

Financial Analysis and Valuation on Carrefour SA

Mingxuan Li^{1, *}

¹ Business School, University of Nottingham Ningbo China, Ningbo, China

* Corresponding Author Email: biyml14@nottingham.edu.cn

Abstract. As one of the largest retailers in the world, Carrefour SA performed outstandingly in FY 2021. In the face of the post-pandemic recovery of economy, in order to provide information and suggestions on investment, the paper analyses the accounting and performance of Carrefour in FY 2021. The accounting of essential factors in retail industry such as revenue, inventory, depreciation and goodwill was reliable and precise comparing to its most competitors. Performance was surprising and showed an increasing trend. Based on previous data and recent news, the paper forecasts the revenue, costs, interest and tax charges and the balance sheet. The continuous demand of the market and the expansion in Brazil market may have positive effects while the high inflation and developing energy crisis in Europe are the opposite. Using discounted cash flow (DCF) valuation method, the earnings per share (EPS) of Carrefour SA in FY 2022 and FY 2023 are calculated. Both Yahoo and Bloomberg give similar predictions that the EPS are expected to have a positive prospect.

Keywords: Financial Analysis, Valuation, Carrefour, Forecast.

1. Introduction

Carrefour SA is the largest retailer in France and the eighth largest retailer in the world [1]. It operates supermarkets, hypermarkets, e-commerce websites and convenience stores in Europe, Asia, South America and the rest of the world. The main markets of Carrefour are France (48% of sales), Europe (29% of sales), Latin America (19% of sales) and Asia (3% of sales) [2]. The business model of Carrefour is to provide consumers with almost everything they want, from food to household goods in a one-step platform online or offline [3]. It has built an effective delivery system and trying to use the omnichannel approach to offer products with competitive prices and high quality. Carrefour also focuses on food quality and supports organic production [4].

An influential global strategy in 2021 is that Carrefour decided to refocus on European and Latin American markets and sell Carrefour Taiwan. Carrefour Taiwan, which owned 340 stores would be taken over by the Uni-President group using Carrefour's brand and becoming one of Carrefour brand licensees. In contrast, Carrefour Brazil completed the acquisition of Grupo BIG for \$1.38 million and was also allowed to operate Sam's Club in the country. Carrefour Brazil was then able to expand with over 1,000 stores in this potential market, establishing a competitive system that covers delivery, retail and service [5]. The transaction is expected to complete in 2022 [2]. In the face of competition from e-commerce in the pandemic era, Carrefour decided strongly accelerate its digital strategy and compete with online retailers. Eight new fulfilment centres were opened and Carrefour decided to corporate with Uber Eats and Cajoo. The aim of this plan is to make Carrefour lead the French live shopping market [6].

The financial performance of Carrefour SA in 2021 was excellent. The net revenues increased by about 3% and net income increased by 6% due to the recovery of economy after the pandemic and the recovery of consumption. Several cost-saving plans also helped control the expense of operating leading to a 13% increase in operating income. The net free cash flow reached a record of €1,228m and adjusted earnings per share rose by 13.2%, to €1.47 [5].

2. Accounting analysis

The financial statement and main relative statistics are based on the 2021 full-year results presentation of Carrefour SA released on February 14th, 2022. Four key areas, revenue recognition,

depreciation inventory and goodwill that require more adjustment or explanation which are essential in the retail industry are discussed in this section. Tesco PLC, J Sainsbury PLC and Wm Morrisons Supermarkets PLC as competitors in the retail industry are selected to compare the accounting policies.

2.1. revenue recognition

Generating over €74 billion in FY 2021, the revenue of Carrefour SA is complex. The revenue includes net sales and other revenue. Net sales account for about 98% of total revenue and include sales through stores, e-commerce and to franchises. Other revenues are from banking and insurance business. Analysing the revenue precisely help investors distinguish key business and evaluate the performance of Carrefour in FY 2021 [5]. The sales via stores and service stations were recorded when it is paid at check-out. For e-commerce sales, the revenues were slightly different. Sales can happen directly on Group's commercial sites or through the third party. When selling on marketplaces, the sale matches the commission of the third party. For sales to the franchise, the revenue was recorded when the control of goods is transferred [5]. Other companies, on the other hand, had different policies about revenue. Due to having a much smaller scale of operation, J Sainsbury had fewer items in other revenues. All four companies had similar customer loyalty programmes offering customer credits to consume. However, J Sainsbury was more precise on how the revenue would be adjusted based on this credit [7]. To conclude, Carrefour's revenue policy worked well and precisely compared to others, but due to the size of Carrefour and the complexity of its income, meticulous analysis is still significant for the company.

2.2. Inventory

As an industry with a huge volume of goods to flow in and out, inventory is an essential factor in evaluating a retailer's performance. Different companies may use various methods to value their inventories. For Carrefour SA, it used the first-in-first-out (FIFO) method in FY 2021 [5]. When selling the goods, the older the good is the earlier the cost of the inventories will be removed and recorded in the balance sheet. FIFO needs the company to track all items in the inventories and more complex records. In contrast, another competitive retailer Tesco used the weighted average cost basis in FY 2021 by dividing the cost of goods available for sale by the number of goods on the shelf [8]. This approach is much simpler and the company does not need to track the cost of items as first-in-first-out or last-in-first-out methods. The two methods all have advantages and disadvantages but for Carrefour tracks of goods are needed and when estimating the value of inventories, more information is required.

2.3. Depreciation of non-current assets

For huge retailers like Carrefour SA, companies own massive non-current assets including plants, equipment and especially buildings and ought to record annual depreciation precisely. The records occur on the balance sheet as a key measure of the assets the company holds. The precision will affect the choice of investor and different depreciation approaches also confuse people and leads to different values. For Carrefour, it followed IFRS 5. The depreciation starts as soon as it is available for use and ends when sold. Property and equipment are depreciated using the straight-line method that non-current assets depreciate equally every year in their useful lives. The useful life of buildings is 40 years. Car parks last for 6 to 10 years while equipment is for 4 to 8 years. Depreciation is reviewed every year-end and the Group considered little impact of climate change on depreciation [5]. Wm Morrisons Supermarkets also used the straight-line method but was slightly different. Lands had no depreciation similarly but buildings are depreciated at 2.5% of the residual value annually. Plant and equipment are at 10% to 33%. The depreciation is therefore more complex that needs calculations and adjustments every year [9]. Using the present depreciation method, Carrefour can provide a simple but direct measurement of its non-current assets. Having such a key position in the assets, this method is reliable and accrual for Carrefour.

2.4. Goodwill

Goodwill belongs to intangible assets and is a measurement of the potential economic value that brings exceeded profits. It is the major item of intangible assets in Carrefour's FY 2021 report. Therefore complex calculations are required and Carrefour followed IAS 36 in FY 2021 which is not amortized but is tested for impairment annually. The Group reports a €39 million decrease in FY 2021 compared to FY 2020 reflecting the acquisition in Spain and the impairments in Italy and Belgium. Other acquisitions in Taiwan affected the goodwill as well. It is foreseeable that the acquisition of Grupo BIG of Brazil in FY 2022 will change the value of goodwill and Carrefour will have to pay attention to the adjustment of goodwill [5]. Tesco had a more complex and precise valuation of goodwill in the annual report of FY 2021. The Difference between consideration and the fair value of the Group's share would be recorded in the income statement. The goodwill after acquisition would be allocated to cash-generating units to the lowest monitoring level. It was also said to be reviewed for impairment at least annually by the company. Although using similar approaches, the calculation of goodwill by Carrefour was more complex than Wm Morrisons and J Sainsbury but Tesco offered a more detailed method on acquisition. Considering the ongoing acquisition in Brazil and the sale of Carrefour Taiwan, it may have a significant effect on goodwill. Carrefour needs an accurate estimate in the future.

3. Performance evaluation

The recovery of the economy after the pandemic led to a strong performance of Carrefour in FY 2021. The surprising growth of sales in Europe and South America led to the growth of total revenue globally (3%). Carrefour also generated a record net free cash flow of €1228 million [2].

3.1. Trend analysis

As the Figure 1 below demonstrates, due to the development of online retailers like Amazon, Carrefour was under pressure from FY 2017 to FY 2018, especially in France. The revenue sharply fell in FY 2018 to €72 billion and went through a period of loss in FY 2017 (€-0.5 billion) and 2018 (€-0.6 billion). After cutting costs and slashing jobs in FY 2019, although the revenue was still low, the net income rebounded strongly. The COVID-19 pandemic led to another depression and in FY 2021, Carrefour gradually recovered from the pandemic, and revenue and net income increased by €2.2 billion and €0.4 billion [5].

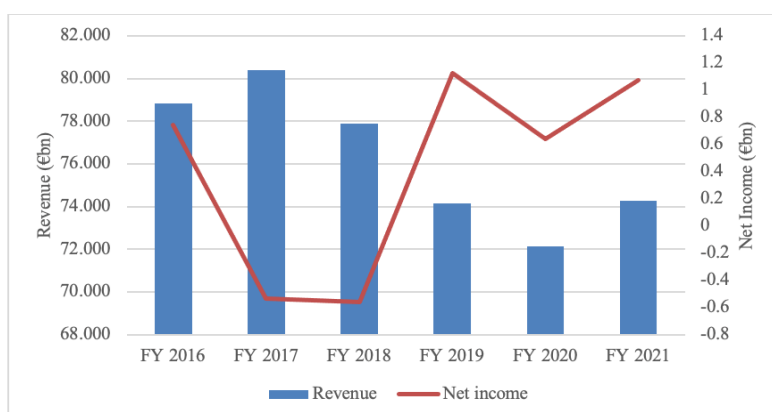


Figure 1. Carrefour SA revenue and net income 2016-2021
(Photo credit: Original)

3.2. Common size statements

The Figure 2 demonstrates that operating expense accounts for the vast majority of revenue and other expenses has little effect on net income in the recent 3 financial years. Carrefour announced the

cost-saving plan in 2021 in the face of high inflation and the continuous COVID-19 pandemic. As a result, operating expenses decreased from 97% of total revenue in FY 2020 to 96% in FY 2021 [5].

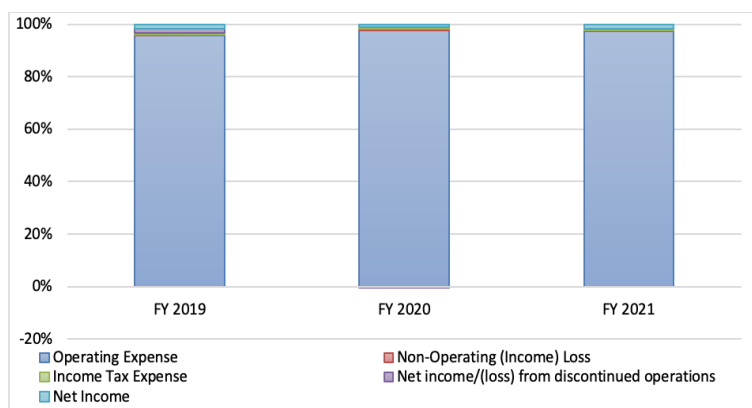


Figure 2. Expenses and profits of Carrefour SA
(Photo credit: Original)

3.3. Liquidity

Carrefour is very strong in liquidity management in FY 2021. The recovery of economy in 2021 led to an increase in sales and with the effort to decrease costs and abandon shops with no profits, Carrefour generated €17.8 billion in current assets. According to Table 1, it performed much better than its most competitors in Europe and had a very high current ratio. Even removing inventory (€5.9 billion) which is a key factor in retail industry, Carrefour still had the highest quick ratio. Therefore Carrefour had the top liquidity in retail industry, providing a safe environment for its operations and development [5].

Table 1. Comparison of liquidity

Name	Current ratio (to 1)	Quick Ratio (to 1)
Carrefour SA	0.8	0.4
Tesco	0.8	0.4
J Sainsbury	0.7	0.1
WM Morrisons	0.5	0.2

3.4. Leverage

The continuous pandemic in 2021 led to an acceleration of inflation around the world. Therefore, the net debt of Carrefour in 2021 slightly rose by about €17 million. The Group also redeemed €871m bonds, decreasing the leverage. Compared to its main competitors, as Table 2 indicates, Carrefour kept a very low level of debt. Only 53.3% of equity, 33.3% of assets were financed by debt. Additionally, The record free cash flow in 2021 also ensured the ability of debt repayment [5].

Table 2. Comparison of leverage

Name	Total Debt to Total Equity (%)	Total Debt to Capital (%)	Total Debt to Assets (%)
Carrefour SA	53.3	53.3	33.3
Tesco	98.1	45.0	31.1
J Sainsbury	88.0	61.2	27.5
WM Morrisons	79.8	42.0	31.1

3.5. Profitability

Due to the strong increasing petrol price, the gross margin of Carrefour in 2021 went down by 57bps. However, it was still much higher than the others and was about 3 times more than Tesco as

Table 3 shows. Net profit margin and operating margin, in contrast, are lower than Tesco and J Sainsbury, only 1.3% and 3.0% [5].

Table 3. Comparison of profitability

Name	Gross Margin (%)	Net Profit Margin (%)	Operating Margin (%)
Carrefour SA	19.7	1.3	3.0
Tesco	6.9	2.5	4.1
J Sainsbury	7.9	2.3	3.5
WM Morrisons	2.4	0.6	0.1

3.6. Return on Investment

As Table 4 indicates, the return on common equity, compared to Tesco (5.6%) and WM Morrisons (0.8%), was very high (10.1%). The Group also announced the €750m share buyback, showing the confidence of the company [5]. The return on capital and assets was not outstanding, especially compared to Tesco, but was in the median level [8].

Table 4. Comparison of return on investment

Name	Return on Equity (%)	Return on Capital (%)	Return on Assets (%)	P/E ratio (%)
Carrefour SA	10.1	8.1	2.7	12.7
Tesco	5.6	9.1	12.4	27.5
J Sainsbury	9.0	6.4	2.6	6.9
WM Morrisons	0.8	-0.4	0.3	43.5

In conclusion, Carrefour SA showed a very positive recovery of revenue and constant financial return in 2021. The liquidity was very high, providing more managing choices for the future. Finding more potential growth opportunities and keeping this trend might be what the Group should consider in the future.

4. Forecasts

The forecast of Carrefour SA will be mainly based on the 2021 annual report, statistics from 2020 annual reports are used as well. The 2022 first-half financial report on June 30th, 2022, summarises the performance of Carrefour in the first half year of 2022, therefore predictions will also be adjusted by statistics from the first half year of 2022.

4.1. Revenue

The sale performance of Carrefour SA in 2021 was positive and the revenue grew in all main markets by about 3% globally [2]. The continuing recovery after pandemic will likely stimulate consumption. The Group also held a positive attitude towards 2021's operating. The semi-annual report of 2022 showed a 10.3% increase of net sales compared to the first-half of 2021 [10]. The acquisition of Grupo BIG by Carrefour Brazil was also expected to raise the EBITDA by R\$1.7bn [2]. However, the severe inflation in the European market may have negative effects on consumption. The inflation in the Euro area reached 8.9% in July and is predicted to be higher [11]. Therefore, conservatively assuming, it is believed that the revenue of FY 2022 will grow by 6%. For FY 2023, the digital strategy will be finished in 2026 and it is foreseeable that Carrefour will continue to expand e-commerce with deeper cooperation with Uber Eats and Cajoo. The inflation in the euro-zone is expected to fall sharply to 2% according to Bloomberg [12]. Nevertheless, the dividend of the post-pandemic recovery of economy will weaken so the 2023 revenue of Carrefour SA may not remain at the high growth rate and is predicted to be 3.5%. Table 5 shows the forecast of revenue in FY 2022 and 2023.

4.2. Costs

The continuous pandemic in 2021 still significantly affected the cost of goods sold (COGS) of Carrefour. COGS in FY 2021 rose by 3.6% [5]. The cost-saving plan was proved to be successful and no information indicates Carrefour will change the strategy. The COGS, as a result, may keep the same percentage of revenue (79.11%) in 2022 and 2023, for €62,292 million and €64,472 million as Table 5 shows. The operating expenses, however, due to the energy crisis since 2022 which largely increase the cost of electricity and fuel may slightly increase. It is predicted to be 18% of revenue in FY 2022 and FY 2023. The forecasted expenses are €14,174 million and €14,670 million.

4.3. Interest and tax charges

The interest rate is predicted to stay the same at 2.52% from 2021 to 2023 without further information (see Table 5). For taxation, given the present information, although the charge of income taxation which is called the CVAE rate in France is expected to decrease to zero since 2022, mentioned by the French government, the movement will take 3 years [13]. Therefore the decrease may not have a significant impact on tax charges, so the tax charges are assumed to be constant at 22.79% of pre-tax income.

4.4. Balance sheet

According to the Carrefour 2021 annual report, a bond with €1,000 million face value matures in 2022 and a bond with €441 million face value matures in 2023 [5]. No information indicates it will issue new bonds and the first-half report also reports a decrease in liabilities, so the assumed long-term debts are €7,941 million in 2022 and €6,549 million in 2023. The short-term debt rose in the first half year of 2022, but it is uncertain how much will be repaid before FY 2023, therefore, it is still predicted that the short-term debt stays the same in the following two years for €2,337 million. Other factors including cash, accounts receivables, inventories, accounts payables and other short-term assets and liabilities may still be the same proportion of their related subject.

4.5. Consensus Forecast

Knowing the forecasted figures, the earnings per share (EPS) of Carrefour SA therefore can be calculated. The estimation of EPS in FY 2022 and FY 2023 are 1.57 and 1.64 shown in Table 5 below. According to Table 6, predictions by Yahoo show a very similar figure in FY 2022 (1.55) but higher in FY 2023 (1.8), partly due to a higher revenue prediction (€85,232 million) (Source Yahoo Finance). Considering the receding recovery after pandemic, it is acceptable to lower the revenue as this paper suggests. In terms of Bloomberg, it predicts a lower EPS in FY 2022 than Yahoo and this paper's estimation. The revenue estimation in FY 2022 by Bloomberg is higher at €82.3 billion. Therefore, the cost is predicted to be higher by Bloomberg. The FY 2022 forecast is the same as Yahoo's, at 1.80 and the reasons of the difference is similar to Yahoo's (Source Bloomberg).

Table 5. Carrefour SA income statement and EPS forecasts

	FY 2019	FY 2020	FY 2021	Forecast Assumptions		Forecasts	
				FY 2022	FY 2023	FY 2022	FY 2023
+Revenue	74,142	72,150	74,286	6.0%	3.5	78,743	81,499
-COGS	58,051	56,705	58,766	79.11%	79.11%	62,292	64,472
-Operating Expenses	13,992	13,272	13,247	18%	18%	14,174	14,670
-Non-Operating (Income) Loss	352	335	279	4.08%	4.08%	279	279
-Income Tax Expense	503	498	372	22.79%	22.79%	456	474
Net Income	1,308	831	1,301			1,543	1,604
Group Share	1,301	641	1,072	82.4%	82.4%	1,271	1,322
Basic Weighted Avg Shares	791	791	808			808	808
Basic EPS	1.42	0.79	1.35			1.57	1.64

Table 6. Comparison of Carrefour SA EPS forecasts

	FY 2022	FY 2023
Forecast of this paper	1.57	1.64
Yahoo Finance	1.55	1.80
Bloomberg	1.53	1.80

5. Conclusion

As one of the largest retailers in the world, Carrefour SA performed outstandingly in FY 2021. In the face of the post-pandemic recovery of economy, in order to provide information and suggestions on investment, the paper analyses the accounting and performance of Carrefour in FY 2021. The accounting of essential factors in retail industry such as revenue, inventory, depreciation and goodwill was reliable and precise comparing to its most competitors. Tesco PLC, J Sainsbury PLC and Wm Morrisons Supermarkets PLC as competitors in the retail industry are selected to compare the accounting policies. Performance was surprising and showed an increasing trend. Carrefour SA showed a very positive recovery of revenue and constant financial return in 2021. The liquidity was very high, providing more managing choices for the future. Finding more potential growth opportunities and keeping this trend might be what the Group should consider in the future. Based on previous data and recent news, the paper forecasts the revenue, costs, interest and tax charges and the balance sheet. The continuous demand of the market and the expansion in Brazil market may have positive effects while the high inflation and developing energy crisis in Europe are the opposite. Using discounted cash flow (DCF) valuation method, the earnings per share (EPS) of Carrefour SA in FY 2022 and FY 2023 are calculated. Both Yahoo and Bloomberg give similar predictions that the EPS are expected to have a positive prospect. The performance of Carrefour SA in 2021 was surprising. The growth of revenue and record net cash flow indicate its vitality. The ongoing digitalization and the refocus on profitable markets may help the company keep this growth. Based on forecasts, Carrefour SA is likely to keep this growing trend and has a positive investment potential in the following years.

References

- [1] Naik G. Alimentation Couche-Tard Takeover of Carrefour Would Create Global Retail Giant. S&P Global, 2021. Available at: www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/alimentation-couche-tard-takeover-of-carrefour-would-create-global-retail-giant-62099120. [Access 15 September 2022]
- [2] Carrefour SA. Q4 2021 sales and FY 2021 results. Carrefour SA, 2022. Available at: https://www.carrefour.com/sites/default/files/2022-02/Press%20release%20Carrefour%20Q4%2BFY%202021_ENG%20%281%29.pdf. [Access 10 September 2022]
- [3] Jain A. Step-By-Step Guide to Building A Hyperlocal App Like Carrefour. oyelabs, 2022, Available at: <https://oyelabs.com/create-app-like-carrefour/>. [Access 18 September 2022]
- [4] Carrefour SA. Our Carrefour 2022 Strategy. Carrefour SA, 2022. Available at: <https://www.carrefour.com/en/group/strategy>. [Access 16 September 2022]
- [5] Carrefour SA. Consolidated financial statements as of December 31, 2021. Carrefour SA, 2022. Available at: <https://www.carrefour.com/sites/default/files/2022-03/Consolidated%20financial%20statements%202021%20-%20Carrefour%20Group.pdf>. [Access 10 September 2022]
- [6] Faithfull M. Carrefour Targets Brazil As It Sells Carrefour Taiwan To Uni-President. Forbes, 2022. Available at: <https://www.forbes.com/sites/markfaithfull/2022/07/20/carrefour-targets-brazil-as-it-sells-carrefour-taiwan-to-uni-president/?sh=aba5f0b2c6ee>. [Access 18 September 2022]
- [7] J Sainsbury plc. Preliminary Results 2021-22. J Sainsbury plc, 2022. Available at: https://www.about.sainsburys.co.uk/~/_media/Files/S/Sainsburys/documents/reports-and-

- presentations/2022/Prelims%20122/J%20Sainsbury%20plc%20Prelims%20Results%20122%20Statement.pdf. [Access 10 September 2022]
- [8] Tesco plc. Tesco Annual Report 2021. Tesco plc, 2022. Available at: <https://www.tescopl.com/media/758523/tesco-plc-preliminary-results-2122.pdf>. [Access 10 September 2022]
- [9] Wm Morrison Supermarkets plc. Annual Reports and Financial Statements 2020/21. Wm Morrison Supermarkets plc, 2022. Available at: https://www.morrisons-corporate.com/globalassets/corporatesite/investor-centre/financialreports/documents/2020-21/morrisons_ar20-21_web.pdf. [Access 10 September 2022]
- [10] Carrefour SA. Q2 sales and H1 2022 results. Carrefour SA, 2022. Available at: https://www.carrefour.com/sites/default/files/2022-07/07272022_Press%20release%20Carrefour%20H1%202022%20Results_1.pdf. [Access 18 September 2022]
- [11] eurostat. Inflation in the euro area. eurostat, 2022. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Inflation_in_the_euro_area. [Access 20 September 2022]
- [12] Sokol A. and Van Roye B. Sharp Drop for Euro-Zone Inflation in 2023 Looks Likely. Bloomberg, 2022. Available at: <https://www.bloomberg.com/news/articles/2022-07-19/sharp-drop-for-euro-zone-inflation-in-2023-looks-likely-chart>. [Access 19 September 2022]
- [13] compta online. La contribution économique territoriale (CET) : CVAE et CFE. compta online, 2022. Available at: <https://www.compta-online.com/la-contribution-economique-territoriale-cet-cvae-et-cfe-ao240>. [Access 19 September 2022]