OKAMOTO

Corporate Valuation

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1 OKAMOTO Overview

1.1 Presentation

OKAMOTO Corporation is a Japanese company that specializes in the manufacturing and distribution of various products, including condoms, medical gloves, and other healthcare products. The company was founded in 1934 and is headquartered in Tokyo, Japan.

OKAMOTO is known for its high-quality condoms, which are sold under the brand name "OKAMOTO 0.01." These condoms are known for their thinness and sensitivity, providing a natural and pleasurable experience for users. The company also produces other types of condoms, such as textured and flavored varieties, catering to different preferences.

In addition to condoms, OKAMOTO also manufactures and sells medical gloves, including latex and nitrile gloves. These gloves are used in various industries, including healthcare, food service, and manufacturing, to ensure safety and hygiene.

OKAMOTO has a strong presence in the global market, with its products being sold in over 100 countries worldwide. The company has a commitment to quality and safety, adhering to strict manufacturing standards and regulations. OKAMOTO's products are known for their reliability and effectiveness, making them a trusted choice for consumers and professionals alike.

Overall, OKAMOTO Corporation is a leading company in the healthcare industry, providing innovative and high-quality products that promote safety and well-being.

1.2 Activity and Business Units

OKAMOTO Corporation operates in several business units and engages in various activities. Here are some of the key areas of their operations:

Condoms: OKAMOTO is well-known for its condom manufacturing business. They produce a wide range of condoms, including ultra-thin condoms, textured condoms, and flavored condoms. Their condoms are sold under the brand name "OKAMOTO 0.01" and are highly regarded for their quality and sensitivity.

Medical Gloves: OKAMOTO also manufactures and distributes medical gloves, including latex and nitrile gloves. These gloves are used in healthcare settings, food service industries, and other sectors where hand protection is essential. OKAMOTO's

medical gloves are known for their durability, comfort, and adherence to safety standards.

Healthcare Products: Apart from condoms and medical gloves, OKAMOTO produces and sells various other healthcare products. This includes items like lubricants, personal hygiene products, and sexual wellness accessories. These products are designed to promote health, hygiene, and overall well-being.

Research and Development: OKAMOTO invests in research and development to continuously improve their products and develop new innovations. They strive to stay at the forefront of technology and design in the condom and healthcare industry. This commitment to R&D allows them to offer cutting-edge products that meet the evolving needs of consumers.

Global Distribution: OKAMOTO has a strong global presence and distributes its products in over 100 countries worldwide. They have established partnerships with distributors and retailers to ensure their products are widely available to consumers. This global distribution network enables OKAMOTO to reach a diverse customer base and expand their market share.

Overall, OKAMOTO Corporation operates in multiple business units, focusing on condoms, medical gloves, healthcare products, and research and development. Their activities span manufacturing, distribution, and innovation, with a strong emphasis on quality, safety, and customer satisfaction.

1.3 Macroeconomic and Risk Analysis

1.3.1 Macroeconomic Factors

As a manufacturer and distributor of condoms and medical gloves, OKAMOTO Corporation can be influenced by various macroeconomic factors. Here are some key macroeconomic factors that can impact OKAMOTO:

Economic Growth: The overall economic growth of the countries where OKAMOTO operates can affect consumer spending power and demand for its products. During periods of economic expansion, consumers may have higher disposable income, leading to increased demand for condoms and healthcare products.

Inflation: Inflation rates can impact OKAMOTO's production costs, including raw materials, labor, and transportation. Higher inflation can increase the cost of production, potentially affecting profitability unless the company can pass on the increased costs to consumers through price adjustments.

Interest Rates: Changes in interest rates can influence OKAMOTO's borrowing costs and investment decisions. Higher interest rates can increase the cost of capital, potentially impacting the company's expansion plans or ability to invest in research and development.

Exchange Rates: OKAMOTO operates globally, and fluctuations in exchange rates can impact its financial performance. Changes in exchange rates can affect the company's export competitiveness, import costs, and profitability when revenues and expenses are denominated in different currencies.

Demographics: Population demographics, such as age distribution and population growth, can influence the demand for OKAMOTO's products. For instance, an aging population may lead to increased demand for medical gloves and healthcare products, while changes in the youth population can impact the demand for condoms.

Healthcare Expenditure: Government healthcare policies and spending can impact the demand for medical gloves and other healthcare products. Changes in healthcare regulations, insurance coverage, or public health initiatives can influence the market dynamics for OKAMOTO's products.

Consumer Behavior and Social Attitudes: Cultural and social attitudes towards sexual health and contraception can impact the demand for condoms. Factors such as changing societal norms, education campaigns, and public awareness initiatives can influence consumer behavior and preferences.

It's important to note that the impact of these macroeconomic factors can vary depending on the specific market and region in which OKAMOTO operates. Conducting a detailed analysis of the local macroeconomic conditions and market dynamics is crucial for a comprehensive understanding of OKAMOTO's business environment.

1.3.2 Analysis of the Industry

Market Size and Growth: Assess the size of the global condom and medical glove market and its projected growth. Consider factors such as population demographics, healthcare spending trends, and cultural attitudes towards sexual health and hygiene. Analyze the potential for market expansion and the opportunities for OKAMOTO to capture a larger market share.

Competitive Landscape: Evaluate the competitive dynamics within the industry. Identify major competitors, their market share, and their strategies. Assess OKAMOTO's competitive advantages, such as product quality, brand reputation, distribution network, and pricing strategies. Consider the barriers to entry and the threat of new entrants or substitute products.

Technological Advancements: Analyze the impact of technological advancements on the industry. Consider innovations in condom materials, manufacturing processes, and medical glove technologies. Assess OKAMOTO's ability to adopt and leverage new technologies to enhance product quality, efficiency, and customer experience.

Regulatory Environment: Examine the regulatory framework governing the production and distribution of condoms and medical gloves. Consider product safety standards, compliance requirements, and any potential changes in regulations that may impact the industry. Assess OKAMOTO's ability to meet regulatory standards and adapt to evolving requirements.

Distribution Channels: Evaluate the distribution channels within the industry. Consider the role of retailers, wholesalers, and online platforms in reaching consumers. Assess OKAMOTO's distribution network and its ability to effectively reach target markets and meet customer demands.

Consumer Trends and Preferences: Analyze consumer trends and preferences in the industry. Consider factors such as increasing awareness of sexual health, demand for eco-friendly products, and preferences for specific features or materials. Assess OKAMOTO's ability to understand and respond to changing consumer needs and preferences.

Industry Risks and Challenges: Identify the risks and challenges faced by the industry. This may include factors such as price competition, counterfeit products, supply chain disruptions, or reputational risks. Assess OKAMOTO's risk management strategies and its ability to mitigate these challenges.

It's important to note that conducting a comprehensive industry analysis requires access to detailed market data, industry reports, and expertise in the specific industry. Consulting industry publications, market research reports, and engaging with industry experts can provide valuable insights for a more accurate analysis of OKAMOTO's industry.

1.3.3 Competitors

OKAMOTO Corporation faces competition from various companies in the condom and medical glove industry. Here are some notable competitors:

Durex: Durex, owned by Reckitt Benckiser Group, is a well-known global brand in the condom market. They offer a wide range of condoms with different features and flavors. Durex has a strong presence in many countries and is known for its marketing campaigns and brand recognition.

Ansell: Ansell Limited is a multinational company that manufactures and distributes a wide range of healthcare products, including condoms and medical gloves. They have a strong presence in the medical glove market and offer a diverse portfolio of products for various industries.

Karex Berhad: Karex is one of the largest condom manufacturers globally and is based in Malaysia. They produce condoms under their own brand as well as for various private labels. Karex has a significant market share and is known for its manufacturing capabilities and product innovation.

Trojan: Trojan, owned by Church & Dwight Co., Inc., is a prominent brand in the condom market, particularly in the United States. They offer a wide range of condoms and are known for their marketing campaigns and partnerships with sexual health organizations.

Hartalega Holdings Berhad: Hartalega is a leading manufacturer of medical gloves, including nitrile gloves. They have a strong presence in the healthcare industry and are known for their high-quality products and technological advancements.

Sagami Rubber Industries Co., Ltd.: Sagami Rubber is a Japanese company that specializes in the production of condoms. They are known for their ultra-thin condoms and focus on product quality and innovation.

It's important to note that the competitive landscape may vary by region, and there may be other local or regional competitors specific to certain markets. Analyzing market share, product offerings, distribution networks, and brand reputation can provide a more comprehensive understanding of OKAMOTO's competitors in specific regions or markets.

1.4 Key Financial Indicators

	Current ⓘ	9/30/2023	6/30/2023	3/31/2023	12/31/2022	9/30/2022
Market Cap (intraday)	87.53B	89.21B	68.68B	71.31B	66.89B	64.14B
Enterprise Value	56.00B	59.18B	37.87B	41.54B	35.74B	34.34B
Trailing P/E	12.69	15.02	14.39	17.48	14.01	12.14
Forward P/E	N/A	N/A	N/A	N/A	N/A	11.09
PEG Ratio (5 yr expected)	N/A	N/A	N/A	N/A	N/A	N/A
Price/Sales (ttm)	0.85	0.89	0.71	0.76	0.74	0.73
Price/Book (mrq)	1.04	1.10	0.90	0.92	0.89	0.88
Enterprise Value/Revenue	0.54	2.30	1.50	1.61	1.33	1.44
Enterprise Value/EBITDA	4.65	22.40	11.71	32.03	16.82	18.86

2 Discounted Cash Flow Valuation

2.1 Discount Factor

2.1.1 Cost of Equity

Risk-free rate
Risk free rate is equal to the expected return. For an investment to be risk free. It is essential to assume that there is no default risk and reinvestment risk. We also assume time horizon of the free risk rates is matched with the cash flow all the time. For a listed company which has the foreign transactions, there will use different currencies to pay. Risk free rate is currency-specific so we should consider currencies matter. Not all government securities are risk free so we also need conclude default risk.

In general, the risk-free interest rate of mature market is adopted. Japanese government bonds are the world-famous stable bonds and are generally regarded as risk-free assets, which are closely linked with the US dollar and negatively correlated with the US dollar. Therefore, we adopt the interest rate of Japanese bonds.

If we were to take a domestic government bond the risk-free rate would be zero. So we add expected inflation in currency in last 5 years and 10 years to excepted real interest rate in last 5 years and 10 years to forecast the cost of capital and the terminal value separately：

Risk free rate=Expected inflation in currency + Expected real interest rate
Risk free rate=0.742%+(-0.1%) =0.642%
Risk free rate=0.796%+0%=0.796%

Equity risk premium (ERP)
Country risk premium (CRP)
OKAMOTO has six production bases overseas (Thailand (3 bases), Canada, USA, China), distribution in China, Hong Kong, USA and Thailand, it is therefore necessary to reflect this additional risk in the country risk premium. To disclose the relative volatility of stock and bond prices in the market, we also require refer the country equity risk premium through the following formula:
Country equity risk premium = Default spread on the country bond*(Standard deviation in Japan Equity/standard deviation in Japan government bond)
which work out **CRP4.78%**, we can obtain it from following process.

Method one:
Find the volatility of each country's stock market from the stock market, that is, the standard deviation of each country's stock index. Then, compare the volatility of each

country's stock market with the volatility of the stock market in mature markets (such as the United States) to obtain the relative stock market volatility. Then, find the credit spread of Thai government bonds from the international bond market, and combine the credit spreads. The spread is multiplied by relative stock market volatility to obtain the country risk premium.

For example, if the volatility of the Thai stock market is 20%, the volatility of the U.S. stock market is 15%, and the Thai default spread is 2%, the country risk premium is 2%*20%/15%=2.66%; Vietnam, the risk premium is 0.77%*22.12%/15%=1.96%; since the United States is a country with no default risk, its sovereign bond yield is the same as the risk-free asset yield, so the spread is 0. According to the formula, the country risk premium of U.S. companies is: CRP=0×6.8%/15%=0.

Method two:
CRP=σc × (Mature ERP – Free risk Rate)
CRP(JAPAN)=0.84× (5.23%-0.642%) =3.85%

連結会計年度(自　2022年4月1日　至　2023年3月31日)

（単位：百万円）

	報告セグメント			その他 (注)	合計
	業用製品	生活用品	計		
売上高					
日本	46,618	18,428	65,047	231	65,279
北米	13,715	1,889	15,604	—	15,604
アジア	3,732	14,022	17,754	—	17,754
その他	16	420	437	—	437
顧客との契約から生じる益	64,083	34,761	98,844	231	99,076
その他の益	—	—	—	—	—
外部顧客への売上高	64,083	34,761	98,844	231	99,076

(注)　「その他」の 分は報告セグメントに含まれない事業セグメントであり、グループ の物流事業及び太陽光発電事業等を含んでおります。

(Translation of the table above)

	Industrial products sales	Daily necessaries sales	Other sales	Total sales	proportion
Japan	46,618	18,428	231	65,279	65.89%
North America	13,715	1,889	_	15,604	15.75%
Asia	3,732	14,022	_	17,754	17.92%
Other benefits	16	420	_	437	0.44%
Total				99,074	1

	σc	Rd	CRP	ERP	weight
Thailand	20%/15%	2%	2.66%	2.66%+5%=7.66%	17%%
China	22.12%/15%	0.77%	1.96%	1.96%+5%=6.96%	0.92%
Canada	27%/15%	0.5%	0.9%	0.9%+5%=5.9%	15.75%
Japan	84%	1.42%	3.85%	5.23%	65.89%

CRP Weighted average=4.78%

Mature equity risk premium (mature ERP)
Relative risk measure

Regression Betas reflect the past, so it's not a good index to predict future. We choice the bottom-up beta to estimate future. The standard error in the bottom-up beta will be significantly lower than the standard error in a single regression beta. Also, the bottom-up beta can be adjusted to reflect changes in the firm's business mix and financial leverage.

First, we should compute the unlevered beta, using the model, like:
unlevered beta = beta in similar business*(1+fixed costs/variable costs)

1. Select a sample of looking alike companies

We choice the companies which have the similar operations and operational risks with the OKAMOTO. These companies are also the listed companies. We come up with a list of 3 international publicly traded companies: Reckitt Benckiser Group, Ansell Limited, Church& Dwight Co.Inc.

2. Regress the companies' stock performance against the market

If we estimate the company stock price should relate to the market. In our case, we regress the index to relative 3 companies to include relative risks. We also need match the period with these 3 companies, in our case we should search five years data. In the end, we should average the betas from these firms, the **average beta is 0.82**.

3. Unlevered betas

At first, we try to work out unlevered beta using following formula, however, it's difficulty to search fixed costs and variable costs for individual firms on net. So that we use the average beta **0.82 in last step to be our unlevered betas**. (The average beta come from the similar unlevered betas in three similar operations companies)
Unlevered beta= pure business beta*(1+fixed costs/variable costs)

4. Re-lever the beta for the firm only:
Levered Beta=Unlevered Beta*(1+(1-T) Debts/Equity)

We use 5 years to evaluate the average Debts/Equity 0.734. T is calculated in the which is 29.29%. **levered beta is 1.25**.

Time Period	D/E	D/D+E	E/D+E
2018	0.802	0.445	0.554
2019	0.754	0.430	0.570
2020	0.719	0.418	0.582
2021	0.703	0.413	0.587
2022	0.694	0.410	0.59
Average	0.734	0.423	0.577

Calculation approach

E(return)=Risk free Rate + Beta (Mature ERP+CRP)

Risk free rate calculated in the 2.2.1, which has matched time and currency.

We use the levered beta 1.25 in the last section.

Mature EPR is 5.23%, using the data come from other mature market.

CRP=4.78%，calculated in CRP part.

We get the **E(return)=13.155%**

2.1.2 Cost of Debt

For the cost of debt, we have chosen to take the weighted average cost of debt from OKAMOTO year 2022 report. The average cost of debts is **1.332% cost pre-tax**. Given rate from 5-year historic average, the **post-tax cost of debt is 0.942%**.
OKAMOTO interest coverage ratio over than 8.50, rate is estimated AAA, the **default spread is 0.69%.**

For non-financial service firms only

>	≤ to	Rating is	Spread is
-100000	0.199999	D2/D	20.00%
0.2	0.649999	C2/C	17.50%
0.65	0.799999	Ca2/CC	15.78%
0.8	1.249999	Caa/CCC	11.57%
1.25	1.499999	B3/B-	7.37%
1.5	1.749999	B2/B	5.26%
1.75	1.999999	B1/B+	4.55%
2	2.2499999	Ba2/BB	3.13%
2.25	2.49999	Ba1/BB+	2.42%
2.5	2.999999	Baa2/BBB	2.00%
3	4.249999	A3/A-	1.62%
4.25	5.499999	A2/A	1.42%
5.5	6.499999	A1/A+	1.23%
6.5	8.499999	Aa2/AA	0.85%
8.50	100000	Aaa/AAA	0.69%

Period	Interest expenses	EBIT	Interest coverage ratio
2018	20	9751	487.55
2019	23	8557	372.043
2020	27	4940	182.963
2021	30	7859	261.967
2022	27	7681	284.481

(millions of yen)

cost of debts=free risk rate (refer in 2.2.1) + default spread
post-tax cost of debt= cost of debts*(1-T)

2.1.3 Tax

CFA Institute's perspective and approach tend to favour the use of effective tax rates rather than marginal tax rates to predict future cash flows because effective tax rates more comprehensively reflect a company's overall tax situation and long-term financial condition.

Comprehensiveness: CFA Institute emphasizes the use of effective tax rates because this tax rate takes into account a company's overall tax situation, including various deductions, credits, and tax policy impacts. This helps in more accurately estimating a company's future after-tax cash flows.

Long-Term Financial Planning: For long-term financial planning and investment decisions, the use of effective tax rates is more appropriate. Effective tax rates better reflect a company's stable tax situation, whereas marginal tax rates may vary at different income levels.

Stability: CFA Institute believes that marginal tax rates may change due to specific economic conditions or decisions. Therefore, assuming a relatively stable tax rate is usually more suitable when estimating future cash flows.

Here, we calculate the effective tax rate using the following formula:

$$\text{Effective Tax Rate} = \frac{\text{Income Tax Expense}}{\text{Pretax Income}} *100\%$$

(Millions of yen)	Total income taxes	Profit before income taxes	Effective tax rates
2022	2,425	7,610	31.87%
2021	1,978	7,681	25.75%
2020	2,246	7,859	28.58%
2019	1,749	4,940	35.40%
2018	2,126	8,557	24.85%

	2018	2019	2020	2021	2022
Effective Tax Rate	24.85%	35.40%	28.58%	25.75%	31.87%
Average Rate	29.29%				

2.1.4 Capital Structure

For OKAMOTO's capital structure, we know from the financial statements that its debt ratio is high, while long-term liabilities are at a relatively stable level. In order to understand OKAMOTO's long-term financing and to assess the company's reliance on debt. Therefore, Long-Term Debt Ratio and Debt-to-Equity Ratio are used here for

analysis. In addition, we will also use the cash valuation method to assess the value of the company and possible future earnings.

$$\text{Long-term Debt Ratio} = \frac{\text{Long-term Debt(Total Debt)}}{\text{Total Assets}}$$

	2018	2019	2020	2021	2022
Long-term Debt Ratio	15.38%	15.17%	16.71%	15.81%	14.85%
Average Rate	15.58%				

$$\text{Debt-to-Equity Ratio} = \frac{\text{Long-term Debt (Total Debt)}}{\text{Shareholder Equity}}$$

|	2018	2019	2020	2021	2022
Debt-to-Equity Ratio	18.18%	17.30%	19.79%	19.29%	19.05%
Average Rate	18.72%				

2.1.5 Cost of Capital

We have chosen here the Weighted Average Cost of Capital (WACC) as the discount rate, WACC is an important concept in corporate financial management used to determine the minimum rate of return on investment required by a company to maintain its capital structure and market capitalization.

    i.   It can be used as a financial benchmark for enterprises to choose project investment opportunities, only when the expected rate of return on investment opportunities exceeds the cost of capital, the investment should be made.

    ii.   It can be used for enterprises to assess the capital operating performance of the project unit being operated internally, to provide a basis for decision-making on the restructuring of project assets or the continuation of additional funds. Only if the rate of return on investment is higher than the cost of capital, the continued operation of the project unit will have economic value.

    iii.   It is the basis for enterprises to dynamically adjust their capital structure in accordance with changes in the risk of expected returns. Enterprises with stable expected returns can reduce the weighted average cost of capital by increasing long-term debt and reducing high-cost equity capital.

$$\text{WACC} = C_{equity}\frac{E}{D+E} + C_{debt}(1-t) * \frac{D}{D+E}$$

Cost of Equity	Cost of Debt
β_u=0.82 β_L=1.25 R_f=0.642% CRP=4.78% ERP=5.23%	Tax Rate=29.29% Default Spread=0.69%
C_{equity}=13.155%	C_{debt}=1.332%

◆ WACC=13.155%*0.577+1.332%*(1-29.29%)*0.423=7.988%
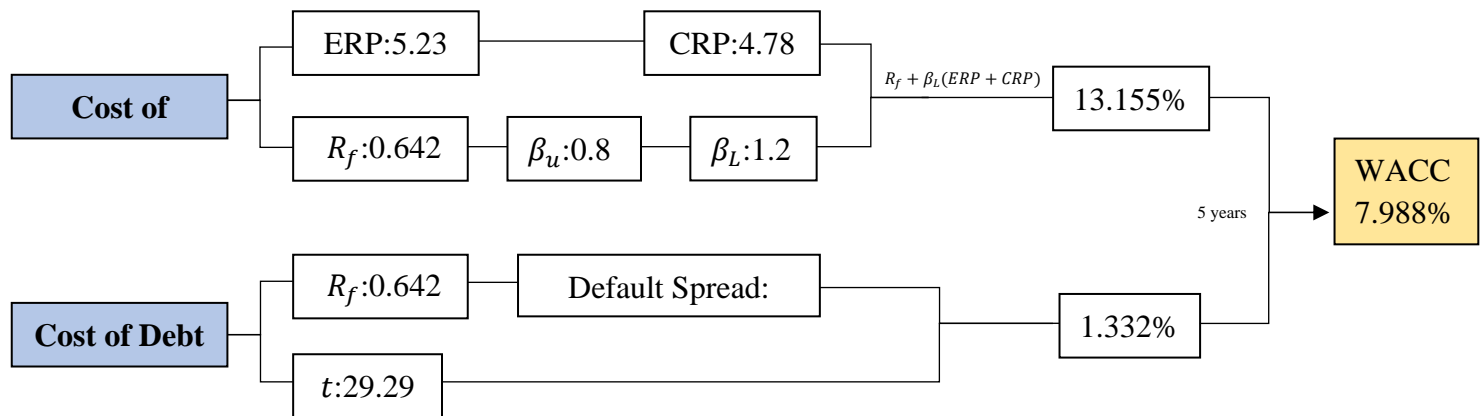
2.2 Growth in Earnings

2.2.1 Fundamental Growth Rate

When trying to determine the extent and amount of a company's reinvestment, the underlying growth rate is the appropriate answer. We choose to use operating income as an earnings metric to evaluate OKAMATO's underlying growth.

Compute the reinvestment rate, for the last 5 years, using the formula:

$$\text{Rinvestment Rate} = \frac{(\text{Net CAPEX} + \text{Change in WC})}{\text{EBIT}(1-t)}$$

Net CAPEX refers to the Capital Expenditures after deducting depreciation. When analyzing the company's investment for growth, it is important to consider external growth as well. This includes investments such as acquisitions, which are aimed at generating future growth for the company.

These acquisition costs are typically reflected in the "Other investing Cash Flows" line item on the cash flow statement.

To account for the variability of acquisition costs from year to year, a normalization approach can be used. One way to achieve this is by taking an average of the other investing cash flow over the last 5 years.

This approach helps to smooth the results and provides a more stable view of CAPEX over time.

Net CAPEX for each year, Net CAPEX = CAPEX – depreciation

CAPEX	5935	4386	2662	2599	3783
Depreciation	2798	3101	2853	2426	2458
Net CAPEX	3137	1285	-191	173	1325

non-cash working capital = total receivables-net accounts payable + inventory

total receivables,net	20043	16834	18856	18001	19541
accounts payable	22012	20020	19626	22024	23578
inventory	9176	7872	7195	8035	8564
non-cash working capital	7207	4686	6425	4012	4527
change in non-cash WC	-1813	-2521	1739	-2413	515

According to the tax rate calculated before and the known EBIT, the reinvestment rate can be obtained. g is simply the product of the Reinvestment rate and of the R

ROC	0.49283	0.24450	0.43014	0.43711	0.39733
reinvestment rate	0.21	-0.39	0.28	-0.39	0.35
g	0.10	-0.09	0.12	-0.17	0.14

Looking at the results of the last 5 years, we can see that the ROC remains at a high level, between 24.45% and 49.28%. This leads us to believe that OKAMOTO is a mature company.

2.2.2 Growth Synthesis

If OKAMOTO had maintained its previous reinvestment ratio and ROC, the annual growth rate would have been 14%, and the company's growth rate was negative because the reinvestment ratio was negative.

Reinvestment rates are volatile, as OKAMOTO's data for the past five years show：

change in non-cash WC	-1813	-2521	1739	-2413	515
net profit	6430	3190	5612	5703	5184
capital stock	13047	13047	13047	13047	13047
ROC	0.49283	0.24450	0.43014	0.43711	0.39733
reinvestment rate	0.21	-0.39	0.28	-0.39	0.35
g	0.10	-0.09	0.12	-0.17	0.14

Over the past five years, it has ranged from -0.39-0.35.

We computed the average reinvestment rate over the five years, by dividing the total reinvestment over the 5 years by the total after-tax operating income over the last 5 year.

The ROC of OKAMOTO is stable during the last 5 years, range from 24.45%-49.28%.

Assume that the average reinvestment rate and return on capital were better measures for the future, expected growth rate would be:
Expected Growth rate(arithmetic) = average reinvestment rate * return on capital
=0.01*0.4=0.004=0.4%

But there are some special cases, and given that growth rates are negative in some years, arithmetic averages are not an accurate representation of future growth rates. We also carried out the geometric algorithm:

Geometric Average = (Earnings2022/Earnings2018) 1/4-1=-5.24%

Given the context of the year 2020, we decided to rely on analysts estimate for this year, which should be about -2.63%. Yahoo Database's five-year forecast for the company is 5.03%, which takes into account a series of factors such as market, cost, and price fundamental analysis, which is much more comprehensive than just using past data.

But at the same time, this expected growth rate is much larger than the past growth rate, perhaps because analysts are more optimistic about the market.5.03% may seem over-estimated for a mature company, but also we believe that the diversification it is currently operating will allow OKAMOTO to sustain a decent level of growth for a few decades.

More importantly, OKAMOTO is one of the world's largest manufacturers of condoms, in recent years to eliminate the impact of the epidemic on raw materials, although the condom industry competition is fierce, the technical barriers to condoms still stay in the "thin thickness", the Japanese brand OKAMOTO as the industry benchmark occupies a leading position, the industry is considered to be little different from other brands.

For the growth rate estimate, taking into account the market environment, analyst forecasts and fundamental analysis, we decided to adopt a 3% growth rate.

2.3 Valuation

2.3.1 Free Cash Flow to Firm

The Free Cash Flow to Firm (FCFF) corresponds to the cash flows left for all capital providers, namely debt and equity. To compute FCFF, we carried out the following computations:

- Start with the Profits Before Income Taxes (EBT) in OKAMOTO's financial statements.
- Deduct the tax using the average effective tax rate calculated in 2.1.3.
- Reintegrate the depreciation computed according the common size analysis, i.e., knowing that depreciation historically represented approximately 39.13% of EBT.
- Cap Ex historically amounted 1.42x the depreciation, so we forecast the future Cap Ex using the projected depreciations.
- We get the Net Cap Ex with the projected Cap Ex and depreciations. Deduct the Net Cap Ex.
- Compute the change in Non-Cash Working Capital:

◆ We computed the change in net working capital by using the average operational & working capital ratios over the 10 past years. The following ratio have been used:

- Days Inventory Outstanding (DIO) computed from the COGS of the year with formula DIO = (Inventories / COGS) * 365
- Days Sales Outstanding (DSO) computed from the Sales of the year with formula DSO = (Accounts Receivable / Sales) * 365
- Days Payable Outstanding (DPO) computed from the COGS using the formula DPO = (Accounts Payable / COGS) * 365

Averages in 5 years	Harmonic	Geometric	Arithmetic	Average of averages
DIO	42.87	42.96	43.04	**42.96**
DSO	73.95	74.07	74.19	**74.07**
DPO	112.87	112.93	112.99	**112.93**

◆ Then, we used the revenue and COGS forecasts from the adjusted financial statements to compute the future levels of inventory, accounts payable and accounts receivable. To do so, we used the reverse of the formulas to compute the amounts for:

- Inventory = (historical DIO / 365) * COGS
- Account Receivables = (historical DSO / 365) * Sales
- Accounts Payable = (historical DPO / 365) * COGS

◆ Then, we computed the net working capital for each year considering that NWC = inventories + accounts receivable - accounts payable.

	22	23E	24E	25E	26E	27E
Sales revenue	99076	102048.28	105109.73	108263.02	111510.91	114856.24
COGS, Cost of goods sold	77760	80092.80	82495.58	84970.45	87519.57	90145.15
inventory	8564	9426.22	9709.01	10000.28	10300.29	10609.30
accounts receivables	19541	20708.64	21329.90	21969.79	22628.89	23307.76
accounts payables	23578	24780.56	25523.98	26289.70	27078.39	27890.74
non-cash working capital	4527	5354.30	5514.93	5680.38	5850.79	6026.31
chg in NWC	515	**827.30**	**160.63**	**165.45**	**170.41**	**175.52**

◆ Deduct the changes in NWC.
● Finally, we are able to forecast the FCFF.

	23E	24E	25E	26E	27E
EBT	7838.30	8073.45	8315.65	8565.12	8822.08
EBT(1-t)	5542.46	5708.74	5880.00	6056.40	6238.09
Net Cap Ex	1275.34	1313.60	1353.01	1393.60	1435.41
chg in NWC	827.30	160.63	165.45	170.41	175.52
FCFF	**3439.82**	**4234.51**	**4361.54**	**4492.39**	**4627.16**

2.3.2 Discounted Cash Flow

Given that we used the FCF to firm, which are the cash flows available for debt and equity providers, we must use an overall weighted average cost of capital (WACC) to reflect the respective cost of capital value for both parties of the capital structure.

	23E	24E	25E	26E	27E
FCFF	3439.82	4234.51	4361.54	4492.39	4627.16
				WACC=	7.988%
Discounted FCFF	3185.38	3631.21	3463.49	3303.51	3150.92

2.3.3 Terminal Value

When computing the enterprise value, it is vital to have two elements, one is the discounted free cash flows, and the other is the terminal value. So, after the discounted free cash flows, it comes the terminal value. Simply put, the terminal value of the company is the value beyond the forecast period when the expected growth rate will likely to be stable forever. In another word, it is the combination of free cash flow to the firm expected and a constant growth rate.

To calculate the terminal value, one method will be used mainly: (1) the terminal value using perpetuity growth rate (Gordon Shapiro formula). For that the company is running well and takes a relatively big share in the industry, so it is assumed to be existing for a pretty long time. As a result, the terminal value calculated using the exit multiple will not be applied.

Terminal value with perpetuity growth rate

It is assumed that the free cash flows will be growing forever from the final year at a fixed growth rate. So that it is possible for estimating the terminal value. Accordingly, the assumption for forever stable capital structure is also made, for ensuring the free cash flows will not be impacted and stay the same.

As a result, it will be reasonable for applying this method. For WACC, no special adjustments are made for that it is a reasonable number for the company even at a long term, so that we will still use the WACC calculated above. For the growth rate, the same number will also be applied, for that we have already made some adjustments before to make the growth rate seem more realistic even for the company in a long period.

$$V_T^L = \frac{FCF_{T+1,\tau}}{WACC_\tau - g}$$

"Growth formula"
(= present value of an infinite, geometrically increasing cashflow series)

To calculate the terminal value, the Free Cash Flow of the final year (2027) is used, also WACC, and growth rate. In order to calculate the present value of terminal value, the terminal value and WACC will be used.

Terminal Value		
Terminal Year Free Cash Flow To The Firm		4627.16
Perpetuity Growth Rate		3.00%
WACC		7.988%
Terminal Value (TV)		95548.81
Present Value of TV		65065.06

2.3.4 Enterprise Value

When we manage to calculating the sum of discounted cash flow and present value of terminal value, that is the time we get the enterprise value, for that the enterprise value is simply the sum of the two values.

Enterprise Value		
Sum Discounted Cash Flow		16734.5
Present Value of Terminal Value		65065.06
Enterprise Value		81799.56

2.3.5 Bridge

After determining the enterprise value of the current company to be ¥81,799.56, we conducted an enterprise value bridge to calculate the implied equity value. The detailed steps of this calculation are as follows:
Enterprise Value (EV): ¥81,799.56

1. Deduct Net Financial Debt: ¥48076
Includes both long-term and short-term financial liabilities.
Considers the reclassified capital lease for a more accurate representation of the company's liability structure.

Short-term loans payable	3318
Long-term loans payable	100
Deferred tax liabilities	3666
Net defined benefit liability	7209
Other current liabilities	5153
Other non-current liabilities	769
Net Financial Debt	**20215**

2. Deducts cash and equivalents amounting to ¥32,616 to obtain net financial debt.

Cash and cash equivalents at end of period	32,616

3. Deduct Minority Interest:

Accounts for the equity portion of subsidiaries not owned by the company.

Deducts ¥3,104 of minority interest, representing equity not belonging to the company's shareholders, thus deducted from the enterprise value.

Non-controlling interests	3104

Summary of Adjustments:

Summarizes enterprise value, net financial debt, minority interest.

Through these steps, we derive the implied equity value.

Enterprise Value	81799.56
1. Deduct Net Financial Debt	
Short-term loans payable	3318
Long-term loans payable	100
Deferred tax liabilities	3666
Net defined benefit liability	7209
Other current liabilities	5153
Other non-current liabilities	769
Net Financial Debt	**20215**
2. Deducts cash and equivalents amounting	
Cash and cash equivalents at end of period	**32,616**
3. Deduct Minority Interest	
Non-controlling interests	**3104**
Implied equity value	**25,865**

2.3.6 DCF Sensibilities

Background: Valuation plays a crucial role in the mergers and acquisitions (M&A) process, providing a framework for bidders and sellers to assess equity interests. However, information asymmetry and subjectivity between parties can pose challenges. To address uncertainties, we conducted a sensitivity analysis, focusing on adjustments to the Weighted Average Cost of Capital (WACC).

Objective: The aim of this WACC sensitivity analysis is to understand how variations in WACC impact Enterprise Value (EV), thereby providing insights for informed decision-making in M&A scenarios.

WACC Sensitivity Adjustments: Adjustments were made to WACC, considering the long-term cost of capital over a 10-year horizon. Specifically, a 5-bps variation in the long-term risk-free rate was applied to assess the sensitivity of EV.

WACC	EV
8.088%	80180.2
8.038%	80981.9
7.988%	81799.6
7.938%	82633.8
7.888%	83485.2

Interpretation: The table above illustrates the sensitivity of EV to changes in WACC. As WACC decreases, the Enterprise Value increases, indicating a direct correlation between the cost of capital and valuation. The bid price range spans from €80,180.2 to €83,485.2, showcasing the impact of WACC adjustments on the valuation outcome.

3 Relative Valuations

In this part, we will cover the relative valuations methods, namely public comparable multiple and the transaction comparable multiple. All values are in millions of €.

3.1. Public Comparable Multiple

3.1.1 Peer Universe

This method is based on the assumptions of valuating a company in comparison with similar quoted companies, based on public information at a given point of time. It gives us a relative valuation base of key multiple. Both the numerator and the standardizing variable (denominator) should be to the same claimholders. In the case of OKAMOTO, we will be using the enterprise multiple with the enterprise value by the EBITDA.

It consists in using similar companies' current valuation metric determined by financial performance and applying then to the company being valued. However, this firm multiple does take account neither of capital structure nor the investment cycle (D&A) as the equity multiples enable it. Nevertheless, it enables a broader comparability considering that a sufficient number of companies should be found to ensure the soundness of the comparability. Furthermore, multiples are affected by the economic cycle and should be smoothed over time. Finally, public multiples do not take account of a premium/discount that would be paid in case of a M&A deal, because it is based on accounting figures.

To find a peer universe, we split it in 3 sub peer universes:

- The first sub-universe is the EV/EBITDA multiple from NY University - Stern Business School and Damodaran research centre. It gives us a multiple of 4.81x for financial year 2023 and comes from a large sample of 139 companies classified as belonging to the Global Rubber & Tires sector.

- The second peer group is the EV/EBITDA multiple with the enterprise value based on Damodaran's relative valuation formula in connection to the perpetual growth rate. We used the following formula to compute the terminal value as of 2022, and then used the adjusted EBITDA 2019 to end up with the EV/EBITDA multiple. We assumed the growth rate to infinity at 3% (see growth estimation part) and took the WACC at 5-year horizon time, which is the current cost of capital for OKAMOTO.

Computation of the Enterprise value as of 2022-end	
EBITDA 2022	10134
Dep 2022	2,458
CAPEX 2022	3788
Var WC 2018/2022	256
t (tax rate) 2022	0.2929
WACC 5 Years	7.99%
g (Infinity growth rate)	0.03
Enterprise Value	111863.5004
EBITDA 2022	11300
EV/EBITDA multiple 2023	9.899424814

$$EV = \frac{EBITDA\,(1-t)\,+\,Depr\,(t)\,-\,Cex\,-\,\Delta\,Working\,Capital}{WACC - g}$$

- The third sub-peer universe comes from a narrow market analysis. We selected the 4 closest competitors of OKAMOTO, which are KH Neochem, Konishi, Fujimori Kogyo and Asahi Yukizai. These peers are all listed, so we were able to recover their historical EV/EBITDA multiples for the financial year 2022. We did that in order to have the closest peer as possible as to OKAMOTO, with the same operation business in industrial and healthcare gases (regarding their revenue breakdown). We wanted a clear-cut perimeter without any other business activities that would pollute the sample, with a different financial structure and wrong enterprise value. This EV/EBITDA multiple for the narrow listed peer group is about 5.71x (source: finance.yahoo.com).

Finally, we used harmonic and geometric means to avoid the effect of outliers when computing the peer universe. The final EV/EBIDTA multiple (equally weighted for the 3 sub-peer groups) for the peer universe is 11,14x of the 2023 EBITDA.

Rubber and ties - EV/EBITDA Multiple	
Damodaran/NYU Stern	4.81x
Damodaran EV formula	9.89x
Market peers- Closest listed competitors	5.71x
Harmonic Mean	6.20
Geometric Mean	6.48
Average of averages	6.80

3.1.2 Terminal Value

After computing the relative valuation metric, we applied this firm level multiple to the denominator to find the implied numerator (EV). It enabled us to find enterprise value of OKAMOTO, without having the need to discount it because we used present value (2022 as the last financial year available).

Method 3 -OKAMOTO - Public Comparable Multiple	
Adjusted EBITDA 2022	11300.00
Public Comparable Multiple	6.80
Enterprise Value	76840.00

3.1.3 Bridge Enterprise Value to Equity

After computing the enterprise value, which represents the business value for all capital holders, we carried bridge calculations to make it through the implied value of equity. It is the value of the shareholder interests or equity providers in OKAMOTO. We performed the same computations for the EV to equity bridge as we did for the perpetuity growth rate method and the exit multiple growth rate. As a reminder, the equity value equals the enterprise value minus net debt and minority interests, and we added back the associates. Finally, we computed the implied equity per outstanding diluted number of shares given by the OKAMOTO's half year 2020 report. We ended up with an equity value per share, as following:

Method 3 -OKAMOTO - Public Comparable Multiple	
Enterprise Value	76840.00
LT Financial Debt	100.00
ST Financial Debt	3318.00
Gross Financial Debt	3418.00
Cash and Short Term Investments	342.00
Net Debt	3076.00
Minority Interests	3104.00
Provisions	1109.00
Unfunded Pension Liabilities	769.00
Associates	186.00
Implied Equity Value	68596.00
Number of outstanding diluted Shares	185990000.00
Implied Equity Value per Share	368.82
Market Value (per Share) (31/03/2023)	474.86
Premium/(Discount) vs Market Value	-28.75%

Enterprise Value to Equity Bridge - OKAMOTO - Public Comparable Multiple
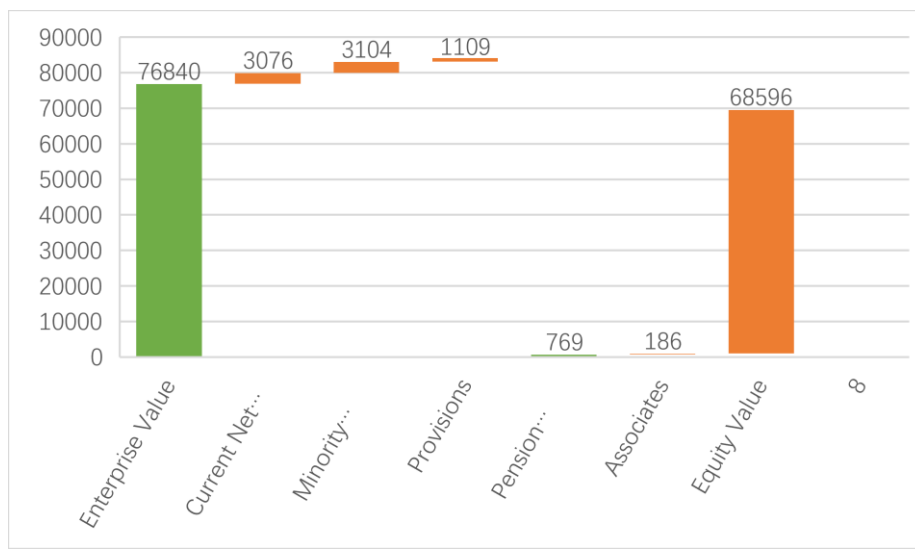
Therefore, we concluded that OKAMOTO may be overvalued by the financial markets, especially in comparison to its peer universe. We have found 4 probable reasons explaining this market premium of OKAMOTO, when using public peer comparables: High EV/EBITDA Multiple: The company's EV/EBITDA multiple for 2023 is significantly higher than the average of its peers. For instance, OKAMOTO's multiple is at 9.899, while the harmonic mean of the peer universe is 6.20, indicating a potential overvaluation.

Enterprise Value Concerns: OKAMOTO's calculated enterprise value (€76,840 million) significantly exceeds its implied equity value (€68,596 million). This discrepancy, especially when compared to market value per share (€474.86 vs. implied value of €368.82), suggests overvaluation.

Premium Versus Market Value: The company's market value per share as of 31/03/2023 is €474.86, which represents a significant premium (around -28.75%) compared to the implied equity value per share.

Comparative Analysis with Peers: OKAMOTO's financial metrics, when compared with its closest competitors, suggest a higher valuation. This is particularly evident in the EV/EBITDA multiple comparisons with peers like KH Neochem, Konishi, Fujimori Kogyo, and Asahi Yukizai.

3.1.4 Sensibility

After finding the equity value, especially the implied equity value per share with public comparable multiple, we undertook a sensitivity analysis. Public comparable multiple analysis is based on subjective assumptions. This the reason why a valuation range, instead of fixed outputs, as a result of our analysis. We adjusted the main input, i.e. the

public comparable multiple with a variation of 0,1x. We ended up with a share price range between €107,3 and €115,3.

Sensitivity Analysis - Equity Value per Share - OKAMOTO - Public Comparable Multiple							
	EBITDA Multiple						
	6.50x	*6.60x*	*6.70x*	*6.80x*	*6.90x*	*7.00x*	*7.10x*
Implied Share Price	350.59	356.66	362.74	368.82	374.89	380.97	387.04
Prem/(Disc) to Market	35.45%	33.14%	30.91%	28.75%	26.67%	24.65%	22.69%

3.2 Transaction Comparable Multiple

In this part, we will discuss the transaction multiple relative valuation tool. It differs from the public comparable, by taking past m&a deal acquisition multiple (on price paid by the bidder) for a peer group, rather than multiple based on the financial performance indicator derived from a peer group. The transaction multiple method is also a relative valuation method. However, this method is highly sensitive on the auction process (timing), the environment, the consideration paid (cash or stock deal), the control premium and the considered synergies.

All that been said, it is even more difficult to find the right peer universe. However, speaking of the asset deals of OKAMOTO, they are not publicly disclosed yet. So, the emphasis will be the share deals of the company.

OKAMOTO Industries, Inc. has conducted several share buyback plans over recent years, which are notable examples of "Share Deals." Here are some key instances:
- On November 10, 2021, OKAMOTO announced an equity buyback program for 200,000 shares, representing 1.08% of its share capital, amounting to ¥1,000 million. This plan was aimed at enhancing shareholder returns, improving capital efficiency, and allowing for more flexible future capital policies.
- On December 15, 2022, the Board of Directors of OKAMOTO Industries authorized another buyback plan on December 16, 2022. This decision was part of their ongoing strategy to manage capital effectively and provide value to shareholders.

Conclusion

To conclude this herewith report, We tried to analyze OKAMOTO's corporate value.firstly for all the capital providers, and then for the equity interest value for the shareholders.

Firstly, we provide a brief introduction to OKAMOTO's company profile, as well as a brief analysis of its business activities and financial indicators, and a brief treatment and analysis of its data, taking into account the financial data of the past few years. As a result, we were able to perform a common size analysis.

Secondly, we computed the growth of OKAMOTO's regarding its historical growth and its environment. Using the growth rates and the common size analysis, we forecasted OKAMOTO's Financial statements over a 5-year business plan. Accordingly, we performed the free cash flow analysis.

Thirdly, we estimated the value of the enterprise and analyzed his profitability to a certain extent, and found that his profitability is better, and has a higher competitiveness in the same brand, as well as analyzed his stock trading, through the value of time, the free cash flow and other cash flow to calculate the future value is a great role.

Finally, we calculated OKAMOTO's enterprise value and got a general idea of its company.