

Equity Research Division, 9th December 2020

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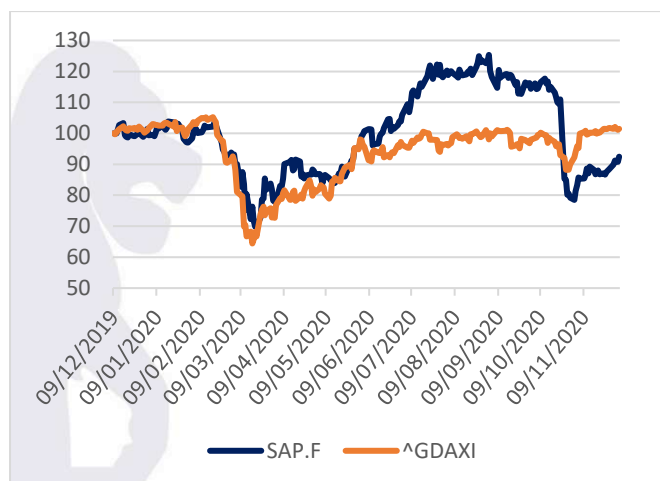
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Basic Information

Last Closed Price	EUR€101.90
12M Target Price	EUR€119
+/- Potential	+16.8%
Bloomberg Ticker	FRA: SAP
GICS Sector	Information Technology
GICS Sub-Industry	Software & Services

12 Month Price Performance Indexed at 100 (Yahoo Finance)



Company Description

SAP Deutschland SE & Co. KG is a German multinational software corporation headquartered in Walldorf, Germany. Traded on the NYSE and Frankfurt Stock Exchange, the company is a component of the Euro Stoxx 50 market index and has customers in over 180 countries.

Key Financials

Market Cap	125.21B
Basic Shares O/S	1,180M
52-Wk High	EUR€143
52-Wk Low	EUR€83
Fiscal Year End	31-Dec-2019

(€EUR B)	FY18A	FY19A	FY20E	FY21E
Gross Profit	17.3	19.2	19.1	21.1
Gr.Rate (%)	5.1	10.9	-0.5	10.5
EBITDA	7.0	6.3	6.7	7.2
Margin (%)	28.3	23.0	23.7	22.9
EBIT	5.7	4.5	5.1	5.4
EV/EBITDA	12.5x	15.3x	13.3x	13.1x

Key Executives

Christian Klein	Chief Executive Officer
Luka Mucic	Chief Financial Officer

We are initiating coverage of SAP SE with a **BUY** rating and a EUR€119 12M price target.

Q3 Earnings Highlights

- SAP SE attained a Basic EPS of €1.32 that had an increase of 26% compared to Q3 2019.
- Total revenues amounted €6.54 billion (-4% change from Q3 2019) to which software segment revenues contributed by €3.56 billion (-7% change from Q3 2019).
- The operating profit of the company decreased by 12% to €1.47 billion compared to same period of the last year.
- The drops in sales revenues and EBIT were mainly engendered by the depressed business spending due to COVID-19 crisis.
- The firm lowered its revenue and profit forecasts for the end of the year. Consequently, its share price fell by approximately 22% on 26 October 2020.

Summary

SAP SE is one of the leading firms in the European software market. In the last decade, the company has experienced a steady growth in conformity with the trend of the entire sector. After the outbreak of COVID-19 crisis, the tech world has accelerated at a breakneck pace: both enterprises and consumers have been adapting to a new world in the wake of the pandemic. With the spread of the Coronavirus, tech-based firms such as Zoom, Netflix and Shopify faced an increasing demand for their services due to new habits connected to lockdowns all over the world. In contrast to other industries led by technology, the situation is somewhat different for the software market. The firms in this sector have been affected negatively by the pandemic: in particular, the software companies that operate with a B2B model, such as SAP SE.

At the same time, the Coronavirus pandemic has created new opportunities, expediting the adoption of cloud computing solutions. In response to this emerging trend, SAP has been investing in the cloud-based services, which has allowed the German company to partially compensate the losses of the first months of the year. However, the recovery needs to be kept under observation because of the disappointing results of Q3 that seem to undermine the firm's efforts. Nevertheless, SAP is well capitalized and has a strong reputation in the software market, which have helped the company weather the recent storm. However, for the future, it could be beneficial to strengthen the R&D division in order to keep the pace of other global players like Oracle and Microsoft in this competitive market.

Company Overview

Founded in 1972, SAP SE operates as a German multinational software corporation that produces enterprise software to manage business operations and customer relations. The company is one the leading firms in providing collaborative business solutions for all types of industries in various markets. Its main product is SAP S/4 SANA, an integrated enterprise resource planning (ERP) software with embedded AI. Its related products, available through Sap Analytics Cloud include: Business Information Warehouse (BW); Customer Relationship Management (CRM); Supply Chain Management (SCM); Human Resource Management Systems (HRMS) and other products that cover all the operational IT needs businesses might face.

Through the blend of real-time data processing, standardization, and integration, Sap grew healthy and profitable. The development of a new and innovative client-server software turned SAP into a global player. Today, also thanks to various M&A operations, the company branches out into three markets: mobile technology, database technology, and cloud. In 2019 after having acquired Qualtrics, Sap became the leader in experience management software. SAP has currently more than 215 million cloud users, more than 100 solutions covering all business functions, and the broadest cloud portfolio of any provider. SAP operates 69 data centres at 35 locations in 15 countries.

Industry Outlook

The European software market value is forecasted to reach USD 230 billion by 2024, registering a CAGR of 12.5% during the forecast period of 2020-2024 (Statista – see Figure 2).

Key Highlights

- In the last five years, the European software market has grown enormously, and it is expected that this trend will continue in the next few years. The spread of cloud computing usage among businesses and the introduction of the General Data Protection Regulation in 2018 drove this two-digits growth.
- This is a moderately competitive sector in which new entrants slightly undermine the dominance of the leading players (global behemoths, such as Alphabet, Microsoft and IBM) with a different business structure.

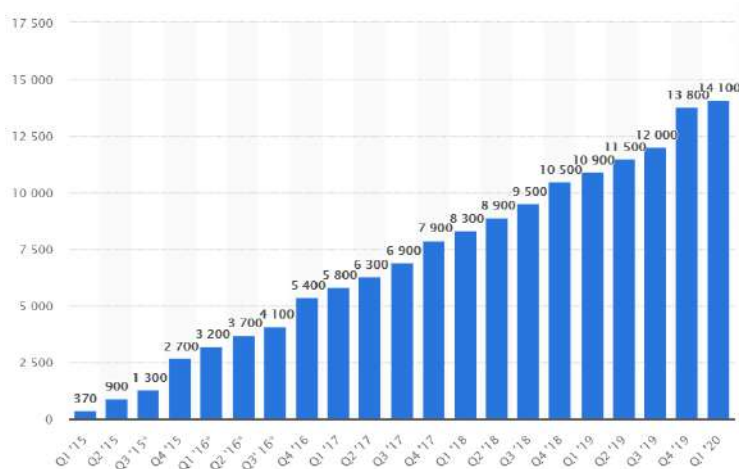
Geographic Segmentation

The German software market is the largest in the European context (18.5%), followed by the English market that accounts for a further 15.7% of the total. The software industry in Germany contribute €62.3 billion to the economy directly and more than €152.6 billion if the entire supply chain in a broad sense is considered. German investment in software research and development is among the highest in Europe: €2.8 billion a year.

Rivalry in the Sector

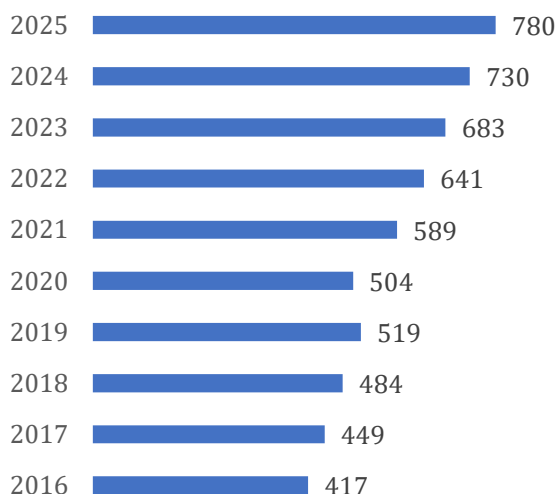
Although the European software market is dominated by global players, it is still fairly unconsolidated. This situation explains the presence of a large (and increasing) number of small software firms. The strong rate of growth has eased the competition between the leading players. In general, the level of rivalry in this market can be defined as "moderate". The portfolio of products offered by the largest companies is broad and very difficult to categorize: IBM and Microsoft may represent significant examples. IBM makes mainframe computers, for instance, while Microsoft also produces consumer electronics. Technological developments engender new products that are continually introduced to the market, enhancing rivalry and providing new entrants with the possibility of gaining market share. Cloud technology, big data, the Internet of things, transport and analytics applications have been significant software trends in recent years.

Figure 1. Quarterly number of Sap S/4 HANA Subscribers worldwide



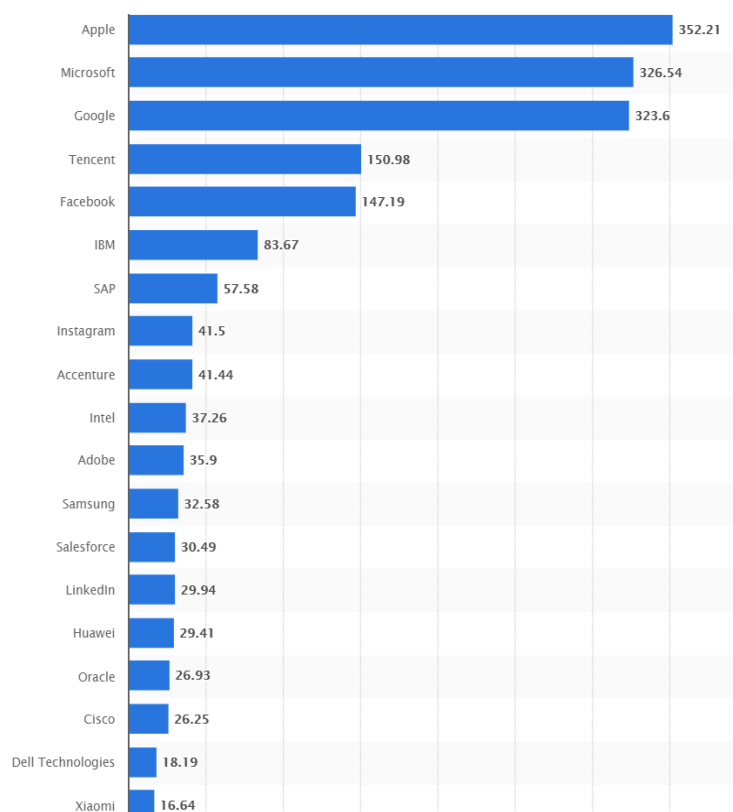
Source: Statista

Figure 2. European Software Market Size, Billion €



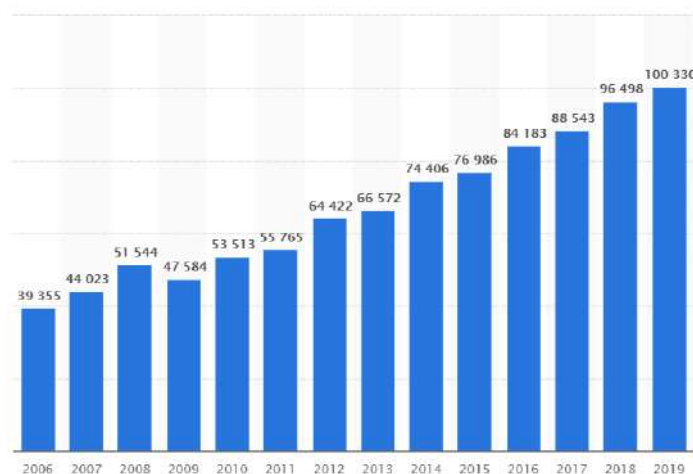
Source: Statista

Figure 3. Brand Values of the most valuable technology brands in the world



Source: Statista

Figure 4. SAP Number of Employees, 2006-2019



Source: Statista

Incumbents are often a dominant force in the targeted industry, such as, for instance, Microsoft in desktop software business, element that makes it harder for less established players to gain market share. Nonetheless, in recent years there have been new entrants, for example in the corporate web applications market with Jive, providing collaborative enterprise software, and Hadoop, offering big data management solutions to all potential clients.

The set of closest peers used as a basis for comparable analysis in this report is composed by Oracle, Microsoft, Salesforce, and Adobe.

Oracle - Oracle, headquartered in California, is of the leading providers of information technology solutions. In particular, the company is active in three fields: Cloud and License, Hardware and Services. In 2019, the cloud and license segment generated 82.4% of the company's revenue for a total of \$ 32,582 million. The Services segment includes a wide range of products: education services, advanced customer support services and, above all, consulting services. Geographically, Oracle operates mainly in the US region (53.5% of the total revenue) and in EMEA segment (28.5%).

Microsoft - Headquartered in Redmond, Washington, Microsoft Corporation develops, licenses and supports a wide range of services and products. The company operates at a global level with offices in almost 200 countries. Microsoft's portfolio is incomparably broad: cloud and cognitive offerings, enterprise software, systems and financing solutions, delivery and implementation services. The research wing of the company is focusing on AI, cognitive solutions, data security and cryptography. The firm focuses on integrating IoT (Internet of Things) and AI-related solutions.

Salesforce - An American software company headquartered in San Francisco, California, it provides CRM software and services to enterprises; the core focus of the systems is customer service and marketing analytics; the company has an unparalleled talent management and fosters a great corporate culture of employees' growth and development.

Adobe Inc. - Incorporated in Delaware, Adobe has historically focused its core business on the development of multimedia software and has recently entered the sector of digital marketing automation; with more than 21,000 employees worldwide, it is a leader in graphic software with brands such as Photoshop and Illustrator.

Human Resources and Talent Strategy

Many European companies tend to outsource software development to providers abroad. In developing countries, the cost of a software developer is significantly cheaper compared to that in most advanced economies. In particular, in Germany, software developer wages are the highest in Europe (33% higher than the European average). This is a significant factor considering the fact that software development is labor-intensive. There is a huge demand of people literate in mathematics and the continually evolving area of computer science. Cutting-edge computer hardware is not enough without a successful talent management strategy: human resources in this industry is a key input. Employment retention becomes an important theme: the switching costs are abnormally high.

Buyer Power

The buyer power in this market is moderate. There are many buyers in the European software market; the most significant categories are represented by consumers, government institutions and businesses of all sizes. The range of industries involved is wide and not only limited to banking, healthcare, retail, logistics and telecommunications. For the buyers, the switching costs are high for two reasons: the tailored approach and specific products designed by software companies and, in addition, the fact that users have to be trained to use a certain type of software product efficiently.

Indeed, the size of the business influences the bargaining power: the larger it is, the more power it has. The consolidation of the buyers, as in the case of firms in the telecom sector, reduces the ability of software companies. On the other hand, the situation is entirely different for SMEs: they have much less power in negotiations with regard to price and terms of use.

There are some applications aimed to foster interoperability that allow lowering the switching costs for buyers: SAP's business processes can be accessed by customers through Microsoft Office using 'Duet' or through IBM's Lotus Notes using 'Alloy'. Furthermore, the spread of open-source products (that can be a lower-cost alternative) can mitigate the bargaining power of companies like SAP or Oracle. Another emerging trend is the SaaS (Software-as-a-Service). It is a software distribution model that requires lower costs, subsequently increasing buyer power. In this model, the software provider hosts the application and makes them available to customers over the Internet. All the services are managed remotely, and this allows an initial setup cost typically lower than the traditional enterprise software. Major players are increasingly switching to SaaS business models due to the transition towards cloud computing and open-source software.

SWOT Analysis

Strengths

Reputation - Since 1972 Sap has always been ahead of its time, its long history (relatively to the industry), shows the strength of the company and its ability to always be innovative. The customers choose Sap's ERP system for the degree of efficiency that this product grant and typically also buy many of the cloud-related products. As the market leader in management software, BASF is a reference point for every business that needs to adopt an ERP.

Workforce skills - SAP prepares its workforce through continuous training and learning programs to make sure. The firm is investing considerable resources in the development of its employees, resulting in a workforce that is experienced, highly skilled and motivated to achieve always better results.

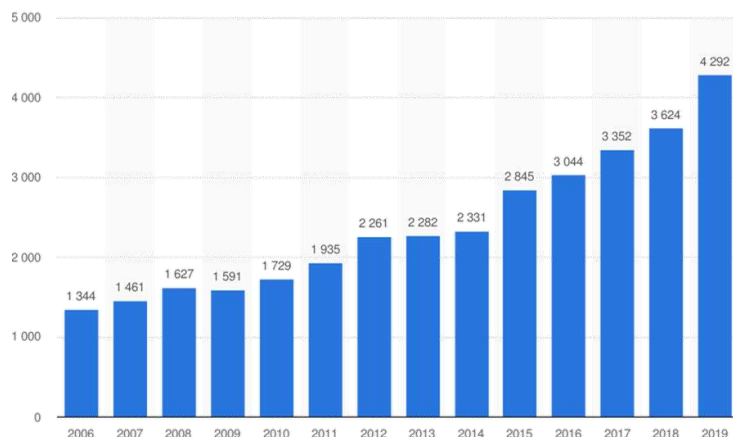
Reliable suppliers and a strong distribution network - It has a strong base of reliable supplier of raw material, thus enabling the company to overcome any supply chain bottlenecks. This achievement was also obtained after a series of acquisitions (e.g. Sybase and Concur). Also, over the years, SAP has built a reliable distribution network that can reach the majority of its potential market. Thanks to the structure of the company's ERP system, the potential clients are both small and large businesses (while the strongest competitors only reach large companies).

Weaknesses

Limited success outside the core business - Even though SAP is one of the leaders of its industry, it has faced difficulties in moving to other product segments with its present culture. They have also not been always successful at integrating small companies, merging firms with the different work culture. With time, this issue may limit the company's growth.

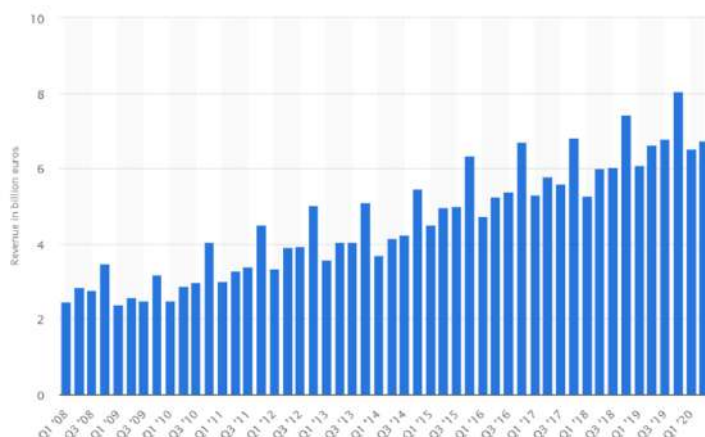
No regular supply of innovative products - Even though the firm invests remarkable funds in Research and Development, the products the company has developed over the years were often response to the development by other players. Secondly, the supply of new products is not regular, thus leading to high and low swings in the sales number over time.

Figure 5. SAP Expenditure in R&D, million euros



Source: Statista

Figure 6. SAP Revenue by Quarter, Q1 '08 - Q1 '20



Source: Statista

Opportunities

Expansion of the market - The European market size has witnessed rapid growth in recent decades, and this trend is expected to continue in the coming years. The primary reason for this staggering acceleration is the fact that software has become essential for firms of all the sectors to conduct their business efficiently. This change involves developed not only western countries but also developing countries, like India. The fast-growing demand from these nations can play a pivotal role in the expected global software market growth for the next decade. This factor could benefit SAP competitors, like IBM and Microsoft, that already have consolidated sales channels in these countries.

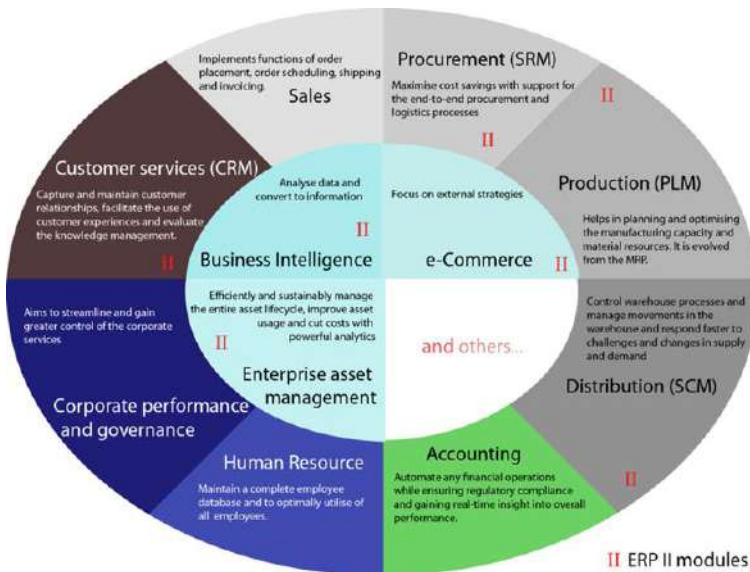
Developments in AI technologies - AI (Artificial Intelligence) is one of the critical factors to the development of this entire sector in the next few years. Most business leaders more and more request this new form of technology because it can revolutionize how business activities are conducted. Analyzing vast billions of data -such as buying preferences- in a small portion of time, AI allows business owners to provide a personalized experience to the customers. Customers are no longer offered solutions that are not tailored. The rise of AI has given birth to a new era in the software market. While AI technologies are still being developed and implemented, cloud services have already become a concrete reality. More and more enterprises are adopting cloud computing by moving all their data, IT systems and software applications to cloud-based platforms. There are several benefits connected to cloud computing: firstly, it allows to reduce costs because of there fewer expenses for hardware, facilities and maintenance services. The vast universe of cloud computing can be divided into three main sub-groups: SaaS, PaaS and IaaS. SAP covers all these categories with up-to-date products.

Threats

New entrants - Free web-based applications, pirated versions of existing software, open-source software products are the main threats to the commercial success of the major players in this sector. Open-source companies, like Red Hat, have a different business model: rather than funding their business via big-ticket license contracts, they receive revenue from services and maintenance. For many end-users, open-source software is a beneficial alternative. Most providers allow users to redistribute the software and change it according to need. It has been claimed that bugs and security weaknesses can be traced faster than closed-source products because of the fact that a large community of users and developers have access to the source code of open-source software. Websites such as GitHub and Stack Overflow give open-source programmers access to a wealth of information that is unavailable to users of dominant software, such as Microsoft's products. However, open-source products, in general, may present difficulties. The main obstacles are linked to the compatibility and the expertise required to use them. Companies like Google represent another significant threat to the conventional software market. This type of firms generates a major part of its revenues from advertisement next to search results and on third-party sites.

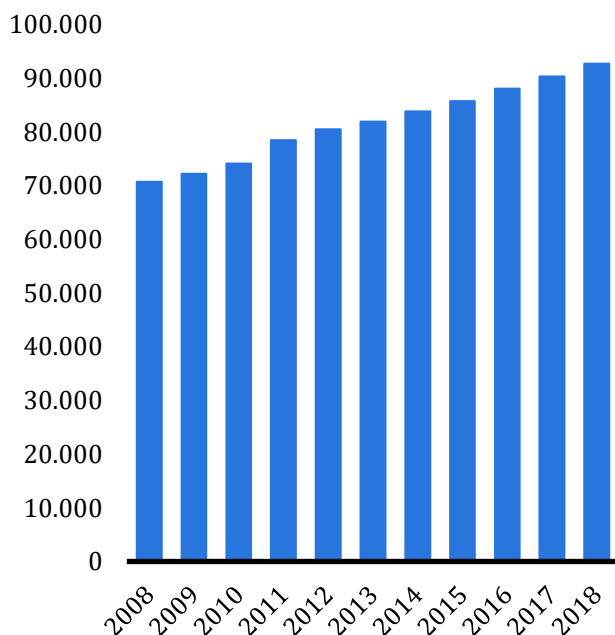
New stringent regulations - SAP SE is subjected to different types of regulations: not only German law but also the European and other regulatory requirements. A fragmented regulatory framework across the Community caused high costs for businesses wishing to trade cross-border. In order to solve this problem, European authorities passed a regulation in EU law on data protection to empower and protect all EU citizens' data privacy in a unique and uniform way. (The regulation catalyzes a new set of subject data rights for citizens of European countries.)

Figure 7. ERP Systems Components



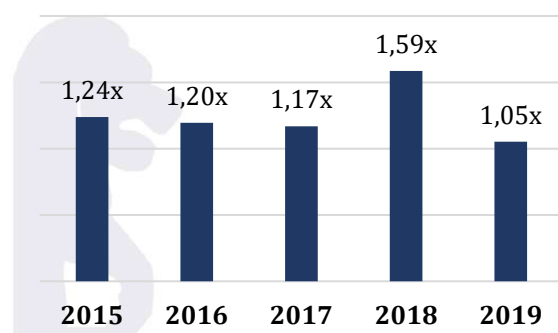
Source: The Intactone

Figure 8. Number of Software and IT Services companies in Germany, 2008-2018



Source: Statista

Figure 9. SAP SE Current Ratio, 2015-2019



Source : Minerva Investment Society Est.

Figure 10. SAP Cash Conversion Cycle, 2015-2019

Source : Minerva Investment Society Est.

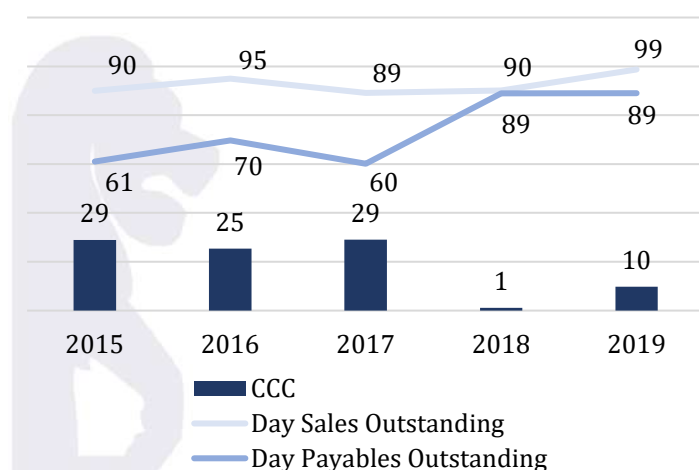
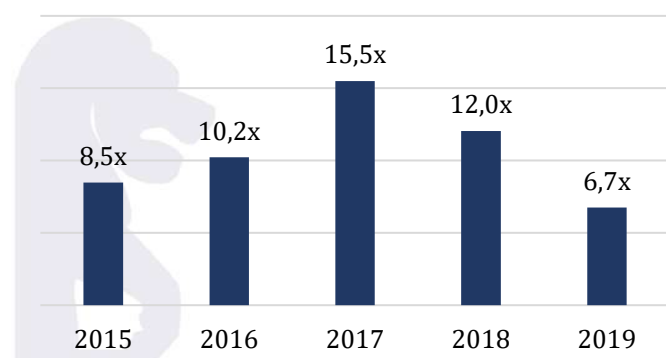


Figure 11. SAP Interest Coverage Ratio, 2015-2019



Source : Minerva Investment Society Est.

Always evolving regulations and laws could impose an extra burden on SAP to raise the compliance standards of its existing products and also limit the use of SAP's cloud services and products by the customers. In the last decade, several measures have been agreed to update international tax rules and reduce the opportunity for multinational companies to implement tax avoidance strategies. Software companies that have taken advantage of the 'nation-less' aspect of the origin of software distribution may see an increase in their effective tax rates, which would serve to increase rivalry in the whole sector.

Financial Analysis

SAP SE is characterized by strong funding structure, solid business model, and sustainable profitability. The financial statement analysis has been conducted computing ratios and other measures to assess liquidity, cash conversion cycle, solvency and profitability. Some ratios have been computed also for a selected number of peers in order to better understand the values. These comparable companies, the same employed in the multiple valuation, are Salesforce, Adobe, Microsoft and Oracle.

Liquidity:

The Current Ratio has been declining from 2015 to 2019 (Figure 9), going from a value of 1.24 to 1.05, with the exception of 2018. This is a worrying trend because the ratio is deteriorating, and the value is approaching 1: a value below 1 suggests that the company does not have enough liquid assets to cover its short-term liabilities. Although this ratio should be kept under observation, at the moment, the company does not have significant levels of inventory that can absorb liquidity, making the balance sheet more reliable in the short term.

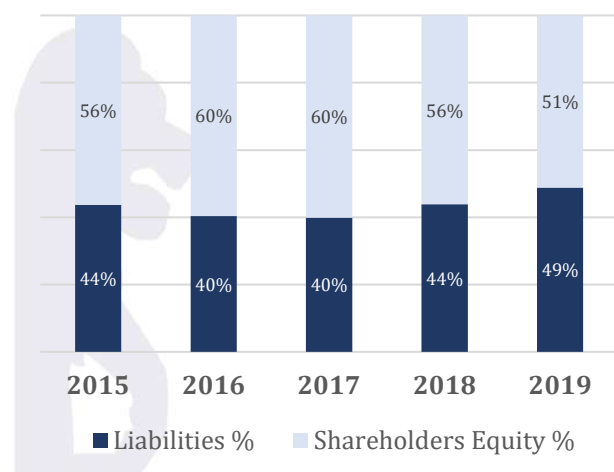
Cash Conversion Cycle:

The Cash Conversion Cycle for SAP is determined by Day Sales Outstanding (DSO) and Day Payables Outstanding (DPO), as Inventory Days are not significant since the company does not have any inventory. These ratios are called Duration Ratios, and they measure the average number of days it takes for a company to receive cash from customers (DSO) and to pay its suppliers (DPO). When considering the two metrics together, we observe the Cash Conversion Cycle (CCC), which tells how many days a company has to finance itself through sources different from trade payables. If CCC ratio is significantly high, the company fails to be effective at managing cash transactions with customers and suppliers. Although, a short cash conversion cycle could strain the relationship with suppliers, it may also create alternative investment opportunities through the usage of cash collected from receivables. SAP has a sustainable CCC which has been improving in 2018 and 2019 (Figure 10).

Solvency:

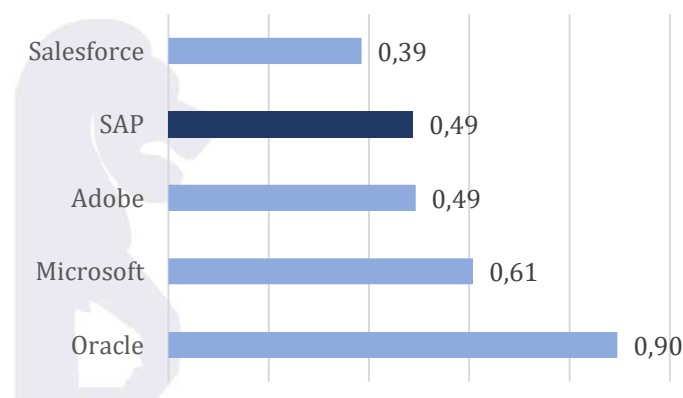
We calculated solvency ratios to analyze SAP's ability to pay its long-term obligations and assess the overall riskiness of the company. The Interest Coverage Ratio measures how many times the EBIT can cover the interest expense on debt of a company. For SAP, this ratio has improved a lot in 2016 and 2017 but has deteriorated in the past two years. While this trend should be kept under observation and possibly reversed, the ratio at the moment is well above 3x (Figure 11), which is considered the threshold for optimal solvency.

Figure 12. SAP Capital Structure, 2015-2019



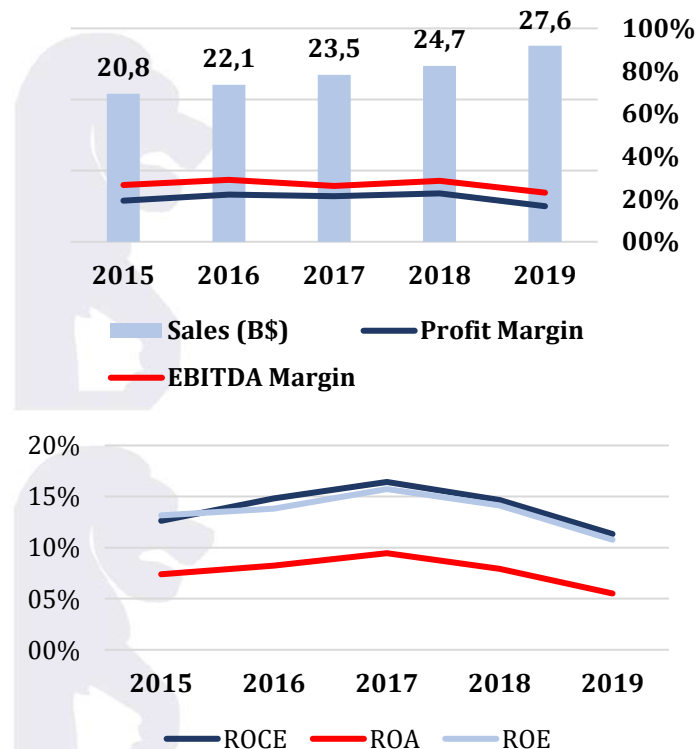
Source: Minerva Investment Society Estimates

Figure 13. Debt-to-Assets Ratio, 2019



Source: Minerva Investment Society Estimates

Figure 14 & 15. SAP Profitability & Return Ratios



Source: Minerva Investment Society Estimates

Analyzing the equity-debt mix of a company can give insights on how well it is managing its capital structure. The Debt Ratio describes the portion of an entity's total assets that are financed with debt. In our specific case, we observe that the company kept an average of 45% of the debt (Figure 12), which is a good value. Usually, a level of debt below 30% is considered low, as there is room for taking on more debt to decrease the Average Cost of Capital (debt is generally cheaper than equity). On the other hand, a level above 65% can increase the overall riskiness of the company and its solvency in the long term. Furthermore, SAP has a cash position of 6.7 billion € that strengthens the balance sheet. Looking at competitors, we can observe that SAP's level of debt is in line with the average; Salesforce places at the low end of the spectrum, with around 39% in debt, whereas Oracle ranks first with a worrying 90% debt level.

Profitability:

SAP is rather liquid and well capitalized. The final piece of the puzzle is profitability: do operations of the company generate liquidity effectively? EBITDA and profit margin, along with Return ratios, can answer this question.

Sales have been steadily increasing in the past five years, from 20,8 B€ in 2015 to 27,6 B€ in 2019. On the other hand, margins have deteriorated, as the EBITDA margin has decreased in percentage from 26,6% in 2015 to 23% in 2019 (Figure 15), and the profit margin from 19,2% to 16,7%. This phenomenon is partly due to a more aggressive Sales, General & Administrative (SG&A) spending to sustain the growth.

Also Return Ratios have deteriorated in 2018 and 2019, after years of improvement. Return on Assets (ROA), which measures the ratio between Net Income and Total Assets, has decreased from 13,2% in 2015 to 10,8% in 2019. Similarly, Return on Equity (ROE, Net Income / Equity) and Return on Capital Employed (ROCE, EBIT / (Total Assets – Current Liabilities)) have both decreased after a peak in 2017.

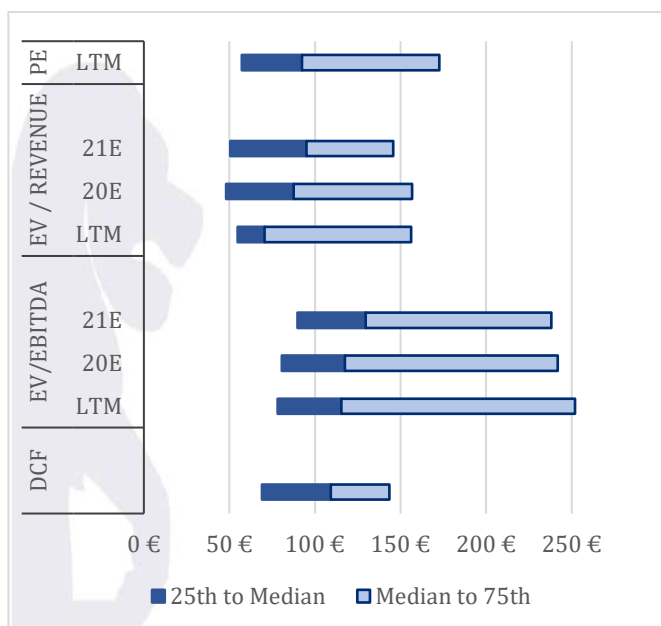
Latest Developments:

In response to the COVID-19 crisis, SAP has been heavily investing in its cloud arm, with the goal of moving the customer base on cloud platforms to hedge some uncertainty. However, although Q2 2020 hinted at a rather fast recovery, recently published Q3 2020 results have disappointed investors expectations: revenue was around 300 million € lower than consensus, caused by too optimistic expectations about the firm's ability to increase cloud services' revenue.

As an enterprise software and services company, SAP has been hit by the economic downturn caused by the pandemic. However, the solid balance sheet and good capitalization will help the company weather the storm: for example, during the past 9 months SAP has been able to raise more than 2 billion € of debt at sustainable rates – also thanks to the low interest rates environment supported by central banks. One factor to observe is liquidity, as the Current Ratio for 2019 was gravitating towards the threshold level of 1, and it is likely to deteriorate after the increased level of short-term debt needed to weather the crisis.

The picture is more positive when looking at medium term projections, as SAP has proved it is able to generate cash flows at appealing margins, although analysts have negatively revised margin expectations due to the higher share of revenues coming from Cloud Services, which are more commoditized and thus sell at lower margins.

Figure 16. Valuation price



Source: Minerva Investment Society Est.

Figure 17. SAP Financial Leverage

	2016	2017	2018	2019	2020E
Leverage	29.85 %	24.67 %	39.14 %	51.57 %	56.53 %

Source: Minerva Investment Society Est.

Figure 18. Sensitivity of DCF Results (€)

		WACC									
TV Perpetual Growth	10%	5.7%	5.4%	5.1%	4.8%	4.5%	4.2%	3.9%	3.6%	3.3%	
	1.1%	69.0	74.4	80.7	87.9	96.4	106.6	119.0	134.3	153.9	
	1.2%	70.5	76.2	82.7	90.3	99.3	110.1	123.3	139.9	161.2	
	1.3%	72.1	78.0	84.9	92.9	102.4	113.9	128.0	145.9	169.2	
	1.4%	73.8	79.9	87.1	95.6	105.7	117.9	133.1	152.5	178.1	
	1.5%	75.5	82.0	89.5	98.4	109.1	122.2	138.6	159.8	188.0	
	1.6%	77.3	84.1	92.0	101.5	112.9	126.9	144.6	167.7	199.0	
	1.7%	79.2	86.4	94.7	104.7	116.9	132.0	151.2	176.5	211.4	
	1.8%	81.3	88.7	97.6	108.2	121.2	137.4	158.4	186.3	225.5	
	1.9%	83.4	91.2	100.6	111.9	125.8	143.4	166.3	197.3	241.7	

Source: Minerva Investment Society Est.

Valuation

Valuation Price Target: EUR€119

Our analysis followed two main approaches:

- An intrinsic valuation regarding the DCF model (FCFF)
- A relative valuation with market multiple of comparable companies

Free Cash Flow to Firm Approach

In the set of the different indirect evaluation methods, the DCF asset side model is chosen to conduct the analysis. Generally, the equity side DCF valuation is used for the software sector. However, SAP presents some characteristics that render the FCFF model sounder than FCFE in determining the intrinsic value of the firm. When the historical leverage ratio of the company analyzed, it was revealed that there is a trend of unstable financial leverage (bank debt / equity) over time. Since the capital structure of SAP changes historically, we decided to use asset side DCF model to capture the effect of the varying cost of debt on the cost of capital, and directly on the discounted cash flows.

Proceeding step by step, the first element we computed was the cost of equity, which is based on the following assumptions:

- RISK FREE RATE (0.34 %): The average 30-year German Treasury Bond yield in the recent 3 fiscal years was chosen.
- EQUITY RISK PREMIUM (6.61%): it represents the premium an investor will require to invest in the stock instead of investing in the risk-free security.
- ADJUSTED BETA (0.97): it represents the risk specifically attached to the company, comparing the performance of the market with the performance of the company.

The next step was to decide on the cost of debt:

- COST OF DEBT (1.59%): Calculated based on the average historical debt expenditures (past 3 years) and the 9-year corporate bond yield of SAP issued in May 2020

Finally, the weighted average cost of capital was computed as WACC (4.45%). For what concerns the Country Risk Premium (CRP), this premium has been already incorporated in the high ERP of 6.61%.

Beta Computation: Beta is a coefficient that express how much the return of the security is captured by the return of the market portfolio; in brief, we consider the systematic risk of the security. To compute the Beta equity of the company, we used the market model introduced by W. Sharpe, which describes this coefficient as the ratio between the covariance of market index returns and stock returns, and the variance of the market index in a given period (estimation window).

We put in comparison the security's return with those of the DAX PERFORMANCE-INDEX, which was considered the Market Index. In doing so, we applied, as required by the model, an OLS regression between the streams of returns of the stock and market index. We considered two different return's frequencies and estimation windows:

- 5 year monthly
- 5 year daily

To assess the most reliable and significant regression we considered the regression line with higher Adjusted R2.

Figure 19, 20, 21. Comparables Multiples

EV / Revenue			
	LTM	20E	21E
Microsoft	10.7x	10.3x	9.4x
Salesforce	11.6x	10.8x	9.2x
Oracle	5.3x	5.3x	5.2x
IBM	2.2x	2.2x	2.2x
Cisco	3.1x	3.2x	3.1x
Sage Group	4.3x	4.3x	4.3x
Adobe	18.9x	18.3x	15.9x
Mean	8.0x	7.8x	7.0x
Median	5.3x	5.3x	5.2x
IQR 75	11.2x	10.6x	9.3x
IQR 25	3.7x	3.8x	3.7x

EV / EBITDA			
	LTM	20E	21E
Microsoft	23.6x	22.4x	19.9x
Salesforce	36.2x	36.2x	30.8x
Oracle	12.4x	10.7x	10.6x
IBM	10.5x	9.3x	8.6x
Cisco	9.7x	8.8x	8.7x
Sage Group	14.3x	17.0x	17.0x
Adobe	51.5x	38.0x	32.4x
Mean	22.6x	20.3x	18.3x
Median	14.3x	17.0x	17.0x
IQR 75	29.9x	29.3x	25.4x
IQR 25	11.5x	10.0x	9.7x

PE		TTM
Microsoft		34.7x
Salesforce		72.2x
Oracle		14.3x
IBM		10.4x
Cisco		13.4x
Sage Group		22.4x
Adobe		48.9x
Mean		30.9x
Median		22.4x
IQR 75		41.8x
IQR 25		13.9x

Sources: GP.Bullhound,
Minerva Investment Society Estimates

This factor measures how much of the security returns (dependent variable Y) is explained by movements of the independent variable X (the market index), in terms of variance. In other words, higher values of Adjusted R2, the more the variance of stock returns is captured by the market variability of stocks' returns.

In the valuation, a two-stage growth period is applied. Given the positive news on the Covid-19 vaccine, a higher growth rate of revenues is assumed for the period 2021-2024. The second stage consists of stable growth, in which NOPAT grows by 1.43% constantly. To estimate the stable growth rate, the historical averages of ROC and Reinvestment Rate were calculated. Based on the findings, a constant ROC (10.78%) and a constant Reinvestment Rate (13.25%) were multiplied to obtain a stable growth rate.

Market Multiples Approach

After the first approach, in order to do a sanity check and compare our forecasts obtained through the DCF analysis, we have performed a market multiple analysis. The purpose of the method is to double check the target price we identified with FCFF approach. Hence, we collected data for market multiples of a set of comparables.

We decided to get the equity and asset side multiples as both are important to assess the relative value of the company. Once we obtained the multiples of the comparable set, from the asset side multiples we calculate the EV and we adjusted it to obtain the implied equity values of Monster Beverage. Finally, dividing the equity value by the number of diluted outstanding shares of Monster Beverage, we identified the set of prices implied by each multiple. In the figures 19, 20, and 21 we report the results of our computations in order to set a range of implied share prices for each figure.

Due to the current period of emergency, we underline the presence of depressed multiples which reflect the current momentum driven by uncertainty on the market which suggests caution. The average price implied from the market is not very far from the target price suggested by DCF, supporting our initial analysis.

Investment Risks

Lack of Innovation may hinder SAP's ability to retain market share in the long term - The Software industry is highly competitive and dynamic, and SAP might struggle in the future to keep up with the pace of new technologies' development, particularly in the medium to long term. New entrants with disruptive technologies can potentially cannibalize the company's market share and reduce its profitability.

Political, Social, and Regulatory Risks - SAP SE is subject to national and international regulations regarding IP protection. If these regulations were to be changed, and in particular relaxed, the company might see its ability to protect Intellectual Property and profit from licensing its products somewhat limited. This is an externality difficult to manage, and thus poses a substantial risk to the company's business.

Political, Social, and Regulatory Risk - The company is heavily reliant on its human capital to stay competitive in the Software industry. As a software publisher, the ability to attract, develop, retain, and effectively manage the in-house talent (which is geographically dislocated all around the world) is key to conduct business successfully. If this ability were to be limited in the future, the company's profitability could suffer substantially.

Appendix:

Income Statement

<i>Million Euros</i>	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019
Revenue	22,062	23,461	24,708	27,553
Cost of Revenue, Total	6,583	6,736	7,189	8,038
Gross Profit	15,479	16,725	17,519	19,515
Selling/General/Admin. Expenses, Total	7,270	7,738	7,584	8,958
Selling/General/Administrative Expense	7,270	7,161	7,184	7,935
Labor & Related Expense	--	577	400	1,023
Research & Development	3,044	3,341	3,615	4,283
Depreciation/Amortization	--	--	--	--
Unusual Expense (Income)	28	769	596	1,767
Other Operating Expenses, Total	2	0	21	34
Total Operating Expense	16,927	18,584	19,005	23,080
Operating Income	5,135	4,877	5,703	4,473
Interest Expense	-154	281	90	234
Other, Net	-109	-129	-193	-111
Net Income Before Taxes	4,872	5,029	5,600	4,596
Provision for Income Taxes	1,242	983	1,511	1,226
Net Income After Taxes	3,630	4,046	4,089	3,370
Minority Interest	13	-38	-6	-50
Net Income	3,643	4,008	4,083	3,320

Balance Sheet

<i>Million Euros</i>	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019
ASSETS				
Cash and Short Term Investments	3,898	5,419	8,953	4,853
Accounts Receivable - Trade, Net	5,823	7,562	6,182	5,809
Total Receivables, Net	7,114	8,736	6,879	6,472
Total Inventory	0	0	0	0
Prepaid Expenses	257	427	305	264
Other Current Assets, Total	295	631	483	341
Total Current Assets	11,564	15,213	16,620	11,930
Property/Plant/Equipment, Total - Net	2,580	5,496	3,553	2,967
Goodwill, Net	23,311	29,162	23,736	21,271
Intangibles, Net	3,786	4,491	3,227	2,967
Long Term Investments	990	2,219	1,445	1,097
Note Receivable - Long Term	842	768	704	594
Other Long Term Assets, Total	1,204	2,866	2,217	1,658
Total Assets	44,277	60,215	51,502	42,484
LIABILITIES				
Accounts Payable	1,016	1,581	1,491	1,151
Accrued Expenses	3,699	4,818	4,121	3,982
Notes Payable/Short Term Debt	0	1,100	0	0
Current Port. of LT Debt/Capital Leases	1,430	1,820	768	1,298
Other Current liabilities, Total	3,529	5,143	4,106	3,779
Total Current Liabilities	9,674	14,462	10,486	10,210
Total Long Term Debt	6,449	12,900	10,535	5,002
Total Debt	7,879	15,820	11,303	6,300
Deferred Income Tax	411	82	102	251
Minority Interest	21	76	45	31
Other Liabilities, Total	1,346	1,949	1,502	1,506
Total Liabilities	17,901	29,469	22,670	17,000
SHAREHOLDERS EQUITY				
Common Stock, Total	1,229	1,229	1,229	1,229
Additional Paid-In Capital	599	545	543	570
Retained Earnings (Accumulated Deficit)	22,302	28,783	27,407	24,769
Treasury Stock - Common	-1,099	-1,580	-1,580	-1,591
Unrealized Gain (Loss)	292	0	0	157
Other Equity, Total	3,053	1,769	1,233	350
Total Equity	26,376	30,746	28,832	25,484
Total Liabilities & Shareholders' Equity	44,277	60,215	51,502	42,484

Valuation

	<i>Million Euros</i>	2020E	2021E	2022E	2023E	2024E	<i>Terminal value</i>
Revenue		28,277	31,771	35,760	40,393	45,785	
EBITDA		6,716	7,308	7,963	8,714	9,580	
% margin		23.8%	23.0%	22.3%	21.6%	20.9%	
Less D&A		-1,664	-1,877	-2,113	-2,387	-2,706	
EBIT		5,053	5,430	5,849	6,327	6,875	
Less tax on EBIT		-1,334	-1,434	-1,544	-1,670	-1,815	
NOPAT		3,719	3,997	4,305	4,657	5,060	
% margin		13.2%	12.6%	12.0%	11.5%	11.1%	
(+) D&A		1,664	1,877	2,113	2,387	2,706	
(-) CapEx		-917	-2,859	-3,040	-3,433	-3,892	
(-) Δ NWC		-732	-280	-319	-371	-431	
Unlevered FCF		3,734	2,735	3,060	3,240	3,442	148,947
<i>Discounted factor</i>		<i>1.00</i>	<i>1.04</i>	<i>1.08</i>	<i>1.13</i>	<i>1.17</i>	<i>1.19</i>
DCF		3,734	2,619	2,804	2,843	2,892	125,141

Valuation

Discounted cash flows	14,892
Discounted TV	125,141
Enterprise value	140,033
(+) Cash	6,668
(-) Financial Debt	-17,761
(-) Pension Provisions	-8
(-) Debt-like items	0
(+) Non-Operating Assets	1,419
(-) Minority Interests	-40
Equity Value	130,311
# shares	1,194
Share Price	109.14 €

Assumptions

Tax Rate %	26.40%
WACC	4.45%
Terminal growth rate	1.46%
Cost of Equity	6.30%

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