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Financial Valuation and Investment Analysis of Carrefour

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Abstract: This thesis uses external analysis, internal analysis and DCF model to comprehensively evaluate the endogenous value of Carrefour. Combining the results of the three, this thesis proposes to investors whether to invest in Carrefour in the long-term and short-term and what the specific operation should be. Combining the opinions of market investors and my analysis, this dissertation believes that Carrefour's stock should be bought in the short term and kept on the side-lines in the long term.

1. Introduction

During the epidemic from 2020 to 2021, Carrefour is in a critical period of transformation. Due to the rapidly changing market, Carrefour has accelerated its transformation and accelerated track. Carrefour's offline brick-and-mortar and home delivery services have both experienced difficulties and setbacks in the transition. However, under the high pressure of the external environment, more than 200 Carrefour stores still successfully completed the system switch, and coordinated the integration of logistics, technology, supply chain, management, and warehousing systems. Through the overall and system upgrading and transformation, Carrefour's comprehensive consumption system has been fully on the right track for the transformation towards intelligentization.

Revenues at major retailers around the world have taken a severe hit since the global pandemic raged. Carrefour appears to have boosted its financial performance by downsizing, streamlining operations and selling off businesses, according to its data. However, can Carrefour maintain its financial position and keep growing as the global economy gradually recovers? For investors, is Carrefour stock still worth holding or longing on current position (closed price € 19.00 on March 27)? I plan to apply the Discounted Cash Flow (DCF) model to provide financial analysis and investment recommendation about Carrefour[1-3].

Based on my following analysis, I think the market's underestimation of Carrefour is mainly due to its pessimism about its market share and concerns about the continuation of the epidemic in the future. Ultimately, I think Carrefour stock should be a short-term buy and a long-term wait-and-see.

2. External Analysis

In this section, the paper provides external analysis to evaluate the overall operations and business prospects of Carrefour. This section contains three parts: global analysis, external analysis and industry analysis. Global analysis is used to study Carrefour's operating conditions under the current global macro economy. During the global pandemic in the past two years, the model of large supermarkets has undergone tremendous changes, and the offline sales system has gradually been occupied by the online model. As the hegemon of the global retail industry, global analysis helps us understand Carrefour's ability to cope with uncertainty and pressure to assess the ability of managers. In the industry analysis, this paper investigates and analyses the market structure and market behaviour of Carrefour in the global industry, and conducts a horizontal comparison to evaluate whether it has scientific and effective strategic planning and financial performance.

2.1. Global Analysis

As the first retailer to introduce the concept of "hypermarket", Carrefour rose rapidly in the global market in the last century with its efficient business model. However, with the transformation and development of the market, Carrefour, which sticks to its own business model, has gradually declined amid "internal and external troubles", until now it has embarked on the road of mergers and acquisitions.

Carrefour, the world's second-largest retailer, reported slowing sales growth in the past two years, reflecting weaker performance in its core French market, according to Reuters. Carrefour's supermarket chain in France remains sluggish as the operating environment continues to be difficult. Brazil is Carrefour's second-largest market after France. Despite the slowdown in Brazil's economy, Carrefour's business there has shown resilience. But in China, Carrefour's sales are still falling, although the decline narrowed to 5.4% from 7.8% in the third quarter. Carrefour is currently restructuring its business in China. Carrefour Chief Financial Officer Pierre-Jean Sivignon said the group's 2016 recurring operating profit would be "very close" to the median forecast of 2.39 billion euros. Carrefour, Europe's largest retailer, said fourth-quarter revenue of 23.366 billion euros ($24.85 billion) was above the median forecast of 23.22 billion euros in a Thomson Reuters poll of analysts. Excluding fuel, currency and calendar effects, revenue rose 2.9% in the fourth quarter from a year earlier, but that growth was slower than the 3.2% increase in the third quarter.

Since the 1990s, Carrefour's business situation has gradually become bleak, in terms of the global environment. This situation is inseparable from the gradual decline of the status of the euro and the macro background of the French economic growth rate. From 1961 to 2020, France's GDP growth rate showed an overall downward trend. From 4.98% to -7.85%. Although there is a rebound in 2021 (6.96%), this is mainly due to the extreme quantitative easing policy of the central bank, which will cause high inflation , as shown in Figure 1.

Figure 1: France GDP Growth Rate (1961-2021)

The graph above is the GDP growth curve for France from 1961 to 2021, showing a volatile downward trend. Considering that Carrefour is a national-level enterprise in France, we use the GDP growth rate of the past 10 years as its permanent growth rate, which is 0.9210%.

Another very critical macroeconomic indicator is the risk-free rate of return. The risk-free rate of return is often used as a benchmark for measuring the rate of return of the underlying asset. The return on any risky asset should be higher than the risk-free return, otherwise it is worthless. Relative to companies, the government bond yield of the host country during the corresponding valuation period is a reasonable risk-free rate benchmark. Therefore, we use the yield of the French 10-year bond as the risk-free rate of return for this graduation thesis, which is 1.797% (data on July 1, 2022, from The Wall Street Journal)[4-6].

2.2. External Analysis

In 2005, Carrefour and the British Tesco Group reached an agreement to exchange assets with Tesco, which has been limited in the global market, and fully accept Tesco in Asia. In June 2006, after Tesco's 6 branches in Taiwan officially became Carrefour's subsidiaries, Carrefour's branches in Taiwan exceeded 40 in one fell swoop. By the end of 2006, the overall market size of Carrefour retail stores had reached US$142.1 billion, an increase of 1.59% compared with US$139.8 billion in 2005. Carrefour has a total turnover of 59.7 billion yuan with 47 stores, owning 1/3 of the consumer market in Asia and 1/6 of the market in North America. Its main competitors are RT-Mart of Runtai Group and Aima Ji'an of Far East Group , as shown in Figure 2.

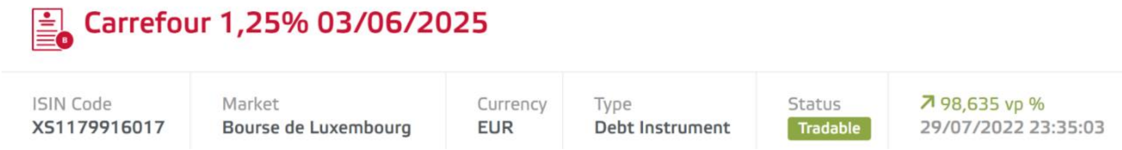

Figure 2: Bond Coupon Rate of Carrefour

One of the things that can reflect the external environment of Carrefour is the debt spread. Data from LuxemBour Stock Exchange. Carrefour's latest bond issue in this market has a coupon rate of 1.25% and a maturity date of June 3, 2025. This can be used as a benchmark for the debt spread used in our calculations.

The equity risk premium is also an important metric that we will use. The equity risk premium we use comes from the well-known investment website ValueInvesting. Considering the current overall poor operating conditions of large supermarkets, we choose the minimum value of 5.20% as our adopted value.

2.3. Industry Analysis

This section compares and analyses the three large supermarkets Costco, Walmart and Carrefour from the perspective of business model, operational efficiency and financial indicators. At the same time, the market share of other companies was compared horizontally. In view of the low gross profit and high turnover model, Costco's store efficiency and average efficiency are much higher than those of its peers. In 2018, its store efficiency was US$1.24 billion/store, and the average efficiency reached US$92,000/sqm/year. Gross profit margins are trending upwards, mainly due to increased economies of scale, improved supply chain efficiency, and product upgrades; Walmart's gross profit margins lead the world, with 25.1%/25.3% in 2018 and 2019, respectively.

Walmart and Carrefour are more prominent in food and beverage, daily chemicals, daily necessities and other standard products and similar products, because they can reduce costs, reduce prices and gather customers through large-scale procurement. Create a comprehensive shopping mall experience through clothing, shoes and hats, catering, etc. in the leased area, and realize passenger flow through sublease. Under the impact of e-commerce, the passenger flow of such hypermarkets has been impacted, and the sublease area has increased the configuration of its own traffic such as catering, parent-child, education, etc., so as to achieve mutual drainage with hypermarkets.

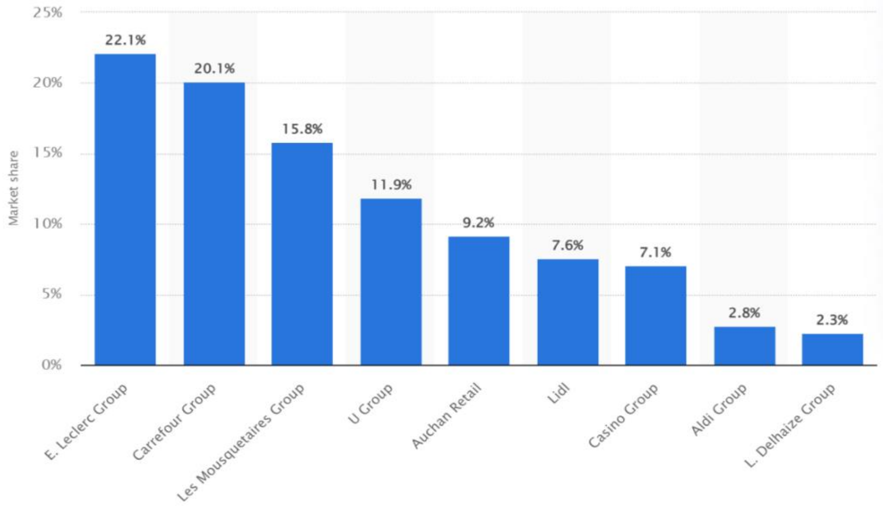

Figure 3: Market Share of World-famous Retailers in France (Source from Statista)

According to the above figure 3, we can conclude that Carrefour's market share in France is still very high, at 20.1%, second only to E.Leclerc Group's 22.1%. Statista's Ranking of supermarket and hypermarket chains in France tells us: The Leclerc, Carrefour, and Les Mousquetaires groups are the three distributors who had the largest market shares between March 21 and April 17, 2022 with 22.1%, 20.1%, and 15.8 %, respectively. The last two positions in the ranking were held by the Aldi and L. Delhaize groups, whose market shares did not exceed three per cent as of April 2022[7].

2.4. Prospective Analysis

Online shopping has become the biggest challenger to traditional brick-and-mortar retail. This point of view has been mentioned ten years ago. Today, as the mobile Internet is close to popularization, its performance is even more prominent. This is both a difficulty and an opportunity for businesses. The advent of a new era will always carry out a round of "survival of the fittest". Whoever discovers the trend at the first time and follows the trend will be able to grasp the new market space. Obviously, Carrefour has become a leader in this new era. In China, from the first contact between Suning and Carrefour, to the last time when Carrefour officially became a key part of Suning's focus on building a large-scale fast-moving consumer goods sector, after a comprehensive understanding of Carrefour's situation, Suning began to comprehensively upgrade and transform Carrefour's entire business system. It includes major basic modules such as supply chain link, commodity master data, store operation, inventory, price, logistics, personnel, financial cashier and big data. Relying on Suning's mature online technology and advantages, Suning and Carrefour are fully digitally integrated online and offline.

During the epidemic from 2020 to 2021, Carrefour is in a critical period of transformation. Due to the rapidly changing market, Carrefour has accelerated its transformation and accelerated track. Carrefour's offline brick-and-mortar and home delivery services have both experienced difficulties and setbacks in the transition. However, under the high pressure of the external environment, more than 200 Carrefour stores still successfully completed the system switch, and coordinated the integration of logistics, technology, supply chain, management, and warehousing systems. Through the overall and system upgrading and transformation, Carrefour's comprehensive consumption system has been fully on the right track for the transformation towards intelligentization.

The first is the Carrefour Community Quality Life Centre. If consumers want to buy all living materials for a certain period of time in one stop, and need a more comprehensive and rich shopping experience, then going to the Carrefour Quality Life Centre in their community is the best choice. . When consumers are more inclined to solve shopping problems in a short period of time, it is believed that the member stores that Carrefour will focus on in the next five years will become the new focus of consumers. It is particularly worth mentioning that the product supply service of Carrefour member stores will be updated around the individual needs of consumers, focusing on the depth of products and narrowing the width of products, aiming to create "fresh food members around consumers. shop".

In addition, Carrefour's home business will undoubtedly become the most important part of the new business layout. The richer products than member stores, and the consumption experience that is closer, more convenient, and more suitable for young people than community centers, make home service the most cost-effective place.

3. Internal Analysis

Internal analysis is used to explain why some companies are more profitable and more successful in the competition. For a particular company, its resources — whether it be an idiosyncratic capability, asset (tangible, human, organizational, intangible), achievement, or a competitive capability—must be a lasting competitive advantage Pass the following four competing value tests: 1. Is the resource easy to replicate? The greater the cost and difficulty of imitating a resource, the greater its potential competitive value. 2. How long will this resource last? The longer a resource lasts, the more valuable it is. Some resources quickly lose their competitive value because the technological or industry environment is changing rapidly. 3. Can this resource really have superior value in the competition? All companies must guard against blindly believing that their core competencies or idiosyncratic abilities will be more powerful than their competitors. 4. Can this resource be offset by other resources/capabilities of competitors, that is, how replaceable is the company's resources?

This dissertation firstly uses 4P analysis to evaluate the business model of Carrefour. Then through the relevant data to explain its financial performance in recent years[8-9].

3.1. 4-P Analysis

The 4P marketing theory is suitable for analysing the operating conditions of enterprises. 4p includes four dimensions: product, price, place, and promotion.

- Product: The tangible and intangible products provided by the enterprise to the target market, including physical products, technologies, services, packaging, styles, etc.
- Price: Basic price, discounted price, payment term and various pricing methods and techniques.
- Place: The path experienced by the product manufacturer to the consumer user. Agents, wholesalers, malls/retail stores.
- Promotions: Businesses use a variety of methods to stimulate user spending. Advertising, personal sales, discounts, etc.

3.1.1. Product

Carrefour's core products are mainly provides domestic brands and private brands, and introducing brands from other countries, so that consumers can buy enough of the items they need and bring convenience to consumers.

3.1.2. Price

In the highly competitive corporate environment, pricing is also one of the commonly used strategies to seize market opportunities, in order to gain market share or sales volume. Carrefour, due to the large number of purchases, has relatively increased bargaining space with suppliers. In addition, the low cost of its own brand enables it to provide a business strategy of "every day is cheap" to meet the shopping needs of consumers. At the same time, it combines the IT system to grasp the characteristics of consumers to develop its future marketing strategies and reduce Marketing costs, improve efficiency.

3.1.3. Place

Carrefour has partnered with foreign companies and local companies to expand its channel network. At present, it has 48 branches, and its main goal is to "increase market share". Taking Taiwan as an example, the existing 8 logistics factories will also increase Build 3 logistics plants. It is expected that the number of logistics plants will reach 2 digits next year, plus 300 self-owned trucks, to improve performance by running through the province.

3.1.4. Promotion

Enterprises have good products and services. They mainly sell products or services to the market for customers to buy. Therefore, enterprises need to communicate effectively with customers. Carrefour's publicity method is to use advertising DM, product tasting, publishing newspapers and TV advertisements and other tools, let customers know which products have promotional activities during certain periods, and increase the number of visitors and drive the sales of other products through promotional activities. When an enterprise decides to produce products, set prices, decide on distribution channels, and sales promotion modes through its marketing mix, it should use the perspective of customer needs as the basis for planning, in order to meet the needs of the market and create better benefits.

3.2. Financial Analysis

Basic financial analysis mainly consists of three parts: profitability analysis, liquidity analysis and working capital analysis. From these three dimensions, we can basically get the outline of Carrefour's operation, whether the enterprise management is healthy and the investment value.

Basic financial analysis mainly consists of three parts: profitability analysis, liquidity analysis and working capital analysis. From these three dimensions, we can basically get the outline of Carrefour's operation, whether the enterprise management is healthy and the investment value. Profitability refers to the ability of an enterprise to obtain profits, also known as the capital or capital appreciation ability of an enterprise, which is usually expressed as the amount and level of the enterprise's income in a certain period of time. The direct meaning of liquidity refers to the realization speed or realization ability of enterprise assets. Working capital refers to the net amount of working capital that an enterprise can use and revolve in its operations. From the relevant indicators, the ability of an enterprise to revolve commodities and funds can be obtained.

3.2.1. Profitability

We measure Carrefour's profitability from two dimensions. The first is from an investor's perspective, which focuses on the yields obtained by buying Carrefour's bonds and stocks. As shown in the figure 4 below, there are three relevant indicators that can be used to extract investment returns:

return on common stock, return on capital and return on invested capital. The figure shows that Carrefour's investment returns appear in a V-shaped range, falling in 2015-2017, at a trough in 2017 and 2018 (all three indicators are around -6.0% to -7.0%), and then rising. This shows that Carrefour's timely sale of loss-making businesses during 2017 and 2018 effectively changed its over-expansion to a loss that resulted in a negative return on investment. Although it was hit by the epidemic during 2020, Carrefour withstood the pressure and quickly returned the return on investment to a high level in 2021.

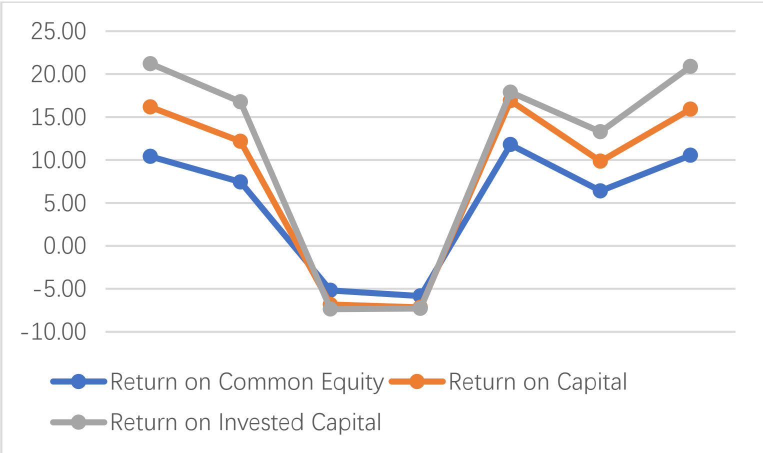

Figure 4: Return on Investment of Carrefour

The next step is to analyse the relative rate of change in returns. The basically unchanged or even slow decline of the total revenue growth rate shows that Carrefour has insufficient growth momentum, the market size cannot be expanded, and the revenue is stagnant. At the same time, the slow growth of EBITDA and net income shows that Carrefour's strategic goal is changing from scale expansion to refined operation and locking in profits , as shown in Figure 5.

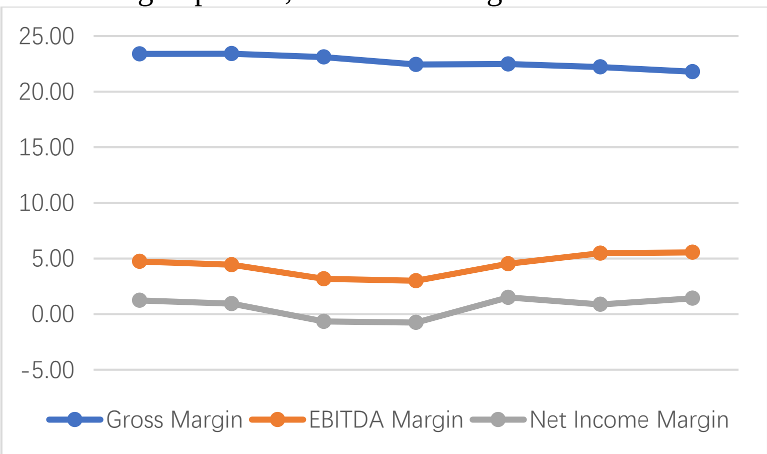

Figure 5: Margin of Relevant Income Indices

3.2.2. Liquidity

The strength of capital liquidity depends on the following factors: capital structure, if the proportion of working capital and quick capital is large, the liquidity is strong; product supply, production and sales cycle or commodity purchase and sales cycle; the complexity of production and operation varieties, the more varieties, the more the adjustment and liquidity of funds are stronger. Fund information feedback system and fund scheduling system, the faster the information feedback, the more sensitive the scheduling system, and the stronger the liquidity of funds. Fund liquidity is an important aspect that reflects the strength of an enterprise's ability to pay and the efficiency of its use of funds. Industrial and commercial enterprises should maintain appropriate funds. liquidity.

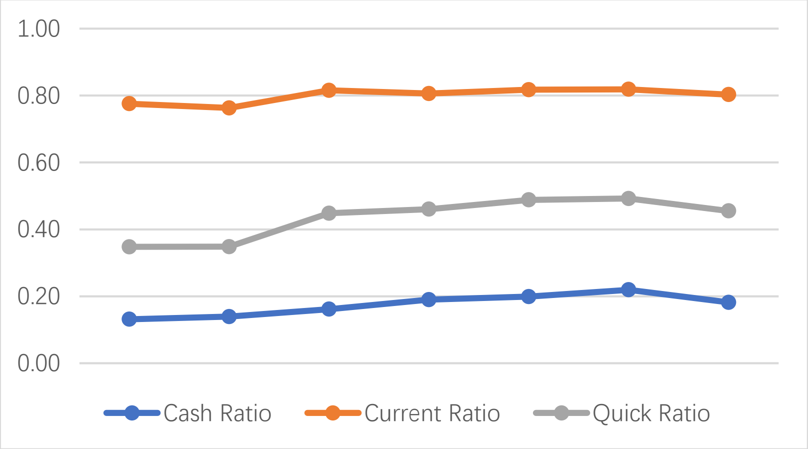

Figure 6: Cash, Current and Quick Ratio of Carrefour

As shown in the Figure 7 above, Carrefour's cash ratio, quick ratio and current ratio are slowly rising from 2015 to 2021. A higher correlation ratio indicates that Carrefour has a strong solvency and is less likely to face a shortage of capital chains and a bankruptcy crisis.

Table 1: Carrefour's capital structure

Percent (%)	2015	2016	2017	2018	2019	2020	2021
Debt / Equity in the Long Term	80.43	67.75	74.76	78.58	106.37	99.91	90.16
Debt / Capital in the Long Term	36.45	32.01	36.16	35.37	41.75	40.99	38.50
Debt / Total Assets in the Long Term	19.03	16.65	19.01	18.72	24.13	24.37	22.38

From the above table 1, Carrefour's capital structure is quite excellent. Taking the data of 2021 as an example, the ratio of long-term debt and equity is 90.16%; the ratio of long-term debt to capital is 38.50%; and the ratio of long-term debt to total assets is 22.38%. As a mature supermarket group, this is extremely rare, because large groups usually have higher depreciation expenses and loans required to maintain the commodity supply chain. These will increase the debt ratio.

3.2.3. Working Capital

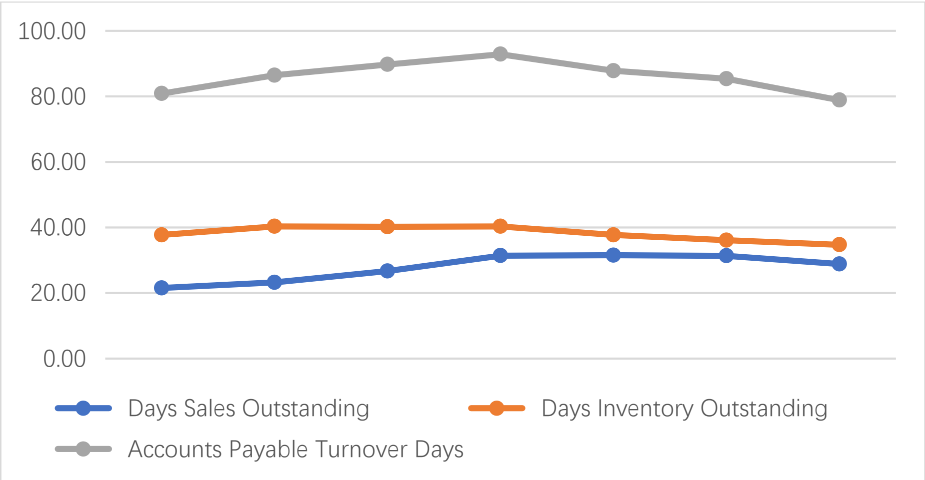

Figure 8: Turnover of Carrefour

Capital turnover is composed of production time and circulation time. The nature and technical production conditions of the products produced by each enterprise are different, as well as the geographical location, production and sales distance, and transportation means. The production time and circulation time must be different. Different capital turnaround times. For productive enterprises and large sales enterprises, capital and commodity turnover are extremely important, because a high commodity turnover rate can reduce inventory custody, and capital turnover blocks can quickly expand channels and reduce the risk of capital chain breakage , as shown in Figure 7.

Carrefour's Inventory and sales turnover days are roughly 30 days, which is a relatively fast level in the industry. But Accounts Payable Turnover Days are well below the industry average (60 days), with a minimum of 78.53 days for a turnover in 2021. Accounts receivable that lasts longer than two months can lead to slow expansion and delivery risks for businesses[10].

4. Discounted Cash Flow Model Construction

Free cash flow methods, shareholder value, and discounted dividends measure business value based on the ability to generate an investment return that exceeds the weighted average of its cost of capital. The remainder can be reinvested on a business-by-business basis or paid to shareholders as dividends. In the first case, the business can invest in plant and equipment, other working capital, or mergers and acquisitions, expecting to receive a return on capital that exceeds the selected strategy. Alternatively, shareholders can reinvest their dividends in the capital markets for a risk-adjusted rate of return.

4.1. Key Indicators

4.1.1. Total Revenue

In the economic sense, total revenue refers to the total revenue obtained by a manufacturer from selling a certain quantity of products or services, which is equal to the product of the product's selling price and the selling quantity. For today's companies, the definition of total revenue is more complex, which is the sum of the revenue from the sale of all services and products provided.

$$\text{Rev Growth} = \frac{\text{Rev}_1 - \text{Rev}_0}{\text{Rev}_0} \tag{1}$$

4.1.2. EBIT of Carrefour

EBIT, the full name of Earnings Before Interest and Tax. Different from net profit, EBIT removes the effects of capital structure and income tax policy. Therefore, companies in the same industry or similar industries can use EBIT as a revenue metric to more accurately compare profitability, regardless of local income tax rates or capital structure differences. EBIT is more comparable than net profit when the same company analyzes changes in profitability over time.

$$\text{EBIT Margin Rate } = \frac{\text{EBIT}}{\text{Rev}} \tag{2}$$

4.1.3. Depreciation and Amortization

Assets are depreciated and expenses are amortized. Depreciation generally refers to the depreciation of fixed assets; amortization generally includes amortization of low-value consumables, amortization of intangible assets, amortization of deferred expenses, and amortization of long-term deferred expenses. Both depreciation and amortization are charged to cost gradually, but over different periods of time. Depreciation for at least two years. Amortization, except for long-term deferred expenses, is all amortized within one year. Amortization is an expense that occurs this month and should be jointly borne by the product cost of this month and subsequent months.

$$\text{Depreciation and Amortization} = \frac{\text{Depreciation and Amortization}}{\text{EBIT}} \tag{3}$$

4.1.4. Capital Expense

Capital expenditures are expenditures incurred over multiple accounting periods for the benefit of servicing intermediary property or services. Therefore, we capitalize this type of expenditure, first credited to the asset class, and then phased into the corresponding expense account based on the gains earned.

$$\text{Capital Expense Margin} = \frac{\text{Capital Expense}}{\text{Depreciation and Amortization}} \tag{4}$$

4.1.5. Changes in The Net Working Capital

Changes in net working capital refer to the net amount of the total current assets of the joint venture less the total current liabilities, that is, the net amount of working capital available for use and turnover by the enterprise in its operations.

$$\text{Changes in The Net Working Capital} = \text{Current Total Assets} - \text{Current Total Liabilities}$$

4.1.6. Effective Tax Rate

The effective tax rate, assuming a fixed rate rather than a progressive rate, is the rate at which the taxpayer pays the tax. Explanation: Refers to the effective tax rate actually borne by the taxpayer, which is equal to the amount of tax actually paid by the taxpayer divided by the taxable object. In the absence of tax pass-through, it is equal to the tax burden rate.

4.1.7. Discount Rate

The discount rate is the rate of return under certain conditions, indicating the rate of return of the asset to obtain the income. In the case of a certain income, the higher the rate of return, the higher the unit asset appreciation rate, and the lower the value of the assets owned by the owner. Therefore, the higher the rate of return, the lower the asset appraisal value. The discount rate is the rate at which future finite-term expected returns are discounted to their present value.

The weight of WACC can be determined with reference to the proportion of financing amount with different interest rates to total capital. Using WACC as the discount rate assumes that the company's financing for a project will not disrupt the current capital structure, i.e., the same as the company's average cost of capital. In this way, the discounted present value can be used as a reference for the project.

Target value weights refer to the weights determined by the expected target market value of bonds and stocks in the future. This can reflect the expected capital structure, rather than just reflecting the past and present cost of capital structure like book value weights and market value weights. Therefore, the weighted average cost of capital calculated by the weight of target value is more suitable for enterprises to raise new funds.

The basic formula for calculating after-tax WACC is as follows:

$$WACC = (K_e \times W_e) + (K_d[1 - T] \times W_d) \tag{5}$$

- WACC: weighted average cost of capital;

- K_e: the cost of common equity capital of the company;
- K_d: the company's cost of debt capital;
- W_e: the percentage of equity capital in the capital structure;
- W_d : percentage of debt capital in the capital structure;
- T: The company's effective income tax rate.

4.1.8. Sustainable Growth Rate

The intrinsic value of the company = the sum of the discounted present value of the free cash flow in the next N years + the discounted present value of the perpetual annuity. Among them, the perpetual annuity is the sum of all the value that the company can create in the future. The perpetual annuity is the sum of the value that the company can create in the future, and its calculation formula is:

$$Terminal\ Value = \frac{FCFF_{final\ year} \times (1+s)}{WACC - s} \quad (6)$$

4.1.9. Present Value (Discounted)

The formula of computing the present value is common in the corporate finance valuations:

$$Presetn\ Value = \frac{FCFF_1}{(1+WACC)^1} + \frac{FCFF_2}{(1+WACC)^2} + \cdots + \frac{FCFF_n}{(1+WACC)^n} + \frac{Terminal\ Value}{(1+WACC)^n} \quad (7)$$

4.1.10. Endogenous Value per Share

To first calculate the equity value:

Equity Value = Present Value - Net Debt - Non-controlling Interest - Preferred Stock (8)

Finally, we get the endogenous value per share simply by dividing the company's equity value by the number of common shares issued.

$$Endogenous\ Value\ per\ Share = \frac{Equity\ Value}{Number\ of\ Common\ Shares\ Issued} \quad (9)$$

5. Valuation Results and Comments

We illustrate the results of the valuation along the order of the previous DCF model. We first show the historical FCFF data, and then calculate the indicators required for the corresponding future valuation based on the historical financial data. The future FCFF data is then calculated and discounted. The sum of the discounted present values is the current present value of the company. After going through a series of formula transformations, the endogenous value estimated based on historical financials is finally obtained.

5.1. 2015-2021 Historical Free Cash Flows of Carrefour

The table below shows the calculation process of historical cash flow. Historical cash flow calculations include EBIT, taxes, depreciation and amortization, capital expenditures and changes in net working capital. Total return is represented here only as a variable useful for extrinsic forecasting.

We can see that Carrefour's free cash flow has remained positive from 2015 to 2022, which shows the company's stable operating model and continuous positive free cash flow favored by investors - a very good signs of operation. Even in 2020 and 2021, when large supermarkets are generally affected by the impact of the epidemic, passenger flow is reduced, and operating costs are increased, Carrefour's free cash flow is still US$2,039 million and US$2,314 million, even higher than the previous average. This shows that Carrefour is more resistant to the harsh macroeconomic environment and uncertainties, which is also favoured by investors.

Table 2: The calculation process of historical cash flow

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue	88144	87843	91546	88339	83836	83235	88872
EBIT	2714	2722	2680	2290	2412	2482	2688
- Taxes	663	269	588	502	499	477	439
+ D&A	1574	1255	1370	1437	1492	1645	1781
- Capex	2192	2597	2211	1391	1378	1332	1371
Working Capital	-5504	-5006	-5947	-4257	-4493	-4214	-3869
- Changes Working Capital		498	-941	1690	-236	279	345
= Free Cash Flow to the Firm	1433	613	2192	144	2263	2039	2314

Table 3: The calculation process of historical cash flow (change rates)

Revenue growth rate		-0.34%	4.21%	-3.50%	-5.10%	-0.72%	6.77%
Effective Tax rate	2021 Effective Tax Rate						
EBIT Margin		0.29%	-1.54%	-14.54%	5.34%	2.89%	8.31%
D&A/ EBIT	58%	46.11%	51.13%	62.75%	61.84%	66.27%	66.25%
Capex/ D&A	1.39263	206.93%	161.39%	96.80%	92.36%	80.97%	76.98%
Change Capital / Chg. Revenue		-165.68%	-25.42%	-52.69%	5.24%	-46.37%	6.12%

From the above Table 2 and Table 3, the characteristics of Carrefour's financial data are that it fluctuates in a small range and is stable, and it is affected by the impact of the epidemic and the loss of the Chinese market in previous years. Carrefour's revenue and EBIT situation is not optimistic. However, combined with the above data, we can still safely use the mean of historical data for prediction. The historical averages of Revenue growth rate, Effective Tax rate, EBIT Margin, D&A/ EBIT, Capex/ D&A, Change Capital / Chg. Revenue in 7 years are: 0.22%, 22.86%, 0.12%, 58.91%, 122.10%, -46.47%.

5.2. 2022-2028 Future Free Cash Flows of Carrefour

The table 4 below shows our financial metrics and FCFF calculations for predicting future data from historical data:

Table 4: The calculation process of future cash flow

	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Revenue	93322	93528	93736	93943	94151	94360	94569
EBIT	2783	2787	2790	2794	2797	2801	2804
- Taxes	636	637	638	639	639	640	641
+ D&A	1844	1642	1644	1646	1648	1650	1652
- Capex	1419	2004	2007	2009	2012	2014	2017
Working Capital							
- Changes Working Capital	2382	111	111	111	111	112	112
= Free Cash Flow to the Firm	190	1676	1678	1680	1682	1684	1686

Except for 2022 and 2028, the predicted results are relatively stable. The reason for this is that the calculated value in 2022 is correspondingly predicted based on the value of the previous 2021 data, so there are more instability and particularity. The subsequent forecast values show a relatively stable upward trend, corresponding to the growth of relevant calculation indicators.

5.3. Discount Rate

Next, let's calculate the discount rate, which is WACC in this graduation thesis. First of all, we need to explain the macroeconomic variables and market variables that need to be used.

- We use the yield of the French 10-year bond as the risk-free rate of return for this graduation thesis, which is 1.797%;
- The equity risk premium we use comes from the well-known investment website ValueInvesting. Considering the current overall poor operating conditions of large supermarkets, we choose the minimum value of 5.20% as our adopted value;
- Carrefour's latest bond issue in this market has a coupon rate of 1.25% and a maturity date of June 3, 2025. This can be used as a benchmark for the debt spread used in our calculations.
- Total debt: 15871 million; Total equity: 11,830 million.

Table 5: WACC Estimation Based on the Previous Macroeconomic and Market Assumptions

WACC Estimation	
Cost of Equity	5.91%
Cost of Debt	2.35%
Debt/ (Debt + Equity)	0.5729
WACC	3.87%

Calculated WACC of Carrefour is 3.87%, which is a low WACC even for large supermarkets, lower than the net yield of most one-year pure bond wealth management products. This number has advantages and disadvantages. The advantage is that Carrefour can demand lower financing costs when facing investors, which corresponds to stable cash flow and financial position. The downside is that it is not conducive to attracting investors and large-scale financing to expand the scale of the business, because a lower WACC usually means there is no promising growth space , as shown in Table 5.

5.4. Discounted Present Value and Intrinsic value per share

Now we can discount all the estimated FCFF and start adding up to get the total value of Carrefour's future company value in 2021. As the table 6 follows:

Table 6: Discounted FCFF Value in 2021

Year	1	2	3	4	5	6	7	8
Rate	96.28%	92.69%	89.24%	85.91%	82.71%	79.63%	76.67%	73.81%
Discounted Value	182.51	1553.93	1497.81	1443.73	1391.59	1341.34	1292.90	42618.94

Additionally, we use the GDP growth rate of the past 10 years as its permanent growth rate, which is 0.9210%. The estimated terminal value is 57739.74 million.

Then we need to obtain key data from Carrefour's original financial statements to calculate the endogenous value per share. Key figures include (in million): Enterprise Value: 51323, Net Debt: 11842, Minority Interest: 1579, Financial Investments: 884, Number of shares outstanding: 776.

From this, we can calculate that the estimated equity value of Carrefour is 38,786 million francs, and the corresponding endogenous value per share is 49.99 francs.

5.5. Investment Comment on DCF Valuations

According to the Carrefour share price on December 31, 2021 provided by Yahoo Finance, the stock market price of Carrefour is 16.10 francs, that is to say, for market investors, Carrefour's investment prospects are pessimistic, and its expansion and reoccupation of the market The chances of a share are also slim. However, our DCF model calculates the intrinsic value per share at 49.99 francs, a difference of three times.

Judging from Carrefour's financial data, I think investors are too undervalued for Carrefour. Although Carrefour has withdrawn from a large number of international markets and sold a large number of stores, it has deeply cultivated in the European region, and can stabilize its income and cost and have a good free cash flow during the epidemic. I think the market's underestimation of Carrefour is mainly due to its pessimism about its market share and concerns about the continuation of the epidemic in the future.

Combining the opinions of market investors and my analysis, I believe that Carrefour's stock should be bought in the short term and kept on the side-lines in the long term , as shown in Table 7, Table 8 and Table 9.

6. Conclusion

Carrefour has positioned its target market at the broad working class, and established a commodity structure focusing on daily necessities. But the two have different understandings of the needs of consumers in this target market. Carrefour believes that more and more shoppers have the same preferences and habits, so most of the things in its store are standardized, emphasizing the scale effect. At the same time, Carrefour attaches great importance to the high turnover of commodities; it focuses on convenience products, and appropriately distributes optional products; it mainly focuses on mid-range products, and appropriately considers high-end and low-end products to meet the different needs of these consumer groups. At the same time also sell goods to low-end products.

Combined with Carrefour's external environment, financial data and DCF model, I think investors' valuation of Carrefour is too low. Although Carrefour has withdrawn from the international market in large numbers and sold a large number of stores, it has been deeply cultivated in Europe and has been able to stabilize income and costs during the epidemic, and has good free cash flow. I think the market's underestimation of Carrefour is mainly due to its pessimism about its market share and concerns about the continuation of the epidemic in the future. Ultimately, I think Carrefour stock should be a short-term buy and a long-term wait-and-see.

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Appendix

Table 7: Carrefour Income Statements

Carrefour SA (CA FP) - BBG Adjusted							
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue	**88,144.0**	**87,843.5**	**91,545.8**	**88,338.6**	**83,836.2**	**83,234.5**	**88,871.9**
+ Sales & Services Revenue	85,409.0	84,832.9	88,474.1	85,460.2	81,047.6	80,742.1	86,291.1
+ Other Revenue	2,735.0	3,010.6	3,071.7	2,878.4	2,788.6	2,492.4	2,580.8
- Cost of Revenue	67,530.2	67,283.0	70,394.1	68,519.4	64,987.4	64,741.9	69,506.5
+ Cost of Goods & Services	67,530.2	67,283.0	70,394.1	68,519.4	64,987.4	64,741.9	69,506.5
Gross Profit	**20,613.8**	**20,560.4**	**21,151.8**	**19,819.3**	**18,848.8**	**18,492.6**	**19,365.4**
+ Other Operating Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Operating Expenses	17,899.9	17,838.8	18,472.1	17,529.1	16,436.3	16,010.5	16,677.0
+ Selling, General & Admin	15,655.4	15,658.3	16,279.3	16,116.4	12,733.1	13,521.5	14,039.4
+ Selling & Marketing	*994.6*	*1,057.0*	*1,094.7*	*973.2*	*885.5*	*697.6*	*758.2*
+ General & Administrative	*14,660.9*	*14,601.3*	*15,184.6*	*15,143.2*	*11,847.5*	*12,823.9*	*13,281.3*
+ Depreciation & Amortization	1,631.7	1,644.7	1,698.0	1,730.3	2,595.0	2,602.0	2,682.5
+ Other Operating Expense	612.7	535.7	494.8	-317.7	1,108.3	-113.0	-44.9
Operating Income (Loss)	**2,714.0**	**2,721.7**	**2,679.7**	**2,290.2**	**2,412.5**	**2,482.1**	**2,688.4**
- Non-Operating (Income) Loss	528.4	613.2	505.0	295.3	391.8	397.3	315.8
+ Interest Expense, Net	379.6	406.2	358.1	217.3	342.6	307.1	313.4
+ Interest Expense	*420.7*	*447.2*	*386.4*	*230.3*	*347.0*	*310.6*	*313.4*
- Interest Income	*41.1*	*41.0*	*28.2*	*13.0*	*4.5*	*3.4*	*0.0*
+ Other Investment (Inc) Loss	—	—	-3.4	-3.5	-4.5	-3.4	-3.5
+ Foreign Exch (Gain) Loss	-7.8	-1.1	4.5	0.0	12.3	32.0	-5.9
+ (Income) Loss from Affiliates	-48.8	39.8	-4.5	-16.5	-2.2	14.8	-14.2
+ Other Non-Op (Income) Loss	205.4	168.2	150.3	98.0	43.7	46.8	26.0
Pretax Income (Loss), Adjusted	**2,185.6**	**2,108.5**	**2,174.7**	**1,994.9**	**2,020.7**	**2,084.8**	**2,372.6**
- Abnormal Losses (Gains)	279.7	528.0	1,572.6	1,327.6	1,215.8	542.3	442.4
+ Disposal of Assets	-71.0	-43.2	-24.9	-67.3	31.3	-21.7	-320.5
+ Asset Write-Down	125.4	138.4	207.9	220.9	223.9	219.2	158.5
+ Impairment of Goodwill	2.2	5.5	798.7	3.5	1.1	118.7	99.4
+ Legal Settlement	—	119.5	268.9	—	—	—	—
+ Restructuring	263.1	170.5	315.2	836.2	614.6	106.2	455.4
+ Sale of Investments	-5.6	-3.3	-7.9	-7.1	—	—	—
+ Other Abnormal Items	-34.4	140.6	14.7	341.3	344.8	119.9	49.7
Pretax Income (Loss), GAAP	**1,905.9**	**1,580.6**	**602.1**	**667.3**	**804.9**	**1,542.5**	**1,930.3**
- Income Tax Expense (Benefit)	662.7	546.8	698.2	626.0	563.1	568.6	441.2
+ Current Income Tax	603.8	651.9	560.3	631.9	531.8	608.5	525.1
+ Deferred Income Tax	58.8	-105.1	137.8	-5.9	31.3	-40.0	-84.0
Income (Loss) from Cont Ops	**1,243.2**	**1,033.8**	**-96.0**	**41.3**	**241.8**	**973.9**	**1,489.1**
- Net Extraordinary Losses (Gains)	-3.3	44.3	312.9	448.8	-1,222.5	25.1	-49.7
+ Discontinued Operations	-3.3	44.3	312.9	448.8	-1,222.5	25.1	-49.7
Income (Loss) Incl. MI	**1,246.5**	**989.5**	**-409.0**	**-407.5**	**1,464.3**	**948.8**	**1,538.8**
- Minority Interest	158.7	163.8	190.9	255.1	203.7	216.9	270.9
Net Income Avail to Common, GAAP	**1,087.8**	**825.7**	**-599.9**	**-662.6**	**1,260.5**	**731.9**	**1,267.9**
Net Income Avail to Common, Adj	**1,258.7**	**1,218.2**	**1,019.4**	**658.3**	**835.6**	**1,163.7**	**1,563.2**
Net Abnormal Losses (Gains)	174.3	348.2	1,306.4	872.1	797.6	406.7	344.9
Net Extraordinary Losses (Gains)	-3.3	44.3	312.9	448.8	-1,222.5	25.1	-49.7
Diluted Weighted Avg Shares	723.3	739.4	755.5	775.1	791.6	807.6	791.4
Diluted EPS, GAAP	**1.51**	**1.12**	**-0.79**	**-0.85**	**1.59**	**0.90**	**1.60**
EBITDA	4,461.1	4,434.0	4,488.4	3,987.5	5,007.5	5,099.0	5,381.6
EBITDA Margin (T12M)	5.06	5.05	4.90	4.51	5.97	6.13	6.06
EBITA	3,001.4	2,947.5	2,988.1	2,502.8	2,722.6	2,784.7	2,985.3
EBIT	2,714.0	2,721.7	2,679.7	2,290.2	2,412.5	2,482.1	2,688.4
Gross Margin	23.39	23.41	23.11	22.44	22.48	22.22	21.79
Operating Margin	3.08	3.10	2.93	2.59	2.88	2.98	3.03
Profit Margin	1.43	1.39	1.11	0.75	1.00	1.40	1.76
Sales per Employee	231,397.77	228,669.09	241,594.82	242,780.64	260,860.73	258,360.77	278,102.73
Dividends per Share	0.78	0.77	0.52	0.54	0.52	0.55	0.62
Total Cash Common Dividends	573.8	585.9	402.6	428.8	415.7	448.1	477.2
Personnel Expenses	9,112.0	9,120.3	9,555.2	9,189.1	8,448.8	8,291.3	8,616.5
Depreciation Expense	1,459.7	1,486.5	1,500.3	1,484.7	2,284.9	2,314.3	2,396.3
Rental Expense	1,162.2	1,231.9	1,100.3	—	—	—	—

Table 8: Carrefour Balance Sheets

Carrefour SA (CA FP) - Standardized										
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
+ Cash, Cash Equivalents & STI	6,641.0	4,928.0	3,411.0	2,932.0	3,495.0	3,727.0	4,404.0	4,594.0	4,685.0	4,029.0
+ Cash & Cash Equivalents	6,573.0	4,757.0	3,113.0	2,724.0	3,305.0	3,593.0	4,300.0	4,466.0	4,439.0	3,704.0
+ ST Investments	68.0	171.0	298.0	208.0	190.0	134.0	104.0	128.0	246.0	325.0
+ Accounts & Notes Receiv	4,379.0	4,348.0	4,537.0	4,831.0	5,244.0	6,616.0	6,259.0	6,676.0	5,821.0	6,054.0
+ Accounts Receivable, Net	1,093.0	1,127.0	1,117.0	1,173.0	1,342.0	2,750.0	2,537.0	2,669.0	2,526.0	2,581.0
+ Notes Receivable, Net	3,286.0	3,221.0	3,420.0	3,658.0	3,902.0	3,866.0	3,722.0	4,007.0	3,295.0	3,473.0
+ Inventories	5,658.0	5,738.0	6,213.0	6,362.0	7,039.0	6,690.0	6,135.0	5,867.0	5,326.0	5,858.0
+ Other ST Assets	3,109.0	3,131.0	3,388.0	3,186.0	3,370.0	1,784.0	1,871.0	1,738.0	1,641.0	1,844.0
+ Prepaid Expenses	307.0	297.0	302.0	288.0	327.0	344.0	329.0	299.0	304.0	476.0
+ Derivative & Hedging Assets	46.0	137.0	111.0	151.0	49.0	27.0	86.0	124.0	122.0	207.0
+ Assets Held-for-Sale	703.0	352.0	145.0	66.0	31.0	16.0	46.0	37.0	124.0	20.0
+ Taxes Receivable	520.0	715.0	1,136.0	1,168.0	1,044.0	890.0	853.0	838.0	608.0	675.0
+ Misc ST Assets	1,533.0	1,630.0	1,694.0	1,513.0	1,919.0	507.0	557.0	440.0	483.0	466.0
Total Current Assets	**19,787.0**	**18,145.0**	**17,549.0**	**17,311.0**	**19,148.0**	**18,817.0**	**18,669.0**	**18,875.0**	**17,473.0**	**17,785.0**
+ Property, Plant & Equip, Net	12,022.0	11,422.0	12,568.0	12,454.0	13,720.0	13,097.0	12,637.0	16,420.0	15,011.0	15,082.0
+ Property, Plant & Equip	28,732.0	27,625.0	29,538.0	29,644.0	31,644.0	31,621.0	31,971.0	35,741.0	35,319.0	36,755.0
- Accumulated Depreciation	16,710.0	16,203.0	16,970.0	17,190.0	17,924.0	18,524.0	19,334.0	19,321.0	20,308.0	21,673.0
+ LT Investments & Receivables	3,419.0	3,466.0	3,823.0	3,564.0	3,783.0	4,230.0	3,762.0	3,438.0	2,886.0	2,705.0
+ LT Investments	1,059.0	1,081.0	1,263.0	1,213.0	1,403.0	1,775.0	1,266.0	1,155.0	953.0	884.0
+ LT Receivables	2,360.0	2,385.0	2,560.0	2,351.0	2,380.0	2,455.0	2,496.0	2,283.0	1,933.0	1,821.0
+ Other LT Assets	10,778.0	10,481.0	11,849.0	11,766.0	12,194.0	11,669.0	12,310.0	12,731.0	12,218.0	12,096.0
+ Total Intangible Assets	9,409.0	9,044.0	9,543.0	9,509.0	9,906.0	9,341.0	9,444.0	9,428.0	9,359.0	9,328.0
+ Goodwill	*8,608.0*	*8,277.0*	*8,228.0*	*8,495.0*	*8,640.0*	*7,977.0*	*7,983.0*	*7,976.0*	*8,034.0*	*7,995.0*
+ Other Intangible Assets	*801.0*	*767.0*	*1,315.0*	*1,014.0*	*1,266.0*	*1,364.0*	*1,461.0*	*1,452.0*	*1,325.0*	*1,333.0*
+ Deferred Tax Assets	919.0	881.0	759.0	744.0	829.0	636.0	723.0	824.0	679.0	631.0
+ Investments in Affiliates	66.0	60.0	78.0	78.0	98.0	1,355.0	1,374.0	1,246.0	1,172.0	1,256.0
+ Misc LT Assets	384.0	496.0	1,469.0	1,435.0	1,361.0	264.0	709.0	1,231.0	1,007.0	878.0
Total Noncurrent Assets	**26,219.0**	**25,369.0**	**28,240.0**	**27,784.0**	**29,697.0**	**28,996.0**	**28,709.0**	**32,589.0**	**30,115.0**	**29,883.0**
Total Assets	**46,006.0**	**43,514.0**	**45,789.0**	**45,095.0**	**48,845.0**	**47,813.0**	**47,378.0**	**51,464.0**	**47,588.0**	**47,668.0**
+ Payables & Accruals	13,965.0	13,767.0	14,556.0	14,745.0	16,656.0	19,058.0	18,121.0	17,297.0	16,123.0	16,840.0
+ Accounts Payable	12,925.0	12,854.0	13,384.0	13,648.0	15,396.0	15,082.0	14,161.0	13,646.0	12,560.0	13,072.0
+ Accrued Taxes	1,040.0	913.0	1,172.0	1,097.0	1,260.0	1,282.0	1,142.0	1,063.0	1,039.0	1,108.0
+ Other Payables & Accruals	0.0	0.0	0.0	0.0	0.0	2,694.0	2,818.0	2,588.0	2,524.0	2,660.0
+ ST Debt	5,295.0	4,828.0	5,475.0	4,294.0	5,270.0	3,886.0	4,921.0	5,650.0	5,087.0	5,205.0
+ ST Borrowings	5,295.0	4,828.0	5,475.0	4,294.0	5,270.0	3,886.0	4,921.0	4,709.0	4,151.0	4,210.0
+ ST Lease Liabilities	—	—	—	—	—	—	—	941.0	936.0	995.0
+ Other ST Liabilities	2,695.0	2,787.0	3,022.0	3,278.0	3,169.0	130.0	120.0	142.0	132.0	105.0
+ Deferred Revenue	0.0	0.0	0.0	0.0	0.0	118.0	120.0	93.0	93.0	105.0
+ Derivatives & Hedging	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Misc ST Liabilities	2,695.0	2,787.0	3,022.0	3,278.0	3,169.0	12.0	0.0	49.0	39.0	0.0
Total Current Liabilities	**21,955.0**	**21,382.0**	**23,053.0**	**22,317.0**	**25,095.0**	**23,074.0**	**23,162.0**	**23,089.0**	**21,342.0**	**22,150.0**
+ LT Debt	10,949.0	9,315.0	8,404.0	8,583.0	8,135.0	9,089.0	8,868.0	12,417.0	11,598.0	10,666.0
+ LT Borrowings	10,949.0	9,315.0	8,404.0	8,583.0	8,135.0	9,089.0	8,868.0	8,120.0	7,811.0	7,064.0
+ LT Lease Liabilities	—	—	—	—	—	—	—	4,297.0	3,787.0	3,602.0
+ Other LT Liabilities	5,055.0	4,138.0	4,104.0	3,523.0	3,607.0	3,492.0	4,062.0	4,285.0	3,039.0	3,022.0
+ Accrued Liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Pension Liabilities	1,256.0	1,272.0	1,426.0	1,260.0	1,279.0	1,256.0	1,095.0	1,176.0	839.0	786.0
+ Deferred Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Deferred Tax Liabilities	580.0	521.0	523.0	508.0	543.0	489.0	541.0	655.0	467.0	374.0
+ Misc LT Liabilities	3,219.0	2,345.0	2,155.0	1,755.0	1,785.0	1,747.0	2,426.0	2,454.0	1,733.0	1,862.0
Total Noncurrent Liabilities	**16,004.0**	**13,453.0**	**12,508.0**	**12,106.0**	**11,742.0**	**12,581.0**	**12,930.0**	**16,702.0**	**14,637.0**	**13,688.0**
Total Liabilities	**37,959.0**	**34,835.0**	**35,561.0**	**34,423.0**	**36,837.0**	**35,655.0**	**36,092.0**	**39,791.0**	**35,979.0**	**35,838.0**
+ Share Capital & APIC	1,773.0	1,810.0	1,837.0	1,846.0	1,891.0	1,937.0	1,973.0	2,018.0	2,044.0	1,940.0
+ Other Equity	5,408.0	6,115.0	7,354.0	7,787.0	8,535.0	8,122.0	7,196.0	7,919.0	8,058.0	8,311.0
Equity Before Minority Interest	**7,181.0**	**7,925.0**	**9,191.0**	**9,633.0**	**10,426.0**	**10,059.0**	**9,169.0**	**9,937.0**	**10,102.0**	**10,251.0**
+ Minority/Non Controlling Interest	866.0	754.0	1,037.0	1,039.0	1,582.0	2,099.0	2,117.0	1,736.0	1,507.0	1,579.0
Total Equity	**8,047.0**	**8,679.0**	**10,228.0**	**10,672.0**	**12,008.0**	**12,158.0**	**11,286.0**	**11,673.0**	**11,609.0**	**11,830.0**
Total Liabilities & Equity	**46,006.0**	**43,514.0**	**45,789.0**	**45,095.0**	**48,845.0**	**47,813.0**	**47,378.0**	**51,464.0**	**47,588.0**	**47,668.0**
Reference Items										
Shares Outstanding	709.2	724.0	734.9	738.5	756.2	774.7	789.3	807.3	817.6	775.9
Number of Treasury Shares	23.2	22.8	23.4	11.0	9.5	11.7	9.5	9.5	9.5	9.5
Pension Obligations	1,256.0	1,272.0	1,426.0	1,260.0	1,279.0	1,256.0	1,095.0	1,176.0	839.0	786.0
Future Minimum Operating Lease Obligations	3,840.0	2,943.0	2,535.0	3,195.0	3,360.0	3,457.0	3,308.0	—	—	—
Capital Leases - Total	420.0	388.0	398.0	351.0	—	—	307.0	—	—	—

Options Outstanding at Period End	22.1	15.3	11.5	7.3	1.8	1.8	0.0	3.3	1.8	2.6
Net Debt	4,605.0	4,305.0	5,161.0	4,696.0	4,580.0	3,770.0	9,385.0	13,473.0	12,000.0	11,842.0
Net Debt to Equity	57.23	49.60	50.46	44.00	38.14	31.01	83.16	115.42	103.37	100.10
Tangible Common Equity Ratio	-6.09	-3.25	-0.97	0.35	1.34	1.87	-0.72	1.21	1.94	2.41
Current Ratio	0.90	0.85	0.76	0.78	0.76	0.82	0.81	0.82	0.82	0.80
Cash Conversion Cycle	-28.27	-23.16	-22.27	-21.64	-22.90	-22.85	-21.12	-18.57	-17.89	-15.31
Number of Employees	357,342.00	363,989.00	381,227.00	380,920.00	384,151.00	378,923.00	363,862.00	321,383.00	322,164.00	319,565.00

Table 9: Carrefour Cash Flow Sheet

Carrefour SA (CA FP) - Standardized									
Cash from Operating Activities									
+ Net Income	1,263.0	1,249.0	980.0	746.0	-531.0	-561.0	1,126.0	641.0	1,072.0
+ Depreciation & Amortization	1,483.0	1,451.0	1,574.0	1,547.0	1,601.0	1,437.0	2,318.0	2,292.0	2,277.0
+ Non-Cash Items	-1,247.0	-636.0	-354.0	223.0	1,394.0	932.0	-709.0	212.0	98.0
+ Other Non-Cash Adj	-1,247.0	-636.0	-354.0	223.0	1,394.0	932.0	-709.0	212.0	98.0
+ Chg in Non-Cash Work Cap	-285.0	19.0	275.0	454.0	157.0	114.0	56.0	15.0	-32.0
+ (Inc) Dec in Accts Receiv	-34.0	80.0	-69.0	-117.0	-73.0	-9.0	-122.0	-6.0	-100.0
+ (Inc) Dec in Inventories	-135.0	-310.0	-528.0	-350.0	22.0	248.0	-313.0	79.0	-422.0
+ Inc (Dec) in Accts Payable	-31.0	246.0	875.0	1,083.0	329.0	-184.0	913.0	-66.0	376.0
+ Inc (Dec) in Other	-85.0	3.0	-3.0	-162.0	-121.0	59.0	-422.0	8.0	114.0
+ Net Cash From Disc Ops	-26.0	63.0	-19.0	-43.0	-98.0	-59.0	109.0	-54.0	-15.0
Cash from Operating Activities	**1,188.0**	**2,146.0**	**2,456.0**	**2,927.0**	**2,523.0**	**1,863.0**	**2,900.0**	**3,106.0**	**3,400.0**
Cash from Investing Activities									
+ Change in Fixed & Intang	-2,042.0	-2,118.0	-2,192.0	-2,597.0	-2,211.0	-1,391.0	-1,378.0	-1,332.0	-1,371.0
+ Disp in Fixed & Intang	117.0	293.0	186.0	152.0	158.0	169.0	347.0	159.0	282.0
+ Acq of Fixed & Intang	-2,159.0	-2,411.0	-2,378.0	-2,749.0	-2,369.0	-1,560.0	-1,725.0	-1,491.0	-1,653.0
+ Net Change in LT Investment	-141.0	-145.0	-25.0	8.0	5.0	-3.0	79.0	-3.0	-167.0
+ Dec in LT Investment	16.0	3.0	4.0	8.0	5.0	20.0	103.0	13.0	7.0
+ Inc in LT Investment	-157.0	-148.0	-29.0	0.0	0.0	-23.0	-24.0	-16.0	-174.0
+ Net Cash From Acq & Div	493.0	-1,106.0	-49.0	-187.0	-251.0	-188.0	252.0	-284.0	50.0
+ Cash from Divestitures	526.0	82.0	7.0	6.0	9.0	1.0	338.0	7.0	185.0
+ Cash for Acq of Subs	-33.0	-1,188.0	-56.0	-193.0	-260.0	-189.0	-86.0	-291.0	-135.0
+ Cash for JVs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Other Investing Activities	373.0	-41.0	123.0	-95.0	-161.0	-10.0	54.0	-222.0	154.0
+ Net Cash From Disc Ops	462.0	13.0	7.0	16.0	-17.0	-21.0	-20.0	—	—
Cash from Investing Activities	**-855.0**	**-3,397.0**	**-2,136.0**	**-2,855.0**	**-2,635.0**	**-1,613.0**	**-1,013.0**	**-1,841.0**	**-1,334.0**
Cash from Financing Activities									
+ Dividends Paid	-108.0	-149.0	-390.0	-121.0	-151.0	-152.0	-106.0	-57.0	-383.0
+ Cash From (Repayment) Debt	-1,793.0	-424.0	-619.0	188.0	-466.0	886.0	-1,361.0	-665.0	-1,536.0
+ Cash (Repurchase) of Equity	3.0	-13.0	398.0	285.0	929.0	131.0	75.0	1.0	-701.0
+ Increase in Capital Stock	3.0	5.0	398.0	285.0	969.0	131.0	75.0	1.0	1.0
+ Decrease in Capital Stock	0.0	-18.0	0.0	0.0	-40.0	0.0	0.0	0.0	-702.0
+ Other Financing Activities	-158.0	192.0	152.0	26.0	371.0	-79.0	-120.0	-116.0	-179.0
+ Net Cash From Disc Ops	54.0	-17.0	0.0	0.0	0.0	-13.0	-128.0	—	—
EBITDA	3,865.0	3,986.0	3,762.0	3,526.0	2,574.0	2,246.0	3,387.0	3,991.0	4,176.0
Trailing 12M EBITDA Margin	5.00	5.18	4.74	4.44	3.18	3.00	4.52	5.47	5.56
Interest Received	—	—	—	—	—	0.0	121.0	113.0	106.0
Net Cash Paid for Acquisitions	33.0	1,188.0	56.0	193.0	260.0	189.0	86.0	291.0	135.0
Free Cash Flow	-971.0	-265.0	78.0	178.0	154.0	303.0	1,175.0	1,615.0	1,747.0
Free Cash Flow to Firm	-672.7	15.9	325.2	442.2	99.5	315.1	1,268.1	1,786.7	1,951.4
Free Cash Flow to Equity	-2,647.0	-396.0	-355.0	518.0	-154.0	1,358.0	161.0	1,109.0	493.0
Free Cash Flow per Basic Share	-1.40	-0.37	0.11	0.24	0.20	0.39	1.49	2.00	2.22
Price to Free Cash Flow	—	—	247.14	95.06	88.50	38.14	10.06	7.00	7.25
Cash Flow to Net Income	0.94	1.72	2.51	3.92	—	—	2.58	4.85	3.17