

A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

EQUITY RESEARCH: LINDT & SPRUNGLI

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Abstract

By implementing a DCF model, we estimated Lindt & Sprüngli market value of share price, incorporating our belief about the future landscape of the business and economy. The work aims at delivering to investors a final strategical recommendation, based on our estimation and actual stock price of the company.

Keywords (up to four)

DCF Valuation, Equity Report, Cost of Capital, Multiple Analysis

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LINDT & SPRÜNGLI

RETAIL AND CONSUMER GOOD

STUDENTS: M. COSTA (34009) & G.P.
OLIVUCCI (34059)

COMPANY REPORT

3RD JANUARY 2020

Premium chocolate

Advance in Europe, Retreat in Asia

- **Market size expansion:** Global chocolate market will expand at a CAGR of 2.98% in the next 10 years, driven by economic growth and shifting consumer preferences. NAFTA region will deliver the highest growth rate with a CAGR of 4.2% as a result of economic expansion.
- **Demographic changes in Asia:** The portion of the population aged 18-44 will pass from 38% to 29% in Asia by 2029, with a consequent impact on Lindt's future sales between 2019 and 2029 estimated at a loss of 1.3 bn CHF.
- **Consumer preferences:** In NAFTA and Europe, it is recorded in one hand an increase of chocolate consumption of respectively, 0.85% & 1% yearly as consumers perceives dark chocolate healthier than salty snacks. On the other hand, 4.5% of consumers in NAFTA and 1.5% in Europe are quitting the market by 2029 as a reflection of health concerns of cocoa butter filled-products.
- **Competition.** Lindor and Lindt Excellence will lead Lindt next store openings (est. new 153 in Europe by 2029) rising market share in *Europe* to 4.67% by 2029. In the US, the increased commercial network of Lindt's competitor Ferrero will play a role in reducing *NAFTA* market share from 7.78% to 6.31% by 2029 for Lindt. *Rest of the world* market share will increase from 1.85% to 1.89% as e-commerce competition mounts and Lindt plans to open new 73 stores by 2029.

Company description

Born and based in Switzerland, Lindt & Sprüngli produces and sells premium-chocolate products in all continents dedicating itself to every aspect of the value chain. From developing countries cocoa beans cropping to Australian retail, Lindt based its success on customer identification with the renowned Swiss chocolate.

Recommendation: HOLD

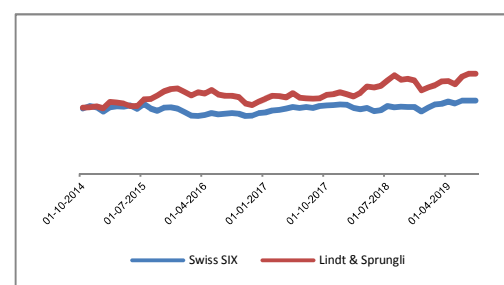
Price Target FY20: 81929 CHF

Price (as of 3-Jan-20) 82900 CHF

Bloomberg: 03/01/2020

52-week range (CHF)	68279-83200
Market Cap (CHFm)	18785.3
Outstanding Shares (m)	0.224

Source: Bloomberg



Source: Bloomberg

(Value in CHF millions)	2019E	2020F	2021F
Revenues Europe	2139,20	2252,23	2366,05
Revenues NAFTA	1683,06	1703,22	1726,41
Revenues Rest of the World	593,12	617,52	642,67
EBITDA Group	799,38	827,27	855,96
Net Profit	490,17	508,86	525,11
EPS	2188,26	2271,71	2344,25
P/E	37,44	36,07	34,95
WACC	3,26%	3,26%	3,26%
ROIC	-1,81%	5,49%	4,63%

THIS REPORT WAS PREPARED EXCLUSIVELY FOR ACADEMIC PURPOSES BY MARIANA COSTA & GIAN PIETRO OLIVUCCI, 2 MASTER IN FINANCE STUDENT 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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1.Executive summary

Lindt is a Swiss chocolate-maker with sales expected to reach 4415.4 million CHF in 2019 and an expected CAGR over the next 10 years of 3.2%. Geographic distributions of sales are determinant in Europe, where the company is expected to generate 52.4% of its sales by 2029, increasing from the actual (exp. 2019) 48.4%. In this region, Lindt relies on brands such as Lindor and Lindt Excellence, driving the upcoming 153 new stores opening by 2029. This will impact market share, increasing from 4% to 4.67% in 2029. Lindt's strategy to increase market share in the NAFTA region is focused in the US market (accounting for 89% of sales in 2018) where chocolate industry tends to expand market share via acquisitions of already established manufacturers. As an example, the acquisitions of Ghirardelli in 1998 and Russel Stover in 2014 accounting for a market share gain estimated at around 1.5% & 1.24%¹. Today this segment accounts for 38.1% of the total sales expected in 2019. As a consequence of the Ferrero acquisition of Nestlé' US Confectionary market, and the stagnant product portfolio or retail solutions of Lindt, no store openings have been disclosed and thus market share is expected to drop from 7.78% to 6.31% in this region by 2029. A reduction of the centrality of this market is expected, whose portion of sales will shrink to 34.8% by 2029. In China, representing 10% of the total sales of the "rest of the world" segment², Lindt is lagging behind Ferrero and Godiva in terms of e-commerce strategy, generating an expected market share loss for the segment at around 1% in 2019 up to 3% by 2029, as e-commerce is gaining importance. Market share will also increase lead by 73 new store openings in Japan, Brazil and South Africa. *Rest-of-the-world* market share is expected to increase from 1.85% to 1.89% overall. Global chocolate industry is expected to expand at a CAGR of 2.98% over the next 10 years, with the highest CAGR (4.2%) in the NAFTA region, justified by economic performance, with a forecasted nominal GDP growth rate at a CAGR 3.37% in the next 10 years³.

Lindt's cost of capital, assessed at 3.36%, is the reflection of the low leverage (D/E 0.04) level and risk-free rates (-0.4%) on Swiss Franc currency. The company is also little sensitive to the MSCI World index, our chosen market portfolio proxy, returning an adjusted target levered beta of 0.57. All in all, we believe Lindt is correctly priced by the market, and expect investors to deliver a dividend return of about 2.2% by investing today in the stock, and a return of stock price fluctuations at around -1.2%. Overall, investors would deliver a return of 1%, which is translated into a **HOLD** recommendation

¹ See **Euromonitor – Confectionary Industry – Chocolate Industry**: Lindt & Sprungli Global Market Share dataset

² See **Lindt & Sprungli, Financial Report 2018**: www.lindt&sprungli.com/investorrelations

³ See **International Monetary Fund – Dataset n Nominal GDP**

2. Company overview

Lindt & Sprüngli was founded in 1845 in Zurich, Switzerland, by David Sprüngli-Schwarz and son. After the acquisition of the chocolate factories of Rudolf Lindt in 1899, the company changed its name in a version closer to the actual one: *Chocoladefabriken Lindt & Sprüngli*.

Currently, Lindt, it's the 7th⁴ worldwide largest chocolate producer (**Table 1**) with a total volume of sales in 2019 at *exp.* 4415.4 million CHF of which, 3311.6 million CHF (75% of the overall value) originated by "classical" brands such as Lindt Excellence, Lindor, Bear and Gold Bunny, 971.4 million CHF by Regional brands (22% of the overall value), mainly the Americans Ghirardelli (acquired 1998) and Russel Stover (acquired 2014) and the remaining 132.41 million CHF by Local Brands (3% of the overall value) such as Caffarel, Hofbauer and Küfferle. (**Table 2**).

Lindt sales are geographically determinant in Europe, 48.19% of the company sales in 2018 are from this area where the company sells mainly Classical Brands, immediately followed by North America with 38.43%, where Lindt was able to sell 1657 million CHF, of which 84% in the solely US. This trend is expected to be maintained in the next years, as the European sales' CAGR *exp.* in the period 2019 – 2029 is 4.0%, against NAFTA at 2.3% and the Rest-of-the world at 2.7%.

Following the listing in 1986 on the *SIX Swiss Exchange*, the stock price of Lindt achieved a 12.03% CAGR Stock price increase, projecting an overall return of 945%, including dividends. During the financial crisis of 2008, Lindt suffered from a drop in its stock price (**Table 3**) from almost 40000 CHF during the summer of 2007 down to 15000 CHF in February 2009. This indicates a demand's volatility towards economic cycles, which will lead us to conclude GDP is a key driver of chocolate market size⁵.

Table 1: World Chocolate producers by sales in billion USD as of 2018

US billion \$ sales 2018	
Mars Wrigley Confectionery, division of Mars Inc (USA)	18
Ferrero Group (Luxembourg / Italy)	12,39
Mondelēz International (USA)	11,792
Meiji Co Ltd (Japan)	9,662
Hershey Co (USA)	7,779
Nestlé SA (Switzerland)	6,135
Chocoladenfabriken Lindt & Sprüngli AG (Switzerland)	4,374
Ezaki Glico Co Ltd (Japan)	3,327
Pladis (UK)	2,816
Kellogg Co (USA)	1,89

Source: World Bank & ICCO

Table 2: Sales break-down per brand category



Source: Lindt

Table 3: Lindt stock price august 2006 to august 2010



Source: Bloomberg

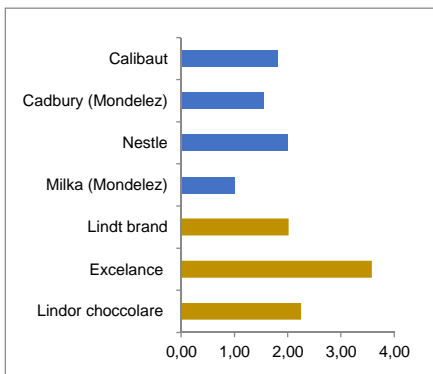
⁴ See **Candy Industry** (professional forum and webplatform for whole candy industry): www.candyindustry.com – Consulted 02/12/2019

⁵ See **Chapter 4: Financial Analysis**

2.1 Strategy

Lindt's mission is to produce “*high-quality Swiss chocolate with unique taste and attractive packaging*”⁶. To reach these standards, the organization count on eight local product development teams based in **Switzerland, Germany, France, Italy, Austria** and **USA**. Lindt's consumers, prize the company's products with a “Premium” measurable as average price per 100g of chocolate approximately 2.62 CHF worldwide, considering Excellence, Lindor and Lindt brands against an average of 1.58 CHF for direct substitutable products produced by global competitors such as Nestle⁷, Mondelez, Callebaut and Cadbury (**Table 4**). As part of its plan to become an international player, Lindt increased its US chocolate market share by 1.24% by acquiring two regional brands associated with high-quality chocolate standards: Russel Stover (2014, 1.6 bn USD) and Ghirardelli (1998, an undisclosed amount of the deal).

Table 4: Average price 100 g chocolate by brand in CHF



Source: Amazon US, DE, IT, FR, JP & Authors
Elaboration

Based on a UBS survey⁷ (**Table 11**), only 5% of consumers select chocolate based on the brand. Russel Stover and Ghirardelli could have impacted Lindt's brand image in a negative way since with these acquisitions Lindt's not anymore perceived as a pure Swiss chocolate brand. On the other hand, there is a possible increase in Russel Stover and Ghirardelli brand value since know they benefit from the expertise of Lindt.

For what concerns the big portion of consumers who choose chocolate based on quality and other aspects rather than the brand, they will not modify their preferences as high-standards of quality are historically associated with Russel Stover and Ghirardelli. Since these acquisitions happened in 2014, we believe sales and market share acquisition will not impact further.

In conclusion, Lindt's acquisitions of non-Swiss brands delivered an estimated (95%) of the combined market share increase pre-acquisition of Lindt and Russel Stover/Ghirardelli, associated with the portion of consumers not acquiring chocolate based on the sole brand.

3. The sector

The chocolate industry is highly seasonal due to the strong impact of festive events on companies' sales. In the case of Lindt, semester Sales reported in December, are tendentially 65% higher than the ones reported end of June because of Christmas (**Table 5**). To intercept this market tendency, Lindt has a portfolio of *classical* seasonal products that we expect to remain unchanged in

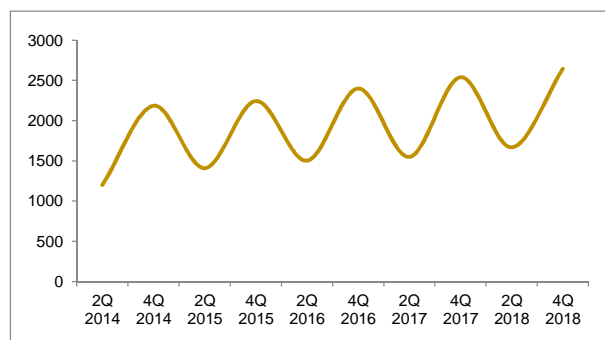
⁶ See Lindt & Sprungli, “About Us” – Web Page: <https://www.lindt-spruengli.com/about-us/lindt/>

⁷ UBS Intelligence Lab, “Survey on Candy Consumer Choice”, UBS, 2019

the long term⁸. Namely, Lindt seasonal products comprehend Gift box Lindor, Gold Bear.

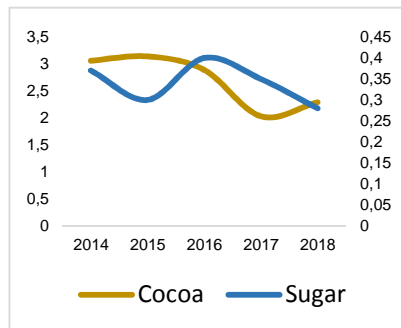
The biggest festive events besides Christmas that impact Lindt's sales are (1) **Valentine's day**, with the sale of more than one million Lindor balls; (2) **Easter** that impacts sales particularly in the US when compared to Europe. Additionally, it allows Lindt to boost prices by selling limited-edition offerings such as the gold bunny; (3) In China, the firm adapts to different ceremonies such as **Chinese wedding red traditions**, the **red-envelops** and **Chinese new year** to better penetrate this market.

Table 5: Lindt Sales seasonality in million CHF



Source: Lindt's annual & semi-annual reports 2014-2018 - authors elaboration

Table 6: Worldwide historical price per KG in CHF of cocoa (left axis) and sugar (right axis)



Source: www.statista.com

By following the logistic and production process of “bean-to-bar”⁹, Lindt is exposed to commodity price fluctuations on (1) **cocoa beans**, (2) **cocoa butter**, (3) **sugar**, (4) **almonds** and (5) **hazelnuts**. Chocolate products are, on average, made up of 40% cocoa beans and cocoa butter, 40% sugar and the remaining 20% of other flavor.¹⁰ In the last 5 years, the Cocoa price varied between 3.2 CHF/Kg a minimum of 2 CHF/Kg, while Sugar from a peak of 0.4 CHF/Kg to low point of 0.27 CHF/Kg, highlighting in both cases, a high degree of fluctuations. (Table 6)

To shed away the supply-chain risk, Lindt adopted **three strategies**: 1) **Diversification** of the cocoa bean production in 5 different countries with all high-quality standards; 2) **Maintain** a certain level of inventory stock of raw material of sugar and cocoa, *2.84% of sales*; 3) Maintained exposure in **derivatives** as a cover risk against price impacts, *net exposure 2019 -12.6 mln CHF*.

⁸ Lindt & Sprüngli, did not disclose additional product lines specifics for festivity period (*so called Seasonal Product*).

⁹ **Bean-to-bar** chocolate manufacturers, produce their final products from the crop of raw cocoa to the finished product.

¹⁰ See Lindt & Sprüngli – **Nutritional Elements**: Based on **Lindor**, **Lindt Excelance**, **Lindt** product catalogue and nutritional information available.

3.2 PEST analysis

Lindt future sales have been estimate in **Chapter 4** with the events quantified in the next section via a **PEST analysis**.

3.2.1 Political factors

Brexit: Following the recent development regarding the leaving from the EU of the UK, we estimated the impact of the “Brexit” scenario. Assuming a devaluation of the British pound highlighted from Referendum (June 2016) up to today, Brexit might result in a decrease in sales under the UK region, estimated to be proportionally equal to the devaluation of the *pound* against *swiss franc*. This translates into a 13% depreciation, equivalent to -49.2 mln CHF in 2020 in an expected (base) scenario.

Table 8: CHF/GBP fluctuations

CHF / GBP	Rate
June 2016	1.4459
Average	1.27445
Lowest	1.1806
Highest	1.3683
Impact:	
Expected	-0.119
Lower	-0.183
Higher	-0.054

Source: Bloomberg & Authors elaboration

Table 7: Estimation of BREXIT impact on Lindt sales on the base of pound devaluation in mln CHF

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
% of UK sales in Europe	0,184	0,184	0,184	0,184	0,184	0,184	0,184	0,184	0,184	0,184
UK Sales in CHF	415,075	436,051	458,375	481,472	506,135	519,318	538,562	555,522	569,941	584,476
Expected Brexit Impact	-49,218	-51,706	-54,353	-57,091	-60,016	-61,579	-63,861	-65,872	-67,582	-69,305

Source: Authors elaboration, data on GBP/CHF- Bloomberg

Table 7 sums up the yearly impact of Brexit on chocolate market size following the same logic described above. By dividing the results obtained in **Table 7**, by the total European market size we obtain the percental decrease in market size due to this event, summarized in **Table 9**. As we observe, in terms of the aggregate market, Brexit is not expected to deliver significant disadvantages to the European segment. This is largely due to: **1)** Market seems not have impacted currency depreciation massively; **2)** UK sales represent 5% of the whole segment.

Table 9: Impact of Brexit as a percentage of Market Size,
(even though the UK is a fundamental market for Lindt, the overall impact is marginal for the business)

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Europe	BEST	0.000%	-0,0410%	-0,0416%	-0,0422%	-0,0428%	-0,0433%	-0,0439%	-0,0445%	-0,0450%	-0,0456%	-0,0462%
	BASE	0.000%	-0,0907%	-0,0919%	-0,0932%	-0,0945%	-0,0957%	-0,0970%	-0,0982%	-0,0995%	-0,1008%	-0,1020%
	WORST	0.000%	-0,1403%	-0,1423%	-0,1442%	-0,1462%	-0,1481%	-0,1501%	-0,1520%	-0,1540%	-0,1559%	-0,1578%

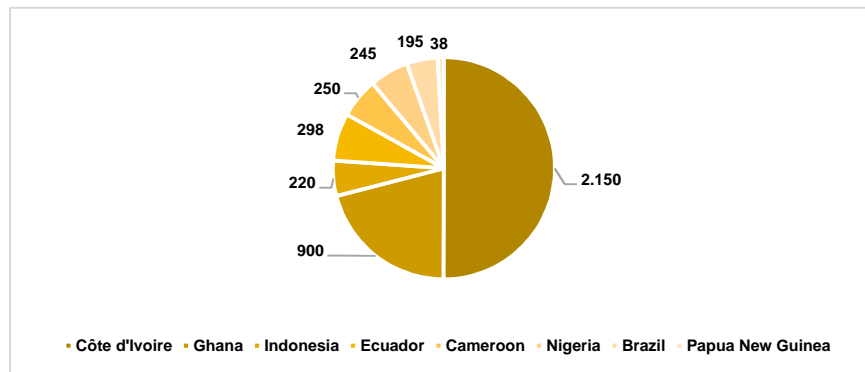
Source: Authors elaboration

Hong-Kong protests over autonomies from China generated a contraction in demand that hit the economy in 2019 and most likely continue through 2020 before the economy will normalize at its pre-recessive trend growth rate of around 4%. In particular, considering yearly GDP losses estimation at around

15%¹¹, and the sales contribution of the region at being 1%, we expect the overall impact on market size of chocolate to be around -0.15% for “rest-of-the-world” segment.

Another major concern for Lindt is the risks connected to **supply-chain**. Political stability in the 4 regions where Lindt produces chocolate (**Table 10**). As a proxy, the historical index by *theglobaleconomy.com* was used¹².

Table10: World cocoa production by geographical area as of 2019 in 1000 metric tons



Source: www.statista.com

1) Ghana (2 out of 5) Has the reputation of one of the most politically stable African countries, its economy is relying on commodity export such as Cocoa, Oil, Gold. Ghana's political instability is small and thus does not raise concerns about future disruptions.

2) Madagascar (3 out of 5): Fine cocoa was introduced on the island in the early 1800 and today the country is one of the finest producers worldwide even though its contribution to the world output is limited to 0.5%¹³. Stability in the region is forecasted below the world average, so the risk in the region can be considered medium-high.

3) Ecuador (2.5 out of 5): Once the biggest producer of Cocoa beans worldwide, today is home to one of the most prestigious and flavor intense cocoa beans. Political instability in the region is considered medium.

4) Papua New Guinea & Dominican Republic (3 out of 5): Cocoa from this country is characterized by a strong flavor intensity and high-quality due to perfect climate conditions. Political stability marked as medium-low.

¹¹ See Article : “**Hong-Kong Economy Lost: Estimated hk28 bilion**” at: <https://www.scmp.com/news/hong-kong/politics/article/3031889/hong-kongs-economy-lost-estimated-hk28-billion-over-past>

¹² A **grading scale** from 1 (*Highest Political Stability*) to 5 (*Highest political Instability*) was used.

¹³ See **ICCO – World Cocoa Organization**, at: <https://www.madamagazine.com/en/der-weg-der-schokolade-kakao-anbau/>

▪ 3.2.2 Economic factors

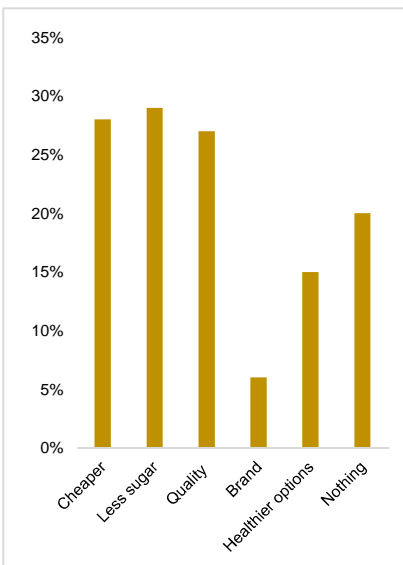
Following GDP nominal growth rate estimations of IMF¹⁴, the European economic area is expected to grow at a CAGR of 4.25% in the period 2019-2024 before slowing down at a CAGR of 1.74%. While NAFTA countries, namely Canada, Mexico and the US, will expand at a CAGR of 3.37% over the 10-year forecasted period.

The most interesting economic performance will arrive from the rest of the world segment, where the expected CAGR will reach 5.2% in the period 2019-2029. This mainly driven by China 6.1% and Japan 4.0%. More modest the expected CAGR for Australia 3.2%, Brazil 2.4% and South-Africa 3.4%.

As stated, economic performance is a fundamental driver in the premium-chocolate business as consumers have the tendency to shift from premium to mass-production in economic downturns¹⁵.

▪ 3.2.3 Social factors

Table 11: Survey on Consumers chocolate selection



Source: UBS intelligence lab and authors elaboration

Consumers' opinion on the effects on health of chocolate consumption is divided. Also research evidence, media and press, are not unanimous in considering chocolate effects on overall health either positive or negative. **consumers worried about health-concerns**, react by quitting the market. The impact this will deliver to the industry has been estimated in *two ways*: 1) **Google Words** trends on user search of the word "sugar-free". In the US, "Sugar-free" has been searched by google users at a yearly CAGR increase of around 4%, while in Europe, mainly Germany, France, Italy and Switzerland, at a rate closer to 1.5%¹⁶. 2) **US confectionary estimation** for "sugar-free products" expects the market to evolve at an annual compound rate of 5%¹⁷. Long-term, we expect health concerns to reduce market size in NAFTA of about 4.5%, average between the two estimations and in Europe of 1.5%, following **google trend** indication.

While many consumers will quit chocolate consumption others will find chocolate a healthier solution to their snacks. There is indeed a **shift in consumer preferences** towards healthier snacks and products. Consumers trend appear to

¹⁴ See **International Monetary Fund**, at: <https://www.imf.org/external/datamapper/NGDP@WEO/OEMDC/ADVEC/WEOWORLD>

¹⁵ See **"The Economics of Chocolate"**, Squicciarini & Swinnen, 2014

¹⁶ See www.google.com - Google Trends

¹⁷ See **Global Sugar-free Confectionery Market 2017-2021** by "360 research reports":

Table 12: E-commerce strategy of major competitors (gold group) and comparable (blue group)

	Sell in website	Instagram account
See's Candies	✓	✓
Natra	X	X
Guylian	✓	weak
Godiva	✓	✓
Kellog	X	✓
Pladis	X	X
Mars	X	✓
Ferrero Group	X	✓
Mondelez	X	X
Meiji Co	X	X
Hershey Co	✓	✓
Nestlé	✓	✓
Rocky Mount.	✓	X
Tootsie Roll	✓	✓
Barry Callebaut	X	X
Ezaki Glico	X	X

Source: Authors elaboration

increasingly prefer dark chocolate over candies and chips in the next decade¹⁸. The already mentioned survey, seek to understand what drives the choice of chocolate of an international set of consumers. (Table 11). The main reasons are the price, low sugar content and the quality of the products. Additionally, there is an increase in the consumption of dark and vegan chocolate.

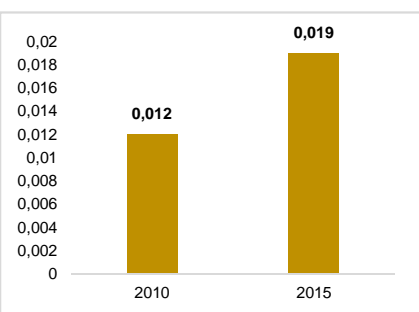
Consumers are raising **sustainability concerns** since they demand ethical values and brands supporting sustainably farmed chocolate. Companies are now seeking to take ownership of their own ethical standards and responsible sourcing strategies. One concern is related with children working on the Cocoa Industry, that's why fair-trade certified producer organizations are gaining importance. They must comply with several requirements, related to social, economic and environmental developments. Lindt Sustainability Plan has the aim of a 100% traceable & verified cocoa bean supply chain until 2020. Other competitors that put sustainability in the heart of their strategy such as Barry Callebaut seem to be behind Lindt with 3867 child labor cases identified, 37% verified cocoa supply and the goal of achieving 0% of child labor by 2025.

3.2.4 Technological factors

The rise of e-commerce and social media innovates Chocolate industry retail channels.¹⁹ Based on an estimation for the whole premium chocolate market made by *statista.com* in 2018²⁰, 60% of Lindt's products are distributed via retailers such as supermarkets, 13% by Specialist stores (*Lindt's house* or *Lindt stores*) and the remaining 27% by other channels, including e-commerce (2.5% in 2018). Future trends highlight the globally, opportunities for the e-commerce in **the chocolate market, are increasing (Table 12)**. From 2010 to 2015 the US e-commerce market grew 9.6% year on year. In the absence of data on the subject regarding Europe, we assume the trend in Europe will be similar. Considering that the main markets that RoW represents are China, Japan, Brazil and developed countries with access to new technology, we expect the same growth rate to apply. The total e-commerce chocolate market size is summarized in **Table 14** below.

Furthermore, to understand the industry trend, we investigated Lindt's peers: **Hershey, Nestlé, Godiva & Lindt** (see **Table 13**), are selling their products in

Table 13 : US online chocolate purchase evolution from 2010 to 2015 decimal portion



Source: Statista.com

¹⁸ UBS Global Research, UBS Evidence Lab - This source provide particularly useful result on survey, a tool that for obvious reason, we need to collect from third-parties.

¹⁹ See **Candy & Snack Today: Sweet Insights: Profiling Chocolate Consumers**

²⁰ See **Statista.com/Chocolate retail channel UK and US** at: www.statista.com

their personal webpages. Many brands such as **Mondelez** and **Ferrero** don't offer this option on their own websites but it is possible to buy the product online through retailers such as *Amazon*, *Alibaba*, *JD.com*. The fact that Lindt offers this option and furthermore is investing in social media and promoting its ethically sourced cocoa, allows the firm to enhance its customer relationship. As an example, in China, JD.com, a Chinese online supermarket platform, has recently signed an agreement permitting Lindt's chocolate to be purchased by the platform's client.

This suggests Lindt is in a good position to take advantage of this new trend however this advantage might not be sustainable since it is very easily replicated by competitors. Additionally, it is relevant to highlight that e-commerce sales do not expand the market. The market size remains the same there is simply a shift in terms of the channel used meaning that Lindt would lose market share if the firm didn't adapt to this trend but there is no evidence that the market share will increase by adapting to e-commerce.

Table 14: E-commerce estimated value in mln CHF, as a percentage of purchases over total market size

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Europe	24538,3	898,7	990,6	1138,6	1288,0	1436	1633	1855	2108	2395	2724	3024	3394	3790	4209	4674
NAFTA	322,6	377,2	429,4	484,9	533,2	606	686	778	884	1003	1140	1322	1516	1739	1997	2296
RoW	516,7	551,3	615,9	711,4	781,4	876	994	1129	1282	1455	1650	1801	2016	2259	2531	2834
TT MKT	25377,6	1827,2	2036,0	2334,9	2602,5	2917	3314	3763	4274	4853	5514	6147	6925	7787	8738	9804

Source: Authors elaboration

3.3 Lindt's competitive environment

Lindt's competitive environment differs substantially from geography to geography. We have analyzed and quantified the impact of only relevant strategic operations, with a clear impact on valuation:

European market is characterized by a *strong consolidation* and *reduced competitive forces*. The key players are Mondelez International, Ferrero, Mars, Nestle', Lindt & Godiva with a combined market share of 84%²¹, while the remaining 16% left to smaller producers such as Guylian and Natra. Changes will come from consumer trends, which are expected to favor firstly premium, and secondly reduced sugar (mainly Dark) and vegan brands²². In this segment, Lindt competes predominantly against other "premium" producers: 1) **Godiva** had historically been associated with Belgian chocolate of comparable quality of Lindt's Swiss chocolate. 2) **Ferrero**, with its Ferrero Roche' brand, has an impact especially in seasonal chocolate sales.

²¹ See **Euromonitor** Dataset

²² www.readcacao.com

Mars, Nestle & Mondelez are particularly focused on snack chocolate and their product portfolio is limited in terms of premium products.

Lindt is expected to deliver a market share increase in the next 10 years (period 2019-2029) of 0.67%, driven by **153 new stores** openings across the continent. The decision is lead by the strong performance of classical brands, Lindor and Lindt Excellence, reaching double-digit (average of 12.5% for Lindor and 11.6% for Lindt Excellence) growth rate in key Markets such as France, Italy, Germany, Switzerland and UK (Such brands account 82.6% of the European segment)²³.

Each store opening impact has been assessed by taking advantage of information on chocolate retail in the previous section (**Chapter 3.2: PEST: Technological**). In 2018, Lindt stores worldwide were 414. The European equivalent amount was 161. By considering that in EU, 13% of the recorded sales were done via speciality shop, the implied impact on market share (*keeping competitors constant*) is equivalent to 0.0033% per store. The 153 store opening in 10 years, generates an equivalent 0.05% yearly market share increase.

NAFTA: Competition in this segment is *low*. 43.3% of the market is held by **The Hershey Company**, 29.8% by **Mars**, 7% **Ferrero**, 9.1% **Lindt** (Including **Russel Stover** and **Ghirardelli**) and 10.8% by scattered producers including *Rocky Mountain, Tootsie Roll & See's Candies*. Relevant events moving the market are Ferrero Acquisition of Nestle business of US chocolate for 2.5 bn CHF in 2018²⁴. The added value of the synergies in the retail distribution is expected to generate a gain in market share (additional to the already gained by acquiring Nestle US confectionary business) for a total amount of 890 bn CHF chocolate sales over the next 10 years²⁵. As disclosed by Ferrero, the new alliance will permit the company to access retail channel and power up large distribution in supermarkets: Considering the "premium" chocolate portion accounting for a total of 40% in Ferrero product portfolio, total market share gain over Lindt is expected Ferrero Roche', permitting US consumers to more easily access Ferrero Premium chocolate²⁶. This will further impact market share dynamics and Lindt is expected to lose against Ferrero an overall 1.48% of market share by 2029. Lindt's subsidiary Russel Stover or Ghirardelli and Lindt itself, did not refer to any plans of expanding stores or increased number.

Rest-of-the-world: In **China**, 40% of the total chocolate market value is held by small producers competing over quality and prices, Lindt's still belongs to this

²³ Lindt's financial statements

²⁴ See Article on Financial Times: "**Ferrero Group acquire Nestle US Confectionary Business**"

²⁵ See **Ferrero Group** at: www.ferrerogroup.com

²⁶ *ibid*

minority, holding 1.85% of market share. Relevant competitor are Mars, which is present with 37%, Nestle' 8%, Ferrero 12.2%, Mondelez 2% and Godiva 1.7%.

Ferrero is present in China for 20 years, with a good variety of alternatives such as Ferrero Roche' (Premium Chocolate) and Kinder lines. In terms of e-commerce, Ferrero is positioned better than Lindt to online sales with agreements with JD.com and Alibaba, while Lindt has powered up partnership with only JD.com. JD.com chocolate sales, are estimated to be 25x Alibaba, due to the nature of the platforms.

Godiva is investing in China since 2008, and held 52 stores, with a strong market share increase trend prospect. Planning to arrive at 100 by 2024 and 200 by 2030²⁷. If succeeding, we estimated that Godiva may double its market share and consolidate its presence in the area. We consider this scenario likely since the company stated that as of the end of 2019, new 15 stores will be opened in China, in line with the path to reach 100 in 2024.

Lindt has not planned any openings of store in China and its e-commerce strategy is lagging competitors, thus we cannot assume they will increase market share in China but rather reduce it proportionally to their presence in the market. We estimate that Lindt may lose up to 1% long-term market share in China, accounting for roughly 10% of the "Rest-of-the-world" segment. The impact of e-commerce will affect initially 0.01% market share and progressively increasing to 0.03% by 2029 as e-commerce portion over retail sales increases.

Other countries: Lindt's plan to open **73 new stores** in Japan, Brazil and South Africa will increase market share of an overall 0.392% in 10 years (2019-2029)²⁸. The calculation, takes into account of single store impact on market share, for the segment, assessed at 0.0054%.

Among the listed competitors, only a few can be considered **comparable companies**. This selection has been addressed by analyzing **product portfolio**, **capital structure** and **financial ratios** (Table 15).

Table 15: Comparable information summary

	Start of Operations	Headquarter	Presence	Choc. % of sales	Geographic split of sales	Sales 2018 (CHF M)	Sales growth (17/18)	Brand portfolio includes:
Mondelez	1903	USA	Operates in 80+ countries and sells to 150+ countries	31.50%	Latin America (2.9%), AMEA (8.0%), Europe (19.6%), North America (1.0%)	8039.74	0.16%	Dairy Milk, Milka, Green&Black's, Lacta, Toblerone and Cote D'or, etc.
Meiji Co	2009	Japan	63 Firms: USA (3), Europe (4), Japan (35) and rest of Asia (20)	24.30%	Revenues prevalent mainly from Japan and Asia	2690.11	-0.10%	Meiji

²⁷ See Godiva (Pladis group) at: www.godiva.com

²⁸ See Lindt, Financial Report 2018

Hershey Co	1894	USA	sells to ~90 countries	100%	North America (88.5%), Other (11.5%)	7666.44	3.70%	Hershey's, Reese's, Kisses, etc.
Nestlé	1866	Switzerland	sells to 190 countries	8.86%	split for confectionary business not specified	8100.00	2.10%	Nestle, Kitkat, Cailler, Aero, Smarties, Milkbar, etc.
Rocky Mountain	1981	USA	mainly USA	100%	USA (97%), International (3%)	37.47	-0.58%	Rocky Mountain
Tootsie Roll	1896	USA	-	100%	Main markets: USA, Canada and Mexico	507.06	-0.10%	Tootsie Rolls and Tootsie Pops
Barry Callebaut	1996	Switzerland	-	100%	Focused in Western Europe and North America	7300.00	2.10%	Bensdrop, Carma, Chocovic, Sicao, etc.
Ezaki Glico	1922	Japan	12 countries	35.30%	Focused in Japan with subsidiaries in Asia, US and Europe	1114.77	3.20%	Bisco, Libera, Gaba, etc.
Lindt	1845	Switzerland	120+ countries	100%	Europe (48.19%), NAFTA (38.43%), RoW (13.38)	4313.20	5.50%	Ghirardelli, Russel Stover, Lindor, etc.

Source: Authors elaboration

4. Financial Analysis

4.1 Business main drivers

4.1.1 Market dimension

We based our estimation of future Lindt sales on the chocolate market size and market share held by Lindt. In accordance with what previously analyzed in the PEST section, Lindt's market size has been estimated as a function of: 1) **Economic growth** 2) **Demographic trends** 3) **Consumer preference shift**.

Economic growth: Considering historical data on the chocolate market since 2014 and the IMF dataset on nominal GDP, we performed a linear correlation model that we extended to future years based on IMF forecast 2019-2029. The *European market* for chocolate products is expected to expand at a CAGR of 2.81%, based on GDP variable, while the *NAFTA region*, driven by the US, will expand at the rate of 3.28%, still only considering GDP expansion.

The rest of the world, mainly driven by Japan, China, Australia and South-Africa, will record an overall CAGR associated with economic expansion, of 2.42% by 2029. Hong-Kong protest, incurred nowadays, will have an impact on the short-term, with reduced economic activity for 2020 of -15%²⁹. Considering Honk-Kong's sales value as 1% of the total sales in "Rest-of-the-world", we expect the contribution of this event the overall market size of -0.15% in 2020. Brexit will also contribute to a long-term marginal loss estimated in **Chapter 3 – PEST: political**. Since this is estimation is subject to a high degree of unpredictability, it has been subjected to a scenario analysis presented in **Chapter 7: Scenario Analysis**

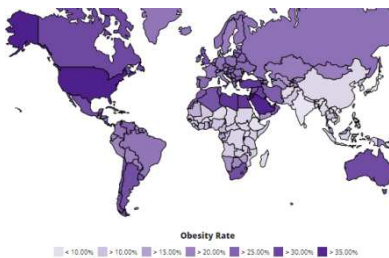
²⁹ See article on **The Economist**: "Hong Kong crisis"

Demographical: 1) In Asia, the population in the age range 18-44, representing the main customer aging profile for Lindt and its competitors³⁰, will reduce from 37.90% to 28.90% by 2029, with possible impact of -9% over 10 years, representing an annual compounded loss of -0.9%. Since overall Asia sales are estimated to be 50% of the “rest of the world”³¹ segment, the estimated yearly impact loss due to change in the ageing distribution has been assessed at -0.45% market size, in a base scenario. 2) As an opposite tendency, the market dimension will expand as a consequence of the re-distribution of wealth in Asia and particularly in China, which will higher Lindt’s competitive advantage have perceived as “luxury”³² good. In particular, considering the past 4-year trends in disposable income increase of middle-class in Asia is observable a stable increase of 3.06% in 3 years, representing an annualized component of 0.5%.

Consumer preferences are expected to impact market size as customers are increasing chocolate consumption rather than other snacks as it is perceived as a healthier option to salty snacks such as chips³³. The overall benefit for the chocolate industry would be of an annual increase of 1.1% in Europe and NAFTA where health concerns issues are of significant relevance. We consider it unlikely that the impact is homogeneous for the two geographies Europe and NAFTA. As health concerns in these territories are not similar. The obesity rate is our proxy to estimate a degree of health concerns in geography. In the NAFTA area, 35% of the population is affected, while in Europe and the Rest of the World the level is around 20%³⁴ (Table 16). Thus, the GAP between the obesity rate in Europe & Rest-of-the-world and NAFTA is 15%. For this reason, while Europe fully benefits the 1.1% increase due to **customer preferences**, NAFTA will benefit from a portion (85%) equal to the gap in health concerns of consumers, which will be reduced in the long-term as the two geographies will equalize in terms of health concerns.

On the other hand, we estimated³⁵ that, by 2029, a total of 4,5% market value will be dissipated in NAFTA because of the growing health concerns, while in Europe, where the problem has been less perceived by consumers, will be contained to 1.5%. As presented in Chapter 3: **PEST analysis – Economic**.

Table 16: Obesity map by cases detected: used as a proxy of health concerns people



Source: Most Obese Countries Population. (2019-10-24). Retrieved 2019-12-16, from <http://worldpopulationreview.com/countries/most-obese-countries/>

³⁰ Lindt financial statements 2018

³¹ The estimation has been done by subtracting to “rest-of-the-world” the sales of non-asiatic countries (South-Africa, Australia, Latin America)

³² The customer targeting of Lindt has been estimated by external researchers at being between 18-44, middle-high income, thus an increase of middle class disposable income as a process of wealth redistribution impact positively Lindt’s expected market share.

³³ UBS intelligence report – Lindt & Sprüngli

³⁴ Geographies value have been weighted for sale levels in the area, NAFTA is mainly represented by US thus their contribution to the overall statistic is high. Dataset available at: www.worldpopulationreview.com

³⁵ See Chapter 3: **PEST analysis: Social**

All in all, we expect European and NAFTA chocolate market to expand at a CAGR of 2.6% and 4.2%, while Rest-of-the-world at a CAGR of 2.6%. Market value will be geographically re-distributed.

▪ 4.1.2 Market Share and Sales Analysis

Lindt market-shares dynamic has been analyzed by geographies, by taking advantage of information of **Chapter 3: PEST & Competitive analysis**.

Europe: In this market, Lindt is historically present with Lindor, Lindt Excellence and its seasonal brands Gold Bunny and Gold Bear. The resilience of Classical brands permitted the Swiss-chocolate maker to acquire a solid momentum over its competitor, with a historical steady increase Lindt's market share of approximately 0.05%. This increase, resultant of the strong brand performance of Lindt's classic brands, will lead to open an estimated **153 new stores** across the continent by 2029³⁶. Considering the strong product portfolio of Lindt, with quality dark chocolate, the company is well-positioned to keep expanding market share in the wake of health concerns of consumers.

In 2020 is expected to be finalized the construction of *Lindt Home of Chocolate* that was started in 2013. Consider the dimension and unicity of the project among competitors, we expect this to impact the company's European market share for a positive increase Y-o-Y of 0.01% in 2020, decreasing to 0.0070% in 2029. The estimation has been based on the expected number of visitors per year declared by Lindt at around 350,000 and we assumed the number of visitors to remain the same across the years. the different entry ticket fee of 15 CHF adults, 12 CHF students and 0 CHF for below 18³⁷.

Overall European Market share is expected to increase from the actual 4% to 4.67% by 2029, expanding Lindt's dominance in the premium chocolate manufacturing of the old continent.

NAFTA: In this region, Lindt is expected to lose market share as a consequence of a strengthened network of a main competitor, **Ferrero**. Market share is expected to decrease at a rate of 0.5% yearly passing from 7.78% in 2019 to 6.31% in 2029. As anticipated in **Chapter 3: Competitive Landscape**. **Ferrero** acquisition of **Nestle** generated additional supermarket retail channel access to *Ferrero Roche*, a premium chocolate brand competitor of Russel Stover and Ghirardelli (Lindt's owned brands in

³⁶ See **Lindt & Sprungli: Annual reports 2018 & Chapter 3: Competitive Landscape** for a better understanding on how each store opening impacted market share.

³⁷ See **Lindt & Sprungli: Annual reports 2018**

the US). This has been quantified in a loss of market of share around -0.2% annually³⁸.

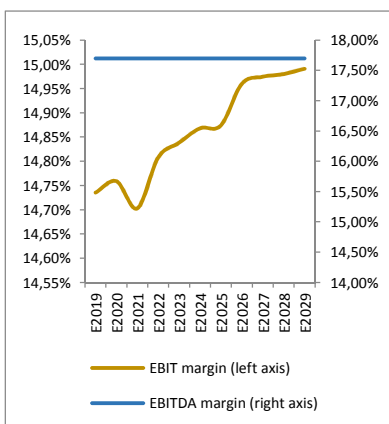
Rest-of-the-world: This region is shaped by significant new store opening and growing competition. We expect market share to be affected by 73 new stores in Brazil, Japan & South-Africa in the next 10 years. Those openings, will impact market share for an yearly growth rate of around 0.02%.

On the other hand, Lindt's competitor **Ferrero** has powered up its retail network in e-commerce in China, partnering up with JD.com (as Lindt) and Alibaba. This will progressively impact market share by an estimated -0.01% yearly change. Overall, despite the strong relevance of the market, Lindt will not be able to increase its market presence consistently, passing from an actual 1.85% to 1.89% in 2029.

Overall sales are expected to reach 6053.2 bn CHF by 2029, with a 52.4% contribution from Europe, 34.8% from NAFTA and the remaining 12.8% from "Rest-of-the-world".

4.1.3 EBIT & EBITDA

Table 17: EBIT and EBITDA margins forecast



Source: Authors elaboration

Because of the expansion of sales described in the previous paragraph, the company is expected to increase its human capital from a total headcount in 2018 of 14.570 to an estimated 20620 in 2029. As a direct consequence, assuming the company will maintain the same expense-per-employee at the historical average of 47.000 CHF, Lindt personnel expenses will grow to 1,31 bn CHF by 2029, from the actual 938 mln CHF. Material expenses & Operating expenses, considering the manufacturing nature of the company, are expected to remain at a constant ratio of sales at 33%. Depreciation expenses on plants, machinery and land, are expected to attain the caption to which they are referred. For this reason, while EBITDA margin is forecasted to maintain itself stable up to 2029 at 17.94% as mainly composed of variable costs, EBIT will fluctuate as the company's depreciation will follow PP&E investment (**Table 17**). The company will systematically reach its capacity in PP&E and invest in new plants following a "ladder-scheme" and consequently depreciation will follow the same path³⁹. We expect EBIT margin to average 14.39% in the forecasted period.

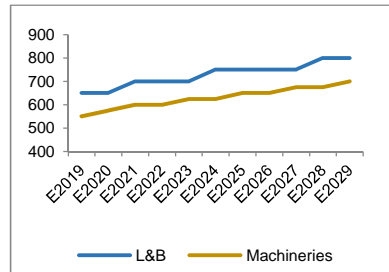
4.1.4 Networking capital and Net fixed assets & intangibles

The expansion in the rest of the world and the maintaining business in Europe and America will lead to the expansion of Networking capital and fixed asset for Lindt in the forecasted period.

³⁸ See Chapter 3: Competitive Landscape

³⁹ See next section

Table 18: Land, Buildings and Machineries investment in million CHF forecast, "ladder" model



Source: Lindt's Financial statements and authors elaboration

Europe, as a consequence of the relevance in the strategical plan of the company, will maintain an average growth rate of NWC at 3.98%, reaching 724.6 mln CHF invested in 2029. (49% of the overall). In NAFTA, market with strong value creation potential (exp avg ROIC [2019-2029] 3.11%), Lindt will maintain by 2029 a total of 575 mln CHF, representing 39% of the total.

Historically, Lindt's Buildings, Land and Machinery, have been maintaining a stable 14%.

Before entering in new PP&E investment, the company will reach its full optimal capacity of usage of the plants, and therefore we expect Lindt's investment in Land, Buildings (L&B) and Machinery to follow a "ladder" path (Table 18). Given the 2018 investment in L&B at 585 mln CHF, by 2029 the company would have reached a level of 800 mln CHF. On the other hand, total investment in machinery will be increased from the actual 550 mln CHF to 700 mln CHF in 2029, because of the increased business dimension.

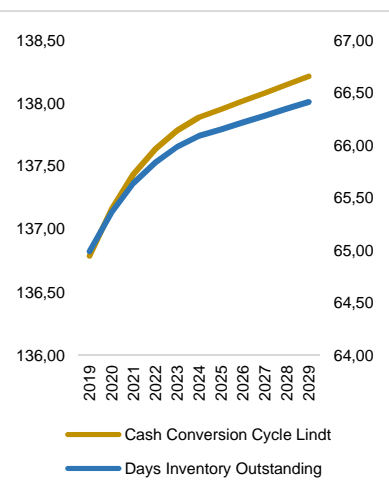
4.1.5 Core invested capital allocation

Lindt's invested capital allocation will be determined by the ROIC dynamics in the respective regions. Since ROIC in Europe will settle at a value close to 3.79%, the company will redirect part of the capital in new investment in more profitable markets, namely NAFTA, where ROIC long-term is expected to remain at 4.74%, motivated by a strong economic growth leading to a chocolate market expansion of 4.2% compounded annually. The rest of the world, because of the expected reduction of momentum after 2024, following slowing GDP growth, and the inability of Lindt of expanding market share will reach a ROIC long-term at 2.61%.

4.1.6 Inventories and Cash

Conversion Cycle

Table 19: Cash Conversion Cycle (left axis) and Days Inventory Outstanding forecast 2019-2029



Source: Authors Elaboration

Lindt's inventories are represented mainly by **raw material, packaging material, semi-finished or finished products**. The company had historically maintained a stable ratio between raw materials and sales at 2.84%. This level mainly reflects the strategy of the company to cover itself from Cocoa beans and butter supply disruption, as previously expresses in **Chapter 3: PEST analysis - Political**. We expect this ratio to maintain itself stable as the necessity of inventories of raw materials depends on the volume of sales of the core business, and thus we expect this figure to evolve from 125 mln CHF in 2019 up to 180 Mln CHF in 2029. **Packaging Material** is particularly important for the company, as it has as a fundamental place in the "improve customer experience" strategy. As an example, a marketing strategy to attract customers in China was the idea of re-design Lindor gift boxes for Weddings in a strong red color and with traditional incisions in a sign of

good luck. With a value of 125 mln CHF in 2019, by 2029 the company would reach 171 mln CHF. **Semi-finished** and **finished products** are expected to remain stable at a sales ratio around 14% as the total is linked mainly to the different multitude of stores the company has around the world and that contributes to Lindt's customer experience strategy.

Lindt's Cash Conversion Cycle (CCC), had historically maintained itself at an average of 136 days, with a low Days Payable Outstanding at an average 18 days. We expect the Lindt Cash Conversion Cycle to grow up to 138 days by 2029 because of increase Days Inventory Outstanding (**Table 19**). We believe in fact, that the company growing inventories, described above, will not be outpaced by the growth rate of sales which will mainly be reflected in the slowing sales growth.

4.2 WACC, ROIC & RONIC

To discount the projected FCFs of Lindt, the weighted average cost of capital (**WACC**) was computed.

- 1) Lindt's targeted capital structure: Lindt follow "The Pecking Order Theory" Net debt to equity value (ND/E) ratio of Lindt was around 4% over the past 10 years. We expect this ratio to remain constant at this level for the forecasting period, and thus consider it Lindt's capital structure target. Compared to other industry players (summarized in **Table 20**) Lindt seems to attain a low but not unusual leverage ratio. The most direct similar companies in this sense are the American competitors, Tootsie Roll 0.01 and Rocky Mountain, 0.04. On the other hand, bigger companies with a more wide product portfolio not only limited to chocolate but to the whole packaged food like Mondelez and Nestle appears to have a capital structure closer ND/E equal to 1.
- 2) Secondly, we estimated Lindt's **cost of debt** as blended YTM of the different interest-bearing debts of the company, namely coupon bonds. The company, considered its financial stability (Interest Coverage Ratio 48.5 and synthetic credit rating AAA), low leverage and generally good condition in the monetary market, achieved a cost of debt of 0.64%. By including in the model probability of default and loss given default we obtained a similar value for the cost of debt given by the fact that synthetic rating of the company AAA, is associated with a 0% loss in a corporate bond.
- 3) Concerning Lindt's **cost of equity**, through the Capital Asset Pricing Model (CAPM) we selected the risk-free rate (Rf) as free of reinvestment risk and default. And since Lindt's valuation has been carried out in CHF, we opted for the 10-year Swiss government bond. We preferred it to longer maturities as this bond is more liquid and at the same time matches a long enough time frame for

our valuation. Following this reasoning, the risk free rate on Swiss franc currency is settled at (0.4) %. Equity risk premium takes into consideration the relative exposure of Lindt to market with an excess country premium. The MRP was taken from a reliable source instead of directly estimate it. In particular, Damodaran dataset on MRP was used⁴⁰. The database associate a risk to each country based on a forward looking approach. We computed a weighted average per sales and conclude that the final MRP for Lindt is 6.39%. A weekly statistical regression on historical returns' sensitivity to market risk was performed. The time period used was from 01/04/2016 until 06/09/2019 and the market portfolio assumed was the MSCI world⁴¹. The β computed represented a raw value of 0.32 which, following Bloomberg's definition of adjusted beta, returned an adjusted value of 0.54. This beta has been levered according to the target capital structure.

Table 20: Lindt's comparable

Company Name	Mkt Cap (CHF mln)	EV / EBITDA	EV / Sales	Levered Beta	Market D/E	Tax Rate	Unlevered Beta
Lindt & Sprüngli	17836,9	21,88	4,14	0,74	0,084	21,50%	0,70
Mondelez	78800,0	20,3	3,8	0,80	0,74	20,0%	0,50
Nestlé	309420,0	20,7	3,7	0,42	0,86	8,5%	0,23
Hershey	32460,0	19,0	4,6	0,07	2,46	20,0%	0,02
Rocky Mountain Chocolate	58,1	16,6	2,8	0,40	0,04	20,0%	0,38
Tootsie Roll	1461,0	14,7	2,6	0,30	0,01	20,0%	0,30
Barry Callebaut	11770,0	20,6	1,9	0,69	0,98	8,5%	0,36
Meiji Co	10540,0	13,2	1,6	0,77	0,13	32,0%	0,71
Ezaki Glico	3288,6	8,8	0,8	0,54	0,12	31,2%	0,50
Avg	55974,71	16,74	2,73	0,50	0,67	0,20	0,38
Median	11154,99	17,82	2,68	0,48	0,43	0,20	0,37

Source: Bloomberg

All in all, Lindt's cost of capital has been assessed at **3.36%**, a relatively low cost of capital reflected on a particular low risk-free rate ($R_f = -0.4\%$), low exposure of Lindt to undiversifiable market risk ($\text{Beta} = 0.54$) and low cost of debt ($R_d = 0.64\%$).

With such a low cost of capital Lindt was able to increase its chances of creating value by delivering ROIC and RONIC above the hurdle rate. It is our expectation that from 2020 to 2029, Lindt will be able to achieve an average ROIC of 4.3%.

Analyzing the forecasted value creation process of Lindt, we can observe how the strong ROIC achieved in the past and short-term future years, will fade away as market size expansion reduces in a fundamental market, Europe and Lindt's reduced competitiveness in "Rest-of-the-world". In 2021, overall ROIC for the

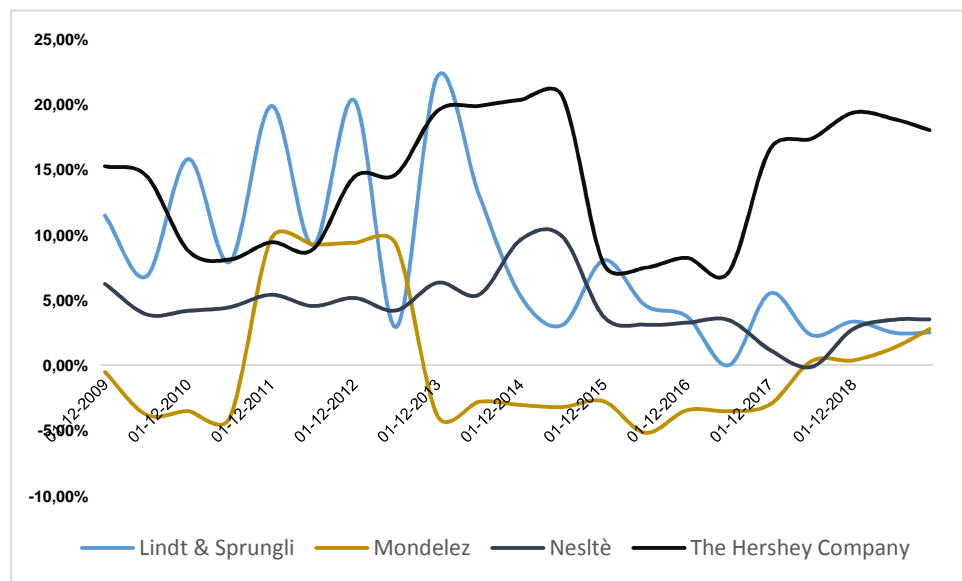
⁴⁰ See **Damodaran Online** - at <http://pages.stern.nyu.edu/~adamodar/>

⁴¹ Assumption based on analysis of F-test of regression between historical return of Lindt & Sprungli and a different set of market porxies : "SIX stock exchange" – "MSCI Europe" – "MSCI Americas".

company is expected to be 4.6% with a RONIC of 4.8% as well, long term this value will converge to 3.9% for the ROIC, close to WACC levels, and 4.7% for RONIC.

Similarly to Nestle and Hershey, Lindt has been able to maintain a solid value creation process throughout the years. This has been largely due to general growth rate of the underline business of chocolate sales. Mondelez on the other hand, had historically delivered a negative spread ROIC-WACC, marked by a decline in its salty snack business. (Table 21)

Table 21: Spread ROIC-WACC of Lindt & Sprungli and competitors for which information it was able to collect



Source: Bloomberg & Authors Elaboration

4.4 Terminal value

WACC was used to discount the terminal value assuming the capital structure remains constant. Considering the perpetual growth rate, Lindt will grow at a nominal rate of 2.7%. This value takes into account the long-term real growth of GDP, around 2% following IMF estimation. The industry in all business segments is assumed that will no longer gain any market share due to the nature and competitiveness of the market. Considering the forecasted impact of inflation to account for 0.7%, we expect the real terminal growth rate to be 2.1%

5. Valuation

5.1 DCF Valuation

Lindt's DCF model returns an expected share price by December 2020 of **81926.62 CHF**. The discounted terminal value will reach **11.4 bn CHF** while Discounted Cash Flow from operations in the period 2021-2029 will equal **15.7 bn CHF**. Considering Lindt's Non-Core invested capital at **1.8 bn CHF**, the company Enterprise Value is worth **18.6 bn CHF**. Net-financial assets are maintained at **-243.8 mln CHF** as a strategical capital structure decision leaving total Equity Value at almost the same value of EV, **18.4 bn CHF**. Lindt's total shares, as the company discloses are 0.224 mln thus the implied target share price is 81926.62 CHF. Considering expected Share buybacks in 2020 to be zero, and overall dividends per share to be 909.17 CHF both in 2019 and 2020, we expect an investor to deliver an overall return of 1%, with a 2.2% return on dividend and -1.2% loss on stock price devaluation.

5.2 Multiple Valuation

By taking advantage of the classification of comparable companies (whose market information has been summarized in **(Table 22)** of Lindt, given in **Chapter 3**, we provide the investors with a Multiple valuations. Two multiples were used: Enterprise Value to EBITDA and Enterprise Value to Sales.

Table 22: Lindt's comparable financial information re-cap

	Lindt & Sprungli	Mondelez	Nestlé	Hershey	Rocky Mountain	Tootsie Roll	Barry Callebaut	Meiji Co	Ezaki Glico
EV / EBITDA	21,9x	20,3x	20,7x	19,0x	16,6x	14,7x	20,6x	13,2x	8,8x
EV / Sales	4,1x	3,8x	3,7x	4,6x	2,8x	2,6x	1,9x	1,6x	0,8x

Source: Bloomberg & Authors elaboration

Lindt's estimated EBITDA value in December 2020 is projected to be 795.0 mln CHF, which implies an EV/EBITDA multiple of 21.9x which is expensive considering that Lindt's ranges between 8.8x of Ezaki Glico and 20.7x of Nestlé. The implied EV would indeed be 10632.9 in "low" condition, 1st quartile of the distribution and 16221.6 mln CHF in the 3rd quartile of the distribution. In any case, the EV/EBITDA multiple suggests that the company stock price in December 2020 may be found in the range 46380 CHF and 71330 CHF marking a substantial undervaluation, in discordance with DCF valuation.

Concerning EV to Sales, we can notice high volatility between the competitors. The ratio ranges between 0.8x of Ezaki Glico and 4.6x of Hershey. Lindt's enterprise value is estimated in the range of 6365.5 mln CHF and 17513.3 mln CHF, with a

final price range between 27329.11 CHF and 77095.93 CHF. Once again the market is suggesting an undervaluation of the company.

5.3 Football Field

Since Lindt has not public competitors in its specific market of premium-chocolate in the geographies where it operates, we believe that DCF valuation is more accurate and return more valid information. **Table 23** present a sum up of the three estimation model adopted.

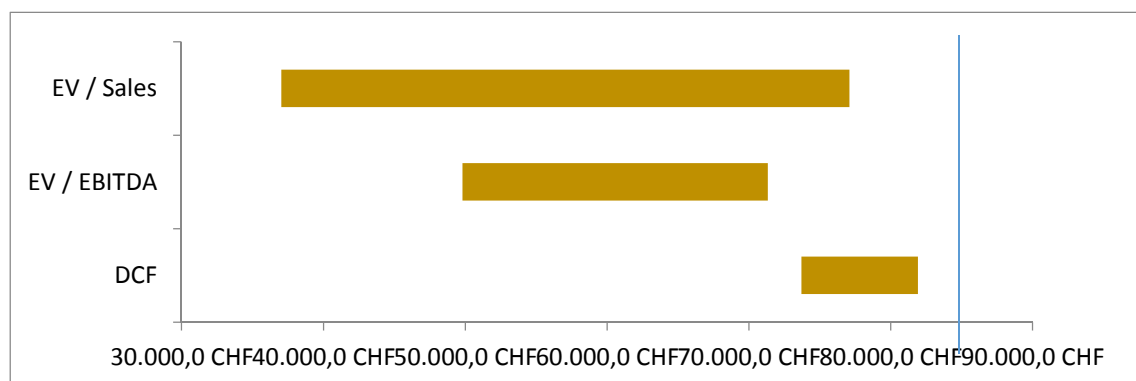
Table 23: Valuations sum-up

	Low	Spread	Base	Current
DCF	73.713,2 CHF	8.216,4 CHF	81.929,6 CHF	82.900,0 CHF
EV / EBITDA	49.804,8 CHF	21.524,9 CHF	71.329,7 CHF	82.900,0 CHF
EV / Sales	37.023,9 CHF	40.072,0 CHF	77.095,9 CHF	82.900,0 CHF

Source: Authors elaborations

Multiple analysis varies much as a consequence of the diverse fragmentation of the chocolate industry. Both EV/EBITDA and EV/Sales, as previously stated, suggest a devaluation of Lindt. The reasons might include the fact that when compared to the peers Lindt is one of the biggest companies in terms of **market capitalization** and **sales**, it is more focused on the **premium sector** and also Lindt covers more **geographies** than most of the comparable companies. **Table 24**, present a final **football fiel** of the three different valuation, with a **blue line** indicating the actual stock price of Lindt & Sprungli at 82900 CHF

Table 24: Football Field of Multiple and DCF valuation: CHF, underlining a tendentially overvaluation of the actual stock price (blue line).



Source: Authors elaboration

6. Sensitivity Analysis

The DCF analysis is highly affected by inputs and assumptions, therefore, to better understand how these changes would affect the valuation a sensitivity analysis was performed by considering changes in the Beta since it is the most critic WACC's

input due to the low leverage ratio and ROIC (Table 25). For Beta, the range used includes the possible decrease until the median of the peers 0.37 and increases from the current 0.55 until 0.6. For the **ROIC**, once again, small variations make a huge impact and therefore a variation of 0.1 was used resulting in a range of (3.7; 4.2).

Table 25: Sensitivity Analysis using leveraged beta and ROIC

		Sensitivity Analysis Leveraged Beta				
81929.6		0.37	0.46	0.51	0.55	0.60
ROIC	3.70%	-2758011.4	130523.6	93336.6	75133.3	64348.2
	3.80%	-2963462.0	138193.2	98262.5	78716.1	67135.3
	3.90%	-3241964.5	148589.9	104939.9	83572.9	70913.4
	4.00%	-3343545.6	152382.0	107375.4	85344.4	72291.4
	4.10%	-3519681.9	158957.3	111598.5	88416.0	74680.9
	4.20%	-3687430.8	165219.5	115620.4	91341.4	76956.5

Source: Authors elaboration

Additionally, a sensitivity analysis was also computed on other variables in order to have a deeper understanding of how each element is impacting the model is explained in detail under Mariana's insight into the appendix.

7. Scenario Analysis

In order to strengthen our valuation, we provided a scenario analysis that implements different expectations on some the variables characterizing our model.

7.1 Best-case scenario

Under the best-case scenario: **1)** impact of **Brexit** concerning the devaluation of the pound against CHF is based on an optimistic evaluation at the highest level in 2018 at 1.37 CHF per GBP. Considering the period opening at 1.45 CHF/GBP, prior Referendum (June 2016), and based on UK Sales estimation at 134.5 mln CHF for 2020, the total loss for the market due to pound devaluation would be around 22 mln CHF, equivalent to 0.04% of the whole European market dimension.

2) Considering the opening of 73 new stores in the RoW region by 2029, market share gains were estimated based on the number of store openings. In the best case, the store openings considered were still 73 as in the past, the company has never exceeded expectations on store openings.

3) Regarding the new store, Lindt's Home of Chocolate, in the best case scenario a less conservative approach is expected. The number of visitors, as well as the ticket prices, are expected to remain the same. However, the average chocolate purchase price per person is expected to increase from the expected 6 CHF to 7 CHF. The

purchase rate is expected to be constant under the three scenarios at an 80% of visitors.

Under this scenario, **4) Remaining drivers**, a 1% increase was estimated when the impact on the model is positive and a 1% decrease when the impact on the model is negative relative to the expected scenario to account for possible deviations in the values predicted. The expected share price following the best-case scenario is 92418.68 CHF, with an overall return of 13.7%. Considering the numerous variables at stake, we believe this scenario has a related probability of 10%, calculated by analysing last 10 years average sales underscoring market expectations of annual sales, only in one case, 2009, Lindt has outpaced by more than 5% expectations of following year sales⁴².

7.2 Worst-case scenario

Under the **worst-case** scenario: **1)** the impact of Brexit concerning the devaluation of the pound against CHF is based in a pessimistic evaluation at the lowest level since Referendum (June 2016) at 1.1806 CHF per GBP, reached by the market on November 2018. Considering the period opening at 1.45 prior Referendum, and based on UK Sales estimation at 134.5 mln CHF for 2020, the total loss for the market due to pound devaluation would be 76 mln CHF, equivalent to -0.14% of the whole European Chocolate market dimension.

2) Considering the opening of new stores in the RoW region, market share gains were estimated based on the number of store openings. In the worst case, the store openings considered were 40 instead of the expected 73, as in bad scenarios (*example 2008/2009 sales contraction*), Lindt has historically reduced by 45% its expected store openings.

3) Regarding the new store, Lindt's Home of Chocolate, in the worst-case scenario a more conservative approach is expected. The number of visitors, as well as the ticket prices, are expected to remain the same. However, the average chocolate purchase price per person is expected to increase from the expected 6 CHF to 3 CHF. The purchase rate is expected to be constant under the three scenarios at an 80% level. Under this scenario, for the remaining drivers, a 1% decrease was estimated when the impact on the model is positive and a 1% increase when the impact on the model is negative relative to the expected scenario to account for possible deviations in the values predicted. The expected share price following the best-case scenario is 73713.21 CHF, with an overall return of -8.9%. Considering the numerous variables at stake, we believe this scenario has a related probability of 10%.

⁴² See **Bloomberg** information on expected sales.

8. Conclusion and Risks

8.1 Supply-chain

Lindt's approach to "bean-to-bar" brings the company to directly control the production of chocolate in Ghana, Madagascar, Ecuador, Papua New Guinea and the Dominican Republic. Political or Economic instability may cause disruption of the shipment and cultivation causing severe damages to the company. To contain raw material price fluctuations and foreign exchange fluctuations, the company adopts the use of derivatives to protect itself. In 2018 the net position of this derivative valued at fair value was an asset of 25 million CHF. To ensure a strategic position of defending the company from Cocoa Mass production disruption, in 2019 the capacity will be increased with a new plant in Olten, Switzerland.

8.2 Other risks

As highlighted in the reports, we re-cap in this section all other risks affecting future Lindt's performance, evaluating their potential impact. Demographic changes reduce the chocolate market dimension by shifting age distribution towards older generations associated with a smaller consumption of chocolate. Considering the estimation already mentioned, we do not expect the company will be further at risk, as historically demographic paths are predicted with precision. Brexit and Hong-Kong crisis impact estimation, are by their nature risks with a high degree of unpredictability. However, as it is highlighted under the scenario analysis, big variations are not expected to hugely affect the final valuation. Competitive effects in the NAFTA region remains vulnerable to unexpected changes in the competitive landscape in the region. We believe that our constant update of the model is the best strategy to assure a flow of incorporation of new information. In the particular case of estimation of the impact of Ferrero acquisition, we based our analysis on a third-party estimation of the increased network which may result in variations. It is in the interest of investors, to keep updating the model and the estimation methods.

8.3 Conclusive thought

In conclusion, we believe that Lindt's stock price as of 3rd January 2020 is fairly valued by the market, and we expect an investor dividend return as of December 2020 to be 1%, while the reduced share price will deliver an -1.2% decrease, returning a total return of 2.2% translated in a HOLD recommendation.

Appendix

Core	Reformulation															
	2014	2015	2016	2017	2018	E 2019	E 2020	E 2021	E 2022	E 2023	E 2024	E 2025	E 2026	E 2027	E 2028	E 2029
Cash and Cash equivalents	67,7	73,1	78,0	81,8	86,3	88,3	91,5	94,7	98,1	101,7	105,5	108,3	111,7	114,9	117,9	121,1
2% of sales	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%	2,0%
Accounts Receivable	917,5	907,1	994,5	1.047,5	1.023,2	1.085,3	1.124,1	1.163,9	1.206,3	1.250,1	1.296,4	1.330,5	1.372,2	1.412,0	1.449,5	1.487,9
DSO	98,9	90,6	93,1	93,5	86,6	89,7	89,7	89,7	89,7	89,7	89,7	89,7	89,7	89,7	89,7	89,7
Inventories	611,7	647,5	657,6	731,4	752,2	784,2	813,9	844,4	876,8	910,4	945,8	972,0	1.003,9	1.034,4	1.063,0	1.092,5
DIO	66,0	64,7	61,5	65,3	63,7	64,8	65,0	65,1	65,2	65,3	65,5	65,6	65,7	65,8	65,8	65,9
Accrued income	2,2	4,1	10,9	4,0	2,5	6,2	6,4	6,6	6,9	7,1	7,4	7,6	7,8	8,0	8,2	8,5
% of revenues	0,065%	0,120%	0,320%	0,118%	0,073%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%	0,14%
Accounts payable to suppliers	(190,1)	(183,3)	(180,4)	(217,3)	(214,2)	(216,8)	(224,5)	(232,5)	(240,9)	(249,7)	(258,9)	(265,7)	(274,1)	(282,0)	(289,5)	(297,2)
DPO	20,5	18,3	16,9	19,4	18,1	17,9	17,9	17,9	17,9	17,9	17,9	17,9	17,9	17,9	17,9	17,9
Current tax liabilities	(76,4)	(28,0)	(39,4)	(55,0)	(52,5)	(65,5)	(67,8)	(70,2)	(72,7)	(75,4)	(78,1)	(80,2)	(82,7)	(85,1)	(87,3)	(89,7)
% of revenues	-2,24%	-0,82%	-1,16%	-1,62%	-1,54%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Accrued liabilities (core)	(436,5)	(442,2)	(447,9)	(478,1)	(463,3)	(464,1)	(481,3)	(496,8)	(517,8)	(537,4)	(558,1)	(573,0)	(593,5)	(611,2)	(627,5)	(644,4)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Provisions	(77,4)	(103,6)	(364,1)	(105,9)	(102,5)	(196,3)	(203,3)	(210,5)	(218,1)	(226,0)	(234,3)	(240,5)	(248,0)	(255,1)	(261,9)	(268,8)
% of revenues	-2%	-3%	-11%	-3%	-3%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%	-4%
Net working Capital	818,7	874,7	709,2	1.008,4	1.031,7	1.021,5	1.059,0	1.099,7	1.138,6	1.180,8	1.225,6	1.258,9	1.297,3	1.335,9	1.372,5	1.409,9
%	6,83%	6,83%	-18,92%	42,18%	2,31%	-0,99%	3,67%	3,85%	3,53%	3,71%	3,79%	2,72%	3,05%	2,98%	2,74%	2,73%
PP&E (Core)	1.040,8	1.101,1	1.186,8	1.232,1	1.277,5	1.352,2	1.382,6	1.463,2	1.469,2	1.500,3	1.556,8	1.586,6	1.592,4	1.623,0	1.678,3	1.708,7
see specific section below	31%	30,0%	30,3%	30,0%	29,5%	/	/	/	/	/	/	/	/	/	/	/
Derivatives asset + liabilities (core)	8,3	18,8	(49,4)	(25,7)	25,0	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)	(4,6)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Intangible assets (core)	1.239,5	1.239,3	1.263,4	1.228,5	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0	1.236,0
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Deferred Tax Assets (Core elements)	112,8	75,2	96,6	86,6	84,6	100,9	104,4	108,3	112,2	116,2	120,7	123,8	127,6	131,3	134,9	138,5
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Deferred tax liabilities (Core Elements)	(102,0)	(106,0)	(119,1)	(112,3)	(121,1)	(116,9)	(121,8)	(125,2)	(126,4)	(128,4)	(131,3)	(133,0)	(134,1)	(136,1)	(138,7)	(140,6)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Net fixed assets and intangibles	2.299,4	2.328,4	2.378,3	2.409,2	2.502,0	2.567,5	2.596,7	2.677,7	2.686,4	2.719,6	2.777,6	2.808,8	2.817,3	2.849,7	2.905,9	2.937,9
%	1,26%	2,14%	1,30%	3,85%	2,62%	1,14%	3,12%	0,32%	1,24%	2,13%	1,12%	0,30%	1,15%	1,97%	1,10%	
Core Invested Capital	3.118,1	3.203,1	3.087,5	3.417,6	3.533,7	3.589,0	3.655,7	3.777,4	3.825,0	3.900,4	4.003,2	4.067,8	4.114,6	4.185,6	4.278,4	4.347,8
growth rate	2,72%	-3,61%	10,69%	3,40%	1,57%	1,86%	3,33%	1,26%	1,97%	2,63%	1,61%	1,15%	1,72%	2,22%	1,62%	
Non Core	2014	2015	2016	2017	2018	E 2019	E 2020	E 2021	E 2022	E 2023	E 2024	E 2025	E 2026	E 2027	E 2028	E 2029
Financial assets (non-core)	2,3	1,3	1,3	1,4	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
PP&E (Non-core)	47,3	49,2	53,6	57,2	67,3	62,5	64,7	67,0	69,5	72,0	74,7	76,6	79,0	81,3	83,5	85,7
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Intangible assets (Non-core)	155,0	154,6	161,0	150,2	142,3	45,5	126,5	121,4	116,9	112,8	109,1	105,6	102,5	99,7	97,2	95,0
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Other non-current liabilities	(11,2)	(8,4)	(7,6)	(7,7)	(6,6)	(9,7)	(10,0)	(10,4)	(10,8)	(11,1)	(11,6)	(11,9)	(12,2)	(12,6)	(12,9)	(13,3)
% of revenues	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)
Accrued liabilities (non-core)	(145,6)	(166,4)	(170,4)	(199,5)	(203,1)	(208,4)	(216,3)	(223,2)	(233,2)	(242,3)	(251,8)	(258,7)	(268,4)	(276,6)	(284,1)	(291,8)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Other accounts payable	(41,7)	(50,6)	(46,8)	(53,2)	(56,2)	(64,7)	(67,0)	(69,4)	(71,9)	(74,5)	(77,3)	(79,3)	(81,8)	(84,1)	(86,4)	(88,7)
% of revenues	-1%	-1%	-1%	-2%	-2%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Derivatives asset + liabilities (non-core)	-27,60	-22,10	1,90	2,30	1,50	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01	-8,01
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Other Receivables	105,2	122,4	109,0	130,9	118,8	53,2	139,0	143,9	149,1	154,5	160,2	164,4	169,6	174,5	179,1	183,8
% of revenues	3,091%	3,334%	2,782%	3,188%	2,742%	1,200%	3,027%	3,027%	3,027%	3,027%	3,027%	3,027%	3,027%	3,027%	3,027%	3,027%
Deferred Tax Assets (Non-Core elements)	(51,7)	(43,4)	(9,3)	(43,6)	(24,9)	(41,9)	(34,2)	(33,1)	(31,8)	(29,9)	(28,4)	(26,7)	(25,0)	(23,2)	(21,3)	(19,3)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Deferred tax liabilities (Non-Core Elements)	(269,3)	(355,7)	(314,3)	(331,6)	(345,3)	(248,6)	(329,4)	(341,2)	(354,6)	(374,9)	(390,3)	(407,9)	(426,0)	(445,2)	(465,1)	(486,1)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Marketable securities and short-term financ	0,20	0,20	0,20	0,20	1,60	0,6	0,6	0,7	0,7	0,7	0,7	0,8	0,8	0,8	0,8	0,9
% of revenues	0,006%	0,006%	0,006%	0,006%	0,047%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%	0,01%
Financial Assets (non-core)	1213,40	1570,00	1300,90	1482,10	1532,80	2.121,7	2.179,6	1.739,2	1.802,4	1.867,9	1.937,1	1.988,1	2.050,4	2.109,9	2.165,8	2.223,3
see section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Non Core Invested Capital	976,3	1.251,1	1.079,5	1.188,7	1.229,4	1.703,4	1.846,7	1.388,1	1.429,5	1.468,3	1.515,6	1.544,2	1.582,0	1.617,7	1.649,9	1.682,7
Financial	2014	2015	2016	2017	2018	E 2019	E 2020	E 2021	E 2022	E 2023	E 2024	E 2025	E 2026	E 2027	E 2028	E 2029
Excess Cash	104,1	331,2	514,2	771,2	909,8	762,4	980,5	1.727,2	2.065,6	2.397,1	2.706,7	3.086,2	3.491,0	3.888,3	4.280,9	4.710,4
Debt (Interest bearing)	(1.016,2)	(1.086,0)	(815,4)	(1.007,4)	(1.011,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)	(1.036,0)
see section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Pension Liabilities	(180,3)	(209,7)	(191,7)	(174,8)	(174,9)	(153,0)	(188,3)	(193,4)	(199,3)	(208,2)	(214,9)	(222,6)	(230,5)	(238,8)	(247,5)	(256,7)
Deferred Tax Assets (Financial elements)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Deferred tax liabilities (Financial Elements)	(0,3)	0,0	(0,1)	(0,3)	(0,6)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)
see specific section below	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Net Financial Assets	-1.092,7	-964,5	-493,0	-411,3	-276,7	(426,6)	(243,8)	497,8	830,4	1.152,9	1.455,9	1.827,6	2.224,5	2.613,5	2.997,4	3.417,8
Reformulated Stockholders' Equity	3.001,7	3.489,7	3.674,0	4.195,0	4.486,4	4.865,8	5.258,6	5.663,4	6.084,8	6.521,6	6.974,6	7.439,6	7.921,2	8.416,8	8.925,7	9.448,3

Consolidated Income Statement & Other Comprehensive Income																
	CHF Million					Estimated Value										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Income						3,21%	3,16%	3,12%	3,04%	2,95%	2,79%	2,83%	2,74%	2,65%	2,65%	
Sales	3,385.4	3,653.3	3,900.9	4,088.4	4,313.2	4,415.4	4,573.0	4,735.1	4,907.4	5,085.5	5,273.9	5,412.9	5,582.5	5,744.5	5,896.8	6,053.2
Other income	18.2	17.9	17.2	17.7	19.3	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
<i>growth</i>		7.9%	6.8%	4.8%	5.5%	2.4%	3.6%	3.5%	3.6%	3.6%	3.7%	2.6%	3.1%	2.9%	2.7%	2.7%
Total Income	3,403.6	3,671.2	3,918.1	4,106.1	4,332.5	4,433.4	4,591.0	4,753.2	4,925.4	5,103.5	5,292.0	5,430.9	5,600.6	5,762.5	5,914.8	6,071.3
Expenses																
Material expenses	(1,218.1)	(1,363.1)	(1,388.8)	(1,488.3)	(1,463.2)	(1,582.7)	(1,639.1)	(1,697.3)	(1,759.0)	(1,822.9)	(1,890.4)	(1,940.2)	(2,001.0)	(2,059.1)	(2,113.7)	(2,169.7)
Changes in inventories	(9.8)	57.1	12.6	63.0	29.2	33.7	34.9	36.1	37.4	38.8	40.2	41.3	42.6	43.8	45.0	46.2
Personnel expenses	(719.5)	(807.1)	(846.3)	(886.4)	(938.4)	(959.2)	(993.4)	(1,028.7)	(1,066.1)	(1,104.8)	(1,145.7)	(1,175.9)	(1,212.8)	(1,247.9)	(1,281.0)	(1,315.0)
Operating expenses	(868.2)	(912.3)	(981.6)	(1,030.0)	(1,143.9)	(1,125.9)	(1,166.1)	(1,207.4)	(1,251.3)	(1,296.7)	(1,344.8)	(1,380.2)	(1,423.5)	(1,464.8)	(1,503.6)	(1,543.5)
EBITDA	588.0	645.8	714.0	764.4	816.2	799.4	827.3	856.0	886.4	918.0	951.3	975.9	1,005.9	1,034.6	1,061.5	1,089.2
Depreciation, amortization, and impairment	(113.7)	(127.0)	(151.5)	(169.0)	(179.5)	(167.3)	(171.5)	(179.6)	(180.4)	(184.8)	(189.6)	(193.8)	(194.7)	(199.1)	(203.7)	(208.1)
<i>% of PP&E</i>	10.9%	11.5%	12.8%	13.7%	14.1%	12.4%	12.4%	12.3%	12.3%	12.3%	12.2%	12.2%	12.2%	12.3%	12.3%	12.2%
Total expenses	(2,929.3)	(3,152.4)	(3,355.6)	(3,510.7)	(3,695.8)	(3,801.4)	(3,935.3)	(4,076.8)	(4,219.4)	(4,370.4)	(4,530.3)	(4,648.8)	(4,789.3)	(4,927.1)	(5,057.0)	(5,190.2)
Operating profit (EBIT)	474.3	518.8	562.5	595.4	636.7	632.1	655.8	676.4	706.1	733.2	761.7	782.1	811.2	835.5	857.8	881.1
Financial income	3.6	3.7	5.7	3.0	3.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Financial expense	(5.4)	(11.0)	(14.1)	(15.6)	(19.9)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)	(13.2)
<i>% of debt</i>	0.53%	1.01%	1.73%	1.55%	1.97%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%	1.36%
Income before taxes	472.5	511.5	554.1	582.8	620.6	622.9	646.6	667.2	696.9	724.0	752.5	772.9	802.0	826.3	848.6	871.9
Taxes	(129.9)	(130.5)	(134.3)	(130.3)	(133.5)	(132.7)	(137.7)	(142.1)	(148.3)	(154.0)	(160.1)	(164.4)	(170.6)	(175.7)	(180.4)	(185.3)
Net income	342.6	381.0	419.8	452.5	487.1	490.2	508.9	525.1	548.6	569.9	592.4	608.5	631.5	650.6	668.2	686.5
of which attributable to non-controlling interests	0.2	0.6	0.1	1.8	2.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
of which attributable to shareholders of the parent	342.4	380.4	419.7	450.7	485.1	489.2	507.9	524.2	547.6	569.0	591.5	607.6	630.6	649.7	667.3	685.6
Statement of Comprehensive Income																
Other comprehensive income																
Net income	342.6	381.0	419.8	452.5	487.1	490.2	508.9	525.1	548.6	569.9	592.4	608.5	631.5	650.6	668.2	686.5
Remeasurement of defined benefit plans	90.3	237.0	(171.9)	143.1	27.5	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
Items that may be reclassified subsequently to the income statement																
Hedge accounting	(1.7)	10.7	(63.0)	15.9	52.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Currency translation	80.8	(67.2)	44.6	(14.1)	(34.7)	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Total comprehensive income	512	561.5	229.5	597.4	532.4	560.1	578.8	595.1	618.5	639.9	662.4	678.5	701.5	720.6	738.2	756.5
of which attributable to non-controlling interests	0.1	(0.2)	1.1	1.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
of which attributable to shareholders of the parent	511.9	561.7	228.4	595.7	531.6	559.4	578.1	594.4	617.8	639.2	661.7	677.8	700.8	719.9	737.5	755.8
Reformulated statement of changes of Equity																
	2014	2015	2016	2017	2018	E 2019	E 2020	E 2021	E 2022	E 2023	E 2024	E 2025	E 2026	E 2027	E 2028	E 2029
Stockholders equity																
Total stockholders' equity - beginning of year		3001.7	3489.7	3674.0	4195.0	4486.4	4865.8	5258.6	5663.4	6084.8	6521.6	6974.6	7439.6	7921.2	8416.8	8925.7
Total comprehensive income		561.5	229.5	597.4	532.4	560.1	578.8	595.1	618.5	639.9	662.4	678.5	701.5	720.6	738.2	756.5
Total comprehensive income attributable to shareholders of the parent		561.7	228.4	595.7	531.6	559.4	578.1	594.4	617.8	639.2	661.7	677.8	700.8	719.9	737.5	755.8
Capital increase		102.1	64.0	101.0	87.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock repurchase (purchase of own...)		-7.7	42.9	22.2	-118.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash dividends (distribution of profits)		(166.3)	(187.2)	(208.9)	(223.4)	(195.8)	(202.3)	(208.0)	(216.2)	(223.7)	(231.6)	(237.2)	(245.3)	(251.9)	(258.1)	(264.5)
<i>% of net income</i>		-29.6%	-20.0%	-35.1%	-42.0%	-35%	-35%	-35%	-35%	-35%	-35%	-35%	-35%	-35%	-35%	-35%
Stock based compensation (share-based payment)		(4.4)	33.6	9.1	14.2	15.7	17.1	18.4	19.9	21.3	22.9	24.5	26.1	27.8	29.5	31.3
<i>% equity</i>		-0.15%	0.96%	0.25%	0.34%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
Net Transactions with Shareholders		-76.3	-46.7	-76.6	-240.6	-180.1	-185.3	-189.6	-196.4	-202.4	-208.7	-212.8	-219.2	-224.2	-228.6	-233.2
Total stockholders' equity - end of year	3,001.7	3,489.7	3,674.0	4,195.0	4,486.4	4,865.8	5,258.6	5,663.4	6,084.8	6,521.6	6,974.6	7,439.6	7,921.2	8,416.8	8,925.7	9,448.3
Cash Flow Statement Reformulation																
	2014	2015	2016	2017	2018	E 2019	E 2020	E 2021	E 2022	E 2023	E 2024	E 2025	E 2026	E 2027	E 2028	E 2029
Core Business Overall																
NOPLAT	350	400	444	484	522	516	535	552	576	598	621	638	662	682	700	719
Depreciation and amortization	95	113	128	137	137	129	132	140	140	143	147	151	151	154	158	162
Operating Cash Flow	495	558	612	659	659	644	667	691	716	741	768	789	813	836	858	881
Net CAPEX	(124)	(163)	(159)	(230)	(230)	(194)	(161)	(221)	(148)	(177)	(205)	(182)	(159)	(187)	(214)	(194)
Change in NWC and others	(56)	165	(299)	(23)	(23)	10	(38)	(41)	(39)	(42)	(45)	(33)	(38)	(39)	(37)	(37)
Investing Cash Flow	(179)	2	(458)	(253)	(253)	(184)	(199)	(261)	(187)	(219)	(250)	(215)	(198)	(225)	(251)	(231)
Free Cash Flow		315	560	154	406	460	468	430	528	523	519	573	615	611	607	650
IR	86%	80%	87%	55%	65%	68%	68%	68%	68%	68%	68%	69%	69%	69%	69%	69%
delta noplat	50.1	44.2	39.6	38.1	38.1	(6.4)	19.2	16.9	24.2	22.1	23.4	16.6	23.8	19.9	18.3	19.1
Investing	274.0	111.3	585.7	390.5	390.5	312.8	331.3	401.2	327.0	362.1	397.0	366.1	348.3	379.6	409.1	392.9
RONIC			45.0%	7.5%	10.1%	12.2%	(1.9%)	4.8%	5.2%	6.7%	5.6%	6.4%	4.8%	6.3%	4.9%	4.7%
Implied ROIC		16.6%	13.9%	10.2%	14.4%	(1.8%)	5.5%	4.6%	6.4%	5.6%	5.7%	3.9%	5.4%	4.4%	3.9%	3.9%
g		14.3%	11.0%	8.9%	7.9%	(1.2%)	3.7%	3.2%	4.4%	3.8%	3.9%	2.7%	3.7%	3.0%	2.7%	2.7%
Non Core Business																
Non Core Result	168.1	(207.1)	125.0	25.2	25.2	53.0	52.4	51.8	51.1	50.3	49.5	48.9	48.1	47.3	46.6	45.9
Non Core Investments	(274.8)	171.6	(109.2)	(40.7)	(40.7)	(474.0)	(143.3)	(45.6)	(41.4)	(38.8)	(47.3)	(28.6)	(37.8)	(35.7)	(32.2)	(32.8)
Non Core Free Cash Flow	(106.7)	(35.5)	15.8	(15.5)	(15.5)	(421.0)	(90.8)	(510.4)	(9.7)	11.5	2.2	20.3	10.3	11.6	14.4	13.1
Operational Free Cash Flow	208.4	524.3	169.7	390.3	390.3	39.2	377.3	940.3	538.0	534.1	520.8	593.7	625.2	622.3	621.6	662.7
Financial																
Financial Result	(6.5)	(8.8)	(13.2)	(15.5)	(15.5)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)
Change in Net Financial Assets	(128.2)	(471.4)	(81.7)	(134.6)	(134.6)	150.0	(182.9)	(741.6)	(332.5)	(322.6)	(302.9)	(371.8)	(396.9)	(389.0)	(383.9)	(420.3)
Transactions with shareholders	(73.7)	(44.1)	(74.7)	(240.2)	(240.2)	(180.1)	(185.3)	(189.6)	(196.4)	(202.4)	(208.7)	(212.8)	(219.2)	(224.2)	(228.6)	(233.2)
Financing Cash Flow	(208.4)	(524.3)	(169.7)	(390.3)	(390.3)	(39.2)	(377.3)	(940.3)	(538.0)	(534.1)	(520.8)	(593.7)	(625.2)	(622.3)	(621.6)	(662.7)

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Lindt & Sprüngli Capital Structure

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A Project carried out on the Master in Finance Program, under the supervision of:

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Abstract

In the context of Lindt & Sprüngli valuation, I have analysed the company capital structure, by implemented two theoretical models: Trade-off theory and Pecking Order Theory. Lindt & Sprüngli decision to maintain a low debt-to-equity ratio, is reconcilable with both models and thus, permit the calculation of a final target capital structure to calculate cost of capital for the company.

Keywords (up to four)

Cost of Capital, Trade-off theory, Pecking order theory, Leverage

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Gian's Insight – Capital structure

Insight on Capital Structure.

In the attempt to calculate Lindt's target capital structure, is provided an insight into the methodology used to achieve the final D/E of 0.04 presented in the report.

Cost of Equity and Cost of debt: Leverage effects

With the increase of leverage ratio, three main effects are observable:

1) **Tax Shield:** whose present value is equal to the *amount of debt* multiplied with *marginal tax rate*. It is an additional stakeholder value generated by the tax deductibility of interests paid on debt. The higher the debt, the higher the interests, the lower EBT, the smaller the amount of tax paid. The amount in a given year of Tax Shield is thus equal to the amount of "interest-bearing" income * Cost of the debt * Tax rate. The present value of this benefit is perpetuity whose interest rate is the *cost of debt*, thus:

$$PV (Tax Shield) = Tc * (Interest Bearing Debt)$$

Where Tc , **Marginal Tax Rate**.

2) **Costs of Financial Distress**, associated with a higher degree of leverage.

The more a company leverages its capital structure, the more difficult it becomes paying back those liabilities. This increment the probability of default of the institution, and consequently the remuneration debtholder will ask to provide credit. Considering this, financial distress costs can be measured by using as a proxy, cost of debt.

3) Following Modigliani-Miller II, we also know that the return demanded by a shareholder is a function of leverage. In particular, considering CAPM to estimate the *cost of equity*, the only relevant risk for investors is the undiversifiable risk against the market portfolio premium. The risk connected to an **unlevered** firm is indeed only connected to its business (c.d. *Business Risk*

Premium)⁴³. When leverage is added to the company capital structure, an additional risk arises, Financial Leverage, connected to the amplified business risk. Algebraically the increased cost of equity is channeled by the systemic risk of the company towards a well-diversified portfolio, the higher the leverage, the more sensitive the company returns are:

$$\beta_l = \beta_u * (1 + (1 - T_c) * \frac{D}{E})$$

Model 1: Trade-off theory

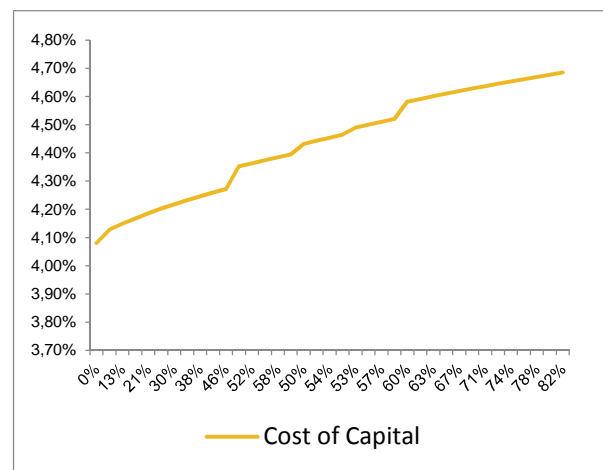
To calculate Lindt’s optimum cost of capital following the trade-off theory was assumed the cost of debt respond to

Table 1 provided by NYU⁴⁴, where the cost of debt is identified in the function of Interest Coverage Ratio (ICR). By assuming that EBIT (2020) of Lindt will be 655.4 million CHF, Risk-Free rate for CHF to be - 0.4% and by inputting Interest Expenses, it has been possible to obtain a maximization of the value in correspondence of the D/E Value of 0%. (**Table 2**)

Table 1: NYU cost of debt table, as function of ICR

If interest coverage ratio is		Rating is	Spread is
>	≤ to		
-100000	0,199999	D2/D	19,38%
0,2	0,649999	C2/C	14,54%
0,65	0,799999	Ca2/CC	11,08%
0,8	1,249999	Caa/CCC	9,00%
1,25	1,499999	B3/B-	6,60%
1,5	1,749999	B2/B	5,40%
1,75	1,999999	B1/B+	4,50%
2	2,249999	Ba2/BB	3,60%
2,25	2,49999	Ba1/BB+	3,00%
2,5	2,999999	Baa2/BBB	2,00%
3	4,249999	A3/A-	1,56%
4,25	5,499999	A2/A	1,38%
5,5	6,499999	A1/A+	1,25%
6,5	8,499999	Aa2/AA	1,00%
8,50	100000	Aaa/AAA	0,75%

Table 2: Cost of Capital optimization

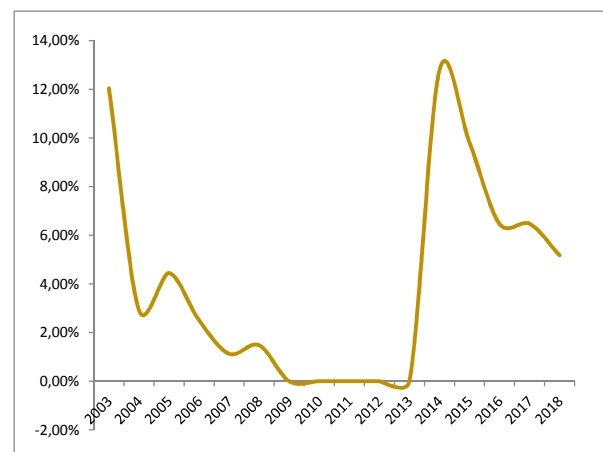


This result tells us that Lindt does not generate additional value by rising debt, which is in accordance with the trend maintained by the company in the last years at an average of 0.04 (**Table 3**).

Model 2–Pecking Order Theory

By analyzing the company's historical cash outflow, emerge the tendency to finance activities primarily with own cash (internal resources), and secondly with

Table 3: Historical ND/E variation



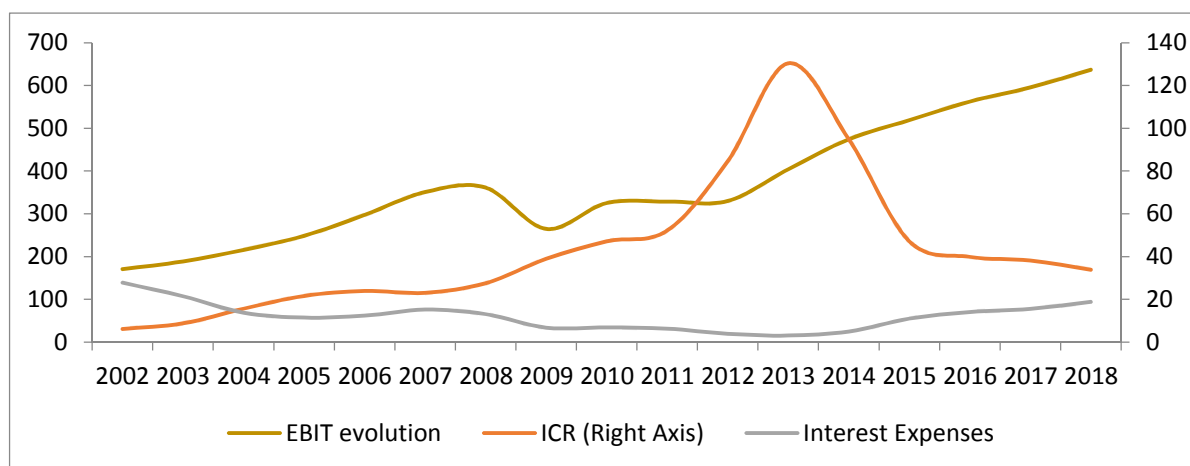
⁴³ See: Harvard Business School, *Leveraged Betas and the Cost of Equity*, June 25, 1993

⁴⁴ http://people.stern.nyu.edu/adamodar/New_Home_Page/datafile/wacc.htm

Source: Author elaboration

the emission of bonds (external resources). The company, for example, has emitted 1 bn CHF in bond in 2014 to acquire American chocolate-maker Russel Stover. This behavior is also confirmed by analyzing Interest Coverage Ratio changes since 2002 (**Table 4**). Lindt's emission of 1 bn CHF in bond in 1998 to acquire Ghirardelli generated interest expenses that decreased with the repayments of principal. ICR gradually improved, as EBIT expanded and the number of interest decreases. After the cessation of the bond life (Lindt typically uses 10-year bond), ICR soared rapidly to level 130, before decreasing again as a consequence of the new emission in 2014 to acquire Russel Stover **Table 4**. This path follows the so-called **Peking Order Theory**, developed by *Donaldson* in 1961 and then revised by *Myers* and *Majluf* in 1984, suggesting that companies' capital structure is the result of an order of preference that favors firstly **internal resources**, secondly **issuance of debt** and lastly **issuance of capital**⁴⁵.

Table 4: Evolution of EBIT (left axis), Interest expenses (Right axis), ICR (Right Axis)



Source: Author elaboration

Lindt's accounting cash flows variations can be summarized in 4 categories, (1) **operational cash-flow generation**, (2) **investments in PP&E**, (3) **profit distributions** and (4) **subsidiary acquisition** (**Table 5**):

⁴⁵ "The Capital Structure Puzzle", S. C. Myers, *The Journal Of Finance*, pub.1984

- 1) Lindt's Operations are a main source of cash, since 2014, the company has cashed 2.5 bn CHF by operations, at an average Cash Operations⁴⁶/EBITDA of 71.49%.
- 2) Cash investments are mainly associated with acquisitions of PP&E and investments in the subsidiary.
- 3) Issuance of bonds: As precedent described, Lindt's emission of the bond is connected to the acquisition of a subsidiary, or more generally, as an alternative to internal resources when this is not enough to finance company investments. It is the least recurrent of the captions as it depends on international strategical expansion and market opportunities.
- 4) Profit distribution has been steadily increasing in the years, delivering almost 785 mln CHF since 2014 to shareholders.

Table 5: Cash variations by category

	2013	2014	2015	2016	2017	2018
Beg balance	295,8	619,4	171,8	404,3	592,2	853
Cash from operations	419,1	308,2	488,9	515,4	591	651,6
Invested cash	-44,4	-1603,6	-247,1	-224,6	-184	-248,7
<i>other</i>	133	94,6	-12,1	-7,8	-10,8	-3,8
<i>pp&e</i>	-177,4	-223,6	-235	-216,8	-173,2	-244,9
<i>investment in subsidiary</i>	0	-1474,6	0	0	0	0
financing	-50,5	844,8	0,7	-100,1	-148,2	-252,5
<i>other</i>	79,2	-3,8	167	87,1	-188,7	-29,1
<i>proceeds issuance bonds</i>	0	996,6	0	0	249,4	0
<i>profit distribution</i>	-129,7	-148	-166,3	-187,2	-208,9	-223,4
End Balance	619,4	171,8	404,3	592,2	853	996,1

Source: Author elaboration

Models pros and cons, and final remarks

Both models suggest that Lindt's actual capital structure may be backed by theory. The trade-off model uses a hypothesis to simplify the complex reality of the cost of capital calculation. Thus, even if accurate, the model is sensitive to assumptions. All in all, a valid take away is that Lindt's capital structure may be optimized with low levels of debt. The pecking order model describes a process rather than predicting scenarios, thus it has not strong limitations in terms of hypothesis, for this reason, is more accurate. Furthermore, the model doesn't differ substantially from trade-off as it forecast a target capital structure of 0.04.

⁴⁶ Historically, companies held for operations the equivalent of 2% of the sales. This criteria has been adopted here