

# **Master of Science in Finance**

## **Master's Final Work Project**

### **Equity Research Report: Carrefour Group**

**Pedro Miguel Salvado Gaspar**

**October 2021**

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#### **Supervisor:**

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Pinto**

**October 2021**

## Abstract

The Carrefour Group is “one of the world’s leading food retailer’s” that operates worldwide with some value chain elements integrated, including warehousing and food processing. In 2020FY, Carrefour had total assets of €47.59Bn, net sales of €70.72Bn and a market capitalization of €11.47Bn.

The Group has a Buy recommendation, where the 2022YE PT is €19.17/share against the closing price of €15.18/share on September 13th, 2021 which corresponds to an upside potential of 26.3% considering a medium risk level.

The reason for this undervaluation was the warning of a profit loss in 2017 which led to a share price drop of 27.4% between May and August and the change of CEO. Since then, there were other minor events that scared the investors, but the Management is confident in the recent results and, during 2021, announced two share buybacks.

The food retail industry is an essential industry, so in times of recession or growth, the changes are moderate. Also, it is a mature industry, so the players have to follow or create trends to compete, and Carrefour is following those trends like e-commerce where the Group earned GMV of €2.3Bn. Other trend is the health concerns that consumers have, and Carrefour has the plan of offering healthy, with quality and sustainably produced food.

Carrefour is a company that, even in times of negative earnings, kept its commitment with shareholders. The company is slowly improving and is expected that profit will rise 9.61% CAGR 2020-2025F and dividend per share to rise 10.9%.

JEL classification: G10; G32; G34; L66

Keywords: Carrefour Group; Food Retail; Equity Research; Valuations; Mergers and Acquisitions

## Resumo

O Carrefour Group é “um dos líderes no retalho alimentar” e tem operações por todo o mundo com alguns elementos da cadeia de valor integrados, incluindo armazenamento e processamento alimentar. Em 2020, o Carrefour tinha um total de ativos no valor de €47.59 biliões, vendas de €70.72 biliões e uma capitalização bolsista de €11.47 biliões.

O grupo tem uma recomendação de investimento de Compra, com um preço alvo de €19.17/ação no final de 2022 contra o preço de fecho de €15.18/ação no dia 13 de Setembro de 2021, o que corresponde a um potencial de valorização de 26.3% considerando um nível médio de risco.

A razão para esta subvalorização está relacionada com um aviso de perda nos lucros em 2017 o que levou a uma queda no valor das ações de 27.4% entre Maio e Agosto e a troca de CEO. Desde então, houve acontecimentos menores que afastaram acionistas, mas administração do Carrefour estão confiantes nos resultados mais recentes e durante 2021 anunciaram dois programas de recompra de ações.

A indústria do retalho alimentar é considerada essencial, por isso em tempos de recessão ou crescimento económico, as alterações são moderadas. Também é uma indústria em estado de maturação por isso os competidores têm de seguir ou criar tendências para continuarem no mercado, e o Carrefour tem seguido essas tendências como o e-commerce onde o grupo ganhou um GMV de €2.3 biliões. Outra tendência são as preocupações de saúde que os consumidores têm e o Carrefour criou um plano para oferecer comida saudável, com qualidade e sustentável.

O Carrefour é uma empresa que, mesmo em tempo de prejuízo, sempre cumpriu os seus compromissos com os acionistas. Eles têm tido um crescimento lento e é esperado que os lucros aumentem 9.61% e os dividendos por ação 10.9%.

Classificação JEL: G10; G32; G34; L66

Palavras-Chave: Carrefour Group; Retalho Alimentar; Equity Research; Avaliação de Empresas; Fusões e Aquisições

## **Acknowledgements**

After 2 years, my ISEG experience comes to an end. During these 2 years, we went through a phenomenon that seemed unlikely, COVID-19, and it makes me feel that I had not had the full experience I was hoping for but there are things that I take to the rest of my life beyond the knowledge, friends and personal skills. The online classes weren't easy to anyone, and I have to say thank you to all the professors that gave classes during these times, they were really patient and were extremely helpful.

I'm grateful to my parents for the opportunity of studying in this university, for believing in me and also for the patience they had in some difficult days.

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## Abbreviations

<p><b><u>A</u></b>  <b>AFEP-MEDEF</b> – Association Française des Entreprises Privées and Mouvement des Entreprises de France  <b>APV</b> – Adjusted Present Value</p> <p><b><u>B</u></b>  <b>Bn</b> – Billions  <b>bps</b> – Basis Points</p> <p><b><u>C</u></b>  <b>CAGR</b> – Compound Annual Growth Rate  <b>CAPM</b> – Capital Asset Pricing Model  <b>CEO</b> – Chief Executive Officer  <b>CFO</b> – Cash Flow from Operating Activities  <b>CPI</b> – Consumer Price Index</p> <p><b><u>D</u></b>  <b>DCF</b> – Discounted Cash Flow  <b>DPS</b> – Dividend per Share</p> <p><b><u>E</u></b>  <b>EBIT</b> – Earnings Before Interest and Taxes  <b>EBITDA</b> - Earnings Before Interest, Taxes, Depreciations and Amortizations  <b>ERP</b> – Equity Risk Premium  <b>ESG</b> – Environmental, Social and Governance  <b>EV</b> – Enterprise Value</p> <p><b><u>F</u></b>  <b>F</b> - Forecast  <b>FCFE</b> – Free Cash Flow to Equity  <b>FCFF</b> – Free Cash Flow to the Firm  <b>FMI</b> – The Food Industry Association, formerly the Food Marketing Institute.  <b>FY</b> – Fiscal Year</p> <p><b><u>G</u></b>  <b>GDP</b> – Gross Domestic Product  <b>GMV</b> – Gross Merchandise Value</p> <p><b><u>I</u></b>  <b>IMF</b> – International Monetary Fund</p> <p><b><u>K</u></b>  <b>kcal</b> – kilocalories</p>	<p><b><u>M</u></b>  <b>M</b> – Millions  <b>M&amp;A</b> – Mergers and Acquisitions</p> <p><b><u>O</u></b>  <b>OECD-FAO</b> – Organisation for Economic Co-operation and Development and the Food and Agriculture Organization</p> <p><b><u>P</u></b>  <b>PPI</b> – Producer Price Index  <b>PT</b> – Price Target</p> <p><b><u>R</u></b>  <b>rd</b> – Cost of Debt  <b>re</b> – Cost of Equity  <b>RFR</b> – Risk Free Rate  <b>ROE</b> – Return on Equity  <b>ru</b> – Unlevered Cost of Capital</p> <p><b><u>S</u></b>  <b>SDG(s)</b> – Sustainable Development Goal(s)</p> <p><b><u>U</u></b>  <b>UN</b> – United Nations  <b>US</b> – United States of America</p> <p><b><u>W</u></b>  <b>WACC</b> – Weighted Average Cost of Capital</p> <p><b><u>Y</u></b>  <b>YE</b> – Year End  <b>YoY</b> – Year-over-Year</p>
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# Equity Research Report: Carrefour Group

“Our ambition is to be the leader of the food transition for all”

## 1. Research Snapshot

For 2022YE<sup>1</sup>, the issue recommendation is Buy for Carrefour SA with a 2022YE PT of €19.17/share, using the APV method. The upside potential is 26.31% comparing with the closing price of €15.18 on September 13th, 2021, with a medium risk level. In a difficult environment marked by the high competitiveness and COVID-19, the company has been adapting itself and it is recovering from some problems it had in recent years. The key to this recovery has been the ability to optimize its value chain, invest in growth and improve competitiveness and promote food quality. The confidence in this recovery is also shown by the Management that, during 2021, announced two share buybacks after strong results in the first half of the year.

Even in times of low or negative earnings, Carrefour never failed to its shareholders and since 2018 it has a stable dividend policy. The projections state that the company will increase its cash generation (CFO – 0.13% CAGR 2020-2025F) that results in an increase in the dividend of 10.9% CAGR 2020-2025F.

The food retail industry is considered an essential industry, which means that in times of recession or growth, the changes are moderate, so the pandemic did not affect much the demand, but it affected the consumption patterns of the consumers. The key determinant to this industry is the population which is projected to increase 11% in the 2017-2029 period. Also, with this growth, it is expected that the consumption, in calories, will increase 3%.

In recent times, we have seen the increase in health concerns so that the consumers choose more nutritional and safer (in terms on how it is produced) products and Carrefour has adapted its business model to be the world leader in the food transition for all. The Group sales of organic products in 2020 translated in €2.7Bn which was a 18% increase comparing with the previous year.

The industry has also seen an increasing trend in e-commerce. Carrefour, in 2018, launched a single platform for e-commerce and, in 2020, the food e-commerce GMV was €2.3Bn.

## 2. Business Description

### Company

Carrefour Group is a leading global retailer that operates worldwide through integrated stores and franchises (Appendix 13). Carrefour offers all retail formats to its customers. Its multi-channel structure gives customers the option of shopping in-store, ordering online and picking up their purchases from a sales outlet or a Drive, or having their shopping home delivered.

The Group also offers complementary services including pharmacies and health/beauty care, fuel oil delivery, financial and insurance services, among others. Carrefour wants to become “the leader of the food transition to everyone”, this is an objective where the Group wants to supply everyone with healthy, flavorful, and environmentally friendly food and it has been put in place everywhere which the company operates. The company created guidelines and targets in the “Carrefour 2022” plan to achieve business and community objectives.


### History

The constitution of Carrefour is dated in 1959 following a meeting between Marcel Fournier, owner of a novelty shop in Annecy, and the Badin-Defforey family, a food wholesaler in Lagnieu. A year after the first supermarket was opened and 3 years later, inspired by the US, the first Carrefour hypermarket opened.

In 1970, Carrefour was listed on the Paris Stock Exchange and was the market leader in the retail sector. In 1973, the company expanded internationally and explored new markets opening its first stores in Spain followed by Brazil in 1975.

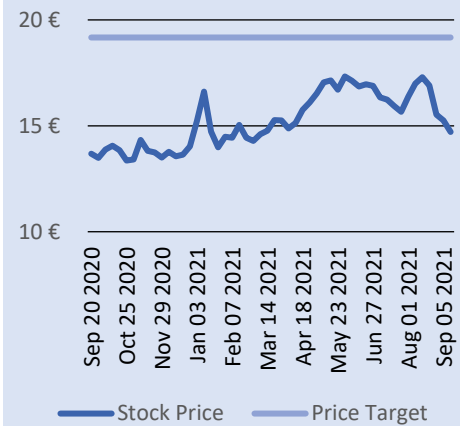
In 1999, Carrefour merged with Promodès and became the world’s second-largest retailer.

In 2016, the Group acquires Rue du Commerce and Greenweez in France and launched new e-commerce activities in China, Poland, Argentina, and Brazil.

**Price Target** €19.17  
Current Price (Sep. 13th) €15.18  
Upside Potential  26.3%  
**Medium Risk**

Market Cap €11.47Bn  
Shares outstanding 788,148,615  
52-week range €13.36 - €17.33

Figure 1 – 52-week stock price vs PT



Source: Author Analysis

<sup>1</sup> December 31st, 2022

The year before its 60th anniversary, Carrefour reinvented its business model and started to implement the Carrefour 2022 transformation plan inspired by its ambition to become the world leader in the food transition for all by 2022. To achieve its ambition, Carrefour is creating an omni-channel universe in which its online presence is integrated with its physical store network.

## Business Segments

Carrefour has integrated the food retail value chain in its operations creating what they call an “Omni-channel Universe of Reference” (Appendix 14). The Group has 6 business segments related to food and non-food products. This allows the company to benefit from synergies and other services that consumers value.

### Food Retail

This is the main business segment of the Group and regards the food product sales' worldwide of the company. For this segment, Carrefour had 13,048 stores, in 2020, in all retail formats and adding the e-commerce (GMV of €2.3Bn in food e-commerce).

Carrefour offers a wide range of products to its customers mainly fresh produce, organic and locally sourced products including from its own brand. In 2020, own-brand products represented 29% of the Group's sales.

### Franchises

Carrefour's franchises are a way that the company uses to expand to other countries mainly in the Middle East and Africa.

Carrefour is remunerated from this segment by receiving the right to use the brand and expertise of the group and selling its products.

### Banking and Insurance Services

Carrefour Banque is the banking subsidiary for marketing bank and insurance business in France, Italy, and Belgium. It offers financial services, incorporating a wide range of credit, savings, and insurance product solutions.

Over 2.2M customers benefit from services and exclusive benefits and make daily savings when they do their shopping. Carrefour Banque also manages a loan portfolio of €2.4Bn, as well as €2.3Bn held of customers savings. Carrefour Banque also relies on innovation and partnerships with recognized players who support the diversification of its activities.

### Service Stations

In numerous Carrefour shopping centers, it has service stations to offer cheap fuel to its customers to reduce their energy bills.

### Travel Agencies and Events

Over 450,000 French customers go on holiday every year with Carrefour Voyages travel agency. In Spain, Carrefour Viajes has built up the third largest network in the country with over 500 agencies, in three years.

As regards events, French customers can book tickets in one of over 550 dedicated in-store areas or directly online. In Belgium the offering has also expanded and includes tickets for entry to numerous amusement parks.

### Non-Food Retail

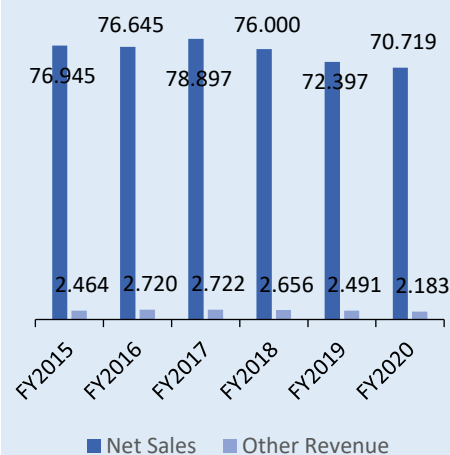
In this segment the focus is on childcare, household, textiles, and seasonal products. One of Carrefour's subsidiaries, Rue du Commerce, is the non-food e-commerce leader in France.

The Group also creates partnerships with specialists in certain areas to jointly negotiate the purchasing conditions for electronic and household appliances for the general public in a context of ever-increasing competitiveness. Example of this is the partnership with Fnac-Darty and the opening of Darty's outlets in Carrefour hypermarkets offers customers a wide range of household appliances. The same approach is implemented in the integrated countries and for different product areas. In Poland, there's an agreement with the MediaMarkt brand. These partnerships enable the partners to reduce their management costs and boost Carrefour's sales in the targeted non-food product ranges.

## Strategy

Carrefour set an ambition: to enable its customers to consume better by becoming the world leader in the food transition for all. To dynamize its growth, the Group

Figure 2 – Net Sales vs Other Revenue



Net Sales - Group's stores, e-commerce sites and service stations and warehouse sales (to franchisees)

Other Revenue - revenue from the banking and insurance businesses (including bank card fees, and arranging fees for traditional and revolving credit facilities), travel agency revenue, commission on e-commerce sales made on behalf of third parties (marketplaces) and franchise fees (mainly in the form of royalties)

Source: Carrefour's Registration Document

implemented 4 strategic priorities that consider the intense competitive environment and the consumption behavior of the consumers<sup>2</sup>:

1. Deploy a simplified and open organization

Some of the Carrefour's strengths are multi-country, multi-format, and multi-channel presence so, to take the most of these, it is simplifying its organization and becoming more open to partnerships, growth levers and innovation.

2. Achieve productivity and competitiveness gains

To invest in the growth and improve price competitiveness of Carrefour, the company is reinforcing its selectivity in the allocation of its resources and its financial discipline by limitation of investments, invest in commercial competitiveness and reduce the number of Dia stores.

3. Create an omni-channel universe of reference

Carrefour wants to create an omni-channel universe to meet the expectation of its customers. To do that, the Group must reinforce its presence in physical stores and online. Taking advantage of its store network, the retailer can guarantee the best offer for a recognized and loyal client.

4. Overhaul the offer to promote food quality

The ambition of Carrefour is to offer to all consumers quality food that is reliable, accessible everywhere and at a reasonable price.

## Share Capital and Ownership Structure

On December 31st, 2020, the Group had 817,623,840 shares outstanding, where 62.9% of the share capital was detained by institutional shareholders. Also, Carrefour has a free float of 80.8%<sup>3</sup>.

Carrefour's shares are traded in Paris (Euronext Paris), London (London Stock Exchange), Frankfurt (Frankfurt Stock Exchange), Milan (Italian Stock Exchange) and Mexico (Mexico Stock Exchange).

The number of voting rights on December 31, 2020 was 1,039,716,834. After deducting the voting rights that cannot be exercised, the total number of voting rights is 1,030,259,295. Double voting rights are conferred on all fully paid-up registered shares that have been registered in the name of the same shareholder for at least two years.

There's no other category of share other than common shares and the double voting is specific to the type shareholders mentioned previously.

During 2021, the company announced two share buyback operations, of €500M and €200M, reflecting the Group's confidence in its operational performance after a strong free cash flow generation in the first half of the year.

## Dividend Policy

Carrefour paid a dividend of 0.48€ per share for 2020, paid entirely in the end of June of 2021 and gave the option to buy new Company shares (option issued at a price equal to 95% of the average closing prices listed during the 20 trading sessions on Euronext Paris prior to the date of the Shareholders' Meeting, less the amount of the dividend and rounded up to the nearest euro cent).

This paid dividend represents a decrease of 31.4% YoY or a -7.3% CAGR 2015-20 (Figure 5).

The pay-out ratio for FY2020 was 47%, which was an increase from previous years and going according with the 2022 Strategic Plan. To notice that even in years of negative earnings, the Group kept their commitments with its shareholders.

In its recent strategic plan, the company decided a stable dividend policy where it wants a pay-out ratio of between 45% and 50% of the adjusted net income.

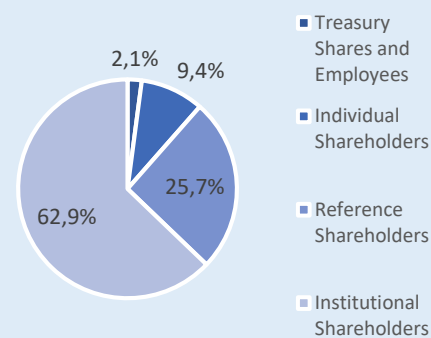
Notice that the dividend relative to FY2019 was paid in 2020 and the DPS paid to the shareholders was influenced by the COVID-19 pandemic so the Board decided to reduce by 50% the dividend proposed for the 2019 financial year<sup>4</sup>.

<sup>2</sup> "Carrefour 2022": a new ambition for the group. Source: <https://www.carrefour.com>

<sup>3</sup> Ownership Summary. Reuters (September 2021)

<sup>4</sup> Press release of the Q2 2020 sales and H1 2020 results.

Figure 3 – Shareholder Structure by Shareholder Type (% share capital)



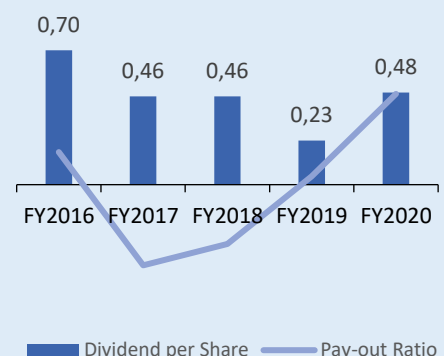
Source: Carrefour's Registration Document

Figure 4 – Carrefour's Top 10 Shareholders (% share capital and investor type)

Investor Name	% Outstanding	Investor Type
Moulin Family	10.10%	Strategic Entities
dos Santos Diniz (Abilio)	7.94%	Strategic Entities
The Vanguard Group, Inc.	1.95%	Investment Managers
INVESCO Asset Management Limited	1.62%	Investment Managers
Schroder Investment Management Ltd. (SIM)	1.29%	Investment Managers
Norges Bank Investment Management (NBIM)	1.27%	Investment Managers
BlackRock Institutional Trust Company, N.A.	1.26%	Investment Managers
Amundi Asset Management, SAS	0.99%	Investment Managers
Dimensional Fund Advisors, L.P.	0.95%	Investment Managers
Carrefour Employees	0.94%	Strategic Entities

Source: Reuters (as of September 2021)

Figure 5 – Dividend per Share and Pay-out Ratio



Source: Carrefour's Registration Document

### 3. Management and Corporate Governance

#### Governance Model

In Carrefour, Mr. Alexandre Bompard is the CEO and Chairman of the Board of Directors, since 2017, following the experience in the retail sector and with Group's partners, more specifically in Fnac and Fnac Darty (after Fnac took over Darty) which are electronic products retailers.

Mr. Alexandre Bompard was appointed CEO and Chairman after its predecessor resigned after the share price of Carrefour dropped 27.4% between May and August 2017 due to an underperformance in Argentina and France and a warning of a profit loss led to the change of the CEO<sup>5</sup>.

#### The Board of Directors

The Board of Directors of Carrefour comprises 16 directors, including the Chairman, 2 Directors that represent the employees and 8 independent directors (Appendix 15). The number of independent directors goes according to the AFEP-MEDEF Code which the Group follows.

Each Director uses their level of expertise and experience in areas of particular interest for the Group (Appendix 16). Although the Board members have 3-year contracts, every year, the composition, and balance of the Board is evaluated to make sure of the independence, commitment, and contribution to Carrefour. More than the independent directors, the Board is constituted by 7 women and 3 non-French directors.

Since, in Carrefour, the Chairman and the CEO are the same person, the Board decided to create the position of Lead Director. According to the Board's Internal Rules, the Lead Director has the duty of assisting the Chairman in his duties to guarantee that the governance bodies are operating correctly, examining situations where there is a real or potential conflict of interest (Directors or Chairman) in respect of the interests of the business (operational projects, strategic management, or specific agreements) and reports his work to the Board. In 2020, due to poor results of personal investment and skills, the Governance Committee was requested to explore possible improvements to the governance system and suggested a new Lead Director, and the Board of Directors decided to appoint Stéphane Israël, an Independent Director, as the new Lead Director.

The Board has set up a governance structure that is purposely built to address the Group's strategic issues: Specialized Committees that analyze any request submitted to them for advice by the Board or the Chairman. The Board created 5 specialized committees: Audit Committee, Compensation Committee, Governance Committee, CSR Committee and Strategic Committee (Appendix 17).

#### Executive Committee

The Executive Committee of the Group is led by the CEO, Mr. Alexandre Bompard, and has the duty to guide the company and makes sure that Carrefour transformation plan is correctly implemented. The Executive Committee implements and ensures the strategies the Board prepared.

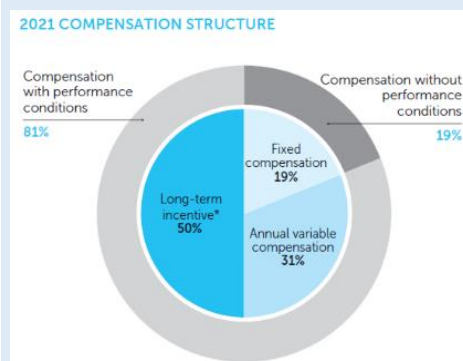
In 2011, the Board decided to combine the positions of CEO and Chairman to simplify the decision-making process and improve the efficiency and responsiveness of the Company's governance.

The Group's Executive Committee is composed by Group managers and individuals from different backgrounds who complement the Committee with different know-how. The Committee is made up of 13 members who divide themselves in three different areas: Executive Directors of Regions, Executive Directors of Operations and Executive Directors of Corporate.

The experience in the industry and in other areas of the Executive Committee is compensated by a compensation scheme that encourages the strategic success. This compensation is approved by the Board after consulting the Compensation Committee.

<sup>5</sup> Carrefour shares hit by sharp fall in operating income (2017). Financial Times. Source: <https://www.ft.com/content/9cbce01a-8dad-11e7-a352-e46f43c5825d>

Figure 6 – 2021 CEO & Chairman Compensation



Source: Carrefour's Registration Document

The CEO and Chairman of Carrefour has a fixed compensation (Figure 6) and an annual variable compensation (Figure 7) up to 190% of fixed compensation. There's also a long-term incentive plan (composed by performance shares), Benefits in kind (company car) and compensation paid in respect of his directorship (due to the presence in the Board).

## Sustainability and ESG Metrics

Carrefour management supports the 17 Sustainable Development Goals (SDGs) that were set by the United Nations (UN) to meet the environment, political, and economic challenges that the world faces. In its operations, the Group contributes to every SDG and has specific objectives for each one. The objectives of the company, especially those associated with the CSR policies and Food Transition Index, are in order with the SDGs.

From the ESG metrics perspective, Bloomberg's ESG Disclosure Score is 42.15<sup>6</sup> out of 100 (in FY 2019) and Yahoo Finance Score for ESG Risk Ratings gives to Carrefour a 20<sup>7</sup> out of 100.

## 4. Industry Overview and Competitive Positioning

### World Economic Outlook

#### World GDP

The global economy is currently under recession. The COVID-19 pandemic has frozen the economic activity across the world and, as a consequence, the latest IMF report<sup>8</sup> for global growth indicates a -3.3% decrease in 2020. The IMF previews a "V" recovery (Figure 8), with a rebound in the 2021 economic conditions projecting a 6% global growth. To a great extent the expected recovery reflects unprecedented measures from regulatory authorities and governments around the world, in terms of fiscal and monetary stimulus.

Although the GDP fell in 2020 due to the COVID-19 crisis, the demand numbers in the food retail industry are not expected to decline but the consumption patterns might be influenced because food retail is considered an essential industry that is very stable and in times of recession or growth, the changes are moderate. As historical example, according to Francesc Castañer, the 1974-1975 and 2008-2009 crisis reflect that in times of recession the industry does not get affected like others, for example car sales (Figure 9).

#### Population

The world population rose at 1.12% CAGR between 2010 and 2020, more specifically from 6,838 million in 2010 to 7,644 million in 2020. For the comparable period, the emerging markets were the major focus of population growth with a 2010-2020 CAGR of 1.23% in comparison to the same period CAGR of 0.45% for Advanced economies. The disparity in population growth across different regions is likely to shape the global demand for food (Appendix 18).

Focusing on the countries where Carrefour operates, all the countries have had a 2010-2020 CAGR below the World (0.49% vs 1.12% - Total population vs World). In 2020, the total population of these countries was 521 million people and it is expected to rise more than the advanced economies (Appendix 19).

#### Demand Outlook

As stated previously, the COVID-19 crisis might not decline the demand numbers in the food retail industry, but the consumption patterns might be influenced.

"Population is the key determinant to total food use" while other factors, like income, determine the food basket that a person wants (OECD-FAO, 2020)<sup>9</sup>. It is projected that the population will grow 11% in the period 2017-2029 and also a growth in the

<sup>6</sup> Measure of information transparency. The more information disclosed, the higher the score.

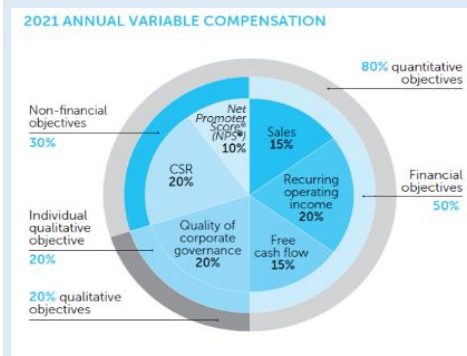
<sup>7</sup> The final ESG Risk Ratings scores are a measure of unmanaged risk on an absolute scale of 0-100, with a lower score signaling less unmanaged ESG Risk.

<sup>8</sup> World Economic Outlook 2021. Source:

<https://www.imf.org/en/Publications/WEO/Issues/2021/03/23/world-economic-outlook-april-2021>

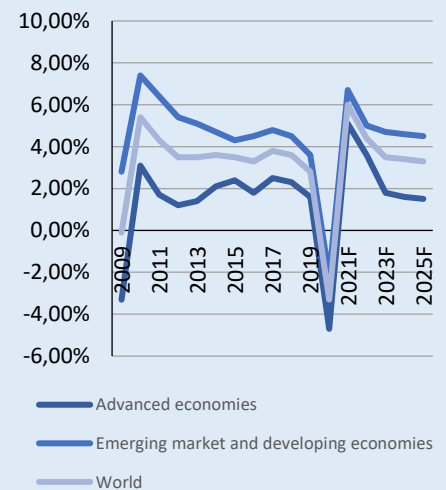
<sup>9</sup> OECD-FAO Agricultural Outlook 2020-2029. OECD-FAO.

Figure 7 – 2021 CEO & Chairman Variable Compensation



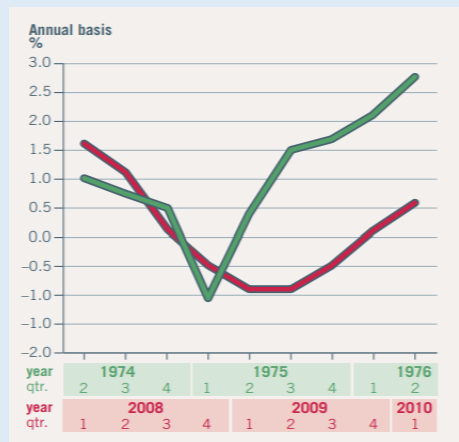
Source: Carrefour's Registration Document

Figure 8 – Real GDP growth (Annual percentage change)



Source: IMF (2021)

Figure 9 – Quarterly comparison of consumption in G-7 countries



Source: The Food Market in Times of Crisis by Francesc Castañer (2009)

per capita income which will influence a rise of 15% in the total consumption of food, on a calorie basis. Worldwide, the aggregated food consumption (in calories) is projected to increase 3%, reaching over 3,000 kcal where over half of it comes from staples and fats. In low-income countries (per capita income under USD 1,550), staples (cereals roots and pulses) represent 70% of the sources of calories and as the income increases, the consumption patterns diverse and the staples, fats and sweeteners are substituted by fruits, vegetables, and animal products. In high-income countries (per capita income above USD 13,000), the food energy consumed will remain at current levels (Appendix 20).

The level of income influences the consumption patterns of the populations which affects the demand growth. It is expected that the global economic development will have an effect on the per capita food expenditure resulting in an increase, in absolute terms, across the income groups where high value items (like vegetable oils, livestock products and fish) will absorb the majority of this growth. As income rises, the propensity to spend the extra income on food declines, so that the food expenditure share in total disposable income falls. For high-income countries, the share of food in household expenditures is expected to decline from 8% to 6%. In low-income countries, the reduction in this share will be less significant, remaining on average at 43% (Appendix 21).

### Supply Outlook

#### Supply Chain Influence

The food supply chain has three main stages: production, processing, and retail. Each stage contributes for the price formation that final consumers pay for their food products.

In the United States, it is estimated that for every dollar spent in 2018 by consumers on domestically produced goods regarding the Food-at-Home category, farm production accounted for 13.2 cents per dollar and when accounting for agribusiness and energy, adding another 8.4 cents (USDA-ERS, 2018). The largest shares were paid to Food Processing (25.1 cents/dollar) and Retail Trade (23.6 cents/dollar) (Appendix 22).

According to FMI<sup>10</sup>, COVID-19 has impacted the food price (e.g., the Food-at-Home CPI increased 2.7% in April 2020 the largest jump since 1974) due to supply chain influence. Two factors that influenced this rise in price are:

- Increase in production and processing costs – Companies had to invest and adapt to safeguard their products from contamination. Increased turnover and additional training during the pandemic made labor costs increase.
- Increase in operating costs for grocery stores – The Grocery Stores PPI increased 7.9% in April 2020 and 6.7% in May 2020 comparing to the same months in 2019, in the US. Also, investments in stores (due barriers and sanitization) and labor costs have increased the costs to the stores. And transportation and acquiring cost have also increased due to high transportation traffic and labor costs in those companies.

#### Agricultural Output

To answer the growing demand, it is projected that the agricultural production worldwide will rise in the coming decade (OECD-FAO, 2020). Although, it is an answer to the growing demand, there are tools that help the growth in agricultural productivity such as intensification and ongoing technological change, despite increasing constraints on expanding agricultural land in some regions.

Asia Pacific region contributes most to global agricultural production, accounting for almost half of global output, whereas Europe and Central Asia and the Americas are responsible for another 45%. Over the coming decade, crop, livestock, and fish production are expected to grow most strongly in Asia Pacific (17%). For developed regions, including Europe and North America, the agricultural productivity is already at high levels, and policies constraints (e.g., environmental and animal welfare policies) will limit further output growth. The significant output growth in emerging and low-income regions reflects greater investment and technological catch-up, as well as resource availability (Appendix 23).

#### Commodity Prices and Energy Costs

In the short run, food prices are attributable to supply chain factors, with the most important of these being input costs.

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<sup>10</sup> The Fundamentals of Food Prices: Costs, Consumer Demands and COVID-19. Source: <https://www.fmi.org/foodprices>



According to FMI (2020), forecasting in the short-term food prices is relatively easy due to the high levels of correlation between the Food-at-Home CPI and the Farm Products PPI and Electric Power PPI, but giving that farm prices, i.e., commodity prices, are 10 times more volatile than food retail prices, projections for the longer term are more difficult. It is argued that for the past 20 years grocery prices have increased 2% per year, a good way to understand the evolution of the food prices is to look at the agricultural production of specific regions, but also to look at the international trade and the price of crude oil.

Commodity prices are likely to have more impact on highly perishable products that undergo minimal processing, such as fruits and vegetables, but for products that are highly processed the effects, at least in the short term, are not immediately visible. But also, the technological evolution is leading to a further decline in real commodity prices.

## Global Food & Grocery Retail Industry Overview

The global food and grocery retail market size was valued at USD 11.7 trillion in 2019 and is expected to grow at a CAGR of 5.0% from 2020 to 2027 (GVR, 2020). The reasoning around the projection includes an increased level of disposable income and a solid middle-class base in developing countries, as well as brand awareness in important markets such as China and India. For developed regions the expected level of household expenditures on food is likely to grow at a stable pace, for instance, in Europe since 2008 until 2018 the expenditure on food and non-alcoholic beverages rose at a CAGR of 1.7% to €1,047 billion, always around a stable 6% of the EU GDP and 12% of total household expenditures (Eurostat, 2019).

### Market Segmentation

In a product category basis, the food & grocery retail is composed by 4 types: food, drinks, tobacco, and household products. Food products have a 72.8% share of the total market value and, for being essential products, they have a trend to grow since, even in times of crisis, they are indispensable (Figure 10).

In terms of distribution channels, the market is segmented in different types of dimensions like hypermarkets, supermarkets, and hard discounters; convenience stores and gas station; value, discount, and general merchandise retail; clubs; and others. Hypermarkets and supermarkets are the channels with the highest share of the market with 41.2% followed by convenience stores and gas stations with 34.9% of share. It is expected that, in the following years, the online distribution and consumption will have a fast growth (Figure 11).

Geographically, Asia-Pacific dominate the market representing 46.4% of the total market value, in 2018, in which India, Japan, China and Indonesia are the key markets (Figure 12).

### Industry Structure

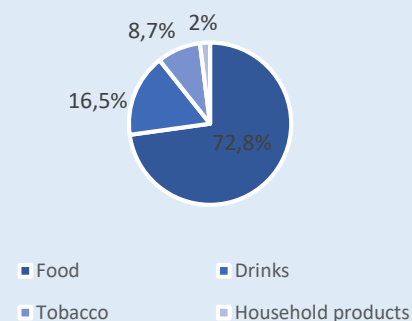
The market is structured in an Oligopoly, composed by a small set of large players that dominate regional markets with lower prices and efficiency of logistics and scale. The industry is at a mature stage giving that it complies with the usual conditions of this stage, little or no growth, consolidation, and high barriers to entry<sup>11</sup>.

### Industry Trends

Technological evolution and consumer awareness have influenced the change in the retail industry trends and these will be followed in the next years, e-commerce and sustainability.

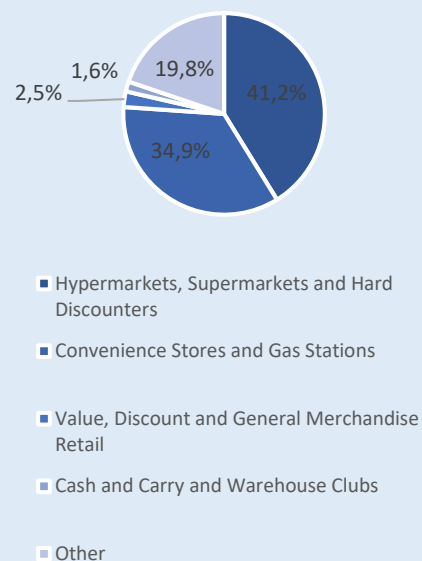
The evolution of e-commerce is the future for retailers with a lot of room for penetration. The investment in online grocery has many underlying costs because there are costs to be covered like technology, warehousing, transportation, and delivery costs. The Asia-Pacific region represents almost 63% of the worldwide retail sales by e-commerce. According to eMarketer, although the Asia-Pacific region/China lead in the retail e-commerce sales, in 2020, Latin America was the region with the highest growth (Appendix 25) in this format despite the decline in overall retail sales (3.4% drop); Argentina was the country the highest growth with 79% increase in e-commerce sales. In December 2020, the total e-commerce retail spending worldwide was \$4.280 trillion, according to eMarketer (Appendix 24).

Figure 10 – Category Segmentation of the Food & Grocery Industry



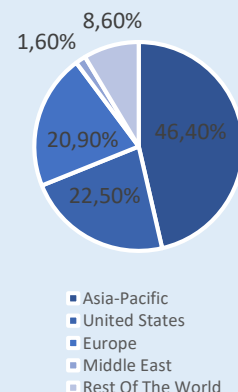
Source: MarketLine

Figure 11 – Market Distribution of the Food & Grocery Industry



Source: MarketLine

Figure 12 – Geographic Segmentation of the Food & Grocery Industry



Source: MarketLine

<sup>11</sup> Industry Life Cycle Analysis for a Grocery Store. Source: <https://smallbusiness.chron.com/business-model-barnes-noble-13655.html>

Europe, Carrefour's main market, represents only 15.1% of the total retail e-commerce sales.

Consumer awareness for the climate changes and sustainability of the planet made retailers change the sustainability of their activities. Food & grocery retail has a big role in the carbon emission and plastic use and according to Barema Bocoum, Partner – C&R, KPMG in France, “consumers are driving the companies to change ethically – find ways to bring sustainability right from sourcing, processing, packaging, distribution and even in marketing while reaching out to their consumers. Hence, while doing M&A, this is a must have ingredient in targets for long-term success”<sup>12</sup>.

#### M&A Activity

According to the article "Global M&A Industry Trends in Consumer Markets" written by PwC in 2020<sup>13</sup>, the long-term impacts of Coronavirus are going to be one of the causes of the increase in M&A in this and other sectors, mainly due to the small businesses, which are expected to have a high probability of going bankrupt, so that M&A will be one key driver of the economic recovery.

The research provided by KEARNEY says that “history has shown us that companies that are bold enough to do M&A in times of crisis fare better than their competitors in times of recovery - and this year will be no different” and also, that strong players will “refocus on profit margins and liquidity, enabling the strongest players to reinforce their positions”<sup>14</sup> (Figure 13).

#### Key Drivers of Revenue

The increasing of spending power and food consumption patterns are two important factors that support the growth of revenues. Also, the increasing investment in e-commerce with competitive prices has given more strength for companies with higher market share.

It is expected that the food retail business continues to have a steady growth for many reasons: it is an essential industry, the increasing of population worldwide and price inflation is expected to remain low.

#### Key Drivers of Costs

Labor costs and property rental rates in major cities are the most relevant key drivers of costs in food retail industry (Figures 14 and 15). Nevertheless, food retailers' resort to advertising and incur in a lot of costs to attract new customers and increase revenues. Also, when considering major players, with higher market share, that usually operate with different currencies and control different channels of distribution, they are exposed to volatile exchange rates and commodity prices bringing a lot of risks for the businesses.

Taxes, government regulations and inflation can increase the cost levels and volatility in price changes.

## Competitive Positioning

#### Peers Identification

The peer group considered has the biggest food retail companies in the industry by total revenue but are also companies with similar business characteristics such as, category in distribution, revenue growth, value chain activities, level of internationalization, participation in franchising outside of their home country and ability to sell via e-commerce (Figure 16).

#### Peers Strategy

The peers have created strategies to maintain their presence and attractiveness in the industry, so these are some of those strategies:

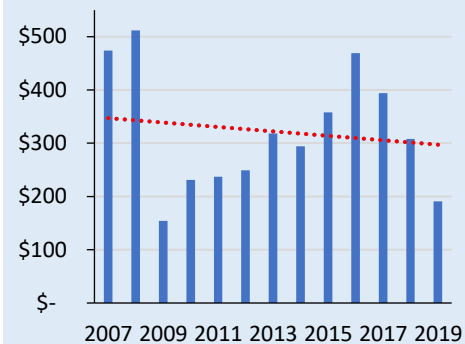
- Merchandising strategy (i.e., investment in advertising)
- Development of private label products

<sup>12</sup> Achieving growth in a sustainable economy. Source: <https://home.kpmg/xx/en/home/insights/2020/02/achieving-growth-in-sustainable-economy.html>

<sup>13</sup> Global M&A Industry Trends in Consumer Markets. Source: <https://www.pwc.com/gx/en/services/deals/trends/consumer-markets.html>

<sup>14</sup> 2020 Consumer and Retail M&A Report. Source: <https://www.kearney.com/consumer-retail/consumer-retail-ma-report>

Figure 13 – Consumer and Retail M&A activity level (in US\$ billion)



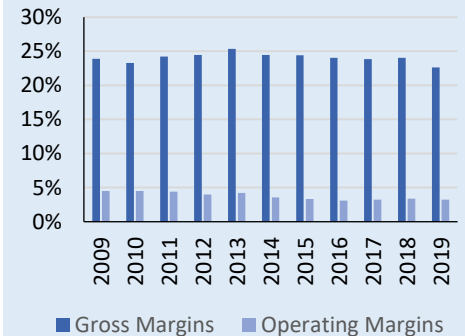
Source: KEARNEY

Figure 14 – Cost of Revenue and Personnel as a % of Sales of the Industry (Median Values)



Source: Bloomberg (2020)

Figure 15 – Margins of the Industry (Median Values)



Source: Bloomberg (2020)

Figure 16 – Identified Peer Group

Rank	Company	Dominant operational format	Home Country	2019 Retail Revenue (€bn)
1	Walmart Inc.	Hypermarket/supercenter	USA	439.57
2	Costco Wholesale Corporation	Cash & carry/warehouse club	USA	128.11
3	Schwarz Group	Discount store	Germany	105.81
4	The Kroger Co.	Supermarket	USA	101.96
5	Aldi Einkauf GmbH & Co. oHG	Discount store	Germany	89.20
6	Carrefour S.A.	Hypermarket/supercenter	France	74.14
7	Tesco PLC.	Hypermarket/supercenter	UK	68.24
8	Koninklijke Ahold Delhaize NV	Supermarket	Netherlands	62.21
9	Auchan Holding SA	Hypermarket/supercenter	France	43.01
10	Casino Guichard Perrachon SA	Hypermarket/supercenter	France	32.53

Source: Deloitte (2021) and Author Analysis

- Investment in technology and M&A (i.e., e-commerce)
- Expand business
- Distribution strategy
- Sustainability (i.e., reduction of plastic and pollution)

**SWOT Analysis**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Integrated business model – the company reduces costs, captures margins and benefits from synergies through the value chain</li> <li>• Worldwide presence, strong brand name and customer satisfaction</li> <li>• Multi-format strategy – from physical stores to ecommerce</li> <li>• Private label products</li> <li>• Strong M&amp;A strategy – the company uses M&amp;A to strengthen its value chain presence and to improve in the ecommerce distribution (e.g. Acquisition of Potager City, the leading distributor of online subscription-based boxes of extra-fresh and seasonal fruit and vegetables sourced from local producers)</li> <li>• Strategic agreements and partnerships (e.g. Carrefour and Uber Eats agreement for the delivery of everyday shopping outside Ile-de-France)</li> <li>• Strong base of suppliers enabling the company to overcome any supply chain constraints</li> </ul>	<ul style="list-style-type: none"> <li>• Employee Satisfaction – in this case, dissatisfaction in the lower ranks of the company (store workers) which leads to several changes of personnel</li> <li>• Limited presence in emerging markets such as Asia</li> <li>• Low liquidity meaning cash could be used more efficiently</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Emerging economies are an opportunity for Carrefour to expand its brand</li> <li>• New environmental policies and technological advances</li> <li>• Low inflation rate</li> <li>• New consumer trends can help Carrefour to have a new revenue stream and diversify its portfolio</li> </ul>	<ul style="list-style-type: none"> <li>• Intense competition and rising competition from discount stores</li> <li>• Rising labor costs and economic slowdown</li> <li>• Regulations – unstable taxes and regulations of the retail industry</li> <li>• Climate changes influence adverse weather conditions that can destroy fields and crops</li> <li>• Currency fluctuation</li> </ul>

**Porter's 5 Forces**

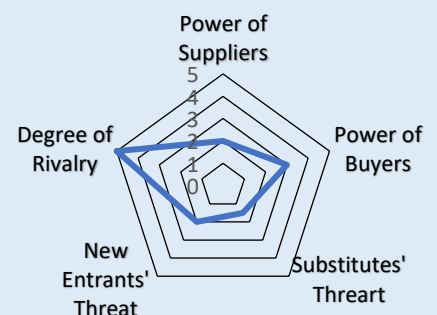
Bargaining Power of Suppliers (Medium-Low – 2)

- Big international suppliers dominate the market.
- Wide range of suppliers to secure stability and protect retailers from price fluctuation.
- Companies join forces to negotiate with the suppliers and reduce costs.
- Long term contracts are avoided to reduce switching costs.
- High mobility for the retailers.
- Big retail players are normally supplied with large orders which represent a large portion of the supplier's revenues.
- Backward integration is possible and an advantage for large and small retailers – private label products.
- Consumer demand for popular products
- Portfolio of products of the suppliers takes out the advantage of the large revenue.
- Rules and certifications for both parties.

Bargaining Power of Buyers (Medium - 3)

- The concentration of retailers in the market influences the buyer's power.
- Price and convenience are two central concerns for the buyers.

Figure 17 – Porter's 5 Forces



Source: Author Analysis

- The rise in health concerns has driven to the growth of demand for nutritional food products.
- Demand for a mixture of domestic and international food.
- Creation of schemes that secure costumers creating loyalty.
- Product differentiation creates brand loyalty (example: the retailers of organic food but the high prices might translate in a limited volume of consumers).
- Growth in the options for the consumer.
- Social media allows consumers to criticize the retailers and influence others.

Threat of substitute products or services (Low – 1.5)

- Main substitutes to food retailers – food services and small/local suppliers.
- In food services, we include fast food services and restaurants, these are the biggest substitutes (in them we can add online deliveries) but for the majority of costumers it goes along with the food retail rather than substitute it.
- The small/local suppliers (where we can include the subsistence agriculture) are very limited threats because it is something that only happens in small villages or close. Normally going to the supplier is cheaper than going to the closest retailer.

Threat of New Entrants (Medium-Low – 2)

- The dominant companies are large scaled and well established that benefit from economies of scale and have the ability to apply aggressive pricing strategies that cannot be matched by smaller retailers.
- Big retailers create schemes to difficult the entrance of new companies, but the industry has shown the rise of new stores (organic retailers and convenience stores).
- The sector has had a steadily growth, but certain segments offer better growth potential.
- For small/local retailers the economies of scale have little importance and fixed costs are unlikely to be high.

Degree of Rivalry/Competition (High – 5)

- There are very differing retail landscapes across the globe.
- Large retailers are dominant and to try to entry in the industry is very expensive. Companies benefit from economies of scale and aggressive pricing strategies that small retailers cannot match. Companies to successfully enter in this segment can only do it through acquisitions.
- The growth in certain segments of the industry is appealing for new entrants which makes it even more saturated (seek of niche areas to be protected from pricing pressures and mainstream marketing).
- Strategic agreements for mergers/acquisitions to expand the company in other countries.
- Switching cost for buyers is insignificant and very influenced by the prices.

## 5. Investment Summary

Carrefour has a Buy recommendation of medium risk, with a 2022YE PT of €19.17/share, which is an upside of 26.31% against the closing price of €15.18 on September 13th, 2021.

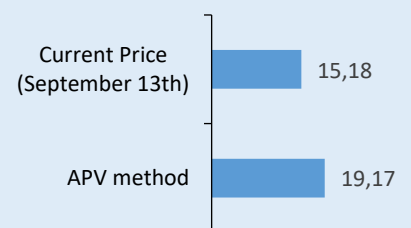
The main reason for this undervaluation was the bad performance in Argentina and France in 2H17 when there was a warning of a profit loss which resulted in a share price drop of 27.4% between May and August 2017 and led to the change of the CEO.

The new CEO and his team elaborated the Carrefour 2022 plan which is expected in the long run to help the company recover from its problems.

Carrefour has integrated various steps of the value chain in its operations, from warehousing and distribution to various services related or not with food retail. This happens across the countries it operates and since the establishment of the 2022 strategic plan, the company has been able to reduce its costs and invest in growing markets and forms of retail (heavy investment in Brazil and the launch of a single platform of e-commerce). Although, the company's revenues have been decreasing at -1.67% 2015-2020 CAGR, it is expected that, has a result of the recent strategy the company, the revenues grow at a +0.72% 2020-2025F CAGR.

Regarding the industry trends, the company adopted the e-commerce in 2016 and since 2018 with a single platform. Regarding the sustainability, Carrefour has

Figure 18 – Carrefour 2022YE PT (€/share)



Source: Author Analysis

changed its business model “towards an ecosystem that benefits all of its stakeholders in line with changing expectations in consumption and production” and “the Carrefour ecosystem gives consumers access to healthy food, produced locally and sustainably at fair prices, which makes it possible to properly remunerate farmers, and to stable employment, participating in the food transition, for employees.”<sup>15</sup>

## 6. Valuation

### Adjusted Present Value (APV) Method

Carrefour’s valuation assumes a changing capital structure in the forecasted years but it is expected to stabilize in the following years so any valuation method considering the discounted cash flows is appropriate, in this case the chosen method to compute the Equity Value is the APV, where the company is valued through its unlevered value and it’s added the interest tax shield and the discount factor is an unlevered cost of capital (between 4.60% and 4.82%) (Appendix 29).

With this method, the PT obtained for the 2022YE is a value per share of €19.17/share (Appendix 31), which against the closing price on September 13th, 2021 of €15.18/share, represents an upside potential of 26.31%.

The main factors that influence the valuation are the net sales growth, the assumptions for the unlevered cost of capital and tax rates and the long-run sustainable growth rate, consequently, the terminal value. These are considered the main factors since the company has a higher growth potential than its historical share prices.

#### Net Sales Growth

It is projected that in the following years, the net sales of Carrefour to rise 0.72% (Appendix 2) (population and GDP is expected to grow in the countries where the company is present) CAGR 2020-25F which is against what happened in the recent years (-1.67% CAGR 2015-20) and impacted by the sale of Carrefour China. Every country where the company operates is expected to have a rise under 1% CAGR 2020-25F (except for Argentina) in sales.

#### Unlevered Cost of Capital (ru) and Tax Rates assumptions

To compute the unlevered cost of capital, it is used the cost of equity, the cost of debt and the E/V and D/V.

To compute the cost of equity, it was considered a 0.35% RFR estimated through the daily average of the last 5 years of the last price of the France Government Oats Btan 10 Yr (Appendix 27), an 8.43% ERP was taken from the Bloomberg platform (Appendix 28) and a 0.722 Beta is an adjusted beta from the Bloomberg regression analysis where the Raw Beta was 0.583. Using the CAPM Model, it results a cost of equity of 6.44% (Appendix 26).

The cost of debt of 3.38% was computed as the average of the interest rates paid by the company for the borrowings.

For the E/V and D/V, it was not stable since the company is not expected to have a stable capital structure, so it was computed an E/V and D/V for each year and for the terminal year it was considered an E/V=45% and D/V=55%.

From these assumptions resulted a ru ranging between 4.60% and 4.82% (Figure 20).

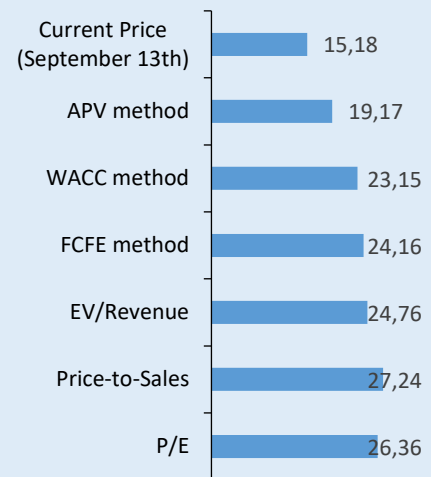
For the tax rates it was made a weighted average of the expected tax rate<sup>16</sup> with the weight that each country has on net sales.

Notice that, these values were chosen after several estimations.

#### Long-run Sustainable Growth Rate

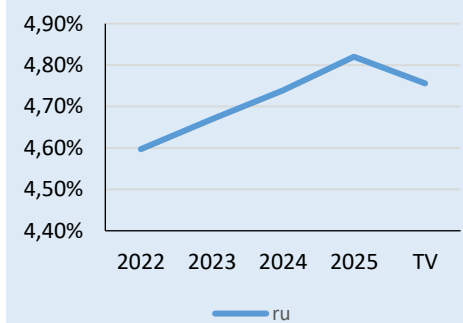
The long-run growth rate was computed through a Stable Growth Model considering the Carrefour Reinvestment Rate and ROE (Appendix 30). The assumptions in the long-run growth rate for the Reinvestment Rate and ROE were computed as the average in the period 2022F-2025F. After that, it was applied the Stable Growth Model formula where the Reinvestment Rate is multiplied by the ROE. From this computation, the long-run sustainable growth rate is 0.19% (Figure 21).

Figure 19 – Current Price vs Valuation Methods PT



Source: Author Analysis

Figure 20 – Evolution of the Unlevered Cost of Capital (ru) in the forecasted years



Source: Author Analysis

Figure 21 – Evolution of the Growth Rate in the forecasted years and the Long-run Sustainable Growth Rate



Source: Author Analysis

<sup>15</sup> Carrefour’s New Business Model. Source: <https://www.carrefour.com/en/group/strategy>

<sup>16</sup> PwC: Worldwide Tax Summaries. Source: <https://taxsummaries.pwc.com>

## WACC Method

To compute the Price Target of Carrefour for 2022YE, it was followed the DCF WACC Method with a detailed FCFF projection from 2023 to 2025 and a stable growth rate for the perpetual period. From this approach results a 2022YE PT of €23.15/share (Appendix 33), meaning an upside of 52.53% against the price of €15.18/share on September 13th, 2021.

The WACC rate ranged between 4.13% and 4.41% (Figure 22) (Appendix 30).

## Flow-to-Equity Method

As said previously, although the company has an unstable capital structure it is expected to stabilize in the following years, so it was computed the Equity Value through FCFE.

In this method, it is considered the FCFE and the cost of equity (Appendix 29), and the PT obtained is a value per share of €24.16/share (Appendix 34).

## Marked-Based Valuation

To compute the valuation of Carrefour, it was also considered the relative model. For these valuations, it was taken in consideration the peer group identified previously but it was considered another factor, the market cap. The companies with a similar market cap to Carrefour are Kroger, Tesco, and Ahold Delhaize.

The multiples used in this relative valuation (Appendix 35) are:

- EV/Revenue, the peer average was 0.48x, resulting an EV of €35.53Bn and an Equity Value of €19.23Bn or a price target of €24.76/share (Figure 23).
- Price-to-Sales, the peer average was 0.33x, resulting a Price of €21.15Bn or a price target of €27.24/share.
- P/E, the peer average was 17.39x, resulting a price target of €26.36/share.

## 7. Financial Analysis

### Carrefour's Liquidity and Cash Generation

Carrefour has been improving its liquidity in the 2016-2020 period, but it is expected a decrease. The Cash Ratio in this period went from 0.13x to 0.21x and it is expected to be around 0.14x in 2025F. Carrefour is able to have a negative Cash Cycle mostly due to its ability to receive cash almost immediately from its customers (around 13 days).

The CFO improved from €3,305 million to €3,395 million in the 2016-2020 period and to €3,417 million in 2025F, which means a 0.13% CAGR the 2020-2025F period (Appendix 3).

### Operational Efficiency and Profitability

Although Carrefour's sales have been decreasing since 2017 at a -3.58% CAGR, it is expected that in the forecasted period it grows to €73,300 million which represents a 0.72% CAGR in the 2020-2025F period. This fluctuation is reflected in the Asset Turnover which went from 1.63x to 1.44x in the 2017-2020 period but is expected to grow to 1.56x in 2025F.

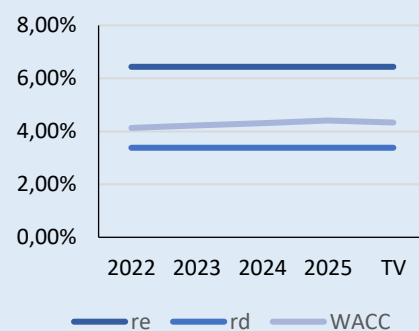
The EBITDA Margin, it had a different evolution. It rose from 5.01% to 5.96% in the 2016-2020 period and stabilized at 5.15% in the forecasted years (Figure 24).

Regarding the Net Profit Margin, it slightly increased from 1.17% to 1.18% in the 2016-2020 period and to 1.80% in 2025F. ROE figures for Carrefour decrease in 2016-2020 period from 7.88% to 7.24% and rose to 9.62% in 2025F (Figure 25).

### Solvency and Capital Structure

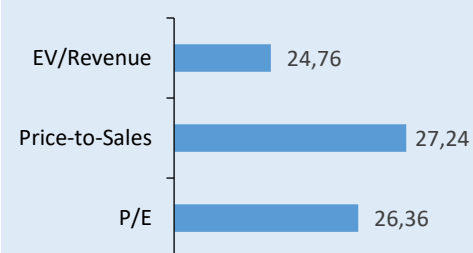
In 2020, it was already seen an improvement in solvency, the interest coverage ratio increased to 5.05x (when it was below 4x in the recent years) and it is forecasted that it will increase to 6.83x in 2025F. Regarding the Debt-to-EBITDA ratio, there was a drawback in the 2016-2020 period, it went from 4.44x to 4.77x and it is forecasted to be 4.18x in 2025F (Appendix 7).

Figure 22 – Evolution of the cost of equity, cost of debt and WACC in the forecasted years



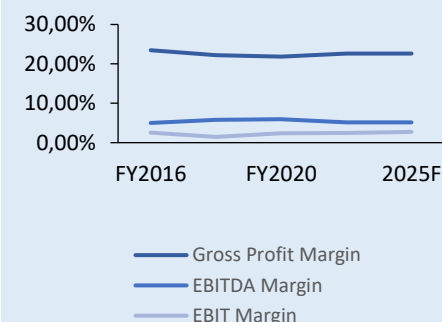
Source: Author Analysis

Figure 23 – Market-Based Valuation (€/share)



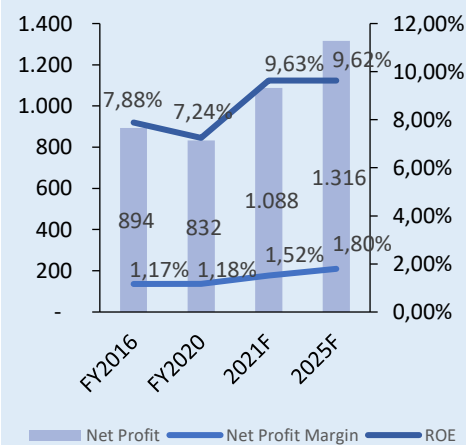
Source: Author Analysis

Figure 24 – Carrefour's Margins



Source: Author Analysis

Figure 25 – Solvency Ratios



Source: Author Analysis

The capital structure of Carrefour has been unstable in the recent period analyzed and it is not expected to be stable in the forecasted years. The Debt Ratio has increased in the 2016-2020 period, from 34.9% to 42.2%, but it is forecasted that it will decrease to 33.5%. The Equity Multiplier also shows the instability of the capital structure, it ranges between 3.9 and 4.4 in the 2016-2020 period and in the forecasted period it decreases until 3.4 (Figure 26).

## 8. Investment Risks

Carrefour faces internal and external risks that could have impacts in its business. As internal risks it includes the Operational Risks. In external risks are included the Macroeconomic Risks, Political and Regulatory Risks and Business Environment Risks.

### Operational Risks

#### Sustainability of the Supply Chain (O1)

For food retailers, ensuring the sustainability of the supply chain and controlling the social and environmental impact of suppliers are major concerns. This industry is considered one of the most polluting ones and the recent COVID-19 crisis raised awareness in Carrefour about safe and sustainable consumption. Also, developing sustainable relationships with its suppliers is essential to the plan of having an Omnichannel Universe of Reference.

A poor control of the supply chain could have social, environmental, reputational, and financial impacts for the company. For example, the company might suffer financial sanctions if it doesn't act according with the established regulations and legislation for social problems like working conditions.

#### Liquidity and Financial risks related to the Financial Services business (O2)

The Banking Business is strictly regulated, and so Carrefour has to increase its capital ratio and comply with liquidity ratios. Non-compliance can lead to operating weaknesses which could increase the probability of occurrence of the risk.

The potential impacts of this risk could be financial and reputational (devaluation of the Carrefour image).

#### Appropriateness of the retail model (O3)

In a context where the consumers habits are changing and the competition environment is becoming fiercer, the Group's products and services could be inadequate in areas such as the retail model and price-promotion-loyalty equation. Regarding the retail model, Carrefour tries to balance its various store formats to expand its offering to respond to the changing consumer behavior. Considering the price-promotion-loyalty equation, the price levels, promotions, and loyalty programs must meet the consumer expectation in terms of purchasing power.

#### Information Systems (O4)

The business operations and processes of Carrefour rely on the reliability and effectiveness of many information systems (internally and externally administrated). The failure of these systems disrupts business operations and loss of sensitive data (employees, customers, or partners) which could lead to financial losses and affect the reputation and image of the company. The rise of cybercrime and digital nomadism represents major threat.

### Macroeconomic Risks

#### World GDP (M1)

Changes in the World GDP can lead the consumers to have different consumption patterns which can lead to slight decreases in the company's revenues.

#### Population (M2)

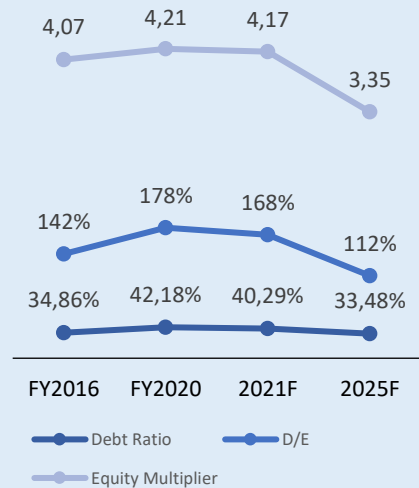
More influential than World GDP, the population fluctuation will influence the company's revenue and the recent population decrease demonstrates that.

### Political and Regulatory Risks

#### Economic and Political situation in the countries (PR1)

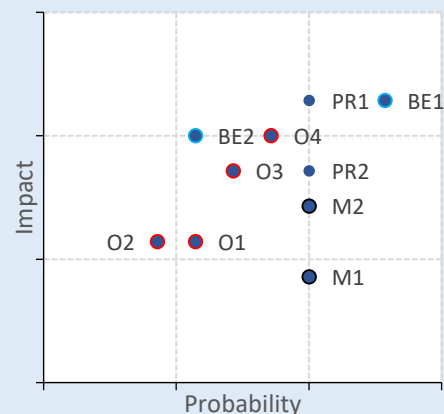
Demand, consumer habits and spending levels are influenced by the economic situation in the countries where Carrefour operates. The decline of the

Figure 26 – Capital Structure Ratios



Source: Author Analysis

Figure 27 – Risk Matrix



Source: Author Analysis

macroeconomic environment (inflation, monetary devaluation, unemployment rise) has a negative impact on the operations and results of the Group.

Political instability led to a deterioration of the business climate influence the consumer spending and unfavorable changes in legislation and regulatory framework could have a harmful impact on the operations and results of the company.

#### Taxes and Social Security Legislation (PR2)

Instability of the tax and social security legislation in some countries, where the Group operates, lead to risks and uncertainties. Carrefour could experience difficulties in managing and anticipating changes in the applicable tax and social security legislation. The adverse impact of this can jeopardize the business continuity.

### Business Environment Risks

#### Competitive pressure (BE1)

The retailing industry is under an intense competitive pressure. The technological disruption is influencing the consumer behavior and exposing the industry and has reached saturation point in Europe. Reflections of the competitive pressure are the historical price-competitive market and the traditional retailers moving into e-commerce.

The aggressive price competition can lead to and image deterioration, fall in market share and revenue.

#### Regulations of the industry (BE2)

The business operations of Carrefour are guided by a legislative and regulatory framework that aims to reconcile freedom of trade with the purpose of protecting the free play of competition and protecting the consumers.

The framework is more restrictive in European countries. In recent years, there have been new laws to strength the existing framework. For example, one of the latest, had the objective of promoting the balanced trade relations with the agricultural sector and healthy, sustainable food.

The consequences of not following these regulations can be financial and reputational.

### Price Target Sensitivity

Regarding the risks stated previously, it was computed two simulations to check the Price Target Sensitivity to different factors and the investment recommendation against the obtained (Figure 28).

#### Net Sales in 2023

Here, it was performed a simulation to know the impact of the Net Sales during 2023F in the Price Target. The middle value is the forecasted for the Net Sales in 2023 and the other values are a variation of -5% or +5% of the previous number.

As it can be seen, a variation of +5% (=76,147M) changes the investment recommendation to strong buy and a change of -19% (=59,069M) also change the investment recommendation to a hold position. (Figure 29).

Figure 28 – Investment recommendation system – Medium risk

Investment recommendation	Upside potential
sell	≤ -5%
reduce	> -5% & ≤ 5%
hold	> 5% & ≤ 15%
buy	> 15% & ≤ 30%
strong buy	≥ 30%

Figure 29 – Price Target Sensitivity to a variation in the Net Sales of 2023F

	Net Sales 2023F										
	56,115	59,069	62,178	65,450	68,895	72,521	76,147	79,955	83,952	88,150	92,557
19.17	16.71	17.13	17.58	18.07	18.60	19.17	19.76	20.40	21.08	21.81	22.58

Source: Author Analysis

#### Terminal Unlevered Cost of Capital (ru) vs Long-run Sustainable Growth Rate (g)

In the base case, the terminal unlevered cost of capital is set on 4.8%, in case of a decrease of 20bps, *ceteris paribus*, the PT will increase €1.41 - €2.96/share. In case of an increase of 20bps, *ceteris paribus*, the PT will decrease €1.11 - €2.02/share.

In the base case, the long-run sustainable growth rate is set to 0.19%, in case of an increase (decrease) of 2bps, *ceteris paribus*, the PT will increase (decrease) between €0.14 - €0.19/share (Figure 30).



Figure 30 – Terminal Unlevered Cost of Capital (ru) vs Long-run Sustainable Growth Rate

Terminal Unlevered Cost of Capital (ru)	Long-run Sustainable Growth Rate (g)												
	19.17	0.07%	0.09%	0.11%	0.13%	0.15%	0.17%	0.19%	0.21%	0.23%	0.25%	0.27%	0.29%
3.6%	30.94	31.21	31.49	31.78	32.06	32.35	32.69	32.94	33.24	33.55	33.85	34.16	34.48
3.8%	28.17	28.41	28.66	28.91	29.17	29.43	29.73	29.95	30.22	30.49	30.76	31.04	31.31
4.0%	25.68	25.90	26.12	26.35	26.58	26.81	27.08	27.28	27.51	27.76	28.00	28.24	28.49
4.2%	23.43	23.63	23.83	24.04	24.24	24.45	24.69	24.87	25.09	25.30	25.52	25.74	25.96
4.4%	21.40	21.58	21.76	21.95	22.13	22.32	22.54	22.70	22.89	23.09	23.28	23.48	23.68
4.6%	19.54	19.71	19.87	20.04	20.21	20.38	20.58	20.73	20.90	21.08	21.26	21.44	21.62
4.8%	18.21	18.36	18.52	18.67	18.83	18.99	19.17	19.31	19.47	19.64	19.80	19.97	20.14
5.0%	16.29	16.43	16.57	16.71	16.85	16.99	17.16	17.28	17.42	17.57	17.72	17.87	18.02
5.2%	14.85	14.98	15.11	15.24	15.37	15.50	15.65	15.76	15.90	16.03	16.17	16.31	16.44
5.4%	13.53	13.65	13.76	13.88	14.00	14.12	14.26	14.37	14.49	14.62	14.74	14.87	14.99
5.6%	12.30	12.41	12.52	12.63	12.74	12.85	12.98	13.08	13.19	13.30	13.42	13.54	13.65
5.8%	11.16	11.26	11.36	11.46	11.57	11.67	11.79	11.88	11.98	12.09	12.20	12.30	12.41
6.0%	10.10	10.19	10.28	10.38	10.47	10.57	10.68	10.76	10.86	10.96	11.06	11.16	11.26

Source: Author Analysis



## Appendix 3: Cash Flow Statements

Consolidated Statement of Cash Flow of Carrefour SA	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	CAGR 2015-2020
(in millions of euros)							
Income before taxes	1,717	1,428	255	496	722	1,351	-4.68%
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>							
Income tax	- 663	- 269	- 588	- 513	- 499	- 477	-6.37%
Depreciation and amortisation expense	1,574	1,547	1,632	1,536	2,328	2,292	7.81%
Capital (gains)/losses on sales of assets	- 13	- 39	- 49	- 29	- 26	- 47	-229.31%
Change in provisions and impairment	- 215	- 126	- 1,013	- 488	- 287	- 94	-15.25%
Finance costs, net	347	377	317	233	214	171	-13.20%
Net interests related to leases	-	-	-	-	107	113	n.a
Net income and dividends received from equity-accounted companies	8	79	76	37	101	60	49.63%
Impact of discontinued operations	- 22	- 32	- 4	- 141	- 114	- 54	19.67%
Cash flow from operations	2,733	2,964	2,653	2,107	3,400	3,408	4.51%
Change in working capital requirement	276	454	157	115	56	15	-44.15%
Impact of discontinued operations	3	- 11	-	55	5	-	-100.00%
Net cash from operating activities (excluding financial services companies)	3,012	3,407	2,810	2,276	3,452	3,424	2.60%
Change in consumer credit granted by the financial services companies	- 195	- 103	- 32	- 168	- 205	- 29	-31.69%
<b>Net cash from operating activities</b>	<b>2,818</b>	<b>3,305</b>	<b>2,843</b>	<b>2,108</b>	<b>3,247</b>	<b>3,395</b>	<b>3.80%</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>							
Acquisitions of property and equipment and intangible assets	- 2,378	- 2,749	- 2,379	- 1,611	- 1,725	- 1,491	-8.91%
Acquisitions of non-current financial assets	- 29	- 3	- 1	- 3	- 24	- 16	-11.21%
Acquisitions of subsidiaries and investments in associates	- 56	- 193	- 260	- 190	- 86	- 291	39.04%
Proceeds from the disposal of subsidiaries and investments in associates	7	6	9	1	338	7	0.00%
Proceeds from the disposal of property and equipment and intangible assets	186	152	158	172	347	159	-3.09%
Proceeds from the disposal of non-current financial assets	5	4	4	20	103	13	21.06%
Change in amounts receivable from disposals of non-current assets and dueto	151	70	117	28	84	123	-195.98%
Investments net of disposals	- 2,115	- 2,847	- 2,584	- 1,639	- 964	- 1,742	-3.81%
Other cash flows from investing activities	- 28	- 25	- 54	- 13	- 30	- 98	28.47%
Impact of discontinued operations	- 7	- 16	- 3	- 13	- 20	-	-100.00%
<b>Net cash from/(used in) investing activities</b>	<b>- 2,136</b>	<b>- 2,856</b>	<b>- 2,635</b>	<b>- 1,613</b>	<b>- 1,013</b>	<b>- 1,841</b>	<b>-2.93%</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>							
Proceeds from share issues to non-controlling interests	14	255	969	89	75	1	-41.01%
Acquisitions and disposals of investments without any change of control	208	40	479	-	-	-	-100.00%
Dividends paid by Carrefour (parent company)	- 390	- 121	- 151	- 152	- 106	- 57	-31.93%
Dividends paid by consolidated companies to non-controlling interests	- 98	- 86	- 141	- 82	- 116	- 113	2.89%
Change in treasury stock and other equity instruments	384	30	40	42	-	-	-100.00%
Change in current financial assets	40	152	34	45	2	3	-159.57%
Issuance of bonds	750	743	981	1,758	930	1,000	5.92%
Repayments of bonds	- 744	- 666	- 1,250	- 744	- 1,530	- 972	5.49%
Net interests paid	- 360	- 378	- 320	- 245	- 236	- 183	-12.66%
Other changes in borrowings	- 625	- 111	- 197	- 89	- 131	- 233	-182.09%
Payments related to leases	-	-	-	-	- 905	- 926	n.a
Net interests related to leases	-	-	-	-	- 98	- 106	n.a
Impact of discontinued operations	-	-	-	- 2	- 128	-	n.a
<b>Net cash from/(used in) financing activities</b>	<b>- 821</b>	<b>-</b>	<b>362</b>	<b>529</b>	<b>- 1,987</b>	<b>- 1,126</b>	<b>6.52%</b>
Net change in cash and cash equivalents before the effect of changes in exchange	- 139	449	570	1,023	247	428	-225.22%
Effect of changes in exchange rates	- 249	131	- 283	- 315	81	455	12.81%
<b>Net change in cash and cash equivalents</b>	<b>- 388</b>	<b>581</b>	<b>288</b>	<b>708</b>	<b>166</b>	<b>27</b>	<b>-41.32%</b>
Cash and cash equivalents at beginning of year	3,113	2,724	3,305	3,593	4,300	4,466	7.49%
Cash and cash equivalents at end of year	2,724	3,305	3,593	4,300	4,466	4,439	10.26%

Cash Flow Statement of Carrefour SA (indirect method)	2021F	2022F	2023F	2024F	2025F	CAGR 2021F-2025F	CAGR 2020-2025F
(in millions of euros)							
EBIT - Operating Income	1,782	1,865	1,923	1,968	2,002	2.96%	
Income tax	- 338	- 351	- 368	- 382	- 392	3.81%	
Depreciation & Amortisation	1,146	1,221	1,289	1,352	1,409	5.30%	
Amortisation of right-to-use assets	751	626	522	435	362	-16.67%	
ΔNWC	- 153	60	41	38	36	n.a	
<b>Cash Flow from Operating Activities</b>	<b>3,188</b>	<b>3,420</b>	<b>3,407</b>	<b>3,411</b>	<b>3,417</b>	1.75%	0.13%
CAPEX	- 1,888	- 1,905	- 1,916	- 1,927	- 1,937	0.64%	
Other cash flows from investing activities	-	-	-	-	-	n.a	
<b>Cash Flow From Investing Activities</b>	<b>- 1,888</b>	<b>- 1,905</b>	<b>- 1,916</b>	<b>- 1,927</b>	<b>- 1,937</b>	0.64%	1.02%
Dividends paid	- 392	- 516	- 559	- 586	- 608	11.57%	
Proceeds from share buyback	- 700	-	-	-	-	-100.00%	
Interest paid	- 356	- 337	- 320	- 305	- 293	-4.75%	
Lease payments	- 936	- 873	- 605	- 605	- 605	-10.32%	
ΔDebt	49	83	41	58	188	n.a	
<b>Cash Flow from Financing Activities</b>	<b>- 2,336</b>	<b>- 1,643</b>	<b>- 1,525</b>	<b>- 1,439</b>	<b>- 1,694</b>	-7.71%	10.75%
<b>Net change in cash and cash equivalents</b>	<b>- 1,036</b>	<b>- 128</b>	<b>34</b>	<b>45</b>	<b>214</b>	-32.57%	
Cash and cash equivalents at the beginning of the year	4,439	3,403	3,275	3,241	3,286	-7.24%	
Cash and cash equivalents at the end of the year	3,403	3,275	3,241	3,286	3,072	-2.53%	

## Appendix 4: Common-size Statement of Financial Position

Consolidated Statement of Financial Position of Carrefour SA	FY2015	FY2016	FY2017	FY2018	FY2019	2020F	2021F	2022F	2023F	2024F	2025F
Goodwill	18.84%	17.69%	16.68%	16.85%	15.70%	16.88%	17.05%	17.09%	17.08%	17.03%	17.07%
Other intangible assets	2.25%	2.59%	2.85%	3.08%	2.86%	2.78%	3.20%	3.56%	3.87%	4.13%	4.38%
Property and equipment	26.77%	27.45%	27.39%	26.67%	22.38%	22.07%	23.48%	24.64%	25.66%	26.53%	27.47%
Investment property	0.85%	0.64%	0.86%	0.82%	0.61%	0.54%	0.55%	0.55%	0.54%	0.54%	0.54%
Right-of-use assets	0.00%	0.00%	0.00%	0.00%	8.64%	9.47%	7.97%	6.66%	5.54%	4.61%	3.85%
Investments in companies accounted for by the equity method	3.18%	2.79%	2.83%	2.90%	2.45%	2.46%	2.43%	2.35%	2.26%	2.17%	2.09%
Other non-current financial assets	2.86%	2.93%	2.86%	2.69%	2.97%	2.55%	2.55%	2.53%	2.51%	2.47%	2.45%
Consumer credit granted by the financial services companies – long term	5.21%	4.85%	5.13%	5.25%	4.49%	4.06%	4.10%	4.11%	4.11%	4.10%	4.11%
Deferred tax assets	1.65%	1.70%	1.33%	1.53%	1.62%	1.43%	1.44%	1.44%	1.44%	1.44%	1.44%
Other non-current assets	0.00%	0.16%	0.70%	0.80%	1.12%	1.03%	1.04%	1.04%	1.04%	1.04%	1.04%
<b>Non-current assets</b>	<b>61.61%</b>	<b>60.80%</b>	<b>60.64%</b>	<b>60.59%</b>	<b>62.85%</b>	<b>63.28%</b>	<b>63.81%</b>	<b>63.96%</b>	<b>64.05%</b>	<b>64.06%</b>	<b>64.44%</b>
Inventories	14.11%	14.41%	13.99%	12.95%	11.55%	11.19%	12.55%	12.69%	12.76%	12.79%	12.89%
Trade receivables	5.03%	5.49%	5.75%	5.35%	5.25%	5.31%	5.33%	5.39%	5.42%	5.44%	5.48%
Consumer credit granted by the financial services companies – short-term	8.11%	7.99%	8.09%	7.86%	7.89%	6.92%	6.91%	6.78%	6.64%	6.51%	6.40%
Other current financial assets	0.79%	0.49%	0.34%	0.40%	0.50%	0.77%	0.78%	0.78%	0.78%	0.78%	0.78%
Tax receivables	2.59%	2.14%	1.86%	1.80%	1.65%	1.28%	1.71%	1.73%	1.74%	1.74%	1.75%
Other assets	1.56%	1.86%	1.78%	1.87%	1.45%	1.66%	1.69%	1.71%	1.72%	1.72%	1.73%
Cash and cash equivalents	6.04%	6.77%	7.51%	9.08%	8.79%	9.33%	7.22%	6.97%	6.89%	6.97%	6.53%
Assets held for sale	0.15%	0.06%	0.03%	0.10%	0.07%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Current assets</b>	<b>38.39%</b>	<b>39.20%</b>	<b>39.36%</b>	<b>39.41%</b>	<b>37.15%</b>	<b>36.72%</b>	<b>36.19%</b>	<b>36.04%</b>	<b>35.95%</b>	<b>35.94%</b>	<b>35.56%</b>
<b>TOTAL ASSETS</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
Share capital	4.09%	3.87%	4.05%	4.16%	3.97%	4.30%	4.12%	4.13%	4.13%	4.11%	4.12%
Consolidated reserves and income for the year	17.27%	17.48%	16.99%	15.19%	15.59%	16.29%	16.66%	18.10%	19.53%	20.95%	22.50%
Shareholders' equity – Group share	21.36%	21.35%	21.04%	19.35%	19.56%	20.58%	20.78%	22.23%	23.65%	25.06%	26.62%
Shareholders' equity attributable to non-controlling interests	2.30%	3.24%	4.39%	4.47%	3.42%	3.16%	3.19%	3.19%	3.19%	3.18%	3.19%
<b>Total shareholders' equity</b>	<b>23.67%</b>	<b>24.58%</b>	<b>25.43%</b>	<b>23.82%</b>	<b>22.98%</b>	<b>23.74%</b>	<b>23.97%</b>	<b>25.42%</b>	<b>26.85%</b>	<b>28.24%</b>	<b>29.81%</b>
Long-term borrowings	14.77%	12.69%	13.44%	14.64%	12.41%	13.25%	13.54%	13.46%	13.57%	13.12%	13.61%
Lease commitments - long term	0.00%	0.00%	0.00%	0.00%	7.20%	7.96%	6.18%	4.91%	3.62%	2.33%	0.00%
Provisions	6.68%	6.27%	6.28%	7.43%	6.49%	5.61%	5.48%	5.36%	5.22%	5.08%	4.97%
Consumer credit financing – long-term	4.26%	3.96%	5.57%	4.08%	3.58%	3.16%	3.20%	3.20%	3.20%	3.19%	3.20%
Deferred tax liabilities	1.13%	1.11%	1.02%	1.14%	1.29%	0.98%	0.99%	0.99%	0.99%	0.99%	0.99%
Tax payables - long term	0.00%	0.00%	0.00%	0.00%	0.66%	0.45%	0.45%	0.46%	0.45%	0.45%	0.45%
<b>Non-current liabilities</b>	<b>26.85%</b>	<b>24.04%</b>	<b>26.31%</b>	<b>27.29%</b>	<b>31.63%</b>	<b>31.41%</b>	<b>29.85%</b>	<b>28.38%</b>	<b>27.06%</b>	<b>25.16%</b>	<b>23.23%</b>
Short-term borrowings	2.14%	3.84%	2.24%	2.83%	1.96%	2.28%	2.25%	2.53%	2.34%	2.86%	2.01%
Lease commitments - short term	0.00%	0.00%	0.00%	0.00%	1.80%	1.97%	1.85%	1.29%	1.29%	1.28%	2.33%
Suppliers and other creditors	30.26%	31.52%	31.54%	29.89%	26.86%	26.39%	27.83%	28.13%	28.29%	28.37%	28.58%
Consumer credit financing – short-term	7.38%	6.95%	5.89%	7.56%	7.31%	6.44%	6.35%	6.25%	6.14%	6.01%	5.92%
Tax payables	2.43%	2.58%	2.68%	2.41%	2.16%	2.18%	2.26%	2.28%	2.30%	2.30%	2.32%
Other payables	7.19%	6.46%	5.88%	6.20%	5.21%	5.50%	5.65%	5.72%	5.75%	5.76%	5.81%
Liabilities related to assets held for sale	0.08%	0.03%	0.02%	0.00%	0.10%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Current liabilities</b>	<b>49.49%</b>	<b>51.38%</b>	<b>48.26%</b>	<b>48.89%</b>	<b>45.39%</b>	<b>44.85%</b>	<b>46.19%</b>	<b>46.20%</b>	<b>46.09%</b>	<b>46.59%</b>	<b>46.96%</b>
<b>TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

## Appendix 5: Common-size Income Statement

Consolidated Income Statement of Carrefour SA	FY2015	FY2016	FY2017	FY2018	FY2019	2020F	2021F	2022F	2023F	2024F	2025F
Net sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Loyalty program costs	-0.72%	-0.77%	-0.82%	-0.97%	-1.03%	-1.06%	-0.93%	-0.93%	-0.93%	-0.93%	-0.93%
Net sales net of loyalty program costs	99.28%	99.23%	99.18%	99.03%	98.97%	98.94%	99.07%	99.07%	99.07%	99.07%	99.07%
Other revenue	3.20%	3.55%	3.45%	3.49%	3.44%	3.09%	3.40%	3.40%	3.40%	3.40%	3.40%
Total revenue	102.48%	102.78%	102.63%	102.52%	102.41%	102.02%	102.47%	102.47%	102.47%	102.47%	102.47%
Cost of sales	-79.07%	-79.31%	-79.55%	-80.07%	-80.19%	-80.18%	-79.86%	-79.86%	-79.86%	-79.86%	-79.86%
Gross margin from recurring operations	23.42%	23.47%	23.09%	22.46%	22.22%	21.84%	22.61%	22.61%	22.61%	22.61%	22.61%
Sales, general and administrative expenses, depreciation and amortisation	-20.24%	-20.40%	-20.54%	-19.95%	-19.34%	-18.77%	-20.12%	-20.03%	-19.96%	-19.92%	-19.88%
Recurring operating income	3.18%	3.07%	2.54%	2.51%	2.89%	3.07%	2.49%	2.59%	2.65%	2.70%	2.73%
Net income from equity-accounted companies	0.06%	-0.05%	0.01%	0.02%	0.00%	-0.02%	0.00%	0.00%	0.00%	0.00%	0.00%
Recurring operating income after net income from equity-accounted companies	3.23%	3.02%	2.55%	2.52%	2.89%	3.05%	2.49%	2.59%	2.65%	2.70%	2.73%
Non-recurring income and expenses, net	-0.33%	-0.49%	-1.66%	-1.53%	-1.42%	-0.67%	0.00%	0.00%	0.00%	0.00%	0.00%
Operating income	2.90%	2.54%	0.89%	1.00%	1.47%	2.38%	2.49%	2.59%	2.65%	2.70%	2.73%
Finance costs and other financial income and expenses, net	-0.67%	-0.57%	-0.56%	-0.34%	-0.47%	-0.47%	-0.50%	-0.47%	-0.44%	-0.42%	-0.40%
Finance costs, net	-0.45%	-0.49%	-0.40%	-0.31%	-0.30%	-0.24%	-0.35%	-0.35%	-0.35%	-0.35%	-0.35%
Net interests related to leases commitment	0.00%	0.00%	0.00%	0.00%	-0.02%	-0.16%	-0.15%	-0.12%	-0.09%	-0.07%	-0.05%
Other financial income and expenses, net	-0.22%	-0.18%	-0.16%	-0.04%	-0.15%	-0.07%	0.00%	0.00%	0.00%	0.00%	0.00%
Income before taxes	2.23%	1.86%	0.32%	0.65%	1.00%	1.91%	1.99%	2.12%	2.21%	2.28%	2.33%
Income tax expense	-0.78%	-0.64%	-0.78%	-0.71%	-0.70%	-0.70%	-0.47%	-0.49%	-0.51%	-0.52%	-0.54%
Net income from continuing operations	1.46%	1.22%	-0.46%	-0.06%	0.30%	1.21%	1.52%	1.63%	1.70%	1.76%	1.80%
Net income from discontinued operations	0.01%	-0.05%	0.00%	-0.40%	1.51%	-0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Net income for the year</b>	<b>1.46%</b>	<b>1.17%</b>	<b>-0.46%</b>	<b>-0.45%</b>	<b>1.81%</b>	<b>1.18%</b>	<b>1.52%</b>	<b>1.63%</b>	<b>1.70%</b>	<b>1.76%</b>	<b>1.80%</b>

## Appendix 6: Common-size Cash Flow Statement

Consolidated Statement of Cash Flow of Carrefour SA	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Income before taxes	60.93%	43.21%	8.97%	23.53%	22.24%	39.79%
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>						
Income tax	-23.53%	-8.14%	-20.68%	-24.34%	-15.37%	-14.05%
Depreciation and amortisation expense	55.86%	46.81%	57.40%	72.87%	71.70%	67.51%
Capital (gains)/losses on sales of assets	-0.46%	-1.18%	-1.72%	-1.38%	0.80%	1.38%
Change in provisions and impairment	-7.63%	-3.81%	35.63%	23.15%	8.84%	-2.77%
Finance costs, net	12.31%	11.41%	11.15%	11.05%	6.59%	5.04%
Net interests related to leases	0.00%	0.00%	0.00%	0.00%	3.30%	3.33%
Net income and dividends received from equity-accounted companies	0.28%	2.39%	2.67%	1.76%	3.11%	1.77%
Impact of discontinued operations	-0.78%	-0.97%	-0.14%	-6.69%	3.51%	-1.59%
Cash flow from operations	96.98%	89.68%	93.32%	99.95%	104.71%	100.38%
Change in working capital requirement	9.79%	13.74%	5.52%	5.46%	1.72%	0.44%
Impact of discontinued operations	0.11%	-0.33%	0.00%	2.61%	-0.15%	0.00%
Net cash from operating activities (excluding financial services companies)	106.88%	103.09%	98.84%	107.97%	106.31%	100.85%
Change in consumer credit granted by the financial services companies	-6.92%	-3.12%	1.13%	-7.97%	-6.31%	-0.85%
<b>Net cash from operating activities</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>						
Acquisitions of property and equipment and intangible assets	-84.39%	-83.18%	-83.68%	-76.42%	-53.13%	-43.92%
Acquisitions of non-current financial assets	-1.03%	0.09%	0.04%	-0.14%	-0.74%	-0.47%
Acquisitions of subsidiaries and investments in associates	-1.99%	-5.84%	-9.15%	-9.01%	-2.65%	-8.57%
Proceeds from the disposal of subsidiaries and investments in associates	0.25%	0.18%	0.32%	0.05%	10.41%	0.21%
Proceeds from the disposal of property and equipment and intangible assets	6.60%	4.60%	5.56%	8.16%	10.69%	4.68%
Proceeds from the disposal of non-current financial assets	0.18%	0.12%	0.14%	0.95%	3.17%	0.38%
Change in amounts receivable from disposals of non-current assets and dueto	5.36%	-2.12%	-4.12%	-1.33%	2.59%	-3.62%
Investments net of disposals	-75.05%	-86.14%	-90.89%	-77.75%	-29.69%	-51.31%
Other cash flows from investing activities	-0.99%	-0.76%	-1.90%	0.62%	-0.92%	-2.89%
Impact of discontinued operations	0.25%	0.48%	0.11%	0.62%	-0.62%	0.00%
<b>Net cash from/(used in) investing activities</b>	<b>-75.80%</b>	<b>-86.41%</b>	<b>-92.68%</b>	<b>-76.52%</b>	<b>-31.20%</b>	<b>-54.23%</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>						
Proceeds from share issues to non-controlling interests	0.50%	7.72%	34.08%	4.22%	2.31%	0.03%
Acquisitions and disposals of investments without any change of control	7.38%	-1.21%	16.85%	0.00%	0.00%	0.00%
Dividends paid by Carrefour (parent company)	-13.84%	-3.66%	-5.31%	-7.21%	-3.26%	-1.68%
Dividends paid by consolidated companies to non-controlling interests	-3.48%	-2.60%	-4.96%	-3.89%	-3.57%	-3.33%
Change in treasury stock and other equity instruments	13.63%	0.91%	-1.41%	1.99%	0.00%	0.00%
Change in current financial assets	1.42%	4.60%	1.20%	-2.13%	-0.06%	-0.09%
Issuance of bonds	26.61%	22.48%	34.51%	83.40%	28.64%	29.46%
Repayments of bonds	-26.40%	-20.15%	-43.97%	-35.29%	-47.12%	-28.63%
Net interests paid	-12.78%	-11.44%	-11.26%	-11.62%	-7.27%	-5.39%
Other changes in borrowings	-22.18%	3.36%	-6.93%	-4.22%	4.03%	6.86%
Payments related to leases	0.00%	0.00%	0.00%	0.00%	-27.87%	-27.28%
Net interests related to leases	0.00%	0.00%	0.00%	0.00%	-3.02%	-3.12%
Impact of discontinued operations	0.00%	0.00%	0.00%	-0.09%	-3.94%	0.00%
<b>Net cash from/(used in) financing activities</b>	<b>-29.13%</b>	<b>0.00%</b>	<b>12.73%</b>	<b>25.09%</b>	<b>-61.19%</b>	<b>-33.17%</b>
Net change in cash and cash equivalents before the effect of changes in exchange	-4.93%	13.59%	20.05%	48.53%	7.61%	12.61%
Effect of changes in exchange rates	-8.84%	3.96%	-9.95%	-14.94%	-2.49%	-13.40%
<b>Net change in cash and cash equivalents</b>	<b>-13.77%</b>	<b>17.58%</b>	<b>10.13%</b>	<b>33.59%</b>	<b>5.11%</b>	<b>-0.80%</b>
Cash and cash equivalents at beginning of year	110.47%	82.42%	116.25%	170.45%	132.43%	131.55%
Cash and cash equivalents at end of year	96.66%	100.00%	126.38%	203.98%	137.54%	130.75%

Cash Flow Statement of Carrefour SA (indirect method)	2021F	2022F	2023F	2024F	2025F
(in millions of euros)					
EBIT - Operating Income	55.88%	54.52%	56.44%	57.69%	58.59%
Income tax	-10.60%	-10.26%	-10.81%	-11.20%	-11.48%
Depreciation & Amortisation	35.95%	35.70%	37.85%	39.64%	41.24%
Amortisation of right-to-use assets	23.55%	18.30%	15.31%	12.74%	10.60%
ΔNWC	-4.79%	1.75%	1.22%	1.12%	1.05%
<b>Cash Flow from Operating Activities</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
CAPEX	-59.23%	-55.70%	-56.25%	-56.50%	-56.68%
Other cash flows from investing activities	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Cash Flow From Investing Activities</b>	<b>-59.23%</b>	<b>-55.70%</b>	<b>-56.25%</b>	<b>-56.50%</b>	<b>-56.68%</b>
Dividends paid	-12.31%	-15.10%	-16.40%	-17.19%	-17.80%
Interest paid	-11.17%	-9.85%	-9.39%	-8.94%	-8.58%
Lease payments	-29.36%	-25.53%	-17.77%	-17.75%	-17.71%
ΔDebt	1.54%	2.43%	-1.19%	1.69%	-5.49%
<b>Cash Flow from Financing Activities</b>	<b>-73.26%</b>	<b>-48.05%</b>	<b>-44.75%</b>	<b>-42.19%</b>	<b>-49.58%</b>
<b>Net change in cash and cash equivalents</b>	<b>-32.48%</b>	<b>-3.75%</b>	<b>-1.00%</b>	<b>1.31%</b>	<b>-6.26%</b>
Cash and cash equivalents at the beginning of the year	139.23%	99.52%	96.14%	95.02%	96.16%
Cash and cash equivalents at the end of the year	106.74%	95.77%	95.13%	96.34%	89.89%

## Appendix 7: Managerial Balance Sheet

Managerial Balance Sheet	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	2021F	2022F	2023F	2024F	2025F	Terminal
<b>Fixed Assets and Others</b>	31,866	33,868	33,039	32,666	36,223	33,902	33,690	33,631	33,622	33,654	33,708	
Inventories	6,362	7,039	6,690	6,135	5,867	5,326	5,913	5,965	6,001	6,034	6,065	
Trade Receivables	2,269	2,682	2,750	2,537	2,669	2,526	2,513	2,535	2,550	2,564	2,577	
Tax Receivables	1,168	1,044	890	853	838	608	805	812	817	821	825	
Other Assets	705	907	851	887	738	788	795	802	807	811	815	
Operating Assets	10,504	11,672	11,181	10,412	10,112	9,248	10,025	10,113	10,174	10,230	10,283	
Suppliers and Other Creditors	13,648	15,396	15,082	14,161	13,646	12,560	13,112	13,227	13,306	13,380	13,449	
Tax Payables	1,097	1,260	1,282	1,142	1,095	1,039	1,064	1,074	1,080	1,086	1,092	
Other Payables	3,244	3,153	2,813	2,938	2,649	2,617	2,664	2,688	2,704	2,719	2,733	
Operating Liabilities	17,989	19,809	19,177	18,241	17,390	16,216	16,840	16,988	17,090	17,185	17,274	
<b>NWC</b>	- 7,485	- 8,137	- 7,996	- 7,829	- 7,278	- 6,968	- 6,815	- 6,875	- 6,917	- 6,955	- 6,991	
Cash and Cash Equivalents	2,724	3,305	3,593	4,300	4,466	4,439	3,403	3,275	3,241	3,286	3,072	
<b>Invested Capital</b>	27,105	29,036	28,636	29,137	33,411	31,373	30,278	30,031	29,947	29,985	29,789	
<b>Equity</b>	10,672	12,008	12,158	11,286	11,675	11,297	11,292	11,953	12,628	13,323	14,031	
Debt	16,434	17,028	16,478	17,851	21,737	20,075	18,986	18,079	17,318	16,662	15,758	
<b>Capital Employed</b>	27,106	29,036	28,636	29,137	33,412	31,372	30,278	30,031	29,947	29,985	29,789	
% Equity	39%	41%	42%	39%	35%	36%	37%	40%	42%	44%	47%	45%
% Debt	61%	59%	58%	61%	65%	64%	63%	60%	58%	56%	53%	55%

## Appendix 8: Key Financial Ratios

Financial Ratios	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	2021F	2022F	2023F	2024F	2025F
<b>Liquidity Ratios</b>											
Current Ratio	0.78	0.76	0.82	0.81	0.82	0.82	0.78	0.78	0.78	0.77	0.76
Quick Ratio	0.29	0.29	0.32	0.34	0.36	0.37	0.33	0.32	0.32	0.32	0.31
Cash Ratio	0.12	0.13	0.16	0.19	0.19	0.21	0.16	0.15	0.15	0.15	0.14
<b>Efficiency Ratios</b>											
Inventory Turnover		9.07	9.14	9.49	9.67	10.13	10.16	9.69	9.68	9.68	9.68
Receivables Turnover		30.96	29.05	28.75	27.81	27.23	28.36	28.56	28.52	28.52	28.51
Payables Turnover		4.23	4.10	4.12	4.16	4.29	4.49	4.38	4.37	4.37	4.37
Asset Turnover		1.63	1.63	1.60	1.47	1.44	1.51	1.53	1.54	1.55	1.56
Fixed Asset Turnover		5.86	5.80	5.73	4.98	4.51	4.71	4.80	4.85	4.88	4.90
Days Sales Outstanding	10.8	12.8	12.7	12.2	13.5	13.0	12.8	12.8	12.8	12.8	12.8
Days Inventory	38.2	42.3	38.9	36.8	36.9	34.3	37.8	37.8	37.8	37.8	37.8
Days Payable Outstanding	81.9	92.4	87.7	84.9	85.8	80.8	83.9	83.9	83.9	83.9	83.9
Cash Cycle (days)	-32.9	-37.4	-36.1	-36.0	-35.5	-33.5	-33.2	-33.2	-33.2	-33.2	-33.2
<b>Profitability Ratios</b>											
Gross Profit Margin	23.42%	23.47%	23.09%	22.46%	22.22%	21.84%	22.61%	22.61%	22.61%	22.61%	22.61%
EBITDA Margin	5.09%	5.01%	4.53%	4.47%	5.78%	5.96%	5.15%	5.15%	5.15%	5.15%	5.15%
EBIT Margin	2.90%	2.54%	0.89%	1.00%	1.47%	2.38%	2.49%	2.59%	2.65%	2.70%	2.73%
Net Profit Margin	1.46%	1.17%	-0.46%	-0.45%	1.81%	1.18%	1.52%	1.63%	1.70%	1.76%	1.80%
ROA		1.90%	-0.75%	-0.72%	2.67%	1.69%	2.30%	2.50%	2.63%	2.72%	2.79%
ROE		7.88%	-3.00%	-2.93%	11.42%	7.24%	9.63%	10.12%	10.04%	9.87%	9.62%
Equity Multiplier	4.2	4.1	3.9	4.2	4.4	4.2	4.2	3.9	3.7	3.5	3.4
EPS	1.52	1.18	-0.47	-0.44	1.62	1.02	1.40	1.52	1.59	1.65	1.70
Shares outstanding	738,470,794	756,235,154	774,677,811	789,252,839	807,265,504	817,623,840	776,383,910	776,383,910	776,383,910	776,383,910	776,383,910
<b>Solvency Ratios</b>											
Debt Ratio	36.44%	34.86%	34.46%	37.68%	42.79%	42.18%	40.29%	38.45%	36.82%	35.32%	33.48%
Long Term Debt Ratio	26.85%	24.04%	26.31%	27.29%	31.63%	31.41%	29.85%	28.38%	27.06%	25.16%	23.23%
Debt-to-Equity Ratio	1.54	1.42	1.36	1.58	1.86	1.78	1.68	1.51	1.37	1.25	1.12
Debt-to-EBITDA	4.20	4.44	4.61	5.25	5.20	4.77	5.16	4.87	4.64	4.44	4.18
Interest Coverage Ratio	4.33	3.77	1.57	2.89	3.14	5.05	5.00	5.54	6.01	6.45	6.83

## Appendix 9: Forecasting Assumptions

Consolidated Balance Sheet	2021F	2022F	2023F	2024F	2025F	Assumptions
<b>Non-current assets</b>						
Goodwill	8.034	8.034	8.034	8.034	8.034	Goodwill will remain the same with no impairments losses or acquisition of other companies
Other intangible assets	18,5%	18,5%	18,5%	18,5%	18,5%	+18.5% of CAPEX (average of the last 5 years)
Property and equipment	81%	81%	81%	81%	81%	+81% of CAPEX (average of the last 5 years)
Investment property	0,5%	0,5%	0,5%	0,5%	0,5%	+0.5% CAPEX (average of the last 5 years)
Right-of-use assets	3.755	3.129	2.608	2.173	1.811	In this forecast, it was not taken into account new lease contracts so the asset only depreciates
Investments in companies accounted for by the equity method	-2,50%	-3,50%	-3,50%	-3,94%	-3,75%	Historical 2015-2020 CAGR
Other non-current financial assets	-0,75%	-1,00%	-1,00%	-1,00%	-1,25%	Historical 2015-2020 CAGR
Consumer credit granted by the financial services companies – long term	1.933	1.933	1.933	1.933	1.933	Equal to 2020
Deferred tax assets	679	679	679	679	679	Equal to 2020
Other non-current assets	490	490	490	490	490	Equal to 2020
<b>Current assets</b>						
Inventories	8,27%	8,27%	8,27%	8,27%	8,27%	Average of the last 5 years of the Inventories/Net Sales ratio
Trade receivables	3,52%	3,52%	3,52%	3,52%	3,52%	Average of the last 5 years of the Trade Receivables/Net sales ratio
Consumer credit granted by the financial services companies – short-term	-1,25%	-2,00%	-2,00%	-1,75%	-1,90%	Historical 2015-2020 CAGR
Other current financial assets	368	368	368	368	368	Equal to 2020
Tax receivables	1,13%	1,13%	1,13%	1,13%	1,13%	Average of the last 5 years of the Tax Receivables/Net Sales ratio
Other assets	1,11%	1,11%	1,11%	1,11%	1,11%	Average of the last 5 years of the Other Assets/Net Sales ratio
Assets held for sale	0	0	0	0	0	No assets will be held for sale
<b>Equity</b>						
Share capital	1.941	1.941	1.941	1.941	1.941	No shares will be issued during the forecast period and only in 2021 is expected a share buyback
Consolidated reserves and income for the year						Previous Reserves + Net Income - Dividends Paid (in 2021 - share buyback excess)
Shareholders' equity attributable to non-controlling interests	1.502	1.502	1.502	1.502	1.502	Equal to 2020
<b>Non-current liabilities</b>						
Long-term borrowings	50%	50%	50%	50%	50%	Its deducted the debt redemption of the year and its added 50% of CAPEX
Lease commitments - long term	2.914	2.309	1.703	1.098	-	Its deducted the short term lease commitments from the previous year
Provisions	-3,25%	-2,50%	-2,50%	-2,39%	-2,50%	Historical 2015-2020 CAGR
Consumer credit financing – long term	1.506	1.506	1.506	1.506	1.506	Equal to 2020
Deferred tax liabilities	467	467	467	467	467	Equal to 2020
Tax payables - long term	214	214	214	214	214	Equal to 2020
<b>Current liabilities</b>						
Short-term borrowings	10%	10%	10%	10%	10%	Debt redemption schedule (2021 - €871M plus; 2022 - €1000M; 2023 - €907M; 2024 - €1157M; 2025 - €750M; info from FY2020 Presentation) + 10% of CAPEX
Lease commitments - short term	873	605	605	605	1.098	Carrefour had the lease commitments by maturity and was assumed a useful life of 6 years for the remaining leases
Suppliers and other creditors	22,98%	22,98%	22,98%	22,98%	22,98%	Average of the last 3 years of the Suppliers/Cost of Sales ratio
Consumer credit financing – short-term	-2,50%	-1,75%	-1,75%	-1,74%	-1,80%	Historical 2015-2019 CAGR
Tax payables	1,87%	1,87%	1,87%	1,87%	1,87%	Average of the last 3 years of the Tax Payable/Cost of Sales ratio
Other payables	4,67%	4,67%	4,67%	4,67%	4,67%	Average of the last 3 years of the Other Liabilities/Cost of Sales ratio
Liabilities related to assets held for sale	0	0	0	0	0	Since there are no assets held for sale, there are no liabilities related to them
<b>Consolidated Income Statement</b>						
	2021F	2022F	2023F	2024F	2025F	Assumptions
Net sales	71.460	72.086	72.521	72.923	73.300	It is the sum of the net sales in the countries where Carrefour has operations. Each YoY sales growth was computed as the weighted average of: Population growth of the country (weight: 84%), inflation of the country (weight: 1%) and the Real GDP Growth of the country (weight: 15%). These factors are identified in the MFW report as the ones with the highest impact in the industry. The source of the forecasted data of each country was the IMF website (and Knoema for the Argentina inflation).
France	1,11%	0,87%	0,50%	0,47%	0,46%	Expected YoY sales growth in France
Spain	1,05%	1,08%	0,78%	0,70%	0,53%	Expected YoY sales growth in Spain
Italy	0,55%	0,48%	0,19%	0,11%	0,12%	Expected YoY sales growth in Italy
Belgium	0,86%	0,85%	0,67%	0,58%	0,51%	Expected YoY sales growth in Belgium
Romania	0,92%	0,73%	0,59%	0,58%	0,54%	Expected YoY sales growth in Romania
Poland	0,46%	0,59%	0,50%	0,33%	0,29%	Expected YoY sales growth in Poland
Brazil	1,14%	0,94%	0,84%	0,80%	0,77%	Expected YoY sales growth in Brazil
Argentina	1,89%	1,34%	1,24%	1,15%	1,14%	Expected YoY sales growth in Argentina
Taiwan	0,77%	0,51%	0,44%	0,41%	0,36%	Expected YoY sales growth in Taiwan
China	0	0	0	0	0	No longer controlled by Carrefour
Loyalty program costs	0,93%	0,93%	0,93%	0,93%	0,93%	Average of the last 5 years of the Loyalty/Net sales
Other revenue	3,40%	3,40%	3,40%	3,40%	3,40%	Average of the last 5 years of the Other Revenue/Net sales
Cost of sales	79,86%	79,86%	79,86%	79,86%	79,86%	Average of the last 5 years of the Cost of Sales/Net sales
Sales, general and administrative expenses	17,47%	17,47%	17,47%	17,47%	17,47%	Average of the last 5 years of the SG&A/Net sales
Depreciation of PP&E	9,24%	9,24%	9,24%	9,24%	9,24%	Average of the last 3 years of the Dep T/PP&E T-1
Depreciation of Assets under finance leases	0	0	0	0	0	Under the new IFRS 16 - 0
Depreciation of Investment Property	3,98%	3,98%	3,98%	3,98%	3,98%	Average of the last 3 year of Dep T/Inv. Prop T-1
Amortisation of Intangible assets	12,5%	12,5%	12,5%	12,5%	12,5%	Amortised by the straight line method over periods of 8 years
Amortisation of right-of-use assets	16,67%	16,67%	16,67%	16,67%	16,67%	It is assumed that it is a 6 year contract-type
Net income from equity-accounted companies	0	0	0	0	0	Residual value, assumed to be 0
Non-recurring income and expenses, net	0	0	0	0	0	No impairment losses, gains on sales of assets or restructuring costs are expected to happen in the following years
Finance costs, net	3,38%	3,38%	3,38%	3,38%	3,38%	Average of the last 5 years interest rate on Borrowings
Net interests related to leases commitment	2,25%	2,25%	2,25%	2,25%	2,25%	Interest rate is the average of the interest rates in 2019 and 2020
Other financial income and expenses, net	0	0	0	0	0	Assumed 0 since the historical values in the last 2 years are almost residual
Income tax expense	23,70%	22,98%	22,97%	22,97%	22,96%	Weighted average tax rate with the weight each country has on net sales (info taken from PwC website)
Net income from discontinued operations	0	0	0	0	0	Very low historical values until 2019 (year of the Carrefour China sale) so, it is assumed that it will be 0 in the following years since it is not expected the sale of continuing operations

Consolidated Cash Flow Statement	FY2020	2021F	2022F	2023F	2024F	2025F	Assumptions
CAPEX		2,64%	2,64%	2,64%	2,64%	2,64%	Average of the Acquisitions/Net Sales of the last 5 years
Dividends paid		0,48 €	50%	50%	50%	50%	It is assumed the "Carrefour 2022" strategic plan, where the Group has the objective to maintain the payout ratio between 45% and 50% until 2022. It was assumed that the payout ratio will be 50% in the forecasted years. The dividend per share paid in 2021 (relative to the 2020 operations) was taken from H1 2021 Carrefour report.
Shares Outstanding in the end of the year	817.623.840	776.383.910	776.383.910	776.383.910	776.383.910	776.383.910	It is assumed that, although Carrefour gives a reinvestment option to its shareholders, the shareholders, in the forecasted period, will not exercise that option so the number of shares, during the forecasted period, will be assumed to be equal to the number of shares in December 31, 2020 minus the shares bought back from the share buybacks in 2021
<b>Share Buyback info</b>							
Number of shares bought in the 1st buyback of 2021		29.475.225					Info from the H1 2021 Carrefour report. These shares will be cancelled after the buyback
Proceeds from the 1st share buyback		499.899.816					Shares were bought at an average price of 16.96 euros, info from the H1 2021 Carrefour report
Proceeds that influence the Share Capital		73.688.063					Par value of the Carrefour Shares is 2.5 euros, info from the Carrefour's Annual Report
Proceeds that influence the Reserves		426.211.754					For the reserves is considered the value of 16.96 - 2.5 = 14.46 euros
Number of shares bought in the 2nd buyback of 2021		11.764.705					The 2nd buyback program has a maximum amount of investment of €200M with the view of cancelling those shares. It is assumed a €17 average price for the buyback. 200M/17 gives 11,764,705 shares bought by Carrefour
Proceeds from the 2nd share buyback		199.999.985					It is assumed that the shares were bought at an average price of 17 euros
Proceeds that influence the Share Capital		29.411.763					Par value of the Carrefour Shares is 2.5 euros, info from the Carrefour's Annual Report
Proceeds that influence the Reserves		170.588.223					For the reserves is considered the value of 17 - 2.5 = 14.5 euros

## Appendix 10: Forecasting Assumptions for Net Sales for each country

France	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		64.988	65.124	65.302	65.483	65.667	65.851	66.036
Growth			0.21%	0.27%	0.28%	0.28%	0.28%	0.28%
	84%		0.18%	0.23%	0.23%	0.24%	0.24%	0.24%
inflation		1.30%	0.50%	1.10%	1%	1.30%	1.40%	1.60%
	1%		0.01%	0.01%	0.01%	0.01%	0.01%	0.02%
Real GDP Growth		1.50%	-0.82%	5.80%	4.20%	1.70%	1.50%	1.40%
	15%		-0.12%	0.87%	0.63%	0.26%	0.23%	0.21%
<b>Growth rate, g</b>			<b>0.06%</b>	<b>1.11%</b>	<b>0.87%</b>	<b>0.50%</b>	<b>0.47%</b>	<b>0.46%</b>
Spain	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		47.104	47.110	47.154	47.357	47.551	47.733	47.905
Growth			0.01%	0.09%	0.43%	0.41%	0.38%	0.36%
	84%		0.01%	0.08%	0.36%	0.34%	0.32%	0.30%
inflation		0.70%	-0.30%	1.00%	1.30%	1.50%	1.60%	1.70%
	1%		0.00%	0.01%	0.01%	0.02%	0.02%	0.02%
Real GDP Growth		2.00%	-1.10%	6.40%	4.70%	2.80%	2.40%	1.40%
	15%		-0.17%	0.96%	0.71%	0.42%	0.36%	0.21%
<b>Growth rate, g</b>			<b>-0.16%</b>	<b>1.05%</b>	<b>1.08%</b>	<b>0.78%</b>	<b>0.70%</b>	<b>0.53%</b>
Italy	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		60.360	60.245	60.185	60.134	60.094	60.064	60.047
Growth			-0.19%	-0.10%	-0.08%	-0.07%	-0.05%	-0.03%
	84%		-0.16%	-0.08%	-0.07%	-0.06%	-0.04%	-0.02%
inflation		0.60%	-0.10%	0.80%	0.90%	1%	1.20%	1.30%
	1%		0.00%	0.01%	0.01%	0.01%	0.01%	0.01%
Real GDP Growth		0.30%	-8.90%	4.20%	3.60%	1.60%	0.90%	0.90%
	15%		-1.34%	0.63%	0.54%	0.24%	0.14%	0.14%
<b>Growth rate, g</b>			<b>-1.50%</b>	<b>0.55%</b>	<b>0.48%</b>	<b>0.19%</b>	<b>0.11%</b>	<b>0.12%</b>
Belgium	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		11.456	11.522	11.556	11.606	11.652	11.696	11.737
Growth			0.58%	0.30%	0.43%	0.40%	0.38%	0.35%
	84%		0.48%	0.25%	0.36%	0.33%	0.32%	0.29%
inflation		1.20%	0.40%	1.70%	1.90%	1.80%	1.80%	1.80%
	1%		0.00%	0.02%	0.02%	0.02%	0.02%	0.02%
Real GDP Growth		1.70%	-6.40%	4.00%	3.10%	2.10%	1.60%	1.30%
	15%		-0.96%	0.60%	0.47%	0.32%	0.24%	0.20%
<b>Growth rate, g</b>			<b>-0.47%</b>	<b>0.86%</b>	<b>0.85%</b>	<b>0.67%</b>	<b>0.58%</b>	<b>0.51%</b>
Romania	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		19.405	19.318	19.317	19.315	19.313	19.312	19.310
Growth			-0.45%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
	84%		-0.38%	0.00%	-0.01%	-0.01%	0.00%	-0.01%
inflation		3.80%	2.60%	2.80%	2.10%	2.60%	2.60%	2.50%
	1%		0.03%	0.03%	0.02%	0.03%	0.03%	0.03%
Real GDP Growth		4.10%	-3.90%	6.00%	4.80%	3.80%	3.70%	3.50%
	15%		-0.59%	0.90%	0.72%	0.57%	0.56%	0.53%
<b>Growth rate, g</b>			<b>-0.94%</b>	<b>0.92%</b>	<b>0.73%</b>	<b>0.59%</b>	<b>0.58%</b>	<b>0.54%</b>
Poland	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		37.973	37.958	37.928	37.890	37.844	37.789	37.725
Growth			-0.04%	-0.08%	-0.10%	-0.12%	-0.15%	-0.17%
	84%		-0.03%	-0.07%	-0.08%	-0.10%	-0.12%	-0.14%
inflation		2.30%	3.40%	3.20%	2.50%	2.50%	2.50%	2.50%
	1%		0.03%	0.00%	0.00%	0.00%	0.00%	0.00%
Real GDP Growth		4.50%	-2.70%	3.50%	4.50%	4.00%	3.00%	2.90%
	15%		-0.41%	0.53%	0.68%	0.60%	0.45%	0.44%
<b>Growth rate, g</b>			<b>-0.40%</b>	<b>0.46%</b>	<b>0.59%</b>	<b>0.50%</b>	<b>0.33%</b>	<b>0.29%</b>



<b>Brazil</b>	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		210.147	211.422	212.781	214.084	215.331	216.522	217.655
Growth	84%		0.61%	0.64%	0.61%	0.58%	0.55%	0.52%
			0.51%	0.54%	0.51%	0.49%	0.46%	0.44%
inflation	1%	3.70%	3.20%	4.60%	4.00%	3.10%	3.30%	3.20%
			0.03%	0.05%	0.04%	0.03%	0.03%	0.03%
Real GDP Growth	15%	1.40%	-4.10%	3.70%	2.60%	2.10%	2.00%	2.00%
			-0.62%	0.56%	0.39%	0.32%	0.30%	0.30%
<b>Growth rate, g</b>			<b>-0.07%</b>	<b>1.14%</b>	<b>0.94%</b>	<b>0.84%</b>	<b>0.80%</b>	<b>0.77%</b>

<b>Argentina</b>	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		44.939	45.388	45.842	46.300	46.763	47.231	47.703
Growth	84%		1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
			0.84%	0.84%	0.84%	0.84%	0.84%	0.84%
inflation	1%	53.50%	42.00%	18.40%	12.80%	8.20%	5.80%	5.80%
			0.42%	0.18%	0.13%	0.08%	0.06%	0.06%
Real GDP Growth	15%	-2.10%	-10.00%	5.80%	2.50%	2.10%	1.70%	1.60%
			-1.50%	0.87%	0.38%	0.32%	0.26%	0.24%
<b>Growth rate, g</b>			<b>-0.24%</b>	<b>1.89%</b>	<b>1.34%</b>	<b>1.24%</b>	<b>1.15%</b>	<b>1.14%</b>

<b>Taiwan</b>	weights	2019	2020	2021	2022	2023	2024	2025
Population (in millions)		23.603	23.617	23.632	23.646	23.660	23.674	23.688
Growth	84%		0.06%	0.06%	0.06%	0.06%	0.06%	0.06%
			0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
inflation	1%	0.50%	-0.20%	0.90%	1.20%	1.40%	1.40%	1.40%
			0.00%	0.01%	0.01%	0.01%	0.01%	0.01%
Real GDP Growth	15%	3.00%	3.10%	4.70%	3.00%	2.50%	2.30%	2.00%
			0.47%	0.71%	0.45%	0.38%	0.35%	0.30%
<b>Growth rate, g</b>			<b>0.51%</b>	<b>0.77%</b>	<b>0.51%</b>	<b>0.44%</b>	<b>0.41%</b>	<b>0.36%</b>

Source: IMF (2021) and Author Analysis

## Appendix 11: Lease's computation

	FY2018	FY2019	FY2020	2021F	2022F	2023F	2024F	2025F	2026F
Right of use assets	5244	4388	4506	3755	3129	2608	2173	1811	
Lease commitments - LT	4272	3660	3787	2914	2309	1703	1098	0	
Lease commitments - ST	984	912	936	873	605	605	605	1098	
Rental Expense		905	926	936	873	605	605	605	1098
Dep&Amort		733	721	751	626	522	435	362	
Dep&Amort rate		13.98%	16.43%	16.67%	16.67%	16.67%	16.67%	16.67%	
Net interests related to leases		107	113	106	85	66	52	38	
Interest rate		2.04%	2.47%	2.25%	2.25%	2.25%	2.25%	2.25%	
assumed lease contract type (years)		6							

## Appendix 12: Information about Carrefour's Leases and types Lease of contracts in France

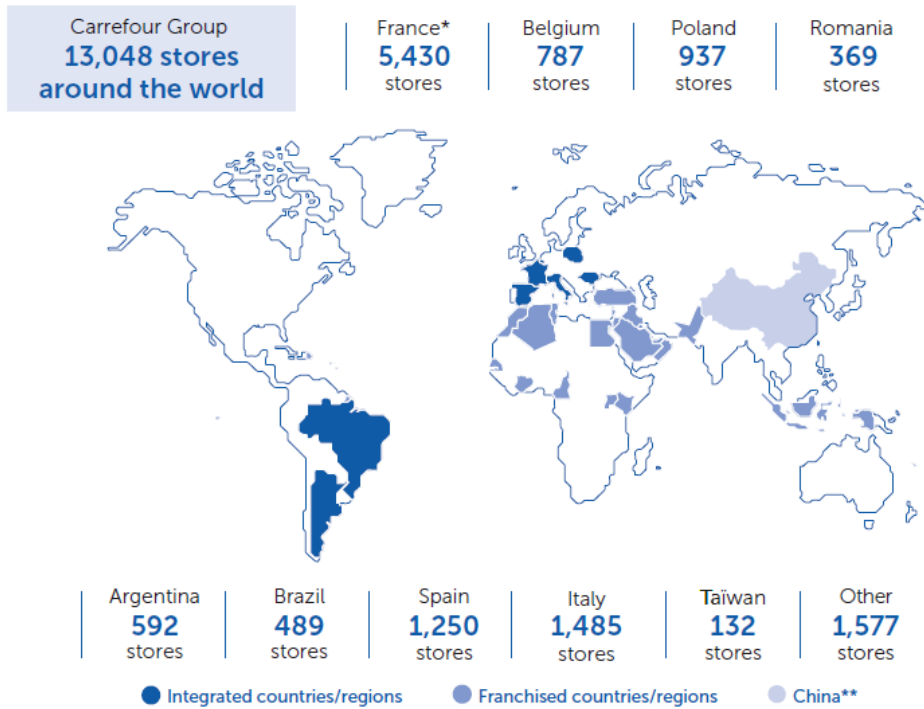
### Lease commitments by maturity

(in millions of euros)	December 31, 2020	December 31, 2019 restated
Due within 1 year	936	941
Due in 1 to 2 years	873	903
Due in 2 to 5 years	1,816	2,011
Due beyond 5 years	1,098	1,383
<b>Lease commitments</b>	<b>4,723</b>	<b>5,237</b>

In France, several hundred commercial leases are traditional "3/6/9"-type contracts.

Source: Carrefour's Registration Document

## Appendix 13: Carrefour's Operating Regions

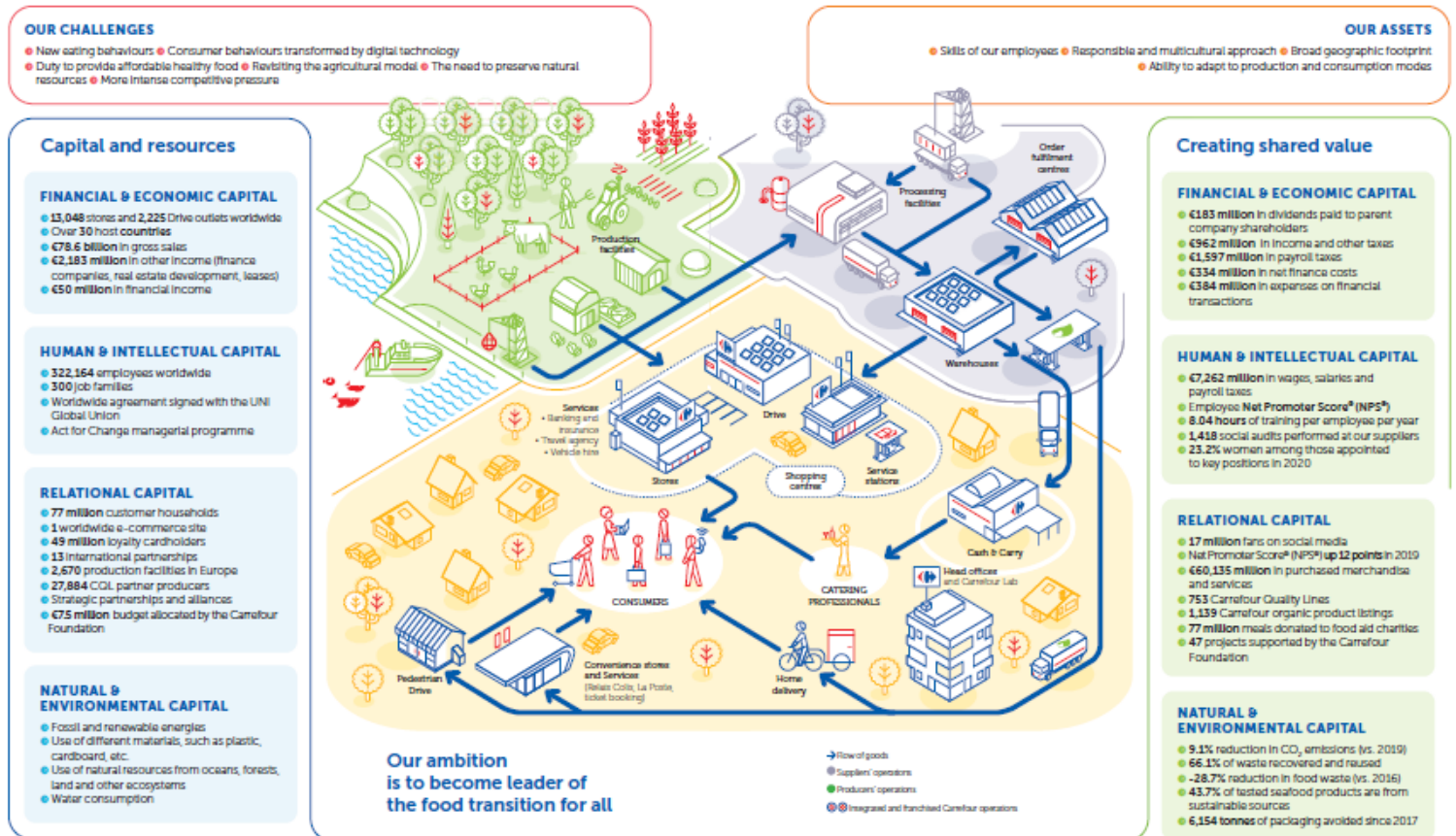


\* Metropolitan France.

\*\* The agreement for the disposal of Carrefour China signed in 2019 stipulated that the stores can remain under the Carrefour banner during the transition period.

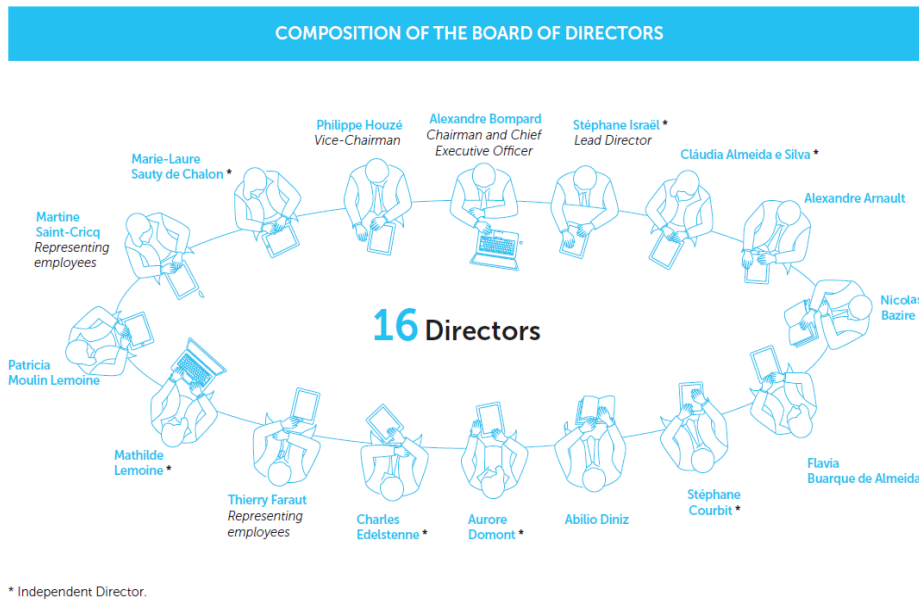
Source: Carrefour's Registration Document

## Appendix 14: Carrefour Group Business Model



Source: Carrefour's Registration Document

## Appendix 15: Composition of the Board of Directors



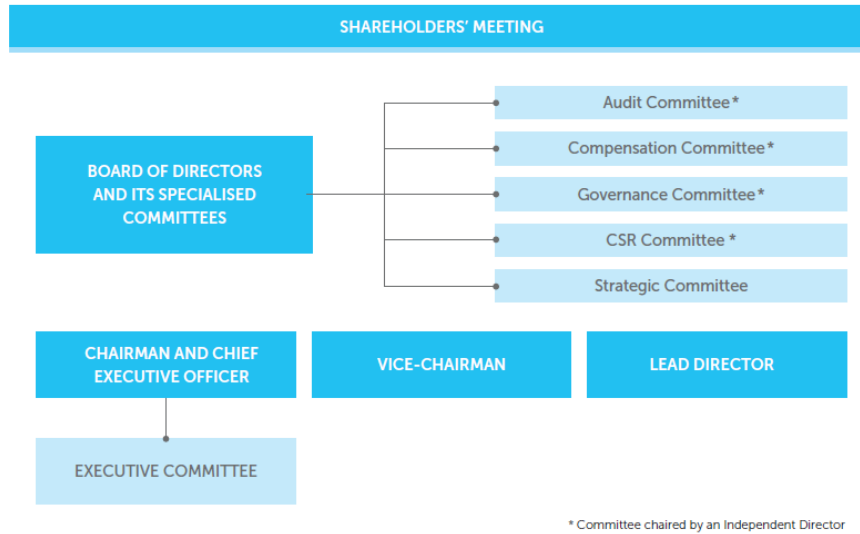
Source: Carrefour's Registration Document

## Appendix 16: Skills of the Board to implement Carrefour's strategic plan



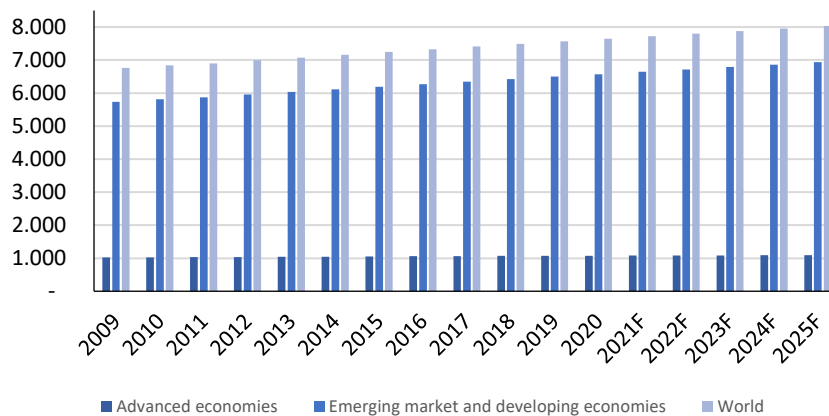
Source: Carrefour's Registration Document

## Appendix 17: Actors of Governance



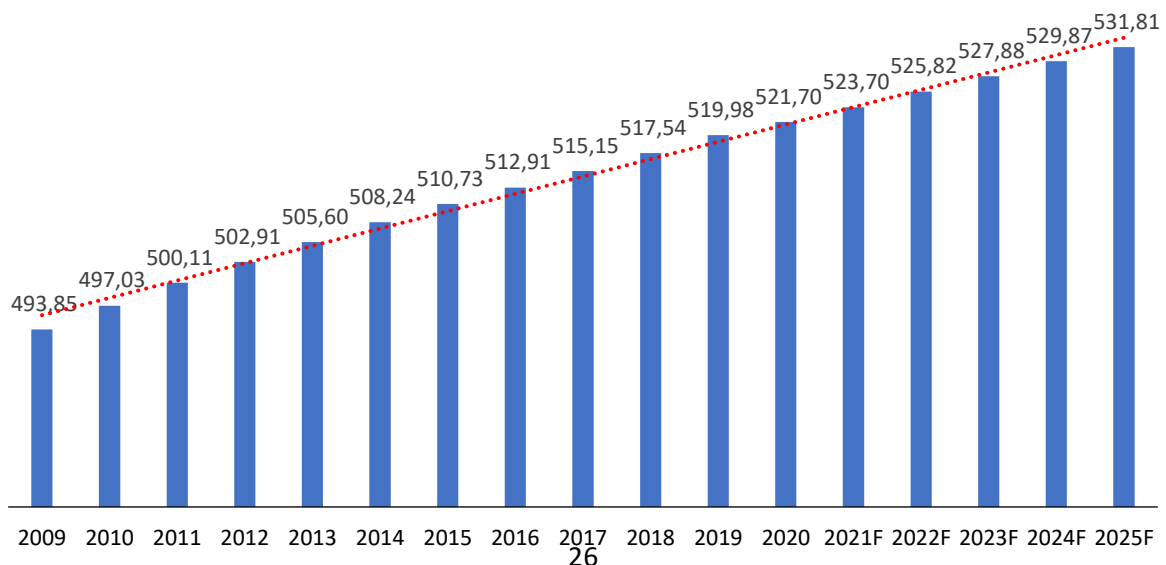
Source: Carrefour's Registration Document

## Appendix 18: Population of Advanced Economies, Emerging Market and Developing Economies and World (millions of people)



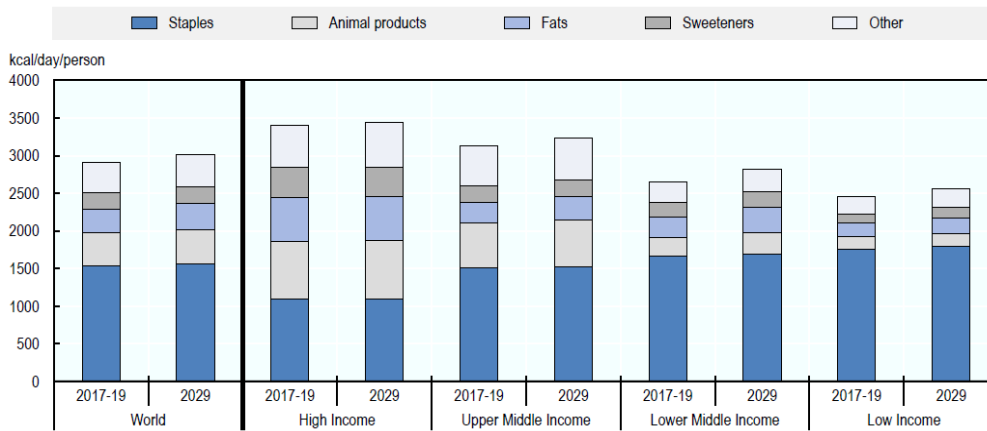
Source: IMF (2021)

## Appendix 19: Total Population of the countries where Carrefour operates (in millions of people)



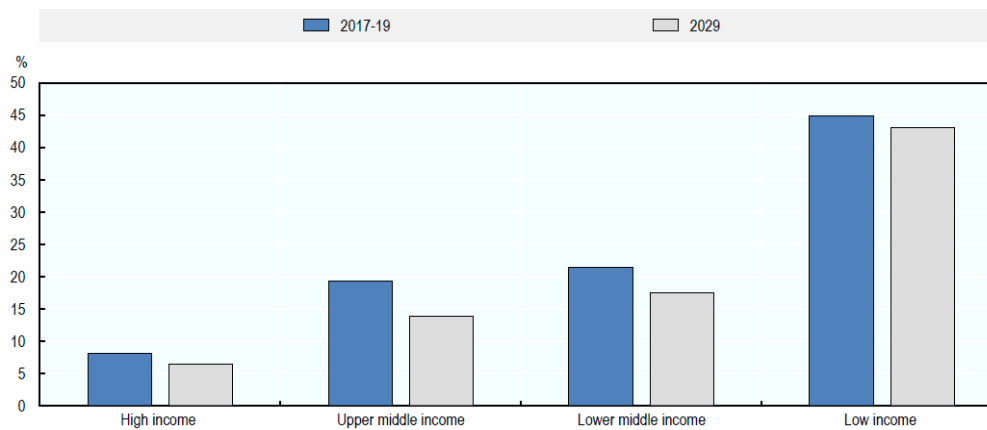
Source: IMF (2021)

Appendix 20: Per capita consumption of main food groups (calorie equivalent), by income group



Source: OECD-FAO (2020)

Appendix 21: Food as a share of household expenditures, by income group



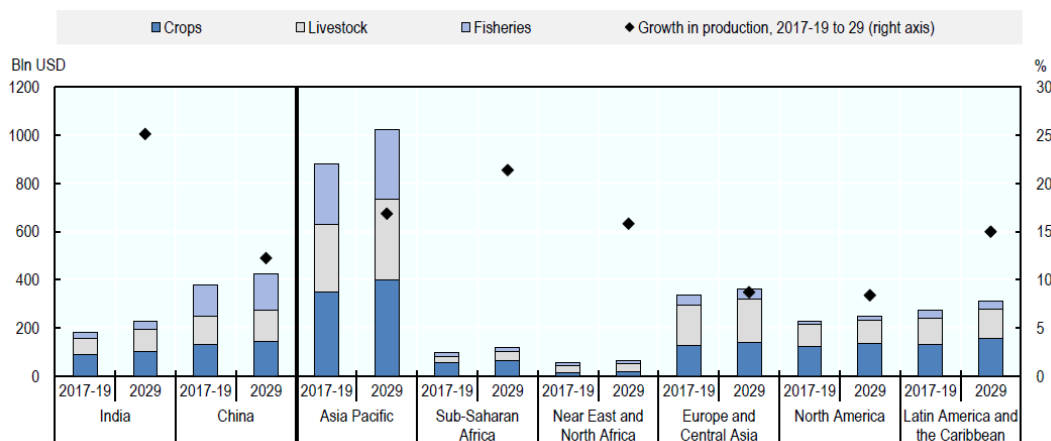
Source: OECD-FAO (2020)

Appendix 22: Food Dollar Series in the U.S.



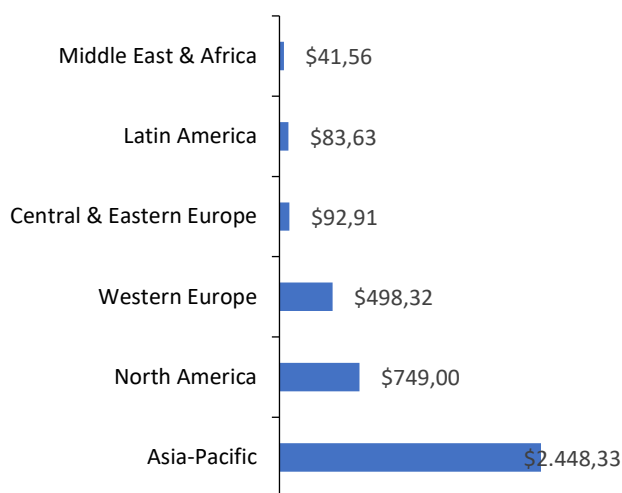
Source: USDA Economic Research

### Appendix 23: Regional trends in agriculture and fish production



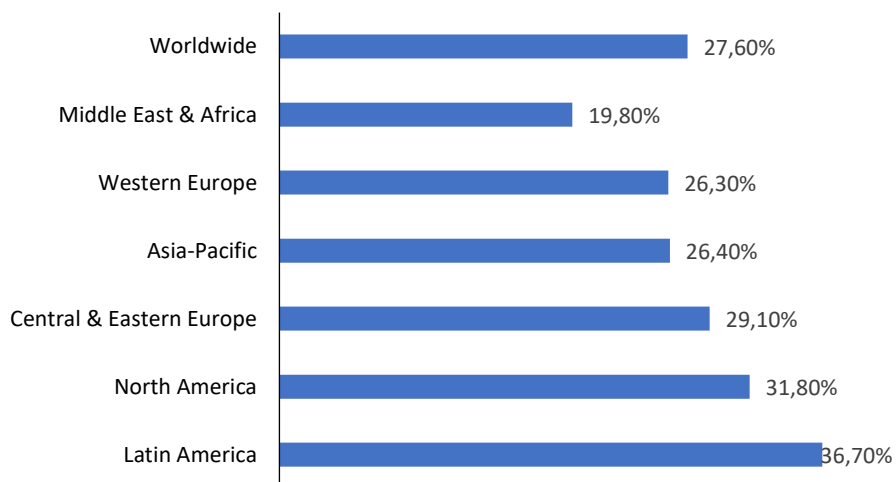
Source: OECD-FAO (2020)

### Appendix 24: Retail e-commerce sales worldwide, by region, 2020 (in billions)



Source: eMarketer (May 2020)

### Appendix 25: Retail e-commerce sales growth worldwide and by region, 2020 (% change)



Source: eMarketer (Dec. 2020)

## Appendix 26: Beta Estimation

<b>Pure-play method</b>	<b>2022F</b>	<b>2023F</b>	<b>2024F</b>	<b>2025F</b>	<b>Source</b>
Unlevered Beta (Retail - Grocery and Food)	0.14	0.14	0.14	0.14	Damodaran (2021)
D/E	1.51	1.37	1.25	1.12	
Tax Rate	22.98%	22.97%	22.97%	22.96%	
Levered Beta	0.30	0.29	0.27	0.26	
<b>Blume Adjustment</b>					
Raw Beta	0.583				Bloomberg
Adjusted Beta	0.722				
<b>By the formula vs CAC40</b>					
Beta	0.590				Investing
<b>Financial Agencies</b>					
Reuters	0.41				Reuters
Bloomberg	0.664				Bloomberg
Financial Times	0.415				Financial Times
Yahoo Finance	0.47				Yahoo Finance

## Appendix 27: Risk-Free Rate Estimation

<b>Government Bonds</b>	<b>Source</b>		
France Govt Oats Btan 10 Yr	0.35%	Bloomberg	daily average of the last 5 years - last price (July 2021)

Appendix 28: Market Risk Premium and Equity Risk Premium Estimation

By country operating					Source
Equity Risk Premium + Spread	2022F	2023F	2024F	2025F	
France	5.64%	5.64%	5.64%	5.64%	Damodaran (2021)
weight on total Net sales	48.30%	48.25%	48.21%	48.19%	
Spain	7.68%	7.68%	7.68%	7.68%	Damodaran (2021)
weight on total Net sales	12.83%	12.86%	12.88%	12.88%	
Italy	8.80%	8.80%	8.80%	8.80%	Damodaran (2021)
weight on total Net sales	5.85%	5.82%	5.80%	5.77%	
Belgium	5.84%	5.84%	5.84%	5.84%	Damodaran (2021)
weight on total Net sales	5.82%	5.82%	5.82%	5.82%	
Romania	8.80%	8.80%	8.80%	8.80%	Damodaran (2021)
weight on total Net sales	2.91%	2.91%	2.91%	2.91%	
Poland	6.29%	6.29%	6.29%	6.29%	Damodaran (2021)
weight on total Net sales	2.55%	2.55%	2.54%	2.54%	
Brazil	10.28%	10.28%	10.28%	10.28%	Damodaran (2021)
weight on total Net sales	16.30%	16.33%	16.37%	16.41%	
Argentina	26.94%	26.94%	26.94%	26.94%	Damodaran (2021)
weight on total Net sales	2.49%	2.51%	2.52%	2.54%	
Taiwan	5.84%	5.84%	5.84%	5.84%	Damodaran (2021)
weight on total Net sales	2.95%	2.95%	2.94%	2.94%	
Weighted average	7.50%	7.50%	7.51%	7.51%	Weighted by the % on total Net sales
<b>Considering the country risk premium</b>					
Mature Market Premium	4.72%				Damodaran (2021)
<b>Mature Market Premium + Country Risk Premium</b>					
France	5.20%	5.20%	5.20%	5.20%	Damodaran (2021)
weight on total Net sales	48.30%	48.25%	48.21%	48.19%	
Spain	6.27%	6.27%	6.27%	6.27%	Damodaran (2021)
weight on total Net sales	12.83%	12.86%	12.88%	12.88%	
Italy	6.85%	6.85%	6.85%	6.85%	Damodaran (2021)
weight on total Net sales	5.85%	5.82%	5.80%	5.77%	
Belgium	5.31%	5.31%	5.31%	5.31%	Damodaran (2021)
weight on total Net sales	5.82%	5.82%	5.82%	5.82%	
Romania	6.85%	6.85%	6.85%	6.85%	Damodaran (2021)
weight on total Net sales	2.91%	2.91%	2.91%	2.91%	
Poland	5.54%	5.54%	5.54%	5.54%	Damodaran (2021)
weight on total Net sales	2.55%	2.55%	2.54%	2.54%	
Brazil	7.63%	7.63%	7.63%	7.63%	Damodaran (2021)
weight on total Net sales	16.30%	16.33%	16.37%	16.41%	
Argentina	16.34%	16.34%	16.34%	16.34%	Damodaran (2021)
weight on total Net sales	2.49%	2.51%	2.52%	2.54%	
Taiwan	5.31%	5.31%	5.31%	5.31%	Damodaran (2021)
weight on total Net sales	2.95%	2.95%	2.94%	2.94%	
Weighted average	6.17%	6.18%	6.18%	6.18%	Weighted by the % on total Net sales
<b>Financial Agencies</b>					
Bloomberg	8.43%				Bloomberg



Appendix 29: Cost of Equity and WACC computation

	2022	2023	2024	2025	TV
Raw Beta	0.583	0.583	0.583	0.583	0.583
Adjusted Beta	0.722	0.722	0.722	0.722	0.722
Risk free rate	0.35%	0.35%	0.35%	0.35%	0.35%
E(Rm)	8.78%	8.78%	8.78%	8.78%	8.78%
Equity Risk Premium	8.43%	8.43%	8.43%	8.43%	8.43%
re	6.44%	6.44%	6.44%	6.44%	6.44%
rd	3.38%	3.38%	3.38%	3.38%	3.38%
E/V	40%	42%	44%	47%	45%
D/V	60%	58%	56%	53%	55%
tax rate	22.98%	22.97%	22.97%	22.96%	22.96%
<b>WACC</b>	<b>4.13%</b>	<b>4.22%</b>	<b>4.31%</b>	<b>4.41%</b>	<b>4.33%</b>

Appendix 30: Terminal Growth Rate computation

	2022	2023	2024	2025	TV
CAPEX	1904.9	1916.4	1927.0	1937.0	1921.3
D&A	1846.6	1810.8	1786.6	1771.5	1803.9
ΔNWC	-59.8	-41.5	-38.4	-35.9	-43.9
EBIT(1-t)	1436.1	1481.0	1515.7	1542.3	1493.8
Reinvestment rate	-0.10%	4.33%	6.73%	8.40%	4.93%
ROA	3.05%	3.15%	3.21%	3.28%	3.17%
D/E	1.51	1.37	1.25	1.12	131.44%
rd	3.38%	3.38%	3.38%	3.38%	3.38%
Taxes	22.98%	22.97%	22.97%	22.96%	22.97%
ROE	3.74%	3.90%	3.97%	4.03%	3.92%
<b>g</b>	<b>0.00%</b>	<b>0.17%</b>	<b>0.27%</b>	<b>0.34%</b>	<b>0.19%</b>

Appendix 31: Unlevered Cost of Equity

	2022	2023	2024	2025	TV
re	6.44%	6.44%	6.44%	6.44%	6.44%
E/V	39.80%	42.17%	44.43%	47.10%	45.00%
rd	3.38%	3.38%	3.38%	3.38%	3.38%
D/V	60.20%	57.83%	55.57%	52.90%	55.00%
<b>ru</b>	<b>4.60%</b>	<b>4.67%</b>	<b>4.74%</b>	<b>4.82%</b>	<b>4.76%</b>
<b>g</b>	<b>0.19%</b>				

## Appendix 32: APV Method

APV	2023	2024	2025	TV
	1	2	3	
FCFF	1.428,37	1.424,23	1.422,74	
Terminal Value				31.241,97
PV of FCFF	1.364,65	1.298,28	1.235,36	
PV of Terminal Value				27.177,11
<b>Vu</b>	<b>31.075,40</b>			
Debt Capacity	750,56	714,05	679,45	14.947,41
Interest paid	25,38	24,14	22,97	505,36
Tax rate	22,97%	22,97%	22,96%	22,96%
Int. Tax Shield	5,83	5,55	5,28	116,05
PV of Int. Tax Shield	5,57	5,05	4,58	100,95
<b>Sum of PV of Int. Tax Shield</b>	<b>116,16</b>			
<b>VI - Enterprise Value</b>	<b>31.191,56</b>			
Debt	18.078,77			
Minority interests	1.502,00			
Cash & equivalents	3.275,21			
<b>Equity Value</b>	<b>14.886,00</b>			
Shares outstanding (M)	776			
<b>2022YE Price Target</b>	<b>€ 19,17</b>			
Current Price (September 13th)	€ 15,18			
upside/downside	26,31%			

## Appendix 33: WACC Method

WACC	2023	2024	2025	TV
	1	2	3	
EBIT	1.922,69	1.967,62	2.002,09	
EBIT*t	441,71	451,94	459,77	
Income tax, t	22,97%	22,97%	22,96%	
EBIT(1-t)	1.480,99	1.515,68	1.542,32	
D&A	1.810,83	1.786,61	1.771,53	
CAPEX	1.904,92	1.916,41	1.927,04	
ΔNWC	- 41,47	- 38,36	- 35,93	
FCFF	1.428,37	1.424,23	1.422,74	
Terminal Value				34.467,83
PV of FCFF	1.370,53	1.309,04	1.249,99	
PV of Terminal Value				30.352,94
<b>Enterprise Value</b>	<b>34.282,51</b>			
Debt	18.078,77			
Minority interests	1.502,00			
Cash & Equivalents	3.275,21			
<b>Equity Value</b>	<b>17.976,95</b>			
Shares outstanding (M)	776			
<b>2022YE Price Target</b>	<b>€ 23,15</b>			
Current Price (September 13th)	€ 15,18			
upside/downside	52,53%			

## Appendix 34: Flow-to-Equity Method

Flow-to-Equity	2023	2024	2025	TV
	1	2	3	
Net income	1.176,72	1.234,54	1.280,78	
D&A	1.810,83	1.786,61	1.771,53	
CAPEX	1.916,41	1.927,04	1.936,99	
ΔNWC	- 41,47	- 38,36	- 35,93	
New debt borrowings	1.149,85	1.156,22	1.162,19	
Debt repayment	1.000,00	907,00	1.157,00	
Net Borrowing	149,85	249,22	5,19	
FCFE	1.262,46	1.381,69	1.156,45	
Terminal Value				18.558,87
PV of FCFE	1.186,12	1.219,64	959,08	
PV of Terminal Value				15.391,50
<b>Equity Value</b>	<b>18.756,34</b>			
Debt	18.078,77			
Minority interests	1.502,00			
Cash & Equivalents	3.275,21			
<b>Enterprise Value</b>	<b>35.061,90</b>			
Shares outstanding (M)	776			
<b>2022YE Price Target</b>	<b>€ 24,16</b>			
Current Price (September 13th)	€ 15,18			
upside/downside	59,15%			

## Appendix 35: Marked Based Valuation

EV/Revenue	
Peers	2022F
Walmart (WMT)	0.76
Costco (COST)	0.96
Schwarz	
Kroger (KR)	0.34
Aldi	
Tesco (TSCO)	0.51
Ahold Delhaize (AD)	0.58
Auchan	
Casino (CASP)	0.56
<b>Avg (KR, TSCO, AD)</b>	<b>0.48</b>
Revenue	74,540.26
<b>Enterprise Value</b>	<b>35,530.86</b>
Debt	18,078.77
Minority interests	1,502.00
Cash & Equivalents	3,275.21
<b>Equity Value</b>	<b>19,225.30</b>
Shares outstanding (M)	776
<b>2022YE Price Target</b>	<b>€ 24.76</b>
Current Price (September 13th)	€ 15.18
upside/downside	63.13%

Price-to-Sales	
Peers	2022F
Walmart (WMT)	0.69
Costco (COST)	0.82
Schwarz	
Kroger (KR)	0.22
Aldi	
Tesco (TSCO)	0.30
Ahold Delhaize (AD)	0.36
Auchan	
Casino (CASP)	0.09
<b>Avg (KR, TSCO, AD)</b>	<b>0.29</b>
Sales	72,086.26
<b>Price</b>	<b>21,145.30</b>
Shares outstanding (M)	776
<b>Price Target</b>	<b>€ 27.24</b>
Current Price (September 13th)	€ 15.18
upside/downside	79.42%

P/E	
Peers	Historic
Walmart (WMT)	29.61
Costco (COST)	37.65
Schwarz	
Kroger (KR)	10.54
Aldi	
Tesco (TSCO)	23.90
Ahold Delhaize (AD)	17.73
Auchan	
Casino (CASP)	
<b>Avg (KR, TSCO, AD)</b>	<b>17.39</b>
Net Income	1,177
Shares outstanding (M)	776
Earnings per share	1.52
<b>Price Target</b>	<b>€ 26.36</b>
Current Price (September 13th)	€ 15.18
upside/downside	73.63%

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## Recommendation System

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