experiences, this will be invested in the attempt of improving same-day delivery services, the increase of "the total fresh and frozen food pickup assortment" and of the availability of "adult beverage pickup will be offered in 800 more stores". Moreover, Target also mentions that "Technology improvements will also offer Drive Up guests a more personalized experience in the Target app", and that it will "continue to bring brand partnerships to life in stores and online with the opening of approximately 100 Ulta Beauty at Target shop-in-shops in 2021, with plans to add hundreds more over time" and finally, Target plans on "Building on its more than 15-year relationship with Apple", introducing "a new Apple shopping destination online and in 17 stores".

On the other hand, Target also plans to invest part of this $4 billion on New Store Openings and Remodelings, as they state their "plans to accelerate the pace and open 30-40 new stores each year to meet community needs in urban centers, college campuses and dense suburban cities across the country.". Moreover, they add that

''In urban centers such as New York City, Los Angeles and Portland, Target will open more small-format stores to reach new guests. In dense suburban areas surrounding cities such as Denver or Brooklyn, Target has identified sites for new mid-size stores to serve new guests that fill retail gaps. Across college campuses, including the University of Georgia and

University of Michigan, Target will open new small-format stores to introduce its unique shopping experience to new, college-aged guests to form lifelong relationships."

And that Target expects to remodel approximately 200 stores from 2022 onwards.

Finally, Target mentions their aim to improve their logistic and operations by scaling "its stores-as-hubs model" and "testing a new type of facility in Minneapolis called a sortation center and expects to open five more in 2021.", which "increases store fulfillment capacity, reduces last-mile fulfillment costs and speeds delivery to guests.". Target finalized the statement by expressing their desire to "open two distribution centers *(in 2021)*, one in Delaware and one in Chicago", and that "Two more are planned in 2022 to support the east and west coastal areas.".

Source: Target Corporate. (2021). *Target Builds on Momentum, Announces 2021 Strategic Investments*

Industry (characterization and trends, players, and growth)

Target Corporation finds itself within the US' retailing industry. Moreover, as mentioned before, part of its revenue comes from their e-commerce operations. Thus, the e-commerce retailing industry will also be looked over in this section.

According to Statista, Retail Sales in the US in 2020 have amounted to $4.85 trillion, whereas $431 648 million were generated through the e-commerce channels.

1. Major Players

In the industry that Target Corporation is incorporated in, there are many other big players and consequently competitors that the company has to take into account in order to succeed. Among these competitors are companies like Amazon, Alibaba, Walmart, Costco, TJX, Dollar General, Kroger, Best Buy and Macy's, represented in ***Table 6*** below (as of 26th of October 2021).

Table 6 *Target's main competitors in the industry*

Company Name	Market Cap (in Million US$)	Revenue 5 YR Historical Growth (%)	Profit Margin (%)	Debt to Equity (%)
Amazon.com Inc	1,681,570	42.39	6.55	54.63
Alibaba Group Holding Ltd	478,862	73.38	188.88	15.76
Walmart Inc	418,442	4.45	3.09	60.39
Costco Wholesale Corp	216,538	13.40	2.50	48.64
Target Corp	**127,061**	**11.16**	**6.22**	**87.81**
TJX Companies Inc	78,478	4.69	6.79	104.28
Dollar General Corp	51,909	13.90	7.24	62.02
Kroger Co	29,991	3.83	1.96	140.07
Best Buy Co Inc	29,634	7.19	5.06	30.02
Macy's Inc	8,309	-6.59	3.36	191.15
Median	**102,769**	**9.18**	**5.64**	**61.20**

Source: Reuters

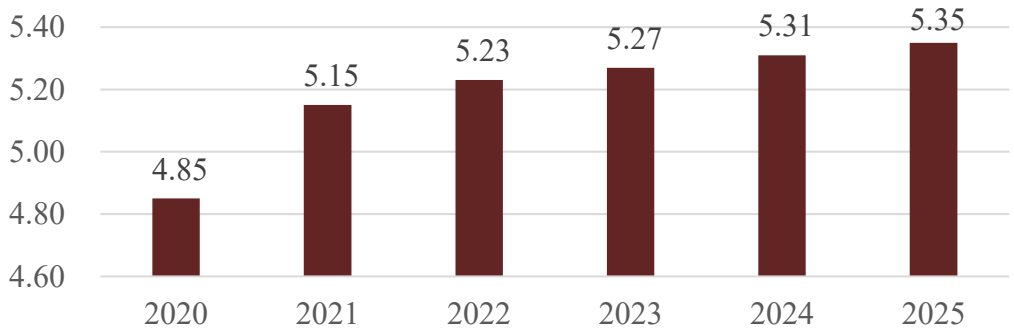
As observable, Target is only the 5th's largest company in this group, although this rank can be biased, as some other companies such as Amazon and Alibaba are also bigger because they operate in other lines of businesses, and not only Retailing.

Additionally, it is also noticeable that when it comes to the growth and profit margin estimates, Target is always above median values for the industry. All in all, it is very much clear that the company has to deal with very strong and well-established companies to succeed. Nonetheless from the data presented above, it seems that, currently, the company is well positioned when considering the whole industry competition.

2. Growth

According to Statista's report, after a year where the industry has suffered from the consequences of the pandemic, and no growth has been registered, the retailing industry in the US should be expected to experience a small and near constant growth in the upcoming future, as expressed by ***Figure 3*** presented below.

Figure 3 *Historical and Forecasted US Retail Sales (in million US$)*

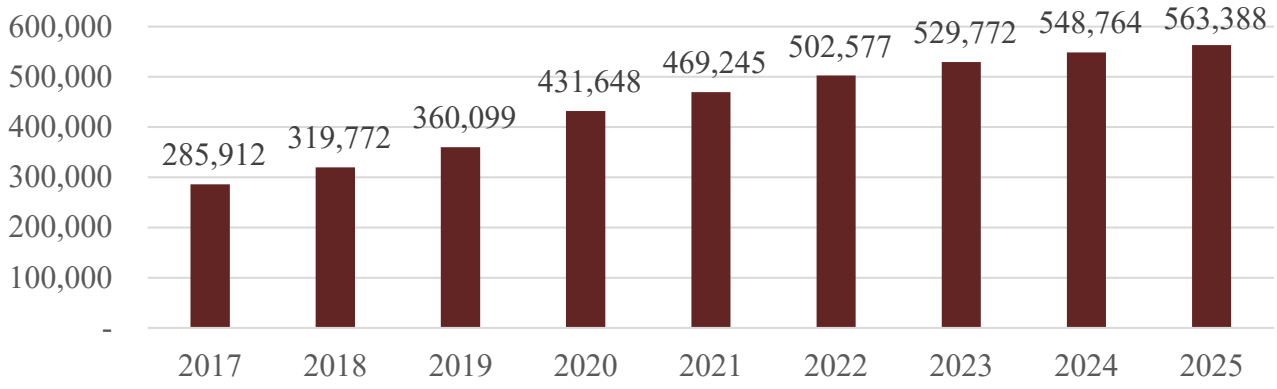


Source: Statista. (2021). *Retail sales in the United States from 2019 to 2025*

These forecasts present a growth from 4.85 to 5.35 trillion in five years, presenting a CAGR of 1.98%.

When it comes to e-commerce fraction of the sector, which benefited a lot from the effects of the pandemic, as online demand for this industry increased significantly as an alternative to in-store physical contact and interactions. ***Figure 4*** represents Statista's forecast for retail e-commerce revenue in the US.

Figure 4 *Historical and Forecasted US E-commerce Retail Sales (in million US$)*



Source: Statista. (2021). *Retail e-commerce revenue in the United States from 2017 to 2025*

As can be seen, the growth in this part of the industry is considerably significant, from 431 648 to 563 388 million in five years, resulting on an impressive 5.47% CAGR.

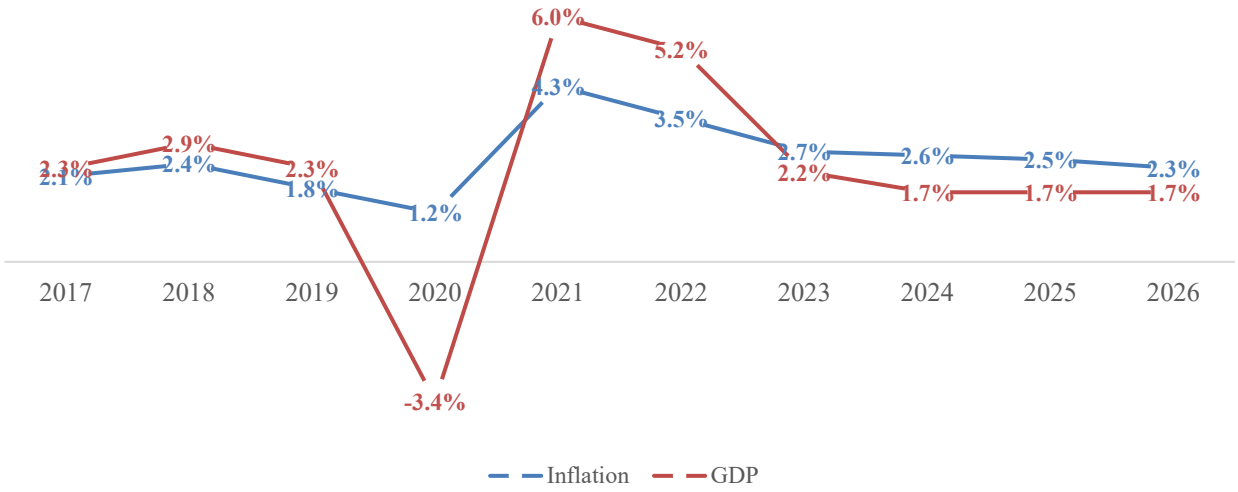
More specifically, the impact of the pandemic can be easily observable in the growth rate registered in the retail e-commerce revenue in the US on Q2'20, exactly when the pandemic first hit. At this time, e-commerce retail sales jumped from being 11.4% (in Q1'20) to 15.7% (in Q2'20) of total retail sales. It is also important to denote that after Q2'20 these levels did not continue this high, but they still remained significantly higher than pre-pandemic levels.

Macroeconomic Framework (Inflation, GDP)

Target Corporation is directly affected by the macroeconomic environment that surrounds its business. These factors can be extremely helpful in aiding a company by giving the best external conditions for a company to thrive and prosper. In this case, what is being analyzed is the macroeconomic situation in the United States, where the company operates, and, consequently, is more dependent on.

Starting by the inflation, the desirable is a median rate: neither too low nor too high. If the level of inflation is too high, this can increase the costs of capital and of sales, and/or decrease the demand for products. According to IMF's projections presented in the figure below, inflation will steady down after registering a considerable increase in 2021, yet keeping a moderate rate in the future, which can be beneficial to the company's operations.

Figure 5 *Historical and Forecasted Inflation and GDP variation*



Sources: IMF. (2021). *United States and the IMF*; IMF. (2021). *World Economic Outlook, October 2021*

When it comes to the Gross Domestic Product, it is also a good measure of a country's economic wellbeing. After the pandemic hit, the United States' GDP registered the first decline since the 2009 subprime crisis. However, IMF expects it to rebound and register its biggest increase since 1984. As for Target, it looks like the country's stable yet still positive perspectives for the GDP growth rate might also help the company grow.

As for exchange rate risk, in Target's case it is not considered as the company makes most of its transactions in the same exchange rate, US dollars.

Discounted Cash Flow Valuation

As discussed previously, the main method utilized to obtain the intrinsic value of the share price, which is the ultimate goal of this dissertation, will be the Discounted Cash Flow model.

1. Explicit Period

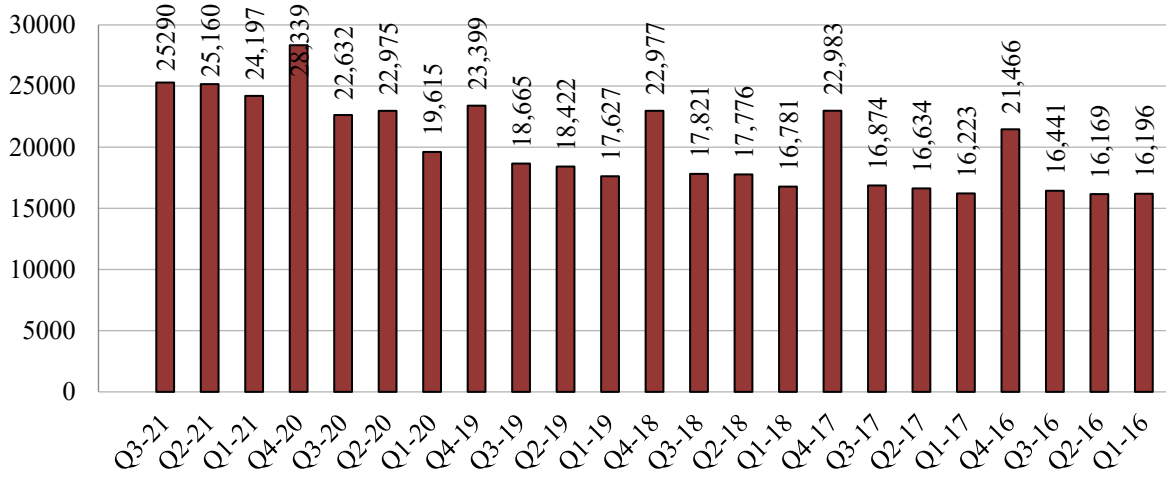
Following Target's Strategic Plan analysis, one can only know their intentions towards the considerably short-term of a 2- or 3-year period. Resultingly, then the company leaves us with no choice than to choose a rather short explicit period. In our case, the chosen time-period to forecast will be 4 years, from the end of 2021 until 2025. Even though it is not simple to forecast the company's results in this time frame, it is even more complicated to do so from that point onwards. Thus, from then on, a perpetually stable growth rate will be assumed to forecast the Free Cash Flows.

2. Revenues

After Target's 2021 third quarter results have been released, then what is left is to estimate what the revenues will be in the upcoming quarter and years.

Target clearly specifies what drives their revenue and what makes it vary from time to time. In 2020's report, Target mentions that "comparable sales growth will drive the majority of our total sales growth". However, this factor does not exclusively explain all variation of sales. Other factors such as the contribution of new stores and the fact that some years have more weeks than others also influence the amount of revenue in a year, where, due to the existence of more weekends in a year, retailers tend to sell more. According to Target, inflation did not play a big role into the sales up until 2018. From then on, that note was, deliberately or not, no longer on the reports, though it is assumed that it does not have an effect on revenues.

Figure 6 *Target's Historical Quarterly Revenues*



Source: Reuters

Additionally, ***Figure 6*** shows revenues by quarter in the last five and three quarter years. There are two trends that are easily identifiable. Firstly, it is clear that the revenues tend to increase as the year goes by: the first quarter is lower than the second, the second is lower than the third, and the third is lower than the fourth, where this trend tends to revert, being that the fourth quarter is more than usually stronger than the following year's first quarter. Then, the most clearly observable trend is the famous fourth quarter effect, where some industries like the retailing industry present better than average sales. The underlying reason behind this event may be due to the holiday season that happens during the fourth quarter, where the demand grows around this time of the year.

Moving on to actual numbers, the forecast picks up on the second quarter results and starts by the estimation of the revenues on the remainder of the ongoing year 2021. The approach applied was an historical one. As the quarter left to be estimated is the fourth, the fourth quarter effect mentioned in the previous paragraph must be properly considered. Taking this into account, and looking at the last five full years, it is observable that the fourth quarter revenues are on average around 32% higher than the average of the other three quarters. However, in order for this value to not be too optimistic, as it would result on revenues much higher than last years', it was adjusted for it to be just about 22% higher than the average of the other three quarters.

Figure 7 *Target's 2021 Forecasted Revenues*

2021 Estimation	Q1-21	Q2-21	Q3-21	Q4-21 (F)	Total
Revenue	24,197	25,160	25,290	30,251	104,898

Source: Reuters

Resultingly, it is clear to see that Target is on their way to consecutive record years. This is not only what is predicted for the upcoming semester but also what evidence about this years' first three quarters have presented, which were exactly this: record-breaking results.

If forecasting sales values solely is already an extremely complicated task to complete, to do so on such level of detail by trying to predict comparable sales' makes it almost impossible to predict these values with some ground of accuracy.

Notwithstanding, the other factors that influence sales are comparatively easier to forecast, such as the opening of new stores, in which their intention to open 30 to 40 new stores yearly is clearly specified in their strategic plan, and the number of weeks in a year. Nonetheless, and neither so conveniently, these factors explain a much smaller amount of the yearly revenue growth. A correlation between the number of weeks and the company's revenues was tested but it turned out to be quite insignificant, so it was then decided that this variable would have no impact on the forecasting of sales. However, on the other hand, the assumption on the number of stores opened and total by year during the explicit period was the following:

Table 7 *Target's Forecasted Store Openings and Total Number of Stores*

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
New Stores (Openings)	22	24	29	31	33	35	37	40
Total Number of Stores	1844	1868	1897	1928	1961	1996	2033	2073

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Looking at Target's recent past performance, and the way their strategic plan is directed to continue to build upon sustainable growth, there are no great reasons not to believe that this expansion rhythm will slow down whatsoever in the near future. However, the alternative to predict the future solely based on historical performance can be extremely incorrect.

Additionally, as stated before when analyzing Target's sales by channel, the digital channel has increased significantly (more than doubled from 2019 to 2020) in the recent past. On top of the difficulty that the normal process of forecasting involves, doing it during a pandemic only makes it more complicated. For example, it is difficult to forecast if the percentage of sales that come from the online channels. More than likely this fraction of sales has been boosted by the shift towards the online ways of shopping, solutions enforced by the social distancing caused by the ongoing pandemic.

As a result of this channel's growth, the company's sales have also been positively affected by this trend. Nevertheless, although it is difficult to know whether this fraction will remain constant or if, after the pandemic, it will decrease to pre-pandemic levels, it is assumed that the percentage of sales that come from online channels will remain constant at 18%, due to the belief that this pandemic shifted the way consumers have been shopping and even though the major impact of the pandemic has passed by, this fraction has remained quite constant.

Table 8 *Target's Historical Contribution to Comparable Sales*

Contribution to comparable Sales	2016	2017	2018	2019	2020
Stores	-1.5%	0.1%	3.2%	1.4%	7.2%
Online	1.0%	1.2%	1.8%	1.9%	12.1%
Total	-0.5%	1.3%	5.0%	3.4%	19.3%

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Thus, the challenge to get a specific and accurate method to forecast Target's sales during the explicit period remains unsolved.

The method that was deemed as the best one to solve this problem was to use a mixture of many of the factors, through the use of a weighted average that considers not only historical performance, but also an outlook on future industry outlooks. Firstly, the percentage change of the company's total number of stores opened (weight of 10%) was accounted for by performing a regression using the last ten years of sales and the number of stores, to predict the impact of the opening the number of forecasted stores. The second variable inputted into the formula was the historical growth of pre-pandemic revenues (weight of 30%, split between 5 years, and

giving bigger weights to more recent years), as this pandemic period has brought unexpected and volatile growth rates, as mentioned by the company in its 10K report. So, when it comes to the historical growth, the growth experienced in 2020 will not impact this variable. Then, forecasts over the retail and e-commerce retail industries (weight of 50%, 41% to the retail industry as a whole and 9% to the e-commerce retail industry) in which Target is identified within were also accounted for. Finally, a more macroeconomic variable, the forecasted GDP growth rate (weight of 10%) was also accounted for.

The reason these two previously mentioned variables were given so much weight into the determination was due to the fact that they come from a reliable source such as Statista, and thus it is believed that the analysts that performed these forecasts are a more trusted source into predicting the overall impact and duration of impact of the COVID-19 pandemic into the industry.

Consequently, the revenues for year t were forecasted through the following formula:

$$
\begin{aligned}
&Revenue\ Growth_t \\
&\quad = 0.3 \\
&\quad \times (0.35 \times Revenue\ Growth_{t-1} + 0.25 \times Revenue\ Growth_{t-2} \\
&\quad + 0.15 \times Revenue\ Growth_{t-3} + 0.1 \times Revenue\ Growth_{t-4} \\
&\quad + 0.05 \times Revenue\ Growth_{t-5}) \\
&\quad + 0.5 \\
&\quad \times (0.82 \times Retail\ Industry\ Growth_{t} \\
&\quad + 0.18 \times E-commerce\ Retail\ Industry\ Growth_{t}) \\
&\quad + 0.1 \times GDP\ Growth_t \\
&\quad + 0.1 \times percentage\ change\ of\ total\ number\ of\ stores_t
\end{aligned}
$$

Following this process, the growth rates for the explicit period given were the following:

Table 9 *Target's Explicit Period Forecasted Revenues*

	2021	2022	2023	2024	2025
Revenue Y/Y Growth Forecast (%)	12.12%	3.04%	2.44%	2.21%	2.04%
Total Revenue Forecast	104,898	108,083	110,715	113,166	115,473

3. Cost of Revenue

Following, one can start to look at the firm's cost structure, more specifically to the cost of revenue. The more reasonable way to look at this value is as a percentage of revenue, as the process of analyzing the historical cost of the raw materials and trying to predict them seems like a rather difficult task to complete. Supporting this belief, if one looks at the historical cost of revenue as a percentage of revenue, it is observable that these fractions did not change significantly in the recent past, as ***Table 10*** shows.

Table 10 *Target's Explicit Period Forecasted Cost of Revenue*

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
Total Revenue	75,356	78,112	93,561	104,898	108,083	110,715	113,166	115,473
Cost of Revenue	53,299	54,864	65,951	73,681	75,918	77,767	79,488	81,109
% of Revenue	70.7%	70.2%	70.5%	70.2%	70.2%	70.2%	70.2%	70.2%
Gross Profit	22,057	23,248	27,610	31,217	32,165	32,948	33,677	34,364
% of Revenue	29.3%	29.8%	29.5%	29.8%	29.8%	29.8%	29.8%	29.8%

Source: Reuters

Therefore, as the figure above also shows, an historical approach of this percentage of revenues were taken to forecast the cost of revenues. For the first forecasted year, this percentage is equal to the last average of the last five years, yet with a small decrease: it is assumed that this percentage is going to decrease 0.1% in the first forecasted year, and then it is going to be maintained this way during the whole explicit period. This reduction of costs is justified by Target's strategic plan expressed intention to reduce costs, and consequently, increase margins.

4. Other operating Costs

Subsequently, considering the same approach used to estimate the cost of revenue, it is possible to estimate all the other operating expenses, with the exception of Depreciation and Amortization, which will be determined later on. This account is the reason for why the other

operating expenses, as a percentage of sales, are not constant throughout the whole explicit period.

Table 11 Target's Explicit Period Forecasted Other Operating Expenses

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
Total Revenue	75,356	78,112	93,561	104,898	108,083	110,715	113,166	115,473
Cost of Revenue	53,299	54,864	65,951	73,681	75,918	77,767	79,488	81,109
% of Revenue	70.7%	70.2%	70.5%	70.2%	70.2%	70.2%	70.2%	70.2%
Gross Profit	22,057	23,248	27,610	31,217	32,165	32,948	33,677	34,364
% of Revenue	29.3%	29.8%	29.5%	29.8%	29.8%	29.8%	29.8%	29.8%
Other Operating Expenses	17,947	18,600	21,583	23,718	25,923	26,716	27,360	27,958
% of Revenue	23.8%	23.8%	23.1%	22.6%	24.0%	24.1%	24.2%	24.2%
EBIT	4,110	4,648	6,027	7,499	6,242	6,232	6,317	6,406
% of Revenue	5.5%	6.0%	6.4%	7.1%	5.8%	5.6%	5.6%	5.5%

Source: Reuters

Consequently, the outlook for the company's recent past and near future is presented in *Table 11* above.

5. Changes in Working Capital

When it comes to the Working Capital, it is fundamentally described as the difference between Current Assets and Current Liabilities of a firm. However, not all Current Assets nor Current Liabilities are accounted for.

More particularly, in Target's case, it is observable through the company's Cash Flow statement that is published often, that the company computes its Working Capital by

monitoring four key operating accounts: Inventory, Other Assets, Accounts Payable, and Accrued Expenses. The firm calculates the Working Capital by subtracting the Inventory and Other Assets to the sum of Accounts Payable and Accrued Expenses.

Accordingly, the basis for the forecast computation of the first account, the Inventory, was done based on the average weight of Inventories over COGS on the last 3 years, and the other three operating accounts were forecasted based on their weight over Revenues on the last 3 years.

Finally, the Change in Working Capital was computed by the simple yearly variation of the account from one year to the other. ***Table 12*** illustrates all the accounts mentioned and forecasted and overviews the underlying method.

Table 12 *Target's Explicit Period Forecasted Changes in Working Capital*

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
Inventories	9,497	8,992	10,653	12,368.84	12,744.36	13,054.69	13,343.64	13,615.71
Other Assets	1,466	1,333	1,592	1,871.92	1,928.75	1,975.72	2,019.45	2,060.62
Accounts Payable	9,761	9,920	12,859	13,775.55	14,193.78	14,539.41	14,861.22	15,164.24
Accrued Expenses	4,201	4,406	6,122	6,209.57	6,398.09	6,553.89	6,698.95	6,835.54
Net Working Capital	(2,999)	(4,001)	(6,736)	(5,744)	(5,919)	(6,063)	(6,197)	(6,323)
Changes in WC	(125)	(1,002)	(2,735)	991.64	(174.40)	(144.12)	(134.20)	(126.36)

Source: Reuters

As can be seen, the changes in Working Capital started to be positive due to the higher-than-average decrease of 2020's Working Capital, which may as well be an influence of the disruption of logistic processes caused by the pandemic that, in turn, caused greater expenses. However, next years' values turned out to be negative returning to its historical tendency.

6. Capital Expenditures

When it comes to Target's Capital Expenditures forecasts, these are pretty much stated in their strategic plan described in its previous respective section. In Target's case, this amount reverts to remodeling existing stores, the opening of new stores, and the improvement of logistic processes.

After years of relatively smaller reinvestments, Target expressed their intention to increase these Capital Expenditures up to approximately 4$ billion annually for the next few years. This need of reinvestment is justified by the company's desire to build upon this past years' growth in a sustainable way. Accordingly, it is assumed that CAPEX will be 14% of the Property Plant & Equipment, slightly higher than the recent historical values, to represent such desire of greater investment. In turn, PP&E's value, as a percentage of sales, is assumed to decrease 1% from 2020 to 2021, and from then on 0.1% yearly, during the explicit period forecasted due to the belief that it should not keep up with the so significant growth of revenues assumed, mainly with the recent shift to online channels, which requires less PP&E than the opening of a physical store for example.

Table 123 overviews the evolution of Capital Expenditures in the recent past and the forecast over the explicit period.

Table 13 Target's Explicit Period Forecasted Capital Expenditures

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
PP&E	25,533	26,283	26,879	29,087	29,862	30,479	31,040	31,557
%Sales	33.9%	33.6%	28.7%	27.7%	27.6%	27.5%	27.4%	27.3%
CAPEX	3,516	3,027	2,649	4,072	4,181	4,267	4,346	4,418
%PP&E	13.8%	11.5%	9.9%	14.0%	14.0%	14.0%	14.0%	14.0%

Source: Reuters

7. Depreciation & Amortization

The firm's Depreciation & Amortization value depends solely on variables that are already computed: Net Property, Plant and Equipment and Capital Expenditures. Through the following formula, one can calculate D&A:

$$D\&A = Net\ PP\&E_{t-1} - Net\ PP\&E_{t} + CAPEX_{t-1}$$

Resultingly, ***Table 14*** presents the overview of the Depreciation & Amortization throughout the explicit period of the forecast.

Table 154 *Target's Explicit Period Forecasted Depreciation & Amortization*

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
PP&Et	25,533	26,283	26,879	29,087	29,862	30,479	31,040	31,557
PP&Et-1	24,536	25,533	26,283	26,879	29,087	29,862	30,479	31,040
CAPEXt	3,516	3,027	2,649	4,072	4,181	4,267	4,346	4,418
D&A	2,519	2,277	2,053	1,864	3,406	3,651	3,784	3,901

Source: Reuters

8. Other Non-Cash Adjustments

Nonetheless, some adjustments to other non-cash accounts had to be performed, such as Deferred income taxes. These adjustments are summarized in ***Table 15***:

Table 15 *Target's Explicit Period Forecasted Other Non-Cash Adjustments*

	2018	2019	2020	F2021	F2022	F2023	F2024	F2025
Deferred income taxes	279	150	(324.00)	(62.40)	13.32	49.58	3.70	(25.56)
Other non-cash adjustments	279	150	(324.00)	(62.40)	13.32	49.58	3.70	(25.56)

9. Weighted Average Cost of Capital

Table 16 Target's Weighted Average Cost of Capital

MV of Operational Leases	**$ 10,277.98**
MV of Debt	$ 12 311.77
MV of Debt + Operational Leases	$ 22,589.75
Cost of Debt	1.72%
Tax Rate	25.31%
MV of Equity	$ 118,456.84
Cost of Equity	5.59%
Risk free	1.38%
Beta	1.00
Risk Premium	4.21%
D/(D+E)	9.41%
E/(D+E)	90.59%
WACC	4.90%

9.1.Equity

9.1.1. Market Value of Equity

The Market Value of Equity can be obtained through the product of the firm's number of shares outstanding and the price of these shares. As of the 7th of September 2021, the date when the Investment Banking report was released, the Market Value of Equity is the following:

$$MV\ of\ Equity = Price\ of\ each\ Share \times Number\ of\ Shares\ Outstanding$$
$$= 242.72\$\ per\ share \times 488.039053\ M\ shares = \$118{,}456.84\ M$$

9.1.2. Cost of Equity

To determine Target's cost of equity, the previously introduced and extremely famous model CAPM will be used. Using this model, one must first determine its inputs, which are the risk-free rate, the company beta, and the market risk premium rate.

9.1.3. Risk-free

Firstly, the risk-free rate used will be the US government treasury bond rates with 10-years maturity, as discussed previously in the literature review. As of the 7th of September 2021, this rate was the following: 1.38%.

9.1.4. Beta

Regarding the Beta, this measure was extracted from Thomson Reuters and presented a value of 1.00 based on data over the last five years. Therefore, this value will be the one inputted in the CAPM formula to estimate the company's cost of equity.

9.1.5. Market risk premium

To determine the Market Risk Premium rate used in the CAPM model, the resource utilized Damodaran equity risk premium estimation, which was equal to 4.21% as of September 2021.

9.2.Debt

9.2.1. Market Value of Debt

The market value of Debt is complemented by not only the debt of the company but also their respective amount of operational leases.

Starting by this previous point, this amount is already estimated by the company for the foreseeable future, being the only remaining action to properly account for them to discount them at the cost of debt. Then, what is left is to account for the market value of loans and bonds listed and outstanding by the company, being this last part calculated by the multiplication of the number of bonds by each of their prices. Resultingly, Target's market value of Debt is $22,589.75 million.

9.2.2. Cost of Debt

The cost of Debt was calculated as a weighted average of the Yields-to-Maturity of Target's outstanding bonds. However, the weights were calculated as a function of the market value of each Bond in the total market value of Debt. Resultingly, after these computations were made, the pre-tax cost of Debt achieved was of 1.72%.

9.3.Effective Tax Rate

When it comes to Target's corresponding Effective Tax Rate, this rate is dependent on a set of variables that are extremely hard to forecast. These are: Federal Statutory Rate, State income taxes (net of the federal tax benefit), International Tax Rates, Excess tax benefit related to share-based payments, Federal tax credits, and other factors.

Therefore, the method assumed to forecast the Effective Tax Rate was similar to the one used before: an average of the last five years Effective Tax Rates, resulting on a tax rate of 25.31%.

10. Perpetual Growth Rate

The perpetual growth rate inputted in the FCF computation is also a very relevant variable in the model, as the model is very sensitive to changes in it.

In this DCF model, the perpetual growth rate was derived through the weighted average of three factors: the forecast for growth of the industry, the forecast for growth of the nation and the historical growth record of the company, weighing 40%, 20% and 40%, respectively, in the calculation. Firstly, the growth of the industry was also derived through a weighted average, where the forecasted 4-year CAGR (0.96%) for the retail industry weighed 82% and the forecasted 4-year CAGR (4.68%) for the retail e-commerce industry weighed 18%. Then, the growth of the macroeconomic conditions in the US was computed through the average forecasted GDP growth from 2021 to 2026 (3.08%). Finally, the historical growth of the company took into account the last nine pre-pandemic years of the company, due to the belief that after 2025 this pandemic will be over, and recorded a CAGR of 2.96%. Resultingly, the perpetual growth rate used in the DCF model will be of 1.86%.

11. Net debt

Then what is left to arrive from the enterprise value to the equity value is to deduct the value of Net Debt and to add the value of Cash and Equivalents.

For Target, the value of Net Debt is equal to the Market Value of Debt and Operational Leases, yielding a value of $22,589.75 million. Following this operation, it is also necessary to add the value of Cash and Equivalents, which represents a value of $7 368 million in Target's case.

12. DCF Results & Analysis

After all these steps and the computation of the FCFF through the DCF model, ***Table 17*** was completed:

Table 17 Target's Discounted Cash Flow Results

	F2022	F2023	F2024	F2025
Revenue	108,083.09	110,714.93	113,165.51	115,472.89
Revenue growth (%)	3.0%	2.4%	2.2%	2.0%
(-) Cost of Revenue	75,918.24	77,766.86	79,488.16	81,108.89
(-) Other expenses	25,923.07	26,716.25	27,360.38	27,957.56
EBIT	6,241.78	6,231.82	6,316.97	6,406.44
(-) Taxes	1,414.93	1,408.40	1,426.22	1,455.30
(+) D&A	3,405.68	3,650.56	3,784.15	3,900.62
(-) Changes in NWC	(174.40)	(144.13)	(134.20)	(126.36)
(-) CAPEX	4,180.70	4,267.00	4,345.60	4,418.04
(-) other non-cash adjustments	13.32	49.58	3.70	(25.56)
FCFF	4,212.92	4,301.53	4,459.80	4,585.64
Discount Factor	1.05	1.10	1.15	1.21
PV (CF) 1st stage	4,016.11	3,909.03	3,863.53	3,786.97
PV (TV)				126,871.87

Net Debt	22,589.75	Firm Value	142,447.51
Cash & Equivalents	7,368.00	Equity Value	127,225.76
		Terminal Value	
#Shares Outstanding	489.65120	Weight %	89.1%
Target Price (Fair Value)	259.83		

As ***Table 17*** presents, the final fair value obtained was of 259.83$ per share. As explained before, all these FCFF were discounted at the WACC rate, to find the enterprise value, and then, consequently, the equity and shares' intrinsic values.

It is clear that this value has an upside when compared to the market price, which would lead to a BUY recommendation, as, according to the assumptions inputted into the model, the company is undervalued, meaning that the market price may converge to the fair value of the shares, generating value for investors.

Regarding Target's Payout strategy, it was assumed that every four quarters, similarly to what has happened historically, the Dividends paid per share would increase US $0.02. Even though the Dividends per Share distributed by the company have increased significantly from US $0.68 to US $0.90 per quarter, no increases of this magnitude were considered, only the ones mentioned previously.

13. Sensitivity Analysis

The finalizing step of this analysis is to perform a sensitivity analysis on its main inputs. In the DCF model, this means testing the model's sensitivity to the WACC and growth rates assumed into the computations and consider how the final fair share price would differ along these different hypothetical scenarios.

In this case, small increments and decreases of 0.5% each time in both of the input rates previously mentioned were put into place to create this scenario analysis.

Table 18 *Target's Discounted Cash Flow Sensitivity Analysis*

		WACC						
	259.83	3.40%	3.90%	4.40%	4.90%	5.40%	5.90%	6.40%
Growth Rate	1.26%	389.47	309.67	255.29	215.85	185.93	162.47	143.57
	1.46%	430.26	335.59	273.12	228.80	195.74	170.12	149.69
	1.66%	480.43	366.13	293.55	243.36	206.59	178.50	156.33
	1.86%	543.63	402.66	317.19	259.83	218.67	187.70	163.55
	2.06%	625.69	447.13	344.87	278.62	232.20	197.87	171.44
	2.26%	736.52	502.45	377.73	300.25	247.45	209.15	180.10
	2.46%	894.51	573.12	417.37	325.44	264.77	221.74	189.63

Best Case Scenario

Worst Case Scenario

As expected, being the Share Price negatively related with the WACC and positively related with the growth rate, it decreases/increases with increases/decreases in the WACC rate and increases/decreases with increases/decreases in the growth rate. Thus, the best/worst case scenario is when the WACC is the lowest/highest and the growth rate the highest/lowest. These cases are represented at the extremities of the table, and represent very improbable scenarios, being almost impossible for them to actually materialize.

This analysis is very relevant to check how different assumptions influence the final result. For example, one of the inputs introduced into the WACC was the equity risk premium which was determined by Damodaran. In the case this estimation was incorrect, and the rate

was supposedly higher, the WACC would increase, and the whole analysis would be different. Such as this one, there are many other examples of different inputs that influence the whole model, and this analysis provides very interesting insights to consider all these hypotheses.

In this case, green share prices represent scenarios in which the fair price is higher than the market price as of 31st of December 2021 ($231.49), and red share prices represent scenarios in which it is lower. The fact that there are more green cells than red cells reinforces the confidence in the conclusion given by the DCF model that Target's stock is undervalued by the market.

Relative Valuation

As mentioned in the literature review, the valuation based on multiples is a widely used tool used in a great fraction of investment banking reports nowadays. It provides an alternative course of action to the main method used to value a company, which is the Discounted Cash Flow method, presented previously in this dissertation.

1. Peer Group

Also as was mentioned before, one of the hardest steps of this relative valuation is to find a suitable peer group. In Target's case, the first criteria to screen most companies was to find the companies inserted in Target's industry, which narrowed it down to a much smaller group of firms.

Then, the following criteria to select peers within Target's industry taken into account (by order of relevance) were profitability (Return on Equity and Return on Invested Capital), growth (measured by Revenues CAGR), Size (given by Market Cap), and Debt to Equity ratio.

Table 19 Target's Peers

Company Name	Market Cap	Revenue 5 YR Historical Growth	Debt to Equity Ratio	Profitability Margin	Forward P/E	Forward EV/EBITDA	Forward E/Sales
Target Corp	114,117,734,789	8.66	87.8%	6.04	17.82	10.70	1.12
Costco Wholesale Corp	246,899,982,063	9.95	48.6%	2.56	43.11	24.22	1.09
Dollar General Corp	51,531,526,489	10.54	62.0%	6.96	20.09	13.48	1.51
TJX Companies Inc	89,143,802,383	3.17	104.3%	6.72	22.62	13.38	1.65

Source: Reuters

Thus, the identified companies in *Table 19*, CostCo Wholesale Corporation, Dollar General Corporation and TJX Companies Inc, were the ones that were deemed to be the most suitable to be used as peers of Target Corporation. Notwithstanding, it is clear to see that none of the companies is completely similar to Target in all the criteria explained previously.

However, an average of the multiples of these companies should smooth out these differences and provide with a coherent comparable analysis.

2. Multiple Valuation

Following, when it came to the choice of which multiples to use, the first choice made was to use 1-Year Forward multiples, and the second was to use three different multiples: one with regards to Capitalization, P/E; and two with regards to the Company's Value, EV/EBITDA, and EV/Sales.

The P/E multiple should compare the price to the earnings of each share, it helps investors assess how the cost of acquiring the share compares to the benefits of possessing it. However, this ratio can be easily distorted by changes in the capital structure.

The EV/EBITDA and the EV/Sales multiples both present this greater advantage of being inert to changes in the capital structure, and these compare a firm's size to its earnings and sales. It computes how much bigger such a company's size be when compared to its earnings/revenues.

Finally, the table below provides a clear overview of the valuation performed, using Reuters as the source for the 1-Year Forward multiples. To obtain a single multiple to be used in the computations, a simple average of the peers' multiples was performed.

Table 20 *Target's Multiple Valuation*

		1-Year Forward Multiple		
		Capitalization	Company's Value	
		P/E	EV/EBITDA	EV/Sales
	Target Corporation	17.82	10.70	1.12
	CostCo Wholesale Corp	43.11	24.22	1.09
	Dollar General Corp	20.09	13.48	1.51
	TJX Companies Inc	22.62	13.38	1.65
	Average Peers	28.61	17.03	1.42
Target	Earnings (Net Income) 2022	4,176	-	-
	EBITDA 2022	-	9,647	-
	Sales 2022	-	-	108,083
	Enterprise Value 2022	119,476	164,280	153,325
	Equity Value 2022	114,065	158,869	147,914
	Equity Value 2021	108,026	150,458	140,083
	# Shares	490	490	490
	Price Per Share	220.62	307.28	286.09

Source: Reuters

As ***Table 20*** presents, two of the three multiples provide share prices above the price given by the market. Excepting the price obtained used the P/E multiple, which was slightly lower than the market price, the other two multiples that regard the company's value yielded prices higher than the market's as of 31st of December 2021 ($231.49). Similarly, with exception of the price derived by the P/E multiple, after the equity value has been discounted by the cost of equity to the end of 2021, the target price found by the other two multiples is found to be higher than the one computed through the Discounted Cash Flow method.

Investment Banking Report Comparison

Finally, the opportunity to compare the findings obtained in this dissertation with the ones in an equity research report emerges. This report was kindly facilitated by Morningstar, it was published as of 7th of September 2021 and therefore refers to the Target's Q2 results publication.

This report had one thing that distinguished itself from the others: its recommendation. According to Reuters, no analyst whatsoever recommends selling the stock, all of them believe it is either going to perform equally or outperform the market. However, according to Morningstar's expectations regarding the company and the industry, it is believed otherwise. Morningstar's price target of 159$ per share is much below the market price and reflects their belief that Target's stock is overvalued.

The report also considered a different duration for the explicit period of 10 years, while this dissertation used a 4-year timeframe.

Table 21 overviews the differences between some of the key estimators that drive the target price of both these reports:

Table 21 *Morningstar and Dissertation comparison table*

	Morningstar report		**Dissertation**	
	2021	2022	2021	2022
Revenues	103,978	106,686	104,898	108,083
y/y % change	2.60%		3.04%	
Gross profit	31,198	31,739	31,217	32,165
y/y % change	1.73%		3.04%	
Operating Income	8,796	8,492	7,499	6,242
y/y % change	-3.46%		-16.77%	
Net Income	6,808	5,900	5,130	4,176
y/y % change	-13.34%		-18.59%	

Starting with a more general analysis of this table, it is observable that most of the expectations are going in the same direction: revenues and gross profit are expected to increase operating and net income are expected to decrease in both reports. However, some discrepancies in the magnitude of these y/y changes. This dissertation forecasts much bigger revenue and consequently gross profits. On the other hand, it forecasts smaller operating and net income. This might seem confusing because the report that presents the lower target price actually forecasts a higher net income. Notwithstanding, this target price might be this low due to other factors such as Morningstar's so impactful assumption of a much higher WACC of 8.5%, for example.

Finally, as mentioned before, with exception of the timing of these two reports, the major difference between these two reports is the target price and recommendations, whereas the Morningstar's report recommends the selling of the stock due to a target price of 159$ per share and this dissertation recommends the buying of the stock due to the higher target price of 259.83$ per share.

Conclusion

This dissertation consisted of the explanation of the process of valuing Target's stock and comparing it with the value that the market has attributed to this same asset. This whole procedure was composed of several steps, that went from understanding the theory and concepts behind Equity Valuation so that later on it would be possible to apply them and put them into practice using Target as an example.

As previously mentioned, it all started with the revision of theoretical concepts necessary to develop this project, which is particularly important as many models could be used to perform this task, but some are much more reliable and have more "real-life" applications than others. In this dissertation, the methods used to execute the valuation of Target were the Discounted Cash Flow model followed by its sensitivity analysis and Relative Valuation.

Nonetheless, the next step followed was to get to know the company and the industry that Target finds itself in. This part of the process is of extreme importance as it will determine the model's assumptions and forecasts. For one to forecast the future financial statements of Target, it is necessary to know not only the company's past, its recent performance that can be obtained through its quarterly and annual reports, and future endeavors given by their strategic plan, but also the United States' retail industry and discount stores, which is an industry that is considerably saturated, its major players (and consequently Target's competitors), and other macroeconomic factors that might influence the company's operations, such as GDP growth and inflation of the country Target operates in.

Then, when sufficient knowledge on the company and industry was gathered, a DCF analysis was pursued. The first challenge stood at the estimation of future revenues. Target has been experiencing their greatest records of revenues the last three years, and according to the first three quarters' sales, it does not seem it will stop here. This period of immense growth makes it harder to forecast, as it is very improbable that it lasts forever, thus most likely is going to slow down soon. Therefore, a slower growth rate of revenues than the average of the past few years was assumed to make sense of this toning down of the record-breaking period of growth. Nonetheless, due to the intentions expressed in their strategic plan, a decrease in the costs as a percentage of revenues was assumed. Additionally, an increase in the Capital Expenditures was also assumed as a consequence of the Strategic Plan. After calculating the model's Free Cash Flows, it was necessary to discount them at the Weighted Average Cost of Capital of the firm, which also presented itself challenging, as assumptions had to be taken

regarding the equity risk premium for example, that caused the WACC to be quite modest. Furthermore, the fact that the Strategic Plan does not forecast for many years ahead, the explicit period was considerably short, and consequently the forecast window was too. The growth rate for the Terminal Value was determined similarly to the revenues, with basis on historical data on the company and forecasted data on the industry and the country. Finally, this caused the Terminal Value to have an extremely heavy weight in the Enterprise Value estimated, influencing the final fair price immensely. A last step was to perform a sensitivity analysis that overall supported the main conclusion given by the model, that the stock was undervalued by the market.

Alternatively, a relative valuation was also performed, and the conclusions were very similar to the one generated by the DCF model with the exception of one Capitalization multiple. The greatest obstacle to overcome in this model was to find the proper peer group, as not many firms in Target's industry are similar enough to the company to be considered for this comparable company analysis.

Ultimately, the opportunity to compare the analysis performed with a third party's report rose. Due to different assumptions and timings of reports, the conclusion by both these analyses was different: while this dissertation reached a conclusion that the stock was undervalued, the Morningstar report concluded the contrary. According to their assumptions, Target's stock is overvalued at 159$ per share, resulting on two different recommendations: a BUY (259.83$ per share) from this dissertation, and a SELL from Morningstar's report, respectively.

Appendices

Target's Debt Composition:

Bonds

Maturity	Issues	Outstanding (USD)	Issued (USD)				
2021	**1**	**5,000,000**	**5,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**	**Fair Value Outstanding**	**Weight**	**Weighted YTM**
TGT 8.600 15-Dec-2021 MTN	--	15-Dec-2021	5,000,000	1.158	$ 5,058,555.00	0.04%	0.000475936
2022	**4**	**1,067,458,000**	**1,205,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 8.600 10-Jan-2022 MTN	--	10-Jan-2022	5,000,000	1.158	$ 5,084,335.00	0.04%	0.000478401
TGT 2.900 15-Jan-2022	--	15-Jan-2022	1,000,000,000	0.169	$ 1,006,595,000.00	8.18%	0.013789355
TGT 8.875 01-Apr-2022	--	01-Apr-2022	21,628,000	1.159	$ 22,379,248.58	0.18%	0.002106169
TGT 8.800 15-May-2022	--	15-May-2022	40,830,000	1.159	$ 42,612,229.50	0.35%	0.004009952
2024	**1**	**1,000,000,000**	**1,000,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 3.500 01-Jul-2024	--	01-Jul-2024	1,000,000,000	0.643	$ 1,076,422,000.00	8.74%	0.056220078
2025	**1**	**1,500,000,000**	**1,500,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 2.250 15-Apr-2025 '25	--	15-Apr-2025	1,500,000,000	1.012	$ 1,563,568,500.00	12.70%	0.12847604
2026	**1**	**1,000,000,000**	**1,000,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 2.500 15-Apr-2026	--	15-Apr-2026	1,000,000,000	1.102	$ 1,061,103,000.00	8.62%	0.094971648
2028	**2**	**177,944,000**	**400,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 6.750 01-Jan-2028	--	01-Jan-2028	96,869,000	2.335	$ 121,429,553.74	0.99%	0.023026912
TGT 6.650 01-Aug-2028	--	01-Aug-2028	81,075,000	2.335	$ 102,910,605.45	0.84%	0.019515054
2029	**1**	**1,000,000,000**	**1,000,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 3.375 15-Apr-2029 '29	--	15-Apr-2029	1,000,000,000	1.835	$ 1,107,355,000.00	8.99%	0.165018106
2030	**2**	**1,230,209,000**	**1,750,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 2.350 15-Feb-2030 '29	--	15-Feb-2030	750,000,000	1.867	$ 777,780,000.00	6.32%	0.117968327
TGT 2.650 15-Sep-2030 '30	--	15-Sep-2030	480,209,000	1.954	$ 507,404,676.30	4.12%	0.08053513
2031	**1**	**207,604,000**	**700,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 7.000 15-Jul-2031	--	15-Jul-2031	207,604,000	2.334	$ 291,569,230.20	2.37%	0.055269028
2032	**1**	**301,475,000**	**600,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 6.350 01-Nov-2032	--	01-Nov-2032	301,475,000	2.293	$ 420,112,949.38	3.41%	0.078260562
2037	**1**	**396,314,000**	**1,250,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 6.500 15-Oct-2037	--	15-Oct-2037	396,314,000	2.518	$ 602,967,575.85	4.90%	0.123342913
2038	**1**	**547,364,000**	**2,250,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 7.000 15-Jan-2038	--	15-Jan-2038	547,364,000	2.556	$ 869,016,433.60	7.06%	0.180409329
2042	**1**	**1,108,330,000**	**1,500,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 4.000 01-Jul-2042	--	01-Jul-2042	1,108,330,000	2.564	$ 1,362,798,134.68	11.07%	0.283772587
2046	**1**	**605,983,000**	**1,000,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 3.625 15-Apr-2046	--	15-Apr-2046	605,983,000	2.628	$ 714,622,420.27	5.80%	0.152522902
2047	**1**	**525,709,000**	**750,000,000**				
Description	**Asset Duplicated**	**Maturity Date**	**Amount Outstanding**	**Yield**			
TGT 3.900 15-Nov-2047 '47	--	15-Nov-2047	525,709,000	2.631	$ 650,975,991.94	5.29%	0.139125557
Total	**20**	**10,673,390,000**	**15,910,000,000**				Pre-tax Cost of Debt
					$ 12,311,765,439.47	100.0%	1.72%

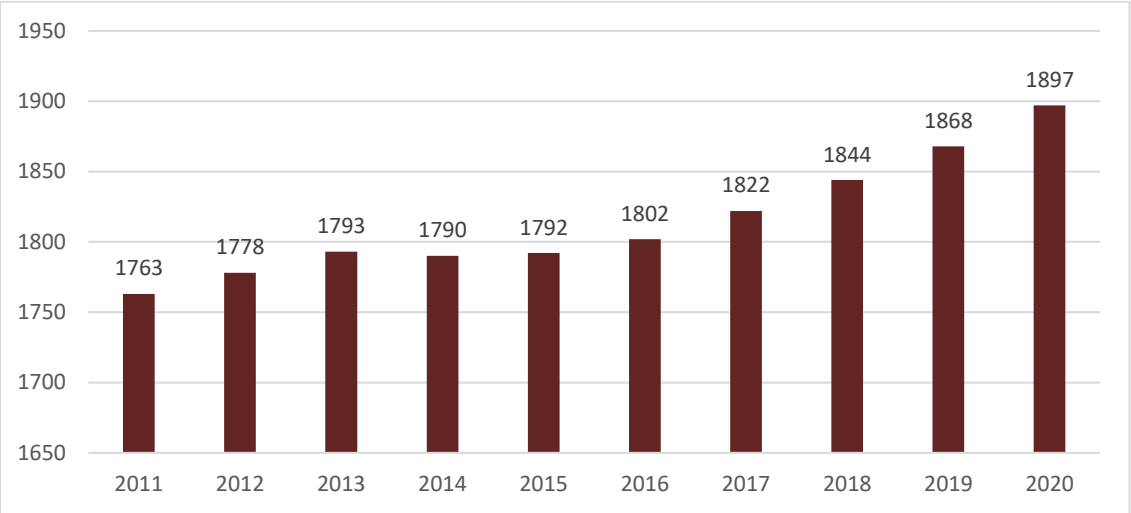
Source: Reuters

Target's Operational Leases Schedule:

Operational Leases	Commitment	Present Value
2021	$ 289.00	$ 286.95
2022	$ 290.00	$ 283.08
2023	$ 283.00	$ 271.58
2024	$ 269.00	$ 253.78
2025	$ 256.00	$ 237.43
2026 and onwards	$ 1,694.00	$ 8,945.15
Debt Value of Leases		$ 10,277.98

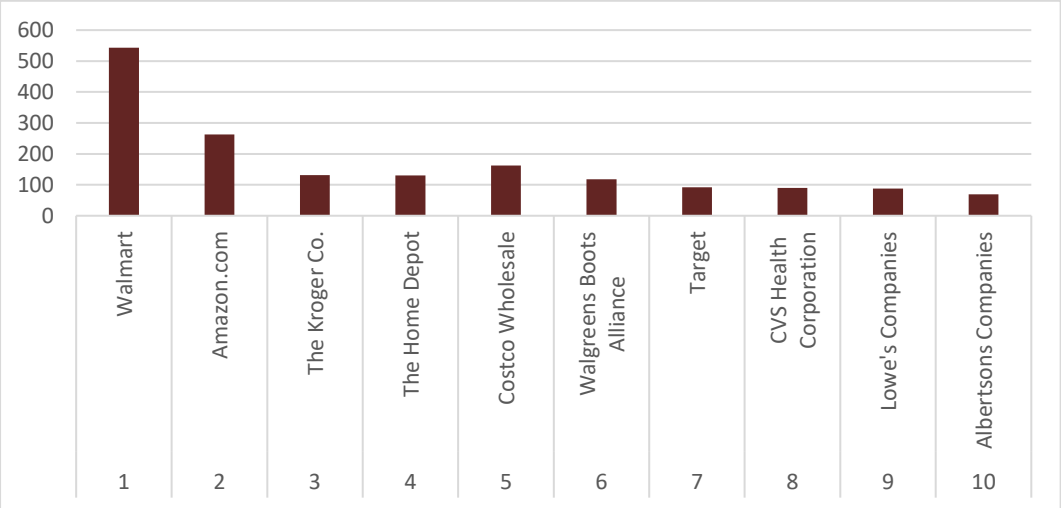
Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Target stores per year:



Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Biggest Retailers in the world based on 2020 sales:



Source: NRF. (2021). *Top 100 Retailers 2021 List*

IMF's inflation historical records and projections:

Table A5. Summary of Inflation
(Percent)

	Average 2003–12	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
GDP Deflators												
Advanced Economies	**1.6**	**1.3**	**1.5**	**1.3**	**1.0**	**1.5**	**1.8**	**1.5**	**1.4**	**2.6**	**2.0**	**1.8**
United States	2.1	1.8	1.9	1.0	1.0	1.9	2.4	1.8	1.2	3.6	2.8	2.1
Euro Area	1.7	1.2	0.9	1.4	0.9	1.1	1.5	1.7	1.5	1.6	1.8	1.8
Japan	–1.1	–0.4	1.7	2.1	0.4	–0.1	0.0	0.6	0.8	0.4	0.5	0.4
Other Advanced Economies[1]	2.1	1.4	1.3	1.2	1.3	2.0	1.8	1.3	1.9	2.9	1.8	1.9
Consumer Prices												
Advanced Economies	**2.0**	**1.4**	**1.4**	**0.3**	**0.7**	**1.7**	**2.0**	**1.4**	**0.7**	**2.8**	**2.3**	**1.9**
United States	2.5	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.2	4.3	3.5	2.3
Euro Area[2]	2.1	1.4	0.4	0.2	0.2	1.5	1.8	1.2	0.3	2.2	1.7	1.7
Japan	–0.1	0.3	2.8	0.8	–0.1	0.5	1.0	0.5	0.0	–0.2	0.5	1.0
Other Advanced Economies[1]	2.3	1.7	1.5	0.5	0.9	1.8	1.9	1.4	0.6	2.2	2.0	1.9
Emerging Market and Developing Economies[3]	**6.4**	**5.4**	**4.7**	**4.7**	**4.3**	**4.4**	**4.9**	**5.1**	**5.1**	**5.5**	**4.9**	**3.9**
Regional Groups												
Emerging and Developing Asia	4.8	4.6	3.4	2.7	2.8	2.4	2.7	3.3	3.1	2.3	2.7	2.7
Emerging and Developing Europe	8.8	5.5	6.5	10.6	5.5	5.6	6.4	6.6	5.4	8.4	7.1	5.8
Latin America and the Caribbean	5.4	4.6	4.9	5.4	5.5	6.3	6.6	7.7	6.4	9.3	7.8	4.3
Middle East and Central Asia	7.9	8.3	6.4	5.6	5.7	6.9	9.5	7.3	10.1	11.7	8.5	6.4
Sub-Saharan Africa	9.1	6.5	6.4	6.7	10.3	10.6	8.3	8.2	10.3	10.7	8.6	6.4
Analytical Groups												
By Source of Export Earnings												
Fuel	8.2	8.2	5.6	5.6	7.6	6.4	8.4	6.4	8.9	11.5	8.8	7.1
Nonfuel	6.0	5.0	4.6	4.6	3.9	4.2	4.5	4.9	4.7	4.9	4.5	3.6
Of Which, Primary Products[4]	6.6	6.7	7.4	5.8	6.7	11.6	13.8	16.9	18.5	19.2	14.4	6.8
By External Financing Source												
Net Debtor Economies	7.2	6.2	5.8	5.7	5.4	5.8	5.6	5.4	5.9	7.0	5.8	4.6
Net Debtor Economies by Debt-Servicing Experience												
Economies with Arrears and/or Rescheduling during 2016–20	10.4	6.4	9.5	13.9	11.0	17.4	16.4	13.3	16.3	17.3	10.9	6.3
Other Groups												
European Union	2.4	1.4	0.4	0.1	0.2	1.6	1.8	1.4	0.7	2.4	1.9	1.8
Middle East and North Africa	7.6	8.7	6.3	5.6	5.5	7.0	10.7	7.5	10.5	12.7	8.6	6.7
Emerging Market and Middle-Income Economies	6.1	5.2	4.5	4.6	4.0	4.0	4.5	4.8	4.5	5.0	4.6	3.7
Low-Income Developing Countries	9.9	7.9	7.2	6.5	8.4	9.2	8.8	8.3	11.4	11.5	8.2	5.9
Memorandum												
Median Inflation Rate												
Advanced Economies	2.3	1.4	0.7	0.1	0.5	1.6	1.8	1.4	0.4	2.0	1.8	2.0
Emerging Market and Developing Economies[3]	5.3	3.7	3.2	2.6	2.7	3.3	3.1	2.6	2.8	3.6	3.7	3.0

[1]Excludes the United States, euro area countries, and Japan.
[2]Based on Eurostat's harmonized index of consumer prices.
[3]Excludes Venezuela but includes Argentina from 2017 onward. See the country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.
[4]Includes Argentina from 2017 onward. See the country-specific note for Argentina in the "Country Notes" section of the Statistical Appendix.

Source: IMF. (2021). *World Economic Outlook, October 2021*

IMF's GDP historical records and projections:

Table A15. Summary of World Medium-Term Baseline Scenario

	Averages				Projections		Averages	
	2003–12	2013–22	2019	2020	2021	2022	2019–22	2023–26
				Annual Percent Change				
World Real GDP	**4.2**	**3.1**	**2.8**	**–3.1**	**5.9**	**4.9**	**2.6**	**3.4**
Advanced Economies	1.7	1.9	1.7	–4.5	5.2	4.5	1.7	1.8
Emerging Market and Developing Economies	6.6	4.1	3.7	–2.1	6.4	5.1	3.2	4.5
Memorandum								
Potential Output								
Major Advanced Economies	1.7	1.2	1.4	–1.3	2.5	2.3	1.2	1.8
World Trade, Volume[1]	**5.6**	**3.0**	**0.9**	**–8.2**	**9.7**	**6.7**	**2.0**	**3.9**
Imports								
Advanced Economies	3.9	3.0	2.0	–9.0	9.0	7.3	2.1	3.3
Emerging Market and Developing Economies	9.8	3.2	–0.9	–8.0	12.1	7.1	2.3	5.0
Exports								
Advanced Economies	4.6	2.6	1.2	–9.4	8.0	6.6	1.3	3.3
Emerging Market and Developing Economies	8.3	3.5	0.4	–5.2	11.6	5.8	2.9	4.5
Terms of Trade								
Advanced Economies	–0.4	0.6	0.2	0.8	0.9	0.2	0.5	0.3
Emerging Market and Developing Economies	1.6	–0.5	–1.2	–1.0	1.6	–0.1	–0.2	–0.6
World Prices in US Dollars								
Manufactures	3.1	–0.2	0.5	–3.2	5.5	4.4	1.7	1.6
Oil	15.5	–4.8	–10.2	–32.7	59.1	–1.8	–1.4	–3.3
Nonfuel Primary Commodities	10.3	0.7	0.8	6.7	26.7	–0.9	7.8	–0.3
Consumer Prices								
Advanced Economies	2.0	1.5	1.4	0.7	2.8	2.3	1.8	1.9
Emerging Market and Developing Economies	6.4	4.9	5.1	5.1	5.5	4.9	5.1	4.1
Interest Rates				*Percent*				
Real Six-Month LIBOR[2]	0.2	–0.9	0.5	–0.5	–3.1	–2.4	–1.4	–0.4
World Real Long-Term Interest Rate[3]	1.4	–0.2	–0.2	–0.3	–2.2	–1.4	–1.0	–0.2
Current Account Balances				*Percent of GDP*				
Advanced Economies	–0.6	0.6	0.6	0.3	0.4	0.3	0.4	0.5
Emerging Market and Developing Economies	2.5	0.2	0.0	0.6	0.8	0.6	0.5	0.0
Total External Debt								
Emerging Market and Developing Economies	28.2	30.6	30.6	32.6	31.3	30.4	31.2	29.4
Debt Service								
Emerging Market and Developing Economies	9.2	11.0	10.9	11.4	10.8	10.7	11.0	10.5

[1]Data refer to trade in goods and services.
[2]London interbank offered rate on US dollar deposits minus percent change in US GDP deflator.
[3]GDP-weighted average of 10-year (or nearest-maturity) government bond rates for Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Source: IMF. (2021). *World Economic Outlook, October 2021*

Historical Balance Sheet:

(millions)	2017	2018	2019	2020
Assets				
Cash and cash equivalents	2643	1556	2577	8511
Inventory	8597	9497	8992	10653
Other current assets	1300	1466	1333	1592
Total current assets	12540	12519	12902	20756
Property and equipment, net	24536	25533	26283	26879
Operating lease assets	1884	1965	2236	2227
Other noncurrent assets	1343	1273	1358	1386
Total assets	40303	41290	42779	51248
Liabilities and shareholders' investment				
Accounts payable	8677	9761	9920	12859
Accrued and other current liabilities	4094	4201	4406	6122
Current portion of long-term debt and other borrowings	281	1052	161	1144
Total current liabilities	13052	15014	14487	20125
Long-term debt and other borrowings	11117	10223	11338	11536
Noncurrent operating lease liabilities	1924	2004	2275	2218
Deferred income taxes	693	972	1122	990
Other noncurrent liabilities	1866	1780	1724	1939
Total noncurrent liabilities	15600	14979	16459	16683
Shareholders' investment				
Common stock	45	43	42	42
Additional paid-in capital	5858	6042	6226	6329
Retained earnings	6495	6017	6433	8825
Accumulated other comprehensive loss	-747	-805	-868	-756
Total shareholders' investment	11651	11297	11833	14440
Total liabilities and shareholders' investment	40303	41290	42779	51248

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Historical Income Statement:

	2017	2018	2019	2020
Revenue	72714	75356	78112	93561
Cost of Revenue, Total	51125	53299	54864	65951
Gross Profit	21589	22057	23248	27610
Selling/General/Admin. Expenses, Total	15049	15631	16210	18553
Depreciation/Amortization	2225	2224	2357	2230
Unusual Expense (Income)	214	92	33	800
Impairment-Assets Held for Use	91	92	23	62
Other Unusual Expense (Income)	123	--	10	738
Total Operating Expense	68613	71246	73464	87534
Operating Income (EBIT)	4101	4110	4648	6027
Interest Inc.(Exp.),Net-Non-Op., Total	-530	-461	-467	-465
Other, Net	59	27	9	-16
Net Income Before Taxes	3630	3676	4190	5546
Provision for Income Taxes	1065	782	921	1178
Net Income After Taxes	2565	2894	3269	4368

Source: Target Corporation. (2021). *sec filings | Target Corporation*.

Revenues Forecast:

	Weight	2022	2023	2024	2025
Number of stores	10%	3.96%	4.04%	4.11%	4.26%
Number of weekends	0%	-7.64%	0.00%	8.27%	0.00%
Historical growth	30%	2.33%	2.86%	2.78%	2.70%
Retail	41%	1.55%	0.76%	0.76%	0.75%
Retail E-commerce	9.00%	8.71%	7.10%	5.41%	3.58%
Macro (GDP)	10%	5.2%	2.2%	1.7%	1.7%
	100%	3.04%	2.44%	2.21%	2.04%

Income Statement Forecast:

(million US$)	2021	2022	2023	2024	2025
Total Revenue	104,898	108,083	110,715	113,166	115,473
Cost of Revenue, Total	73,681	75,918	77,767	79,488	81,109
Gross Profit	31,217	32,165	32,948	33,677	34,364
Selling/General/Admin. Expenses, Total	21,439	22,090	22,628	23,129	23,601
Depreciation/Amortization	1,864	3,406	3,651	3,784	3,901
Unusual Expense (Income)	414	427	437	447	456
Total Operating Expense	97,399	101,841	104,483	106,849	109,066
Operating Income (EBIT)	7,499	6,242	6,232	6,317	6,406
Interest Inc.(Exp.),Net-Non-Op., Total	(681)	(702)	(719)	(734)	(749)
Other Non-Operating Income (Expense)	50	51	52	54	55
Net Income Before Taxes	6,868	5,591	5,566	5,636	5,712
Provision for Income Taxes	1,738	1,415	1,408	1,426	1,445
Net Income After Taxes	5,130	4,176	4,157	4,210	4,266

Balance Sheet Forecast:

(million US$)	2021	2022	2023	2024	2025
Assets					
Cash and cash equivalents	7,316.54	7,630.25	7,956.92	8,305.84	8,637.48
Inventory	12,368.84	12,744.36	13,054.69	13,343.64	13,615.71
Other current assets	1,871.92	1,928.75	1,975.72	2,019.45	2,060.62
Total current assets	21,557.29	22,303.36	22,987.33	23,668.93	24,313.82
Property and equipment, net	29,087.10	29,862.12	30,478.55	31,040.00	31,557.41
Operating lease assets	2,738.22	2,821.35	2,890.05	2,954.02	3,014.25
Other noncurrent assets	1,771.78	1,825.58	1,870.03	1,911.42	1,950.39
Total assets	55,154.40	56,812.41	58,225.95	59,574.37	60,835.87
Liabilities and shareholders' investment					
Accounts payable	13,775.55	14,193.78	14,539.41	14,861.22	15,164.24
Accrued and other current liabilities	7,051.72	7,265.82	7,442.74	7,607.48	7,762.59
Total current liabilities	20,827.28	21,459.60	21,982.15	22,468.70	22,926.83
Long-term debt and other borrowings	11,036.25	10,774.81	10,518.27	10,280.08	9,966.10
Noncurrent operating lease liabilities	2,776.79	2,861.09	2,930.76	2,995.63	3,056.71
Deferred income taxes	1,242.38	1,280.10	1,311.27	1,340.29	1,367.62
Other noncurrent liabilities	2,414.73	2,488.04	2,548.62	2,605.03	2,658.15
Total noncurrent liabilities	17,470.14	18,000.54	18,438.86	18,846.99	19,231.27
Shareholders' investment					
Common stock	42.00	42.00	42.00	42.00	42.00
Additional paid-in capital	6,494.27	6,663.86	6,837.87	7,016.43	7,199.65
Retained earnings	11,114.71	12,158.29	13,352.22	14,674.81	15,954.43
Accumulated other comprehensive loss	(794.00)	(805.75)	(805.94)	(790.42)	(799.03)
Total shareholders' investment	16,856.98	17,352.26	17,804.95	18,258.68	18,677.78
Total liabilities and shareholders' investment	55,154.40	56,812.41	58,225.95	59,574.37	60,835.87

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