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Equity Research Lindt & Sprüngli: What is the Flavor of the Future?

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Abstract

This Equity Research intends to analyze Lindt & Sprüngli's stock and the potential gains of purchasing the stock until the end of 2022. It explores several industry trends and their impact on the company's value in the foreseeable future. Afterwards, a DCF valuation is performed, having in consideration expectations on the company's growth, and a multiples valuation is undertaken, giving a perspective on the value of the company based on industry values. Subsequently, a risk analysis is performed alerting the investors for the potential negative incidents and their effect on the value of the company. At the end, an estimated share price value of 128 478.41 CHF for the end of 2022 was obtained, leading to a BUY recommendation.

Keywords (up to four)

Equity Research, Lindt & Sprüngli, Chocolate Industry, DCF Valuation

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This report is part of the “*The Challenge of an adaptive market*” report (annexed) and should be read as an integral part of it.

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Executive Summary

Lindt and Sprüngli (L&S) is currently one of the largest chocolate manufacturers in the world and the **premium chocolate market leader**. L&S's chocolates can be found in **120 countries** and are produced in **11 operating plants**. The company's brand portfolio is composed by **8 high quality brands** that are sold globally, regionally, and locally. L&S group is divided into three main geographical segments: **Europe, North America, and Rest of the World**, which includes big countries that do not belong in the other segments geographical areas. In 2020, Germany and the United States of America represented the two top countries in terms of sales.

In 2020, L&S achieved total number of sales of **4016.8m CHF**, a decrease of **-6.1% in comparison with 2019** which was mainly due to the closure of stores and air travelling restrictions impacting the duty-free stores business, brought about by the COVID-19 global pandemic. However, in its future performance, L&S is expected to increase its revenues at an average rate of **6% per year until 2029**, which considers the anticipated trends of e-commerce, dark chocolate and sugar-free chocolate, as well as the macro-economic and demographic trends of GDP and inflation growth and world population evolution and at a rate of **2.17%** from 2030 onwards converging with economy.

Cocoa beans are the main raw material used in the chocolate production and are sourced, depending on its variety, from **5 different cocoa producing countries**. Cocoa farming is an extremely hazardous job, normally done by farmers in poor living conditions and, most times, including children, and, therefore, raises a lot of **sustainability concerns**.

Although L&S is the market leader in the premium segment, when it comes to the overall chocolate market, the company competes with much bigger players, such as Hershey's or Nestlé. These players and L&S' stock performance moves with the market, being Hershey's the company that has the highest shares, while Rocky Mountain presents the lowest numbers.

It is expected the chocolate market industry reshapes has trends such as the **rising dark chocolate consumption**, the expansion of **sugar-free products** demand or the **growing e-commerce** emerge.

As of 14th of December, the recommendation is to **BUY** L&S's stock, having an expected **shareholder return of 11.4%**, where 11.1% is from the price appreciation and 0.3% from dividend yield at the end of 2022.

Forecast

Sales

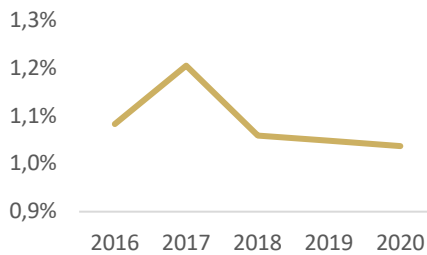


Exhibit 1: Population Growth from 2016 to 2020

(Source: Our World in Data)

As mentioned earlier, Lindt & Sprüngli total revenues are divided in three segments – **Europe**, **North America**, and **Rest of the World** – and these segments revenues are broken down into two value drivers: **Market Size of industry** and **Market Share of the segments**. Thus, sales value for each segment is given by the formula: **Sales = Market Size of industry * Market Share of segment**.

Market Size corresponds to the total market sales and its evolution relies on the previously discussed market trends, such as the **rising dark chocolate consumption**, **expansion of sugar-free chocolate market**, **growing e-commerce** and **decreasing population growth**. To forecast this item, an external market analysis on these trends and how they will impact the company was performed.

The rising consumption of dark chocolate is expected to have a **positive effect** on the industry's market size, as people tend to worry more about their health and well-being and tend to pick better options to improve their lifestyle. This trend is expected to **positively impact** L&S, leader in the premium sector and best known for its dark chocolates. Since the firm is already highly committed in this type of product, it is expected to impact the market size at a **lower rate**, **1.2%**, than other trends. Nonetheless, its influence on the market size of the industry is still expected as demand will grow. Between 2021 and 2024, they will experience an added growth of **0.05%** per year and from 2025 to 2029, the added growth expected is **0.04%**, per year.

The expansion of the sugar-free market is also expected to have a **positive influence** on the industry's market size, as it is also a trend brought by the increased health concerns. Thus, this trend is believed to impact the market size of the industry in **1.60%** in 2021, having an added growth in the three following years of **0.09%** per year and from 2025 to 2029 of **0.04%** per year, since we believe the demand for this product will experience a boost over the years.

E-commerce is a growing trend across almost all industries and L&S is slowly starting to **leverage its sales** from it. However, there is still room to benefit from this trend and use it to boost their future growth as it is anticipated that L&S's full implementation of e-commerce will make their products more accessible in the future. Thus, this trend is predicted to impact the market size of the industry, starting at a growing rate of **1.70%** in 2021 and having an added value per year of **0.07%** from 2021 to 2024 and of **0.05%** from 2025 to 2029.

Finally, population growth also has a positive influence on this figure. However, as this **growth has been decreasing** throughout time (Exhibit 1), it is expected to **decrease in the future**.

	Europe	North America	RoW
2021-2024	0,002%	0,002%	0,004%
2025-2029	0,001%	0,001%	0,002%
2030-2037	0,000%	0,000%	0,001%

Exhibit 2: Market Share Growth forecast

(Source: Analysts Estimates)

Market Share of the segments is the percentage that the company owns on the segment of the overall market. In order to forecast this figure, careful research was carried out on the business expansion of the segments, while considering the past figures of the company. In 2020, the market share was **higher in Europe**, a trend that is expected to continue for the following years, as it is the segment with the highest growth rate and with the most forecasted consumption of chocolate¹. Despite this, it is expected that the market share of the **Rest of the World segment experiences a development**, as this segment is composed of countries that are anticipated to expand in the future and thus, are potential economies for L&S's growth. Therefore, the European and North America segments are anticipated to grow **0.002%** per year from 2021 to 2024, while the Rest of the World segment is expected to grow **0.004%** per year. In the years leading up to 2037, the ROW segment continues to **grow at a higher rate** than the rest of the segments (Exhibit 2).

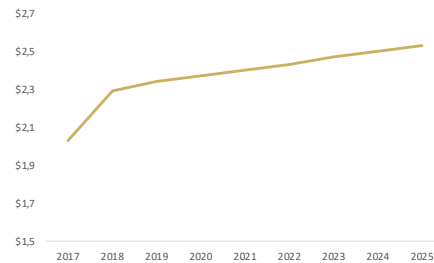


Exhibit 3: Forecast Growth of Cocoa Prices from 2017 to 2025

(Source: World Bank)

Costs

Similarly to Total Revenues, Total Costs are also divided by the same three segments. In all these, costs are separated between **Material Expenses, Changes in Inventories, Personnel Expenses, Operating Expenses** and **Depreciation, Amortization, and Impairment**.

Material Expenses are the costs that L&S incurs when purchasing the goods necessary for its production process, which includes raw materials. The **price of cocoa growth** is the main driver of this cost as it is the raw material used for all chocolate production and its evolution is in line with the one determined by the World Bank until 2025. Considering these values have been on a growing streak (Exhibit 3), they are **expected to keep increasing in the future** at an added value of **0.1 US dollars per year**, until 2037.

Changes in Inventories refers to the costs that the company previously had with manufacturing sold in that year. This cost movements are dependent on its **percentage of sales**, and this caption is expected to stay at an average of the last three years, for 2021, stabilizing in the following years.

Personnel Expenses are the costs that the company has with its employees. This cost is linked with the costs per employee and the **number of employees**, which are not disclosed by the company for each segment, so these items were allocated to each segment using their respective percentage of sales. The cost per employee has **remained constant** throughout the years and thus, is believed to stay the same in the future. As for the number of employees, it is assumed to grow at a rate of **0.5%** per year between 2021 and 2029, due to the need of more employees as their business recovers and grows.

Operational Expenses are the costs that directly relate with L&S's production of chocolate. Its development **relies on the aforementioned**

¹ Statista: Worldwide Chocolate Consumption by country

trends: rising dark chocolate consumption, expansion of the sugar-free chocolate market and growing e-commerce. Despite its positive effect on the market size of the industry, the rising **consumption of dark chocolate** is a trend that is heavily **dependent on marketing and advertisement costs** as well as **packing costs**. Therefore, it is expected this trend increases operating expenses across all segments. As such, operating costs linked with this trend are expected to grow in Europe and North America at a rate of **1.90%** starting in 2021, while its rate in the RoW segment starts at **2.30%** in 2021, as it represents the countries where L&S is most interested in expanding, as previously mentioned. Afterwards, the operating costs related to this trend will grow **1%** per year until 2024 and **0.4%** per year between 2025 and 2029, for all segments.

The expansion of the sugar-free chocolate market relies mainly on **marketing, advertisement, and R&D costs**, as they need to promote new products and develop new recipes, packaging and product lines to include in their portfolio. Therefore, operating costs are expected to grow in Europe and North America at a rate of **2%** starting in 2021, while its rate in the RoW segment starts at **2.60%** in 2021. Afterwards, from 2025 to 2029, the operating costs related to this trend will grow by **1.15%** per year until 2024 and **0.5%** per year until 2029, for all segments.

E-commerce is the trend that will influence operating costs the most as it has **marketing, distribution and R&D costs**, related with website development, associated. With this, operating costs are expected to grow in Europe and North America at a rate of **2.10%** starting in 2021, while its rate in the RoW segment starts at **2.70%** in 2021 due to the reasons previously mentioned. Afterwards, the operating costs related to this trend will grow **1.20%** per year until 2024 and **0.6%** per year from 2025 until 2029, for all segments.

Depreciation, Amortization, and Impairment cost caption is the one that relates to the decline in value of **fixed assets** such as buildings, machinery and intangible assets. This cost is forecasted to change as an average of the percentage of Property Plant and Equipment since this caption is the one that impacts the most this type of cost.

PP&E

This caption has been highly constant throughout the years and such, it is forecasted to continue that way. The e-commerce trend is **not believed to impact the number of stores**. Consequently, number of stores is forecasted to stay the same for the following years, as these represent a key component for brand awareness.

Sustainability

Being a sustainable company is one L&S's biggest goals for the future and as such, the company is already working on investing in their sustainable tomorrow. As such, it is forecasted that **this investment will keep being accounted in the company's figures** in the future in the **same percentage**

as previously.

Nominal GDP Growth

The nominal GDP growth is a growth computed by taking into account the real GDP growth and the inflation growth. Both growths were forecasted in line with the forecast done by the IMF until 2026. Afterwards, inflation is expected to drop **-0.2%** per year and real GDP growth is expected to fall **-1.10%** per year, since the nominal growth rate is expected to remain stable in the future, at a growth rate of **2.15%**.

Every caption in sales and in expenses, apart from changes in inventories, is expected to **grow at the economic rate**, from 2030 onwards.

Payout Ratio

The payout ratio is the percentage of earnings paid to shareholders. In 2021, these are expected to be an average of the previous three years and, as for the rest of the years, this value is expected to **stabilize at the same value as the one in 2021, 80.8%**, which is a satisfactory value for shareholders.

Valuation

Discounted Cash Flow

- Cost of Debt, Cost of Equity and WACC

Cost of Debt: To achieve L&S's cost of debt, the yield-to-maturity (YTM) of long-term debt, the probability of default (PD) and the loss given default (LGD) were calculated. L&S's longest-term outstanding bond, which matures in 2032, is currently trading at 250m CHF and had a coupon of 0.25%, which implies a YTM of **0.25%**. Considering the firms credit rating of A1, Moody's proxys were used in order to compute the PD and LGD, which resulted in **0.07%** and **551.73%**, respectively. Considering this, the cost of debt (Rd) resulted in **-0.14%** (Exhibit 4).

Cost of Equity: In order to compute the cost of equity (Re), the market risk premium (MRP), the risk-free rate (Rf) and the average levered beta were estimated. According to literature, the MRP is considered to range between the values of 4% and 6%, hence a MRP of **5%** was assumed. The risk-free rate was considered to be **-0.1%**, using the most recent 10-year Swiss Government bond return. Finally, the average levered beta was achieved by computing a simple average of L&S historical raw beta, using the historical share prices, the 10-year Swiss government bonds and the MSCI Switzerland weekly data for the past three years to perform a regression, and the industry's historical average beta unlevered, using the peers adapted inputs to perform the regression. The average leveraged beta was estimated to be **0.74** with a 0.06 standard error and a 95% confidence interval of [0.62; 0.87], as shown in Exhibit 5.

Using the Capital Asset Pricing Model (CAPM), the Re was estimated to be

Rd estimation:

YTM	0,25%
Rating	A+ / A1
PD	0,07%
LGD	551,73%
Rd	-0,14%
Rd Check test	-0,14%

Exhibit 4: Rd estimation

(Source: Analysts Computations)

	Lindt & Sprungli	Mondelēz	Hershey	Barry Callebaut	Rocky Mountain	Nestlé
Beta	0,74	0,76	-0,30	0,84	1,38	0,74
Standard Error	0,06	0,05	0,06	0,07	0,16	0,05
t-stat	11,89	15,31	-4,97	11,98	8,35	15,89
P-value	0,00	0,00	0,00	0,00	0,00	0,00
Lower 95%	0,62	0,66	-0,42	0,70	1,05	0,65
Upper 95%	0,87	0,85	-0,18	0,98	1,70	0,83

Exhibit 5: Beta estimation

(Source: Analysts Computations)

3.63%.

Weighted Cost of Capital (WACC): Considering that the debt-to-equity ratio stays stable over the years², the WACC was used. Assuming the corporate tax rate of Switzerland to be 14.9%, the previously computed values for Re and Rd and the estimates of equity and debt, the WACC was estimated to be **3.18%**.

- Steady State: RONIC, ROIC and g

The growth rate assumed to be the steady-state one and the one computed using the NOPLAT growth in the last year of the economic convergence was estimated to be equal to **2.70%**, which is a fair expectation of the nominal GDP growth. This growth rate started stabilizing in 2031 and is in line with the growth rate computed by multiplying the return on new invested capital (RONIC) and the reinvestment rate (RR). Both these figures started stabilizing in 2031 and reached steady-state values in 2037 of **5.99%** and **45.13%**, respectively, indicating that the return on invested capital (ROIC) will tend to a similar value to RONIC, **5.31%**.

Considering that L&S is one of the oldest and most successful companies in the industry and the market leader in the premium segment, the **barriers to entry are considered high**, indicating a competitive advantage and thus, the **ROIC (5.31%) will not converge with WACC (3.18%)** and the company will continue to **create value to its shareholders**.

- DCF Results

The first model used to value L&S target price was the Discounted Cash Flow Model (DCF), since the forecasted D/E ratio is expected to remain stable over the years. By applying a forecast horizon from 2022 to 2037 and all the assumptions mentioned above, a value of 17 415.51m CHF was reached for the equity value in December 2022, by subtracting the net debt of 2022, to the enterprise value. By dividing the equity value by the number of outstanding shares, a share price of **128 478.41 CHF** was reached for 2022. This value is a fair expectation since it reflects the **estimates for the future of the company**.

Multiples Valuation

In order to better understand how the market perceives the value of L&S a forward multiples valuation was performed using three valuation ratios - **Enterprise Value to EBITDA, Enterprise Value to Sales and Price to Earnings** - and comparing these ratios between L&S and the selected public³ peers mentioned previously.

The EV-to-EBITDA ratio indicates investors how many times they would need to pay EBITDA if they were to acquire the business and leads to L&S's share price to range between **76 409.43 CHF** and **201 841.61 CHF**, with an industry average multiple of **17.78x**, that corresponds to a share price of **123**

² Companies' Reports

³ There are others companies which may represent L&S's value better, but are not listed in the market.

	EV/EBITDA	EV/Sales	P/E
Lindt	28,56	5,96	68,23
Mondelez	16,69	3,53	20,33
Hershey's	17,04	4,47	24,74
Barry Callebaut	15,11	1,72	27,30
Rocky Mountain	11,23	1,52	21,20
Nestlé	18,03	5,46	25,96
Average	17,78	3,78	31,29
L&S EBITDA	981,11	-	-
L&S Sales	-	4515,43	-
L&S Net Income	-	-	529,16
Implied EV	17440,81	17053,27	16559,04
Net Debt	660,38	660,38	660,38
MV Equity	16780,43	16392,89	15898,66
Implied Share Price	123 793,31 CHF	120 934,32 CHF	117 288,25 CHF

Exhibit 6: Multiples Valuation Table

(Source: Analysts Computations)

	Beta			
Rd	3,18%	0,62	0,74	0,87
-0,41%	2,59%	3,14%	3,68%	
-0,14%	2,62%	3,16%	3,71%	
0,03%	2,64%	3,18%	3,72%	

Exhibit 7: WACC Sensitivity Analysis

(Source: Analysts Computations)

	RONIC			
Rd	2,70%	3,18%	5,99%	6,16%
7,91%	0,25%	0,47%	0,49%	
45,13%	1,43%	2,70%	2,78%	
57,16%	1,82%	3,42%	3,52%	

Exhibit 8: Growth Rate Sensitivity Analysis

(Source: Analysts Computations)

	WACC			
G	128 478,41 CHF	2,59%	3,18%	3,72%
0,25%	73 313,94 CHF	63 785,77 CHF	57 747,22 CHF	
2,70%	-384 274,96 CHF	128 478,41 CHF	76 922,32 CHF	
3,52%	2 135,28 CHF	-53 760,71 CHF	186 515,36 CHF	

Exhibit 9: Share Price Sensitivity Analysis

(Source: Analysts Computations)

793.31 CHF. The Enterprise Value- to-Sales ratio, that gives investors an idea of how to value the company based on its sales, suggests that L&S's share value ranges between **45 761.57 CHF** and **193 664.24 CHF**, with an industry average multiple of **3.78x** corresponding to **120 934.32 CHF**. The Price-to-Earnings ratio, highly used as it measures the willingness of investors to pay per each CHF of earnings, signals L&S's share price to range between **261 478.2 CHF** and **74 490.6 CHF**, with an industry average multiple of **31.29x** that results in a share price of **117 288.25 CHF**.

All the multiples implied that the share price in the 31st of December 2022, which can be seen in Exhibit 6, will be higher than the current stock price, a similar conclusion to the DCF model.

Sensitivity Analysis

Since the outputs of the discounted cash-flow model were based on assumptions, which come with a degree of uncertainty, three sensitivity analysis were performed with the goal to achieve the range of values of the target share price.

We began by doing a sensitivity analysis on the **Weighted Average Cost of Capital (WACC)**, by considering a 95% confidence interval for L&S's average leverage beta and by ranging the cost of debt (Rd) between its value if L&S either dropped or increased its current credit rating (A1 according to Moody's). With this, the WACC values could range from **2.59%** to **3.72%** (Exhibit 7).

Afterwards, the sensitivity analysis to the long-term growth rate (G) was conducted by varying the RONIC from the WACC value estimation, where ROIC would tend to the WACC and L&S would not be destroying nor creating value, to RONIC plus the WACC and by changing the Retention Rate (RR) between its maximum and minimum of the last years. The long-term growth rate values range between **0.25%** and **3.52%** (Exhibit 8).

Finally, a sensitivity analysis was performed on the target share price considering the range of values for the WACC and the long-term growth rate. This disclosed how **sensitive the target share price is** to changes in the WACC and the growth rate, as it ranges from **73 313.94 CHF** to **186 515.36 CHF** (Exhibit 9).

Risks

Cocoa Beans' Price Increasing

Being a chocolate producer, L&S needs to buy raw materials needed for the chocolate production. These acquisitions are made in the market which results in the company being **subject to price fluctuations**, emerging from market speculations, adverse weather conditions limiting the harvest or increasing demand due to festivities.

Although L&S works with several raw materials, cocoa beans are by far the most used, as previously mentioned, and, therefore, pose a higher risk for



Exhibit 10: Global Chocolate Confectionery volume vs Cocoa Bean Prices
(Source: Barry Callebaut's Publications)

the company. An increase in the cocoa beans price would lead to a substantial rise of the material costs and to a consequent decrease of the company's profits. Adding to this, there is a **negative correlation between sales' and cocoa prices growth** as sales' growth tend to be lower in the years where cocoa prices are higher, as seen in Exhibit 10.

As previously mentioned, there are two different types of beans used by L&S, the consumer cocoa and fine-flavor cocoa, which are sourced from different countries.

Ghana's sourced cocoa production, well known for its **high quality**, exceeded last season, 1m tonnes of *Forastero* beans (consumer cocoa), for the first time in the last decade. However, the prospects for the harvest season of 2021-2022 are not so optimistic as, according to the Bank of Ghana, **Ghana's cocoa production is expected to decline by 10%**⁴. Moreover, the introduction of the Living Income Differential in Ghana, led to Ghana increasing its farm gate price in **28% last season**⁵, and this trend is expected to continue in the next years. This is not good news for L&S as it may not only lead to a decrease of the exports, but also to being charged higher prices and, since Ghana is their main source of consumer cocoa, it can have **great damage** on the production process and numbers.

Among the fine-flavour cocoa producing countries, Ecuador is the **biggest producer** having cropped approximately **328 000 tonnes** of cocoa beans in the last season. However, the stock of trees planted with fine-flavor cocoa beans is either ageing or not irrigated and suffering from water stress and, Without the money for investment in the farms, there may be a **lack of production**, which can potentially harm L&S's operational process. The remaining countries together do not reach Ecuador's level of production and, consequently the risks of problems with these countries' cocoa production are not significant to compromise L&S's chocolate production.

Although L&S's **already hedges this operational risk through derivatives**, an unexpected increase as the one described **may not be totally covered** in their derivative's hedge, which could lead to losses in L&S's figures and a potential need to for a **bigger investment in derivatives** to cover for these losses.

To better understand the impact of this risk in L&S's share price, three different scenarios were considered. A **good scenario**, where the growth of cocoa bean prices decrease **0.08%** per year compared with the previously forecasted growth, happening with a **5% probability**, could lead to a decrease of L&S's material costs and to a higher profit, consequently resulting in a share price increase to **134216.13 CHF**. A "**as is**" scenario, where prices would remain as predicted, could happen with an **80% probability** and could have no additional impact in the company's numbers, since the forecasted numbers in this scenario are already incorporated in the share price. A **Bad scenario**, where the growth of the cocoa prices could increase **0.08%** per year compared with the previously forecasted

⁴ Bank of Ghana

⁵ Fountain, Antonie C., and Friedel Huetz-Adams. 2020. *Cocoa Barometer*. Voice.5

growth, happening with a **15%** probability, could lead to higher material costs and overall lower profits originating a decrease of the share price to **122735.59 CHF**.

The changes in the growth of cocoa bean prices considered in both the good and bad scenarios were achieved by computing a standard deviation of the values of the prices' growth from 2016 to 2037, using the forecasted values. As for probabilities, there is an 80% chance the "as is" scenario will happen, following World Bank's forecast. However, by looking at the historical prices, despite the volatility felt, there has been a tendency for cocoa prices to rise, as seen by the trend line in Exhibit 3, and thus, a **scenario where cocoa prices' growth rises more than expected is more likely** to happen than one where this growth decreases.

Full Lockdown

Currently more than half of the World population has received at least one dose of the vaccine against COVID-19. However, the easing of restrictions in most countries combined with the cooler weather and surge of new variants has led the number of cases in Europe to increase exponentially, leading to the lockdown of some European countries⁶. Additionally, Germany, one of L&S's most important markets, also has all its unvaccinated people, representing approximately 30% of the population, in lockdown⁷. The world returning to lockdown could represent a **major risk for L&S**, as, similarly to what happened in 2020, it could not only lead to the closure of own stores but to air travel restrictions, **severely impacting its duty-free business** and significantly decreasing the **number of visitors of L&S's Home of Chocolate**, another source of revenues. Moreover, if the lockdown coincided with the holiday season, restricting family gatherings, the company's **seasonal sales could be severely affected** since their holiday special packages could not be sold in such volume as in previous years.

In addition to the direct impacts this risk would have for the company, indirect effects also need to be considered: A new lockdown, similar to the one in 2020, could most certainly dispute a **new economic recession**, leading to a sharp decline of GDP, to an increased rate of unemployment and an overall rise of poverty. Taking the example of the United States, the country saw its economy reducing **19.2%** in 2020⁸ due to COVID-19, which led L&S's and Russel Stover's organic sales to decrease **1.4%** and **12.9%**⁹, respectively. These numbers are directly linked as consumers would become less likely to spend money on a non-essential good like chocolate and even less on a premium brand such as L&S.

A new lockdown could **severely impact cocoa farmers**. The rise of living

⁶ Goulding, R. (2021). Covid in Europe: which countries are in lockdown and what are the rules? *The Times*.

⁷ Schmidt, N., & Pleitgen, F. (2021). <https://edition.cnn.com/2021/12/02/europe/germany-lockdown-covid-restrictions-intl/index.html>. *CNN*.

⁸ Reuters

⁹ Company Report

costs combined with the decrease of the cocoa bean price, due to the reduced demand for chocolate, could further **increase the farming community poverty**. Moreover, the closure of schools, due to the lockdown, could leave children even **more vulnerable to child labour**. All conflicting with L&S's sustainability goals and contributing to possible fluctuations in supply.

Different scenarios were considered in order to understand the impact of a lockdown in L&S's share price; The **Good scenario** considers full COVID-19 recovery as of this moment, which we consider could happen with a **0.5%** probability. This scenario would lead to an increase of sales of **0.11%** per year as it would allow L&S's duty-free business to increase with people being able to travel freely and seasonal sales would be back to normal, which would result in an overall share price of **132854.81 CHF**. The "as is" scenario, where restrictions stay as predicted, could happen with a **95%** probability, and could have no additional impact on the forecasted share price, since the predicted values in this scenario are already incorporated in the share price. Finally, the **Bad scenario**, where a full lockdown happens, similar to the one in March of 2020, could happen with a **4.5%** probability due to the high vaccination rates, the preventive measures taken so far and the potential economic recession, and could mean L&S stores closing, minimal air travelling causing little duty-free business and decreased seasonal gifting, this would result in a decrease of the share price to **123686.61 CHF**. This scenario could not only affect overall sales by **-0.11%**, but also have an increased negative impact in the RoW segment sales of **-0.18%** and a shock in the operating expenses of all segments of **-0.03%**.

The changing values in the good and bad scenarios were achieved by computing standard deviations of the captions affected, from 2019 to the 2020, which were the main years considered for this lockdown analysis. Given the current state of the world where some countries are already in a lockdown state due to the rising numbers of COVID-19, the event of a **bad scenario occurring is more probable** than the expectation of a good scenario occurring and, consequently, the good scenario has a lower probability of happening.

The summary of the impacts of each scenario on the share price can be seen in Exhibit 11.

		Cocoa Prices Decreasing		
Share Price		Good	As is	Bad
Lockdown	Good	138 609,56 CHF	132 854,81 CHF	127 089,58 CHF
	As Is	134 216,13 CHF	128 478,41 CHF	122 735,59 CHF
	Bad	129 407,40 CHF	123 686,61 CHF	117 966,77 CHF

Exhibit 11: Scenario Analysis Results
(Source: Analysts Computations)

Conclusion & Recommendations

The multiples valuation is a relative valuation method, meaning that it only measures the expectations that are incorporated in the prices and is based on the presuppose that the market is accurately valuing the peers' group, which might not always be the case. In addition, this method relies on the law of one price¹⁰ and the comparable chosen may not correctly represent the company's figures. The DCF valuation is a method that incorporates the estimates for the company's future in its final share price.

Considering this, although both valuations yield the same investor's strategy, DCF is believed to be the most accurate method to value this company.

Thus, our recommendation is for investors to **BUY** Lindt & Sprüngli stock. This strategy will yield capital gains of **14 278.41 CHF** and dividend gains of **370.51 CHF** resulting in an overall return of **11.4%**.

¹⁰ Law of One Price – The price of an identical asset will be priced equally globally.

LINDT & SPRÜNGLI AG

CONSUMER GOODS

STUDENT: MARIANA SOUSA; MARIA VICENTE

COMPANY REPORT

17 DECEMBER 2021

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The challenge of an adaptive market

The development of a premium leader

- Lindt & Sprüngli differentiates itself from mass-market chocolate companies through its premium chocolates, promoted using high-quality raw materials and luxury packaging.
- It secures the control of their production chain, since the selection of the cocoa beans to the end product, by using the “bean to bar” method across all its brands, except Russel Stover, ensuring the traceability of the cocoa beans used.
- By taking advantage of the post-pandemic strong demand, L&S was able to make a rapid recovery surpassing market returns and placing themselves in a good position among its peers.
- L&S is the 6th largest company in the chocolate industry, competing with prominent companies such as Hershey’s and Nestlé, and having a net income margin and a return on assets above margin.
- Sustainability is one of L&S’s biggest concerns, that paved the way for the creation of many future goals, leading to the need of a strong investment.
- The company is set to continue to increase its margins by benefiting from the rising consumer trends of sugar-free, dark chocolates as well as the e-commerce boom.

Company description

Lindt and Sprüngli (L&S) is one of the oldest and largest chocolate manufacturers in the world and the premium chocolate market leader. L&S’s products are present in 120 countries and are produced in 11 operating factories. The company’s brand portfolio is composed by 8 premium brands, including the famous Lindt brand, and the company employs over 13500 people.

Recommendation: BUY

Total Shareholder Return 11.4%

Price Target FY22: 128478 CHF

Price (as of 14-Dec-21) 114200 CHF

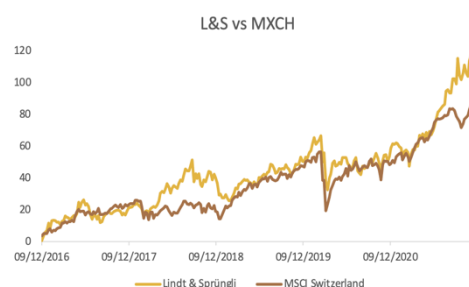
Reuters: LISN.N, Bloomberg: LISN.SW

52-week range (CHF) 80 500-119 500

Market Cap (CHFm) 15476.38

Outstanding Shares (m) 0.135552

Source: Bloomberg



Source: Bloomberg

(Values in CHF millions)	2020	2021 E	2022F
Revenues	4016.8	4255	4515.4
EBITDA	696.1	846.4	981.1
Net Profit	225.2	358.3	458.6
ROE	4.9%	7.7%	9.6%
ROA	8.8%	3.4%	5%
EBITDA Margin	17%	20%	22%
Net Profit Margin (%)	10.9	12.8	14.4

Source: Bloomberg and Analysts estimations.

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY MARIANA SOUSA AND MARIA VICENTE, MASTERS IN FINANCE STUDENTS OF THE NOVA SCHOOL OF BUSINESS AND ECONOMICS. THE REPORT WAS SUPERVISED BY A NOVA SBE FACULTY MEMBER, ACTING IN A MERE ACADEMIC CAPACITY, WHO REVIEWED THE VALUATION METHODOLOGY AND THE FINANCIAL MODEL. (PLEASE REFER TO THE DISCLOSURES AND DISCLAIMERS AT END OF THE DOCUMENT)

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Executive Summary

Lindt and Sprüngli (L&S) is currently one of the largest chocolate manufacturers in the world and the **premium chocolate market leader**. L&S's chocolates can be found in **120 countries** and are produced in **11 operating plants**. The company's brand portfolio is composed by **8 high quality brands** that are sold globally, regionally, and locally. L&S group is divided into three main geographical segments: **Europe, North America**, and **Rest of the World**, which includes significant countries that do not belong in the other segments geographical areas. In 2020, Germany and the United States of America represented the two top countries in terms of sales.

In 2020, L&S achieved total number of sales of **4016.8m CHF**, a decrease of **-6.1% in comparison with 2019** which was mainly due to the closure of stores and air travelling restrictions impacting the duty-free stores business, brought about by the COVID-19 global pandemic. However, in its future performance, L&S is expected to increase its revenues at an average rate of **6% per year until 2029**, which considers the anticipated trends of e-commerce, dark chocolate and sugar-free chocolate, as well as the macro-economic and demographic trends of GDP and inflation growth, and world population evolution and at a rate of **2.17%** from 2030 onwards converging with economy.

Cocoa beans are the main raw material used in the chocolate production and are sourced, depending on its variety, from **5 different cocoa producing countries**. Cocoa farming is an extremely hazardous job, normally done by farmers in poor living conditions and, most times, including children, and, therefore, raises a lot of **sustainability concerns**.

Although L&S is the market leader in the premium segment, when it comes to the overall chocolate market, the company competes with much bigger players, such as Hershey's or Nestlé. These players and L&S' stock performance moves with the market, being Hershey's the company that has the highest shares, while Rocky Mountain presents the lowest numbers.

It is expected the chocolate market industry reshapes with trends such as the **rising dark chocolate consumption**, the expansion of **sugar-free products** demand or the **growing e-commerce** emerge.

As of 14th of December, the recommendation is to **BUY** L&S's stock, having an expected **shareholder return of 11.4%**, where 11.1% is from the price appreciation and 0.3% from dividend yield at the end of 2022.

Company Overview

Descriptive

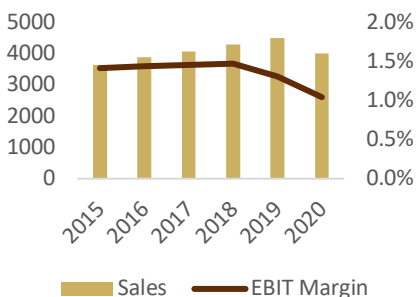


Exhibit 1: L&S's Sales and EBIT Margin in million CHF
(Source: Company Report)

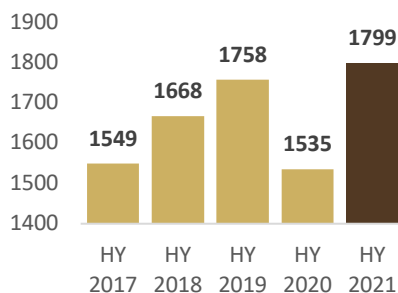


Exhibit 2: L&S's 5Y Half-Year Sales Results in million CHF
(Source: Company Publications)

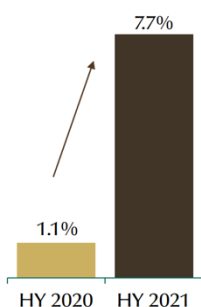


Exhibit 3: L&S's EBIT Margin Growth
(Source: Company Publications)

Lindt & Sprüngli (L&S) was founded in 1845 by David Sprüngli-Schwarz and his son, and its headquarters are located in Kilchberg, Switzerland. In 1899, Rodolphe Lindt acquired one of the company's chocolate firms which initiated the merger of Lindt and Sprüngli, giving the company its current name.

L&S is one of the largest chocolate manufacturers in the world and one the few that uses the "bean-to-bar" method across all its brands, except Russel Stover. This method of production allows L&S to supervise its supply and value chain, making sure the cocoa beans are responsibly selected and **100% traceable**, and securing a high quality and more sustainable product. Celebrating 176 years of existence, L&S's quality chocolates are produced in 11 of its own factories between Europe and the United States of America and can be found in **120 countries worldwide** through a vast global network of distributors, subsidiaries and about 500 own stores. Additionally, the company employs over 13 500 people all over the world.

In September of 2020, the new Lindt Home of Chocolate was inaugurated. With this new chocolate competence centre, the company aims to strengthen Switzerland's position as a reference location for chocolate and to promote innovation for the entire industry by being a research facility available to research institutes, universities, and chocolate producers.

Over the years, the company has maintained an increasing trend in sales, which was only disrupted due to the global pandemic in 2020, leading to a **decline** in sales of **-10.92%** in domestic currency (Exhibit 1). This severe economic crisis damaged its sales in all its three segments, having affected its business in the duty free, own stores, food service, grocery stores and seasonal sales. However, despite the decline in sales, the e-commerce, home delivery and pick-up services in selected stores gained relevance. Nonetheless, L&S Half-Year results indicate that the yearly sales are likely to **return to their pre-COVID** values (Exhibit 2). Additionally, even though L&S's EBIT Margin shows decreasing signs since 2018, which were accentuated in 2020 (Exhibit 1), the company 2021 half year results show an **increase of 7.7%** in comparison to last year's results (Exhibit 3).

Leader in the Premium Sector

The use of high percentages of high-quality cocoa that is sustainably sourced alongside with the usage of the finest ingredients and the exceptional packaging presentation, are some of the characteristics that make L&S a **market leader in the premium chocolate confectionery industry**.¹

The company promotes its premium chocolates through all its brands but most specifically in its Lindt ranges, **Lindor** and **Excellence**. Lindor portfolio includes chocolate truffles combined with several fine ingredients, and Excellence's portfolio is composed by a higher percentage of cocoa bar, reaching 100% of cocoa, also combined with fine ingredients. Moreover, the brand is associated with Swiss chocolate which is notoriously known for its quality.

The premium sector is expected to grow at a CAGR₂₁₋₂₆ of **9.2%**² worldwide, being that its largest market, similarly to what happens in the chocolate confectionery market, is Europe, which is forecasted to grow at a CAGR₂₀₋₂₅ of **8.66%**². These growths paved the way for L&S's future growth.

Brands

L&S is present all over the world through its global, regional, and local brands. Its **global brand**, Lindt, is the oldest and the most important of the group, which accounted for **77%** of total sales in 2020, and includes the prestigious chocolate ranges Excellence and Lindor, previously mentioned. The group's **regional brands** are Ghirardelli, Russel Stover, Whitman's and Pangburn's, that, in 2020, were responsible for **22%** of total sales. Russel Stover, one of the most famous chocolate manufacturers in the United States, was acquired in 2014, representing one of L&S's largest purchases, and had a massive impact in L&S's US sales of **24.2%**¹, completely changing the company position in the North America segment. Russel Stover, together with Lindt and Ghirardelli, position L&S in the number one brand in the premium chocolate market. Whitman's and Pangburn's brands were also acquired in 2014, as they originally belonged to Russel Stover's portfolio. The **local brands** are Caffarel, Hofbauer and Küfferle, and its sales combined amounted to **1%** of the group's total sales in 2020. Caffarel is an Italian brand acquired by L&S in 1998 that brings Italy's traditional chocolate to the world, likewise Hofbauer and Küfferle which are Austrian brands (Exhibit 4).



Exhibit 4: L&S's Brand Portfolio
(Source: Company Website)

¹ Company's Report

² Mordor Intelligence

Segments

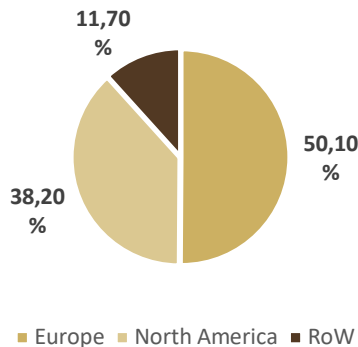


Exhibit 5: L&S total sales per segment in 2020.

(Source: Company Publications)

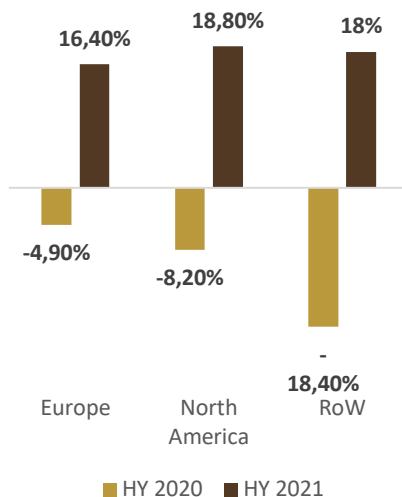


Exhibit 6: Half-Year Revenue Growth per Segment

(Source: Company Publications)

L&S is divided in three business segments, according to geographies and similarity in economic structures: **Europe segment**, consisting of European countries including Russia; **North America segment** which includes USA, Canada and Mexico, and **Rest of the World segment (RoW)**, including Australia, which accounts for half of the segment sales, Brazil, China, Hong Kong, Japan and South Africa as well as the Duty free and Distributors business units, which combined account for the other half of total sales of this segment.

In 2020, Europe represented more than half of L&S's business, North America accounted for **38.2%** of total sales and Rest of the World segment for the remaining **11.7%** (Exhibit 5). The COVID-19 pandemic had a negative impact in all three segments, the hardest hit being in RoW segment which had a decline in sales of **-21.82%**, mainly due to the Duty-free business strong decline. Europe and North America also had downfalls, **-6.29%** and **-12.84%** in sales, respectively. Despite this, the numbers for 2021 are looking optimistic, according to the company's half years results, which indicated that all segments are expected to increase their sales in comparison with 2020 (Exhibit 6).

Regarding the evolution of the segments over the years, RoW was the segment with the highest growth with a CAGR₁₆₋₁₉ of **9.52%**, followed by Europe with a CAGR₁₆₋₁₉ of **6.39%** and North America with a CAGR₁₆₋₁₉ of **1.98%**.

L&S's Shares: Classes, Ownership and Payout Scheme

L&S's initial public offering in the SIX Swiss Exchange took place in 1986. Nowadays, the company has **registered shares** and **participation certificates** listed on the SIX stock exchange. Both of these types of shares are entitled to dividends, but only registered shares have voting rights.

Regarding L&S's shareholder structure, Chocoladefabriken Lindt & Sprüngli AG has the biggest percentage of ownership by holding, as a group, **20.44%** of share capital, followed by Norges Bank Government Pension, who holds **3.8%**, and Vanguard Group Inc, which holds **2.51%**³.

Concerning the **Payout Ratio**, it has been showing an increasing trend, ranging from **49.8%** to **82.5%**⁴ between the years of 2016 and 2020.

³ Bloomberg

⁴ Company's Report

	EPS	Dividend
2016	1 791 CHF	880 CHF
2017	1 893 CHF	930 CHF
2018	2 021 CHF	1 000 CHF
2019	2 142 CHF	1 750 CHF
2020	1 333 CHF	1 100 CHF

Exhibit 7: EPS and Dividends

(Source: Company's Report)

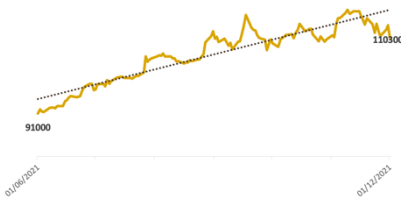


Exhibit 8: Growth of L&S's Share Price in 2021

(Source: Bloomberg)

This may indicate that L&S is more focused on distributing its earnings to its investors rather than retaining the money for new investments.

Both the **earnings per share** and the **dividends per share** reported an increase over the years, showing signs of profitability, which was only disrupted in 2020 (Exhibit 7), due to the slowing down of the business led by COVID-19.

From June 1st, 2021, to December 30th, 2022, L&S is performing its fourth **share buyback program**, for up to 750m CHF of registered shares and participation certificates (PCs). The company sees the share buyback as a way of re-investing in itself, taking advantage of its high liquidity, solid balance sheet and high cash flows. In the first 6 months of the program, the company's share price has risen close to **21.21%**, (Exhibit 8), providing value to its investors, as their return on each share increases with the boost in the share price.

Strategy

The COVID-19 pandemic that stroke the world in 2020 had negative impacts in several industries, including the confectionary industry. Despite this, L&S was able to respond innovatively to changes in consumer behaviour with initiatives such as home deliveries, click + collect services and e-commerce. In addition to this, the group has been adopting a set of strategies to improve their business:

(i) Keep investing in e-commerce, which represented **5% of L&S total sales in 2020**, in different countries, in order to create an omni-channel strategy that ensures a seamless consumer experience across all platforms; (ii) Maintain their physical stores in key locations and keep expanding globally, as well as keep their **strong investment in advertisement** with the purpose of promoting brand awareness and lure consumers away from mass market brands; (iii) Continue innovating in the **sugar-free niche market**, by adding new products to their portfolio, in which where L&S is already the biggest player in the North America segment; (iv) Keep investing in its foundations. The **Chocolate Competence Foundation**, which indorses innovation for the entire industry by being a research facility and the **Cocoa Foundation**, which promotes sustainable cocoa farming initiatives, having set several goals regarding these topics for the future.

Chocolate Production

Cocoa Beans Overview

- Sourcing

Cocoa is the main ingredient in L&S's chocolates, and is, therefore, a key piece in the company's production process.

L&S uses two types of cocoa beans in its chocolate production – **Forastero** and **Criollo and Trinitario cocoa**. **Forastero** cocoa beans, also known as **consumer cocoa**, the most common variety of cocoa beans, are sourced by L&S exclusively from **Ghana**, and represent approximately **two-thirds**⁵ of the company's processed cocoa beans. **Criollo** and **Trinitario** cocoa beans, also known as **fine-flavour cocoa**, are higher quality cocoa beans with specific flavours and aromas, that are sourced by L&S from **Ecuador, Dominican Republic, Madagascar and Papua New Guinea**, and account for the remaining **one-third**⁵ of the company's processed cocoa beans.

Cocoa beans are mainly produced in African, Latin American, and Caribbean regions (Exhibit 9). West Africa, more specifically, the Ivory Coast and Ghana, is the region where most cocoa beans are produced, as these two countries combined account for **more than half of the world's total cocoa production**⁶. Ecuador, the largest producer of fine-flavour cocoa, is responsible for **two-thirds of the world production**⁷ of this variety of cocoa beans. To ensure the chocolate's quality, all cocoa beans used in L&S's production process are **100% traced** since harvested.

In the near future, it is possible the supply of cocoa beans experiences substantial negative implications, in terms of price and shipments, since the main countries where the beans are produced, Ivory Coast, Ghana and Ecuador, are subject to some **political instability**, according to the political stability index of 2020⁸.

- Sourcing Concerns

Cocoa farmers face **extremely poor living conditions**, with the cocoa farming being, most times, their only source of income, which due to them having small farms, aging and diseased cocoa trees or limited agricultural practices, makes it harder to secure a stable income. Moreover, the farming

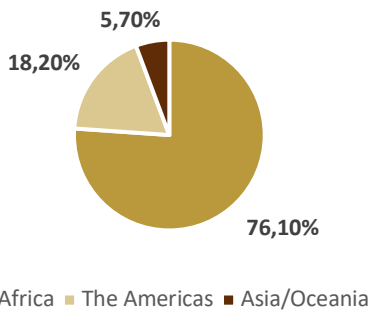


Exhibit 9: Global Cocoa Production Share from 2019/2020 Season per region
(Source: Statista)

⁵ Company's Website

⁶ Statista: Cocoa Bean Production Worldwide by Region

⁷ Company's Report

⁸ World Bank

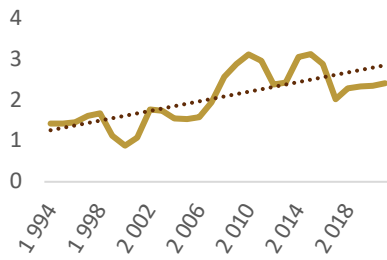


Exhibit 10: Historical Cocoa Prices in thousand USD per tonne
(Source: ICCO)

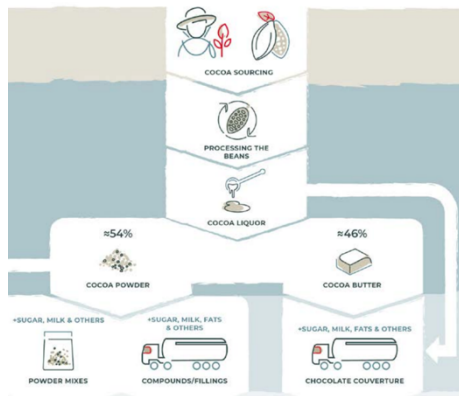


Exhibit 11: Chocolate Production Process
(Source: Barry Callebaut's Publications)

processes imply a lot of **hazardous work**, including land clearing, which involves removing heavy tree stumps and bush burning, which is not only done by adults but also by children. Most children, in these communities, start working from an early age and are refrained from their right to a proper education. Statistics indicate that, despite the countries governments and the industry efforts to stop it, **child labour** in Ivory Coast and Ghana increased from **31% to 45%**⁹, during the last decade.

Deforestation, commonly known as the purposeful clearing of forest land to make space for agriculture, also poses a major sustainability concern regarding the cocoa production. This production has led the natural forest cover in Ivory Coast and Ghana to **decline by more than 70%**¹⁰ in the past three decades. These are global environmental concerns as they directly contribute to the **acceleration of climate change** and **loss of biodiversity and habitats**. Moreover, **pesticides** are used in production to fertilize the soils conditioning the quality of cocoa beans.

■ Volatility in Prices

In the 2020/21 crop season the global record for cocoa production was beaten, being the first time ever that the **5,000m tons** mark was reached, with a **9.3% increase**¹¹ in comparison with the previous season. In addition to being volatile, cocoa production is dependent on **weather conditions** and its trees are subject to **pests** and **crop diseases**, if not properly taken care of. These factors might have substantial impacts on production and consequently on cocoa supply and prices, which, as seen in Exhibit 10, have already been **unstable over the years**.

Production Process

The production of chocolate is an intensive and complex procedure that involves many steps, from plucking and opening the pods, fermenting, drying and roasting the cocoa seeds, to grinding the cocoa nibs into cocoa liquor and molding the chocolate¹². However, cocoa liquor is not the only product used to make chocolate products (Exhibit 11), as, most times, cocoa power, cocoa butter, sugar, milk power and many other ingredients are added, at different ratios, creating different types of chocolate and allowing

⁹ Walt, Vivienne. 2020. "Big Chocolate's child-labor problem is still far from fixed." *Fortune*.

¹⁰ Fountain, Antonie C., and Friedel Huetz-Adams. 2020. *Cocoa Barometer*. Voice.5

¹¹ International Cocoa Organization (ICCO)

¹² *The World of Chocolate: The Production of Chocolate*. <https://www.sfu.ca/geog351fall03/groups-webpages/gp8/prod/prod.html>.

each brand to have its own recipe. For premium chocolate brands, for example, a higher percentage of cocoa butter is preferable to sugar¹³.

The Industry

Market Overview

In the financial year of 2019/20, Western Europe represented the region where most chocolate was consumed, with **33%** of the industry market share (Exhibit 12), staying ahead of important segments like North America. Nonetheless, its consumption is done all around the globe. Despite this, over the years, the size of the industry has been showing **signs of instability**, growing some years in a row, and then suffering sharp declines (Exhibit 13).

The year of 2020 was marked by the negative consequences of the COVID-19 pandemic, not only in the world's economy, having registered a decrease in GDP of **-3.2%**¹⁴, but also in most of consumer goods industries, including the chocolate confectionery. However, the future is looking brighter as global growth projections suggest a **growth of the world's GDP of 5.9%** and **4.9%**, in 2021 and 2022, respectively, which may be followed by a **growth of the chocolate confectionery industry** with a CAGR₂₀₋₂₅ of **4.61%**. (Exhibit 13).

The holidays Easter, Christmas, Halloween, and Valentine's Day represent peak moments for the chocolate confectionery players. In 2018, in the US, Easter represented the holiday responsible for the highest share of sales registering approximately more **159m US dollars** of sales than Christmas, the runner-up (Exhibit 14). In order to lure in consumers and improve their sales, some companies in the industry make significant **investments on their packaging** and create **seasonal special editions**, examples being Lindt's chocolate bunny and Kinder's easter eggs during Easter festivities and the advent calendars made available by most players during Christmas. **Seasonal sales** are a key component of the industry, accounting, in 2020, for **11.5%** of the industry's total sales, and, despite its decline in 2020, due to family gatherings restrictions, these sales are forecasted to **grow in the next few years** (Exhibit 15), supporting its relevance for the industry.

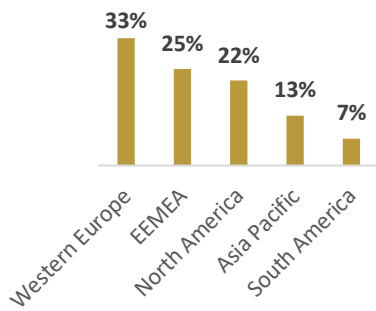


Exhibit 12: Market Share of the Chocolate Confectionery

(Source: Statista)

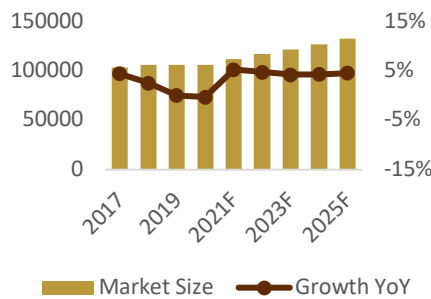


Exhibit 13: Chocolate Confectionery Market Growth in mUSD

(Source: Euromonitor)

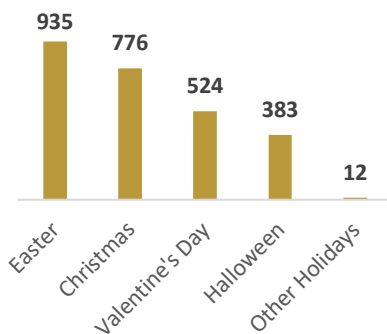


Exhibit 14: Sales of Chocolate by holiday, in the US (2018), in mUSD

(Source: Statista)

¹³ Company's Report

¹⁴ International Monetary Fund (IMF)

Competitive Environment

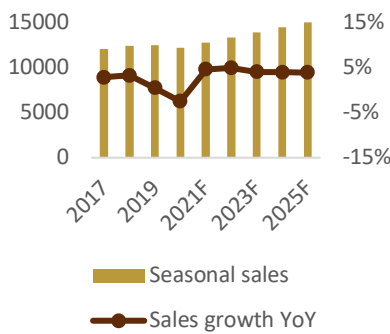


Exhibit 15: Seasonal Chocolate Sales in mUSD
(Source: Euromonitor)

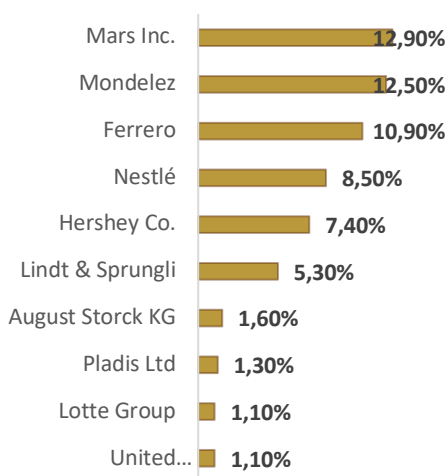


Exhibit 16: 10 Biggest Industry Players' market Share
(Source: Euromonitor)

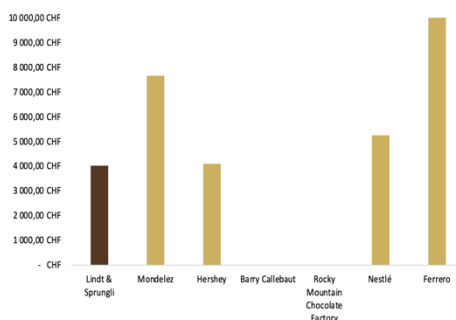


Exhibit 17: Sales of Chocolate Industry per peers
(Source: Companies' Reports)

The chocolate confectionery industry is composed by many big players making it very competitive. Data from 2021, sets L&S as the industry's **number six** with a **market share of 5.3%** (Exhibit 16). L&S's most relevant competitors can be divided in premium and non-premium. The premium peers are:

Ferrero¹⁵: One of the biggest players in the industry and the biggest competitor of Lindt in the premium sector. Kinder and Ferrero Rocher, two of its best-known brands, have a negative impact on L&S sales in Easter and Christmas, respectively.

Godiva and Guylian¹⁵: Two of the largest producers of Belgian Chocolate, which has historically been associated with quality and hence conflicts with L&S Swiss Chocolate sense of quality. These brands operate in the premium chocolate sector, being the closest competitors to L&S.

Barry Callebaut: One of the largest premium chocolate producers, whose main business is to sell to other companies operating in the sector, such as Mondelez, chocolatiers and restaurants. Although it mainly operates in the B2B segment, being fully vertically integrated, it still has a B2C segment, selling their own premium chocolates.

The non-premium peers are:

Mondelez, Hershey's, Mars, and Nestlé: These are some of the most well-known players in the industry. Their portfolios normally include mass market chocolates and some have premium ranges. For instance, Nestlé and Hershey's have L'Atelier and Supreme brands, respectively, which represent the firms in the chocolate confectionery premium sector.

Rocky Mountain Chocolate Factory: Chocolate producer in the United States whose portfolio includes several premium chocolate products. It operates in a smaller scale compared to its competitors.

Considering exclusively the **chocolate sales** of each company, Ferrero was responsible for the highest number of sales in the industry, in 2020. The industry average sales for this same year amounted to **4858.93m CHF**, and only Ferrero, Mondelez and Nestlé were able to stay above average (Exhibit 17).

▪ Stock Performance

The overall stock performance of L&S has been **favourable** and in

¹⁵ These are not publicly traded companies, therefore the financial information is limited.

L&S vs MXCH

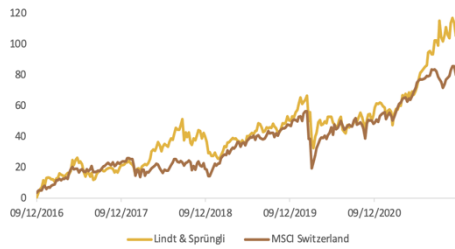


Exhibit 18: L&S's Returns compared with the market
(Source: Bloomberg)

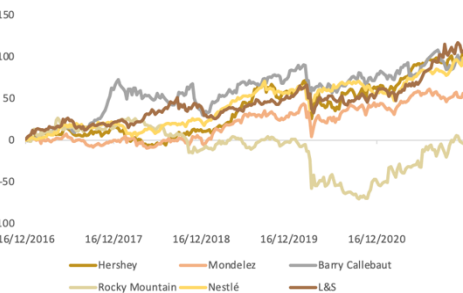


Exhibit 19: L&S's & Peers Returns
(Source: Bloomberg)

	Activity Ratios		
	2019	2020	Δ
Average collection period	78,83	74,97	-3,86
Average inventory holding period	75,85	76,59	0,75
Average payable period	23,65	20,46	-3,19
Cash conversion cycle	131,02	131,10	0,08

Exhibit 20: L&S's Activity Ratios' Change from 2019 to 2020, in days
(Source: Analysts Computations)

	Activity Ratios			
	ACP	AHP	APP	CCC
L&S	75	77	20	131
MDLZ	31	59	136	-46
HSY	27	73	45	55
BARRY	22	119	45	96
ROCKY	49	88	39	98
NESN	38	83	116	4
AVG	40	83	67	56

Exhibit 21: L&S and Peers' Activity Ratios in 2020 in days
(Source: Analysts Computations & Bloomberg)

accordance with the market throughout time - in times of crisis, such as the one felt 2020, L&S's stock suffered downturns; and in times of prosperity, the company was able to thrive. Despite the consistency with the market, there were specific moments where the company **outperformed the market** (Exhibit 18). For instance, in 2021, L&S took advantage of the strong demand felt after the pandemic and made a **rapid recovery** in comparison with the market.

When comparing with its peers, L&S quick recovery in 2021 seems to have pushed the company into an advantageous position. However, over the years, L&S stock returns were average, with neither exceedingly bad downfalls, such as the ones felt by Rocky Mountain, or extremely good upturns, as the ones felt by Hershey's (Exhibit 19).

▪ **Operating Ratios**

Considering **activity ratios**, from 2019 to 2020, L&S was **slower at generating cash** to support their needs, as shown by the increased Cash Conversion Cycle (CCC) (Exhibit 20). This puts a higher pressure on the company's liquidity since it needs to rely on additional sources of finance and is **less able to support itself**. When comparing with its peers, and considering a cash flow management perspective, L&S is in a **less desirable position**, since its average collection period (ACP), of **75 days**, is much higher, while its average payable period (APP), **20 days**, is smaller than the industry's average, thus making its CCC much higher. Mondelez is the company that appears to be in a better position, with smaller average collection and holding periods and a high average payable period, as seen in Exhibit 21.

Regarding **liquidity ratios**, despite the decline in some of its ratios from 2019 to 2020, L&S seems to be in a **comfortable position** to meet its short-term obligations using its short-term assets or more liquid assets, since its current ratio, of **1.09**, and quick ratio, **0.83**, are higher than 1 and close to 1, respectively (Exhibit 22). However, in terms of cash ratio, even though L&S experienced an upturn, the company is still in a **risky position**, as its cash ratio of **0.31** is low, indicating it is lacking the ability to meet its short-term obligations using only cash. Comparing with its peers (Exhibit 23), L&S's liquidity ratios **fell below the industry average**, but the least safe company in terms of liquidity is Nestlé, having the quick and cash ratios closer to zero than the rest of the peers.

Considering **profitability from operations**, L&S experienced a downturn from 2019 to 2020, mostly explained by the consequences of the pandemic

Liquidity Ratios

	2019	2020	Δ
Current Ratio	1,13	1,09	-0,04
Quick Ratio	0,84	0,83	-0,01
Cash Ratio	0,25	0,31	0,07

Exhibit 22: L&S's Liquidity Ratios' Change from 2019 to 2020

(Source: Analysts Computations)

Liquidity Ratios

	Current Ratio	Quick Ratio	Cash Ratio
L&S	1,09	0,83	0,31
MDLZ	0,66	0,39	0,24
HSY	1,57	0,93	0,60
BARRY	1,98	0,74	0,52
ROCKY	3,38	2,04	1,49
NESN	0,86	0,42	0,22
AVG	1,59	0,89	0,56

Exhibit 23: L&S and Peers' Liquidity Ratios in 2020

(Source: Analysts Computations & Bloomberg)

Profitability from Operations

	2019	2020	Δ
Gross Margin	16,12%	13,31%	-2,81%
Net margin	14,14%	10,93%	-3,22%

Exhibit 24: L&S's Profitability from Operations Ratios' Change from 2019 to 2020

(Source: Analysts Computations)

Profitability from Operations

	Gross Margin	Net Income Margin
L&S	13,31	10,93
MDLZ	39,30	13,37
HSY	45,42	15,69
BARRY	15,92	5,33
ROCKY	31,35	-3,83
NESN	49,26	14,44
AVG	32,43	9,32

Exhibit 25: L&S and Peers' Profitability from Operations Ratios in 2020

(Source: Analysts Computations & Bloomberg)

on the economy (Exhibit 24). Compared to its peers (Exhibit 25), L&S was the **least efficient at turning sales into profits and managing its operations**, having a Gross margin of **13.31%**, considerably below the industry average, while Nestlé was the best performing company, with a gross margin of 49.26%. Despite having the worst gross margin, L&S's net income margin is above the industry average, having a value of **10.93%**, indicating the **company is generating income in an effective way**. Hershey's stands as the company with the highest net income margin, while Rocky Mountain is the less efficient peer at generating final profit.

Finally, regarding **profitability from investments**, while L&S's return on equity experienced a massive fall of **8.53%** from 2019 to 2020, the company's return on assets expanded (Exhibit 26) **1.45%**, suggesting that, although shareholders return is lower, L&S is **better at recovering the invested capital through sales**. Hershey's clearly stood out from competitors in both return on equity and return on assets, having the higher percentage in both returns (Exhibit 27). On the other hand, Rocky Mountain was the worst performing company, having negative values on both ratios.

Prospects

The chocolate confectionery industry is expected to experience a change in the future, resulting from the impact of some rising trends.

- Rising E-commerce and online advertisement

Selling products online is not a new trend, as most industries are doing it nowadays. However, it was the COVID-19 pandemic that paved the way for **e-commerce to grow** in the chocolate confectionery industry as it pressured companies to adapt and reshape their distribution, to survive in the highly networked future. Even though chocolate was not anticipated to be a successful product in online retail, the numbers have been indicating otherwise (Exhibit 28) and, as such, this **trend is believed to continue to grow until 2024** (Exhibit 29), across most industries, including chocolate confectionery.

Top brands such as Hershey's started selling their products in their own website, while others rely on merchandise retailers to sell their products online. L&S has also entered this trend, which in 2020 corresponded to **5% of its sales**. Moreover, chocolate companies are investing in their online presence through social media, enabling them to connect with their customers and create awareness to their products, while promoting recent launches.

▪ Increasing Health Concerns

Profitability from Investments			
	2019	2020	Δ
Return on equity	13,42%	4,89%	-8,53%
Return on Assets	7,31%	8,76%	1,45%

Exhibit 26: L&S's Profitability from Investments Ratios' Change from 2019 to 2020

(Source: Analysts Computations)

Profitability from Investments		
	ROE	ROA
L&S	4,89	8,76
MDLZ	12,97	5,37
HSY	64,36	14,81
BARRY	15,25	5,34
ROCKY	-4,70	-3,41
NESN	25,03	9,71
AVG	19,63	6,76

Exhibit 27: L&S and Peers' Profitability from Investments Ratios in 2020

(Source: Analysts Computations & Bloomberg)

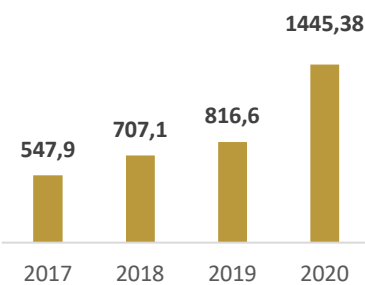


Exhibit 28: Online Chocolate Sales (US Growth) from 2017 to 2020 in mUSD

(Source: Statista)

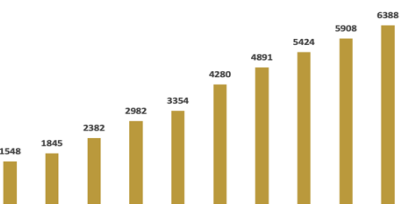


Exhibit 29: E-commerce Sales Forecast from 2015 to 2024, mUSD

(Source: Statista)

Boosted by the rising numbers on obesity¹⁶, heart diseases¹⁷ and the side effects brought by the COVID-19 pandemic on the world, health concerns have been rising throughout the world¹⁸. This has led people to reflect more on what they consume and how it prejudices their health and lifestyle.

Consequently, consumers are increasingly looking to reshape their eating habits with **sugar-free solutions** (Exhibit 30), which are products containing artificial sweetening substance instead of sugar or no sugar at all, for unhealthy products, while still satisfying their cravings. As such the sugar-free consumption is expected to grow at a CAGR₂₀₋₂₇ of **5.1**¹⁹, creating a huge **upturn potential** for the industry.

Some peers are already taking advantage of this growing trend to expand and innovate their portfolio of products, by creating sugar-free ranges with new flavours and appealing packages to draw consumers' attention. Russel Stover, L&S's brand, is an example of a brand that is invested in this trend, through "Joy Bites"²⁰, a chocolate range with stevia and no sugar added. Hershey's is also taking a step forward in the sugar free world and investing in a new range of no sugar added products – "Zero Sugar".

In addition to sugar-free options, consumer have also been turning to **dark chocolate**. As such, the consumption of dark chocolate, which is believed to benefit heart diseases and reduce stress²¹, is expected to grow at a CAGR₂₀₋₂₇ of **6.03%**²². Companies in the premium chocolate sector, such as L&S, are anticipated to be the ones benefiting more from this trend, as many are already acquainted with these types of products.

▪ Macroeconomic Trends

Increase in the Global Domestic Product (GDP): The evolution of the GDP signals the direction of a country's economic health, and thus it is important to reflect on the future GDP as it has a direct impact on the businesses.

The global GDP is expected to grow at a CAGR₂₁₋₂₆ of approximately **5.45%**

¹⁶ International Monetary Fund (IMF)

¹⁷ Kauffman, Dana. 2020. "Cardiovascular Disease Burden, Deaths Are Rising Around the World." *American College of Cardiology*.

¹⁸ European Commission

¹⁹ 2020. *Sugar-free Confectionery Market Size, Share & Trends Analysis Report*. Grand View Research.

²⁰ Barclays

²¹ Harvard

²² 2021. "The Worldwide Dark Chocolate Industry is Expected to Reach \$71+ Billion by 2027." *Business Wire: A Berkshire Hathaway Company*.

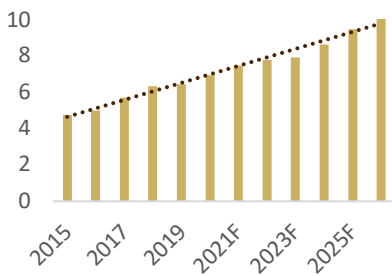


Exhibit 30: Global Sugar-Free Products Market Size from 2015 to 2016 in bUSD
(Source: Fortune Business Insights)

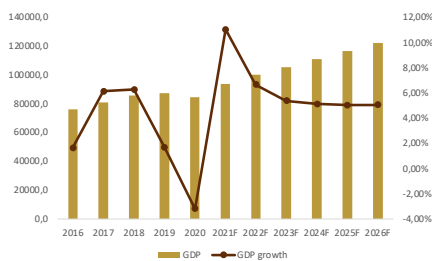


Exhibit 31: Forecasted Global GDP Growth, values in bUSD
(Source: IMF)

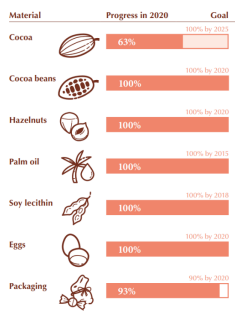


Exhibit 32: L&S's Sustainable Cocoa Progress
(Source: Company Report)

(Exhibit 31). This overall growth is a good sign as consumers tend to become more willing to spend money in non-essential items like chocolate.

Decrease of the World Population Growth: The development of a country's population directly impacts the market size, which is, on itself, a driver of sales.

The world population is expected to grow at a CAGR₂₁₋₃₇ of **0.86%**²³. Although it will keep growing in the next years, this will be at a **slower pace** than what it is currently, which may affect the market size of several companies in the industry.

Increase in Inflation: Brought by COVID-19, there has been an upward pressure in prices leading up to rising and concerning values of inflation. Switzerland's inflation rate was **0.44%**, in 2021, and is expected to grow at a CAGR₂₁₋₂₄ of **26.47%**²⁴. This trend may further affect consumer's purchasing power and create a massive shock in the industry forecasts, potentially representing constraints to the business of Switzerland companies.

▪ Sustainability Concerns

In the last years, consumers have been more aware about the industry's supply chain and environmental footprint. Therefore, companies in the market, including L&S, have been taking actions towards creating a more sustainable production process while improving their environmental footprint.

A more sustainable supply chain: As previously mentioned, the cocoa supply chain has a lot of sustainability concerns that required attention and action. Having in mind these concerns, many companies, have been taking measures to improve their sustainability issues.

For instance, through the years, L&S has been setting a lot of sustainability goals and many, such as having **100% traceable and externally verified cocoa beans**, have been accomplished. However, there are still some very important goals in the works. Regarding **Rural Development**, L&S proposed that by 2025, 100% of their cocoa will be sourced through sustainability programs, following the same path as other raw materials. As of 2020, this number was reported to be **63%** (Exhibit 32). Concerning **Human Rights**, the aim is that by 2025, 80% of their procurement for raw and packaging materials, posing significant sustainability risks, will be covered by a sustainable procurement program. Moreover, L&S supports the Ghanaian government's initiative of **Living Income Differential (LID)**,

²³ Our World in Data

²⁴ International Monetary Fund (IMF)

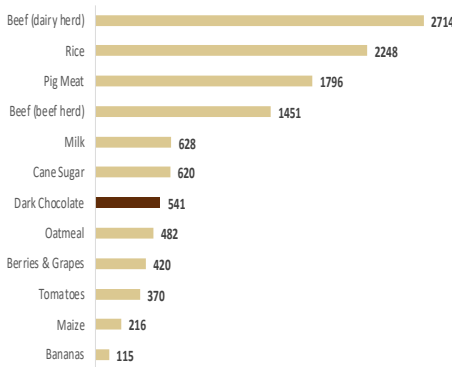


Exhibit 33: Dark Chocolate Water waste in comparison with other products per 1000kg
(Source: Our World in Data)

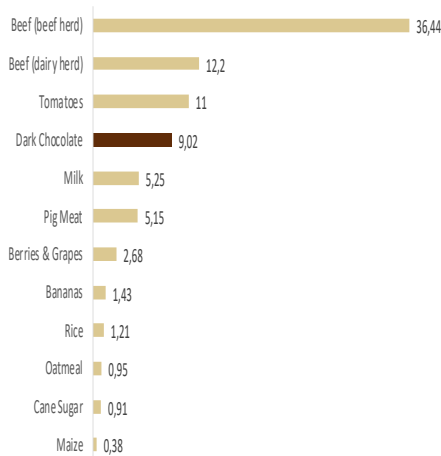


Exhibit 34: Dark Chocolate Greenhouse emissions in comparison with other products per 1000kg
(Source: Our World in Data)

that attempts to eradicate child labour and improve farmers livelihoods, by paying a **price premium of \$400** on top of the market price paid for every ton of consumer cocoa bean bought to Ghanaian farmers.

In addition to this, L&S created the **Farming Program** in 2008 with the aim of reducing the risk of child labour and improve the community's infrastructure. Since its beginning, **47m US dollars have been invested** in this program, 12m US dollars solely in 2020.

Similarly to L&S's, companies like Hershey's and Barry Callebaut are also taking measures to fight these supply chain concerns. Hershey's goal is to have 100% of the cocoa farmers in its supply chain covered by Child Labour Monitoring²⁵ and Remediation Systems, by 2025, and Barry Callebaut is aiming to fulfil the goal of taking more than 500 000 cocoa farmers out of poverty and eradicating child labour in their supply chain by 2025.

Rising Environmental Concerns: Increasingly environmental awareness is making an impact in today's society, boosted by the growing number of activists and the widening concern about the future of the world. As such, companies are looking towards making their brand as sustainable as possible, having in mind **deforestation, levels of CO2 and greenhouse gases, consumption of water and the waste products created.**

Chocolate production is a process that contributes a lot to these environmental problems: cocoa extraction creates deforestation²⁶, and its production process puts chocolate ahead of many products in terms of the usage of high amounts of water (Exhibit 33) and the emission greenhouse gases (Exhibit 34). These concerning numbers, along with the growing awareness of environmental problems, are making companies re-evaluate their goals. As such, in the future, L&S is looking forward to use **deforestation-free cocoa** by 2025, by planting trees that are more productive and climate resistant and by using specific farming techniques to boost the existing cocoa farms' productivity.

Additionally, L&S wishes to **reduce chocolate waste, per ton produced, by 50%** until 2025 and to **cut down their water use by 10%**, per ton produced.

Companies such as Mars or Barry Callebaut are already ahead of its peers in the sustainability awareness development. For instance, Mars mapped the cocoa genome to find which type of cocoa trees are more efficient and thus, more resistant to climate, while Barry Callebaut's is believed to be the

²⁵ The Child Labor Monitoring is done by the International Labour Organization. It monitors underage youngsters ensuring the legally employed are safe from exploitation and hazardous jobs.

²⁶ World Wild Life (WWF)

“first cocoa processor to be reforesting and carbon positive”, if it achieves their “Forever Chocolate” initiative target of having all sustainable chocolate by 2025.

Forecast

Sales

As mentioned earlier, Lindt & Sprüngli total revenues are divided in three segments – **Europe**, **North America**, and **Rest of the World** – and these segments revenues are broken down into two value drivers: **Market Size of industry** and **Market Share of the segments**. Thus, sales value for each segment is given by the formula: **Sales = Market Size of industry * Market Share of segment**.

Market Size corresponds to the total market sales and its evolution relies on the previously discussed market trends, such as the **rising dark chocolate consumption**, **expansion of sugar-free chocolate market**, **growing e-commerce** and **decreasing population growth**. To forecast this item, an external market analysis on these trends and how they will impact the company was performed.

The rising consumption of dark chocolate is expected to have a **positive effect** on the industry’s market size, as people tend to worry more about their health and well-being and tend to pick better options to improve their lifestyle. This trend is expected to **positively impact** L&S, leader in the premium sector and best known for its dark chocolates. Since the firm is already highly committed in this type of product, it is expected to impact the market size at a **lower rate**, **1.2%**, than other trends. Nonetheless, its influence on the market size of the industry is still expected as demand will grow. Between 2021 and 2024, they will experience an added growth of **0.05%** per year and from 2025 to 2029, the added growth expected is **0.04%**, per year.

The expansion of the sugar-free market is also expected to have a **positive influence** on the industry’s market size, as it is also a trend brought by the increased health concerns. Thus, this trend is believed to impact the market size of the industry in **1.60%** in 2021, having an added growth in the three following years of **0.09%** per year and from 2025 to 2029 of **0.04%** per year, since we believe the demand for this product will experience a boost over the years.

E-commerce is a growing trend across almost all industries and L&S is slowly starting to **leverage its sales** from it. However, there is still room to

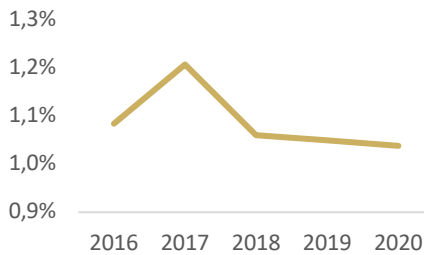


Exhibit 35: Population Growth from 2016 to 2020

(Source: Our World in Data)

	Europe	North America	RoW
2021-2024	0,002%	0,002%	0,004%
2025-2029	0,001%	0,001%	0,002%
2030-2037	0,000%	0,000%	0,001%

Exhibit 36: Market Share Growth forecast

(Source: Analysts Estimates)

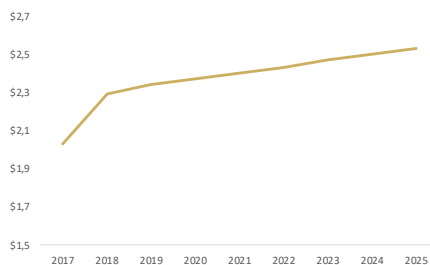


Exhibit 37: Forecast Growth of Cocoa Prices from 2017 to 2025

(Source: World Bank)

benefit from this trend and use it to boost their future growth as it is anticipated that L&S's full implementation of e-commerce will make their products more accessible in the future. Thus, this trend is predicted to impact the market size of the industry, starting at a growing rate of **1.70%** in 2021 and having an added value per year of **0.07%** from 2021 to 2024 and of **0.05%** from 2025 to 2029.

Finally, population growth also has a positive influence on this figure. However, as this **growth has been decreasing** throughout time (Exhibit 35), it is expected to **decrease in the future**.

Market Share of the segments is the percentage that the company owns on the segment of the overall market. In order to forecast this figure, careful research was carried out on the business expansion of the segments, while considering the past figures of the company. In 2020, the market share was **higher in Europe**, a trend that is expected to continue for the following years, as it is the segment with the highest growth rate and with the most forecasted consumption of chocolate²⁷. Despite this, it is expected that the market share of the **Rest of the World segment experiences a development**, as this segment is composed of countries that are anticipated to expand in the future and thus, are potential economies for L&S's growth. Therefore, the European and North America segments are anticipated to grow **0.002%** per year from 2021 to 2024, while the Rest of the World segment is expected to grow **0.004%** per year. In the years leading up to 2037, the ROW segment continues to **grow at a higher rate** than the rest of the segments (Exhibit 36).

Costs

Similarly to Total Revenues, Total Costs are also divided by the same three segments. In all these, costs are separated between **Material Expenses, Changes in Inventories, Personnel Expenses, Operating Expenses and Depreciation, Amortization, and Impairment**.

Material Expenses are the costs that L&S incurs when purchasing the goods necessary for its production process, which includes raw materials. The **price of cocoa growth** is the main driver of this cost as it is the raw material used for all chocolate production and its evolution is in line with the one determined by the World Bank until 2025. Considering these values have been on a growing streak (Exhibit 37), they are **expected to keep increasing in the future** at an added value of **0.1 US dollars per year**, until

²⁷ Statista: Worldwide Chocolate Consumption by country

2037.

Changes in Inventories refers to the costs that the company previously had with manufacturing sold in that year. This cost movements are dependent on its **percentage of sales**, and this caption is expected to stay at an average of the last three years, for 2021, stabilizing in the following years.

Personnel Expenses are the costs that the company has with its employees. This cost is linked with the costs per employee and the **number of employees**, which are not disclosed by the company for each segment, so these items were allocated to each segment using their respective percentage of sales. The cost per employee has **remained constant** throughout the years and thus, is believed to stay the same in the future. As for the number of employees, it is assumed to grow at a rate of **0.5%** per year between 2021 and 2029, due to the need of more employees as their business recovers and grows.

Operational Expenses are the costs that directly relate with L&S's production of chocolate. Its development **relies on the aforementioned trends**: rising dark chocolate consumption, expansion of the sugar-free chocolate market and growing e-commerce. Despite its positive effect on the market size of the industry, the rising **consumption of dark chocolate** is a trend that is heavily **dependent on marketing and advertisement costs** as well as **packing costs**. Therefore, it is expected this trend increases operating expenses across all segments. As such, operating costs linked with this trend are expected to grow in Europe and North America at a rate of **1.90%** starting in 2021, while its rate in the RoW segment starts at **2.30%** in 2021, as it represents the countries where L&S is most interested in expanding, as previously mentioned. Afterwards, the operating costs related to this trend will grow **1%** per year until 2024 and **0.4%** per year between 2025 and 2029, for all segments.

The expansion of the sugar-free chocolate market relies mainly on **marketing, advertisement, and R&D costs**, as they need to promote new products and develop new recipes, packaging and product lines to include in their portfolio. Therefore, operating costs are expected to grow in Europe and North America at a rate of **2%** starting in 2021, while its rate in the RoW segment starts at **2.60%** in 2021. Afterwards, from 2025 to 2029, the operating costs related to this trend will grow by **1.15%** per year until 2024 and **0.5%** per year until 2029, for all segments.

E-commerce is the trend that will influence operating costs the most as it has **marketing, distribution and R&D costs**, related with website development, associated. With this, operating costs are expected to grow in Europe and North America at a rate of **2.10%** starting in 2021, while its rate

in the RoW segment starts at **2.70%** in 2021 due to the reasons previously mentioned. Afterwards, the operating costs related to this trend will grow **1.20%** per year until 2024 and **0.6%** per year from 2025 until 2029, for all segments.

Depreciation, Amortization, and Impairment cost caption is the one that relates to the decline in value of **fixed assets** such as buildings, machinery, and intangible assets. This cost is forecasted to change as an average of the percentage of Property Plant and Equipment since this caption is the one that impacts the most this type of cost.

PP&E

This caption has been highly constant throughout the years and such, it is forecasted to continue that way. The e-commerce trend is **not believed to impact the number of stores**. Consequently, number of stores is forecasted to stay the same for the following years, as these represent a key component for brand awareness.

Sustainability

Being a sustainable company is one L&S's biggest goals for the future and as such, the company is already working on investing in their sustainable tomorrow. As such, it is forecasted that **this investment will keep being accounted in the company's figures** in the future in the **same percentage as previously**.

Nominal GDP Growth

The nominal GDP growth is a growth computed by taking into account the real GDP growth and the inflation growth. Both growths were forecasted in line with the forecast done by the IMF until 2026. Afterwards, inflation is expected to drop **-0.2%** per year and real GDP growth is expected to fall **-1.10%** per year, since the nominal growth rate is expected to remain stable in the future, at a growth rate of **2.15%**.

Every caption in sales and in expenses, apart from changes in inventories, is expected to **grow at the economic rate**, from 2030 onwards.

Payout Ratio

The payout ratio is the percentage of earnings paid to shareholders. In 2021, these are expected to be an average of the previous three years and, as for the rest of the years, this value is expected to **stabilize at the same value as the one in 2021, 80.8%**, which is a satisfactory value for

shareholders.

Valuation

Discounted Cash Flow

- Cost of Debt, Cost of Equity and WACC

Cost of Debt: To achieve L&S's cost of debt, the yield-to-maturity (YTM) of long-term debt, the probability of default (PD) and the loss given default (LGD) were calculated. L&S's longest-term outstanding bond, which matures in 2032, is currently trading at 250m CHF and had a coupon of 0.25%, which implies a YTM of **0.25%**. Considering the firm's credit rating of A1, Moody's proxies were used in order to compute the PD and LGD, which resulted in **0.07%** and **551.73%**, respectively. Considering this, the cost of debt (Rd) resulted in -0.14% (Exhibit 38).

Cost of Equity: In order to compute the cost of equity (Re), the market risk premium (MRP), the risk-free rate (Rf) and the average levered beta were estimated. According to literature, the MRP is considered to range between the values of 4% and 6%, hence a MRP of **5%** was assumed. The risk-free rate was considered to be **-0.1%**, using the most recent 10-year Swiss Government bond return. Finally, the average levered beta was achieved by computing a simple average of L&S historical raw beta, using the historical share prices, the 10-year Swiss government bonds and the MSCI Switzerland weekly data for the past three years to perform a regression, and the industry's historical average beta unlevered, using the peers adapted inputs to perform the regression. The average levered beta was estimated to be **0.74** with a 0.06 standard error and a 95% confidence interval of [0.62; 0.87], as shown in Exhibit 39.

Using the Capital Asset Pricing Model (CAPM), the Re was estimated to be **3.63%**.

Weighted Cost of Capital (WACC): Considering that the debt-to-equity ratio stays stable over the years²⁸, the WACC was used. Assuming the corporate tax rate of Switzerland to be 14.9%, the previously computed values for Re and Rd and the estimates of equity and debt, the WACC was estimated to be **3.18%**.

- Steady State: RONIC, ROIC and g

The growth rate assumed to be the steady-state one and the one computed

Rd estimation:

YTM	0,25%
Rating	A+ / A1
PD	0,07%
LGD	551,73%
Rd	-0,14%
Rd Check test	-0,14%

Exhibit 38: Rd estimation
(Source: Analysts Computations)

	Lindt & Sprüngli	Mondelez	Hershey	Barry Callebaut	Rocky Mountain	Nestlé
Beta	0,74	0,76	-0,30	0,84	1,38	0,74
Standard Error	0,06	0,05	0,06	0,07	0,16	0,05
t-stat	11,89	15,31	-4,97	11,98	8,35	15,89
P-value	0,00	0,00	0,00	0,00	0,00	0,00
Lower 95%	0,62	0,66	-0,42	0,70	1,05	0,65
Upper 95%	0,87	0,85	-0,18	0,98	1,70	0,83

Exhibit 39: Beta estimation
(Source: Analysts Computations)

²⁸ Companies' Reports

using the NOPLAT growth in the last year of the economic convergence was estimated to be equal to **2.70%**, which is a fair expectation of the nominal GDP growth. This growth rate started stabilizing in 2031 and is in line with the growth rate computed by multiplying the return on new invested capital (RONIC) and the reinvestment rate (RR). Both these figures started stabilizing in 2031 and reached steady-state values, in 2037, of **5.99%** and **45.13%**, respectively, indicating that the return on invested capital (ROIC) will tend to a similar value to RONIC, **5.31%**.

Considering that L&S is one of the oldest and most successful companies in the industry and the market leader in the premium segment, the **barriers to entry are considered high**, indicating a competitive advantage and thus, the **ROIC (5.31%) will not converge with WACC (3.18%)** and the company will continue to **create value to its shareholders**.

■ DCF Results

The first model used to value L&S target price was the Discounted Cash Flow Model (DCF), since the forecasted D/E ratio is expected to remain stable over the years. By applying a forecast horizon from 2022 to 2037 and all the assumptions mentioned above, a share price of **128 478.41 CHF** was reached for 2022. This value is a fair expectation since it reflects the **estimates for the future of the company**.

Multiples Valuation

In order to better understand how the market perceives the value of L&S a forward multiples valuation was performed using three valuation ratios - **Enterprise Value to EBITDA, Enterprise Value to Sales and Price to Earnings** - and comparing these ratios between L&S and the selected public²⁹ peers mentioned previously.

The EV-to-EBITDA ratio indicates investors how many times they would need to pay EBITDA if they were to acquire the business and leads to L&S's share price to range between **76 409.43 CHF** and **201 841.61 CHF**, with an industry average multiple of **17.78x**, that corresponds to a share price of **123 793.31 CHF**. The Enterprise Value- to-Sales ratio, that gives investors an idea of how to value the company based on its sales, suggests that L&S's share value ranges between **45 761.57 CHF** and **193 664.24 CHF**, with an industry average multiple of **3.78x** corresponding to **120 934.32 CHF**. The Price-to-Earnings ratio, highly used as it measures the willingness of investors to pay per each CHF of earnings, signals L&S's share price to

	EV/EBITDA	EV/Sales	P/E
Lindt	28,56	5,96	68,23
Mondelēz	16,69	3,53	20,33
Hershey's	17,04	4,47	24,74
Barry Callebaut	15,11	1,72	27,30
Rocky Mountain	11,23	1,52	21,20
Nestlé	18,03	5,46	25,96
Average	17,78	3,78	31,29
L&S EBITDA	981,11	-	-
L&S Sales	-	4515,43	-
L&S Net Income	-	-	529,16
Implied EV	17440,81	17053,27	16559,04
Net Debt	660,38	660,38	660,38
MV Equity	16780,43	16392,89	15898,66
Implied Share Price	123 793,31 CHF	120 934,32 CHF	117 288,25 CHF

Exhibit 40: Multiples Valuation Table

(Source: Analysts Computations)

²⁹ There are others companies which may represent L&S's value better, but are not listed in the market.

range between **261 478.2 CHF** and **74 490.6 CHF**, with an industry average multiple of **31.29x** that results in a share price of **117 288.25 CHF**.

All the multiples implied that the share price in the 31st of December 2022, which can be seen in Exhibit 40, will be higher than the current stock price, a similar conclusion to the DCF model.

	Beta			
Rd	3,18%	0,62	0,74	0,87
	-0,41%	2,59%	3,14%	3,68%
	-0,14%	2,62%	3,16%	3,71%
	0,03%	2,64%	3,18%	3,72%

Exhibit 41: WACC Sensitivity Analysis

(Source: Analysts Computations)

	RONIC			
RR	2,70%	3,18%	5,99%	6,16%
	7,91%	0,25%	0,47%	0,49%
	45,13%	1,43%	2,70%	2,78%
	57,16%	1,82%	3,42%	3,52%

Exhibit 42: Growth Rate Sensitivity Analysis

(Source: Analysts Computations)

	WACC			
G	128 478,41 CHF	2,59%	3,18%	3,72%
	0,25%	73 313,94 CHF	63 785,77 CHF	57 747,22 CHF
	2,70%	-384 274,96 CHF	128 478,41 CHF	76 922,32 CHF
	3,52%	2 135,28 CHF	-53 760,71 CHF	186 515,36 CHF

Exhibit 43: Share Price Sensitivity Analysis

(Source: Analysts Computations)

Sensitivity Analysis

Since the outputs of the discounted cash-flow model were based on assumptions, which come with a degree of uncertainty, three sensitivity analysis were performed with the goal to achieve the range of values of the target share price.

We began by doing a sensitivity analysis on the **Weighted Average Cost of Capital (WACC)**, by considering a 95% confidence interval for L&S's average leverage beta and by ranging the cost of debt (Rd) between its value if L&S either dropped or increased its current credit rating (A1 according to Moody's). With this, the WACC values could range from **2.59%** to **3.72%** (Exhibit 41).

Afterwards, the sensitivity analysis to the long-term growth rate (G) was conducted by varying the RONIC from the WACC value estimation, where ROIC would tend to the WACC and L&S would not be destroying nor creating value, to RONIC plus the WACC and by changing the Retention Rate (RR) between its maximum and minimum of the last years. The long-term growth rate values range between **0.25%** and **3.52%** (Exhibit 42).

Finally, a sensitivity analysis was performed on the target share price considering the range of values for the WACC and the long-term growth rate. This disclosed how **sensitive the target share price is** to changes in the WACC and the growth rate, as it ranges from **73 313.94 CHF** to **186 515.36 CHF** (Exhibit 43).

Risks

Cocoa Beans' Price Increasing

Being a chocolate producer, L&S needs to buy raw materials needed for the chocolate production. These acquisitions are made in the market which results in the company being **subject to price fluctuations**, emerging from market speculations, adverse weather conditions limiting the harvest or increasing demand due to festivities.

Although L&S works with several raw materials, cocoa beans are by far the

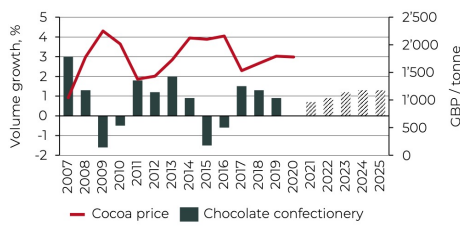


Exhibit 44: Global Chocolate Confectionery volume vs Cocoa Bean Prices

(Source: Barry Callebaut's Publications)

most used, as previously mentioned, and, therefore, pose a higher risk for the company. An increase in the cocoa beans price would lead to a substantial rise of the material costs and to a consequent decrease of the company's profits. Adding to this, there is a **negative correlation between sales' and cocoa prices growth** as sales' growth tend to be lower in the years where cocoa prices are higher, as seen in Exhibit 44.

As previously mentioned, there are two different types of beans used by L&S, the consumer cocoa and fine-flavor cocoa, which are sourced from different countries.

Ghana's sourced cocoa production, well known for its **high quality**, exceeded last season, 1m tonnes of *Forastero* beans (consumer cocoa), for the first time in the last decade. However, the prospects for the harvest season of 2021-2022 are not so optimistic as, according to the Bank of Ghana, **Ghana's cocoa production is expected to decline by 10%**³⁰. Moreover, the introduction of the Living Income Differential in Ghana, led to Ghana increasing its farm gate price in **28% last season**³¹, and this trend is expected to continue in the next years. This is not good news for L&S as it may not only lead to a decrease of the exports, but also to being charged higher prices and, since Ghana is their main source of consumer cocoa, it can have **great damage** on the production process and numbers.

Among the fine-flavour cocoa producing countries, Ecuador is the **biggest producer** having cropped approximately **328 000 tonnes** of cocoa beans in the last season. However, the stock of trees planted with fine-flavor cocoa beans is either ageing or not irrigated and suffering from water stress and, Without the money for investment in the farms, there may be a **lack of production**, which can potentially harm L&S's operational process. The remaining countries together do not reach Ecuador's level of production and, consequently the risks of problems with these countries' cocoa production are not significant to compromise L&S's chocolate production.

Although L&S's **already hedges this operational risk through derivatives**, an unexpected increase as the one described **may not be totally covered** in their derivative's hedge, which could lead to losses in L&S's figures and a potential need to for a **bigger investment in derivatives** to cover for these losses.

To better understand the impact of this risk in L&S's share price, three different scenarios were considered. A **good scenario**, where the growth of cocoa bean prices decrease **0.08%** per year compared with the previously

³⁰ Bank of Ghana

³¹ Fountain, Antonie C., and Friedel Huetz-Adams. 2020. *Cocoa Barometer*. Voice.5

forecasted growth, happening with a **5% probability**, could lead to a decrease of L&S's material costs and to a higher profit, consequently resulting in a share price increase to **134216.13 CHF**. A **"as is" scenario**, where prices would remain as predicted, could happen with an **80% probability** and could have no additional impact in the company's numbers, since the forecasted numbers in this scenario are already incorporated in the share price. A **Bad scenario**, where the growth of the cocoa prices could increase **0.08%** per year compared with the previously forecasted growth, happening with a **15%** probability, could lead to higher material costs and overall lower profits originating a decrease of the share price to **122735.59 CHF**.

The changes in the growth of cocoa bean prices considered in both the good and bad scenarios were achieved by computing a standard deviation of the values of the prices' growth from 2016 to 2037, using the forecasted values. As for probabilities, there is an 80% chance the "as is" scenario will happen, following World Bank's forecast. However, by looking at the historical prices, despite the volatility felt, there has been a tendency for cocoa prices to rise, as seen by the trend line in Exhibit 37, and thus, a **scenario where cocoa prices' growth rises more than expected is more likely** to happen than one where this growth decreases.

Full Lockdown

Currently more than half of the World population has received at least one dose of the vaccine against COVID-19. However, the easing of restrictions in most countries combined with the cooler weather and surge of new variants has led the number of cases in Europe to increase exponentially, leading to the lockdown of some European countries³². Additionally, Germany, one of L&S's most important markets, also has all its unvaccinated people, representing approximately 30% of the population, in lockdown³³. The world returning to lockdown could represent a **major risk for L&S**, as, similarly to what happened in 2020, it could not only lead to the closure of own stores but to air travel restrictions, **severely impacting its duty-free business** and significantly decreasing the **number of visitors of L&S's Home of Chocolate**, another source of revenues. Moreover, if the lockdown coincided with the holiday season, restricting family gatherings, the company's **seasonal sales could be severely affected** since their

³² Goulding, R. (2021). Covid in Europe: which countries are in lockdown and what are the rules? *The Times*.

³³ Schmidt, N., & Pleitgen, F. (2021). <https://edition.cnn.com/2021/12/02/europe/germany-lockdown-covid-restrictions-intl/index.html>. *CNN*.

holiday special packages could not be sold in such volume as in previous years.

In addition to the direct impacts this risk would have for the company, indirect effects also need to be considered: A new lockdown, similar to the one in 2020, could most certainly dispute a **new economic recession**, leading to a sharp decline of GDP, to an increased rate of unemployment and an overall rise of poverty. Taking the example of the United States, the country saw its economy reducing **19.2%** in 2020³⁴ due to COVID-19, which led L&S's and Russel Stover's organic sales to decrease **1.4%** and **12.9%**³⁵, respectively. These numbers are directly linked as consumers would become less likely to spend money on a non-essential good like chocolate and even less on a premium brand such as L&S.

A new lockdown could **severely impact cocoa farmers**. The rise of living costs combined with the decrease of the cocoa bean price, due to the reduced demand for chocolate, could further **increase the farming community poverty**. Moreover, the closure of schools, due to the lockdown, could leave children even **more vulnerable to child labour**. All conflicting with L&S's sustainability goals and contributing to possible fluctuations in supply.

Different scenarios were considered in order to understand the impact of a lockdown in L&S's share price; The **Good scenario** considers full COVID-19 recovery as of this moment, which we consider could happen with a **0.5%** probability. This scenario would lead to an increase of sales of **0.11%** per year as it would allow L&S's duty-free business to increase with people being able to travel freely and seasonal sales would be back to normal, which would result in an overall share price of **132854.81 CHF**. The "as is" scenario, where restrictions stay as predicted, could happen with a **95%** probability, and could have no additional impact on the forecasted share price, since the predicted values in this scenario are already incorporated in the share price. Finally, the **Bad scenario**, where a full lockdown happens, similar to the one in March of 2020, could happen with a **4.5%** probability due to the high vaccination rates, the preventive measures taken so far and the potential economic recession, and could mean L&S stores closing, minimal air travelling causing little duty-free business and decreased seasonal gifting, this would result in a decrease of the share price to **123686.61 CHF**. This scenario could not only affect overall sales by **-0.11%**, but also have an increased negative impact in the RoW segment sales of -

³⁴ Reuters

³⁵ Company Report

0.18% and a shock in the operating expenses of all segments of **-0.03%**.

The changing values in the good and bad scenarios were achieved by computing standard deviations of the captions affected, from 2019 to the 2020, which were the main years considered for this lockdown analysis. Given the current state of the world where some countries are already in a lockdown state due to the rising numbers of COVID-19, the event of a **bad scenario occurring is more probable** than the expectation of a good scenario occurring and, consequently, the good scenario has a lower probability of happening.

The summary of the impacts of each scenario on the share price can be seen in exhibit 45.

Share Price		Cocoa Prices Decreasing		
		Good	As is	Bad
Lockdown	Good	138 609,56 CHF	132 854,81 CHF	127 089,58 CHF
	As Is	134 216,13 CHF	128 478,41 CHF	122 735,59 CHF
	Bad	129 407,40 CHF	123 686,61 CHF	117 966,77 CHF

Exhibit 45: Scenario Analysis Results

(Source: Analysts Computations)

Conclusion & Recommendations

The multiples valuation is a relative valuation method, meaning that it only measures the expectations that are incorporated in the prices and is based on the presuppose that the market is accurately valuing the peers' group, which might not always be the case. In addition, this method relies on the law of one price³⁶ and the comparable chosen may not correctly represent the company's figures. The DCF valuation is a method that incorporates the estimates for the company's future in its final share price.

Considering this, although both valuations yield the same investor's strategy, DCF is believed to be the most accurate method to value this company. Thus, our recommendation is for investors to **BUY** Lindt & Sprüngli stock. This strategy will yield capital gains of **14 278.41 CHF** and dividend gains of **370.51 CHF** resulting in an overall return of **11.4%**.

³⁶ Law of One Price – The price of an identical asset will be priced equally globally.

Appendix

Financial Statements

Income Statement Forecast	ANNUITY										CONFERENCE WITH ECONOMY						
	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F	2027 F	2028 F	2029 F	2030 F	2031 F	2032 F	2033 F	2034 F	2035 F	2036 F	2037 F
Total	4,234.97 CHF	4,515.43 CHF	4,802.58 CHF	5,112.29 CHF	5,436.36 CHF	5,780.76 CHF	6,145.79 CHF	6,528.42 CHF	7,035.99 CHF	7,588.96 CHF	7,345.24 CHF	7,448.08 CHF	7,834.79 CHF	8,055.11 CHF	8,176.14 CHF	8,351.95 CHF	8,351.95 CHF
Master Star	302,082.01 CHF	315,640.71 CHF	326,797.15 CHF	340,085.21 CHF	354,735.36 CHF	370,950.22 CHF	388,094.27 CHF	407,082.24 CHF	427,351.38 CHF	449,339.57 CHF	434,542.89 CHF	436,925.21 CHF	454,058.27 CHF	471,884.72 CHF	479,883.16 CHF	488,501.57 CHF	488,501.57 CHF
Europe	2,128.41 CHF	2,232.32 CHF	2,350.22 CHF	2,483.95 CHF	2,633.59 CHF	2,802.33 CHF	2,993.72 CHF	3,212.27 CHF	3,463.07 CHF	3,741.41 CHF	3,551.41 CHF	3,631.86 CHF	3,739.36 CHF	3,783.73 CHF	3,871.22 CHF	3,944.48 CHF	4,039.49 CHF
North America	1,624.94 CHF	1,722.75 CHF	1,833.49 CHF	1,948.51 CHF	2,068.16 CHF	2,200.00 CHF	2,342.51 CHF	2,497.93 CHF	2,667.50 CHF	2,851.24 CHF	2,763.36 CHF	2,843.82 CHF	2,947.41 CHF	3,033.24 CHF	3,096.42 CHF	3,143.20 CHF	3,143.20 CHF
Rest of the World	503.43 CHF	540.27 CHF	581.79 CHF	628.56 CHF	676.26 CHF	725.22 CHF	775.26 CHF	827.41 CHF	882.43 CHF	940.19 CHF	908.19 CHF	931.15 CHF	972.26 CHF	996.14 CHF	1,019.42 CHF	1,042.24 CHF	1,062.81 CHF
Other Income	18.41 CHF	30.59 CHF	33.89 CHF	33.21 CHF	24.78 CHF	24.41 CHF	28.14 CHF	28.14 CHF	38.05 CHF	32.09 CHF	158.58 CHF	157.94 CHF	161.37 CHF	168.88 CHF	168.47 CHF	172.13 CHF	175.87 CHF
Non-core Business	-3.66 CHF	-3.78 CHF	-3.92 CHF	-4.18 CHF	-4.47 CHF	-4.80 CHF	-5.20 CHF	-5.67 CHF	-6.19 CHF	-6.84 CHF	-7.04 CHF	-7.21 CHF	-7.38 CHF	-7.55 CHF	-7.72 CHF	-7.89 CHF	-8.06 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Core Result before taxes	467.73 CHF	573.38 CHF	653.74 CHF	708.26 CHF	773.30 CHF	867.04 CHF	944.51 CHF	1,030.43 CHF	1,137.61 CHF	1,244.85 CHF	1,104.20 CHF	1,196.36 CHF	1,290.52 CHF	1,377.69 CHF	1,457.76 CHF	1,544.83 CHF	1,635.90 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Non-Core Business	3.66 CHF	3.78 CHF	3.92 CHF	4.18 CHF	4.47 CHF	4.80 CHF	5.20 CHF	5.67 CHF	6.19 CHF	6.84 CHF	7.04 CHF	7.21 CHF	7.38 CHF	7.55 CHF	7.72 CHF	7.89 CHF	8.06 CHF
Financial	33.17 CHF	41.94 CHF	54.46 CHF	64.54 CHF	80.49 CHF	101.31 CHF	124.09 CHF	150.84 CHF	182.49 CHF	219.94 CHF	177.21 CHF	187.82 CHF	198.35 CHF	208.97 CHF	219.82 CHF	230.84 CHF	242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
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Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
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Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF	1,308.05 CHF	1,168.20 CHF	1,260.26 CHF	1,354.42 CHF	1,441.29 CHF	1,521.36 CHF	1,604.71 CHF	1,691.81 CHF
Financial	-33.17 CHF	-41.94 CHF	-54.46 CHF	-64.54 CHF	-80.49 CHF	-101.31 CHF	-124.09 CHF	-150.84 CHF	-182.49 CHF	-219.94 CHF	-177.21 CHF	-187.82 CHF	-198.35 CHF	-208.97 CHF	-219.82 CHF	-230.84 CHF	-242.14 CHF
Core Result	544.75 CHF	650.40 CHF	730.76 CHF	785.48 CHF	850.79 CHF	944.44 CHF	1,021.70 CHF	1,107.58 CHF	1,203.80 CHF								

Balance Sheet Forecast

	ANNUITY										CONVERGENCE WITH ECONOMY						
	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F	2027 F	2028 F	2029 F	2030 F	2031 F	2032 F	2033 F	2034 F	2035 F	2036 F	2037 F
Core Business																	
Operating Cash	212,75	225,77	240,02	255,64	271,75	289,54	308,49	329,43	351,80	359,45	367,26	375,25	383,40	391,74	400,26	408,94	417,85
Of sales	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	5,06	
Property, plant and equipment (non-core)	791,03	805,43	820,49	835,63	851,05	866,75	882,74	899,03	915,62	932,51	949,72	967,24	985,09	1003,27	1021,78	1040,64	1059,85
Growth	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	
Right-of-use assets	428,70	454,94	483,67	513,13	547,59	583,44	621,63	663,82	708,90	724,31	740,06	756,15	772,58	789,38	806,54	824,07	841,99
Of sales	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	10,1%	
Intangible assets (non-core)	470,92	499,75	531,30	565,86	601,52	640,90	682,85	729,00	778,72	795,65	812,94	830,62	848,67	867,12	885,98	905,24	924,92
Of sales	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	
Deferred tax (non-core)	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	16,63	
see notes	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
Inventories	728,82	755,80	794,78	846,42	910,74	1 000,61	1 112,23	1 252,74	1 425,68	1 456,34	1 487,65	1 519,64	1 552,31	1 585,66	1 619,78	1 654,67	1 690,39
Average Holding Period	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	77,6	
Accounts receivable	995,44	1 056,37	1 123,06	1 196,12	1 271,49	1 354,73	1 443,40	1 541,39	1 646,05	1 681,83	1 718,40	1 755,75	1 792,92	1 830,91	1 869,72	1 909,36	1 950,80
Average Collectible Period	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	85,4	
Other receivables	130,16	138,12	146,84	156,40	166,25	177,13	188,73	201,54	215,23	219,90	224,69	229,57	234,56	239,64	244,87	250,19	255,63
Of sales	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	3,1%	
Accrued income and prepayments	10,50	11,14	11,84	12,61	13,41	14,28	15,22	16,23	17,36	17,73	18,12	18,51	18,91	19,33	19,75	20,18	20,61
Of sales	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	
Derivative assets (non-core)	25,05	26,59	28,26	30,10	32,00	34,10	36,33	38,79	41,43	42,33	43,25	44,19	45,15	46,13	47,13	48,16	49,20
Of sales	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	
Total Core Assets	3 810,01	3 990,75	4 196,91	4 430,54	4 682,43	4 978,11	5 308,25	5 688,84	6 117,41	6 246,69	6 378,71	6 512,55	6 648,25	6 785,91	6 925,60	7 067,33	7 210,04
Other liabilities	6,36	6,75	7,17	7,64	8,12	8,65	9,22	9,84	10,51	10,74	10,97	11,21	11,46	11,72	12,00	12,28	12,58
Of sales	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	
Provisions	86,61	91,91	97,62	103,83	110,47	117,66	125,30	133,14	141,29	146,48	149,77	153,18	156,72	160,38	164,16	168,02	171,91
Of sales	2,0%	2,0%	2,0%	2,1%	2,1%	2,0%	2,0%	2,1%	2,0%	2,0%	2,0%	2,0%	2,0%	2,0%	2,0%	2,0%	
Accounts payable to suppliers	207,71	215,39	225,50	241,22	259,55	285,16	316,97	357,01	406,30	415,04	423,96	433,08	442,39	451,90	461,62	471,54	481,68
Average Payable Period	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	22,1	
Current tax liabilities	62,43	66,25	70,43	75,01	79,74	84,96	90,52	96,66	103,23	105,47	107,76	110,11	112,50	114,95	117,45	120,00	122,61
Of sales	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	
Accrued liabilities and deferred income (non-core)	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	591,77	
see notes	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
Derivative liabilities (non-core)	10,28	10,91	11,60	12,36	13,13	13,99	14,91	15,92	17,00	17,37	17,75	18,12	18,51	18,93	19,35	19,77	20,20
Of sales	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	
Total Core Liabilities	965,15	982,98	1 001,09	1 035,82	1 062,78	1 102,19	1 148,69	1 206,35	1 272,10	1 286,87	1 301,99	1 317,48	1 333,26	1 349,30	1 365,69	1 382,31	1 399,15
Total Core Invested Capital	2 844,86	3 007,77	3 195,81	3 394,73	3 619,66	3 875,92	4 159,56	4 482,49	4 845,30	4 959,82	5 076,72	5 196,07	5 318,99	5 446,61	5 579,91	5 700,04	5 820,79
Non Core Business																	
Property, plant and equipment (non-core)	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67	548,67
Intangible assets (non-core)	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87	888,87
Financial assets (non-core)	1 672,59	1 761,63	1 795,47	1 760,72	1 790,46	1 800,17	1 801,61	1 815,43	1 823,83	1 822,67	1 823,67	1 823,35	1 823,04	1 822,74	1 822,46	1 822,19	1 821,93
Employees	13 625	13 693	13 761	13 830	13 899	13 969	14 039	14 109	14 179	14 179	14 179	14 179	14 179	14 179	14 179	14 179	14 179
Person liability per employee	12,3%	12,9%	13,0%	12,7%	12,9%	12,9%	12,8%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%
Deferred tax (non-core)	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	-438,03	
Provisions	163,31	164,05	161,88	164,72	165,19	165,57	166,81	167,52	168,20	168,38	168,56	168,74	168,92	169,10	169,28	169,46	169,64
Employees	13 625	13 693	13 761	13 830	13 899	13 969	14 039	14 109	14 179	14 179	14 179	14 179	14 179	14 179	14 179	14 179	
Person liability per employee	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	1,2%	
Other accounts payable	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	76,87	
Accrued liabilities and deferred income (non-core)	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	109,83	
Total Non Core Invested Capital	2 322,48	2 410,38	2 446,59	2 408,80	2 438,07	2 447,41	2 450,83	2 460,71	2 468,33	2 467,09	2 468,13	2 467,85	2 468,01	2 468,17	2 468,33	2 468,49	
Total Invested Capital	5 167,34	5 418,15	5 642,41	5 803,52	6 057,73	6 323,33	6 607,16	6 943,20	7 313,63	7 426,91	7 546,85	7 663,92	7 785,07	7 910,75	8 037,90	8 165,84	8 300,22
Financial																	
Non-Operating/Excess Cash	568,83	400,91	280,86	228,85	89,16	-75,34	-281,88	-580,30	-972,35	-1 002,27	-1 216,85	-1 342,61	-1 471,36	-1 602,98	-1 736,82	-1 873,54	-2 013,12
Financial assets (financial)	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
Derivative assets (financial)	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	10,35	
Marketable securities and short-term financial assets	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	1,73	
Bank	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	403,45	
Loans	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	997,40	
Derivative liabilities (non-core)	468,65	463,43	466,04	464,73	465,12	465,06	465,22	465,14	465,18	465,16	465,17	465,16	465,17	465,17	465,17	465,17	
Bank and other borrowings	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40		
Bank and other borrowings	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27	7,27		
Non-Financial Interests	8,33	8,33	8,14	7,58	6,10	8,04	7,96	7,92	8,00	7,98	7,97	7,97	7,98	7,97	7,97	7,97	
Total Financial Assets	-497,68	-640,38	-782,85	-833,00	-873,85	-1 107,04	-1 340,00	-1 642,89	-2 057,07	-2 154,04	-2 292,52	-2 457,57	-2 639,04	-2 826,65	-3 019,49	-3 212,70	
Total Shareholders Equity	4 649,65																

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
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