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Fundamental Equity Analysis

Business Valuation of N.V. Bekaert S.A.

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FOREWORD

The economist, like the doctor, analyses a large living body, with the ebbs and flows that inhabit it, the diseases that threaten it, and the functioning principles that must be understood and constantly reviewed and adjusted to ensure the system's equilibrium and durability.

In this respect, the fundamental analysis of stocks is a very powerful tool and, given my strong interest in this particular field, writing my master's thesis on this topic seemed like the natural culmination of my studies.

Why did I choose to analyze Bekaert's stock rather than another? Out of pride, surely. Bekaert is a jewel of the Belgian economy. Also out of caution: choosing a foreign company created the risk of missing or misinterpreting information.

However, Bekaert turned out to be a much more ambitious choice than I had anticipated. At the beginning of the process, I was unaware of the company's complexity. I underestimated Bekaert's diversification and the large differences between its various divisions and products – making a wholistic analysis of the company very complicated. To complicate things further, Bekaert is active across a multitude of geographies and sells products that are affected by both volatile raw material prices and the cyclicality of their end-markets.

I could have given up and started from scratch by choosing another, less complex company. But as time went by, I found the Bekaert's case more and more exciting. I realized that its complexity represented a very stimulating challenge for the analyst that I wanted to become.

Thinking that I had tackled a 100-piece puzzle, I discovered that it had closer to 1000 pieces instead. However, the more pieces fell into place, the more I was proud of the work I had accomplished. I also gradually became more eager to paint a complete picture that would allow me to issue an informed recommendation to potential investors interested in the company.

I invite you to reconstruct this exciting puzzle together.

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A-cords	Advanced cords
APAC	Asia-Pacific
BBRG	Bridon-Bekaert Ropes Group
Bekaert	N.V. Bekaert S.A.
CAPEX	Capital Expenditures
CIT	Corporate Income Tax
COGS	Cost Of Goods Sold
D&A	Depreciation and Amortization
DCF	Discounted Cash Flow
EBIT	Earnings Before Interests and Taxes
EBITDA	Earnings Before Interests, Taxes, Depreciation, and Amortizations
EMEA	Europe, Middle East, and Africa
HCB	Hose and Conveyor Belt
LATAM	Latin-America
NWC	Net Working Capital
OEM	Original Equipment Manufacturer
OPEX	Operating expenses
RR	Rubber Reinforcement
SB	Specialty Businesses
SWS	Steel Wire Solutions
WACC	Weighted Average Cost of Capital

INTRODUCTION

The job of an equity analyst is to establish the fair value of a stock in order to advise in favor of (or against) its purchase by a potential investor. To reach this goal, an analyst can practice different approaches. He can choose to perform a “technical analysis”, which studies historical share price fluctuations, or opt for a "fundamental analysis", which looks at the company behind the stock, with all its components.

The importance of the fundamental analysis becomes particularly apparent when the technical analysis reaches its limits. For example, when markets are very volatile due to macroeconomic turbulences, such as the Covid-19 pandemic or the war in Ukraine.

Thanks to the fundamental analysis, stakeholders (i.e., shareholders, investors, etc.) do not lose sight of the essential elements that constitute the intrinsic value of the company and its growth potential.

In the case of Bekaert, it is not the volatility of the stock that makes the fundamental analysis interesting. Rather, it is the fact that, despite being a jewel of the Belgian economy, its stock seems to be systematically undervalued and attracts only limited interest from investors.

What about Bekaert's fundamentals? Will the conclusions of a fundamental analysis justify the poor stock performance of the company?

This analysis proved to be difficult because although Bekaert publishes a lot of information, it is rarely detailed enough to allow for realistic forecasts to be established. In addition, it was difficult to analyze a company that operates in numerous different and often niche markets. The fundamental analysis of such a company constantly confronts an analyst with the limits of the equity research methodology and requires him/her to demonstrate a certain level of creativity.

Bekaert's fundamental analysis, perhaps more than for other targets, reveals the richness of the analyst's profession.

This thesis is segmented in two distinct parts. The first is a literature review. It underlines the importance of the equity research process and identifies the key principles of the fundamental analysis. It also highlights the fundamentals that determine the value of a business and introduces two of the most common valuation methods.

In the second part of this thesis, the equity research methodology is applied to the empirical case of Bekaert. To begin, a detailed description of the company and its operations is provided. The aim is to go beyond the basic business description provided on the company website and to provide a full understanding of how the company generates revenue.

Next, the focus will switch to investigating the various market trends and industry dynamics which have an impact on Bekaert's business. Here, clearly identifying market growth potential is key. This market analysis provides a clear picture of the threats and opportunities that the company is (or will be) facing. As part of this analysis, the company's positioning is also examined. Having a clear picture of the competitive landscape enables to derive the company's main strengths and weaknesses. It is also a critical step for understanding the management's priorities and targets.

Once all qualitative elements have been collected, Bekaert's financial statements – P&L, cash-flow, and balance sheet – are closely examined to get a sense of how the company has performed in the last 5 years and earnings forecasts are established. Based on these forecasts, a DCF and a multiples valuation are then conducted to determine the stock's fair value.

Finally, to understand and explain any premium or discount obtained through the DCF and multiples valuations, this thesis also investigates the company's stock reputation. This analysis is centred around the following criteria: share price behaviour, shareholder and board structure, company governance, incentive/focus on value creation for shareholders, communication of the equity story, and consistency.

At the end of the equity research process, a definitive buy or sell recommendation is issued based on all the successive levels of analysis conducted.

PART I : LITERATURE REVIEW

1. FINANCIAL ANALYSIS AND THE ROLE OF EQUITY ANALYSTS

A financial analysis consists of establishing various relationships between the items of a company's financial statements in order to gain some understanding of its performance, financial health, and risk exposure. Financial analysis can also be used to establish predictions (forecasts) regarding a company's future returns *(Sharp, Alexander & Bailey, 1998)*.

The three main financial statements are the income statement, the balance sheet and the statement of cash-flow. A comprehensive analysis of these financial statements enables to measure the general condition of a company, including profitability, liquidity, and solvency. Establishing a comprehensive financial diagnosis will – in turn – provide potential investors with the critical knowledge they need to make informed investment decisions. This highlights the importance of financial analyst, who play the essential role of bridging the gap between a business in need of capital and investors in search of an investment opportunity, by providing investors with a detailed understanding of the company *(Bayle & Schwartz, 2005).*

The main role of financial analysts is to examine statements, to highlight short- and long-term growth drivers, to predict market trends, to establish financial forecasts, and to issue recommendations that will help investors make the best possible investment decisions. As part of this process, financial analysts try to determine whether a stock is over- or undervalued. If discrepancies can be found between a stock's price and its intrinsic value, then investors are presented with an opportunity. As financial analysts issue recommendations to investors, financial markets can react, potentially helping stock prices converge toward their intrinsic value. Financial analysts can thus have a significant influence over capital markets *(Bayle & Schwartz, 2005; Damodaran, 2006).*

To study whether the market price of a stock deviates from its intrinsic value, analysts must understand what fundamentals determine the value of a firm and how to accurately estimate that value. It is a prerequisite for making sensible recommendations. Unsurprisingly, the financial analysis that consists of comparing a stock's intrinsic value to its current market price is – by consequence – aptly named the "fundamental analysis" *(Damodaran, 2006).*

2. VALUATION METHODS

In their attempt to find companies which trade at less than their true value, analysts use a wide spectrum of valuation methods or models. Each makes very different assumptions about the business fundamentals that determine value. This thesis will focus on two: the discounted cash flow model and the relative valuation model *(Damodaran, 2007).*

In discounted cash flow valuation, one assumes that the value of an asset equals the present value of all expected future cash flows on that asset, discounted at a rate that reflects the underlying risk or uncertainty of these future cash flows. In theory, assets with high and/or predictable future cash flows should thus have a higher present value than assets with low and/or volatile future cash flows. Within the framework of this thesis, the discount factor used is the weighted average cost of capital ("WACC"). It is the most commonly used metric for measuring the riskiness of expected future cash flows *(Damodaran, 2007).*

In relative valuation, an asset is valued based upon the pricing of (a) similar or 'comparable' asset(s). Thus, to value an asset using this method, analysts look at the price of comparable assets relative to a common variable or denominator, such as earnings, cash flows, book value or sales. Consequently, this approach is also called multiples valuation *(Damodaran, 2007).*

The first step of the relative valuation method consists of finding comparable assets that have been priced by the market. Analysts often use other companies in the same sector or industry. The second step consists of scaling the market prices to a common variable. This has the effect of standardising prices to allow for a more effective comparison. This step is essential when comparing assets (or companies) of different sizes. When looking at stocks, equalising prices usually requires converting the value of a firm into multiples of earnings, book value or revenue. The final step of the relative valuation method is adjusting for differences between asset types. As discusses previously, assets can be priced differently depending on certain business fundamentals. For example, within a same sector, a high growth company will trade at a higher multiple than a low growth company. Thus, analysts sometimes adjust for these qualitative differences. Although, it is important to point out that these adjustments remain largely arbitrary *(Damodaran, 2007).*

PART II : FUNDAMENTAL ANALYSIS – THE CASE OF N.V. BEKAERT S.A.

1. COMPANY OVERVIEW

This section provides a detailed description of the company and its operations. It also investigates Bekaert's product, end-market, and geographical segmentation.

1.2. BUSINESS DESCRIPTION

N.V. Bekaert S.A. ("Bekaert") is a leading global player in wire transformation and coating technologies. The company was founded and incorporated in 1880 by Leon Leander Bekaert and is headquartered in Zwevegem, Belgium. In 1924, the family business transformed into a public limited company, although Bekaert family members retain effective control. Bekaert has since grown into a multinational colossus with 75 production sites and 10 research and engineering centres across the world. In 2021, it had a workforce of more than 27.000 employees *(Bekaert, 2022; Euronext, 2022).*

Next to being the world's largest independent manufacturer of drawn steel wire products, Bekaert also provides a large range of high-tech wire-based solutions for various applications. The group has a portfolio of 1.700 registered trademarks, as well as 1.900 patents and patent rights *(Bekaert, 2022).*

The company's global manufacturing platform serves customers in over 120 countries, across many different markets and sectors. In 2021, Bekaert realized consolidated sales of EUR 4,8 billion (or combined sales of EUR 5,9 billion, when taking revenues from partnerships into account) *(Bekaert, 2022; S&P Capital IQ, 2022).*

The company is listed on Euronext Brussels. On 23 December 2022, Bekaert's 59,0 million shares outstanding closed at EUR 36,08, for a total market capitalization of EUR 2.129 million *(Bekaert, 2022; Bloomberg, 2022; Euronext, 2022).*

Oswald Schmid took the helm of Bekaert as interim CEO on 12 May 2020 and was subsequently nominated CEO by the Board of Directors on 12 March 2021 *(Bekaert, 2022).*

1.2. OPERATIONS

1.2.1. BUSINESS UNITS

Bekaert's core business offering consists of transforming steel wire and applying advanced coating technologies. In 2018 the company decided to split its operations in four distinct business units[1]: Rubber Reinforcement ("RR"), Steel Wire Solutions ("SWS"), Specialty Businesses ("SB"), and the Bridon-Bekaert Ropes Group ("BBRG"). The SB unit can further be broken down into four sub-segments: (1) Building Products, (2) Fiber Technologies, (3) Combustion Technologies, and (4) the Hose & Conveyor Belt activities. The BBRG division is also split between (1) Ropes and (2) Advance Cords or A-cords *(Bekaert, 2022; S&P Capital IQ, 2022).*

Figure 1 provides an overview of the company's four business units and their respective weights in terms of total consolidated sales as of June 2022 *(Bekaert, 2022).*

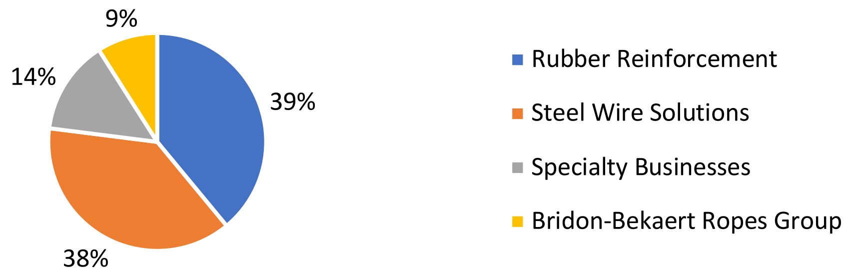

Figure 1: Revenue breakdown
Source: Bekaert

1.2.2. END MARKETS AND PRODUCTS

The RR division, Bekaert's largest business unit, mainly offers tire cord and bead wire products for the Tire & Automotive sector. Until the beginning of 2022, it also produced hose and conveyor belt reinforcement products for the industrial equipment market. However, this segment has now been moved to the SB unit. The second largest segment, the SWS division, provides a broad mix of products to many different sectors, including fencing for agriculture end-markets, cork wire for sparkling wines, or steel wires for automotive wiper systems. The

[1] Prior to the changes made in 2018, the company's operations were segmented according to geographical areas.

third segment, SB, produces steel fibers used to reinforce concrete, masonry, plaster, and asphalt. It also offers fiber technologies for filtration, heat-resistant and electroconductive textiles, hydrogen electrolysis, static energy discharge, sensors, and for the semiconductor industry. SB also produces gas and hydrogen burners, as well as residential and commercial heat exchangers. Finally, the BBRG offers steel-based ropes for a range of sectors, including energy, mining, fishing, and cranes. This business unit also produces fine steel advanced cords ("A-cords") for elevator and timing belts, as well as window regulators and heating cords for the automotive sector *(Bekaert, 2022; S&P Capital IQ, 2022).*

A more exhaustive list of Bekaert products and applications can be found in the Appendix I. Figure 2 shows how Bekaert's combined sales were divided according to different end markets as of June 2022 *(Bekaert, 2022).*

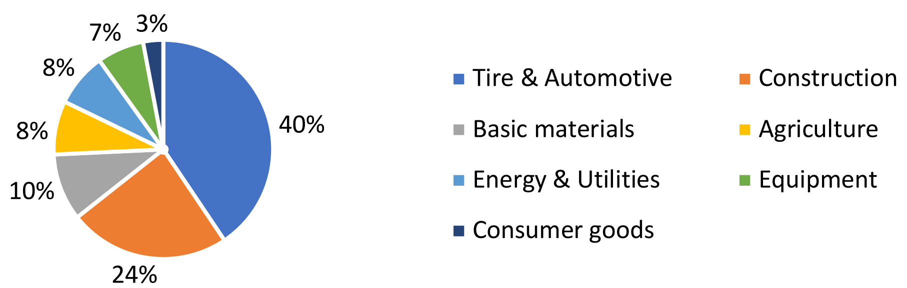

Figure 2: Sectorial breakdown
Source: Bekaert

As illustrated in Figure 2, Bekaert is exposed to a broad spectrum of end markets. Looking into the trends and dynamics of each of these markets would be beyond the scope of this thesis. Therefore, the analysis will focus on the automotive and construction end-markets, as these represent 40% and 24% of Bekaert's revenues, respectively, and thus together almost two thirds of sales *(Bekaert, 2022).*

Bekaert's exposure to the automotive sector spans all four of its business divisions. It produces tire cord and bead wire in its RR unit (c. 95% of divisional sales). In the SWS division, Bekaert produces steel wires for wiping systems (which are used in almost half of all cars produced globally). In the SB division generates c. 5% of revenues from automotive consumers, and in through BBRG, Bekaert provides window regulators and heating cords to automotive OEMs *(Degroof Petercam, 2021; Bekaert, 2022).*

Similarly, the construction sector, which, next to being Bekaert's second biggest end-market, goes across several of its divisions: SB, BBRG and SWS. The construction sector represented as much as 74% of the SB unit's consolidated sales in 2021. It is worth highlighting here that this is the business unit which experienced the strongest growth recently *(ABN Amro & Oddo BHF, 2021; Bekaert, 2022).*

1.3. KEY COMPETITORS

Given Bekaert's extensive diversification, it is also difficult to get a complete picture of the company's competitive landscape. In the construction market, Bekaert is the only truly global producer of steel fibers for concrete reinforcement. All other players are local steel producers. In other markets, Bekaert usually addresses very niche segments, for which it is difficult to paint a competitive landscape. Therefore, it was decided to focus the competitive analysis on the tire and automotive sector, which is a global industry with global competitors. It is also Bekaert's single largest end-market (39% of sales). Figure 3 shows the main tire cord and bead wire producers globally *(Bekaert, 2022; ING, 2022)*.

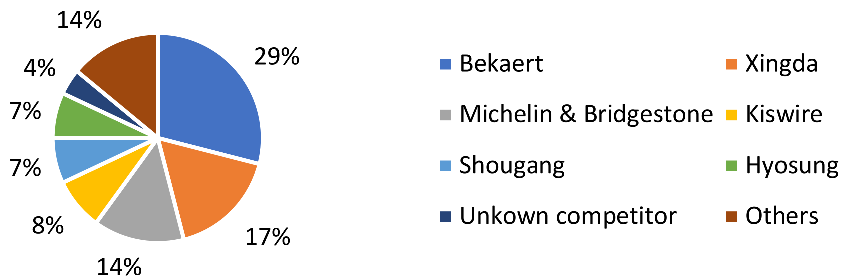

Figure 3: Competitive landscape
Source: ING

1.4. GEOGRAPHIC FOOTPRINT

Bekaert has production plants, offices and technology centres spread across the entire world, including in Europe, Africa and the Middle East ("EMEA"), the United States, Brazil, India, Indonesia and China. A map of Bekaert's facilities can be found in Appendix II.

Figure 4 indicates how the company's combined sales were divided by region as of June 2022 *(Degroof Petercam, 2021; ABN Amro & Oddo BHF, 2021; Bekaert, 2022).*

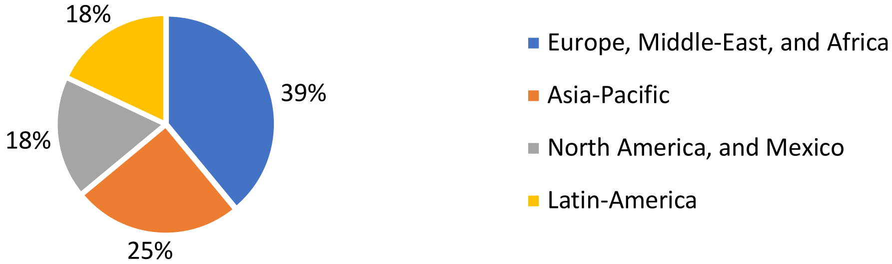

Figure 4: Geographic breakdown
Source: Bekaert

Interestingly, Xingda – Bekaert's main competitor for tire cord – only has production plants in China and Thailand. Bekaert can thus be considered the sole major tire cord producer with a truly global footprint *(Xingda, 2021).*

It is noteworthy that, despite being headquartered in Belgium, only about one third of Bekaert's sales are made on the European market. Furthermore, in 2021 the company recorded as much as 92,3% of its sales from international customers *(Market Line, 2022).*

Bekaert's global footprint helped the company achieve exceptional results in 2021. As competitors were reeling from global supply chain disruptions, Bekaert was able to leverage its local production footprint and gain market share. This will be discussed in further detail in subsequent sections *(Bekaert, 2022).*

Now that a picture of Bekaert's activities has been painted, it is important to explore the market trends and industry dynamics which have (or will have) an impact on the company's performance. This is the subject of the next section.

2. STRATEGIC ANALYSIS

Analysing Bekaert's strategic positioning is a crucial step to be able to establish realistic forecasts and compute the company's intrinsic value.

This section uses the SWOT framework to provide a snapshot of the most important trends and dynamics which could impact Bekaert's business, whether as a threat or as an opportunity. It also summarizes Bekaert's main internal strengths or weaknesses that could lead it to maintain or lose its competitive advantage.

2.1. SWOT SUMMARY

<table>
<tr><th>Strengths</th><th>Weaknesses</th></tr>
<tr><td>▪ Global leadership position
▪ Global presence with local production
▪ Well diversified across (i) products, (ii) geographies and (iii) end-markets
▪ Operating in markets with positive long-term growth prospects
▪ Strong management team</td><td>▪ Cyclical business units and end-markets
▪ Dependence on raw material sources and price volatility
▪ Significant exposure to the Chinese market
▪ Low margin business with high fixed costs
▪ High CAPEX requirement
▪ Global business with high FX exposure</td></tr>
<tr><th>Opportunities</th><th>Threats</th></tr>
<tr><td>▪ Capturing the benefits of deglobalization
▪ Innovation in high-growth sustainability products
▪ Ongoing structural transformation strategy</td><td>▪ Weak macro-economic conditions
▪ Continuing inflationary pressure and volatile raw material prices
▪ Gradual return of Asian competitors</td></tr>
</table>

Figure 5: SWOT summary
Source: Gabriel Terlinden

2.2. STRENGTHS

2.2.1. GLOBAL LEADERSHIP POSITION

Bekaert enjoys a market leading position in all its business segments (except in BBRG's Ropes sub-segment). As seen in Section 1, with a global market share of c. 30%. Bekaert is the single biggest producer of tire cord and bead wire. It also sells the steel cables used for wiper systems in nearly half of all the cars sold worldwide. Moreover, Bekaert has a 40% global market share in steel fibers for concrete reinforcement (Dramix) This global leadership position gives Bekaert an excellent reputation and enhanced competitive power *(Degroof Petercam, 2021; ABN amro & Oddo BHF, 2021).*

2.2.2. GLOBAL PRESENCE WITH LOCAL PRODUCTION

Having an extensive global footprint is often considered a weakness given that it tends to be associated to a high fixed cost base. However, Bekaert's extensive global footprint proved very beneficial during the Covid-19 pandemic, as it well-positioned to capture opportunities from deglobalization. The term deglobalization refers to companies seeking shorter supply chain and less vulnerable sourcing channels. This phenomenon is an immediate consequence of the global supply chain disruptions caused by the Covid-19 pandemic. *(Bekaert, 2022).*

In 2021, the company was able to ensure global supply continuity thanks to its local services and sourcing channels, thus positioning itself as a reliable partner. In comparison, many competitors (from China in particular) saw their export efforts hampered by lockdowns, container shortages, exponential freight rates and logistic bottlenecks (*Degroof Petercam, 2021; Bekaert, 2022).*

Bekaert's differentiated ability to keep supplying its clients resulted in an enhanced competitive position and significant market share gains (notably in the LATAM construction and agricultural markets, where Chinese exports usually have a strong foothold). Bekaert's local supply chains also allowed the company to sell at a cheaper price than the competition, as it could avoid high freight costs *(Bekaert, 2022).*

2.2.3. WELL-DIVERSIFIED ACROSS PRODUCTS, END-MARKETS AND GEOGRAPHIES

Bekaert is well-diversified across end-markets and geographies. This diversification mitigates (for a significant portion of its revenue) the risk associated with overdependence on a single sector or country. Indeed, a high degree of diversification helps mitigate systematic/ idiosyncratic risk (portfolio theory). In the case of Bekaert, diversification is essential as it helps to offset the company's significant exposure to the very cyclical automotive and construction markets and to the Chinese market *(Bekaert, 2022; Market Line, 2022).*

2.2.4. OPERATING IN MARKETS WITH POSITIVE LONG-TERM GROWTH PROSPECTS

The transformation agenda put in place by Bekaert's management is tailored toward high value-added products which provide a response to long-term market trends and needs. For example, Bekaert has made sizeable investments to strengthen its position in markets which support the energy transition and/or decarbonization. Notably, in Q3 2022 Bekaert was able to win several projects in offshore energy tenders and is making strong progress in building a leading innovation position in hydrogen electrolysis technologies. The company's investments supporting the energy transition and/or decarbonization come both as an organic expansion of capacities and capabilities, as well as through partnerships, including investments in Pajarito Power (green hydrogen) and TFI Marine (floating offshore wind) *(Bekaert, 2022).*

2.2.5. STRONG MANAGEMENT TEAM

Bekaert's current management team appears highly capable. They have made tangible progress in the implementation of the company's ambitious 5-year transformation strategy. Since Oswald Schmidt became (interim) CEO in 2020, Bekaert's business portfolio has been upgraded by means of structural product-, price- and business-mix improvements aimed at organizational efficiency, footprint adjustments, better segmentation, a reduced presence in lower margin applications. This transformation agenda is key for ensuring the company's long-term prospects, as these structural measures are the only definite solution for improving the manufacturing footprint, containing costs, and increasing overall resilience *(ABN Amro & Oddo BHF, 2021; Bekaert, 2022).*

Examples of Bekaert's transformation efforts include the restructuring of the RR unit, i.e., transferring the hose and conveyor belt reinforcement business to the SB unit, which resulted in a greater strategic focus of the business unit and improved efficiency. Moreover, divesting the diamond saw wire business is a perfect example of the company's desire to cut structural costs by exiting loss-making or low-margin applications *(Degroof Petercam, 2021; ABN Amro & Oddo BHF, 2021; Bekaert, 2022).*

2.3. WEAKNESSES

2.3.1. CYCLICAL BUSINESS UNITS AND END-MARKETS

Bekaert's RR division is tied to the automotive market for c. 95% of its sales. Furthermore, the construction market is good for c. 74% of the SB division's sales and c. 31% of SWS. Together, the automotive and construction markets represent about two thirds of Bekaert's revenue *(Bekaert, 2022).*

According to a study conducted by Deloitte, the automotive sector is very cyclical. During economic downturns, as households and businesses experience cash shortages, car purchases tend to be delayed as much as possible. Figure 6 shows that, during recessions, the automotive sector systematically experiences much greater volatility than overall GDP *(Deloitte, 2022).*

Recession timelines	Percentage change in real GDP from trough to peak	Percentage change in real motor vehicle output from trough to peak
Q4 1969–Q4 1970	-0.2	-44.4
Q4 1973–Q1 1975	-3.1	-37.5
Q1 1980–Q3 1980	-2.2	-42.9
Q3 1981–Q4 1982	-2.6	-18.6
Q3 1990–Q1 1991	-1.4	-30.1
Q1 2001–Q4 2001	-0.6	-15.1
Q4 2007–Q2 2009	-4.0	-49.1
Q4 2019–Q2 2020	-10.1	-46.9

Figure 6: Cyclicality of the automotive sector
Source: Deloitte

A study conducted by McKinsey & Company leads to similar conclusions for the construction sector, stating that the industry suffers from "high unpredictability and cyclicality". In conclusion, with two thirds of its revenue stemming from highly cyclical industries, Bekaert will be greatly exposed if the fear of a global recession in 2023 should materialize. *(McKinsey, 2020).*

2.3.2. DEPENDENCE ON RAW MATERIAL SOURCES AND PRICE VOLATILITY

In 2021 and the first half of 2022 Bekaert benefited from a rise in raw material (wire rod) prices, as it resulted in positive non-cash inventory revaluations (FIFO, contributing to EUR +270 million extra in 2021 versus 2020) and because it was able to pass it on to its customers. However, this can only be considered a short-term benefit, given that a decrease in raw material prices will unmistakably have the opposite effect. Customers are closely monitoring wire rod prices and will expect Bekaert to pass on a price decrease immediately. Furthermore, Bekaert will experience negative inventory revaluations. As a matter of fact, as shown in Figure 7, due to a steep fall in freight rates wire rod prices have already started to ease during H2 2022. This will be further discussed in the net working capital estimates in Section 4 *(ABN Amro & Oddo BHF, 2021; Bekaert, 2022; ING, 2022, Investing Commodities, 2022).*

Figure 7: Steel wire rod futures, in USD
Source: Investing Commodities

2.3.3. SIGNIFICANT EXPOSURE TO CHINESE MARKET

Despite previously arguing that Bekaert is significantly diversified, its dependence on the Chinese market should not be minimized. In fact, the RR division, which represented 39% of Bekaert's total consolidated sales in H1 2022, depends on the Chinese market for c. 30% of its sales.

When the Chinese market entered a period of turmoil due to the Covid-19 pandemic, Bekaert's RR operations in China almost came to a standstill. Indeed, Bekaert's Chinese plants were regularly forced to shut down during 2020, 2021 and 2022, as low vaccination levels led to recurrent local lockdowns. Xi Jinping's sudden decision to orchestrate a u-turn in his zero-Covid policy has led the number of cases to surge across the country. It is hard to predict how this will play out, especially considering his continued refusal to import more effective western vaccines *(ABN Amro & Oddo BHF, 2021; ABN Amro & Oddo BHF, 2022; CNN, 2022).*

2.3.4. LOW MARGIN BUSINESS WITH HIGH FIXED COSTS

Bekaert is a high fixed costs business. A big part of its portfolio is made up of low margin products. The company's transformation strategy, aimed at divesting low-margin businesses and cutting structural costs, is unlikely to change that completely. Afterall, Bekaert's average REBIT margin[2] from 2017 to 2021 was a mere 7,13%.

Bekaert must keep up its costs cutting efforts and further improve its product-mix by making further gains on the disposal of idle fixed assets (e.g., the sale of land in Doncaster, United Kingdom) and divesting low-margin product lines (e.g., the diamond saw wire business) *(Degroof Petercam, 2021; ABN Amro & Oddo BHF, 2022).*

2.3.5. HIGH CAPITAL EXPENDITURE REQUIREMENT

Capital expenditure ("CAPEX") is the amount a company needs to invest in itself to support its operations. Bekaert has a high capital expenditure requirement. On average, from 2017-

[2] REBIT stand for Recurrent Earnings Before Interest and Taxes. REBIT adjusted for non-recurrent/ one-off revenues and expenses.

2021, Bekaert had to reinvest as much as much as 59% of its REBIT. This is not surprising given that the company's operations rely – for the most part – on complex and large-scale machinery. Furthermore, high capital expenditure is necessary to keep up with technological innovations and preserve the company's market leadership position. It is also essential to make progress toward sustainability objectives. Figure 8 shows Bekaert CAPEX requirements from 2017 to 2021 *(Bekaert, 2022)*.

CAPEX requirements	**2017**	**2018**	**2019**	**2020**	**2021**
REBIT	301095	210140	241909	272244	514617
CAPEX	276519	185000	111988	107691	156605
CAPEX in % of REBIT	*92%*	*88%*	*46%*	*40%*	*30%*

Figure 8: CAPEX requirements, in EUR '000s
Source: Bekaert

2.3.6. GLOBAL BUSINESS WITH HIGH FOREIGN EXCHANGE EXPOSURE

Bekaert has operations in 120 countries around the world and recorded 92,3% of its sales from international customers in 2021. The appreciation of non-reporting currencies such as the Chinese Yen, US Dollar and Chilean Perso (versus the Euro) or vice-versa could incur higher costs to the company, as well as an increase in capital expenditure in Euro terms *(Market Line, 2022).*

2.4. OPPORTUNITIES

2.4.1. CAPTURING THE BENEFITS FROM DEGLOBALIZATION

As mentioned previously, Bekaert is uniquely positioned to capture benefits from deglobalization, as demonstrated by the company's ability to leverage its global footprint and secure supply continuity throughout the pandemic *(Bekaert, 2022).*

The deglobalization trend did not fully reverse in the first 9 months of 2022. Xi Jinping doubling down on his zero-Covid policy coupled to low vaccination rates in APAC have again led to partial lockdowns (including in major port cities like Shanghai). In Europe, Bekaert's competitor BMZ was severely impacted by the economic sanctions imposed on Belarus by E.U. member states in retribution for the invasion of Ukraine *(ABN Amro & Oddo BHF, 2022).*

In Q3 2022 most Covid-19 measures were lifted in China. Chinese competitors (like Xingda) are again able to compete effectively, which resulted in a steep decrease in sales in LATAM. Nonetheless, should some of the geopolitical turmoil persist in the medium- to long-term, Bekaert might be able to cement some of the gains made during the height of the pandemic *(ABN Amro & Oddo BHF, 2022).*

2.4.2. INNOVATION IN HIGH-GROWTH SUSTAINABILITY PRODUCTS

Bekaert has undertaken various sustainability initiatives aimed at strengthening the company's operations and increase medium- and long-term returns. To site an example: recently Bekaert, Johnson Matthey Plc, TNO and Schaeffler have partnered in various ways to boost the efficiency of renewable hydrogen production. The partners intend to collaborate in a business-driven Shared Innovation Programme which will span three full years, and which will lay the foundations for a new, cheaper generation of electrolysers. This program – called VoltaChem – will help Bekaert's customers move toward climate neutrality *(Market Line, 2022).*

2.4.3. ONGOING STRUCTURAL TRANSFORMATION STRATEGY

Bekaert's transformation strategy, which was already described earlier in this section, is geared towards cost cutting initiatives, the divestment of low margin businesses, and an increased focus on high growth segments. Significant progress has already been made, but there is still a lot to do. If Bekaert is able and willing to step up, its margins could see a significant improvement by the end of the 2022-2026 cycle *(Bekaert, 2022).*

2.5. THREATS

2.5.1. WEAK MACRO-ECONOMIC CONDITIONS

Despite the suggested benefits of deglobalization, the Covid-19 pandemic still posed considerable challenges throughout 2020-2022, including factory shut-downs, local and national lockdowns, container shortages, logistic bottlenecks, exponential freight rates, raw material shortages, and surging cost inflation. Despite having so far demonstrated that it is able to adjust its sourcing channels to limit supply chain disruptions, Bekaert will need to keep monitoring macroeconomic trends closely. This will undoubtedly prove tedious and costly. Looking ahead, it is likely markets will remain subject to political and economic turmoil. Furthermore, it appears like a global economic recession is imminent. With two thirds of its sales coming from the highly cyclical automotive and construction markets, Bekaert's revenue is likely to decline sharply *(ABN Amro & Oddo BHF, 2021; Bekaert, 2022).*

2.5.2. CONTINUING INFLATIONARY PRESSURE AND VOLATILE RAW MATERIAL PRICES

In 2021 and H1 2022 Bekaert was successful in passing on the inflation of input cost to its customers, including the exponential rise in wire rod prices. However, now that freight rates have fallen, wire rod prices are expected to decline. This has already started in H2 2022 and is expected to accelerate in 2023. Bekaert's very price sensitive customers will expect Bekaert to pass on the lower raw material prices just as quickly and effectively as it passed on the price increases of 2020 and 2021 *(ABN Amro & Oddo BHF, 2022).*

In contrast to the decline in wire rod prices, other input and overhead costs are likely to remain high, affecting Bekaert's overall cost base. The global inflation estimates are shown in Figure 9 *(Bekaert, 2022; Statista, 2022).*

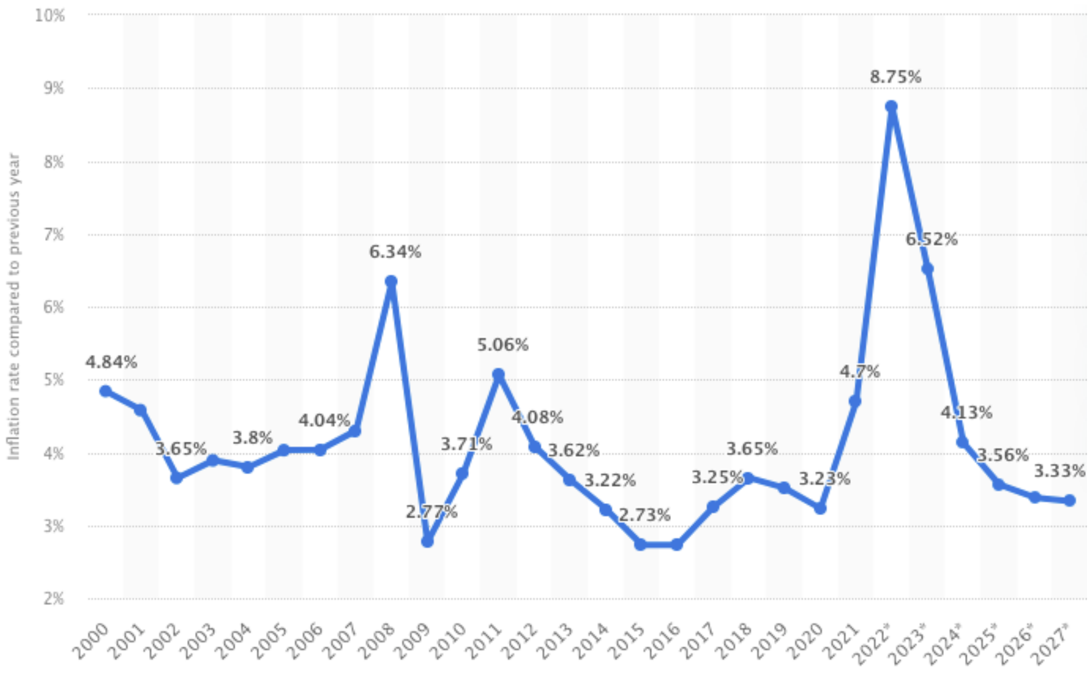

Figure 9: Global inflation rate, with estimates to 2027
Source: Statista

2.5.5. GRADUAL RETURN OF ASIAN COMPETITORS

Competitive pressure is slowly picking up as supply chain issues are solved and freight rates are falling (see Figure 10). This has an adverse impact on Bekaert's pricing power, as APAC competitors have regained strength and cut prices to regain lost market shares *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022, Statista, 2022).*

If Bekaert's sales volumes are slashed by the competition, the (capacity) utilization rates of its production plants – which improved drastically during the Covid-19 pandemic – are likely to deteriorate, which will severely impact the company's operational leverage *(ABN Amro & Oddo BHF, 2021).*

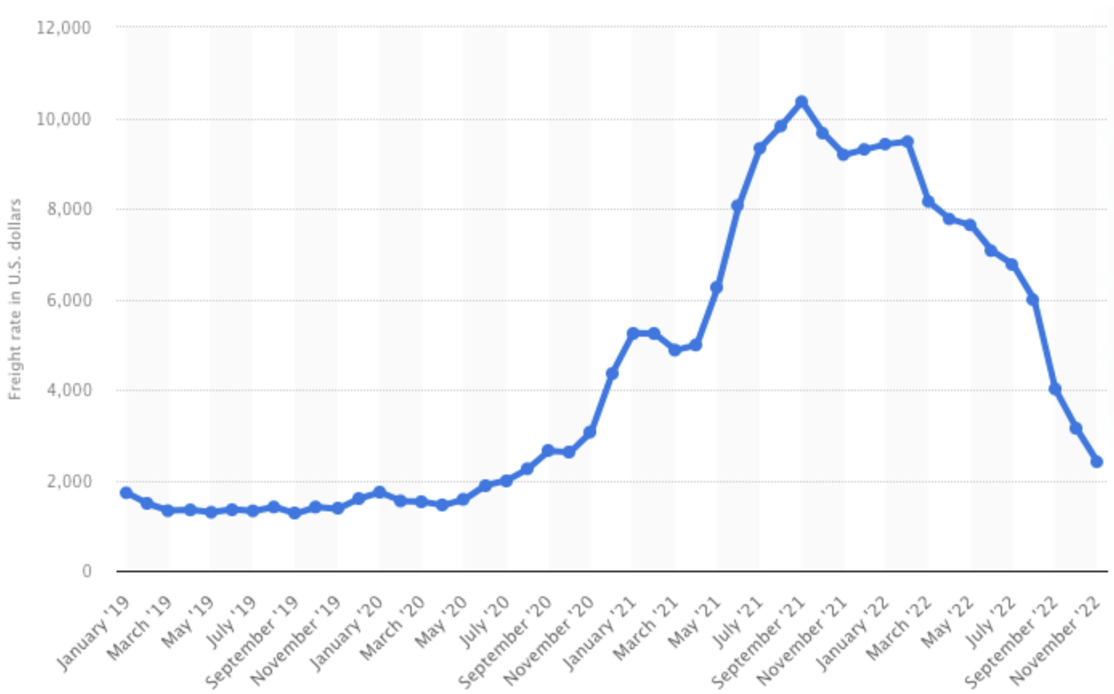

Figure 10: Freight rates, in USD
Source: Statista

Now that the most relevant market trends and industry dynamics have been highlighted, the next step consists of looking at Bekaert's historical performance and extracting key financial indicators which reflect the company's current financial condition.

3. FINANCIAL ANALYSIS

This section analyses Bekaert's financial statements from the past 5 years to get a solid understanding of the company's momentum and current financial condition. The quarterly reports from the first 9 months of 2022 also provided key insights into short-term trends.

Looking at the P&L, the focus is set on revenue, gross margin, and operating results. The analysis of the cash-flow statement is meant to shed light on the company's ability to manage working capital and generate free cash-flows. A closer look is also given to the company's investment and dividend policy. Finally, the balance sheet is used to examine the company's capital structure for potential signs of over-leverage or lack of liquidity.

The qualitative and quantitative elements which were highlighted in the strategic analysis (SWOT) and in this section are then used to establish credible forecasts for all relevant P&L, cash flow, and balance sheet items. In the following sections, these estimates will subsequently be used to derive Bekaert's intrinsic value using various valuation methods.

3.1. FINANCIAL PERFORMANCE

Prior to the Covid-19 pandemic, Bekaert's had been experiencing significant margin compression due – amongst other things – to its comparatively large footprint and structural costs, as well as stiffening competition from China. This is shown in Figure 11. Then, in 2020, as the pandemic disrupted supply chains and hampered international trade, the company's revenue declined (in line with the rest of the industry). However, the group was able to offset the drop in sales and improve its gross margin due to positive product-mix effect (growth in high margin businesses) and profit restoration actions in SWS and BBRG *(Bekaert, 2017-2022).*

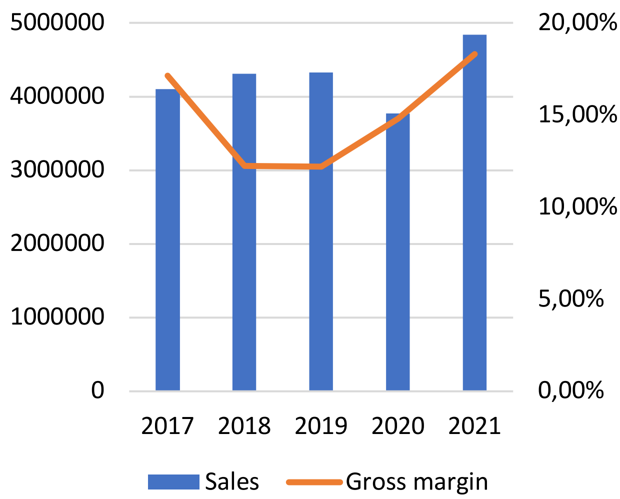

Figure 11: Sales and Gross margin, in EUR '000s
Source: Bekaert

Bekaert's sales experienced a large rebound in 2021, beating the expectations of most analysts and even comfortably exceeding pre-pandemic levels. Consolidated sales rose to EUR 4.840 million, above 2020 (+28%) and 2019 (+12%) *(Bekaert, 2022).*

Bekaert's exceptional recovery in 2021 did not only result in record sales. The company also continued to experience significant margin improvements, as shown in Figure 12. The gross margin, which had decreased to just 12,2% in 2018, ended 2021 at 18.31%. The REBITDA margin[3] improved from 10,5% in 2018 to 14,0% in 2021. Similarly, the REBIT margin more than doubled from just 4,88% in 2018 to a vastly improved 10,63% in 2021 *(Bekaert, 2017-2022).*

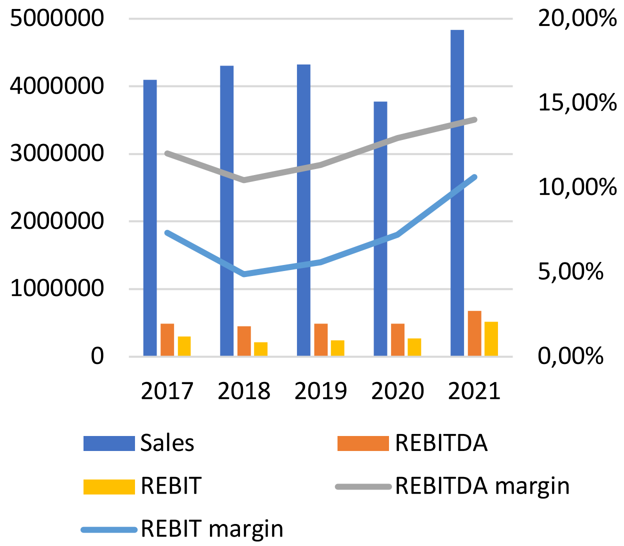

Figure 12: REBITDA and REBIT, in EUR '000s
Source: Bekaert

As shown in Figure 13, Bekaert's net income reached EUR 450,6 million in 2021. This corresponds to a net margin of 9,31%. In comparison, net margins in 2019 and 2020 had been as low as 1,12% and 3,92% respectively. From 2020 to 2021, the company's net income rose by an unprecedented 204,40%. This is due to the sales recovery, but also to a large accounting benefit, as the company's inventories were revalued *(Bekaert, 2017-2022).*

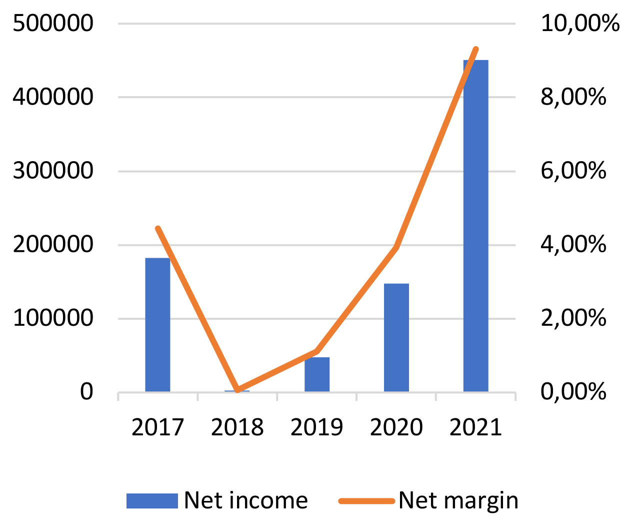

Figure 13: Net income and Net margin, in EUR '000s
Source: Bekaert

[3] REBITDA and REBIT stand for Recurrent EBITDA and Recurrent EBIT. REBITDA and REBIT are both adjusted for non-recurrent/ one-off revenues and expenses.

Entering 2022, Bekaert's management expected further sales growth across all segments and became increasingly confident about its ability to deliver on its medium-term organic CAGR goals of 3%+ as well as a 9-11% underlying EBIT margin level for the 2022-2026 cycle *(Bekaert, 2022).*

As predicted, Bekaert remained relatively resilient throughout the first 3 quarters of 2022. The company experienced double-digit revenue growth throughout the period, thanks to large price increases which more than offset lower volumes across most segments. However, persistently weaker market conditions (see SWOT analysis, p. 10 have pushed Bekaert's management back into a more conservative posture. In their third quarter press release, Bekaert's management did not – for the first time since the Q1 2022 quarterly report (May) – reconfirm its medium-term profitability goals mentioned above, thereby admitting to a lack of visibility on future performance *(Bekaert 2022; ABN Amro & Oddo BHF, 2022).*

3.2. DIVIDEND POLICY

In the investor tab of its website Bekaert states that: "It is the policy of the Board of Directors to propose a profit appropriation to the General Meeting of Shareholders which, insofar as the profit permits, provides a stable or growing dividend while maintaining an adequate level of cash flow in the company for investment and self-financing in order to support growth." Furthermore, the company specifies that: "in practice, this means that the company seeks to maintain a pay-out ratio of around 40% of the result for the period attributable to the Group over the longer term" *(Bekaert, 2022).*

Thus, according to Bekaert's management, the distribution of dividends depends – as is often the case with other same-sized publicly traded company – on the company's ability to generate profit. Consequently, when Bekaert's experiences exceptional growth – like it did in 2021 – shareholders should expect dividends to grow (proportionally). However, looking at Bekaert's historical dividend policy in Figure 14, one can conclude that the company's dividends are rarely proportional to its performance. In contradiction to the statement above, it appears that dividends are often neither stable nor growing (from one year to another). In fact, from 2017 to 2019 the gross dividend per share consistently decreased. Since 2019, dividends have grown steadily, but at a much lower rate than earnings per share. The reasons behind the company's unpredictable dividend policy are further discussed in the Reputation Analysis in Section 6 *(Bekaert, 2017- 2022).*

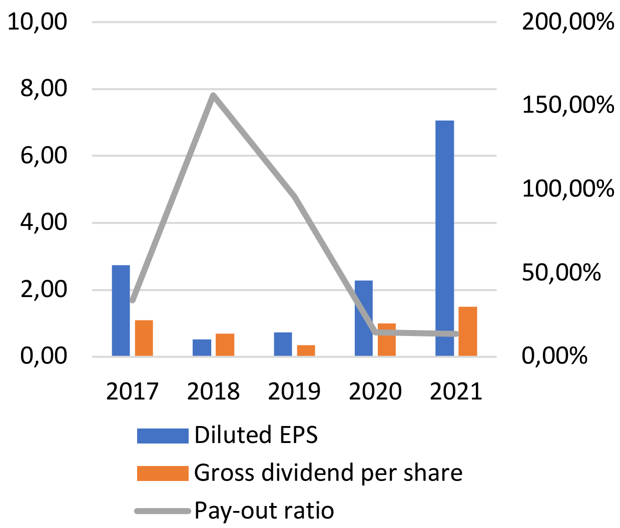

Figure 14: Dividend policy, in EUR
Source: Bekaert

On the Annual General Meeting of Shareholders in May 2022, the Board of Directors announced a gross dividend of EUR 1,50 per share for FY2021. This represents an increase of 50% versus the previous year. Bekaert's CEO indicated that the dividend increase to EUR 1,50 per share is tailored to reflect the very strong results of FY2021 *(Bekaert, 2022).*

In addition to a raise in dividend, the Board of Directors approved an ambitious 12-month share buyback programme of up to EUR 120 million. The purpose of this program is to repurchase and cancel outstanding shares to reduce the overall share capital of the company and increase earnings per share in the future. By the time of writing, this buyback programme was almost completed, severely constraining Bekaert's liquidity position in the process. Again, this will be discussed further in Section 6 *(Bekaert, 2022).*

3.3. CAPITAL STRUCTURE

In 2021, Bekaert had a Net debt to Equity ratio of 34,1%. As shown in Figure 16, this is slightly above the peer average of 29,0%. This ratio is important because it indicates what proportion of the company's assets is financed through debt versus equity. Being above the peer average implies that Bekaert relies more on debt financing than comparable companies *(S&P Capital IQ, 2022).*

The same conclusion can be drawn based on the Net debt to Enterprise value ratio. Indeed, with a Net debt to EV ratio of 25,4%, Bekaert is again well above the peer average of 18,4%. The higher the ratio, the higher the risk of bankruptcy. The Net debt to EV ratio thus provides a good picture of a company's solvency *(S&P Capital IQ, 2022).*

Bekaert's capital structure is sound. Nonetheless, when compared to the peer group of comparable companies, it appears like the company could do better. Figure 15 illustrates the proportion of Enterprise value represented by either Net debt or Equity *(S&P Capital IQ, 2022).*

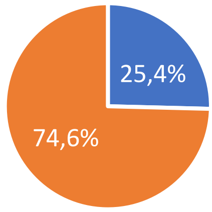

Figure 15: Net Debt versus Equity
Source: Bekaert

On a more positive note, Bekaert's Return-on-Equity ratio (ROE) is much higher that the peer average (24,8% versus 15,7%). This ratio shows how well Bekaert is managing the capital that shareholders have invested in it, i.e., making successful and high-return investments. With a higher ROE, Bekaert demonstrated that is more efficient than its peers in generating income from its equity financing *(Bekaert, 2022; S&P Capital IQ, 2022).*

	Market Value (EURm)	Net Debt (EURm)	Net Debt to EV	Net Debt to EBITDA	Net Debt to Equity	Return on Equity
Eregli Demir ve Çelik Fabrikalari T.A.S.	6466	378	5,5%	N/A	5,9%	25,6%
Nippon Steel Corporation	14708	15272	50,9%	1,99	103,8%	19,0%
Outokumpu Oyj	2227	294	11,7%	0,4	13,2%	20,2%
Voestalpine AG	4745	3435	42,0%	1,57	72,4%	16,7%
Kiswire Ltd.	447	154	25,6%	0,88	34,4%	8,6%
Nexans S.A.	3615	346	8,7%	1,89	9,6%	12,1%
Prysmian S.p.A.	7610	2415	24,1%	1,98	31,7%	11,3%
Tongling Jingda Special Magnet Wire Co., Lt	1419	210	12,9%	1,32	14,8%	14,3%
AMAG Austria Metall AG	1270	492	27,9%	1,95	38,7%	10,5%
Bodycote plc	1416	144	9,2%	0,7	10,1%	8,8%
Insteel Industries, Inc.	734	-64	-9,6%	N/A	0,0%	23,5%
Lindab International AB (publ)	1318	183	12,2%	1,22	13,9%	17,7%
Average	**3831**	**1938**	**18,4%**	**1,39**	**29,0%**	**15,7%**
NV Bekaert SA	2018	687	25,4%	0,65	34,1%	24,8%

Figure 16: Capital structure comparison
Source: S&P Capital IQ

For the analysis of Bekaert's capital structure, the company's last complete filing (closed on 31 December 2021) has been used. It is important to point out that Bekaert's net debt has since materially increased due to a steep reduction in cash and cash equivalents. Since the end of 2021, the amount of cash, cash equivalent, and short-term deposits has decreased by EUR 225,2 million, from EUR 757,3 million to EUR 532,1 million *(Bekaert, 2022).*

This has significantly reduced Bekaert's liquidity and the overall strength of its balance sheet, as this excess cash was meant to ensure that the company would be able to make investments despite the turbulent economic climate and rising interest rates.

Bekaert's liquidity is a crucial point of analysis which will be explored in much more detail further on.

Now that Bekaert's key financial have been examined and the main market trends and industry dynamics have been highlighted, the next step consists of establishing earnings forecasts with will then serve to derive the company's intrinsic value.

4. FORECASTS

Establishing forecast of the income statement and cash flow statement is essential to determine a business' future cash generation capacity.

In this section, current market trends (including growth drivers and risk factors highlighted in Section 2), Bekaert's past performance (analysed in Section 3), as well as the latest publicly available company guidance are used in conjunction to try to predict Bekaert's future P&L and cash flow items.

Future growth and profitability assumptions are to a large extent based on independent critical analysis and a certain understanding of current global macro conditions and trends. However, these assumptions are systematically compared to market research reports and the latest equity research notes in order to sense-check the assumptions and tuning down or accentuating elements which might have otherwise been over- or under-estimated.

4.1. REVENUE ESTIMATES

The two main components of future revenue growth are (i) increases in the volume of products sold and (ii) the change in price at which these products are sold (price/mix). The price/mix contains various elements, including inflation pass-through, wire rod price fluctuations (the main raw material used in Bekaert's production processes), and product-mix improvements (i.e. when a higher proportion of volume sold consists of higher value-added products which are sold at higher prices).

4.1.1. CROSS-DIVISIONAL PRICE/MIX ESTIMATES

Unfortunately, Bekaert does not provide a detailed split of its price/mix performance. It only shares public data on overall changes in volumes and revenues. Price/mix is a bridging factor that needs to be extrapolated.

It is extremely difficult to accurately forecast future price/mix for Bekaert given the complexity of this metric which includes future inflation, ability to pass it through, product-mix and forecasted price increases in wire rod. Therefore, in order to establish the sales forecasts, the price/mix breakdown of Stijn Demeester[4] (equity analyst at ING Belgium) has been used instead. However, it is important to point out that ING only provides a partial/ limited breakdown of this metric. This lack of transparency limits the ability to accurately forecasts the drivers behind the growth of Cost Of Goods Sold ("COGS") at a later stage.

Revenue estimates for 2022 are based on the latest full year estimates of brokers at ABN-Amro and ING. This was decided because of how late we are in the year and seemed more reasonable r than trying to forecast a stub period for H2-22. As a sense-check, these forecasts were compared to the H1-22 and Q3-22 results with their accompanying management outlooks. The forecasts for 2022 are broadly in line with the published results.

The very high price/mix growth in 2022 (shown in Table 17, p. 29) reflects the exponential increase of inflation and wire rod prices during the year. First, the OECD indicated that the average inflation rate of OECD countries had reached 10.7% in October 2022. Second, wire rod prices increased by +50% in 2021 and by another +20% in H1 2022, which Bekaert was largely able to pass on to its customers. This provided Bekaert with a significant revenue growth tailwind. Despite decreasing momentarily in the third quarter, prices have since gone back up before stabilizing toward year-end. *(OECD, 2022; ABN Amro & Oddo BHF, 2022).*

In 2023, inflation is expected to remain very high as it is assumed that the global economy – and Europe in particular – will enter a recession. Martijn Den Drijver (equity analyst at ABN amro & Oddo BHF) points out that Bekaert is unlikely to be able to keep passing on cost inflation to its customers given the much more competitive environment and the sizeable price/mix increases of 2021 and 2022. In addition, wire rod prices are expected to fall sharply in 2023. With customers closely monitoring wire rod prices, Bekaert is again likely to have to pass that on immediately, thereby decreasing the price/mix in 2023. Raw material prices have a particularly sizeable effect on Bekaert's RR and SWS divisions, which deal almost solely with steel wire transformation *(ABN Amro & Oddo BHF, 2022).*

[4] To conduct the fundamental analysis of Bekaert, I was able rely on Stijn Demeester's valuation model and broker reports, which I retrieved on the S&P Capital IQ web-databank. Mr. Demeester is an equity research analyst at ING Belgium and actively covers Bekaert's stock.

It is assumed that changes in the price/mix will be negligible in 2024, despite a moderately growing cost base. In 2025 and beyond, as inflation and wire rod prices are expected to stabilize, the price/mix can once again be expected to increase driven by organic price increases and product mix benefits. The strong price/mix increases of 2020, 2021, and H1 2022 are unlikely to be seen again in the foreseeable future *(ING, 2022).*

4.1.2. RR VOLUME ESTIMATES

As mentioned previously, RR is Bekaert's single biggest division. It represented 39% of the company's total consolidated sales as of H1 2022. The RR division's performance is directly correlated to the state of the automotive market (c. 95% of divisional sales) *(Bekaert, 2022).*

Although Bekaert likes to highlight that demand (in H1 2022) has been relatively stable across several key geographies (like EMEA, North America or India), in reality the RR unit is mostly dependent on China – which represents c. 30% of RR sales – where demand has remained severely subdued due a new wave of lockdowns since March 2022 and the combined effect of a low domestic business activity and export constraints. The short-term outlook for the RR division is not promising, with a full recovery of the Chinese market remaining very unlikely before 2023. Indeed, the Chinese RR market has barely improved in the first 9 months of 2022 *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

The poor state of Bekaert's Chinese RR operations can be explained by several factors. First, thanks to easing supply chains (normalized port operations) and decreasing freight rates, Bekaert's APAC RR competitors can now compete much more effectively. They are luring back clients with attractive prices, reversing a significant part of Bekaert's market share gains from 2021 and H1 2022. In addition, the automotive industry is particularly sensitive to global macroeconomic turbulences (due to its cyclicality) and domestic automotive demand has been down in China (although the truck/buses segment remains resilient). In fact, in H1 2022 Bekaert reported that the RR unit's volumes dropped by a whopping -14,5% (year-on-year). This is likely to worsen due to fourth quarter seasonality (typically resulting in lower EBIT in H2 versus H1). Volume growth can thus be expected to remain in the red for the entirety of 2022. This is what is driving lower year-end forecasts by the brokers *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

Beyond 2022, a global economic recession (which is expected to be particularly severe in Europe) is unlikely to allow for a recovery of the RR divisions sales. However, it is assumed that the automotive sector will gradually recover in 2024 at a growth rate of c. 5% CAGR according to the various market research reports collected in the framework of this analysis. However, these reports (which are the latest available to date) were published before inflation rose to its current levels and the global macro situation deteriorated. Therefore, the estimated CAGR for 2024, 2025 and 2026 must be tempered. Figure 17 shows the estimated growth rates for the RR division over the 2022-2026 cycle. These are based on the assumption that the Chinese market will eventually normalize in 2024. With Chinese tire manufacturers stepping up exports again, Bekaert's Chinese RR operations will benefit and steadily recover from their current trough *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022; The Business Research Company, 2022; Global Industry Analysts, Inc., 2022; IMARC group, 2022; Mordor Intelligence, 2022).*

Rubber Reinforcement	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Sales	2054	2181	2105	2158	2289	2429
% volume	*8,9%*	*-5,9%*	*-1,5%*	*2,5%*	*3,0%*	*3,0%*
% price / mix	*18,3%*	*12,9%*	*-2,0%*	*0,0%*	*3,0%*	*3,0%*
% y-o-y total growth	*28,9%*	*6,2%*	*-3,5%*	*2,5%*	*6,1%*	*6,1%*
in % of total consolidated sales	*42,4%*	*40,7%*	*40,1%*	*39,9%*	*39,8%*	*39,7%*

Figure 17: RR sales forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.1.3. SWS VOLUME ESTIMATES

SWS is Bekaert's second biggest division. It stood at an estimated 38% share of Bekaert's total consolidated sales as of H1 2022. Its main end markets are construction, agriculture, and basic materials *(Bekaert, 2022).*

In 2021, the SWS division was at the centre of the company's post-pandemic recovery, growing by +36% in a single year. This was significantly more than any other business unit. Much of this growth was achieved in the Latin American ("LATAM") construction and agriculture markets (pushing LATAM to become Bekaert's biggest geography in 2021). However, by H1 2022 most of the gains made in LATAM had all but evaporated. These recent volume and market share losses have several reasons. First, demand has fallen due to weakening economies and detrimental policy changes which have led to a reduction in public spending. Second, just like in the case of Bekaert's RR activities, APAC competitors which had difficulties competing effectively in 2021, rebounded thanks to improved port congestions, lockdowns, and freight rates. On the back of this, in its half year press release, Bekaert's management stated that it does not anticipate any improvement in LATAM for H2 2022 and beyond *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

Furthermore, demand has also been weak in the Asia Pacific ("APAC") region throughout the first half of 2022. This is especially true of the automotive industry in China. In H1 2022 alone, the SWS division's volume fell by as much as -9,4% (year-on-year). In addition, competition has returned here as well, and is aggressively cutting prices. Brokers have forecasted the 2022 full year numbers for the division accordingly *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

The outlook for 2023 is scarcely better, as volume growth is expected to be negligible. However, the outlook improves from 2024 onward. The SWS division's sales are expected to recover at a steady pace, supported by recently announced stimulus packages in China (which include specific measures in support of consumer spending and the automotive industry) *(ABN Amro & Oddo BHF, 2022).*

In 2025 and 2026, Bekaert's SWS division is expected to align with the growth pace of the global steel wire market, given many of SWS' products are commodified. The average of 4 market research reports sees volumes in the market growing at c. 5% in 2025 and 2026. However, the same comment as for the RR division applies here: these market research reports predate the current economic climate and should therefore be tuned down, as shown in Table 18 *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022; Market and Markets, 2022; Tech Navio, 2022; The Business Research Company, 2022; Infiniti Research Limited, 2022).*

Steel Wire Solutions	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Sales	1819	2031	1991	2060	2186	2319
% volume	*9,1%*	*-6,1%*	*0,0%*	*3,5%*	*3,0%*	*3,0%*
% price / mix	*28,0%*	*18,9%*	*-2,0%*	*0,0%*	*3,0%*	*3,0%*
% y-o-y total growth	*39,7%*	*11,7%*	*-2,0%*	*3,5%*	*6,1%*	*6,1%*
in % of total consolidated sales	*37,6%*	*37,9%*	*37,9%*	*38,1%*	*38,0%*	*37,9%*

Figure 18: SWS sales forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.1.4. SB VOLUMES ESTIMATES

SB is – by far – Bekaert's best performer in terms of margins. Therefore, one may expect that Bekaert's ambition to move away from low-margin applications (toward higher value-added products) will see an increased focus on the SB division in the future. Consequently, even though SB only represented 14% of total consolidated sales in H1 2022, it can be argued that this business unit carries significant weight on the company's future cash flows. Hence, establishing directionally accurate forecasts for the SB division remains important *(Bekaert, 2022).*

In 2021, Bekaert had reached an estimated 40% global market share in steel fibers for low-carbon concrete reinforcement (Dramix). In H1 2022, further growth was experienced in all regions except China, making Building Products the SB division's leading sub-segment (74% of division sales) *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

The other smaller SB sub-segments also performed well during the first half of 2022. Fiber technologies grew in several key markets, including high-end filtration, semiconductors, and hydrogen applications. Bekaert's environmentally friendly Combustion Technologies (burners and heat exchangers) were also in high demand throughout the first half of the year. Finally, Hose & Conveyor Belt ("HCB") supplies to the equipment and mining markets also increased steadily *(Bekaert, 2022).*

The SB division was the only one which experienced volume growth in H1 2022. This remains true even if you exclude the HCB effect[5]. According to Stijn Demeester (ING), the SB volume growth in H1 2022 amounted to 15,2% (versus 19,2% in 2021) *(Bekaert, 2022; ING 2022).*

The long-term outlook for the SB division remains very promising, as significant volume growth can be expected from the ongoing trends in decarbonization and sustainability. However, in first instance, the upcoming recession is expected to have short-term repercussions on the SB division – especially in the second half of 2023 – which is expected to result in overall low (but still positive) sales growth in the coming year. Even though subdued,

[5] The reported year-on-year growth figures are significantly impacted by the move of the HCB activities from the RR to the SB unit as from 1 January 2022. Based on a pro forma H1 2021 restatement, the revenue increase of the SB unit – excluding the HCB effect – however was still +38% (volume and price/mix included). *(Bekaert, 2022)*

volumes are not expected to decline because of the large current orderbooks for HCB products from automotive (OEM) manufacturer (*ABN Amro & Oddo BHF, 2022).*

In 2024, the SB division's growth should start to realign with the expected growth of the global construction and steel fiber markets, which various market research reports estimate at a +8% CAGR. However, this rate must once again be reduced to account for the recent macroeconomic changes which are likely to affect markets throughout the 2022-2026 cycle *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022; Next Move Strategy Consulting, 2022; The Business Research Company, 2022).*

Specialty Businesses	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Sales	476	609	609	636	688	744
% volume	*19,2%*	*10,5%*	*1,0%*	*4,5%*	*5,0%*	*5,0%*
% price / mix	*2,3%*	*15,8%*	*-1,0%*	*0,0%*	*3,0%*	*3,0%*
% y-o-y total growth	*21,9%*	*27,9%*	*0,0%*	*4,5%*	*8,2%*	*8,2%*
in % of total consolidated sales	*9,8%*	*11,4%*	*11,6%*	*11,8%*	*12,0%*	*12,2%*

Figure 19: SB sales forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.1.5. BBRG VOLUME ESTIMATES

The BBRG unit can be regarded as the problem child of the Bekaert family. Historically, the BBRG unit has struggled behind other divisions, with difficulties in winning new projects and remaining profitable *(Bekaert, 2022).*

In H1 2022, volumes decreased in EMEA due to the scaling back of trading activities with Belarus and Russia. Volume growth was also limited in China due to a slowdown in new real estate development projects (increased regulations in wake of Evergrande collapse) and Covid-19 lockdowns, which affected the elevator business (A-cords) in the country. All of these factors resulted in a volume contraction of -11,1% compared to H1 2021 *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

On a more positive note, orderbooks in the US and LATAM have increased to a record-high, driven by strong demand in both markets. Furthermore, ongoing capacity extensions in the US are soon likely to result in higher volumes. Nonetheless, the BBRG is not doing well. A decrease in the division's EBIT margin was only avoided if you take into account the EUR 11,5 million one-off revenue from the sale of land in Doncaster, United Kingdom *(Bekaert, 2022).*

In H2 2022, the BBRG division is expected to be broadly flat vs last year and given the vastly improved orderbooks this improved momentum is expected to last in 2023. The collected market research reports suggest that the global (steel) ropes market should grow at a +5% CAGR over the 2022-2026 cycle. Again, these forecasts have been haircut given the current macroeconomic climate *(Bekaert, 2022; 360iResearch, 2022; Expert Market Research, 2022).*

Bridon-Bekaert Ropes Group	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Sales	481	522	527	540	573	608
% volume	*9,9%*	*-5,3%*	*2,0%*	*2,5%*	*3,0%*	*3,0%*
% price / mix	*2,6%*	*14,6%*	*-1,0%*	*0,0%*	*3,0%*	*3,0%*
% y-o-y total growth	*12,7%*	*8,6%*	*1,0%*	*2,5%*	*6,1%*	*6,1%*
in % of total consolidated sales	*9,9%*	*9,7%*	*10,1%*	*10,0%*	*10,0%*	*9,9%*

Figure 20: BBRG sales forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.1.6. CONSOLIDATED SALES FORECAST

Figure 21 here below summarizes and consolidates the divisional sales forecasts, providing an overview of the projected group sales growth throughout the 2022-2026 cycle.

The Group sales represent company-wide sales which do not belong in any bucket in particular. Their forecast is based on the estimates of Stijn Demeester (ING).

Consolidated sales	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Rubber Reinforcement	2054	2181	2105	2158	2289	2429
Steel Wire Solutions	1819	2031	1991	2060	2186	2319
Specialty Businesses	476	609	609	636	688	744
Bridon-Bekaert Ropes Group	481	522	527	540	573	608
Group	10	19	14	19	19	19
Total sales	**4840**	**5362**	**5246**	**5414**	**5755**	**6119**
% volume		*-4,3%*	*-0,3%*	*3,1%*	*3,2%*	*3,2%*
% price / mix		*15,6%*	*-1,8%*	*0,0%*	*3,0%*	*3,0%*
% y-o-y total growth	*28,3%*	*10,8%*	*-2,2%*	*3,2%*	*6,3%*	*6,3%*

Figure 21: Consolidated sales forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.2. GROSS MARGIN ESTIMATES

Much like for the sales forecasts, the COGS are estimated using a volume x price (not price/mix) formula. As opposed to the price/mix, price does not reflect changes in the product-mix or other margin improvements. It only takes into account the price of inputs. These include raw materials (most notably wire rod), but also other cost elements such as energy, production wages, etc. In the current macroeconomic climate, the costs of goods sold are expected to increase drastically, driven by high inflation.

In 2021 and H1 2022, Bekaert's gross margin vastly improved as factories in EMEA and North America were running at almost full capacity. However, no further margin improvement is expected for H2 2022. As the Chinese market fails to recover in the short-run and market share gains start to reverse in RR and SWS, factory utilization rates are expected to decline, which will likely lead to a reversal in the recent gross margin expansion. Furthermore, given the strong price increases of 2021 and 2022, Bekaert will find it difficult to pass on further cost inflation. Consequently, despite high sales growth in 2022, the gross margin is expected to remain at best broadly unchanged *(Bekaert, 2022; ABN Amro & Oddo BHF, 2022).*

In 2023, a forecasted fall in wire rod prices is expected to exactly offset all other cost inflation, but this will not be the case in 2024 and beyond, where the cost of goods sold will again increase at a steady rate (in line with historical stable inflation rates of c. 2%). Figure 22 shows the change in costs of goods sold and gross margin over the 2022-2026 cycle.

Gross margin	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Cost of goods sold	3954	4374	4361	4586	4829	5085
% volume growth	-	*-4,3%*	*-0,3%*	*3,1%*	*3,2%*	*3,2%*
% cost growth	-	*15,6%*	*0,0%*	*2,0%*	*2,0%*	*2,0%*
% y-o-y total growth	*23,0%*	*10,6%*	*-0,3%*	*5,2%*	*5,3%*	*5,3%*
in % of sales	*81,7%*	*81,6%*	*83,1%*	*84,7%*	*83,9%*	*83,1%*
Gross profit	886	988	886	827	926	1033
% y-o-y total growth	*58,7%*	*11,6%*	*-10,4%*	*-6,6%*	*11,9%*	*11,6%*
Gross margin	**18,3%**	**18,4%**	**16,9%**	**15,3%**	**16,1%**	**16,9%**

Figure 22: COGS and Gross margin forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.3. OPERATING EXPENSES ESTIMATES

Inflation of wages and other cost buckets are also expected to materially impact operating expenses (OPEX). As shown in Figure 23, selling and administrative expenses are estimated based on inflation and volume growth. It is assumed that the more volumes are produced, the more commercial personnel will be needed. Similarly, as the number of employees increases, overhead administrative expenses will grow as well. However, it would be unrealistic to assume that selling and administrative expenses will grow proportionally (on a one-to-one basis) to the increases in volume, as the company should benefit from some operating leverage. Hence, only half of volume growth is assumed for the growth in SG&A expenses.

Research and development (R&D) expenses are expected to grow roughly in line with inflation, reflecting the wage growth of the current R&D staff (no increases in staff numbers assumed). Other operating expenses, for which Bekaert provides no detailed breakdown, are expected to do the same. Finally, conservatively it has been assumed there would be no exceptional other operating revenues during the forecast period.

Operating expenses	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
Other operating revenues	63	0	0	0	0	0
% y-o-y total growth	-	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*
Selling expenses	186	200	210	218	226	234
% inflation	-	*10,0%*	*5,0%*	*2,0%*	*2,0%*	*2,0%*
% volume growth (half)	-	*-2,2%*	*-0,2%*	*1,6%*	*1,6%*	*1,6%*
% y-o-y total growth	-	*7,6%*	*4,8%*	*3,6%*	*3,7%*	*3,7%*
Administrative expenses	161	173	182	188	195	202
% inflation	-	*10,0%*	*5,0%*	*2,0%*	*2,0%*	*2,0%*
% volume growth (half)	-	*-2,2%*	*-0,2%*	*1,6%*	*1,6%*	*1,6%*
% y-o-y total growth	-	*7,6%*	*4,8%*	*3,6%*	*3,7%*	*3,7%*
Research and development expenses	60	65	69	70	72	73
% y-o-y total growth	-	*10,0%*	*5,0%*	*2,0%*	*2,0%*	*2,0%*
Other operating expenses	29	32	33	34	35	36
% y-o-y total growth	-	*10,0%*	*5,0%*	*3,0%*	*3,0%*	*3,0%*
Total operating expenses	**373**	**471**	**494**	**510**	**528**	**546**

Figure 23: Operating expenses forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.4. MARGINAL TAX RATE ESTIMATES

The effective tax rates paid by Bekaert in 2020 and 2021 were 33,2% and 28,0% respectively. At first glance, these marginal tax rates might seem reasonable. However, when looking at the 2017-2021 period as a whole, the average annual effective tax rate paid by Bekaert shoots up to a massive 65,1%. Of course, this average is distorted, as it takes 2018 and 2019 into account, two very unprofitable years with abnormally high effective tax rates. However, even if 2018 and 2019 are taken out of the picture, Bekaert would still be paying an average annual effective tax rate of 30,7%, which is considerably higher than the Belgian corporate income tax (CIT) rate of 25%. This is because Bekaert records a vast majority of its sales from international customers (92%) through international subsidiaries, where it pays the local tax rates *(Bekaert 2022; Trading Economics, 2022, Market Line 2022).*

Building a valuation model based on the assumption that, in the future, Bekaert will pay taxes amounting to 25% of its earnings – in accordance with the Belgian CIT rate – is thus unreasonable, as historical figures strongly suggest otherwise. According to the estimates of Stijn Demeester (ING), Bekaert's average marginal tax rate for the 2022-2026 cycle will be 34%. This rate is roughly coherent with Bekaert's historical effective tax rate (when very unprofitable years like 2018 and 2019 are excluded) and is hence used here *(ING, 2022).*

4.5. CAPITAL EXPENDITURE ESTIMATES

Over the 2017-2021 period, the selected peer group of comparable companies had an average annual CAPEX equal to 4,7% of their respective sales. In comparison, over the same period Bekaert's average annual CAPEX amounted to just 3,8% of sales *(Bekaert, 2022; S&P Capital IQ, 2022).*

Over the 2022-2026 cycle, Bekaert's annual CAPEX is forecasted to catch up with the peer average, reaching 5% by 2025 and stabilizing thereafter. The assumption that Bekaert's capital expenditure is going to rise was confirmed during the company's November 2022 investor presentation where Bekaert's management stated that, to fulfil its various innovation and sustainability ambitions, the company needs to accelerate its investment pace *(Bekaert, 2022).*

4.6. DEPRECIATION AND AMORTIZATION ESTIMATES

In practice, when establishing Depreciation and Amortization ("D&A") forecasts, financial analysts often assume that D&A will equal CAPEX in the long run. This is – for example – also the case of Martijn Den Dijver (ABN Amro & Oddo BHF). Figure 24 shows that this equilibrium was almost reached in 2021 and that Bekaert's CAPEX is on an upward trend, closing in on D&A. Furthermore, the historical average of Bekaert's D&A as % of sales is equal to 5,0%. This historical average happens to correspond to the CAPEX forecast which was computed in the previous section *(Bekaert 2022).*

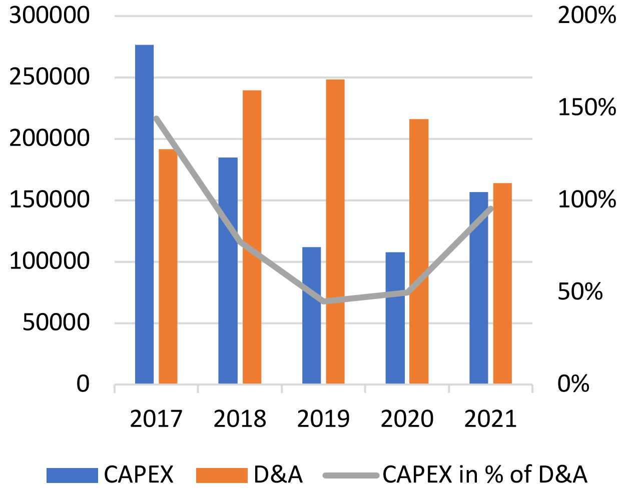

Figure 24: D&A and CAPEX, in EUR '000s
Source: Bekaert

	2021A	2022E	2023E	2024E	2025E	2026E
Depreciation and amortization	164	204	220	249	288	306
in % of Capex	104,9%	100,0%	100,0%	100,0%	100,0%	100,0%
Capex	157	204	220	249	288	306
in % of sales	3,2%	3,8%	4,2%	4,6%	5,0%	5,0%

Figure 25: D&A and CAPEX forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

4.7. NET WORKING CAPITAL ESTIMATES

Net working capital ("NWC") represents the amount of capital that is available/is needed to meet current obligations and to run the day-to-day operations of the company. The most important components of net working capital are the inventories, trade receivables and trade payables. Bekaert publishes very little information regarding these balance sheet items. To establish working capital forecasts, one must thus rely on the historical figures and on the relevant elements from the strategic analysis.

Bekaert's working capital has decreased in recent years. Whilst it stood at 20,2% of sales in 2017, by 2021 that percentage had fallen to just 13,9%. With the fall in raw material (wire rod) prices in 2022, the important inventory revaluations of 2021 will be – at least partially – reversed, further reducing working capital as % of sales, which can be expected to remain in the low double digits throughout the 2022-2026 cycle *(Bekaert, 2022)*.

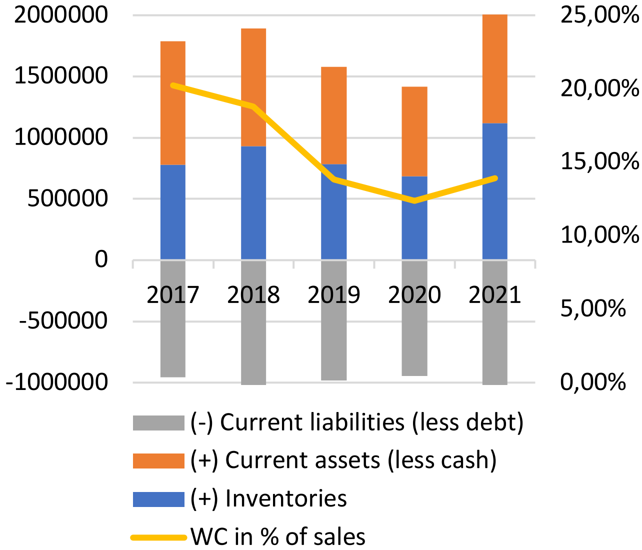

Figure 26: Working capital, in EUR '000s
Source: Bekaert

Figure 27 reveals further details about Bekaert's working capital. It appears that since 2019 trade receivables have flatlined whilst trade payables have increased steadily. This could be an active decision by management in order to extract cash from the operations. Figures from the H1 2022 trading update show that this trend is reversing slightly, as payables grew just 13,2% whilst receivables increased by 23,4%. It is assumed that over the 2022-2026 cycle trade payables should steadily decrease to their historical average of 17,8% of sales. In the meantime, receivables should climb back up to 16,8% of sales *(Bekaert, 2022).*

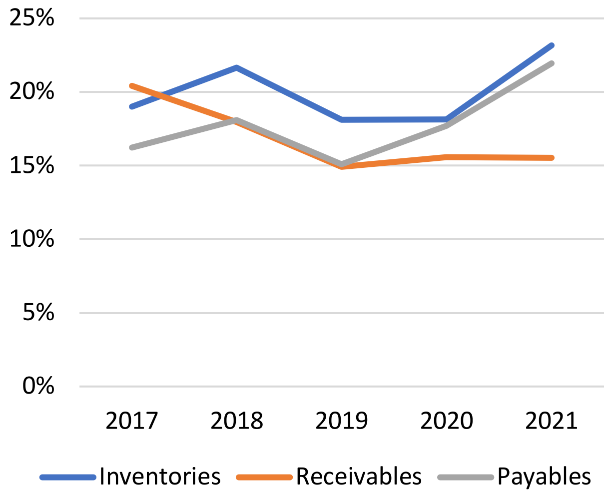

Figure 27: Working capital items, as % of sales
Source: Bekaert

Inventories have also increased significantly in 2021. However, as mentioned previously, this is mostly attributable to the rise in raw material (wire rod) prices (+50%), which resulted in significant inventory revaluations (FIFO). This trend persevered through the first half of 2022 (+20%). However, raw material prices have started to fall H2 2022 (see Figure 7, p.14), which, according to own estimates, should result in a net inventory increase of just 10% for 2022 overall. In 2023, wire rod prices are expected to fall even further. In the long-run, inventories are expected to stabilize around their historical level of 20% of sales *(Bekaert, 2022; ING, 2022; Investing Commodities, 2022).*

Net working capital	**2021A**	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**
(+) Inventories	1121	1242	997	1083	1151	1224
in % of sales	*23,2%*	*23,2%*	*19,0%*	*20,0%*	*20,0%*	*20,0%*
(+) Trade receivables	751	858	866	914	971	1033
in % of sales	*15,5%*	*16,0%*	*16,5%*	*16,9%*	*16,9%*	*16,9%*
(+) Other current assets	199	50	40	43	46	49
in % of sales	4,1%	4,0%	4,0%	4,0%	4,0%	4,0%
(-) Trade payables	1062	1126	1049	1029	1025	1090
in % of sales	-21,9%	-21,0%	-20,0%	-19,0%	-17,8%	-17,8%
(-) Other current liabilities	336	389	380	392	417	443
in % of sales	-6,9%	-7,2%	-7,2%	-7,2%	-7,2%	-7,2%
Net working capital	**673**	**635**	**473**	**619**	**726**	**772**
NWC in % of sales	13,9%	11,8%	9,0%	11,4%	12,6%	12,6%
Change in net working capital	**206**	**-38**	**-162**	**146**	**108**	**46**

Figure 28: Net working capital forecasts, in EUR millions
Source: Bekaert; Gabriel Terlinden

In Figure 28, the “other current assets” are made up of other current assets and other receivables. The “other current liabilities” account for short-term employee benefit obligations, (environmental) provisions, income tax payables, and other payables.

5. VALUATION

The forecasts established in the previous section are now used to obtain a fair value for Bekaert's stock. In the framework of this thesis, the two valuation models used are the Discounted Cash Flow ("DCF") model and the Relative Valuation ("multiples") model.

5.1. DISCOUNTED CAH FLOW MODEL

The DCF model determines the enterprise value by calculating the present value of forecasted free cash flows. In order to convert the future stream of free cash flows to their present value, a discount rate is used, i.e. the weighted average cost of capital ("WACC"). Therefore, to conduct the DCF valuation of Bekaert, one must first estimate a series of factors, such as the WACC, the perpetual growth rate, and the exit multiple.

Once the enterprise value is obtained, a target price per share can be derived using the EV-to-Equity bridge calculations. A series of sensitivity analyses will then provide share price intervals which will be compiled into a football field valuation summary.

5.1.1. WEIGHTED AVERAGE COST OF CAPITAL

The first step of the DCF model consists of estimating the WACC The WACC is a measure of the intrinsic risk of future cash flows. The higher the risk, the higher the discount rate or WACC.

Since future cash flows accrue to both equity and debt providers, both the cost of equity and debt should be included in its calculation. The discount factor must thus be weighted.

Share price (23/12/2022) - *in EUR*	36,08
# of outstanding shares	59,03
Total debt	1221
Market capitalization	2130
Total capital	**3351**
Weight of debt	36,4%
Weight of equity	63,6%
Pre-tax cost of debt	5,3%
Marginal tax rate	34,0%
After-tax cost of debt	**3,5%**
Risk-free rate	2,7%
Relevered beta	1,37
Market risk premium	6,0%
Cost of equity	**10,9%**
WACC	**8,2%**

Figure 29: WACC summary, in EUR millions
Source: Euronext; Gabriel Terlinden

A WACC of 8,2% was obtained using the following formula:

WACC = Weight of equity x Cost of equity + Weight of debt x After-tax cost of debt

5.1.2. THE WEIGHT OF DEBT AND EQUITY

To determine the respective weights of debt and equity, the Debt-to-Capital ratio was first computed based on the latest available data (dating from H1 2022). The Debt figure used here reflects the total book value of debt in 2022. It is equal to EUR 1.221 million.

The market capitalization of Bekaert is obtained by multiplying the share price of Bekaert (23/12/2022) with the diluted number of shares outstanding. The company' total market capitalization at the time of writing was EUR 2.130million.

The weight of debt and equity obtained are 36,4% and 63,6% respectively.

5.1.3. THE COST OF DEBT

To compute the cost of debt, the rates at which debt capital could be raised at the time of valuation are examined. The higher the probability that the company is not able to meet its debt obligations, the higher the cost of debt. However, interest is deductible for tax purposes if the company is sufficiently profitable. Therefore, the cost of debt after tax is calculated as follows:

After-tax cost of debt = Pre-tax cost of debt x (1 – Tax rate)

Accordingly, to obtain the cost of debt needed to compute the WACC, one must first estimate the Pre-tax cost of debt and the Tax rate.

Given the current inflationary environment, the Pre-tax cost of debt cannot be estimated based on the ratio between the company's interest expenses and its total debt. It has to match inflation forecasts, as this would provide a more accurate measure of what it would cost for Bekaert to seek financing through debt in the future. The OECD estimates that long-term interest rates in the Euro-area will rise to 5,3 % *(OECD, 2022).*

The Tax rate is based on Bekaert's historical figures and on the estimate of Stijn Demeester (ING). It is set at 34,0%, which corresponds to the marginal tax rate estimate computed in Section 4.

The After-tax cost obtained is 3,5%.

5.1.4. THE COST OF EQUITY

The cost of equity can be defined as the minimum return that the company needs to achieve in order not to decrease the value of its share capital. The cost of equity is calculated using the Capital Asset Pricing Model (CAPM):

Cost of equity = Risk-free rate + Relevered beta x Market risk premium

The Risk-free rate is based on the interest rate on long-term government bonds. At the date of valuing, the yield on Belgian and German government bonds with a 10 year tenor amount to 3,0% and 2,4% respectively (on 26 December 2022). An average of both yields was taken because the company is headquartered in Belgium and because the German government bond is often used by equity analysts as a measure of the risk-free rate in Europe. The risk-free rate obtained is 2,7% *(World Government Bonds, 2022).*

The second component of the CAPM formula is the Relevered beta. The equity beta is a measure of the volatility of a stock compared to the market. In other words, it measures how sensitive a company's stock price is to systematic risk (inflation, disasters, etc.). The more a company is sensitive to risk factors of a general nature, the higher its beta. Bekaert's raw beta is 1,62[6]. However, for the WACC calculation, the average unlevered beta of the peer group of comparable companies was taken (0,99) and subsequently re-levered using Bekaert's Debt-to-Equity ratio (56,8%) and the marginal tax rate estimate (34,0%). The levered beta is 1,36 *(Yahoo Finance, 2022; S&P Capital IQ, 2022).*

The final component of the CAPM is the market risk premium or equity premium. It is a measure of the expected return on a well-diversified portfolio on top of the risk-free interest rate. According to KPMG, in September 2022 (most recent estimate) the equity risk premium amounted to 6,0% *(KPMG, 2022).*

Thus, if you insert a Risk-free rate of 2,7%, a levered beta of 1,36, and a market risk premium of 6,0% into the CAPM, you obtain a Cost of equity equal to 10,9%.

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[6] The Raw beta is computed on a monthly basis over a period of 5 years ending 23.12/2022.

5.1.5. THE PRESENT VALUE OF FREE CASH FLOWS

Before calculating the terminal value, the expected yearly cash flows need to be discounted using the WACC. Note that there is no prescribed theory on the number of years for which the cash flows should be discounted before calculating the terminal value. In standard valuation models, this period is usually 5 to 10 years. In this case, it was deemed appropriate to discount the expected cash flows for 2022-2030 (9 years) and to calculate the terminal value based on the free cash flows of 2030.

The free cash flows for 2022-2026 are based on the forecasts established in the previous section. A normalization period is then added from 2026 to 2030 to allow for a smooth transition toward a perpetual growth rate of 1,5%. This perpetual growth rate was defined according to the assumption of Stijn Demeester (ING). The EBIT margin is also expected to slowly decrease after 2026, until it reaches 8% in 2030. The Capex/sales and Depreciation/capex ratios are expected to remain unchanged. The free cash flows for the entire forecast period are shown in Figure 30.

The free cash flows are computed by adding depreciation and subtracting CAPEX and the change in net working capital from the net operating profit after tax (NOPAT). Once the free cash flows have been computed, they are then discounted using the WACC. The sum of the present value of the free cash flows for the 2022-20230 period is EUR 2.600 million.

Free cash flows	**2022E**	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**
Sales	5362	5246	5414	5755	6119	6364	6554	6686	6819
% y-o-y total growth	*10,8%*	*-2,2%*	*3,2%*	*6,3%*	*6,3%*	*4,0%*	*3,0%*	*2,0%*	*2,0%*
EBIT	517	392	317	398	488	508	523	534	546
in % of sales	*9,6%*	*7,5%*	*5,9%*	*6,9%*	*8,0%*	*8,0%*	*8,0%*	*8,0%*	*8,0%*
Income taxes	176	133	108	135	166	173	178	182	185
in % of EBIT	*34,0%*	*34,0%*	*34,0%*	*34,0%*	*34,0%*	*34,0%*	*34,0%*	*34,0%*	*34,0%*
NOPAT	341	259	209	263	322	335	345	353	360
Depreciation and amortization	204	220	249	288	306	318	328	334	341
CAPEX	204	220	249	288	306	318	328	334	341
Change in net working capital	-38	-162	146	108	46	31	24	17	17
Free cash flow	**379**	**421**	**63**	**155**	**276**	**304**	**321**	**336**	**343**

Figure 30: Free cash flows, in EUR millions
Source: Gabriel Terlinden

5.1.6. THE TERMINAL VALUE

To determine the present value of the terminal value (sum of the free cash flows beyond 2030), two different methods have been used. The first is the perpetual growth method. The second is the exit multiple method.

5.1.6.1. The perpetual growth method

In the case of the perpetual growth method, the value of Bekaert is computed based on the assumption that the company will grow indefinitely at a rate of 1,5%. The discounted free cash flows (FCF) for 2022-2030 are thus increased with the residual value (or terminal value) on a perpetuity basis. Using the perpetual growth method, the terminal value (TV) is obtained with the following formula:

FCF 2030E	343185
Perpetual growth rate	1,5%
Terminal value	5199317
Discount factor	0,5
Present value of TV	**2558091**
as % of Enterpise Value	70,7%

Figure 31: Perpetual growth method, in EUR '000s
Source: Gabriel Terlinden

$$TV = FCF_{2030} \times (1 + \text{perpetual growth rate}) / (WACC - \text{perpetual growth rate})$$

As shown in Figure 31, the net present value of the terminal value obtained through the perpetual growth method is equal to EUR 2.558 million.

5.1.6.2. The exit multiple method

An alternative to the perpetual growth method is the exit multiple. In this case, it is assumed that shareholders might not want to own the company indefinitely (or that it might not grow in perpetuity). The estimated EBITDA for 2030 is therefore multiplied with an exit multiple to obtain the enterprise value at the end of the 2022-2030 forecasting period. The exit multiple, which was chosen based on the median EV/EBITDA multiple of a peer group of comparable companies, is 4,9x. This multiple can be found in Figure 32 in the section dedicated to the relative valuation by means of the EV/EBITDA multiple.

EBITDA 2030E	886500
Exit multiple	4,9x
Terminal value	4343850
Discount factor	0,5
Present value of TV	**2137197**
as % of Enterpise Value	66,9%

Figure 32: Exit multiple method, in EUR '000s
Source: Gabriel Terlinden

Using the exit multiple method, the terminal value reflects the value that the company would most likely sell for in 2030. The net present value of terminal value obtained through the exit multiple method is EUR 2.137 million.

5.1.7. EV-TO-EQUITY BRIDGE

To obtain the enterprise value of the company, one must add the terminal values to the net present value of the free cash flows. The enterprise value using a 1,5% perpetual growth rate equals EUR 3.618 million. Using an exit multiple of 4,9x instead, that value is EUR 3.197 million.

Once the enterprise value is obtained, various adjustments must be made in order to obtain the total shareholder value (or equity value) of the company. Bekaert's net debt, minority/ non-controlling interest, employee benefit obligations, environmental provisions, and factoring need to be deducted to obtain a total equity value of EUR 2.545 million (perpetual growth) or EUR 2.124 million (exit multiple).The target price per share is then determined by dividing the two equity values by the number of shares outstanding. According to Bloomberg and Euronext, on 26 December the total number of shares outstanding was 59,0 million. Consequently, the fair value per share is either EUR 43,12 or EUR 35,99. The details of both calculation methods are summarized in Figure 33 *(Bloomberg, 2022; Euronext, 2022).*

	Perpetual growth	Exit multiple
Present value of FCF	1059487	1059487
as % of Enterprise value	29,3%	33,1%
Present value of TV	2558091	2137197
as % of Enterprise value	70,7%	66,9%
Enterpise value	**3617578**	**3196684**
(-) Net debt	688884	688884
(-) Minority interests	130936	130936
(-) Benefit obligations (net of assets)	19222	19222
(-) Environmental provisions	26997	26997
(-) Factoring	231000	231000
(+) Investments in joint ventures	24548	24548
Equity value	**2545087**	**2124193**
# of shares outstanding	59029	59029
Fair value per share	**43,12**	**35,99**

Figure 33: EV-to-Equity bridge, in EUR '000s
Source: Bekaert; Gabriel Terlinden

5.1.8. SENSITIVITY ANALYSES

The final step of the DCF valuation consists of conducting a series of sensitivity analyses. These analyses need to be performed because the company's forecasts were established on the basis of hypotheses. Given the lack of visibility on Bekaert's future performance, the underlying assumptions used to determine the company's forecasts are relatively uncertain and could potentially vary in the future. Should these assumptions change as the macroeconomic context evolves, so will the computed enterprise values and target prices. Therefore, sensitivity analyses are conducted to measure the potential impact of such changes and to establish reasonable target price intervals.

5.1.8.1. WACC sensitivity

The WACC sensitivity analysis was broken down in two parts.

First, the sensitivity of the cost of equity was measured by plotting variations in the levered beta against variations in the market risk premium. This first step of the WACC sensitivity analysis is important because the cost of equity carries a lot of weight in the WACC formula. Figure 34 shows how the cost of equity changes in function of a +/- 0,10 variation of the levered beta or a +/- 0,5% variation of the Market risk premium. The cost of equity ranges from 8,6% to 13,7%.

		Market risk premium						
		4,5%	5,0%	5,5%	6,0%	6,5%	7,0%	7,5%
Levered beta	1,07	7,5%	8,0%	8,6%	9,1%	9,7%	10,2%	10,7%
	1,17	8,0%	8,5%	9,1%	9,7%	10,3%	10,9%	11,5%
	1,27	8,4%	9,0%	9,7%	10,3%	11,0%	11,6%	12,2%
	1,37	8,9%	9,5%	10,2%	10,9%	11,6%	12,3%	13,0%
	1,47	9,3%	10,0%	10,8%	11,5%	12,3%	13,0%	13,7%
	1,57	9,8%	10,5%	11,3%	12,1%	12,9%	13,7%	14,5%
	1,67	10,2%	11,0%	11,9%	12,7%	13,6%	14,4%	15,2%

Figure 34: Cost of equity sensitivity
Source: Gabriel Terlinden

The second step of the WACC sensitivity analysis consists of plotting variations in the weight of equity against variations in the cost of equity. This enables to measure the sensitivity of the WACC. Figure 35 shows how the WACC changes in function of a +/- 1,00% change in the weight of equity or a +/- 0,5% change in the cost of equity. The WACC ranges from 7,7% to 9,1%.

		Cost of equity						
		9,4%	9,9%	10,4%	10,9%	11,4%	11,9%	12,4%
Weight of equity	60,6%	7,0%	7,3%	7,6%	7,9%	8,2%	8,5%	8,8%
	61,6%	7,1%	7,4%	7,7%	8,0%	8,3%	8,6%	8,9%
	62,6%	7,2%	7,5%	7,8%	8,1%	8,4%	8,7%	9,0%
	63,6%	7,2%	7,6%	7,9%	8,2%	8,5%	8,8%	9,2%
	64,6%	7,3%	7,7%	8,0%	8,3%	8,6%	9,0%	9,3%
	65,6%	7,4%	7,8%	8,1%	8,4%	8,7%	9,1%	9,4%
	66,6%	7,5%	7,9%	8,2%	8,5%	8,9%	9,2%	9,5%

Figure 35: WACC sensitivity
Source: Gabriel Terlinden

5.1.8.2. Share price sensitivity

Conducting a share price sensitivity analysis requires looking at both the perpetual growth and exit multiple.

Thus, a first sensitivity analysis is performed on the share price by plotting variations in the WACC against variations in the perpetual growth rate. Figure 36 shows how the share price changes in function of a +/- 0,5% variation of the WACC or a +/- 0,25% variation of the perpetual growth rate.

		WACC						
		6,7%	7,2%	7,7%	8,2%	8,7%	9,2%	9,7%
Perpetual growth	0,8%	55,33	48,77	43,21	38,46	34,35	30,77	27,63
	1,0%	57,88	50,85	44,94	39,90	35,57	31,81	28,52
	1,3%	60,66	53,11	46,80	41,45	36,87	32,91	29,46
	1,5%	63,72	55,57	48,80	43,11	38,26	34,09	30,47
	1,8%	67,08	58,25	50,98	44,90	39,75	35,34	31,53
	2,0%	70,80	61,19	53,35	46,84	41,35	36,68	32,66
	2,3%	74,93	64,43	55,93	48,93	43,08	38,12	33,87

Figure 36: Share price sensitivity, perpetual growth
Source: Gabriel Terlinden

With the perpetual growth method, the discounted cash flow valuation yields a target price interval centred around EUR 43,11 and ranging from EUR 31,81 to EUR 61,19.

A second sensitivity is performed for the exit multiple method. In this case, variations in the WACC are plotted against variation in the exit multiple. The chosen increments are +/- 0,5% for the WACC and +/- 1,0x for the multiple.

Table 37 shows how the share price changes as a consequence of these variations in WACC and/or exit multiple. Using the exit multiple method, the DCF valuation yields a target price of EUR 35,99, which lies in an interval ranging from EUR 19,10 to EUR 55,62.

		WACC						
		6,7%	7,2%	7,7%	8,2%	8,7%	9,2%	9,7%
Exit multiple	1,9	16,33	15,46	14,62	13,82	13,05	12,30	11,59
	2,9	24,71	23,49	22,32	21,21	20,13	19,10	18,12
	3,9	33,08	31,52	30,03	28,60	27,22	25,91	24,64
	4,9	41,46	39,56	37,73	35,98	34,31	32,71	31,17
	5,9	49,84	47,59	45,43	43,37	41,40	39,51	37,70
	6,9	58,22	55,62	53,14	50,76	48,49	46,31	44,23
	7,9	66,59	63,65	60,84	58,15	55,58	53,11	50,75

Figure 37: Share price sensitivity, exit multiple
Source: Gabriel Terlinden

5.2. RELATIVE VALUATION MODEL

This section deals with the relative valuation. As mentioned previously, this method consists of comparing the value of a company – expressed as a multiple of a financial metric – to the average value of a selected peer group of comparable companies, or vice versa. The goal of this approach is to define Bekaert's intrinsic share price based on the average performance of similar companies within the same industry. The multiples chosen within the framework of this thesis are EV/EBITDA and P/E. Each will be explored in detail here below.

To obtain a representative list of peers, the comparable companies selected by Bloomberg, S&P Capital IQ, ING and CFRA have been studied in detailed and short listed based on their similarity – in terms of industry, size, footprint, etc. – to Bekaert. Of the 12 peers used in this valuation, four are steel producers, four are wire producers, and four are active in other related industries. A detailed description of the 12 comparable companies can be found in Appendix III.

	Market Value (EURm)	Country
Steel		
Eregli Demir ve Çelik Fabrikalari T.A.S.	5.650	Turkey
Nippon Steel Corporation	12.790	Japan
Outokumpu Oyj	1.839	Finland
Voestalpine AG	3.924	Austria
Wire		
Kiswire Ltd.	293	South Korea
Nexans S.A.	4.087	France
Prysmian S.p.A.	8.693	Italy
Tongling Jingda Special Magnet Wire Co., Ltd.	1.177	China
Other		
AMAG Austria Metall AG	1.076	Austria
Bodycote plc	1.099	UK
Insteel Industries, Inc.	519	US
Lindab International AB (publ)	825	Sweden

Figure 38: Peer group of comparable companies
Source: Bloomberg; S&P Capital IQ; ING; CFRA

5.2.1. THE EV/EBITDA MULTIPLE

The EV/EBITDA multiple compares the value of a company (EV) to its operational result/ earnings before interest, taxes, depreciation, and amortization (EBITDA). It is by far the most frequently used multiple for this type of valuation. The EV/EBITDA multiple is popular because it not impacted by the capital structure, by differences in marginal tax rate, or by non-cash expenses.

The relative valuation using the EV/EBITDA multiple was done for the last twelve months (LTM), for 2022, for the next twelve months (NTM), for 2023, and for 2024. Except for the

LTM, the valuation is thus based on estimates. Bekaert's EBITDA estimates for 2022, NTM, 2023, and 2024 are based on broker estimates compiled by S&P Capital IQ (LTM and NTM EBITDA margins are 12,4% and 12,3% respectively). This data was last updated on 20 December 2022, but the LTM was set to end on 31 October 2022 (end of the third quarter).

For each period, the enterprise value of Bekaert was obtained by multiplying Bekaert's (forecasted) EBITDA with the median EV/EBITDA multiple of the comparable companies. To obtain a price interval, Bekaert's EBITDA was also multiplied with the 25th and 75th percentile of the EV/EBITDA multiples of the comparable companies.

	LTM	**2022**	**NTM**	**2023**	**2024**
Peer data					
Minimum	1,5x	1,4x	3,1x	3,7x	3,5x
25th percentile	3,1x	3,1x	4,4x	4,4x	4,7x
Average	5,4x	5,3x	6,0x	6,0x	5,7x
Median	5,1x	4,9x	6,6x	5,7x	5,4x
75th percentile	7,0x	6,8x	7,6x	7,6x	6,9x
Maximum	12,1x	12,8x	8,6x	8,8x	8,3x
NV Bekaert SA - *in € millions*					
EBITDA	668,5	672,6	647,4	642,3	665,6
Enterprise value - *in € millions*					
Enterprise value - Low	2053	2103	2830	2796	3123
Enterprise value - Median	3395	3325	4278	3643	3586
Enterprise value - High	4711	4586	4934	4885	4561
Equity value - *in € millions*					
(-) Net debt	689	689	689	689	689
(-) Minority interests	131	131	131	131	131
(-) Benefit obligations (net of assets)	192	192	192	192	192
(-) Environmental provisions	27	27	27	27	27
(-) Factoring	231	231	231	231	231
(+) Investments in joint ventures	245	245	245	245	245
Equity value - Low	1028	1078	1806	1772	2099
Equity value - Median	2371	2300	3254	2618	2561
Equity value - High	3687	3562	3910	3860	3537
Share value - *in €*					
# Shares outstanding *(millions)*	59,0	59,0	59,0	59,0	59,0
Share value - Low	17,41	**18,27**	30,59	30,02	35,56
Share value - Median	40,16	**38,97**	55,12	44,35	43,39
Share value - High	62,46	**60,33**	66,23	65,39	59,91

Figure 39: EV/EBITDA multiple
Source: S&P Capital IQ

Next, to obtain Bekaert's equity value, the company's net debt, minority/non-controlling interests, employee benefit obligations, environmental provisions, and factoring were deducted from the obtained enterprise value. Bekaert's investments in joint ventures were also added. The data used dates from June 2022.The equity value was then be divided by the number of outstanding shares to obtain the value per share.

Figure 39 shows the prices per share obtained for the different periods. The estimate for 2022 was selected to allow for an easy comparison with the price per share obtained through the DCF valuation. Also, the multiples obtained for 2023 and 2024 are based on forecasts that could prove very volatile given the uncertain economic climate and rising inflation. The price per share obtained through the EV/EBITDA multiple for 2022 is EUR 38,97. It lies in a EUR 18,27 to EUR 60,33 interval, as shown in Figure 40

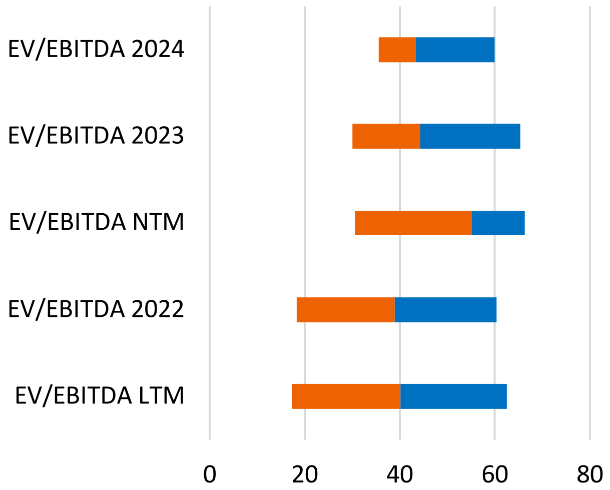


Figure 40: EV/EBITDA share price interval, in EUR
Source: S&P Capital IQ

5.2.2. THE P/E MULTIPLE

The P/E or Price-to-Earnings multiple measures the ratio between the price and the earnings per share of a company. It provides an indication of how much investors would be willing to pay for the stock of a company depending on its forecasted profits. When the P/E multiple is high, investors are willing to pay a high price for a share of the company as they expect that earnings per share will increase in the future.

In order to value Bekaert, the P/E multiples of comparable companies were obtained from S&P Capital IQ for LTM, 2022, NTM, 2023, and 2024. The diluted EPS estimates for 2022, NTM, 2023 and 2024 are based on broker estimates compiled by S&P Capital IQ. This data was last updated on 20 December 2022, for the period ending on 31 October 2022.

For each of these periods the price per share was obtained by multiplying the earnings per share of Bekaert with the median P/E multiple of the comparable companies. To obtain a price interval, Bekaert's EPS was also multiplied with the 25th and 75th percentile of the P/E multiples of the comparable companies.

	LTM	2022	NTM	2023	2024
Peer data					
Minimum	2,1x	2,0x	5,4x	6,5x	7,3x
25th percentile	3,6x	3,8x	6,4x	7,5x	7,7x
Average	7,4x	7,0x	10,3x	10,8x	10,3x
Median	5,8x	5,6x	11,3x	9,9x	9,5x
75th percentile	10,8x	10,2x	13,4x	12,9x	12,4x
Maximum	14,7x	13,4x	15,4x	17,2x	15,0x
NV Bekaert SA - *in €*					
Diluted EPS	7,1	7,1	5,9	5,7	6,1
Share value - *in €*					
Share value - Low	25,21	**26,53**	38,09	42,64	47,29
Share value - Median	40,82	**39,65**	66,87	56,49	58,16
Share value - High	76,76	**71,72**	79,92	73,67	75,82

Figure 41: P/E multiple
Source: S&P Capital IQ

Note that for the P/E multiple valuation it was decided not to include Nexans S.A. and Tongling Jingda Special Magnet Wire Co., Ltd. because their P/E multiples are significantly higher than the rest of the peer group.

Figure 41 provides a summary of the prices per share obtained for the different periods. Again, like in the case of the EV/EBITDA multiple, the estimate of 2022 was selected to allow for an easy comparison with the price per share obtained through the DCF valuation and because of the lack of visibility in 2023 and beyond. The price per share obtained through the P/E multiple for 2022 is EUR 39,65. It lies in a EUR 26,53 to EUR 71,72 interval, as shown in Figure 42.

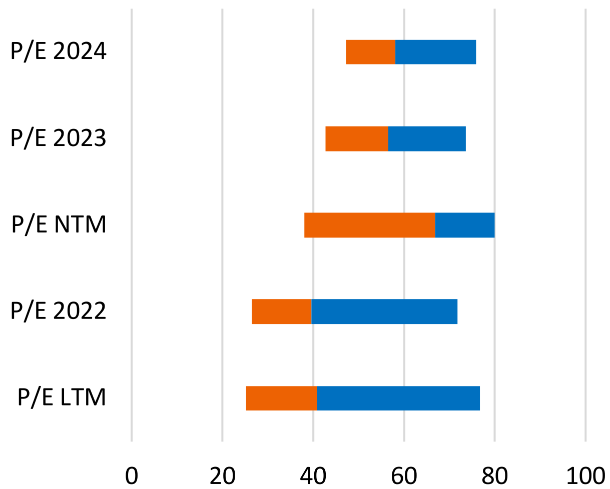


Figure 42: P/E share price interval, in EUR
Source: S&P Capital IQ

5.3. VALUATION SUMMARY

To obtain a definite target price and make a recommendation on whether to sell or buy Bekaert's stock, it is best to first compare all intervals from the previous section by plotting them on a single "football field" valuation overview chart. Figure 43 illustrates the intervals obtained through each valuation method. It also shows the 52-week price range, i.e. the price range within which the stock has traded in the past 12 months (as of 23 December 2022) *(Euronext, 2022).*

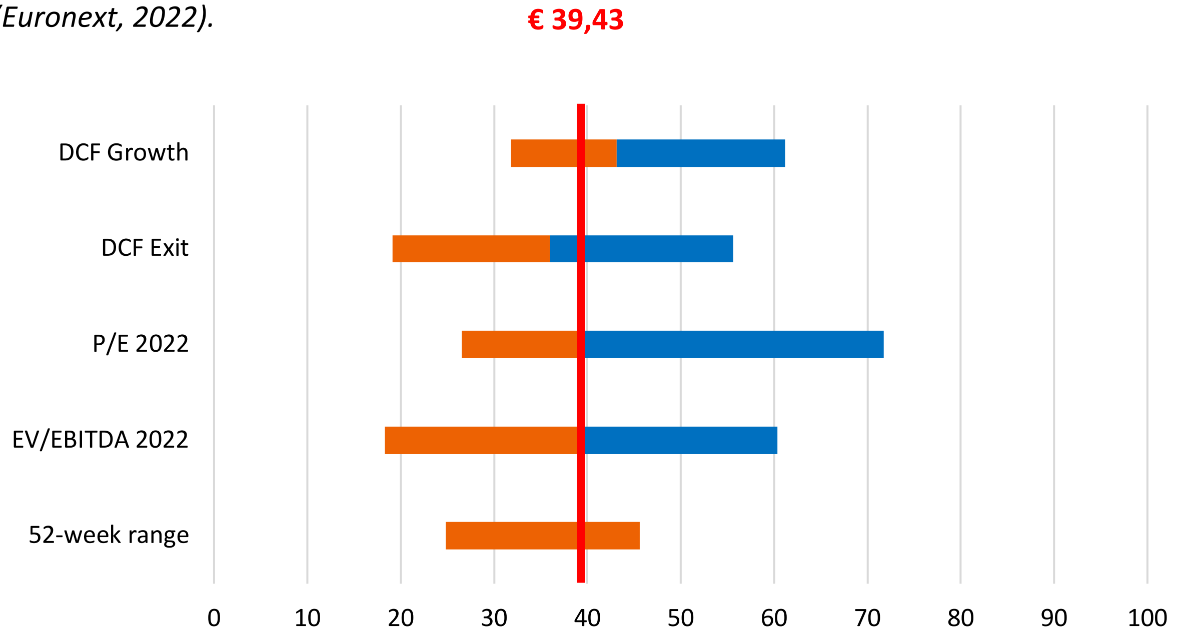


Figure 43: Valuation summary, in EUR
Source: Gabriel Terlinden

Given that the intervals do not align perfectly, defining the target price must be done by taking a simple average of the four different valuation methods. This approach results in a target price of EUR 39,43. This target price represents a 9,28% premium compared to the market price of EUR 36,08 on 23 December 2022. Interestingly, this target price falls well within the 52-week range. Based on this target price, one could legitimately issue a recommendation to buy the stock, given that it is trading at a meaningful discount.

	Weight	Value per share
EV/EBITDA 2022	25%	38,97
P/E 2022	25%	39,65
DCF Exit	25%	35,98
DCF Growth	25%	43,11
Target price per share	**100%**	**39,43**
Current price per share (23/12/2022)		36,08
% difference		*9,3%*

Figure 44: Average target price, in EUR
Source: Gabriel Terlinden

6. REPUTATION ANALYSIS

A company's reputation cannot easily be measured as it is hard to quantify. Therefore, it is usually left out of equity research reports, which instead rely entirely on the type of valuation models used in the previous section.

According to LPE Research: "Stock reputation is the collective assessment of a corporation's past actions and its share's historical behaviour on the stock market". In other words, it is a measure of the company's reputation on the stock market *(LPE Research, 2020).*

Conducting a reputation analysis is critical for investors and shareholders since it is an essential component of a stock's value. Indeed, trust and confidence are required to invest in a company. A company with a good reputation will be valued higher – *ceteris paribus* – than a company with a bad reputation, as it reflects a lower investment risk, amongst other things.

The stock reputation measurement methodology is based on five criteria: share price behaviour, quality of the shareholder structure, governance and focus on shareholder value, social and environmental focus, communication and consistency *(LPE Research, 2020).*

6.1. SHARE PRICE BEHAVIOUR

Share price behaviour stands for the movements (up and down) of a share price on the stock market. It often conveys investor sentiment, such as disappointments or fears.

6.1.1. STOCK PRICE HISTORY

First, the stock's history is analysed to highlight and seek to explain major share price movements. The overall performance of the stock versus a reference market index is also measured. In this case, the chosen market index is the BEL 20.

Bekaert's market capitalization is currently too small for the company to be part of the BEL 20. But this has not always been the case. Bekaert was part of the BEL 20 index from January 1993 to June 1999, and again from December 1999 to March 2018. The BEL 20 is therefore commonly used as a reference index to benchmark Bekaert's performance *(Bekaert, 2022).*

Figure 45 illustrates the evolution of Bekaert's share price over a period of 20 years, from 31 December 2002 to 31 December 2022. It also shows the performance of the BEL 20 index over the same period. Bekaert's beta indicates whether the company and its reference benchmark move in the same direction. It also measures the stock's volatility compared to the BEL 20. Yahoo Finance indicates that Bekaert's Raw beta is equal to 1,62 (5-year, monthly) *(Yahoo Finance, 2022).*

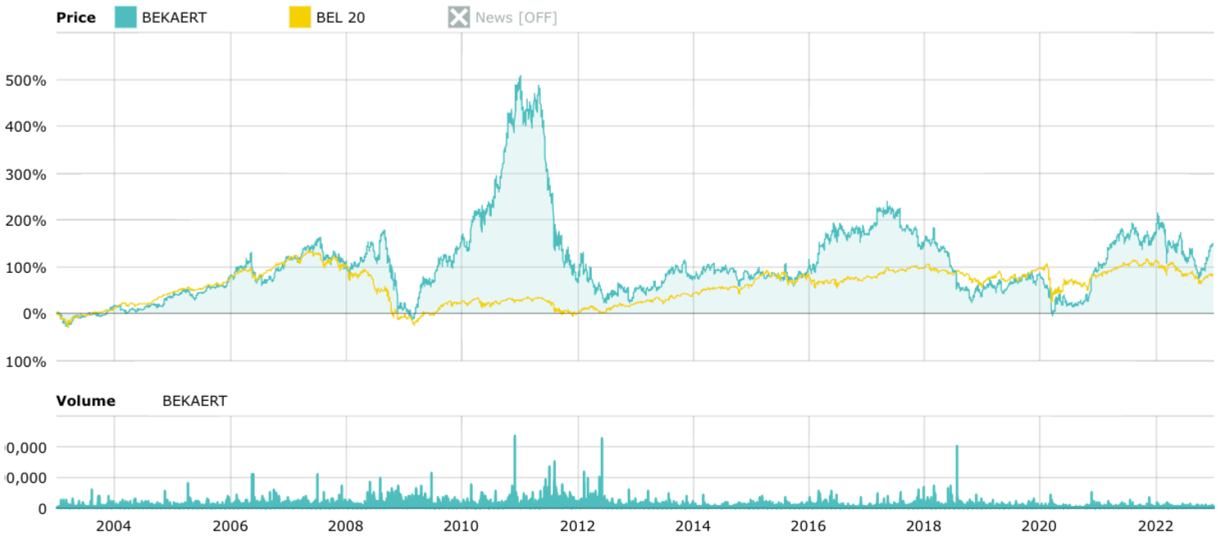


Figure 45: Bekaert versus the BEL 20

Source: Euronext

It appears that, over most of the period spanning from 2001 to 2008, Bekaert's stock price evolution was approximatively aligned on the growth pace of the BEL 20 index. It experienced similar trends, i.e. up- and downturns, as the overall market (without taking the superior volatility of Bekaert's stock into account). *(Yahoo Finance, 2022).*

However, this came to an end with the global financial crisis of 2008. After briefly peaking at EUR 39,97 on 24 August 2008, Bekaert's share price fell all the way down to EUR 12,42 on 22 February 2009. This corresponds to a fall of -68,9%, versus a fall of -47,2% by the BEL 20 *(Yahoo Finance, 2022).*

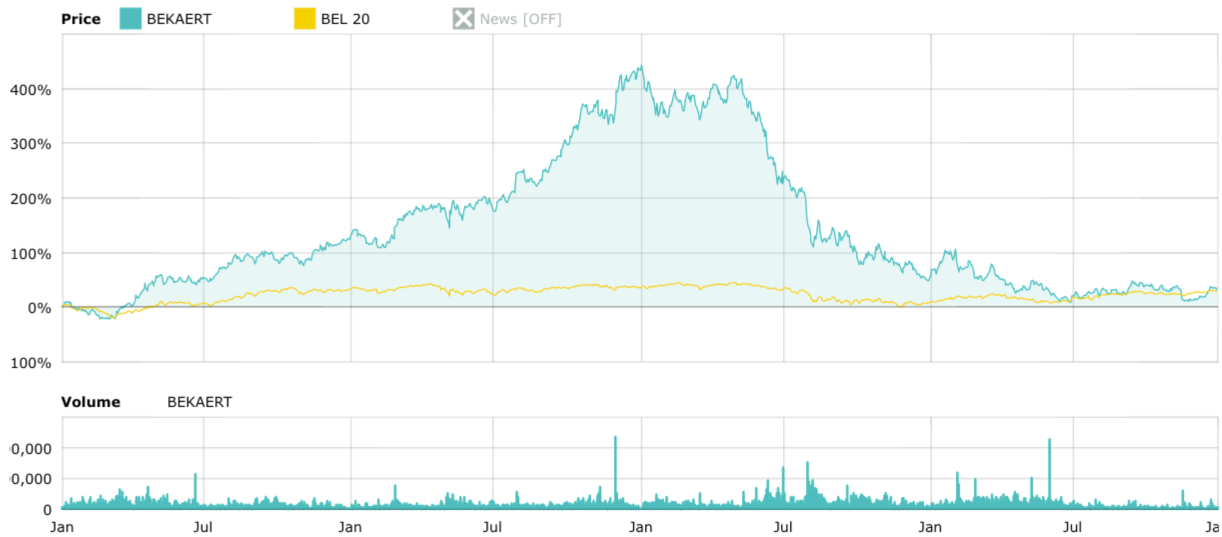


Figure 46: Rebound after the financial crisis
Source: Euronext

As shown in Figure 46, after the sub-prime crisis Bekaert's share price experienced a massive rebound. After reaching rock bottom on 22 February 2009, it rose to an all-time high of EUR 86,69 by 26 December 2010. This corresponds to an astounding price increase of 598,0%. In comparison, the BEL 20 had grown by just 58,1% *(Yahoo Finance, 2022).*

However, this peak performance only lasted a few months. Markets adjusted and Bekaert's share price fell by -70,2%, from a high of EUR 84,53 on 24 April 2011 to a low of EUR 25,31 on 20 November 2011. In comparison, the BEL 20 had fallen just -31,8%. By mid-2012, Bekaert's stock price and the BEL 20 were once again growing at a similar pace *(Yahoo Finance, 2022).*

This period of steady growth came to an end in mid-2017. As shown in Figure 47, Bekaert's stock price fell from a EUR 46,88 on 16 July 2017 to EUR 17,41 on 21 October 2018. This fall of -62,9% is mostly a consequence of the Trump administration's trade war with China, which led to increase tariff and duties, as well as strengthened competition from APAC. This trade war hit the automotive sector particularly hard, which had a devastating effect on Bekaert's RR business unit. In fact, Bekaert's financial statements indicate that, from 2017 to 2018, the company's EBIT was slashed in half. In comparison to the BEKB stock price, the BEL 20 only fell by -15,2%. This is the biggest difference witnessed so far and serves as a testament to Bekaert's overall dependency on the automotive and tire sectors *(Bekaert, 2018; Yahoo Finance, 2022).*

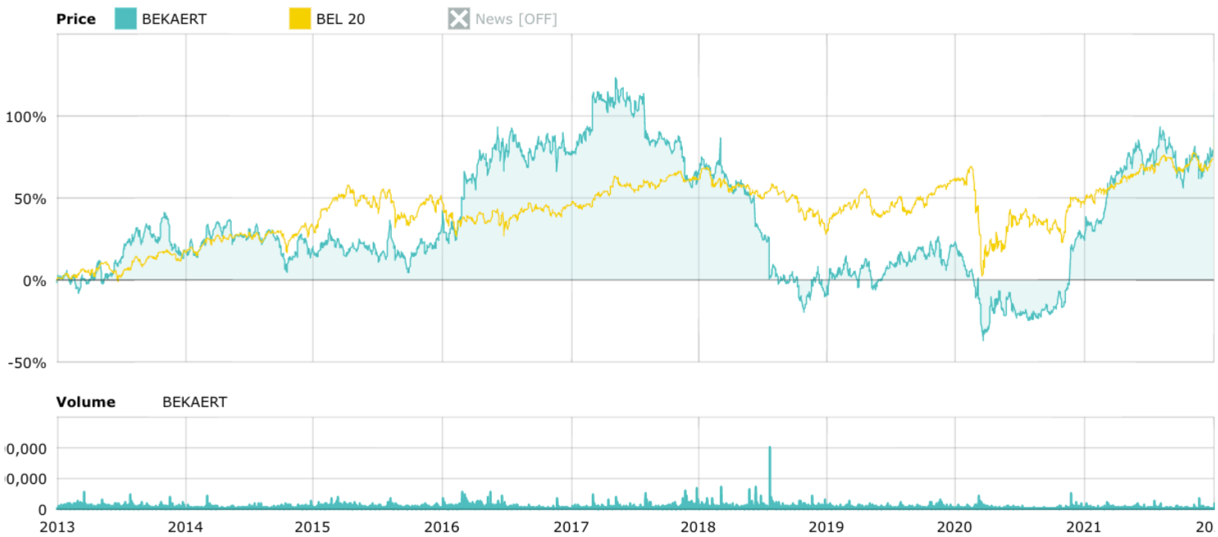


Figure 47: Fall in share price in 2018
Source: Euronext

The situation improved following 21 October 2018. The growth pace of Bekaert's stock price once again aligned to the BEL 20. This recovery was however short-lived, as by the end of 2019 the uncertainty brought about by Covid-19 started affecting markets. From 22 December 2019 to 22 March 2020, the BEKB stock fell by -46,7%, from EUR 26,84 to EUR 14,30. Over the same period the BEL 20 also fell by -34,4% *(Yahoo Finance, 2022).*

The reasons for Bekaert's impressive recovery after March 2020 have already been discussed extensively in previous sections. However, this stock analysis allows to highlight the extent to which Bekaert's recovery exceeded that of the BEL 20. From EUR 14,30 on 22 March 2022, the stock price rose massively, closing at EUR 39,14 on 31 December 2021. Compared to this exponential rise of 173,7%, the BEL 20 had experienced a more modest increase of 63.8% *(Yahoo Finance, 2022).*

Finally, this stock price behaviour analysis also presents the opportunity to look at the company's stock performance in 2022. This is very relevant since it allows to measure investor sentiment despite relatively little quantitative data having been published by Bekaert. Thus, it measures how investor react to the few announcements made by Bekaert's management (including dividends and share buybacks), to macroeconomic news, etc.

Bekaert's stock price fell by -9,4% in the first quarter of 2022, closing at EUR 35,48 on 31 March 2022 (or EUR 33,94 when adjusted for dividend and/or capital gain distribution). This fall is surprising given the very strong results of 2021. Indeed, one could have expected the announcement of remarkable results to cause a stock rally. However, this did not happen. On the contrary, after stagnating for a while in the second quarter, the share price continued its fall to EUR 31,06 on 30 June 2022. Overall, in H1 2022, the share price fell by -20,6%, compared to just -14,6% for the BEL 20. This is most likely attributable to the fact that the share buyback programme does not really serve the interest of the wider shareholder base (only reference shareholders truly benefit, explained at a later stage) and the dividend of EUR 1,50 is not proportional to company's exceptional FY2021 results *(Yahoo Finance, 2022).*

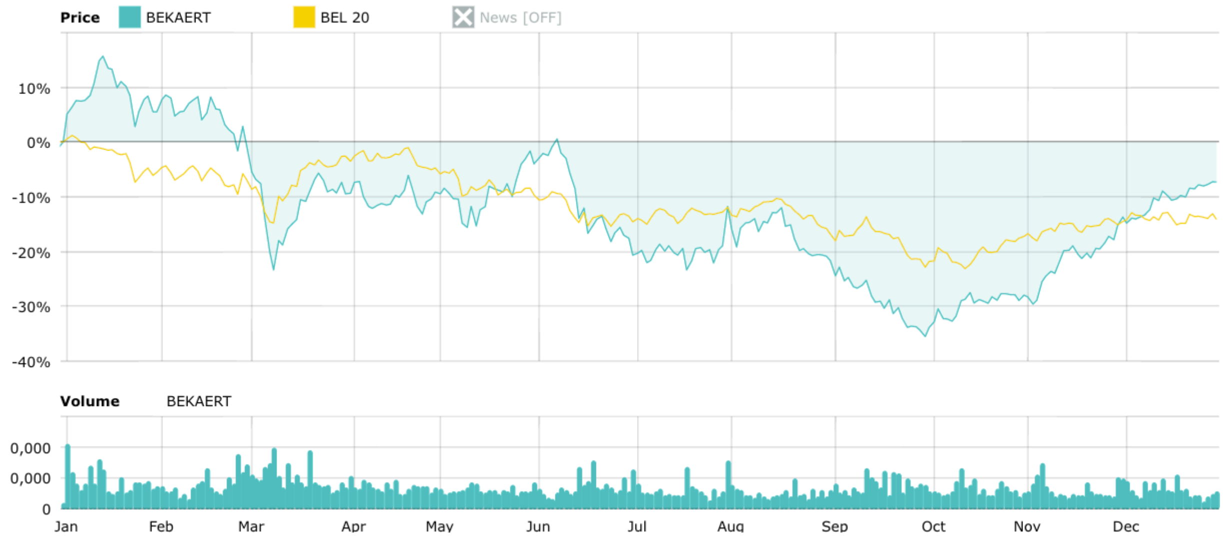


Figure 48: Share price fluctuations in 2022
Source: Euronext

Figure 48 shows Bekaert's stock performance against the BEL 20 in 2022. A downward trend over the first 9 months is clearly visible. The share price hit rock bottom at EUR 24,84 on 29 September 2022 (-20,0% in the third quarter) before making a strong comeback and closing at EUR 36,28 on 30 December 2022 (+46,1% in the fourth quarter). In comparison, the BEL 20 fell by just -10,3% in Q3 and grew by +12,1% in Q4 *(Yahoo Finance, 2022).*

Overall, it is fair to say that the evolution of Bekaert's stock price in 2022 is underwhelming in light of the huge gains made by the company. This poor stock performance suggests either that investors have serious doubts about Bekaert's prospects or that the stock's reputation is weak (or both).

6.1.2. ROLLING MULTIPLES

The frequency and magnitude of the deviation of Bekaert's EV/EBITDA trading multiple from its own average of 4,9x is a strong indication of the stock's predictability, which is an important component of stock reputation. Figure 49 shows the multiple's variation from July 2017 to July 2022[7]. A downward trend can clearly be highlighted *(S&P Capital IQ, 2022).*

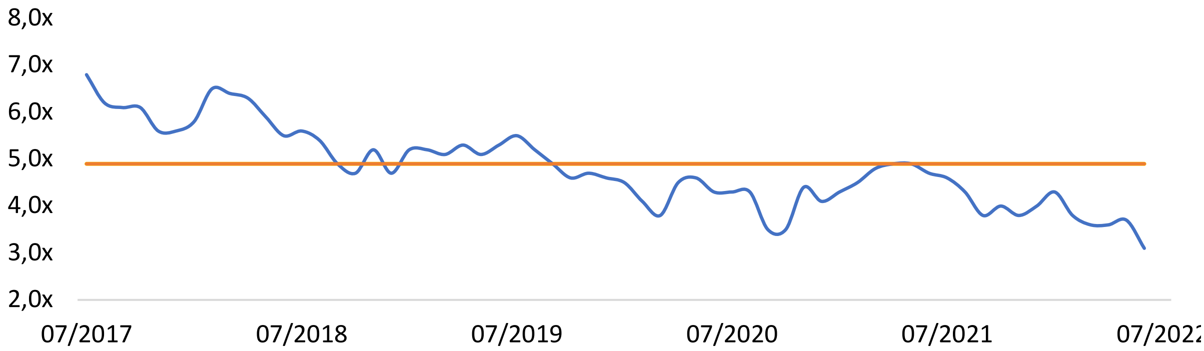


Figure 49: EV/EBITDA trading multiple
Source: S&P Capital IQ

Note that, as of 31 October 2022, Bekaert is trading at an EV/EBITDA multiple of 3,1x (in line with July 2022).

Next, Figure 50 shows how Bekaert's P/E multiple has fluctuated compared to its average of 9,1x over the same period. It appears like both trading multiples are at their lowest level in 5 years. This reflects a consistently weak stock performance *(S&P Capital IQ, 2022).*

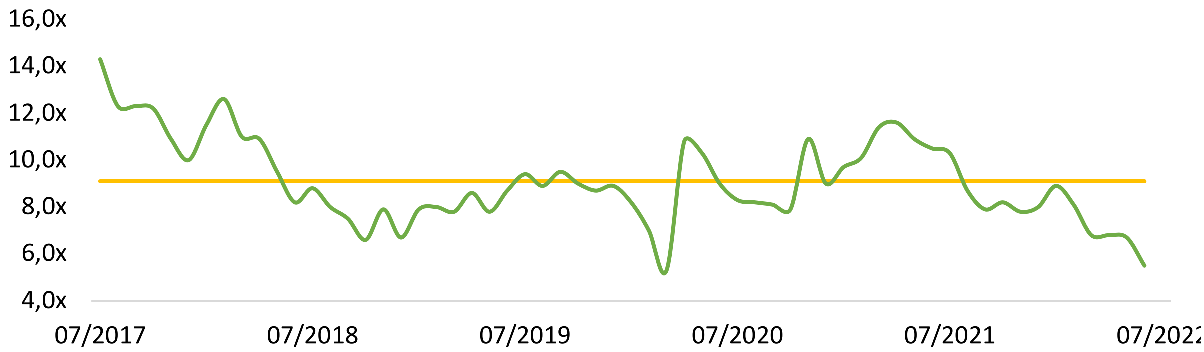


Figure 50: P/E trading multiple
Source: S&P Capital IQ

Note that, as of 31 October 2022, Bekaert is trading at a P/E multiple of 5,1x (in line with July 2022)

[7] Last access to the S&P CIQ Rolling Multiples Excel plug-in granted on 24 July 2022.

6.2. QUALITY OF SHAREHOLDER STRUCTURE

Regarding the quality of the shareholder structure, a general rule always applies: the more loyal or prestigious the shareholder base, the better the stock reputation.

In particular, the proportion of large institutional investors within the shareholder structure needs to be identified. This is an important indicator of stock reputation because fund managers from large institutional asset management institution frequently have to justify their investment choices to investment committees and clients. And, since a long-term investment with an excellent reputation is always easier to justify, the presence of these institutional investors is always bigger for companies with strong reputations.

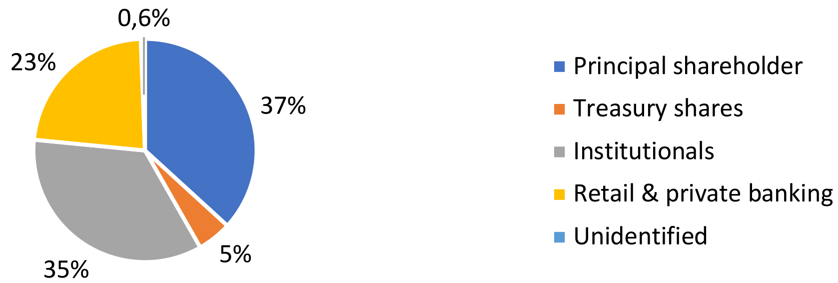


Figure 51: Shareholder structure
Source: Bekaert

Figure 51 here above shows that institutional investors represent about 35% of the shareholder base as of June 2022. Retail and private banking are good for 23% of the remaining shares. Overall, looking at these percentages, Bekaert's shareholder structure can be considered as very solid, with a significant proportion of long-term institutional investors.

Next, shareholder loyalty needs to be measured. Loyalty is a good measure of stock reputation. Given that Bekaert still qualifies as a family business, with the principal shareholders (Bekaert family members) own 37% of the company, loyalty and/or stability is certainly not an issue.

6.3. GOVERNANCE AND FOCUS ON SHAREHOLDER VALUE

The direction in which a share price evolves is often dependent on how much the corporate governance is set on creating shareholder value. In some companies, the objectives are set by reference (or principal) shareholders, whose objective is not necessarily aligned with other investors. This is the case of Bekaert *(LPE Research, 2020).*

Since the company was founded by Leon Leander Bekaert, successive generations of Bekaert family members have provided a stable reference shareholdership. Their interests are in part represented by the Stichting Administratiekantoor Bekaert. Much like for other family businesses, the reference shareholders of Bekaert do not seem to consider that share price is a priority. This is in part justified by the fact that, by keeping the share price down, reference shareholders are able to buy shares at a discount and solidify their grip on the company *(LPE Research, 2020).*

An example of this behaviour is the EUR 120 million share buyback program announced in early 2022. This buyback program has done nothing for the share price. It also lowered Bekaert's already low liquidity[8] (once the shares have been annulled). The only logical explanation for announcing a buyback program of this magnitude at this point in time is the family's desire to increase/strengthen their hold on the company. It is thus fair to conclude that the stock reputation of Bekaert – with regards to this criterion – is very poor (*ABN Amro & Oddo BHF, 2022).*

The inconsistent dividends paid to shareholders is another example of the misalignment between the reference shareholders and the rest of Bekaert's investors. It can be assumed that, since the Bekaert family has owned the company since 1880, it has already built its wealth by collecting dividends for almost 150 years. Receiving dividends on an annual basis is therefore not a priority anymore. In that case, the firm's stability or the extent of the family's hold on it takes precedence. Proceeds can always be passed on to shareholders via special dividends at a later date.

[8] The net working capital analysis in Section 4 shows that Bekaert's trade payables have increased significantly since 2020. Increasing payables is often used by companies as a way of retaining cash. If that is the case of Bekaert, initiating a buyback program when the company is cash strapped makes little sense.

6.4. SOCIAL AND ENVIRONMENTAL FOCUS

According to LPE Research, the social and environmental impact of companies has become an essential part of their stock reputation because institutional investors are now systematically required to integrate ESG criteria into their investment selection process. Consequently, sectors and companies which have a negative ESG impact tend to have bad reputations and gradually become un-investable.

To measure the impact of ESG criteria on Bekaert’s stock reputation, one must analyse to what extent ESG considerations are part of the strategic priorities of the company and how consistently the company monitors and reports on its ESG impact. Furthermore, one must assess the impact of Bekaert’s operations and products on society and on the environment.

First, Bekaert has a specially dedicated webpage that addresses the social and environmental impact of the company and that advertises its initiatives and ambitions. Bekaert also publishes detailed annual reports which indicate how the company measures its ESG efforts.

From an environmental perspective, Bekaert is committed to reaching net-zero emission by 2050 and joined the “Business ambition for 1.5°C” campaign. It is also actively transforming its operations and product offer to reduce its environmental footprint. For example, Bekaert reduces its energy consumption by developing new manufacturing equipment. It also tries to rely on renewable energy as much as possible. It currently accounts for about 40% of the company’s total energy consumption. Furthermore, Bekaert returns 100% of its scrap to the steel industry for recycling. Finally, Bekaert designs and manufactures products in hydrogen, offshore renewable energy, etc. which contribute to emission reduction *(Bekaert, 2022).*

From a social perspective, Bekaert applies a strict company-wide code of conduct and offers a “Global BeCare Health & Safety” program to all its employees. It also offers development and training programs through the “Bekaert University”. The company relies on frequent engagement surveys to track its progress. Moreover, Bekaert pours social funding into education – with a focus on sustainability themes – and made significant donations to medial and care centres during the Covid-19 pandemic to support local communities *(Bekaert, 2022)*

However, Bekaert’s efforts to reduce its ESG impact are tarnished by the company’s association with the heavily polluting steel industry (main source of raw materials) and the production of goods with a questionable impact, such as barbed wire and agricultural fencing (e.g. used in newly deforested areas in the Brazilian rainforest).

Overall, Bekaert's stock reputation with regards to ESG criteria is considered average.

6.5. COMMUNICATION AND CONSISTENCY

Communication is a critical component of stock reputation because fund managers tend to invest in companies with a clear promising equity story, which is centred around value creation. Of course, when a company communicates its vision, mission, and strategy, it is then expected to take decisions which are consistent with these statements. If it fails to demonstrate consistency, the company's stock reputation is tarnished.

Thus, to create trust and confidence, Bekaert has to clearly communicate its strategy, which includes its business model and key profit drivers, but also details on capital allocation and dividend policy, and demonstrate consistency.

Although it communicates a lot of information on its website and in investor presentations, it appears that Bekaert lacks consistency. For example, as pointed out previously, Bekaert lacks consistency between the promises it makes regarding a constant pay-out ratio of 40% (and/or stable and growing dividends) and its actual dividend policy. This has an adverse impact on Bekaert's stock reputation. Furthermore, Bekaert's equity story lacks clarity. The transformation strategy (aimed at divesting low margin businesses and cutting structural costs) is not ambitious enough. The company is still extensively diversified, which will prevent it from reaching its medium-term profitability goals. In order to get to a 9-11% EBIT margin, Bekaert should opt for a divestment of the lower value SWS LATAM business and/or the Ropes business (BBRG), which both have below average EBIT margins. If it chooses to divest Ropes, the A-cords could then be merged with the SB or RR units, leaving just three divisions (RR, SWS, and SB), which would greatly simplify the equity story *(ABN Amro & Oddo BHF, 2022).*

CONCLUSION

At the end of the fundamental analysis of Bekaert'stock, the target price obtained is EUR 39,43. This target price, which is based on all the qualitative and quantitative elements gathered throughout the analysis, confirms that, as anticipated, Bekaert's share is undervalued compared to its intrinsic value. On 23 December 2022, the share price closed at EUR 36,08, which is 9,3% lower than the target price. However, this undervaluation is relative, as this gap has since been reduced, with the share price closing at EUR 39,34 on 6 January 2023 *(Euronext, 2022).*

The target price of EUR 39,43 allows me to make a buy recommendation. However, I would urge all investors to be cautious.

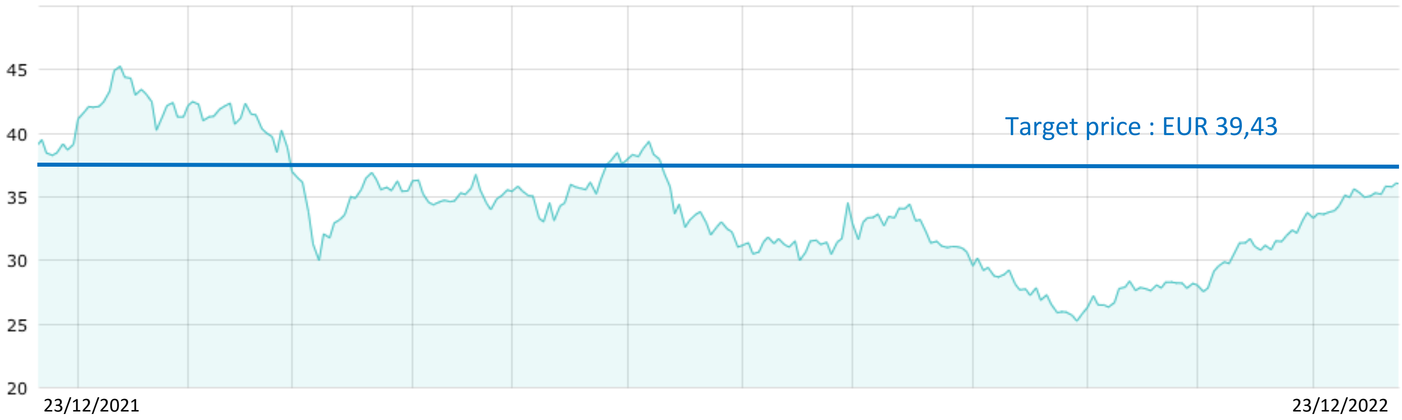
First, as highlighted in this work, the current macroeconomic conditions are likely to have a strong impact on Bekaert, further reducing its margins in the 2022-2026 cycle. This is likely because of the strong cyclicality of the construction and automotive markets, which account for two-thirds of the group's sales. If the company intends to make tangible progress in its transformation strategy and reach its goal of 9-11% EBIT margins, it should consider divesting the SWS LATAM division or the Ropes segment, which both have below average EBIT margins.

Secondly, Bekaert is not your typical investment, as the company's governance is not focused on value creation for the wider shareholder base, but instead seems tailored to serve the specific interest of reference shareholders. This is apparent in the company's inconsistent and unpredictable dividend policy, as well as in the fact that management does very little to increase the share price, quite the opposite in fact.

Afterall, like most family businesses Bekaert's priority is to preserve the hold of reference shareholders on the company and ensure its longevity. If an investor is able and willing to align his interest to those of the reference shareholders and to look beyond short-term gains and regular dividend payments, he/she can regard this investment as safe and as having a non-negligible upside potential in the long-term.

SUMMARY SHEET

N.V. Bekaert S.A.



BUSINESS DESCRIPTION

NV Bekaert SA (BEKB) is the world's largest manufacturer of drawn steel wire products. The company was founded in 1880 and is headquartered in Zwevegem, Belgium. The group has 85 production sites and research centers worldwide. The company's manufacturing platform serves customers in over 120 countries in EMEA (39%), APAC (25%), NAM (18%), and LATAM (18%). Bekaert operates through four distinct business units: Rubber Reinforcement (39%), Steel Wire Solutions (38%), Specialty Businesses (14%), and Bridon-Bekaert Ropes Group (9%). The company serves a multitude of end-markets, which can be broken down as follows: tire and automotive (40%), construction (24%), basic materials (10%), agriculture (8%), energy and utilities (8%), equipment (7%), and consumer goods (3%).

RECOMMENDATION	BUY
Date	23/12/2022
Closing price	EUR 36,08
Target price	EUR 39,43
Upside	9,28%
52 week range	24,84 45,60
# Shares outstanding	59M
Market capitalization	EUR 2.129M
Ticker	BEKB
Stock exchange	Euronext Brussels
Sector classification	Industrials
Information	www.bekaert.com

STRENGHTS

+ Global leadership position
+ Global footprint with local production
+ Well diversified across (i) products, (ii) end-markets, (iii) geographies, which mitigates cyclicality and exposure
+ Operating in markets with positive long-term growth prospects
+ Strong management team

WEAKNESSES

- Cylical business units and end-markets
- Dependence on raw material sources and price volatility
- Significant exposure to the Chinese market
- Low margin business with high fixed costs
- High CAPEX requirement
- Global business with high FX exposure

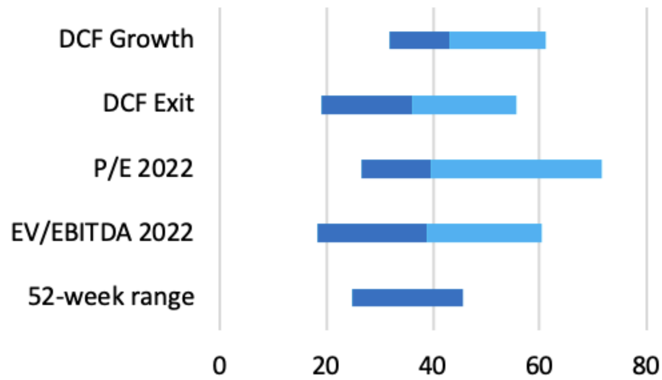
OPPORTUNITIES

+ Capturing the benefits from deglobalization thanks to unique global but local footprint
+ Innovation in high-growth sustainability products
+ Ongoing structural transformation strategy

THREATS

- Weak macro-economic conditions
- Continuing inflationary pressure and volatile raw material
- Gradual return of Asian competiors

EUR millions	2022E	2023E	2024E	2025E	2026E
Sales	5362	5246	5414	5755	6119
% y-o-y total growth	*10,8%*	*-2,2%*	*3,2%*	*6,3%*	*6,3%*
EBIT	517	392	317	398	488
in % of sales	*9,6%*	*7,5%*	*5,9%*	*6,9%*	*8,0%*
NOPAT	341	259	209	263	322
D&A	204	220	249	288	306
CAPEX	204	220	249	288	306
Change in NWC	-38	-162	146	108	46
FCF	379	421	63	155	276



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