



INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Equity Valuation: Rheinmetall AG

Miguel Tiago de Castro da Silva

Master in Finance

Supervisor:

PhD, Luis Miguel da Silva Laureano, Assistant Professor,
Iscte - Business School

September, 2026

Department of Finance

Equity Valuation: Rheinmetall AG

Miguel Tiago de Castro da Silva

Master in Finance

Supervisor:
PhD, Luis Miguel da Silva Laureano, Assistant Professor,
Iscte - Business School

September, 2026

Acknowledgments

To my parents Amélia and Carlos, I have no words to describe the unconditional love and support throughout my entire academic path and for the excellent upbringing they always gave me. Thank you so much for your constant effort in giving me the best conditions to grow, learn and pursue this goal and for always believing in me.

I am also deeply grateful to my uncle Dinis, whose advice, grounded in his own professional experience, pushed me to demand more of myself while also instilling in me the curiosity to see more of the world.

I am especially thankful to my supervisor, Professor Luís Laureano, for his rigorous guidance, availability and support provided throughout this final project, which were fundamental to the completion of this important stage of my academic path.

Lastly, to the colleagues, friends and family who crossed my path over these last few years, thank you all for making this journey a genuinely intense and meaningful one.

Resumo

Esta avaliação de capital tem como principal objetivo estimar o valor intrínseco das ações da Rheinmetall AG à data de 31 de dezembro de 2024, e determinar posteriormente se a empresa se encontrava sobreavaliada ou subavaliada relativamente ao preço de mercado de 615,60 euros, à data de avaliação. A análise é desenvolvida no contexto do ciclo de rearmamento europeu desencadeado pela invasão russa da Ucrânia, em 2022, e da transformação estratégica da Rheinmetall com foco exclusivamente no setor da defesa.

São aplicadas duas metodologias de avaliação complementares: o método dos Fluxos de Caixa Descontados, utilizando o Fluxo de Caixa Livre para a Empresa como abordagem principal, e a avaliação relativa por múltiplos como referência complementar. O modelo incorpora três cenários — Bear, Base e Bull — cada um refletindo pressupostos distintos quanto ao crescimento de receitas, rentabilidade e custo de capital.

No cenário base, o modelo DCF apura um valor justo de 1 121,03 euros por ação, representando um potencial de valorização de aproximadamente 82% face ao preço de mercado, suportando uma recomendação de compra. O cenário Bear produz um valor justo de 512,42 euros por ação, implicando uma desvalorização de 16,8%. A avaliação relativa, baseada num grupo de sete empresas comparáveis e quatro múltiplos — PER, PBV, EV/EBITDA e EV/Revenue — resulta num valor implícito de 386,96 euros por ação. A análise de sensibilidade confirma que a avaliação é primariamente sensível ao WACC e à taxa de crescimento na perpetuidade.

Palavras-Chave: Avaliação de capital, Rheinmetall AG, Fluxos de caixa descontados, Avaliação relativa, Indústria da defesa.

Classificação JEL: G30, O22.

Abstract

This equity research aims to estimate the intrinsic value of Rheinmetall AG's shares as of December 31st, 2024, and to determine whether the company's shares were overvalued or undervalued relative to its market price of 615,60 euros, at the valuation date. The analysis is conducted in the context of the European rearmament cycle triggered by the Russian invasion of Ukraine, in 2022, and Rheinmetall's ongoing strategic transformation into a pure-play defence company.

Two complementary valuation methodologies are applied: the Discounted Cash Flow method, using the Free Cash Flow to the Firm approach as the primary method, and relative valuation through market multiples as a secondary reference. The model incorporates three scenarios — Bear, Base and Bull — each reflecting distinct assumptions regarding revenue growth, profitability and cost of capital.

Under the base case scenario, the DCF model yields a fair value of 1 121,03 per share, representing an upside potential of approximately 82% relative to the market price, supporting a buy recommendation. The bear scenario produces a fair value of 512,42 euros per share, implying a downside of 16,8%. The relative valuation, based on a peer group of seven comparable defence companies and four multiples — PER, PBV, EV/EBITDA and EV/Revenue — yields an implied fair value of 386,96 euros per share. A sensitivity analysis confirms that the valuation is primarily sensitive to the WACC and terminal growth rate assumptions.

Keywords: Equity Valuation, Rheinmetall AG, Discounted Cash Flow, Relative Valuation, Defence Industry.

JEL Classification: G30, O22.

Table of Contents

Introduction.....	1
1. Literature Review	3
1.1. Fundamental Valuation Models	3
1.2. Cost of Capital.....	6
1.3. Relative Valuation Models	8
1.4. ESG and Valuation	9
2. Contextual and Industry Analysis	11
2.1. Macroeconomic Overview	11
2.1.1. Gross Domestic Product Growth.....	11
2.1.2. Inflation and Interest Rates.....	13
2.1.3. Unemployment Rate	14
2.2. Geopolitical Context and Defence Spending	15
2.2.1. European Rearmament Post-2022	15
2.2.2. Direct Implications on Demand and on Rheinmetall	16
2.2.3. Geopolitical Risks.....	18
2.3. Defence Industry Overview.....	18
2.3.1. Dimension and Structure of the Global Market.....	19
2.3.2. European Defence Market	20
2.3.3. Underlying Characteristics of the Defence Sector	20
2.4. Industry Tendencies.....	21
3. Company Overview.....	23
3.1. Company Background.....	23
3.2. Governance and Shareholder's Structure	24
3.3. Business Model and Segments	25
3.3.1. Revenue Model.....	25
3.3.2. The Four Business Segments.....	26
3.4. Geographical Presence	27

3.5.	Strategic Positioning	29
3.5.1.	SWOT Analysis	29
3.5.2.	Porter's Five Forces	31
3.6.	Financial Performance	33
3.6.1.	Revenue Analysis	33
3.6.2.	Costs and Margin Analysis	35
3.6.3.	Financial Ratios	36
3.6.4.	Stock Performance	37
4.	Valuation	39
4.1.	Valuation Assumptions	39
4.1.1.	Revenue Growth	39
4.1.2.	EBITDA Margin	40
4.1.3.	CAPEX and Working Capital	41
4.1.4.	Tax Rate	42
4.1.5.	Terminal Growth Rate	42
4.1.6.	WACC	42
4.2.	DCF Valuation	44
4.3.	Scenario Analysis	45
4.4.	Sensitivity Analysis	46
4.5.	Relative Valuation	48
4.6.	Investor-oriented Dynamic Dashboard	49
4.7.	Valuation Results – Synthesis	52
	Conclusion	53
	References	55
	Annexes	57

Figure Index

Figure 3-1 Rheinmetall AG vs DAX - Indexed Performance (Base 100: January 2018).....	38
Figure 4-1 Dashboard features – Historical data.....	50
Figure 4-2 Dashboard features – Valuation results presentation.....	51

Table Index

Table 2.1 Forecasted annual GDP growth (%), in the Euro area, Germany and World (2025-2030)....	12
Table 2.2 Forecasted annual inflation rate (%), in the Euro area, Germany and World (2025-2030) ...	14
Table 2.3 Forecasted annual unemployment rate (%), in the Euro area and Germany (2025-2030).....	15
Table 2.4 Military expenditure by country, as percentage of gross domestic product (2021–2024)	16
Table 2.5 Rheinmetall annual backlog in € millions (2020-2024).....	17
Table 2.6 Military expenditure by region in constant 2024 USD, amounts in billions (2018-2024).....	19
Table 3.1 Rheinmetall AG annual book-to-bill ratio (2018-2024).....	25
Table 3.2 Rheinmetall sales disclosure by geographical region, amounts in million € (2018-2024)	28
Table 3.3 Rheinmetall sales disclosure by business segment, amounts in million € (2018-2024)	34
Table 3.4 Rheinmetall’s annual profit margins, as percentage of total sales (2018-2024)	35
Table 4.1 Rheinmetall’s annual revenue growth projections (%), by scenario (2025-2030).....	39
Table 4.2 Rheinmetall’s actual and forecasted EBITDA margins (%) (2024-2030).....	41
Table 4.3 Rheinmetall’s CAPEX and working capital (WC) changes actual values and projections (2024-2030)	41
Table 4.4 Rheinmetall’s WACC individual components	43
Table 4.5 Rheinmetall’s intrinsic value per share components, as of 31/12/2024	45
Table 4.6 Scenario comparison of Rheinmetall’s intrinsic value per share estimation.....	46
Table 4.7 Multiples comparison between Rheinmetall and its peer group, in 2024	49
Table 4.8 Valuation results summary	52

Annex Index

Annex A – Historic GDP annual growth (%) in the Euro area, G7, Germany and World (2018-2024)	57
Annex B – Annual inflation rate (%), in the Euro area, Germany and World (2018-2024)	57
Annex C – Annual unemployment rate (%), in the Euro area and Germany (2018-2024)	57
Annex D - Rheinmetall's main revenue and cost metrics, in millions of euros (2018-2024)	57
Annex E - Rheinmetall's profitability ratios (%) (2018-2024)	57
Annex F - Rheinmetall's solvency and liquidity ratios (2018-2024)	58
Annex G - Rheinmetall FCFF's components, expressed in millions of euros (2025-2030)	58
Annex H - WACC sensitivity to levered beta and average market return	58
Annex I - Sensitivity of the share price estimate (€) for different combinations of WACC and TGR	58
Annex J - Sensitivity of the share price estimate (€) for different combinations of the revenue growth rate and EBITDA margin, for the last year of the explicit forecast period (2030)	59
Annex K - Sensitivity of the share price estimate (€) for different combinations of CAPEX and revenue growth rate, for the last year of the explicit forecast period (2030)	59

Glossary

APV	—	Adjusted Present Value
CAGR	—	Compound Annual Growth Rate
CAPEX	—	Capital Expenditures
CAPM	—	Capital Asset Pricing Model
CCV	—	Contingent Claim Valuation
COGS	—	Cost of Goods Sold
CRP	—	Country Risk Premium
D/E Ratio	—	Debt-to-Equity Ratio
D&A	—	Depreciation and Amortisation
DAX	—	Deutscher Aktienindex.
DCF	—	Discounted Cash Flow
DDM	—	Dividend Discount Model
EBIT	—	Earnings Before Interest and Taxes
EBITDA	—	Earnings Before Interest, Taxes, Depreciation and Amortisation
ECB	—	European Central Bank
EDA	—	European Defence Agency
EDIS	—	European Defence Industrial Strategy
EQV	—	Equity Value
ESG	—	Environmental, Social and Governance
EV	—	Enterprise Value
EV/EBITDA	—	Enterprise Value to EBITDA
EV/Revenue	—	Enterprise Value to Revenue
FCFE	—	Free Cash Flow to Equity
FCFF	—	Free Cash Flow to the Firm
GDP	—	Gross Domestic Product
IMF	—	International Monetary Fund
MRO	—	Maintenance, Repair and Overhaul
MRP	—	Market Risk Premium
NATO	—	North Atlantic Treaty Organisation
NOA	—	Non-Operating Assets
NOPAT	—	Net Operating Profit After Tax
PBV	—	Price-to-Book Value ratio

PER — Price-to-Earnings Ratio

PV — Present Value

ROA — Return on Assets

ROCE — Return on Capital Employed

ROE — Return on Equity

ROIC — Return on Invested Capital

RV — Relative Valuation

SIPRI — Stockholm International Peace Research Institute

Sondervermögen — German term for a special off-budget fund.

TGR — Terminal Growth Rate

TV — Terminal Value

WACC — Weighted Average Cost of Capital

WC — Working Capital

Introduction

Knowing what an asset is worth and what determines that value is a prerequisite for intelligent decision-making in financial markets (Damodaran, 2012). Following these principles, it is easy to agree that equity valuation plays a central role providing investors with a structured and evidence-based framework to assess the intrinsic value of a company's shares, independently of short-term market fluctuations or other external events.

An equity valuation is also crucial to help investors assess the level of risk associated to a specific asset, measured in terms of stock price or market volatility, and define capital allocation among different types of assets, allowing them to make efficient decisions towards returns maximization. Additionally, this type of research ensures that decisions are made based on the fundamental analysis principles and taking into account the company's financial structure and global results.

Throughout this thesis, particular attention will be given to Rheinmetall AG (hereinafter referred to as "Rheinmetall"), which is one of the leading firms in the defence sector, at global level. Founded in 1889, this German-based multinational company that has historically operated across both the defence and automotive sectors, has undergone in the recent years a significant strategic shift, progressively selling off its subsidiaries engaged in automobile manufacture to become a pure-play defence company. At the valuation date, the primary business of Rheinmetall revolves around the development and production of armoured combat vehicles, tanks, air defence systems and ammunition, which turns this company into an important supplier for the European armies responsible for the territorial integrity and security.

The main objective of this valuation is to assess the intrinsic value of Rheinmetall's shares as of December 31st, 2024, and to compare it with the actual market price observed as of this valuation date, thereby determining whether the company's stock was overvalued or undervalued. To achieve this goal, multiple valuation approaches are considered, incorporating a wide range of assumptions and potential scenarios.

Observing the current geopolitical context around the globe, there are a few reasons for which an equity research on Rheinmetall is more relevant than ever.

The Russian invasion of Ukraine, in February 2022, marked a turning point in European security, prompting NATO member-states to reassess their defence commitments and accelerate progress towards the 2% of GDP spending target. This underlying increase in demand is explored in detail in Chapter 2.

Another attention topic is the fact that Rheinmetall had an extraordinary stock market performance from the beginning of 2018 to end of 2024, translating into a share price appreciation of approximately 480%, during that same period.

Concerning the research methodology, it will gather different valuation approaches. Firstly, the discounted cash flow (DCF) method, using the Free Cash Flow to the Firm (FCFF), where the share price target is achieved through historical data and fundamental assumptions; then the multiples approach, comparing 4 distinct financial multiples from a group of companies that are similar to Rheinmetall, considering firm size, structure and business sector; the main goal is then to assess if Rheinmetall is overvalued or undervalued, compared to its peer group. Besides that, the model incorporates 3 different scenarios: Bear, Base and Bull, each with different assumptions, concerning growth rates and margins. The Base scenario will be the reference case for the final investment recommendation.

This project is structured into four main chapters. It begins with a comprehensive literature review of equity valuation methodologies to establish the theoretical groundwork for the subsequent analysis. This chapter is followed by an assessment of the macroeconomic environment and the defence industry, specifically positioning Rheinmetall within today's complex geopolitical landscape. The third chapter drills down into the company's business model and financial health, leading into the core of this work: the valuation, where a DCF model serves as the primary method, alongside relative valuation and sensitivity analyses. Finally, the key valuation outcomes are synthesized through a self-built, investor-oriented Excel dashboard, designed to centralise the most relevant metrics and scenarios in a dynamic and accessible format supporting more efficient investment decision-making.

The findings of this research suggest that, under the Base scenario, Rheinmetall's shares present a significant upside potential relative to the market price observed at the valuation date of December 31st, 2024, supporting a buy recommendation.

1. Literature Review

This chapter provides a brief overview of the different valuation models, including their fundamental and theoretical bases, along with their practical applicability in the context of this project. According to Damodaran (2006), there are three main valuation methods: DCF, relative valuation (RV) and contingent claim valuation (CCV). However, for this equity research on Rheinmetall, the most adequate valuation methods are DCF and RV, given that CCV is more suitable for companies that work with assets or projects linked to real options, like mining exploration, energy powerplants or startups, not to the operational profile of Rheinmetall.

After presenting the theoretical foundations of this research, the next section delves into Environmental, Social and Governance (ESG) framework, to highlight the importance of considering external and non-theoretical factors into the valuation process, which tend to impact more than ever the final decisions of investors and management.

1.1. Fundamental Valuation Models

Starting with the academic literature, it is easy to point out some foundational theories emphasizing the importance and utility of equity research and valuation methods before trading any asset or dealing with companies.

Among the different valuation models currently available, DCF is still one of the most common used methods. Due to its high sensitivity to key variables and forward-looking profile, rather than relying solely on historical returns, the DCF model offers a robust framework to assess a company's intrinsic value, accommodating different results and scenarios depending on the interest rates, capital structure, and growth assumptions, making it one of the most flexible and widely applied valuation methods available (Koller et al., 2020).

The idea that the fair value of a firm (V_0) equals the sum of the present values of all its future cash flows (Williams, 1938), can be taken as the base principle for the DCF method, which represents a large and important part of this work to assess the real worth of the company, having the next formula as foundation:

$$V_0 = \sum_{t=1}^{\infty} \frac{CF_t}{(1+r)^t} \quad (1)$$

where: CF_t = cash flow generated by the company in the period t ; r = the rate at which the forecasted company's cashflows will be discounted; t = time period.

Building on the general DCF framework present in Equation (1), the FCFF approach derives the cash flows available to all capital providers, including debt and equity holders, after deducting operating expenses, corporate tax, capital expenditures and working capital changes:

$$FCFF = EBIT \times (1 - t_c) + D\&A - CAPEX - \Delta WC \quad (2)$$

where: EBIT = Earnings before interest and taxes; t_c = Corporate tax rate; D&A = Depreciation and amortization registered for that time period; CAPEX = Capital Expenditures; ΔWC = Working Capital changes in that period.

After having calculated all FCFFs for the explicit forecast period (2025 to 2030), we reach the enterprise value (EV), by discounting the previous annual FCFFs at the firm's weighted average cost of capital and adding the company's terminal value at perpetuity, as the following formula presents:

$$EV = \sum_{t=1}^n \frac{FCFF_t}{(1 + WACC)^t} + \frac{TV}{(1 + WACC)^n} \quad (3)$$

where: WACC = Weighted Average Cost of Capital; TV = Terminal value; n = number of periods in the explicit forecast period.

To define the TV of the company, this is the value of the company beyond the explicit forecast period (2025-2030) for which the future cash flows can be estimated, we assume that the business will keep growing at a constant rate forever after the explicit forecast period, namely the Terminal Growth Rate (TGR or g rate). The computation of the terminal value can be defined by the following formula:

$$TV = \frac{FCFF_n \times (1 + g)}{WACC - g} \quad (4)$$

According to Damodaran (2012), the TGR should not exceed the nominal economic growth of the economy in which the company operates, as assuming otherwise, would imply that the company will eventually grow larger than the economy itself.

It is also important to mention that the TV represents a large percentage of the assessed equity value of a firm. In this specific case of Rheinmetall valuation, the present value of the TV represents around 83% of the total EV, as will be further detailed in the valuation chapter.

Once we reach the EV, we proceed with the equity value (EQV) computation, by subtracting the net debt and adding the non-operating assets (NOA) to the initial EV (Damodaran, 2012). The standard formula is as follows:

$$EQV = EV - Net\ Debt + NOA \quad (5)$$

While the net debt considers a company's total interest-bearing debt minus its cash and cash equivalents, the NOA concerns all the assets owned by the company, which are not essential for its daily operations but still hold value.

Another approach used to estimate the free cash flows of a firm is the free cash flow to equity (FCFE), which considers the cash flows available exclusively for equity holders, obtained after subtracting interest costs, debt repayments and adding net borrowings to the net income:

$$FCFE = Net\ income + D\&A - CAPEX - \Delta WC + Net\ borrowing \quad (6)$$

Alternatively, the EQV can be derived directly from the FCFE by discounting at the cost of equity (re) instead of the WACC. While theoretically equivalent to the FCFF approach when applied consistently, the FCFE method is more sensitive to capital structure assumptions and is therefore less appropriate for companies undergoing significant financial transitions (Fernández, 2007).

Given Rheinmetall's evolving capital structure, reflecting its ongoing strategic transformation into a pure-play defence company, the approach adopted in this valuation model is the FCFF. By discounting the cash flows at WACC, already incorporating the company's capital structure through the weighted combination of the cost of equity and the after-tax cost of debt, we ensure a comprehensive and consistent measure of the firm value (Damodaran, 2012).

While DCF methods focus on free cash flows, complementary models place emphasis on dividend distributions, such as the Gordon Growth Model (also known as Dividend Discount Model - DDM), valuing a company's stock as the present value of all its future dividends, assuming they grow at a constant rate (Gordon & Shapiro, 1956). This model states that the price of a stock today (P_0) is calculated as the expected dividend in the next period (D_1) divided by the difference between the required rate for return of investors (r) and the constant growth

rate (g), rather than considering the firm's cost of capital, offering a different perspective from the previous model. In this case, the model base equation is:

$$P_0 = \frac{D_1}{r - g} \quad (7)$$

In the case of Rheinmetall, and due to its inconsistent dividend policy alongside its currently intensive reinvestment phase, this method becomes inappropriate for this thesis's valuation framework.

1.2. Cost of Capital

Having introduced the WACC as the discount rate applied within the FCFF framework, this section details the theoretical foundations underlying its estimation, namely the Capital Asset Pricing Model (CAPM) for the cost of equity and the treatment of the cost of debt.

The cost of capital of a firm is an essential and foundational component of valuation by defining the rate at which the previously estimated cash flows are discounted. This WACC rate represents the weighted average cost of funding a firm by using both debt and equity. In other words, WACC reflects the opportunity cost in a particular company rather than in alternative investments with similar risk characteristics. The future cash flows will be discounted at the WACC rate and converted into their present value, allowing an accurate estimation of an intrinsic value that is economically meaningful.

Regarding its computation, it takes into account the market value of equity (E), the market value of debt (D), their weighting in the entire capital structure, alongside cost of equity (r_e), and the pre-tax cost of debt (r_d). The debt cost is subsequently reduced by the corporate tax rate (t_c), accounting for the tax shield on interest payments. Thus, the WACC formula is expressed as:

$$WACC = \frac{E}{D + E} \times r_e + \frac{D}{D + E} \times r_d \times (1 - t_c) \quad (8)$$

To obtain essential inputs to compute WACC, CAPM must be used. Originally developed by Sharpe (1964), and later expanded by Lintner (1965), Mossin (1966), and reviewed by Fama & French (2004), this model allows investors to estimate the expected return on equity (r_e) – also referred as the cost of equity – based on its risk relative to the market and the time value of money. The model incorporates the risk-free rate (r_f), typically proxied by the yield on

default-free government bonds, the levered beta (β_L) as a measure of systematic risk and the expected return on the market portfolio (r_m). An extended version of the CAPM formula proposed by Damodaran (2008), including the country risk premium to better reflect the realities of investing in emerging markets, is expressed as:

$$r_e = r_f + \beta_L \times (r_m - r_f) + CRP \quad (9)$$

Delving a bit more into the beta coefficient, it is relevant to make a distinction between unlevered and levered betas.

Starting by explaining the unlevered beta (or asset beta - β_U), it measures the market risk of a company without taking into consideration the impact of debt, removing any beneficial effects gained by adding debt to the firm's capital structure. Comparing unlevered betas between companies, allows investors to gain clarity on the composition of the risk being assumed when purchasing the stock. In the specific case of this valuation model, the unlevered beta corresponds to the average of the last 5-years unlevered betas for the aerospace/defence industry, because the ongoing structural transformation on Rheinmetall may render its historical unlevered beta unrepresentative.

Concerning the levered beta (β_L), which represents a company's sensitivity to market volatility, also known as systematic risk, is the input used in the CAPM formula, and it basically determines if the asset/stock under analysis is more or less volatile/riskier than the market as a whole. If the stock under analysis is riskier than the market, its levered beta will be greater than one, if it is the opposite, the levered beta must be less than one. The formula defined to compute the levered beta is as follows (Damodaran, 2012; Hamada, 1972):

$$\beta_L = \beta_U \times \left[1 + (1 - t_c) \times \frac{D}{E} \right] \quad (10)$$

The country risk premium (CRP) in the CAPM formula, is a metric that compensates the investors for the added risks of investing in a specific country, such as geopolitical and macroeconomic factors. Generally, the CRP is higher in developing countries/markets, and it is linked to the credit risk rating associated to each country.

In the context of this study, the WACC is computed using the extended CAPM formula to estimate the cost of equity, incorporating the levered beta derived from the industry's average unlevered beta and Rheinmetall's capital structure, which serves then as the discount rate

applied to the projected FCFF throughout the explicit forecast period from 2025 to 2030. Its sensitivity is further explored in the scenario and sensitivity analyses presented in Chapter 4.

1.3. Relative Valuation Models

While the DCF delivers a detailed and forward-looking estimation of a company's intrinsic value, the RV approach offers a complementary view by anchoring the company's value to evident current market prices of similar firms. Rather than relying on projected cash flows, this method gathers financial multiples derived from a peer group to assess whether a company is over or undervalued relatively to its competitors (Damodaran, 2006).

As Damodaran (2012) also emphasises, multiples are essentially shorthand for discounted cash flow models and must be interpreted in the context of growth, risk and cash flow differences.

The four multiples selected for this analysis capture a broad range of valuation dimensions, encompassing profitability, asset base, operational performance, and revenue growth potential, providing a comprehensive market-based benchmark for Rheinmetall.

The price-to-earnings ratio (PER) reflects the perspectives of growth and risk, and it is widely used by investors (Mauboussin & Callahan, 2021), as it allows them to directly assess the contribution of net income to the equity value. This ratio is expressed as follows:

$$PER = EQV/Net\ Income \quad (11)$$

Secondly, we have the price-to-book value ratio (PBV), which measures the market premium relative to the book value of invested capital. This ratio is commonly used to value industrial manufacturers, that are supported by significant tangible assets, as is the case of Rheinmetall, with significant military production capacity and infrastructures.

$$PBV = EQV/Book\ Value\ of\ Equity \quad (12)$$

Regarding profitability and operational performance, the EV/EBITDA multiple allows investors to have a neutral view on the capital structure, which is preferable when the peers have distinct leverage levels.

$$EV/EBITDA \quad (13)$$

The last multiple, EV/Revenues, is particularly useful when margins vary significantly across peers, since it allows investors to capture growth premiums when the sector is facing a growth phase.

EV/Revenues

(14)

For this analysis to be as accurate as possible, there were some conditions met to define the peer group, taking into consideration the business sector, companies' dimension, capital structure and geographic location. Once that assessment was done, the following companies were selected to integrate the peer group of Rheinmetall: BAE Systems, General Dynamics, Hanwha, Leonardo, SAAB, Singapore Tech Engineering, and Thales.

Given that the defence industry is globally spread among continents, it became relevant to integrate big defence players, from different continents into this analysis.

Although the multiples approach is quite appealing for a quick and brief understanding of a specific market context or company, this method has some limitations, which somewhat conditions the accuracy of its conclusions, that must be seen as a proxy to the market. Some of these limitations are the static nature of the ratios and its dependence on the market valuation of peer companies, that is, if the market is overvaluing a specific sector, the multiples will reflect that distortion failing to reflect the companies' own financial data and capital structure. Additionally, even within the same industry, companies may present substantially different business mixes, revenue compositions, and accounting practices, which can limit the direct comparability of multiples across the peer group.

1.4. ESG and Valuation

Regarding ESG practices, there are some studies highlighting a strong positive relationship between ESG policies and firms' performance in general, that is, firms who integrate ESG practices in their daily processes or long-term strategy tend to have more success and overperform the ones who do not, as demonstrated by Friede et al. (2015) in their study about ESG and financial performance, with strong evidence collected from more than 2000 empirical studies. ESG factors can then affect valuation both directly, through adjustments in expected cash flows (e.g., operational efficiency, risk management, regulatory compliance), and indirectly, by influencing the cost of capital through investor preferences and access to financing.

Trying to fit Rheinmetall into all these frameworks is a challenge since some ESG criteria exclude the defence industry and weapons manufacturers, a negative screening that increases the cost of capital of these companies; but others see them as essential providers of national and collective security. Thus, ESG is not a peripheral concern but a central and paradoxical factor in how investors value Rheinmetall.

More recent academic contributions have further developed the relationship between ESG factors and financial performance. Gillan et al. (2021), in a comprehensive review of ESG and CSR research in corporate finance, confirm the positive association between ESG integration and firm value, while highlighting the growing role of institutional investors in enforcing ESG standards through active ownership. Additionally, Berg et al. (2022) document significant divergence across ESG rating agencies, raising important questions about the consistency and reliability of ESG assessments — a concern particularly relevant for Rheinmetall whose ESG profile varies substantially depending on whether the rating framework considers defence manufacturing as a sustainable activity or applies negative screening to the sector.

In most cases defence firms are excluded from ESG funds, which increases their cost of equity, leading to a lower demand for the stocks and a higher risk premium required by investors, which consequently increases the WACC and, therefore, reduces the intrinsic value estimated throughout this valuation model, representing a persistent valuation discount for defence companies relative to non-screened sectors.

The underlying characteristics of the defence industry and their implications for valuation are addressed in detail in Chapter 2, where the industry overview is complemented by the relevant academic literature on this topic.

2. Contextual and Industry Analysis

2.1. Macroeconomic Overview

Having a clear view of the macroeconomic context is essential to define the valuation model main drivers, including both quantitative metrics from growth rates to inflation, but also qualitative factors like economic policies and regulation, which condition the medium and long-term strategic planning of companies.

This chapter deepens the contextualization of the current macroeconomic environment of defence industry starting in Europe, and then extending to the broader global economy, given that geopolitical conflicts tend to impact indirectly every corner of the world, and not only the countries directly involved in the wars.

The reinforcement of NATO commitments, among member-countries, especially after the beginning of the military conflict in Ukraine, in 2022, marks a meaningful event which led to the increase on demand for weapons in Europe, to guarantee the global safety of the population and borders. The run to weapons and military equipment represents a huge opportunity to global defence companies around the world, but mainly for the ones established and operating in Europe, such is the case of Rheinmetall.

2.1.1. Gross Domestic Product Growth

The GDP is the indicator that better reflects the economic performance of a determined country or geographical area, during a specific period of time. In simple terms, GDP measures the total value of goods and services produced within a country's borders, by both national or international companies, operating geographically in that territory, usually on a quarterly or annual basis.

Analysing the GDP of a country allows us to gain a clear view of those countries living conditions, purchasing power and overall economic welfare of that population. According to Slesnick (2020, Abstract), "Higher levels of production are assumed to translate to higher levels of well-being, and GDP is often taken to be a measure of aggregate economic welfare".

The GDP growth analysis focuses on three geographical areas directly relevant to Rheinmetall's business: Germany, as the company's primary operating market and headquarters; the Eurozone, which represents the largest destination for Rheinmetall's exports and the core theatre of the European rearmament cycle; and the World economy, given the global reach of the defence industry and its sensitivity to international geopolitical dynamics. The historical

period covered spans from 2018 to 2024, complemented by IMF projections through 2030 to inform the valuation model's long-term assumptions.

Taking a closer look to the annual GDP growth rates, in Germany, the Euro area, G7 countries and World (see Annex A), it is worth isolating the period from 2018 to 2020, marked essentially by the COVID-19 pandemic crisis. Although in 2020, a recession affected all the geographical zones under analysis, with Germany registering a decrease of 4,13% on its annual GDP, Rheinmetall stood resilient, given that its revenue is backed up mainly by long-term government contracts.

From 2020 onwards, all the economies in Annex A managed to register again positive GDP growths. However, in 2023, Germany entered a technical recession, with a GDP growth of -0,87%, caused mainly because of the high energy costs and a consequent divestment of industrial companies, that saw the operational conditions and production costs increase significantly in that country when comparing to other territories in Asia. Besides this adverse macroeconomic context in Germany, Rheinmetall was able to register an accelerated growth in this same time period, demonstrating that the primary growth driver of this company is structural, with the rearmament agreements, and not cyclical, as the majority of the other sectors in the economy.

Turning now attention to the IMF's GDP growth forecast between 2025 and 2030, presented in Table 2.1, it is possible to observe that GDP growth projections oscillate between 1% and 2% a year, for Germany and the Euro zone.

Table 2.1 Forecasted annual GDP growth (%), in the Euro area, Germany and World (2025-2030)

Country/Region	2025	2026	2027	2028	2029	2030
Euro area	1,40	1,09	1,21	1,36	1,24	1,12
G7	1,55	1,60	1,57	1,64	1,49	1,38
Germany	0,24	0,79	1,18	1,20	0,94	0,66
World	3,44	3,06	3,22	3,24	3,16	3,07

Source: IMF DataMapper

This moderate growth projections support the TGR of 2,5% used along the Base scenario of this valuation model, which is consistent with the expected long-term nominal growth of the German economy.

As complements, the Bear and Bull scenarios reflect, respectively, a more conservative and a more optimistic macroeconomic outlook, with TGRs of 2,0% and 3,0%.

2.1.2. Inflation and Interest Rates

This section examines the impact of inflation on Rheinmetall's valuation. This economic indicator is relevant for two main reasons. Firstly, it affects directly the operational costs of Rheinmetall, including raw materials, energy and labour costs. Secondly, inflation also impacts the monetary policy defined by European Central Bank (ECB), who determines the interest rates at which the company funds its debt.

Analysing the inflation rate in the World, the Euro area and Germany (see Annex B), between 2018 and 2024, it is relevant to explain the values registered in 2021 and 2022, which reflect high levels of inflation, reaching 10,70% in Germany, in 2022, mainly due to the expansionary fiscal policies implemented during the COVID-19 recovery period, combined with global supply chain disruptions, caused by limitations in the production and transportation of goods and services all around the world. After that, the invasion of Ukraine by Russian troops raised the energy costs of many European companies, reducing the short-term margins of Rheinmetall, especially the ones agreed on fixed-price contracts before this inflation spike.

To overcome the economic inflationary tendency in those years, the ECB increased the interest rates steadily, from 0% in 2021, to 4,5% in 2023. Right after, in 2024, when the inflation levels started to slow down, ECB lowered the interest rates accordingly. This subsequent easing of the monetary policy by ECB, that translates into an easier access to credit, contributed to a reduction in the yield of German government bonds (Bunds), which stood at 2,36% at the valuation date of 31st December 2024. The gradual normalisation of input cost pressures from 2023 onwards, documented in the macroeconomic analysis of Chapter 2, supports the assumption of expanding EBITDA margins in the Base case scenario.

Looking ahead, to the IMF projections in Table 2.2, the inflation rate both in Germany and in the Euro area are expected to broadly converge towards the ECB's medium-term target of 2,0% over the explicit forecast period, albeit with some volatility, linked to a temporary uptick projected for 2026 before stabilising around 2,0-2,2% from 2027 onwards. Despite this short-term variability, the overall trajectory of declining inflationary pressure supports two key assumptions in the valuation model: the gradual easing of input cost pressures on Rheinmetall's margins from 2027 onwards, and the relative stability of the German Bund's yield.

Table 2.2 Forecasted annual inflation rate (%), in the Euro area, Germany and World (2025-2030)

Country/Region	2025	2026	2027	2028	2029	2030
Euro area	2,00	3,00	2,10	2,20	2,00	2,10
Germany	2,30	2,60	2,20	2,00	2,20	2,20
World	4,00	4,40	3,50	3,30	3,20	3,20

Source: IMF DataMapper

Beyond inflation and interest rates, exchange rate dynamics represent an additional macroeconomic consideration for Rheinmetall, given its exposure to non-euro denominated revenue, particularly in USD, with American clients and NATO contracts. The appreciation of the USD against the euro observed between 2021 and 2023 provided a favourable translation effect on the company's consolidated revenue, a dynamic that is assumed to normalise over the explicit forecast period.

2.1.3. Unemployment Rate

Another powerful metric that reflects the health of any economy is the unemployment rate, which serves as an indicator of the economy's productive capacity and consumer strength.

The unemployment rate in Germany (see Annex C) remained relatively stable around 3%, during the historical period under analysis. This level of unemployment, which may be considered low, when comparing to the Euro Area, is both positive, given the solid economy and the stable consumers' purchasing power, but also a constraint to Rheinmetall, because when the job market is tight it becomes harder to quickly hire engineers and other specialized workers needed to expand the production capacity.

The IMF projections in Table 2.3, emphasize that Germany's unemployment rate will remain structurally low throughout the explicit forecast period, declining progressively from 3,77% in 2025 towards 2,9% by 2030, with a minor uptick in 2026 reflecting ongoing economic adjustments. This persistently tight labour market reinforces the execution risk, which will be explained later in this chapter, where the difficulty of rapidly scaling a specialised defence workforce is expected to remain a constraint throughout the explicit forecast period, a factor explicitly incorporated into the more conservative revenue growth assumptions on the Bear scenario.

Table 2.3 Forecasted annual unemployment rate (%), in the Euro area and Germany (2025-2030)

Country/Region	2025	2026	2027	2028	2029	2030
Euro Area	6,31	6,25	6,10	6,00	5,90	5,90
Germany	3,77	3,86	3,50	3,20	3,00	2,90

Source: IMF DataMapper

2.2. Geopolitical Context and Defence Spending

Unlike most commercial sectors, where macroeconomic cycles constitute the primary demand driver, the defence industry is fundamentally shaped by geopolitical dynamics and sovereign security decisions. In the case of Rheinmetall, the geopolitical context post-2022 represents the single most important factor underpinning the revenue growth assumptions of this valuation model.

2.2.1. European Rearmament Post-2022

The beginning of the war in Ukraine with the Russia's invasion in February 2022, marked the transition between the peace environment that characterised Europe during the last 3 decades, where member-state governments reduced significantly their public expenses on defence, mainly after the end of the Cold War. The emergence of this recent conflict in the Eastern Europe, prompted the countries that share their borders with Russia and its allies to reconsider the rearmament of their armies, in order to guarantee the safety of the population, and prevent an escalation of the conflict to middle and western Europe.

As established in the macroeconomic overview presented in the Section 2.1, geopolitical conflicts do not affect only the countries and regions directly involved, but also the economies, supply chains and production of the majority of countries around the world. Given that, and to prepare the most adverse scenario: an escalation of the war in Ukraine to a global conflict, involving the world major superpowers, NATO has revised its commitments among all the member-states and readjusted its priorities. Firstly, in the Madrid Summit, in 2022, NATO officially recognised the conflict in Ukraine as an aggression by Russia, which undermined international security and stability. From this first moment NATO reinforced its support to Ukraine, and its member-states were committed to “deploy additional robust in-place combat-ready forces on our eastern flank, to be scaled up from the existing battlegroups to brigade-size units where and when required, underpinned by credible rapidly available reinforcements, prepositioned equipment, and enhanced command and control” (North Atlantic Treaty Organization (NATO), 2022). In the next year, in the Vilnius Summit, NATO members

reinforced their commitment of directing 2% of their GDP to defence expenditure, a target that was originally established in the Cardiff Summit back in 2014, although it was largely ignored until 2022.

Table 2.4, concerning the military expenditure as percentage of GDP, by country, between 2021 and 2024, shows that in 2024, Germany registered 1,84%, approaching but not yet reaching the 2% target, despite representing a significant year-on-year increase among the countries under analysis.

Table 2.4 Military expenditure by country, as percentage of gross domestic product (2021–2024)

Country	2021	2022	2023	2024
France	1,98	1,96	1,95	2,01
Germany	1,30	1,34	1,50	1,84
Italy	1,61	1,60	1,53	1,59
Poland	2,22	2,20	3,26	3,75
United Kingdom	2,04	2,01	2,15	2,44
United States of America	3,40	3,30	3,29	3,43

Source: SIPRI 2024

We can also observe in Table 2.4, that Poland became the NATO country with the highest military spending in 2024, and it is also one of the main clients of Rheinmetall. Looking at a global perspective, in 2024, only 23 of the 32 NATO member-states have met or overpassed the commitment of 2% of GDP directed to military spending.

2.2.2. Direct Implications on Demand and on Rheinmetall

This section analyses in detail the increase on the demand for weapons and defence systems, which reflect the previously explained expenditure target of 2% of GDP, defined among all NATO members. Thus, the rearmament programs agreed between European countries are translated into specific contracts and orders, from which Rheinmetall benefits directly (Rheinmetall, 2023a):

Ammunition: As the biggest European producer of high-calibre ammunition for artillery, Rheinmetall signed numerous contracts with NATO governments to supply Ukraine and guarantee the stocks reposition. In 2024, the company announced the construction of a new ammunition factory in a joint venture with the Ukrainian government, called “Rheinmetall Ukrainian Defense Industries”. The values agreed on those contracts vary between 500 million euros and a billion euros, and include partners as Germany, Norway and other NATO members. This ammunition supply is shared with other European defence companies, such as Nexter and

Diehl, although Rheinmetall being the dominant player in Europe with the highest production capacity installed.

Lynx Program: The Lynx is an infantry combat vehicle developed and produced exclusively by Rheinmetall. Part of the contracts signed to support Ukraine, include the hand-over of several units of this vehicle, mainly to Hungary (2 billion euros for 218 vehicles), Slovakia and Australia (under the program Land 400 Phase 3 – one of the largest defence procurement programs in Australia history, with a value around 27 billion AUD). Being the only producer of Lynx, Rheinmetall keeps all the revenue from supplying these unique armoured vehicles.

Leopard 2: Concerning the contracts on Leopard 2 battle tanks, Rheinmetall appears as a critical components' supplier, to that tank's main producer, KNDS (a joint venture between Krauss-Maffei Wegmann and Nexter). The main piece produced by Rheinmetall is the Rh-120, the 120mm cannon which equips the Leopard 2. Besides supplying essential parts, the company also provides maintenance and upgrade services to those vehicles, securing a significant share of those contracts' value.

Aerial defence systems: Besides protecting the land borders, Rheinmetall also produces aerial defence systems essential to intercept cruise missiles and drones. Its Skyranger system is developed under its Electronic Solutions division, and it competes directly with Thales and Hensoldt (a German company where Rheinmetall has a participation around 25%).

As shown in Table 2.8, Rheinmetall's order backlog has grown from €13,4 billion in 2020 to €54,97 billion in 2024, which represents a fourfold increase in that period. This record accumulation of orders provides a steady degree of revenue visibility over the explicit forecast period, directly sustaining the double-digit revenue growth rates defined in the Base scenario.

Table 2.5 Rheinmetall annual backlog in € millions (2020-2024)

Year	2020	2021	2022	2023	2024
Backlog amount	13 400	24 500	26 572	38 290	54 973

Source: Rheinmetall annual reports

This pattern is consistent with academic evidence demonstrating that military conflicts and increases in defence spending tend to boost the equity returns of leading defence firms, particularly during periods of heightened geopolitical tension (Gurdgiev et al., 2022).

In addition to the NATO contracts benefiting Rheinmetall, the German government approved, in the beginning of March 2022, a special off-budget fund, with the value of 100 billion euros to modernize its own armed forces – Bundeswehr, through “better equipment, modern technology and more personnel” (Möckel, 2022). This fund represents a structural

demand guarantee for Rheinmetall, as the primary domestic supplier to the Bundeswehr, further reinforcing the revenue visibility embedded in the valuation model.

2.2.3. Geopolitical Risks

After highlighting the main revenue drivers of Rheinmetall, it is also important to analyse the risks associated to those contracts previously detailed.

Thus, the dependence of Rheinmetall in the continuation of the war in Ukraine and in the constant pressure for the European rearmament, working as a single key catalyst, constitute potential constraints on the company's growth tendency. This means that, an immediate cease-fire or a negotiated resolution of the conflict between Russian and Ukraine, could reduce the political urgency of rearmament, especially in the countries with a higher fiscal pressure, which would result in a decrease of military expenditure and a proportional reduction of Rheinmetall sales.

Another important risk to consider is the high volatility of governments' budgets, linked to significant fiscal pressures, driven by high public debt levels, energy costs and climate changes. In the context of budget consolidation, the military expenditure can be targeted to budget reduction, mainly in the countries that have already reached the target of 2%.

Following, the execution risk means that the record backlog of Rheinmetall will only be converted into revenue if the company is able to expand its production capacity at the required pace, depending essentially on the specialized labour force and critical raw materials available, which represent a constraint, as explained in the macroeconomic contextualization chapter.

These geopolitical risks are explicitly reflected in the Bear scenario of this valuation model, which incorporates more conservative revenue growth assumptions and a higher discount rate, acknowledging the possibility of a deceleration in European defence spending dynamics.

Having established the geopolitical context and its direct implications for Rheinmetall's demand outlook, the following section provides a comprehensive overview of the global defence industry landscape within which the company operates.

2.3. Defence Industry Overview

Building on the geopolitical dynamics outlined in the previous section, this section provides a structured overview of the global defence industry, examining its size, competitive landscape, inherent characteristics, and key trends, with a particular focus on the European market, which constitutes Rheinmetall's primary operating environment.

2.3.1. Dimension and Structure of the Global Market

Turning attention to the global figures concerning the defence expenditure around the globe, it is easy to highlight the upward trend, which translates into a higher spending in weapons, defence systems and military personnel.

As Table 2.6 emphasizes, the World has generally increased its military spending year after year, in a constant rising trend, registering 2 044,62 billion USD, in 2018, and reaching 2 692,31 billion USD in 2024, which represented a new record value since the end of the Cold War.

Table 2.6 Military expenditure by region in constant 2024 USD, amounts in billions (2018-2024)

Region	2018	2019	2020	2021	2022	2023	2024
Africa	35,60	36,94	38,72	38,78	38,19	47,61	50,31
Americas	943,74	992,02	1 039,28	1 026,51	1 014,53	1 039,76	1 112,47
Asia & Oceania	497,57	522,84	538,07	553,59	565,01	592,76	627,15
Europe	394,68	414,91	437,44	451,81	515,41	591,51	693,84
Middle East	173,02	164,86	156,22	157,10	166,20	181,77	208,54
World	2 044,62	2 131,57	2 209,74	2 227,78	2 299,34	2 453,40	2 692,31

Source: SIPRI Military Expenditure Database

Turning attention to the granularity of Table 2.6, the regions with more significant increases between 2021 and 2024 are Europe and Middle East, which increased their military expenditure in 53,6% and 32,8%, respectively, during the 4-year period.

Regarding the defence market's structure, which is characterised by a concentration of highly competitive and well-established players; and linking it with the current geopolitical context, the previously analysed global defence spending can be attributed to 4 main world superpowers.

The most representative nations in 2024, according to SIPRI (2024a), are the United States of America with 37% of the global expenditure, followed by the European NATO block with 17,8%, China with 11,6%, and Russia with 5,6%.

Since the European NATO members have a significant representation in the global defence spending, the European domestic market is sufficiently big to sustain the rapid growth of Rheinmetall. However, the expansion of this company to the American market is structurally difficult due to regulatory barriers, such as the "Buy American Act" (originally enacted in 1933 and subsequently revised, requires that the federal government should prioritize domestically produced or manufactured goods in its procurement and public construction acts) and the dominance of local players like Lockheed Martin, Raytheon and General Dynamics.

According to SIPRI (2024b), the top three positions of arms-producing and military services companies in the world, based on arms revenue, are held by the American companies Lockheed Martin, RTX and Northrop Grumman, followed by the British BAE Systems. Rheinmetall ranks 20th overall and 4th among European defence companies, with arms revenue of 8 240 million USD, which marks a significant progression from position 32 in 2021, representing an improvement of 12 positions in three years.

2.3.2. European Defence Market

Opposite to the United States of America market structure, dominated by a small group of huge companies, as presented in the previous section, the European environment is characterised by a historical fragmentation where each country has its own defence champions – France has Thales and KNDS, United Kingdom has BAE Systems, Italy has Leonardo, Sweden has SAAB and Germany has Rheinmetall and Hensoldt. This fragmentation results in the duplication of production capacity, less capacity to scale revenue and a lower bargaining power against the biggest governmental clients.

After the rearmament agreement post-2022, the European countries started to discuss the potential consolidation of the defence sector in Europe. The European Defence Industrial Strategy (EDIS), launched in 2024 by the European Commission, has as main goal promoting the harmonization of the military requirements among the member states and encourages a unified production between the several European defence companies. For Rheinmetall, this environment proves to be advantageous, given that it can benefit as an already well-consolidated company, as an acquirer or as a strategic partner in potential joint venture.

Among all the European defence companies, Rheinmetall is the terrestrial player with the highest growth momentum, which ends up distinguishing it from its competitors, who usually have a more diversified exposure, often operating in multiple fronts like navy, aeronautic and electronics, simultaneously. The fact that Rheinmetall is specialized in terrestrial defence translates into a strength, reflecting technical leadership and focus, but also into a limitation due to less diversification on the products and services offered to their clients.

2.3.3. Underlying Characteristics of the Defence Sector

Some of the most relevant drivers of the defence sector are the long-term government contracts, typically spanning 5 to 15 years, which reduce revenue volatility by providing more predictable cash flows, but also create a high-budget dependence. Along with information asymmetries,

European defence companies struggle to access private funding, relying mostly on governments instead of market-based credit (Besancenot & Vranceanu, 2006).

Another important consideration about this industry, concerns the intense capital requirements and complex procurement cycles. The development of new weapons and defence systems requires high investments in research and development (R&D) departments and CAPEX, during cycles that can last over 20 years, creating significant entrance barriers for new market participants (Hartley, 2007). As consequence of such capital requirements and strong barriers for any new developments, companies that have already certifications and patents on their products and technologies, which is the case of Rheinmetall, with Lynx and Stryker, have a durable competitive advantage, which is hard to replicate by the competitors.

Another specificity of this sector relates with the regulatory dependence and export licences. In the case of Rheinmetall, export contracts to countries outside the NATO framework, like Middle East and Asia, are subject to German government approval (which has been historically more restrictive than other European countries) representing a regulatory constraint acknowledged by the company in its annual risk assessment (Rheinmetall, 2024).

2.4. Industry Tendencies

To strengthen the industry analysis and contextualization, it is relevant to identify the current sectorial tendencies, especially the ones impacting directly Rheinmetall.

Sustained increase in European defence expenditure – In June 2024, following the Washington summit, NATO initiated a new discussion to increase the defence expenditure target from 2% to 2,5% or even 3% of GDP to ensure sustainable stock amounts and be prepared to an unexpected conflict. In case this measure becomes the reality, the addressable market of Rheinmetall increases significantly from what is projected in the Base scenario and thus supporting the growth assumptions of the Bull scenario.

Ammunition as an immediate priority – The start of the war in Ukraine revealed that the European ammunition stocks were drastically insufficient for a conflict with such a scale. According to the European Defence Agency (EDA), Europe will need several years to replenish the stocks donated to Ukraine, even producing new ammunition at its maximum capacity . As the biggest European producer of high calibre ammunition, Rheinmetall is a direct beneficiary of this priority. Given that, the division of “Weapon and Ammunition” becomes the major contributor on the growth projected along this valuation model.

Armoured vehicle fleet modernization – Due to some decades of a quite peaceful environment in Europe, many European armies stopped upgrading their resources and are consequently operating with armoured vehicles with a life cycle between 30 and 40 years. The current modernization priority, that has been gaining attention in Europe, with the substitution of the soviet vehicles in Eastern Europe and the upgrade on the Western countries' fleets, represents a market with a value around several dozens of billion euros during the next decade. In the case of Rheinmetall, the Lynx is the most adequate product to capture this new market demand. This modernisation wave directly supports the projected growth of Rheinmetall's Vehicle Systems division, which represents the second largest revenue contributor in the Base case forecast.

Drones and anti-drones' systems as a new war vector – the war in Ukraine showed the world that the conflicts between different countries are becoming more technological than ever, using long-distance and autonomous weapons, such as drones, without the need of strategic physical troops on each battlefield areas. As the protection becomes also harder, defence companies are continuing to develop their aerial defence systems to intercept guided missiles and drone attacks. Concerning this new war segment, Rheinmetall is investing through its "Electronic Solutions" division and strategic joint ventures.

European industrial consolidation – as previously mentioned in Section 2.3.2, European defence companies are in discussions to consolidate their production processes, as a unified joint venture able to guarantee the safety of the European continent, through more efficient stock management policies and innovation cycles, adopting somehow the American defence companies' production and operational model. If this consolidation materialises in Europe, Rheinmetall has been preparing its infrastructures and long-term strategy, with some important acquisitions such as the Spanish, Expal Systems, in 2023, for 1,2 billion euros (Rheinmetall, 2023b), which reinforced their position as an ammunition supplier, and proved its active role as a European consolidator.

Against this backdrop of structural demand growth, accelerating modernisation cycles, and an increasingly consolidated European defence landscape, the following chapter provides a detailed analysis of Rheinmetall's business model, financial performance, and strategic positioning within this evolving industry context.

3. Company Overview

After establishing the macroeconomic environment, the geopolitical dynamics and the main inherent characteristics of the global defence industry, this chapter delves into a detailed presentation and analysis of Rheinmetall itself. It begins with the historical overview of the company's evolution and strategic transformation, followed by an extensive description of its business model and product portfolio. Then, a qualitative strategic assessment is done through a strengths, weaknesses, opportunities and threats (SWOT) analysis and Porter's Five Forces framework, concluding with a comprehensive review of Rheinmetall's financial performance over the historical period, between 2018 and 2024.

3.1. Company Background

Rheinmetall foundation occurred in 1889, in Dusseldorf, Germany, by the metals and mining conglomerate Hoerder Bergwerks- und Hüttenverein, under the leadership of the engineer Heinrich Ehrhardt.

Right after, in 1896, as a metallic ammunition producer, the company presented its first rapid-fire gun, an artillery piece featuring variable recoil and a forward-feed device. Throughout the 20th century, Rheinmetall played an important role as a military supplier in both World Wars. After the end of the first global conflict, the company was forced by the Allies to convert its production to civil purposes, such as locomotives, steam engines and office equipment, such as typewriters and mechanical calculators (Rheinmetall AG, 2024c).

During World War II, Rheinmetall operated under majority state ownership and control of the National Socialist government. This affiliation was reflected on the underground rearmament of the German military forces (Wehrmacht), with the mass production of weapons, tanks and ammunition of all types and calibres. Besides being involved in the occupation policy in France, Netherlands and Poland, taking over operating facilities, Rheinmetall was also involved in the mass use of forced labour (Leitzbach, 2024).

The end of World War II marked also the end of Rheinmetall's darkest phase, who contributed actively to the prolongation of the global conflict. Similarly to the restrictions imposed by the Allied forces by the end of World War I, the military production was again banned in the country and so Rheinmetall tried to adapt its operations, accordingly, turning to civilian production, including mobile cranes, automotive components and engines, which proved to be unsuccessful.

Only in 1956, with the creation of the Armed Forces in west Germany (Bundeswehr), Rheinmetall was authorized to resume the military production (Bundeswehr, 2024), developing several new weapons systems, such as the MG3 machine gun and the 120mm canon, equipping the Leopard 2, and which was then made reference as a NATO standard to integrate the other Western main battle tanks.

After those decades marked by wars, production booms and drastic limitations, Rheinmetall decided to enter the automobile sector to mitigate the financial risk associated to the defence contracts, with the creation of a new division focused on carburettors and emission control's systems.

In the 21st century, Rheinmetall is continuing to develop its products and technologies, especially with aerial defence systems and artillery solutions. The progressive divesting on its automotive operations, with the divestiture of the pistons division, Kolbenschmidt, in 2021, and the acquisition of ammunition giant Expal Systems, in 2023, reaffirms the company's commitment to defence and military production, a status further consolidated with its inclusion in the German stock index, DAX, in September 2023.

This strategic repositioning is directly reflected in the revenue growth trajectory assumed in the valuation model, as Rheinmetall transitions from a diversified industrial group to a focused pure-play defence company.

3.2. Governance and Shareholder's Structure

Behind all those operations previously detailed, there is an important board team, responsible for defining the company's goals and governance. Rheinmetall's CEO is Armin Papperger, an engineer who started working in the firm in 1990 and reached its current leading position in January 2013, becoming the architect of the strategic transformation of Rheinmetall.

Concerning the shareholder's structure, Rheinmetall has a diversified capital, meaning there is not a unique reference investor with a dominant position. The company is quoted in the Frankfurt exchange's Prime Standard and included in the DAX since 2023. The main shareholders are international institutional investors, who recognise the company's long-term strategy and products potential in the global environment and geopolitical context.

The corporate governance at Rheinmetall is characterised by responsibility, fairness, reliability and transparency, focusing on "expanding and utilizing corporate potential, achieving medium-term financial targets and systematically increasing corporate value on a sustainable basis" (Rheinmetall AG, 2024b).

As a large German corporation, Rheinmetall must follow specific German corporate law requirements such as the dual-board structure. The executive board, “Vorstand”, is led by the CEO, while the supervising and controlling is exercised by the supervisory board, “Aufsichtsrat”. Additionally, the “Mitbestimmung” principle, in German law, defines the codetermination of the supervisory board, where 10 out of the 20 members, must be company employees or trade unions. This organization structure ensures that employees’ interests are taken into consideration for the company’s decision-making process, a unique characteristic that differentiates the German companies from their Anglo-Saxo peers (Rheinmetall AG, 2024a).

3.3. Business Model and Segments

3.3.1. Revenue Model

As already mentioned throughout the previous chapters, Rheinmetall operates in a revenue model mainly based on long-term government contracts, with an increasing component linked to multi-year contracts with NATO member-states. In the context of defence industry, companies’ revenue is often divided into two important dynamics, the revenue from new contracts, known also as order intake, and the execution revenue, derived from the existent backlog.

Table 3.1 presents the annual book-to-bill ratio of Rheinmetall, between 2018 and 2024. This indicator is calculated by dividing the value of new orders (revenue intake) by the total value of products delivered or billed (backlog).

Table 3.1 Rheinmetall AG annual book-to-bill ratio (2018-2024)

Year	2018	2019	2020	2021	2022	2023	2024
Book-to-bill ratio (x)	1,4	1,3	1,5	0,9	1,0	1,8	1,8

Source: Bloomberg Finance L.P Data

As shown in Table 3.1, Rheinmetall has registered a book-to-bill ratio higher or equal to 1 in every year over the historical period, except for 2021, which emphasizes how quickly new orders are accumulating relative to current production and reflect the pre-rearmament demand environment prior to Russia’s invasion of Ukraine.

3.3.2. The Four Business Segments

Given the dimension of Rheinmetall and the complexity of its operations, the company is divided into four different business segments¹. This organizational structure allows the firm to have a clear view on each segment contribution to the global results, while the strategic decisions and production sites can be adapted specifically to the needs of each division.

Vehicle systems: This division offers a wide portfolio of wheeled and tracked vehicles, comprising combat, support, logistics and special vehicles. Within this division, there are two distinct business units, logistics vehicles, including the military trucks, from both HG and TG series, created to guarantee a safe reinforcement deployment and logistic activity under the toughest conditions, while providing ergonomics and reliability standards; and the tactical vehicles, including infantry fight vehicles, such as Lynx and Marder, and also tanks and armoured engineer vehicles, whose function relies on providing support and recovery capabilities on the battlefield secondary operations. Backed up by the modernization cycle of the European military fleets, this division represented a revenue value of 3,79 billion euros to Rheinmetall in 2024, supporting the high relevance of this division to the group results, with an approximated weight of 39% on total revenue.

Weapons and ammunition: This division offers a comprehensive portfolio of firepower solutions for land, sea and air operations, combining leading-edge technology with a broad range of systems designed to support battlefield and deployment requirements. This great division is split into five business units: direct fire and indirect fire, covering a wide portfolio of options, from medium and large calibre weapons and ammunition, artillery systems, mortars, medium calibre cannons, weapon stations, aircraft bombs to sea mines and naval weapon systems; energetic materials focused mainly in the propulsion systems essential for the target-range efficiency of weapons, developed along with the chemical intermediates; project and services, dedicated essentially to operational support, mobile functional spaces and shelters (such as field kitchens, housing for military communications equipment and repair facilities) and an offshore ammunition disposal module which allows to restock the ammunition to warships without being close to them; lastly the protection systems, including body armoured solutions, camp and object protections and protection systems for land, sea and air. This whole division is the one with the highest growth potential given the NATO priority for stock

¹ Rheinmetall subsequently reorganised its business divisions in 2025, reflecting the company's continued strategic evolution. The segmental structure presented in this chapter corresponds to the reporting framework in place at the valuation date of December 31st, 2024, as disclosed in the Annual Report 2024 (Rheinmetall AG, 2024)

reposition. In 2024, the weapons and ammunition segment registered sales of 2,78 billion euros, which translates into 29% of the total group revenue, for that year.

Power systems: This division mainly directed to civil purposes, provides high-quality and innovative mobility solutions and digital applications for the automotive and energy sectors. Also divided into several business units, from air management, bearings, castings, electrification and digitalization to hydrogen solutions, this segment registered sales of 2,38 billion euros in 2024, representing approximately 21% of group's revenue. Although this segment represents a legacy of Rheinmetall's historical diversification into the automotive sector, it continues to contribute positively to revenue while the company pursues its gradual strategic exit from non-defence activities.

Electronic solutions: This division encompasses all the system network and its chain effects, from sensors to networking of platforms and soldiers' communications, guaranteeing protection solutions in the cyberspace, but also air defence systems such as the Skyranger, with the anti-drone features under development. This division is divided in 4 business units: air unmanned space, defence electronics, digital solutions and global business. In 2024, the electronic solutions segment represented 1,73 billion euros in sales, approximately 18% of the group's revenue.

3.4. Geographical Presence

As an international defence player, Rheinmetall has its operations spread across several countries and regions. The intensification of the conflict in Ukraine and the urgency of stock reposition imposed by NATO, became crucial factors to the exports' increase and international consolidation of Rheinmetall.

As shown in Table 3.2, the company sales can be allocated to different regions. Although Germany remains Rheinmetall's most important single-country market, registering 2,96 billion euros in 2024; the Other Europe region has emerged as the largest revenue contributor in aggregate, accounting for approximately 47% of total group sales in 2024, which reinforces the commitment of the company with NATO, through the rearmament agreements on the member-countries.

Table 3.2 Rheinmetall sales disclosure by geographical region, amounts in million € (2018-2024)

Region	2018	2019	2020	2021	2022	2023	2024
Germany	1 700	1 946	2 018	1 931	1 890	1 723	2 963
Other Europe	1 863	1 866	1 656	1 745	2 280	3 399	4 542
Americas	735	655	607	462	580	594	746
Asia	1 136	1 080	1 001	1 040	1 048	817	933
Other regions	713	708	593	480	612	642	566
World	6 148	6 255	5 875	5 658	6 410	7 176	9 751

Source: Rheinmetall Annual Reports (from 2018 to 2024)

Following this diversification strategy of Rheinmetall, more evident than ever, the company is starting to implement a deliberate strategy of having their production sites closer to its clients, that is, instead of exporting the finished goods from Germany, the firm is building new factories on client countries. This strategy was already put in place in some countries, as is the case in Ukraine, where Rheinmetall agreed to take part in a joint venture with the Ukrainian government, creating the “Rheinmetall Ukrainian Defence Industries”, in 2024, with the objective of producing ammunition and armoured vehicles directly in the country involved in the conflict, guaranteeing a quicker deliver and support to the army. Besides being a strategic decision, the mobilization to Ukraine also represented a relevant political decision.

Other examples of this geographical diversification strategy include Rheinmetall's established presence in Australia, where the company operates the Military Vehicle Centre of Excellence (MILVEHCOE) in Redbank, Queensland, executing key programmes such as the Land 400 Phase 2 contract for Boxer Combat Reconnaissance Vehicles and producing ammunition locally through the joint venture Rheinmetall NIOA Munitions, and the infantry fighting vehicle programme in Hungary, permitting the domestic production of Lynx, with a new production site built in an area of 33 hectares, including a highly equipped test centre with a firing tunnel (Rheinmetall AG, 2024b).

This strategy of geographical diversification is relevant for this valuation project, because it reduces the regulatory risk of exportation, associated with Germany’s historical restrictive export control framework.

Additionally, the localisation strategy creates local revenue in local currency reducing the foreign exchange exposure, as explained in the macroeconomic chapter, and also supports the revenue growth assumptions for the international markets in the explicit forecast period, reducing execution risk and regulatory dependency while strengthening the company's competitive positioning in key NATO markets.

3.5. Strategic Positioning

This section presents a strategic assessment employing two complementary analytical frameworks. First, the SWOT analysis provides a structured overview of the company's internal strengths and weaknesses, consequent from the business model and financial performance reviewed in the preceding sections, alongside the external opportunities and threats identified in the macroeconomics and industry analysis on Chapter 2. This qualitative evaluation is later complemented by the Porter's Five Forces framework, which provides a more granular examination of the competitive dynamics specific to the global defence industry.

3.5.1. SWOT Analysis

Among the various qualitative analytical tools available, the SWOT analysis still constitutes a key instrument for understanding the organization's internal and external environments and thus facilitating informed and strategic decision-making processes (Phadermrod et al., 2019).

Strengths: Rheinmetall's primary strength lies in its European leadership in high-calibre ammunition and armoured vehicles production, underpinned by significant installed production capacity and ongoing development cycles. This dominant market position is structurally protected by the high barriers to entry, which characterise the defence sector. The certification of new military products and their associated licencing processes require substantial capital investment and infrastructure development spanning decades, making it extremely difficult for new entrants to replicate Rheinmetall's capabilities. Complementing this technical leadership is the company's record order backlog, documented in the Section 2.2.2, which provides exceptional revenue visibility over the explicit forecast period enabling management to define medium and long-term strategy with a high degree of confidence in the future cash inflows. This backlog, combined with the company's accelerating international reputation among NATO member-states and its physical expansion into client countries through new production facilities and joint ventures, positions Rheinmetall as an increasingly global defence player rather than a purely European one.

Weaknesses: Rheinmetall's most significant weakness is its high geographical concentration in Europe, which renders its revenue base highly sensitive to the geopolitical dynamics of the continent. A ceasefire in Ukraine or a reversal of NATO rearmament commitments could translate directly into a reduction of government contracts and a sharp decline in order intake. This concentration is compounded by limited exposure to the American market, where the Buy American Act and the dominance of well-established local players, such

as Lockheed Martin and General Dynamics, create structural barriers that are difficult to overcome in the short to medium term. Additionally, Rheinmetall remains highly dependent on German government approval for export contracts, a process historically more restrictive than equivalent realities in other European countries, introducing regulatory risk into its international growth strategy. Finally, while the record backlog represents a clear strength, it also exposes an operational weakness, as the company's production installed capacity has not kept pace with the speed at which new orders have been accumulated, introducing execution risk in the form of potential delays on deliveries, which could affect customer relationships and revenue recognition timing.

Opportunities: On the external environment, the most significant opportunity for Rheinmetall is the sustained increase in European defence expenditure, with NATO members actively discussing the possibility of raising the collective spending target from 2% to 2,5% or even 3% of GDP. If materialised, this shift would substantially expand Rheinmetall's addressable market beyond what is currently projected in the Base scenario of this valuation, later detailed in Chapter 4. Outside Europe, the company has significant growth potential in new geographical markets, particularly Australia, India and the Middle East, where demand for armoured vehicles and ammunition is increasing rapidly. In the context of a potential consolidation of the European defence sector, supported by the EDIS framework, launched in 2024, Rheinmetall is well positioned as an acquirer, given its available capital, established know-how and portfolio of patented products. Finally, the growing relevance of drones and counter-drone systems as a new vector of modern warfare represents an emerging opportunity that the company is already beginning to capture through its Electronic Solutions division.

Threats: The primary threat facing Rheinmetall is concerning the geopolitical risk, linked to a ceasefire or a negotiated resolution of the conflict in Ukraine, which might reduce the political urgency of European rearmament and lead to a reduction in defence procurement budgets, particularly in countries where fiscal pressure is already significant. Besides the volatility of government budgets in periods of fiscal consolidation, defence spending may also compete with other public expenses priorities such as healthcare, education and social welfare.

From a competitive standpoint, Rheinmetall faces directly large international defence contractors, including the American General Dynamics and European competitors BAE Systems and Leonardo, which tend to compete across the same critical defence segments within NATO procurement frameworks. Finally, as discussed in the ESG section of the literature review, Rheinmetall's exclusion from ESG-screened funds increases its cost of equity, representing a structural valuation discount relative to non-screened sectors.

3.5.2. Porter's Five Forces

The Porter's Five Forces framework offers a more structured analysis of the competitive forces that shape an industry as a whole. Originally introduced by Porter (1979), this model identifies the five key forces which determine the competitive intensity and attractiveness of an industry.

Competitive rivalry: This first force evaluates the intensity of the competition among the existing players in an industry, which is typically higher when there are many competitors of similar size, low product differentiation, or slow market growth. However, there are several structural factors moderating the competitive intensity of the defence industry, including the high market concentration, which is dominated by a small number of large and well-established contractors with decades of operational history and certified products portfolios. Furthermore, the technical complexity and specialisation required in defence manufacturing creates a natural product differentiation that reduces direct price competition. In the specific context of Rheinmetall, competitive rivalry is assessed as moderate. While the company faces direct competition from players such as BAE Systems, Leonardo and KNDS in the European market, the segmentation of the industry by product type (land systems, naval, aerospace) limits the number of direct competitors in each specific contract. Rheinmetall's leadership in armoured vehicles and high-calibre ammunition further reduces head-to-head rivalry in its core segments. Nevertheless, competition for large NATO procurement contracts can be intense, particularly when American contractors enter European bidding processes.

Threat of new entrants: The second force measures how easily new competitors can enter a market and start to take part on the profitability held by existing players. With high entrance barriers, established companies are protected from new competition, which tends to sustain their margins and market positions over time. In the defence industry, barriers to entry are exceptionally high, leading to a very low threat assessment for Rheinmetall. The development and certification of new military products require decades of investment in research, engineering and testing, with no guarantee of commercial success. Beyond the technical dimension, new entrants must navigate complex regulatory frameworks, including export control licences and government security clearances, which can take years to obtain. The capital intensity of defence manufacturing, requiring specialised production facilities, testing ranges and supply chains, further raises the bar for any potential new competitor. As a result, the defence industry is effectively a closed market where established players with certified products and long-standing government relationships hold a near-permanent competitive advantage.

Bargaining power of customers: The third force examines the ability of customers to influence prices, quality standards or contract terms, which tends to be higher when buyers are concentrated or purchase in large volumes. The defence sector is characterised by a concentrated customer base, comprising governments and their armed forces, which are typically the exclusive buyers of military equipment within their respective territories. For Rheinmetall, the bargaining power of customers is assessed as high. Given their control along the entire procurement process, including the definition of technical specifications, choosing between rival contractors or delaying purchasing decisions, governments hold a significant negotiating leverage. This dynamic is particularly relevant for large-scale programmes where Rheinmetall competes against other qualified suppliers. However, this power is partially offset in segments where Rheinmetall is the only qualified supplier, as is the case for the Lynx infantry fighting vehicle or certain calibres of ammunition, where the company retains meaningful pricing power due to the absence of direct alternatives.

Bargaining power of suppliers: The fourth force evaluates the extent to which suppliers can influence the terms and conditions of their relationships with producers, typically through pricing power or supply restrictions. The supplier's bargaining power is often higher when there are only a few alternative sources for critical components or when there are significant switching costs for the buyer. For Rheinmetall, the supplier bargaining power is defined as moderate. The company's production depends on a variety of specialised inputs, including energetic materials for ammunition production, high-grade steel for armoured vehicle manufacturing, and advanced electronic components like semiconductors and sensors used as components in its weapons and communication systems. Some of these inputs can be provided only by a limited number of qualified suppliers, who hold then a significant degree of pricing leverage. However, Rheinmetall mitigates this risk through partial vertical integration; within its Energetic Materials business unit which produces propellants internally; and through long-term supply agreements that provide cost visibility and reduce dependency on spot market pricing. The company's scale and strategic importance as a NATO supplier also strengthens its negotiating position relative to most of its suppliers.

Threat of substitutes: The fifth and final force considers the likelihood that customers will switch to alternative products or solutions that serve the same function. The threat of substitutes is higher when alternative solutions offer comparable performance at lower cost or with greater convenience. In the context of conventional land-based warfare, the threat of substitutes for Rheinmetall's core products is assessed as low. There are no functional substitutes for armoured combat vehicles, large-calibre artillery or anti-tank ammunition in a conventional ground

conflict, so these remain essential capabilities for any modern armed force. The only meaningful substitute dynamic emerging in the sector is the rise of unmanned systems and drone warfare, which could partially reduce the demand for certain traditional platforms over the long term. However, this trend also represents an opportunity for Rheinmetall, which is actively developing counter-drone capabilities through its Electronic Solutions division, positioning itself to capture value from this technological shift rather than being displaced by it.

Overall, Porter's Five Forces analysis confirms that the global defence industry is fundamentally attractive for well established players such as Rheinmetall. Characterised by high entry barriers, limited substitutes and a concentrated customer base with some negotiating leverage, this industry offers a long-term revenue visibility through multi-year government contracts. All these structural dynamics underpin the margin expansion and sustained revenue growth assumptions embedded in the valuation model.

3.6. Financial Performance

The following section provides a comprehensive review of Rheinmetall's financial performance over the historical period. Covering revenue's evolution, cost structure and margins dynamics, key financial ratios, and finally, stock market performance, this analysis serves a dual purpose. First, it provides a detailed understanding of the company's operational and financial health. Second, it establishes the empirical basis for the assumptions underpinning the valuation model, namely the revenue growth rates, EBITDA margin projections, and cost of capital inputs developed in Chapter 4.

3.6.1. Revenue Analysis

This section delves into Rheinmetall's revenue during the historical period, broken down by business segment, linking it with its main strategic shifts.

Analysing Rheinmetall's revenue breakdown in Table 3.3, it is easy to point out three distinct phases during the historical period. The first phase, from 2018 to 2020, is marked by a slight contraction in sales, from 6,15 billion euros to 5,88 billion euros, which reflected a significant pressure on the automotive division and a pre-pandemic stagnation on the defence expenditure. The following phase, between 2021 and 2022 registered a moderate recovery, with a 13% increase on global revenue, in 2022. The last stage, from 2022 to 2024, is marked by a

structural acceleration, with revenue growing from 6,41 billion euros to 9,75 billion euros, mainly boosted by the European rearmament urgent agreements.

Table 3.3 Rheinmetall sales disclosure by business segment, amounts in million € (2018-2024)

Segment	2018	2019	2020	2021	2022	2023	2024
Vehicle Systems	1 568	1 787	1 823	1 883	2 270	2 609	3 790
Weapon and Ammunition	1 056	1 018	1 196	1 233	1 470	1 756	2 783
Electronic Solutions	839	948	931	932	1 063	1 318	1 726
Power Systems	2 689	2 505	1 925	1 966	2 125	2 084	2 038
Others/Consolidation	-4	-3	0	-356	-519	-591	-587
Rheinmetall Group	6 148	6 255	5 875	5 658	6 410	7 176	9 751
YoY Growth (%)	4%	2%	-6%	-4%	13%	12%	36%

Source: Rheinmetall Annual Reports (2018-2024)

This three-phase revenue evolution demonstrates the sustained shift in Rheinmetall's demand profile, with the acceleration observed since 2022 driven primarily by the European rearmament cycle rather than by cyclical economic factors.

Taking a closer look at each business segment, it is worth highlighting the Vehicle Systems and Weapons and Ammunition divisions, due to their significant increase on the group's total revenue, which aggregately represented, 43% in 2018 and 67% in 2024, mirroring the strategic repositioning strategy of Rheinmetall into a pure defence player. On the other hand, during the same historical period, the Power Systems segment has progressively decreased its contribution to the group's total revenue, confirming the divestment trajectory on non-defence activities, accounting for only 21% on the total revenue in 2024, comparing to 44% in 2018. This sustained revenue acceleration reflects the structural nature of the demand shift triggered by the European rearmament agreements.

The negative values under Others/Consolidation reflect intercompany eliminations and consolidation adjustments, which are standard accounting practices in multi-segment reporting and do not represent actual revenue deductions.

Connecting Rheinmetall's revenue increase over the historical period with the geographical breakdown in Table 3.2, we observe that the rapid growth between 2022 and 2024 was led by other European Countries, besides Germany, which register an increase from 36%, in 2022, to 47% in 2024, on the total group revenue, backed up by several NATO contracts among different member-states.

3.6.2. Costs and Margin Analysis

Having established Rheinmetall's revenue trajectory, this section examines the cost structure and margins dynamics that underpin the company's profitability over the historical period. Understanding how costs have evolved relative to the revenue is essential to assess the quality of the company's growth, determining whether it was merely volumetric or if it has also reflected genuine operational improvements. The following analysis centres three key dimensions: the evolution of the gross margin, the expansion of the EBITDA margin as the primary profitability indicator, and the behaviour of research and development expenditure as a percentage of revenue. Each one of these dimensions has direct implications for the margin assumptions adopted along this valuation model.

Turning attention to the global figures in Table 3.4, which highlights the overall increase in Rheinmetall's profit margins, and linking that trend with the economic context at the time, the significant increase of the gross margin, from 2020 onwards, was mainly driven by sales growing more than the COGS, a reflection of the progressive reduction on the automobile activities, which historically have lower margins when comparing to the defence industry. Furthermore, between 2022 and 2023, the modest oscillation on the gross margin, with a reduction from 50,34% to 45,16%, was pressured by the fixed-term contracts signed during the inflationist peak impacting the global economy at that date, an effect then slowly dissipated with new contracts traded at updated prices.

Table 3.4 Rheinmetall's annual profit margins, as percentage of total sales (2018-2024)

Margins	2018	2019	2020	2021	2022	2023	2024
Gross margin	48,50	44,94	47,95	51,48	50,34	45,16	50,17
EBITDA margin	13,21	12,39	11,03	16,95	15,54	16,08	18,40
EBIT margin	8,4	8,2	7,4	10,8	11,5	12,5	13,8
Net income margin	4,96	5,36	-0,46	5,14	7,39	7,46	7,35

Source: Bloomberg Terminal (Retrieved on 10/01/2026)

The oscillations observed in the gross margin between individual years reflect the timing of contract renewals and the phasing of new production programmes, which can introduce short-term variability around the underlying upward trend.

Still in Table 3.4, the EBITDA margin registered a meaningful growth, from 13,21%, in 2018, to 18,40%, in 2024. This significant increase is due to three main drivers. The first one, concerns Rheinmetall's operation leverage, with a rapid revenue growth, while the fixed costs of all structure (including personnel expenses and overhead industrial materials) grow at a much slower pace, which results in automatic margin expansions. Following, the renovated product's

portfolio of the company, ranging from high-calibre ammunition and electronic systems, has margins structurally superior to the commercial vehicles and automobile components sectors. Lastly, the fact that Rheinmetall is already consolidated within the defence industry, with high developed infrastructures and factories, it can benefit from economies of scale, reducing its fixed costs per unit produced, while increasing the global production capacity (Koller et al., 2020).

Regarding the research and development expenses evolution, in Annex D, it is worth to explain that the progressive decline in R&D as a percentage of total revenue, during the historical period, does not reflect any kind of divestment on this division or slower modernization on their products or services. This should not be interpreted as a reduction of Rheinmetall's commitment to innovation, but rather as a reflection of the disproportionate revenue growth relative to the company's largely fixed R&D cost base.

3.6.3. Financial Ratios

Beyond revenue and margin dynamics, a comprehensive financial assessment requires the analysis of key financial ratios that capture the company's efficiency, profitability, liquidity and financial resilience. This section presents the most relevant indicators across two dimensions: profitability ratios, which measure how effectively Rheinmetall converts its capital and assets into returns, and solvency and liquidity ratios, which assess the company's financial structure and its ability to meet both short and long-term obligations. Where relevant, the evolution of these ratios over the historical period is directly linked to the cost of capital assumptions embedded in the valuation model.

Examining the Annex E, we can observe an overall increase on Rheinmetall's profitability ratios, over the historical period, with 2020 as a negative exception due to the outbreak of the COVID-19 pandemic.

For such a capital-intensive industry like defence, ROIC is the most relevant profitability indicator. Its significant growth from 11,63%, in 2018, to 15,28%, in 2024, demonstrates that the company is generating returns above its cost of capital throughout the explicit forecast period, creating positive economic value added for shareholders.

Regarding the ROE, it has followed a similar trend reflecting the combination of higher margins and a more efficient capital structure.

Concerning Rheinmetall's liquidity, in Annex F, the current and quick ratios have both conveyed a decreasing trend during the historical period, registering 1,21 and 0,46, in 2024,

respectively. Comparing to other industries, these ratios may seem very low, but due to its long-term contracts character, the defence sector can still operate with this relatively low current ratio, without raising any liquidity issues (Hartley, 2007). Rheinmetall is a perfect example of this defence sector specificity, given that its cash flows are contractually guaranteed.

On the other hand, the significant reduction of the quick ratio from 2021 onwards is primarily associated with the build-up of inventories linked to the production ramp-up, as Rheinmetall expanded its manufacturing capacity to meet the growing order backlog, increasing current liabilities at a faster pace than liquid assets.

Still in Annex F, it is important to highlight the health of the company's solvency indicators. The debt-to-equity ratio has increased from 35,1%, in 2021, to 54,27%, in 2024. Although it is a significant increase in a 3-year period, Rheinmetall's capital structure is still conservative, as equity continues to represent the dominant source of financing, accounting for approximately 65% of total capital, which is directly reflected in the WACC of 8.71% adopted in this valuation model, reflecting the predominance of equity financing in the company's capital structure and the associated cost of equity.

Additionally, the interest-coverage ratio above 15x in 2024, confirms that Rheinmetall has the full capacity to take advantage of its current debt, without struggling to pay it over time. The net debt/EBITDA of 0,69x in 2024, also emphasizes the excellent financial health of Rheinmetall, and its interpretation suggests the company could repay its entire net debt in approximately 8 months. Comparing to other industries, this ratio is particularly low, which also proves that, besides its continued development and modernization, Rheinmetall still holds a considerable amount of cash, ready to be allocated to the right investments.

3.6.4. Stock Performance

The final dimension of Rheinmetall's financial assessment concerns its performance in the equity markets over the historical period under analysis. Stock price evolution reflects the aggregation of investor expectations regarding the company's future cash flows, growth prospects and risk profile, making it a valuable complement to the fundamental analysis conducted in the preceding sections. This section examines Rheinmetall's share price trajectory from 2018 to the valuation date of December 31st, 2024, benchmarked against the DAX index, identifying the key catalysts that drove the company's extraordinary market outperformance during this period.

Analysing Figure 3-1, it is easy to point out the extraordinary stock performance of Rheinmetall, appreciating from 106,5 euros in January 2018, to 615,6 euros at the valuation date, an overall share price increase of around 480%, comparing with the DAX performance, which registered a 58% appreciation, during the same period.



Figure 3-1 Rheinmetall AG vs DAX - Indexed Performance (Base 100: January 2018)

Source: Yahoo Finance

During the historical period, it is relevant to highlight the two most important inflexion points, which contributed directly to the previously described Rheinmetall's stock performance. The first one is linked with the invasion of Ukraine by Russian troops, which led to an almost immediate increase in the demand for weapons and ammunitions and consequent public defence expenditure, through urgent NATO contracts, not only to rearm the battlefield territory but all the main European armies. The second marking event was the public listing of Rheinmetall in the DAX, which positioned the company as big German defence player, and attracted new institutional investors, who are obliged to replicate the German stock index.

The astonishing Rheinmetall's stock overperformance, over the historical period, constitutes the primary motivation for this equity valuation. Given this extraordinary appreciation, it is essential to understand whether Rheinmetall's market price of 615,60 euros at the valuation date accurately reflects its intrinsic value, or whether a significant premium or discount exists relative to the fundamentals assessed in the following valuation chapter.

4. Valuation

This chapter presents the intrinsic value estimate for Rheinmetall's shares as of 31st of December 2024. This valuation combines both the DCF framework as the principal method and the relative valuation as a complementary approach. The valuation model comprises three distinct scenarios: Bear, Base and Bull, each relying on different assumptions and economic realities. Additionally, the sensitivity analysis tests the resilience of the company's current conditions, which contribute directly to the intrinsic value estimate. By the end of this chapter, the results and key findings of the valuation will be presented in a dynamic dashboard oriented to investors' decision-making process.

It is worth noting that the financial performance analysis conducted in the preceding chapter provides the empirical foundation for the assumptions adopted throughout this valuation.

4.1. Valuation Assumptions

This section presents the key assumptions underpinning the valuation model, organized by category. The historical analysis developed along Chapter 3, complemented by the macroeconomic and sectorial expectations described in Chapter 2, serve as the foundation for the definition of the various assumptions adopted throughout this valuation model. Given the uncertainty inherent to any forward-looking analysis, three distinct scenarios are incorporated into the model, each reflecting a different set of assumptions about Rheinmetall's growth trajectory and macroeconomic environment.

4.1.1. Revenue Growth

Revenue growth assumptions are a key input in equity valuations, as they directly influence the projected free cash flows, and consequently the later estimated equity value of the firm.

Observing Table 4.1, the revenue growth projections on the Base scenario incorporate the continuation of the Rheinmetall's current momentum, which are expected to increase constantly until 2027, where it reaches its highest point of 36%. From 2028 onwards a normalization of the revenue is expected, registering 20% in 2030.

Table 4.1 Rheinmetall's annual revenue growth projections (%), by scenario (2025-2030)

YoY Revenue Growth	2025E	2026E	2027E	2028E	2029E	2030E
Bear scenario	18,0	22,0	24,0	20,0	18,0	15,0
Base scenario	24,0	35,0	36,0	28,0	26,0	20,0
Bull scenario	28,0	42,0	40,0	32,0	30,0	24,0

Source: Own estimates

These growth assumptions are mainly supported by the accumulated record backlog of 54,9 billion euros in 2024, sufficient to support the double-digit growth rates between 2025 and 2027, with the later gradual normalization, as backlog execution progresses and the revenue growth rates converge to more sustainable levels until 2030. The Vehicle Systems and Weapons & Ammunition segments are the ones driving most of the revenue growth assumption along this valuation model, due to benefiting directly from the European rearmament agreements.

Taking a closer look to Table 4.1, it is also essential to point out the main reasons supporting the different revenue growth assumptions for the Bear and Bull scenarios. The Bear scenario assumes a deceleration of the European rearmament, which can be explained by a resolution or negotiated moderation of the conflict in Ukraine, translating into a more conservative growth and higher margin's pressure not only for Rheinmetall, but for the defence sector as a whole. The Bull scenario reflects the possibility of an acceleration of revenue growth resulting from an increase of NATO's spending target to 2,5% or 3% of the GDP, along with the potential escalation of the conflict with Russia or the rapid entrance of Rheinmetall in other non-European markets, such as the Middle East and Asia, reflected in a projected revenue growth of 40%, by 2027, in the most optimistic scenario. A feature common to all the three scenarios stands at the increase of the revenue's growth projections from 2025 to 2027, which is mainly due to the already signed contracts with NATO, which guarantee to pay the agreed amounts regardless of the prevailing geopolitical context at the time, so again linked with the accumulated backlog.

4.1.2. EBITDA Margin

Following the revenue growth assumptions, projected EBITDA margins reflect the expected evolution of the company's operating profitability over the explicit forecast period.

As established in the financial performance analysis of Section 3.6.2, the EBITDA margin expansion is driven by three reinforcing dynamics: operational leverage, product mix improvement towards higher-margin defence segments, and economies of scale. These factors are expected to continue operating throughout the forecast period, supporting a progressive margin expansion from 18,4%, in 2024, to 21,5%, by 2030, in the base case scenario, as shown in Table 4.2.

Table 4.2 Rheinmetall's actual and forecasted EBITDA margins (%) (2024-2030)

EBITDA Margin	2024A	2025E	2026E	2027E	2028E	2029E	2030E
Bear scenario	18,4	17,0	18,0	18,0	19,0	19,0%	20,0%
Base scenario	18,4	19,0	19,5	20,0	20,5	21,0%	21,5%
Bull scenario	18,4	20,0	22,0	23,0	24,0	24,0%	25,0%

Source: Own estimates

Concerning the Bear scenario, Rheinmetall's margin expansion is much more limited because the slower revenue growth reduces the benefit of the operational leverage and, consequently, results in a slower modernization of their products and processes. Conversely, the Bull scenario projects a more accelerated expansion of the EBITDA margin of 25% as of 2030, driven by a greater revenue growth and higher fixed costs dilution per unit produced.

4.1.3. CAPEX and Working Capital

Capital expenditure and working capital assumptions complement the operating forecasts by reflecting the expected investment requirements and operating funding needs throughout the explicit forecast period.

In this valuation model the CAPEX for the explicit forecast period is projected taking into consideration the historical average as percentage of the revenue and later adjusted to reflect the on-going production capacity expansion cycle of Rheinmetall. Concerning the working capital needs presented in Table 4.3, as percentage of revenue they are expected to constantly decrease during the explicit forecast period, representing 15%, in 2025, and 9% in 2030.

Table 4.3 Rheinmetall's CAPEX and working capital (WC) changes actual values and projections (2024-2030)

CAPEX & WC changes	2024A	2025E	2026E	2027E	2028E	2029E	2030E
CAPEX (€M)	772	1 106	1 411	1 806	2 167	2 548	2 621
CAPEX (% Revenue)	7,8	9,0	8,5	8,0	7,5	7,0	6,0
Δ WC (€M)	-343	221	313	325	406	387	655
Δ WC (% Revenue)	16,4	15,0	13,0	11,0	10,0	9,0	9,0

Source: Own estimates

The initial increase in CAPEX, in 2025, reflects the peak investment phase, which is associated with the construction of new high-technological facilities in Ukraine, Hungary and Australia, and after which capital expenditure as a percentage of revenue is expected to decline progressively as these investments become operational. The progressive reduction in working capital as a percentage of revenue is explained by the expected improvement in Rheinmetall's operational efficiency as production processes scale and develop, combined with the company's increasing leverage over suppliers through long-term procurement agreements, which reduce

the company's need for large inventory buffers. This assumption is consistent with the historical trend observed between 2021 and 2024, where working capital intensity declined as the company's revenue base expanded.

4.1.4. Tax Rate

Two distinct tax rate assumptions are applied throughout this valuation model, reflecting the different contexts in which each is used. Concerning the WACC calculation, the effective tax rate considered corresponds to the historical average implied tax rate registered between 2018 and 2024, amounting to 26,2%, as it best reflects the company's actual tax burden over the historical period. For the FCFF projections across the explicit forecast period, a tax rate of 30% is applied, consistent with Rheinmetall's own forward-looking vision disclosed in its Annual Report 2024 (Rheinmetall AG, 2024b). This distinction ensures that the cost of capital reflects the historical reality while the cash flow projections incorporate the company's own expectations regarding its future fiscal position.

4.1.5. Terminal Growth Rate

The terminal growth rate of 2,5% was defined as slightly above the ECB's medium-term inflation target of 2%, consistent with the expected long-term nominal GDP growth of the Eurozone (International Monetary Fund, 2024), and in line with Damodaran (2012) recommendation, that the TGR should not exceed the nominal economic growth of the economy in which the company operates. In the Bear and Bull scenarios, the TGR is adjusted to 2% and 3% respectively, to reflect a more conservative and a more optimistic long-term macroeconomic outlook.

4.1.6. WACC

This section details the calculation behind the WACC rate, used then as the discount rate in this valuation model. The theoretical foundations of WACC have already been presented in the literature review chapter, and so this section focus exclusively on the specific parameters adopted in the model, presented on Table 4.4, and in their justification specifically in the context of Rheinmetall.

Table 4.4 Rheinmetall's WACC individual components

Component	
Risk-free rate (r_f)	2,362%
Unlevered beta (β_u) - industry average (2021-2024)	0,825
Levered beta (β_L) - Rheinmetall	0,845
Expected return on market's portfolio (r_m)	10,0%
Country risk premium (CRP)	0,0%
Cost of equity (r_e)	8,82%
Pre-tax cost of debt (r_d)	7,27%
Effective tax rate (historical average)	26,23%
After-tax cost of debt	5,36%
Equity weight	96,74%
Debt weight	3,26%
WACC	8,71%

Source: Own estimates

Starting with the risk-free rate of 2,362%, it corresponds to the yield of the 10-year German government bonds (also known as Bunds) registered at the valuation date. Using the German bunds as proxy for the risk-free rate is a consistent and standard approach used in equity valuations for Eurozone companies, given that Germany holds the highest sovereign credit rating among Europe (AAA) and its bonds work as “an important benchmark for pricing other financial instruments in the euro area” (Bundesbank Publications, 2024), which also implies a CRP of 0%, for the case of Rheinmetall. The capital structure weights applied in the WACC calculation are based on market values at the valuation date, with equity representing 96,7% and debt 3,3% of the total capital, consistent with the standard methodology recommended by Damodaran (2012). This differs from the book-value based debt-to-equity ratio of 54,27% presented in the financial analysis chapter, which reflects the accounting structure rather than market-based weights.

Concerning the beta parameters, firstly the unlevered beta was defined as the industry average between 2021 and 2024, instead of using the historical average beta of the company itself. This approach is methodologically justified by the strategic transformation that Rheinmetall has been executing in the last few years, with the progressive divestment of automotive activities and the exclusive concentration on defence, which have significantly altered the company's risk profile, turning its historical beta potentially not representative of the future risk. The industry's unlevered beta of 0,825 was then levered using Equation (10), which incorporates the actual capital structure of Rheinmetall, to obtain the levered beta of 0,845, used later on the CAPM formula. The expected return on the market portfolio (r_m) of

10% was obtained from Damodaran (2024) database, which constitutes the academic and professional standard reference for this parameter.

The combination of the parameters above-described results in a WACC rate of 8,71%, which serves as the base discount rate for the projected FCFFs for the explicit forecast period. Although this WACC rate seems high when comparing to other industrial sectors, it mirrors essentially the cost of equity of the company, which by itself incorporates the market risk premium and Rheinmetall's sensitivity to the economic and geopolitical on-going cycles. The sensitivity of the company's intrinsic value to WACC variations is explored in detail on the sensitivity analysis section, further on this valuation.

4.2. DCF Valuation

This section presents the results obtained through the DCF method for the Base scenario, which is the scenario that constitutes the reference for the final investment recommendation. The results concerning both Bear and Bull scenarios will be described in the following scenario analysis section. This DCF method discounts the projected FCFFs at the WACC rate of 8,71% to obtain the enterprise value, from which the intrinsic value per share is derived.

The projected FCFFs follow a consistent ascending trajectory throughout the explicit forecast period, growing from 492 million euros, in 2025, to 3 953 million euros, in 2030, which represents an approximately eightfold increase over six years (see Annex G). This significant growth is mainly driven by two complementary dynamics: the accelerated revenue expansion supported by the record accumulated backlog, documented in Section 2.2.2, and the progressive EBITDA margin improvement resulting from operational leverage and product portfolio renovation towards higher margin defence segments, as established in the financial performance analysis of Section 3.6.2.

It is also noteworthy that the FCFFs in the early years of the explicit forecast period, specifically 2025 and 2026, remain relatively modest despite the strong revenue growth projected, which can be explained due to the elevated CAPEX requirements linked with the ongoing production capacity expansion; a trend that gradually reverses as the capital expenditure needs normalise from 2028 onwards.

The TV of 65 269 million euros, shown in Table 4.5, was estimated using the Gordon Growth Model applied to the final year FCFF, as formally defined in Equation (4) of the literature review chapter, using the base case TGR of 2,5% and WACC of 8,71%. The present value of the TV accounts for approximately 83% of the total Enterprise Value, a proportion

slightly above the typical range of 70-80% observed in standard DCF valuations, which reflects the high growth profile embedded in the base case scenario and the relatively short explicit forecast period of six years. This elevated contribution of the TV to the EV is inherent to the DCF model's nature when applied to growing companies, and not only for the case of Rheinmetall (Nissim, 2019), and it further underscores the sensitivity of the valuation to the WACC and TGR assumptions, which is explored in detail in the sensitivity analysis section.

Table 4.5 Rheinmetall's intrinsic value per share components, as of 31/12/2024

Intrinsic value per share components	
PV of FCFFs (2025-2030) (€M)	7 966
Terminal value (€M)	65 269
PV of terminal value (€M)	39 551
Enterprise value (€M)	47 517
+ Non-operating assets (€M)	2 212
- Net debt (€M)	900
Equity value (€M)	48 829
Shares outstanding (M)	43,56
Fair value per share (€)	1 121,03
Market price at the valuation date (€)	615,60
Upside/downside (%)	82,1
Recommendation	Buy

Source: Own estimates

Still in Table 4.5, under the Base case scenario, the DCF model yields a fair value of 1 121,03 euros per share, representing a significant upside potential of approximately 82,1% relative to the market price of 615,60 euros observed at the valuation date of December 31st, 2024. The upside potential reflects the market's apparent discounting of the structural demand shift triggered by the European rearmament cycle, which the Base scenario projects will continue to drive above-average revenue growth and margin expansion throughout the explicit forecast period.

4.3. Scenario Analysis

To account for the inherent uncertainty of any forward-looking analysis, this valuation model incorporates three distinct scenarios, each reflecting a different set of assumptions regarding Rheinmetall's revenue growth trajectory, profitability, cost of capital and long-term growth rate. The key assumptions and results for each scenario are summarised in Table 4.6:

Table 4.6 Scenario comparison of Rheinmetall's intrinsic value per share estimation

Scenario comparison	Bear	Base	Bull
Revenue CAGR 2030 (%)	15,00	20,00	24,00
EBITDA margin 2030 (%)	20,00	22,00	25,00
WACC (%)	9,50	8,71	7,50
TGR (%)	2,00	2,50	3,00
Fair Value (€)	512,42	1 121,03	2 339,67
Vs market at valuation date (%)	-16,76	82,10	280,06
Recommendation	Sell	Buy	Buy

Source: Own estimates

The Bear scenario assumes a deceleration of the European rearmament momentum, potentially triggered by a ceasefire or negotiated resolution of the conflict in Ukraine, translating into more conservative revenue growth and a higher WACC of 9,5%, reflecting higher perceived risk. Under this scenario, the fair value of 512,42 euros per share represents a downside of approximately 17% relative to the market price at the valuation date, supporting a sell recommendation. The Base scenario, which serves as the reference case for the final investment recommendation, incorporates the continuation of Rheinmetall's current growth momentum, with gradual normalisation of revenue growth rates towards the end of the explicit forecast period. Finally, the Bull scenario reflects the possibility of an acceleration beyond the base case, driven by a potential increase of the NATO spending target to 2,5% or 3% of GDP, rapid expansion into new non-European markets, or an escalation of the geopolitical conflict, yielding a fair value of 2 339,67 euros per share and an upside of approximately 280%.

The Base case scenario was adopted as the reference case for the final investment recommendation for two main reasons. First, it incorporates the most balanced set of assumptions, grounded in the structural demand dynamics identified throughout this research while acknowledging the execution risks associated with Rheinmetall's ambitious growth trajectory. Second, the Bear and Bull scenarios represent tail risks, with plausible but less probable outcomes, whose materialisation would require a significant reversal or acceleration of the current geopolitical and industrial dynamics. The wide dispersion of fair values across the three scenarios, ranging from 512 to 2 340 euros per share, underscores the high sensitivity of the valuation to geopolitical assumptions and reinforces the importance of the sensitivity analysis presented in the following section.

4.4. Sensitivity Analysis

The goal of this section is to test the robustness of the Rheinmetall's intrinsic value estimate towards the variation of the most critical drivers impacting this valuation model. Thus, four

sensitivity analyses are conducted; the first one examines how the WACC varies in response to changes in its underlying components, providing an important insight concerning the cost of capital dynamics; the remaining three analyses test the sensitivity of the fair value per share to simultaneous variations in the most critical operational and valuation parameters: the WACC and TGR, which are the primary drivers of the terminal value, accounting for approximately 83% of the Enterprise Value, the EBITDA margin and revenue growth, and finally the CAPEX intensity and revenue growth.

The Base case WACC of 8,71% corresponds to the intersection of the levered beta of 0,845 and the expected market return of 10% (see Annex H). The results confirm that the WACC is highly sensitive to both parameters: moving from the base case beta of 0,845 to a higher beta of 1,245 would increase the WACC to 11,66%, which could be justified by a scenario where the market reassesses Rheinmetall's systematic risk upwards due to an increase on geopolitical volatility. Conversely, a reduction in the expected market return from 10% to 7%, consistent with a lower-risk environment, *ceteris paribus*, would reduce the WACC to 6,25%, a scenario that would substantially amplify the fair value estimate relative to the Base case. It is also noteworthy that for very low beta values, the WACC becomes relatively insensitive to changes in the market return, while at higher beta levels the sensitivity increases markedly, a dynamic that is particularly relevant for Rheinmetall given the potential for its risk profile to evolve as the European defence sector matures and institutional coverage expands.

The sensitivity of the fair value per share to simultaneous variations in the WACC and the TGR are the two parameters with the greatest impact on the terminal value. The results confirm the significant sensitivity of the valuation to these inputs: a simultaneous increase of 1 percentage point in the WACC and a decrease of 1 percentage points in the TGR, relative to the Base scenario assumptions, reduces the fair value per share to approximately 987,41 euros, while the inverse scenario increases it to approximately 1 305,97 euros (see Annex I). This wide range of outcomes underscores the importance of interpreting the Base case result in conjunction with the scenario and sensitivity analyses, rather than in isolation.

The sensitivity analysis of the fair value per share to variations in the EBITDA margin and the revenue growth rate assumptions is particularly relevant given that both variables are subject to the execution risk, namely, the margin expansion depends on Rheinmetall's ability to scale efficiently, while the revenue growth depends on the timely conversion of the order backlog into recognised revenue. The results show that a reduction of 7,5% in the EBITDA margin combined with a 5% decrease in revenue growth rate over the Base scenario assumptions, in 2030, would bring the share price estimate to 578,70 euros, so below the market price at the

valuation date, reinforcing the importance of the Bear scenario as a risk boundary (see Annex J).

The combined sensitivity to CAPEX intensity and revenue growth reveal that the fair value is considerably more sensitive to CAPEX intensity than to revenue growth variations within the range tested. A reduction of 3 % in CAPEX, as a proportion of revenue, from 7.5% to 4.5%, with the revenue growth fixed at 20%, increases the fair value by approximately 320 euros per share (see Annex K). Conversely, a variation from 5% to 35% in revenue, with the CAPEX fixed at 6%, produces a modest improvement of approximately 41,20 euros per share. This asymmetry reflects the fact that CAPEX is already expressed as a percentage of revenue, meaning that higher revenue growth proportionally increases capital expenditure requirements, partially offsetting the cash flow benefit of the additional revenue. This result highlights the importance of capital efficiency in Rheinmetall's production ramp-up, reflected in the ability to scale revenue without a proportional increase in capital intensity, as a key determinant of the intrinsic value along this model.

Overall, the sensitivity analyses confirm that the Base case fair value of 1 121,03 euros per share is sensitive primarily to macroeconomic and cost of capital assumptions, in particular to the WACC and TGR, and secondarily to operational execution, underscoring the centrality of the geopolitical context to any investment decision regarding Rheinmetall.

4.5. Relative Valuation

As a complementary method to the DCF, the relative valuation is often used to evaluate a company's intrinsic value anchored to observed market prices and a peer group of companies. Along this section, the relative valuation results are presented, considering the four multiples presented in Section 1.3 and Rheinmetall's peer group of companies, including BAE Systems, General Dynamics, Hanwha Aerospace, Leonardo SPA, SAAB, Singapore Tech Engineering and Thales.

Concerning the methodology applied, after gathering all the information needed to compute the different multiples for each peer company, the group average was computed for each metric, from 2018 to 2024. Then, in order to exclude possible outliers that could skew the valuation results, a range was defined between the average minus one standard deviation and the average plus one standard deviation, following the recommendation of Damodaran (2006), to adjust fundamental differences between peer companies. The adjusted group average was then applied to assess the implicit share value of Rheinmetall through the relative valuation.

As shown in Table 4.7, the relative valuation yields an average implied Rheinmetall's fair value of 386,96 euros per share, significantly below both the market price of 615,60 euros and the DCF-derived fair value of €1 121,03. This divergence between the two methodologies is not necessarily contradictory, rather, it reflects the different perspectives that each method captures.

Table 4.7 Multiples comparison between Rheinmetall and its peer group, in 2024

Multiples	Peer group adj. average	Rheinmetall's multiples	Rheinmetall vs peer group (x)
PER	18,32	37,35	2,04
PBV	3,29	6,01	1,82
EV/EBITDA	12,43	15,39	1,24
EV/Revenues	1,68	2,82	1,68
Implicit Rheinmetall's share price (€)	386,96	615,60	-

Source: own estimates

Notably, Rheinmetall's actual market multiples already trade at a significant premium relative to the peer group average, 2,04x on PER and 1,82x on PBV, suggesting that the market has partially priced in the company's superior growth profile. This premium partially explains why the multiples-implied fair value falls below the current market price, as the relative valuation anchors the estimate to peer averages rather than to Rheinmetall's own elevated trading multiples. By contrast, the DCF model explicitly captures the long-term structural demand shift and the projected margin expansion, translating the full potential of the backlog into estimated future cash flows.

Beyond the methodological differences, the relative valuation is subject to a specific limitation in the context of Rheinmetall: the company is undergoing an accelerated strategic transformation that historical peer multiples do not fully capture. The peer group, while selected to maximise comparability in terms of business sector, size and capital structure, includes companies at different stages of their growth cycles and with varying degrees of exposure to the European rearmament dynamic. Furthermore, as noted in the literature review, if the market is systematically undervaluing the defence sector, as the DCF results also suggest, the multiples will reflect that distortion rather than the fundamental value.

4.6. Investor-oriented Dynamic Dashboard

After justifying the assumptions considered along this valuation model and presenting the implicit results from the different methods in detail, the investor-oriented dashboard was built as a complementary tool to the previously detailed written analysis. The principal objective of

this dashboard is to summarize the key valuation findings and results in a visual appealing, dynamic and decision-making oriented format.

The dashboard is organised into two main sections. The first section, displayed in Figure 4-1, provides a comprehensive overview of Rheinmetall's historical financial performance and market data.

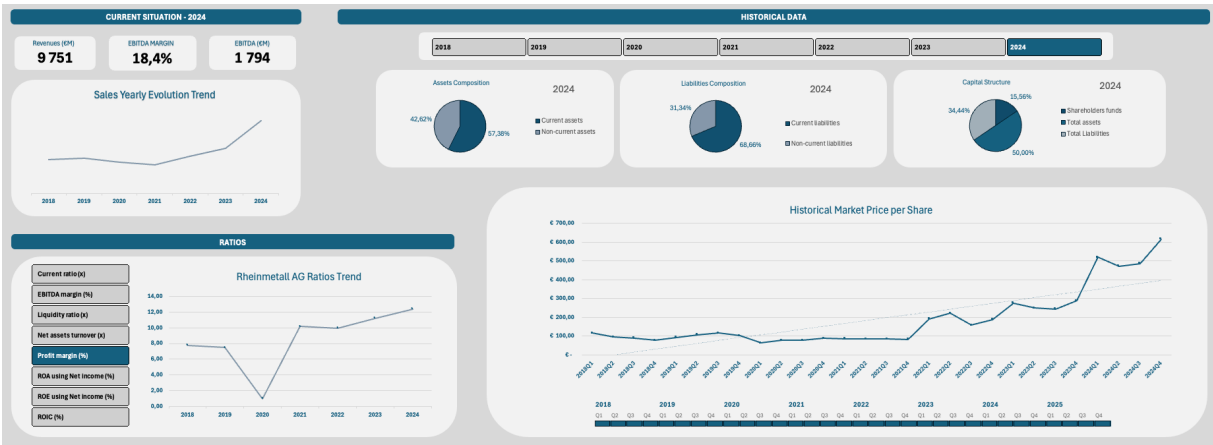


Figure 4-1 Dashboard features – Historical data

Source: Own elaboration

The top-left panel presents some key metrics such as the total revenue and EBITDA, for 2024, which offers an immediate snapshot of the company's recent operational scale. Below, the Sales Yearly Evolution Trend chart tracks the revenue trajectory during the historical period, capturing the three-phase evolution previously identified in the financial analysis chapter, reflecting the initial contraction followed by the moderate recovery and the structural acceleration from 2022 onwards. The top-right section presents the balance sheet composition for each year, with an interactive year selector allowing the user to navigate across the historical period and observe the evolution of asset composition, liabilities and capital structure across dynamic pie charts. The bottom-left panel displays the evolution of the most relevant financial ratios, including the current ratio, EBITDA margin, liquidity ratio, net assets turnover, profit margin, ROA, ROE and ROIC, alongside a Rheinmetall Ratios Trend chart that illustrates their historical evolution. Finally, the right panel presents the Historical Market Price per Share, plotting Rheinmetall's share price from 2018 to the valuation date, providing the market performance context discussed in the stock performance section.

The second section of this dashboard, presented in Figure 4-2, centralises the valuation results in an investor-oriented layout.

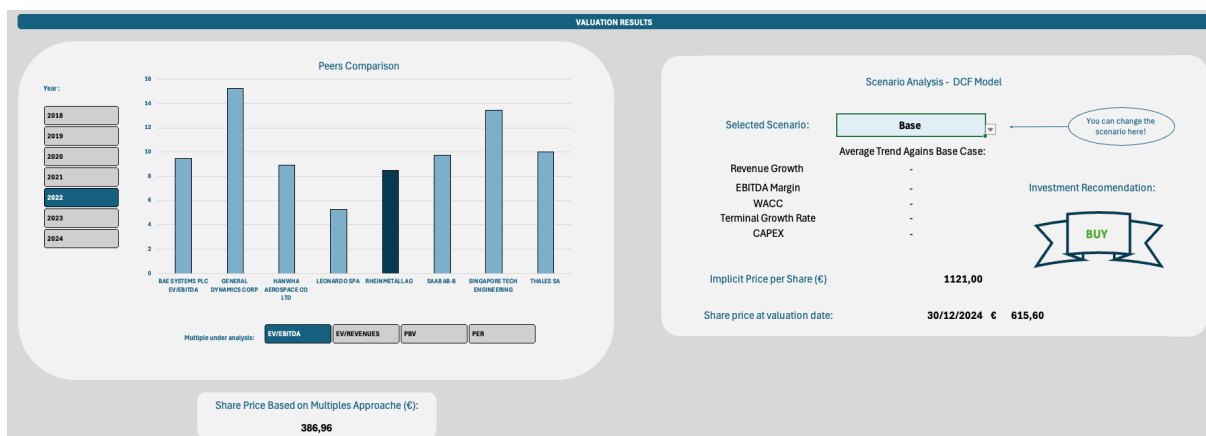


Figure 4-2 Dashboard features – Valuation results presentation

Source: Own elaboration

The left panel displays the Peers Comparison chart, showing all the multiples used in the relative valuation, for each one of the seven peer companies alongside Rheinmetall, with interactive buttons allowing the user to toggle between the four multiples under analysis, over the historical period. The implied share price based on the multiples approach, 386,96 euros, is presented below the chart, providing an immediate visual benchmark. The right panel presents the Scenario Analysis results from the DCF model, featuring a scenario selector that allows the user to switch dynamically between the Bear, Base and Bull scenarios. For each selected scenario, the panel displays the average trend assumptions relative to the base case across the five key variables, including revenue growth, EBITDA margin, WACC, terminal growth rate and CAPEX, alongside the resulting implicit price per share and the market price at the valuation date. The investment recommendation, generated dynamically based on the selected scenario, is prominently displayed as a visual badge, BUY in the base case scenario shown, providing an immediate and unambiguous signal for the investor.

This self-built Excel dashboard draws inspiration from the summary pages standardly included in professional equity research reports produced by sell-side analysts, where a single visual interface synthesises the key valuation metrics, scenario outputs and investment recommendation for rapid consumption by portfolio managers and institutional investors. By incorporating this element, this valuation aims to demonstrate that rigorous fundamental analysis need not be confined to static tables and written commentary but rather can be communicated in a format that is simultaneously academically rigorous and practically relevant, reducing the information gap between the complexity of the underlying model and the clarity required for informed investment decision-making.

4.7. Valuation Results – Synthesis

This section synthesises the valuation results from all the methods and scenarios applied along Chapter 4. It terminates with an investment recommendation based on these same valuation results.

The results presented in Table 4.8 reveal a significant dispersion across the different valuation methods and scenarios, reflecting the inherent uncertainty associated with Rheinmetall's current strategic and geopolitical contexts.

Table 4.8 Valuation results summary

Valuation method	Fair Value (€)	vs Market Price (%) (615,60€ at 31/12/2024)	Recommendation
DCF - Bear scenario	512,42	-16,8	SELL
DCF - Base scenario	1 121,03	82,1	BUY
DCF - Bull scenario	2 339,67	280,1	BUY
Relative valuation	386,96	-37,1	SELL

Source: Own estimates

The DCF Base and Bull scenarios point to a substantial upside potential, driven by the structural demand shift of the European rearmament cycle and the company's projected margin expansion. By contrast, the Bear scenario and the relative valuation suggest a downside risk, anchored respectively in a more conservative geopolitical outlook and in the current market pricing of comparable companies. This divergence is not a contradiction but rather a reflection of the different time horizons and assumptions that each method captures. The multiples and the Bear scenario represent the market's current risk-adjusted view, while the DCF Base case captures the full long-term fundamental potential of the company.

Based on the comprehensive analysis conducted throughout this valuation, the investment recommendation for Rheinmetall AG's shares as of December 31st, 2024, is a buy, grounded in the Base DCF scenario. This recommendation reflects the conviction that the structural demand drivers previously identified, including the European rearmament cycle, the record order backlog, and the ongoing margin expansion, are sufficiently robust to support the projected revenue growth and profitability improvement over the explicit forecast period. However, this recommendation is subject to the materialisation of the base case assumptions, meaning that a ceasefire in Ukraine, a significant reversal of NATO defence spending commitments, or material execution failures in Rheinmetall's production ramp-up could shift the investment case towards the Bear scenario, warranting a reassessment of the investment recommendation.

Conclusion

This project's main objective was to estimate the intrinsic value of Rheinmetall AG's shares as of 31st of December 2024, and to assess then whether the company's stock was overvalued or undervalued relative to its market price of 615,60 euros at that valuation date. To achieve this objective, two complementary valuation methods were applied: the DCF method, using the Free Cash Flow to the Firm approach as the primary method, and the relative valuation through market multiples as a complementary approach. The analysis was conducted across three distinct scenarios, Bear, Base and Bull, each reflecting a distinct set of assumptions regarding Rheinmetall's revenue growth trajectory, profitability and cost of capital, anchored in the structural dynamics of the European rearmament cycle and the company's ongoing strategic transformation into a pure-play defence company.

The valuation results reveal a significant dispersion across methods and scenarios, reflecting the inherent uncertainty of the current geopolitical and industrial contexts. Under the Base scenario, adopted as the reference case throughout this analysis, the DCF-derived fair value of 1 121,03 euros per share confirms the buy recommendation initially outlined in the introduction, translating into an upside of approximately 82% relative to the market price observed at the valuation date. The Bear scenario, assuming a deceleration of the European rearmament momentum, produces a fair value of 512,42 euros per share, implying a downside of 16,8% and a sell recommendation. The relative valuation, anchored to the current market pricing of seven comparable defence companies, yields an implied fair value of 386,96 euros per share, also below the market price. Based on the comprehensive analysis conducted, the investment recommendation issued is a buy, grounded in the Base case DCF scenario, which incorporates the most balanced set of assumptions regarding Rheinmetall's growth potential and execution risks. The divergence between the DCF and the multiples approach reflects different perspectives rather than a contradiction — the DCF captures the full long-term structural demand shift embedded in the record order backlog of 54,97 billion euros, while the multiples anchor the valuation to peer companies that may be pricing in more conservative geopolitical assumptions.

This analysis is subject to three main limitations. First, the valuation is highly dependent on forward-looking assumptions, in particular revenue growth rates and EBITDA margin projections, which are inherently uncertain and sensitive to geopolitical developments beyond the scope of fundamental analysis. Second, as demonstrated by the sensitivity analyses, the fair value estimate is highly sensitive to the WACC and TGR parameters, which together drive the

terminal value representing approximately 83% of the Enterprise Value, amplifying the impact of small variations in these inputs. Third, the relative valuation is constrained by the difficulty of identifying truly comparable peers in such a specific and regulated industry, where differences in business mix, geographic exposure and growth stage limit the direct comparability of multiples.

Future research could explore the impact of ESG exclusion frameworks on the cost of capital of defence companies, a paradox that is becoming increasingly relevant as institutional investors navigate the tension between sustainable finance principles and the growing strategic importance of the European defence industry. Additionally, the potential consolidation of the European defence sector, supported by the EDIS framework launched in 2024, could significantly alter the competitive landscape and warrant a reassessment of Rheinmetall's relative positioning and intrinsic value.

References

- Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate Confusion: The Divergence of ESG Ratings. *Review of Finance*, 26(6), 1315–1344. <https://doi.org/10.1093/rof/rfac033>
- Besancenot, D., & Vranceanu, R. (2006). EUROPEAN DEFENCE FIRMS: THE INFORMATION BARRIER ON PRIVATE FINANCE. *Defence and Peace Economics*, 17(1), 23–36. <https://doi.org/10.1080/10242690500216580>
- Bundesbank Publications. (2024, May 22). Financial markets - monthly report . <https://publikationen.bundesbank.de/publikationen-en/reports-studies/monthly-reports/monthly-report-may-2024-931608?article=financial-markets-931602%23Free-float-of-government-bonds-in-Germany-and-the-rest-of-the-euro-area>
- Damodaran, A. (2006). Valuation Approaches and Metrics: A Survey of the Theory and Evidence. *Foundations and Trends in Finance*, 1(8), 693–784.
- Damodaran, A. (2008). *Damodaran on Valuation: Security Analysis for Investment and Corporate Finance* (2nd edition.). Wiley Finance.
- Damodaran, A. (2012). *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* (3rd ed.). Wiley Finance .
- Damodaran, A. (2024). Damodaran's Database. <https://Pages.Stern.Nyu.Edu/~adamodar/>.
- Fama, E. F., & French, K. R. (2004). The Capital Asset Pricing Model: Theory and Evidence. *Journal of Economic Perspectives*, 18(3), 25–46. <https://doi.org/10.1257/0895330042162430>
- Fernández, P. (2007). Valuing companies by cash flow discounting: Ten methods and nine theories. *Journal of Applied Research in Accounting and Finance*, 2(1), 13–33.
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66. <https://doi.org/10.1016/j.jcorpfin.2021.101889>
- Gordon, M. J., & Shapiro, E. (1956). Capital Equipment Analysis: The Required Rate of Profit. *Management Science*, 3(1), 102–110. <https://doi.org/10.1287/mnsc.3.1.102>
- Gurdgiev, C., Henrichsen, A., & Mulhair, A. (2022). The budgets of wars: Analysis of the U.S. defense stocks in the Post-Cold War era. *International Review of Economics & Finance*, 82, 335–346. <https://doi.org/10.1016/j.iref.2022.06.023>
- Hamada, R. S. (1972). The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks. *The Journal of Finance*, 27(2), 435–452. <https://doi.org/10.2307/2978486>
- Hartley, K. (2007). *Handbook of Defense Economics* (T. Sandler & K. Hartley, Eds.; Vol. 2). Elsevier.
- International Monetary Fund. (2024, April). IMF Annual Report 2024. International Monetary Fund.
- Koller, T., Goedhart, M., & Wessels, D. (2020). *Valuation: Measuring and Managing the Value of Companies* (7th ed.). Wiley Finance.
- Leitzbach, Dr. C. (2024). Forced labor in the Nazi state. <https://www.rheinmetall.com/en/company/history/forced-labor-in-the-nazi-state>
- Lintner, J. (1965). The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *The Review of Economics and Statistics*, 47(1), 13. <https://doi.org/10.2307/1924119>
- Mauboussin, M. J., & Callahan, D. (2021). Everything is a DCF model: A mantra for valuing cash-generating assets.

- Möckel, A. (2022, February 27). Over EUR 100 billion for the Bundeswehr – and for our security. <https://www.bmvg.de/en/news/over-eur-100-billion-for-the-bundeswehr-and-for-our-security-5362626>
- Mossin, J. (1966). Equilibrium in a Capital Asset Market. *Econometrica*, 34(4), 768. <https://doi.org/10.2307/1910098>
- Nissim, D. (2019). Terminal Value. SSRN Electronic Journal, (Columbia Business School). <https://doi.org/10.2139/ssrn.3095564>
- North Atlantic Treaty Organization (NATO). (2022, June 29). Madrid Summit Declaration. <https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2022/06/29/madrid-summit-declaration>
- Phadermrod, B., Crowder, R. M., & Wills, G. B. (2019). Importance-Performance Analysis based SWOT analysis. *International Journal of Information Management*, 44, 194–203. <https://doi.org/10.1016/j.ijinfomgt.2016.03.009>
- Porter, M. E. (1979). How competitive forces shape strategy. *Harvard Business Review*, 57(2), 137–145.
- Rheinmetall AG. (2023a, July 20). Rheinmetall: A powerful partner at Ukraine's side . <https://www.rheinmetall.com/en/media/stories/2023/rheinmetall-a-powerful-partner-at-ukraine-side>
- Rheinmetall AG. (2023b, August 1). Rheinmetall completes acquisition of Spanish defence contractor Expal Systems. <https://www.rheinmetall.com/en/media/news-watch/news/2023/8/2023-08-01-rheinmetall-completes-acquisition-of-spanish-defence-contractor-expal-systems>
- Rheinmetall AG. (2024). Investor Relations. <https://ir.rheinmetall.com>.
- Sharpe, W. F. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *The Journal of Finance*, 19(3), 425. <https://doi.org/10.2307/2977928>
- SIPRI. (2024a). SIPRI Military Expenditure Database. Stockholm International Peace Research Institute. <https://doi.org/10.55163/CQGC9685>
- SIPRI. (2024b). The SIPRI Top 100 ranking, 2024. <https://www.sipri.org/visualizations/2026/sipri-top-100-ranking-2024>
- Slesnick, D. T. (2020). GDP and Social Welfare: An Assessment Using Regional Data. In B. M. Fraumeni (Ed.), *Measuring Economic Growth and Productivity: Foundations, KLEMS Production Models, and Extensions* (p. 508). Academic Press.
- Williams, J. B. (1938). The Theory of Investment Value. <https://ia601506.us.archive.org/18/items/in.ernet.dli.2015.225177/2015.225177.The-Theory.pdf>

Annexes

Annex A – Historic GDP annual growth (%) in the Euro area, G7, Germany and World (2018-2024)

Country/Region	2018	2019	2020	2021	2022	2023	2024
Euro area	1,78	1,63	-6,01	6,42	3,64	0,44	0,92
G7	2,12	1,72	-4,18	5,98	2,78	1,78	1,67
Germany	1,13	0,97	-4,13	3,91	1,81	-0,87	-0,50
World	3,64	2,96	-2,71	6,65	3,77	3,33	3,42

Source: IMF DataMapper

Annex B – Annual inflation rate (%), in the Euro area, Germany and World (2018-2024)

Country/Region	2018	2019	2020	2021	2022	2023	2024
Euro area	1,50	1,30	-0,30	5,00	9,20	2,90	2,40
Germany	1,80	1,50	-0,60	5,40	10,70	2,90	2,50
World	3,60	3,90	3,00	6,30	8,90	6,10	5,00

Source: IMF DataMapper

Annex C – Annual unemployment rate (%), in the Euro area and Germany (2018-2024)

Country/Region	2018	2019	2020	2021	2022	2023	2024
Euro area	8,20	7,55	7,93	7,73	6,74	6,54	6,35
Germany	3,19	2,95	3,63	3,60	3,14	3,08	3,39

Source: IMF DataMapper

Annex D - Rheinmetall's main revenue and cost metrics, in millions of euros (2018-2024)

Costs Structure	2018	2019	2020	2021	2022	2023	2024
Sales	6 148	6 255	5 875	5 658	6 410	7 176	9 751
Cost of goods sold (COGS)	3 209	3 444	3 058	2 745	3 183	3 935	4 859
Gross profit	2 939	2 811	2 817	2 913	3 227	3 241	4 892
Research and development (R&D)	336	355	372	337	351	375	502
Personnel expenses	1 574	1 678	1 723	1 643	1 836	2 047	2 373
EBITDA	812	775	648	959	996	1 154	1 794
EBIT	494	495	96	614	747	846	1 391
Net income	305	335	-27	291	474	535	717

Source: Bloomberg Terminal (Retrieved on 10/01/2026)

Annex E - Rheinmetall's profitability ratios (%) (2018-2024)

Profitability ratios	2018	2019	2020	2021	2022	2023	2024
Return on equity - ROE	16,17	16,16	-1,35	13,52	18,10	17,44	19,47
Return on assets – ROA	4,74	4,73	-0,37	3,88	5,99	5,40	5,50
Return on invested capital - ROIC	11,63	10,43	-0,91	12,44	12,30	13,12	15,28
Return on capital employed - ROCE	13,40	12,03	0,05	10,62	14,68	13,51	14,04

Source: Bloomberg Terminal (Retrieved on 10/01/2026)

Annex F - Rheinmetall's solvency and liquidity ratios (2018-2024)

Liquidity and solvency ratios	2018	2019	2020	2021	2022	2023	2024
Current ratio	1,46	1,52	1,50	1,49	1,41	1,30	1,21
Quick ratio	0,78	0,75	0,76	0,66	0,57	0,53	0,46
Debt-to-equity ratio (%)	39,36	43,66	49,83	35,10	31,42	52,51	54,27
Interest-coverage ratio (x)	20,58	15,00	2,29	23,62	31,13	10,32	15,46
Net debt/ EBITDA (x)	0,02	0,07	-0,01	-0,12	0,43	0,92	0,69

Source: Bloomberg Terminal (Retrieved on 10/01/2026)

Annex G - Rheinmetall FCFF's components, expressed in millions of euros (2025-2030)

FCFF components	2025E	2026E	2027E	2028E	2029E	2030E
Revenue	12 293	16 596	22 571	28 890	36 402	43 682
EBITDA	2 336	3 236	4 514	5 923	7 644	9 392
D&A	614	829	1 127	1 443	1 818	2 182
EBIT	1 722	2 407	3 387	4 480	5 826	7 210
Taxes (at 30%)	517	722	1 016	1 344	1 748	2 163
NOPAT	1 205	1 685	2 371	3 136	4 078	5 047
+ D&A	614	829	1 127	1 443	1 818	2 182
- CAPEX	1 106	1 411	1 806	2 167	2 548	2 621
- ΔWC	221	313	325	406	387	655
FCFF	492	790	1 367	2 006	2 961	3 953
Discount factor (x)	0,92	0,85	0,78	0,72	0,66	0,61
PV of FCFF	452	668	1 064	1 436	1 950	2 395

Source: Own estimates

Annex H - WACC sensitivity to levered beta and average market return

	Market Return							
	8,71%	1,00%	4,00%	7,00%	10,00%	13,00%	16,00%	19,00%
Levered Beta	0,245	2,14%	2,85%	3,56%	4,27%	4,99%	5,70%	6,41%
	0,445	1,87%	3,17%	4,46%	5,75%	7,04%	8,34%	9,63%
	0,645	1,61%	3,48%	5,36%	7,23%	9,10%	10,98%	12,85%
	0,845	1,35%	3,80%	6,25%	8,71%	11,16%	13,61%	16,07%
	1,045	1,08%	4,12%	7,15%	10,19%	13,22%	16,25%	19,29%
	1,245	0,82%	4,43%	8,05%	11,66%	15,28%	18,89%	22,51%
	1,445	0,56%	4,75%	8,95%	13,14%	17,34%	21,53%	25,73%

Source: Own estimates

Annex I - Sensitivity of the share price estimate (€) for different combinations of WACC and TGR

	WACC							
	1121,03	7,21%	7,71%	8,21%	8,71%	9,21%	9,71%	10,21%
Terminal Growth Rate	1,00%	933,60	933,60	933,60	933,60	933,60	933,60	933,60
	1,50%	987,41	987,41	987,41	987,41	987,41	987,41	987,41
	2,00%	1 049,24	1 049,24	1 049,24	1 049,24	1 049,24	1 049,24	1 049,24
	2,50%	1 121,03	1 121,03	1 121,03	1 121,03	1 121,03	1 121,03	1 121,03
	3,00%	1 205,40	1 205,40	1 205,40	1 205,40	1 205,40	1 205,40	1 205,40
	3,50%	1 305,97	1 305,97	1 305,97	1 305,97	1 305,97	1 305,97	1 305,97
	4,00%	1 427,90	1 427,90	1 427,90	1 427,90	1 427,90	1 427,90	1 427,90

Source: Own estimates

Annex J - Sensitivity of the share price estimate (€) for different combinations of the revenue growth rate and EBITDA margin, for the last year of the explicit forecast period (2030)

		Revenue Growth Rate						
EBITDA MARGIN	1121,03	5,00%	10,00%	15,00%	20,00%	25,00%	30,00%	35,00%
	14,00%	611,53	595,11	578,70	562,29	545,87	529,46	513,04
	16,50%	774,50	765,84	757,19	748,53	739,88	731,22	722,57
	19,00%	937,46	936,57	935,67	934,78	933,89	932,99	932,10
	21,50%	1 100,43	1 107,30	1 114,16	1 121,03	1 127,89	1 134,76	1 141,63
	24,00%	1 263,40	1 278,02	1 292,65	1 307,28	1 321,90	1 336,53	1 351,16
	26,50%	1 426,36	1 448,75	1 471,14	1 493,52	1 515,91	1 538,30	1 560,68
	29,00%	1 589,33	1 619,48	1 649,62	1 679,77	1 709,92	1 740,07	1 770,21

Source: Own estimates

Annex K - Sensitivity of the share price estimate (€) for different combinations of CAPEX and revenue growth rate, for the last year of the explicit forecast period (2030)

		Revenue Growth Rate						
CAPEX as % of Revenues	1121,03	5,00%	10,00%	15,00%	20,00%	25,00%	30,00%	35,00%
	4,50%	1 240,12	1 253,63	1 267,15	1 280,67	1 294,19	1 307,70	1 321,22
	5,00%	1 193,55	1 204,85	1 216,15	1 227,46	1 238,76	1 250,06	1 261,36
	5,50%	1 146,99	1 156,08	1 165,16	1 174,24	1 183,33	1 192,41	1 201,49
	6,00%	1 100,43	1 107,30	1 114,16	1 121,03	1 127,89	1 134,76	1 141,63
	6,50%	1 053,87	1 058,52	1 063,17	1 067,81	1 072,46	1 077,11	1 081,76
	7,00%	1 007,31	1 009,74	1 012,17	1 014,60	1 017,03	1 019,46	1 021,90
	7,50%	960,74	960,96	961,17	961,39	961,60	961,82	962,03

Source: own estimates