

Single Stock Report

Bayer AG



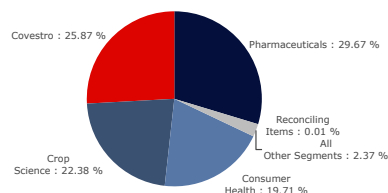
A brief introduction to Bayer

Bayer was founded in 1863 by Friedrich Bayer and Johann Friedrich Wescott, two dyestuff specialists from Wuppertal. The business was set up to specialize in the manufacturing and selling of synthetic dyestuffs from coal-tar derivatives. The company expanded rapidly by betting on recent innovation and was eventually transformed into the joint-stock company, Farbenfabriken vorm. Friedr. Bayer & Co, in 1881. This phase was followed by international expansion and further R&D-driven growth in the 1880s. It was during this phase when a scientist working at Bayer discovered one of the company's most famous inventions, Aspirin, leading to the establishment of the company's pharmaceutical division. Bayer's growth and international expansion were interrupted only by the First World War, during which the company was forced to support the war economy. To regain growth momentum and access to foreign markets after WWI, Bayer formed the infamous I.G. Farbenindustrie AG (I.G. Farben) together with BASF,



Hoechst and Agfa in 1915. The I.G. Farben Group became the largest corporation in Europe and the leading chemicals producer worldwide. The impressive I.G. Farben building in Frankfurt, now the home of the Goethe University, bears witness to this period of success. Due to the corporation's might and heavy involvement in WWII, the I.G. Farben were confiscated by the Allied Forces following the war and broken up into 12 new corporations, including the Farbenfabriken Bayer AG. The company subsequently expanded again, first to the U.S. and Latin America, entered the petrochemical sector and successfully developed innovative products in the pharmaceutical and crop science space. The group underwent an exhaustive reorganization during the early 2000s, including the acquisition of Aventis Crop Science, the purchase of Roche's consumer health business and the spin-off of the speciality chemicals business, Lanxess. To further bolster its pharmaceuticals division, Bayer acquired Schering Pharma AG in 2007 while selling its diagnostics business to Siemens. The company continued to actively pursue deals in the pharmaceuticals and crop science space during the 2010s, buying the biotechnology company Algeta, the consumer care division of Merck & Co, the Chinese consumer care specialist Dihon Pharmaceutical Group Co and a range of land management assets from DuPont Crop Protection.

Bayer Sales by Segment in 2015



Name: Bayer AG
ID: FVCVC5-R
ISIN: DE000BAY0017
Ctry: DE
Crncy: EUR
Sector: Health Technology
Industry: Pharmaceuticals

FY 2022 Guidance as of Q1

- 5% sales growth to €46bn
- €12bn adj. EBITDA
- EBITDA margin around 26%
- Core EPS around €7
- Tax rate around 23%
- 28-30% Effective Tax Rate
- €-500 to €-600m reconciliation result due to planned upgrades of systems
- Free Cashflow of €2-2.5bn including Glyphosat related outflows
- Underlying FCF €4.5bn-5bn
- Net Debt of €33-34bn
- 31% Dividend Payout Ratio (in-line with 30-40% corridor)

Vola		
		Beta

In the next 30 years [food] supply needs to rise by about 50% to meet the needs of a wealthier, growing population, even as the system's carbon footprint needs at least to halve.
(The Economist)

Selling Covestro and buying Monsanto - a terrible mistake?

The company's reorganization continued in 2015 with the floating of Covestro, Bayer's materials business and a leading producer of polyurethane and polycarbonate. Bayer initially retained a 64% stake in Covestro, which it lessened in tranches over the subsequent years. The last block was in May 2018, a favourable point in time as Covestro benefited from a tremendous cyclical surge in pricing power between 2016 and 2018, triggering a 200% rally in its shares that has since been reverted.

At the same time, Bayer signed a binding merger agreement with crop science specialist Monsanto. The acquisition, which valued the target at \$63bn, was closed in 2018 after significant delays caused by antitrust concerns. The deal also led to the largest divestment in U.S. antitrust enforcement history, as Bayer was required to pass on assets worth \$9bn to BASF. Following the Monsanto acquisition, Bayer also divested its Animal Health business and its stake in the chemical park, Currenta. In a nutshell, after two decades of portfolio reshuffling, Bayer has abandoned its sizable materials operations and transformed itself into a global Pharmaceuticals and Agriculture specialist.

There is a case to be made for this reorganization as both businesses benefit from little cyclicality and a favourable long-term growth outlook on the back of influential megatrends. Beyond that, Bayer early recognized the risk that its pharmaceuticals business is facing due to the looming patent cliff for its blockbusters, blood thinner Xarelto and retinal diseases treatment, Eylea. Eylea recorded \$9.2bn in sales in 2021 and was among the world's best-selling drugs. Xarelto recorded sales of \$6.9bn in 2020 and is already subject to fierce generic competition in China. Eylea will lose patent protection in June 2023, followed by Xarelto's patent expiry in August 2024. The loss of patent protection, allowing generic producers to copy the drug, is an ugly thing for pharmaceutical corporations.

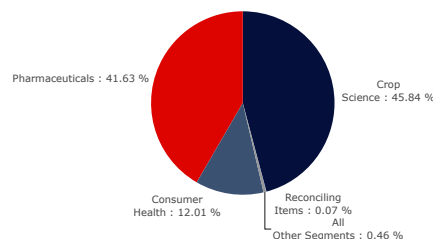
According to NBA estimates, the prices for physician-administered medicines decline between 38% and 48% following patent expiration. Facing this patent cliff, Bayer was banking on stable revenues from crop science to support the R&D activity required to offset these inevitable losses. While this clearly hasn't played out as planned, we believe there is room for hope. But the original idea was that it wouldn't hamper the company's ability to make investments on the pharma side, which has been Bayer's growth engine for years.

"No company in the world ... would be able to fill such a gap just at once"

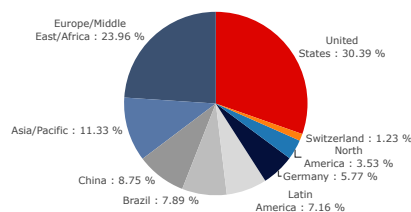
(Stefan Oelrich, Head of Pharmaceuticals at Bayer about the patent expiration of Eylea and Xarelto)

Calls to split up Bayer have become louder over the past years, given limited synergies between its pharmaceutical and crop science business divisions. So far, management has resisted.

SALES by Segment



SALES by Region



A turnaround case

Lawsuits against Monsanto over alleged damages caused by its widely used glyphosate-based herbicide, Roundup, started to pile up following the WHO's decision to classify it as probably carcinogenic in 2015. However, it was only after a jury awarded \$289m to Dewayne Johnson in 2018 that the company was hit by a massive wave of Roundup lawsuits.

The fierce battle over several years left Bayer with legal claim expenses of around \$16bn and wiped out more than \$60bn in market cap, a number close to what Bayer paid for the Monsanto acquisition that

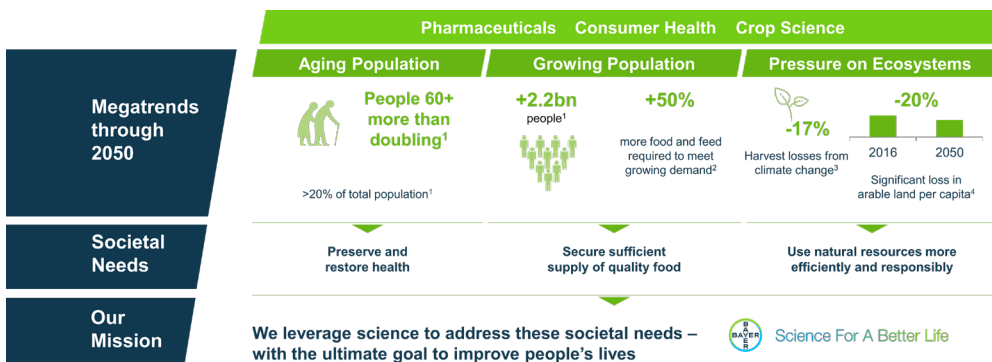
The settlement of the Roundup cases should allow Bayer to draw attention to its core businesses again and to finally capitalize on the important trends it is exposed to.

Historical Market Capitalization Bayer AG



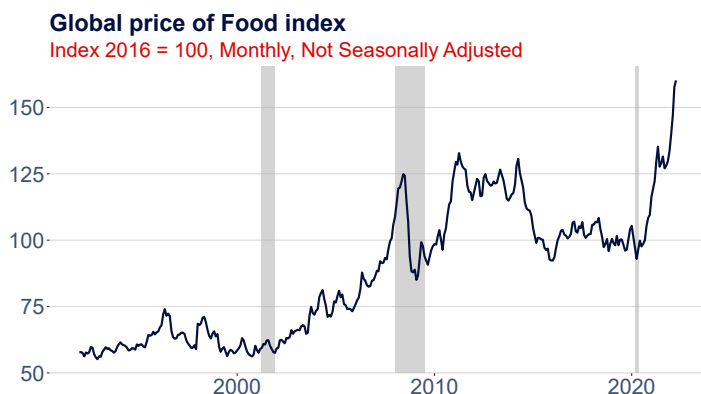
jacked up its total debt from under €14bn in 2017 to over €40bn in 2018. Today, from an investor's point of view, Bayer must be seen as a turnaround story. On a positive note, the Roundup litigations are widely expected to be a subject of the past as Bayer has settled most plaintiffs. Comprehensive coverage of the history and current status of the Roundup litigations is included in this report.

The settlement of the Roundup cases should allow Bayer to draw attention to its core businesses again and to finally capitalize on the important trends it is exposed to.



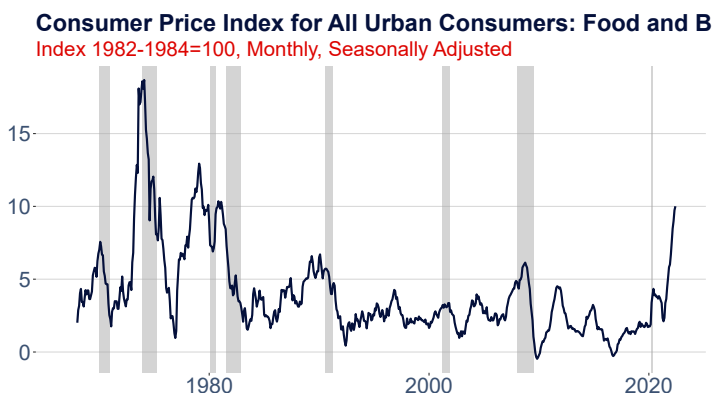
Surging food prices are not unprecedented but still scary

For the longest time, the safety of food supplies has been a topic primarily for discussions centring around Emerging Markets. Rapid population growth, the challenges of climate change and geopolitical instability have been significant concerns in Africa, Asia and South America for decades. We believe that this narrative is changing quickly as the war in Ukraine and severe floods and droughts in Australia, Europe, and the U.S. have exposed the vulnerability of developed nations. Food prices have surged around the world and are driving up already high



Source: FRED, Amadeus as of 2022-04-01

Consumer Price Inflation. Admittedly, some of this development is attributable to the recent surge in oil prices and disruptions in the supply chain for fertilizer and elevated food price inflation has been observed during previous phases of escalating energy cost, most notably during the 70s. In other words, while the

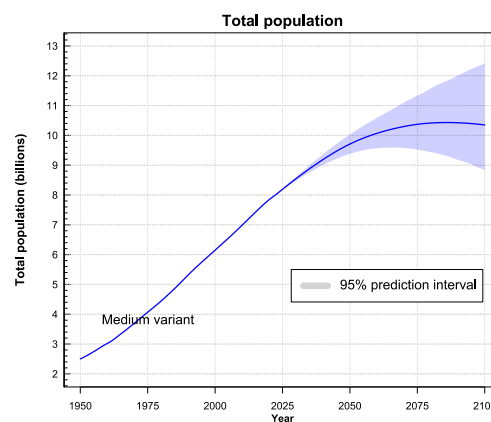
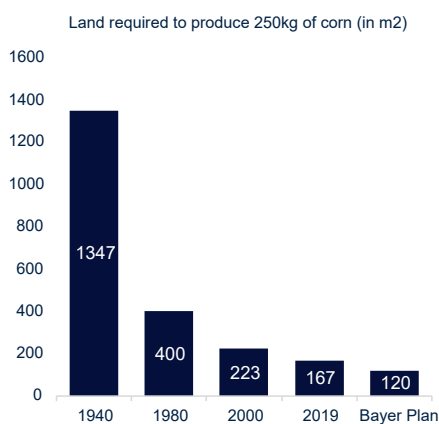


Source: FRED, Amadeus as of 2022-06-01

current surge in food prices is not unprecedented, it is a legitimate concern, and the longer-term worries about climate change potentially make it scarier than during the 70s.

Climate change makes innovation in crop science more important than ever

Population growth in percentage terms has declined over the recent decades, most importantly due to lower birth rates in the developed world and China. At the same time, rising living expectancy and still high fertility rates in India and parts of Africa imply a notable shift in demographic dynamics. According to an analysis by the UN, just five countries, the Democratic Republic of Congo, Ethiopia, India, Nigeria and Pakistan, will contribute 43% of global population growth until 2050, sufficient to push the global human population above the mark of ten



“Another exciting launch that we have is our Corn Rootworm 3 technology, which is based on the very novel RNA interference capability in technology”
 (Rodrigo Santos
 President-Crop Science Division,

billion. There is no doubt that feeding ten billion, hopefully increasingly wealthy people in a rapidly changing environment while avoiding massive environmental destruction will be one of the key challenges over the following decades. Historically, innovation has enabled remarkable progress in agriculture, and according to The Economist, the “global supply of food has nearly tripled since 1970, as the population has doubled to 7.7bn. At the same time, the number of people who have too little to eat has fallen from 36% of the population to 11%, and a bushel of maize or cut of beef costs less today than 50 years ago in real terms”. The past months have already demonstrated how some time of elevated food price inflation can impact popular narratives as consumers shunned once praised organic while demand for pricey vegan meat substitutes slowed.

Countries with most cultivated GM crops



Canada, USA, Brazil, Argentina, and India account for 92,5% of all GMO hectares

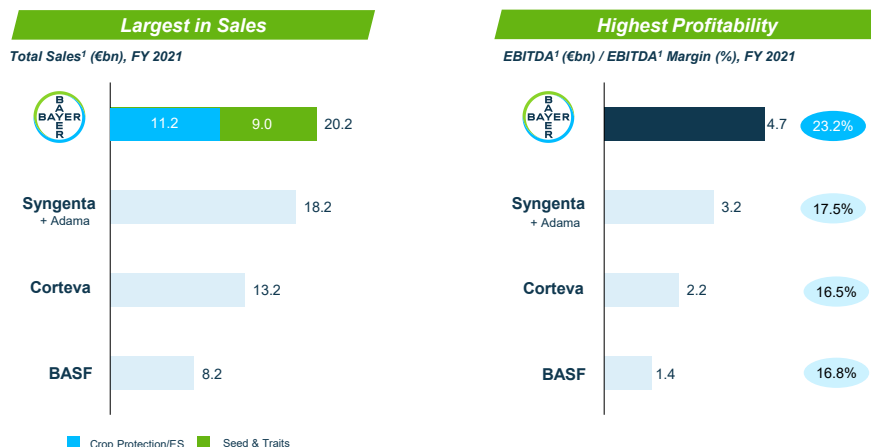
India is already one of the most important markets for genetically modified crops.

The country is set to overtake China as the most populous nation in the world sometime next year and is expected to grow to 1.66bn people by 2050, while its climate will be increasingly hostile to life.

We think the need for innovation in agriculture will be persistently high over the next decades, and as the fallouts from climate change become more evident, the sentiment towards Bayer’s products may also undergo a profound transformation.

Recent Highlights in Crop Science

According to its own estimates presented at the Bernstein Conference in June 2022, Bayer is the leading player in crop science worldwide and boasts the high-



est operating profitability. Highlights raised during the Bernstein Conference include a top branded share position in the US in corn and strong results at the National Corn Grower yield trials, where Bayer genetics won 21 of 27 of the most

	Q1 2021	Q1 2022	Reported	FX & p adj.*
Crop Science	6646	8447	27.1%	21.60%
Corn Seed & Traits	2394	2755	15.1%	9.90%
Herbicides	1488	2484	66.9%	59.80%
Fungicides	880	1063	20.8%	18.60%
Soybean Seed & Traits	529	574	8.5%	0.80%
Insecticides	360	413	14.7%	11.60%
Environmental Science	285	377	32.3%	24.30%
Vegetable Seeds	157	162	3.2%	0.80%
Other	553	619	11.9%	5.10%

Fx & p adj. = currency- and portfolio-adjusted 1

recent tests. Management also sees a clear competitive advantage in soybeans and a growing scale advantage in R&D due to the amount of data collected that helps improve its genetic and genomic understanding.

Q1 2022 results were reassuring as Bayer reported double-digit growth for the division, helped by both pricing and volume growth. Management also noted a positive development in the company's profitability as efficiency measures and cost savings overcompensated an inflation-driven increase in the cost of goods sold.

As a consequence, Bayer's EBITDA margin in the crop science division increased to 43.4%. As shown in the table above, the positive momentum was relatively broad-based but particularly strong in the division's dominating products. For the longer-term, management sees up to € 30bn in peak sales potential for its existing crop-science product pipeline.

"Improved pricing and efficiency measures more than compensating for a cost inflation impact of approximately €200 million in the first quarter."
 (Rodrigo Santos
 President-Crop Science Division,

"We start with the benefit of having number one or number two positions in every key market around the globe."
 (Rodrigo Santos
 President-Crop Science Division,
 Bayer AG)

"Biotechnology ... is an anchoring point of our nearly \$2 billion licensing business that we have and that €2 billion business."
 (Rodrigo Santos
 President-Crop Science Division,
 Bayer AG)

A glimpse of hope in the pharmaceuticals division

With the looming patent cliff hanging over it like a Damocles sword, Bayer's pharmaceuticals division is more complex to value than its crop science division - at least assuming no major surprise on the litigation side. In Q1 2022, almost half of the division's y/y growth was contributed by the strong trajectory of Eylea, which will lose patent protection in 2023 (even though management highlighted that generic competition for the drug would likely be more limited than for Xarelto).

	<u>Q1 2021</u>	<u>Q1 2022</u>	<u>Reported</u>	<u>FX & p adj.*</u>
Xarelto	1138	1087	-4%	-5.0%
Eylea	671	774	15%	13.9%
Mirena	319	295	-8%	-12.7%
Adalat	175	239	37%	26.0%
Kogenate	185	208	12%	7.2%
YAZ/Yasmin/Yasminelle	185	198	7%	5.6%
Aspirin Cardio	184	187	2%	-3.4%
Adempas	128	153	20%	14.9%
Stivarga	121	144	19%	13.0%
CT Fluid Delivery	103	117	14%	7.9%
Gadovist product family	100	108	8%	8.0%
Ultravist	80	105	31%	26.4%
Betaferon/Betaseron	89	83	-7%	-9.4%
Nexavar	121	82	-32%	-34.7%
Nubeqa	44	76	73%	61.5%
Best-selling products	3643	3856	6%	3.0%
% of Pharmaceuticals sales	83%	83%		

Fx & p adj. = currency- and portfolio-adjusted 1

Number one best-selling drug, Xarelto, felt the bite of the loss of patent protection in China as sales declined by 50% in the country, resulting in an overall FX and portfolio adjusted revenue loss of 5% despite positive growth in all other regions. The pharmaceuticals division also delivered a weaker performance on EBITDA as Bayer stepped up its marketing activities for new products such as Keren-dia, Nubeqa and Verquvo while incurring higher R&D expenses (partly driven by unfavourable comps because Q1 21 benefited from the sale of a priority review voucher) and FX headwinds.

Nubeqa (prostate cancer drug with €3bn est. peak sales) and Verquvo (a heart failure med with €1bn est. peak sales) are two of Bayer's most important white hope products, supposed to help the company add €4 billion in sales through new launches until 2027.

This will hopefully compensate for the expected €3bn revenue loss from Xarelto and Eylea. As a consequence, Bayer would only realize a low to mid-single-digit sales decline in 2024. Overall, the [company's development pipeline](#) demonstrates that it is betting heavily on oncology and cardiovascular diseases ([5 out of 7 Phase III drugs](#)).

"Precision medicines and more targeted personalized therapies will feature even more prominently in our future pipeline, not just in the rapidly growing oncology franchise, but also across cardiovascular, kidney diseases and as mentioned beyond."

(Christian Rommel
Head-Research & Development,
Bayer AG)

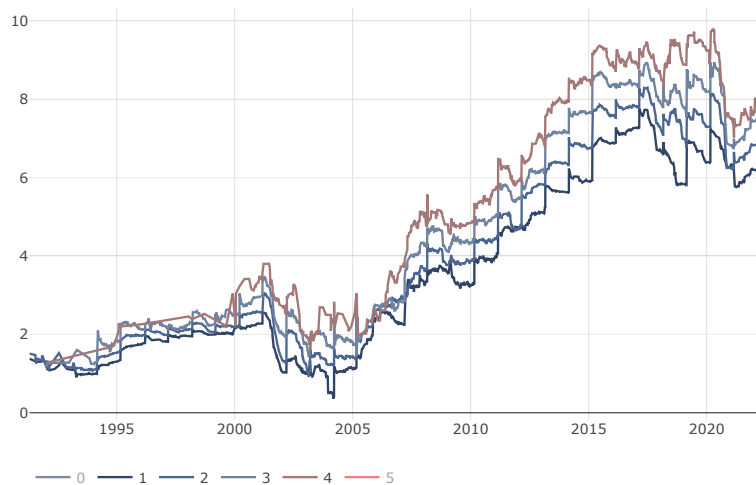
"Our ambition is to become one of the top 10 oncology companies by 2030."

(Christian Rommel
Head-Research & Development,
Bayer AG)

EPS revisions seem to have turned this year

After several years of stagnation or decline, EPS estimates for Bayer have stabilized on the back of declining litigation risk, favourable crop science performance and a more positive outlook on the company's ability to compensate for future patent losses in its pharmaceuticals division.

EPS Revisions current year (Yr 1), next year (Yr 2), Year 3 and 4



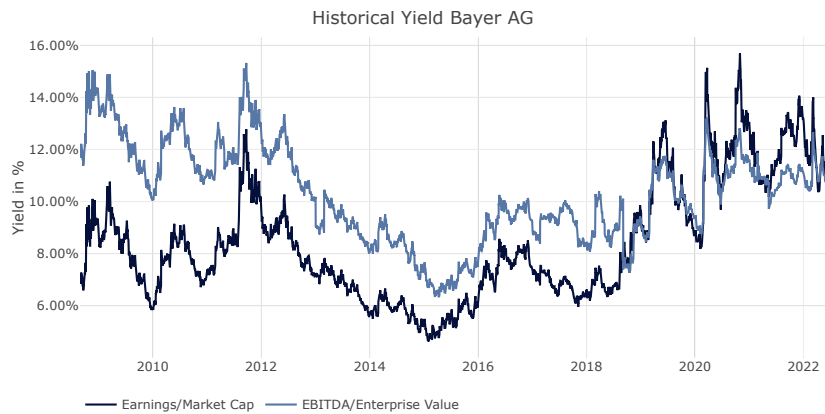
So far, Bayer's shares have outperformed the broad European equity market and its major pharmaceutical peers in 2022.

Consequently, Bayer's share price stabilized and performed broadly in line with the broad European equity market since 2020 while outperforming in 2022. Year to date, its shares also fared better than those of major European pharmaceutical peers (Roche, Novartis, Sanofi, Novo Nordisk, Glaxo Smith) even though there has recently been some short-term reversal.



On forward looking valuation multiples, Bayer trades at a notable discount

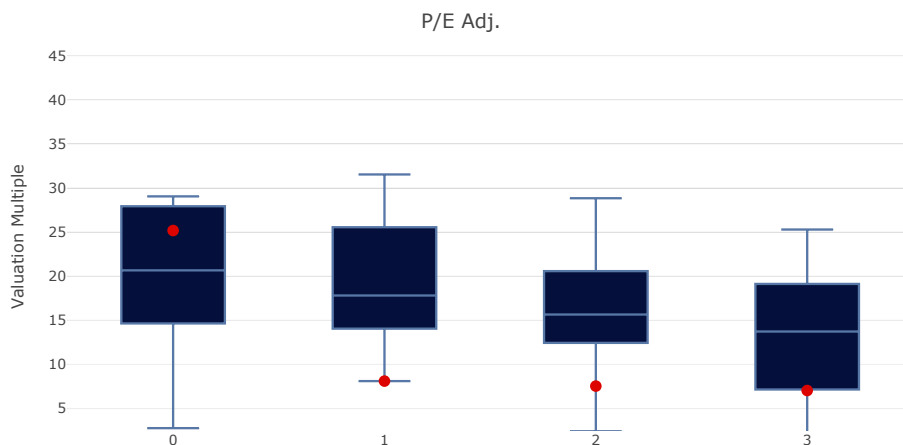
We also note that Bayer's valuation multiple has stabilized since 2020 after a major reset following the acquisition of Monsanto that we believe added a significant risk premium due to litigations and the substantially higher financial leverage.



Bayer's valuation multiple contracted significantly following its cursed acquisition of Monsanto but has stabilized since 2020.

In terms of valuation, Bayer also ranks favourably to its major pharmaceutical peers, trading at a significant discount on forwarding earnings estimates. We believe that this discount is attributable to a range of factors, including the still looming litigation risk, uncertainty about the success of new pharmaceuticals launches and investor fatigue due to poor ESG ratings and past management missteps, including serious communication lapses.

Price/Earnings Ratio AB InBev vs Closest Peers



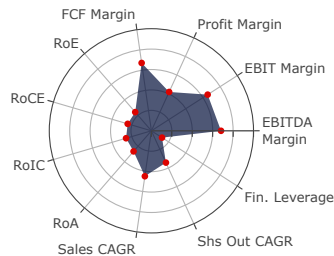
It doesn't require too much phantasy to imagine a meaningful revaluation once investors stop focusing on litigation and Bayer's cash-generating capabilities start shining through again.

We acknowledge these risks and the fact that Bayer still ranks poorly in terms of quality. However, moving forward, we see the potential for a re-rating as extraordinary items will burden the company way less in the future, and its cash-generating abilities should shine through again. Bayer is, after all, a highly innovative global player with a strong market position in two desirable markets. A substantial re-rating may not be warranted yet, but it doesn't require much phantasy to imagine it.

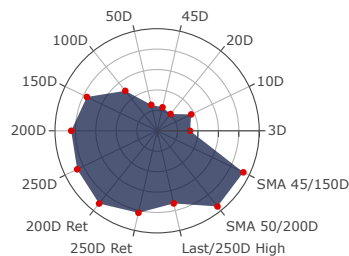
Balance sheet quality and governance are weighing on the stock

Today, Bayer is worth less than the price it paid for Monsanto, which has led to calls for a break-up. Management has resisted such requests, but it is hard to close one's eyes to the fact that synergies between the crop science and pharmaceuticals division are very limited.

Amadeus Quality Scoring



Amadeus Momentum Scoring



Bayer shares rose 3.6% on the day when Temasek first disclosed its intention to push for the removal of Werner Baumann.

More recently, investors also raised concerns over Bayer's executive compensation and succession planning. Singapore's sovereign wealth fund (Temasek), a long-term Bayer shareholder and strategic partner in a vertical farming venture in the city-state, increased pressure on the company's long-term CEO with a vote of no confidence this year.

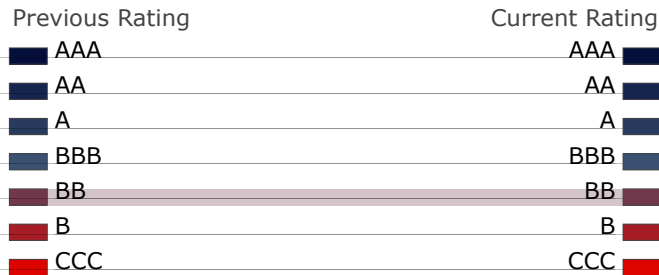
Bayer shares rose 3.6% on the day when Temasek first disclosed its intention to push for the removal of Werner Baumann, a rare activist move for the fund. While Baumann, who is also responsible for the Monsanto takeover, survived the shareholder meeting grace to backing from proxy brawlers Institutional Shareholder Services (ISS) and Glass Lewis, his position is all but secure, and shareholder activism could become another catalyst in the near to medium-term.

Business ethics controversies and executive pay weigh on Bayer's governance quality ratings

Governance Pillar Score					
Corporate Governance Theme Score				Corporate Behavior Theme Score	
Accounting 0-10 Score	Board 0-10 Score	Ownership & Control 0-10 Score	Pay 0-10 Score	Business Ethics Score	Tax Gap Score
Score: 10 Quartile: NA Weight: 5.5%	Score: 7.2 Quartile: NA Weight: 5.5%	Score: 8.8 Quartile: NA Weight: 5.5%	Score: 2.3 Quartile: NA Weight: 5.5%	Score: 2.1 Quartile: NA Weight: 5.5%	Score: 7 Quartile: NA Weight: 5.5%

Bayer's charme offensive has yet to bear fruits among ESG rating agencies

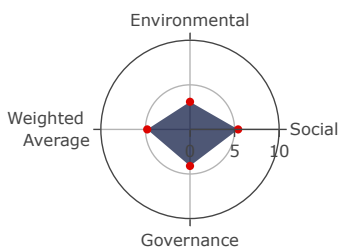
Bayer is rated BB by MSC ESG analytics which puts it into the lower tier of companies considered to have a “mixed or unexceptional track record of managing the most significant ESG risks ... compared to industry peers”. This is in line with the assessment by Sustainalytics.



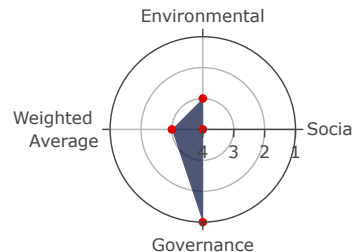
Concerns highlighted by the analysts include product liability issues related to the birth control devices Mirena and Essure as well as “reputational and product liability issues ... due to Bayer’s production of the Agent Orange herbicide and ne-onicotinoids, and the GM crops inherited from its 2018 acquisition of Monsanto”.

While the company’s safety program is considered in line with best practice, MSCI criticises a lack of initiatives to develop alternatives to potentially harmful substances. Other risks highlighted are controversies around Bayer’s patent enforcement practices and lawsuits against farmers complaining about the lack of innovation in the company’s soybeans and disputing that patent protection is warranted.

Pillar Scores (Absolute ESG Score)



Pillar Quartiles (Relative ESG Score)



There is ongoing controversy around the company’s compliance with the UN Global Compact Initiative. According to several ESG rating agencies, Bayer fails to adhere to the Global Compact principles, which makes the stock ineligible for many ESG funds.

Human Rights Compliance	Labor Compliance Broad	Labor Compliance Core	Global Compact Compliance
Pass	Pass	Pass	Fail

Differences in opinion related to UNGC waiting to be resolved

Bayer has expressed that it disagrees with this view and addressed critical concerns raised by the agencies during a dedicated presentation in June 2022, aside from emphasizing that adherence to the principles is not officially evaluated by the UN. Bayer also promised improved communication on the issue. Concerns addressed include the topic of herbicide's impact on biodiversity, plant genetic diversity, cross-pollination between genetically modified and non-modified plants, R&D activity and the enforcement of IP rights on smallholder farmers.

We believe it will be interesting to see whether the company's increased efforts in communicating its position on controversial topics will lead to rating changes over the following months.

Controversies

Bayer has exposure to various controversial business activities, including 24% of its revenues being derived from the production or supply of biocides.



Beyond that, the company is exposed to controversies related to Animal Welfare as it uses animal testing for pharmaceuticals and crop science testing, Genetic Engineering given its production of genetically modified seeds and Stem Cell research. It is noteworthy that Bayer utilizes animal testing partly to comply with regulatory requirements. It has also put in place a policy that complies with the German Animal Welfare Law and other animal welfare ordinances.

The seemingly endless nightmare of glyphosate litigation

Bayer's acquisition of Monsanto and its controversial, widely used Glyphosate-based herbicide, Roundup, has become a legal and reputational nightmare for the company. Glyphosate was registered as a pesticide in the U.S. in 1974 and has since been reviewed on a regular basis by the United States Environmental Protection Agency (EPA), which until today finds "that there are no risks of concern to human health when glyphosate is used in accordance with its current label". However, the pesticide was labelled "probably carcinogenic to humans" by the WHO's International Agency for Research on Cancer in 2015. The group of "probably carcinogenic" agents includes both substances and exposure circumstances considered to increase the risk of individuals developing cancer.

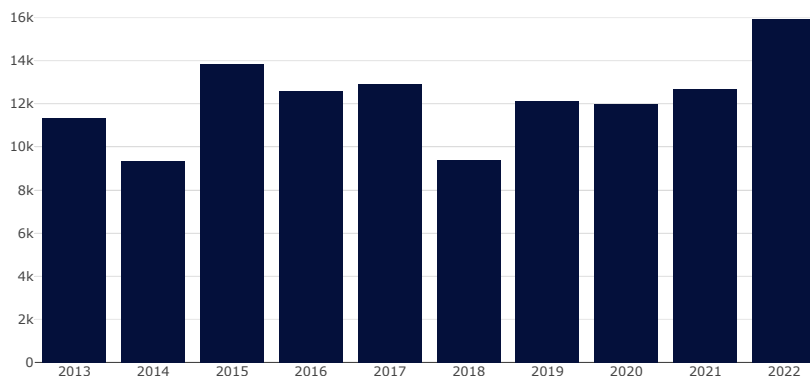
It is noteworthy that this category comprises any beverages consumed at above 65 °C as well as activities like night shift work or hairdressing. Evidence for Glyphosate's carcinogenicity came from human samples and animal studies. Beyond that, the IARC found evidence for the genotoxicity of the pesticide, meaning it is likely to damage genetic information. Glyphosate has also sparked controversy in the context of biodiversity loss, as researchers have linked it to the loss of plankton diversity in freshwater reservoirs. Plankton lies at the bottom of the food chain, and a loss of it is harmful to higher-developed species.

Other studies found that the pesticide damages wild bee colonies, a sensitive topic given the widely observed mass extinction of these vital pollinators and its impact on ecosystems. Just recently, U.S. researchers found detectable levels of Glyphosate in the urine of 87% of 650 children and 80% of 1600 adults tested for a study. The pesticide likely got into the human bodies through their food chain, where it had previously

"Most widely used pesticide in history harms critical ability of bumblebee to regulate nest temperature."
(The Guardian)

"Low intrinsic toxicity for bees became a key target for insecticide Research."
(Bayer)

Provision for Risks & Charges



"In fact, glyphosate is actually an important tool for helping farmers preserve the environment and biodiversity."
(Bayer)

been detected in samples of non-organic hummus and chickpea and breakfast cereals. Bayer has announced that it intends to end the sale of Roundup (a Glyphosate-based product) for non-professional use in the U.S. in 2023 and launch a reformulated version for lawn and garden use. At the same time, management emphasized that the move "is exclusively geared at managing litigation risk and not because of any safety concerns".

Recent court decisions support Bayer's position

The many contradictory research results and the hardened fronts make an assessment of the risks stemming from Bayer's Glyphosate business particularly difficult. The product has been in the market for more than 40 years, and Bayer never tires of emphasizing the numerous studies backing its claims that the product is safe.

We do not want to weigh the arguments here, but the case reminds us a bit of the tobacco litigation, and as the saying goes, where there is smoke, there is fire. Furthermore, Bayer has a history of downplaying the risks related to Glyphosate and faces complaints from shareholders over its communication.

Regardless of this, on its website, the company launched a special category dedicated ([available here](#)) to explaining the alleged benefits of the product and demonstrating the favourable research findings. Furthermore, management announced a five-step plan ([available here](#)) to close the roundup litigation in the United States.

"The global glyphosate market is forecasted to grow at a rate of 7.1% from USD 9.45 billion in 2021 to USD 15.01 billion in 2030."

(Pedro Earp, Chief Marketing & ZX Ventures Officer)



"Where there is smoke there is fire"

So far, the company has settled ~107,000 of the ~138,000 current cases, and in 2021 and 2022, Bayer's legal claim expenses summed up to a whopping €16.6bn. Its five-step plan includes the following points.

1) Seek positive ruling from the U.S. supreme court.

Bayer sought a supreme court ruling on the Hardeman case but got rejected by the Supreme Court in June 2022. Hardeman developed non-Hodgkin's lymphoma after decades of exposure to Roundup (a Glyphosate-based product) and argued that the substance caused it. He got awarded \$80m in a jury verdict in 2019, including \$75m in punitive damages.

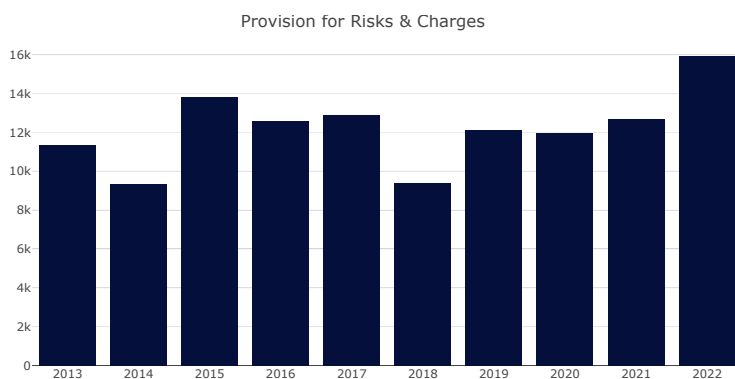
The jury's finding that Roundup caused Hardeman's cancer was confirmed in May 2021 by the United States Court of Appeals for the Ninth Circuit, a federal court of appeals. After the rejection of the review of the Hardeman case, Bayer hopes that a Circuit split (conflicting rulings by two or more circuit courts of appeals on the same legal issue) caused by future cases would increase the grounds for Supreme Court review.

Bayer's five-step plan to manage litigation risk

So far, Bayer won four consecutive lawsuits this year, including an Oregon jury verdict in June in the \$39m case of Larry and Gayle Johnson. This case must not be confused with the 2018 case of Dewayne Johnson, who was awarded \$78.5m in a final ruling, later cut to \$21m in appeal. Dewayne Johnson's case was the first trial over Roundup, setting off the current wave of lawsuits.

2) Activate claims program to manage future cases

Bayer announced that it set aside another \$4.5bn in additional provisions for the case of an adverse Supreme Court Ruling. This brings the company's total provisions to €15.6bn, ~€8.5bn for legal risks, out of which 80% is attributable to glyphosate, the rest to litigations around PCB, Essure and dicamba.



3) Continue to manage current cases

According to company filings, Bayer already has settled ~107k of the pending ~138k cases but does not intend to entertain further settlement discussions over the remaining ~31k cases in case the Supreme Court grants a review.

4) Introduce new U.S. Lawn and Garden (L&G) formulations

Bayer announced that it will discontinue selling the current version of Roundup in 2023 and replace it with a reformulated product to manage "litigation risk and not because of any safety concerns". Nevertheless, it will continue to sell Glyphosate-based pesticides for professional use.

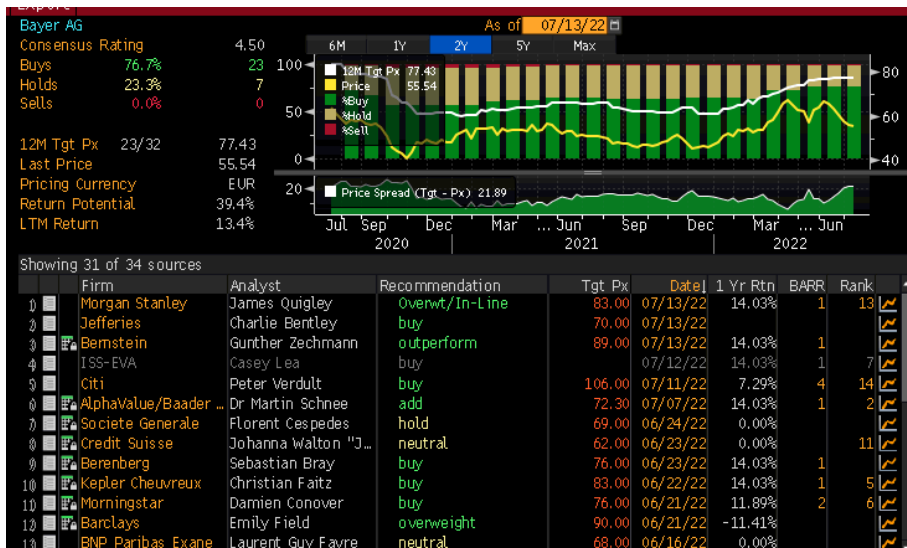
5) Promote new safety study webpage

The company also communicated that it "will request permission from the U.S. EPA to promote" its new [webpage on EPA's review of Glyphosate](#) safety.

We do not have a view on the outcome of future glyphosate trials or the likelihood of Bayer succeeding in obtaining a favourable Supreme Court Ruling. We note that Bayer's position on glyphosate's safety enjoys the support of a vast body of scientific research and regulatory bodies like the EPA.

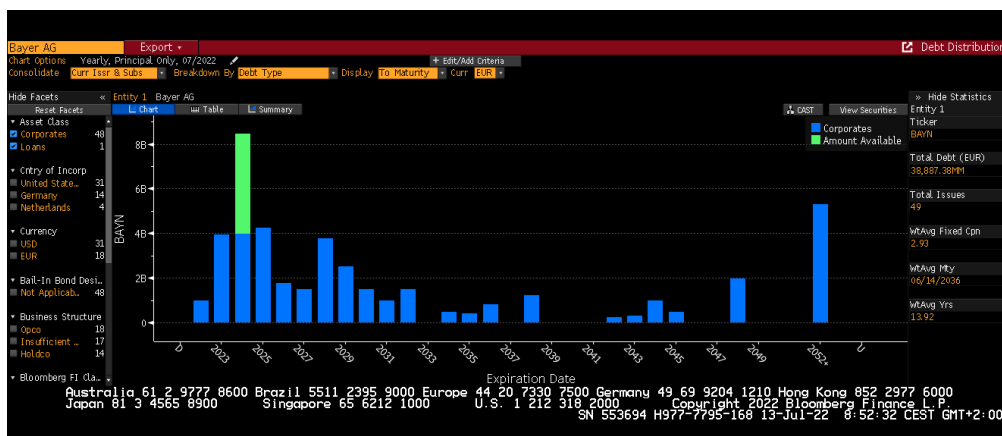
However, as the Ninth Circuit found, "EPA's approval of a pesticide label does not immunize a manufacturer from liability in the tort system". The fact that the riskiness of glyphosate has become a highly emotional topic certainly does not help in this context. Notwithstanding this, a lot of litigation risk has already been priced into the stock, but new findings on the pesticide's environmental impact could pose an additional risk.

Analyst Recommendations



Bayer is rated as a Buy by 76.7% of the sell-side analysts covering the stock. The average price target is 55.54 and has held up well so far during this correction.

Monetary policy has helped Bayer keep its average coupon rate low



Bayer's crop science and pharmaceuticals business should experience relatively low economic sensitivity.

Bayer is rated BBB with a positive outlook by Fitch Ratings. As there is light at the end of the tunnel of Roundup litigations, a significant improvement in operating cash flows should help Bayer manage its debt.

An average coupon rate of only 2.9% and an average time to maturity of almost 14 years are helpful in this context. Bayer also recorded high topline growth on the back of inflation-driven price increases in Q1 2022, and its crop science and pharmaceuticals business should experience relatively low economic sensitivity.

Management

Norbert Winkeljohann, DBA (Chairman-Supervisory Board)
 Werner Baumann (Chairman-Management Board & CEO)
 Wolfgang U. Nickl, MBA (Chief Financial Officer)

Financials - Income Statement

EUR

Income Statement	Trend	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sales/Revenue Restated		39,741	40,157	41,339	46,085	34,943	35,015	36,742	43,545	41,400	44,081
Consensus Mean Est.											
Number of Estimates											
Sales/Revenue y/y		8.80%	1.05%	2.94%	11.48%	-24.18%	0.21%	4.93%	18.52%	-4.93%	6.48%
- Cost of Goods Sold (COGS) incl D&A		16,429	16,905	17,214	17,938	9,405	9,241	12,489	13,174	14,855	13,076
Gross Income		20,671	20,641	21,430	25,045	23,187	23,633	21,361	25,932	22,262	27,265
Gross Income % of Sales		52.01%	51.40%	51.84%	54.35%	66.36%	67.49%	58.14%	59.55%	53.77%	61.85%
- Selling, General & Administrative Expense		11,518	11,935	12,436	14,515	13,097	13,258	14,881	15,429	15,142	14,029
Research & Development		3,013	3,194	3,537	4,274	4,405	4,504	5,105	5,301	7,126	5,412
Operating Lease Expenses		226	215	219	263	346	385	565	293	271	286
EBITDA Before Unusual Expenses		8,500	8,171	8,051	9,290	7,895	8,483	10,280	10,423	11,792	10,911
Consensus Mean Est.											
EBITDA Before Unusual Expenses %		21.39%	20.35%	19.48%	20.16%	22.59%	24.23%	27.98%	23.94%	28.48%	24.75%
Depreciation & Amortization		2,641	2,611	2,695	3,102	2,351	2,141	2,892	4,439	4,283	3,740
Consensus Mean Est.											
Depreciation & Amortization %		6.65%	6.50%	6.52%	6.73%	6.73%	6.11%	7.87%	10.19%	10.35%	8.48%
EBIT Before Unusual Items		5,859	5,560	5,356	6,188	5,544	6,342	7,388	5,984	7,509	7,171
Consensus Mean Est.											
EBIT Before Unusual Items %		14.74%	13.85%	12.96%	13.43%	15.87%	18.11%	20.11%	13.74%	18.14%	16.27%
EBIT (Operating Income)		5,287	4,740	5,501	6,281	5,703	5,888	1,387	5,213	12	7,930
EBIT (Operating Income) %		13.30%	11.80%	13.31%	13.63%	16.32%	16.82%	3.77%	11.97%	0.03%	17.99%
- Unusual Expense		2,107	753	318	192	75	724	4,022	1,657	23,272	3,943
- Interest Expense		558	584	611	751	690	1,061	1,548	1,634	1,391	1,231
% of Total Debt		5.86%	6.70%	2.88%	3.92%	3.65%	7.73%	3.76%	4.19%	3.34%	3.02%
Pretax Income		3,194	4,223	4,427	5,245	4,779	4,557	1,818	2,693	17,154	1,997
- Income Taxes		723	1,021	1,071	1,223	1,017	1,329	496	443	1,689	1,024
Eff Tax Rate		22.64%	24.18%	24.19%	23.32%	21.28%	29.16%	27.28%	16.45%	9.85%	51.28%
Equity in Earnings of Affiliates	-	18	16	13	9	6	20	68	160	96	49
Equity in Earnings of Affiliates %		-0.05%	-0.04%	-0.03%	-0.02%	-0.02%	0.06%	0.19%	0.37%	-0.23%	0.11%
Consolidated Net Income		2,453	3,186	3,343	4,013	3,756	3,248	1,390	2,410	15,561	1,022
- Minority Interest Expense		50	3	17	12	13	1	16	19	8	22
Minority Interest % of Sales		0.13%	-0.01%	0.04%	-0.03%	0.04%	0.00%	0.04%	0.04%	0.02%	0.05%
Stock Option Compensation Expense											
Net Income Avail to Common - Basic		2,403	3,189	3,326	4,025	3,743	3,249	1,374	2,391	15,569	1,000
Discontinued Operations				100	85	788	4,087	321	1,700	5,074	
Net Income Avail to Common - Incl. Disc. Op.		2,403	3,189	3,426	4,110	4,531	7,336	1,695	4,091	10,495	1,000

According to Factset, the sell-side consensus expects Bayer to grow its topline by a high-single-digit figure in 2023, followed by low-single-digit growth in 2024 due mainly to the loss of patent protection of Xarelto in the United States.

The drug already lost patent protection in China, which led to a 50% sales decline in Q1 2022 compared to Q1 2021.

The company will continue to benefit from a surprise court decision in Europe in October 2021 which granted it patent protection until 2026 on the continent, giving it more time to build its replacement [pipeline](#).

Over the next years, EBITDA is expected to grow at low-single-digit rates as Bayer registers favourable price and volume momentum in its crop science division but needs to continue investing in its pharmaceuticals pipeline.

Financials - Cashflow Statement

Cashflow Statement	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Starting Line (Factset)	2,453	3,186	3,343	4,013	3,756	3,248	1,390	2,410	15,561	1,022
+ Depreciation, Depletion & Amort) (CF)	2,641	2,611	2,695	3,102	2,351	2,141	2,892	4,439	4,283	3,740
+ Deferred Taxes & Investment Tax Credit				1,031	572	202	1,927	1,341	2,976	602
+ Other Funds	- 902	- 178	527	972	3,172	2,154	492	268	9,256	1,485
Funds from Operations Gross	4,192	5,619	6,565	7,056	8,707	7,341	2,847	5,240	4,998	2,675
Extraordinary Items										
Changes in Working Capital	- 26	- 661	- 1,010	- 712	- 323	- 229	- 4,398	- 1,624	- 8,759	- 1,351
Accounts Receivable	- 455	- 751	- 1,072	- 1,059	- 385	- 18	- 2,520	- 14	- 695	- 61
Inventories (Cash Flow)	- 680	- 608	- 748	- 191	- 78	- 293	- 636	- 103	- 900	- 173
Accounts Payable (Cash Flow)	550	389	485	400	310	265	257	759	347	854
Income Taxes Payable										
Net Operating Cash Flow	4,166	4,958	5,555	6,344	8,384	7,570	7,245	6,864	3,761	4,026
Cash Conversion Ratio	0.93	1.18	1.35	1.34	1.82	1.57	1.26	1.49	0.46	0.88
- Capital Expenditures (Total)	1,929	2,157	2,371	2,517	2,578	2,366	2,593	2,650	2,418	2,611
Consensus Mean Est.										
Capital Expenditures (Total) %	4.85%	5.37%	5.74%	5.46%	7.38%	6.76%	7.06%	6.09%	5.84%	5.92%
+ Sale of Fixed Assets & Businesses	408	232	447	195	113	241	230	283	329	373
+ Purchase/Sale of Investments	1,069	301	- 177	- 370	- 6,335	- 1,230	- 5,717	- 575	- 4,027	- 4,302
+ Other Uses					- 18					- 6
+ Investing Activities - Other Sources						453	7,563	2,546	4,172	
Net Investing Cash Flow	- 918	- 2,706	- 15,646	- 2,868	- 8,818	- 600	- 34,399	- 806	- 4,207	718
Asset Turnover	0.71x	0.73x	0.64x	0.60x	0.43x	0.43x	0.35x	0.33x	0.33x	0.35x
- Cash Dividends Paid	1,366	1,571	1,737	1,861	2,068	2,233	2,402	2,611	2,751	1,963
Common Dividends	1,366	1,571	1,737	1,861	2,068	2,233	2,402	2,611	2,751	1,963
Preferred Dividends (Cash Flow)										
- Change in Capital Stock				1,490	3,300	3,717	8,986			
+ Issuance/Reduction of Debt, Net	- 1,946	- 619	- 11,838	- 2,929	- 730	- 2,479	- 17,819	- 4,296	- 4,467	- 2,452
Change in Long-Term Debt										
Other Funds	- 3	- 7	- 3	- 22	- 58	- 154	- 52	- 4	- 17	- 30
Net Financing Cash Flow	- 3,315	- 2,197	- 10,098	- 3,322	- 444	- 1,149	- 24,351	- 6,911	- 1,699	- 4,445
Exchange Rate Effect	- 6	- 91	- 184	- 153	- 27	- 139	- 581	- 6	- 240	- 35
Net Change in Cash	- 73	- 36	191	1	37	5,682	- 3,384	847	1,013	334
Net Shareholder Return	1,366	1,571	1,737	371	- 1,232	- 1,484	- 6,584	2,611	2,751	1,963

On balance, without further surprises on the litigation side, Bayer's earnings and cash flow should normalize over the coming years, which implies an operating cash flow in excess of €7bn and potentially dividends higher than € 3bn (> 5.5% dividend yield).

With Bayer returning to its pre-litigation cash flow trajectory, a DCF-Upside in excess of 20% compared to current levels could be justified even assuming limited improvement in return on capital and an elevated market beta around 1.2 for the time being. A steady reduction of the company's leverage ratio and improved visibility on its post-Xarelto, post-Eylea pharmaceuticals business would justify a more pronounced re-rating.

Financials - Balance Sheet

Balance Sheet	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Assets										
Cash & Short Term Investments	2,037	1,829	2,057	2,131	5,424	9,098	5,002	5,404	11,884	7,744
Cash & Short Term Inv. % of Sales	5.13%	4.55%	4.98%	4.62%	15.52%	25.98%	13.61%	12.41%	28.71%	17.57%
Total Accounts Receivable	9,767	9,812	11,387	12,549	16,103	12,055	13,688	14,449	12,058	12,860
Accounts Receivable % of Sales	24.58%	24.43%	27.55%	27.23%	46.08%	34.43%	37.25%	33.18%	29.13%	29.17%
Inventories	6,991	7,129	8,478	8,550	8,408	6,550	11,132	10,650	10,961	11,314
Inventories % of Sales	17.59%	17.75%	20.51%	18.55%	24.06%	18.71%	30.30%	24.46%	26.48%	25.67%
Other Current Assets		1,310	1,257	1,474	1,664	3,535	234	1,137	113	76
Other Current Assets % of Sales		3.26%	3.04%	3.20%	4.76%	10.10%	0.64%	2.61%	0.27%	0.17%
Current Assets	18,795	20,080	23,179	24,704	31,599	31,238	30,056	31,640	35,016	31,994
Net Property, Plant & Equipment	9,898	10,015	11,428	12,375	13,114	7,633	12,943	12,479	11,723	12,688
Total Investments and Advances	770	621	1,279	1,287	1,804	5,413	2,717	2,058	2,045	2,631
Long-Term Notes Receivable	1,260	1,153	381	373	553	570	1,011	880	574	553
Long-Term Notes Receivable % of Sales	3.17%	2.87%	0.92%	0.81%	1.58%	1.63%	2.75%	2.02%	1.39%	1.25%
Net Other Intangibles	18,757	18,776	31,000	31,274	29,879	26,425	75,138	74,021	61,842	66,364
Deferred Tax Assets	5,856	4,142	7,182	7,398	7,868	5,194	9,487	9,495	10,487	11,117
Deferred Tax Assets % of Sales	14.74%	10.31%	17.37%	16.05%	22.52%	14.83%	25.82%	21.81%	25.33%	25.22%
Tangible Other Assets	259	386	422	502	593	347	534	670	921	1,431
Tangible Other Assets % of Sales	0.65%	0.96%	1.02%	1.09%	1.70%	0.99%	1.45%	1.54%	2.22%	3.25%
Total Assets	55,595	55,173	74,871	77,913	85,410	76,820	131,886	131,243	122,608	126,778
Asset Turnover	0.71x	0.73x	0.64x	0.60x	0.43x	0.43x	0.35x	0.33x	0.33x	0.35x
Liabilities										
ST Debt (incl. Current Portion of LTD)	2,568	3,324	3,080	2,823	3,014	1,269	3,510	2,060	8,433	4,322
ST Debt %	26.95%	38.12%	14.52%	14.73%	15.93%	9.24%	8.51%	5.29%	20.26%	10.59%
Accounts Payable	4,305	4,473	5,363	5,945	6,410	5,129	6,038	6,426	5,678	6,792
Accounts Payable % of Sales	10.83%	11.14%	12.97%	12.90%	18.34%	14.65%	16.43%	14.76%	13.71%	15.41%
Income Tax Payable	72	458	859	995	1,724	1,094	1,050	758	2,290	686
Income Tax Payable % of Sales	0.18%	1.14%	2.08%	2.16%	4.93%	3.12%	2.86%	1.74%	5.53%	1.56%
Other Current Liabilities	6,159	6,125	6,615	7,289	8,229	6,773	12,527	13,971	20,367	17,603
Other Current Liabilities % of Sales	15.50%	15.25%	16.00%	15.82%	23.55%	19.34%	34.09%	32.08%	49.20%	39.93%
Total Current Liabilities	13,104	14,380	15,917	17,052	19,377	14,265	23,125	23,215	36,768	29,403
Long Term Debt	6,962	5,396	18,136	16,346	15,902	12,464	37,712	36,911	33,201	36,481
Long Term Debt %	73.05%	61.88%	85.48%	85.27%	84.07%	90.76%	91.49%	94.71%	79.74%	89.41%
Provision for Risks & Charges	11,357	9,345	13,829	12,613	12,914	9,386	12,135	11,979	12,699	15,951
Deferred Tax Liabilities	5,212	4,692	4,912	4,750	3,662	2,214	9,821	8,824	6,979	7,468
Deferred Tax Liabilities % of Sales	13.11%	11.68%	11.88%	10.31%	10.48%	6.32%	26.73%	20.26%	16.86%	16.94%
Other Liabilities	409	556	1,859	1,707	1,658	1,630	2,945	2,881	2,286	4,307
Other Liabilities % of Sales	1.03%	1.38%	4.50%	3.70%	4.74%	4.66%	8.02%	6.62%	5.52%	9.77%
Total Liabilities	37,044	34,369	54,653	52,468	53,513	39,959	85,738	83,810	91,933	93,610
Non-Equity Reserves										
Preferred Stock - Carrying Value										
Common Equity (Total)	18,451	20,718	20,106	24,265	30,333	36,801	45,977	47,253	30,523	33,020
Total Shareholders Equity	18,451	20,718	20,106	24,265	30,333	36,801	45,977	47,253	30,523	33,020
Accumulated Minority Interest - Total	100	86	112	1,180	1,564	60	171	180	152	148
Total Equity	18,551	20,804	20,218	25,445	31,897	36,861	46,148	47,433	30,675	33,168
Liabilities & Stockholders Equity	55,595	55,173	74,871	77,913	85,410	76,820	131,886	131,243	122,608	126,778
Check:	0	0	0	0	0	0	0	0	0	0
Total Debt	9,530	8,720	21,216	19,169	18,916	13,733	41,222	38,971	41,634	40,803
Debt to EBITDA	1.12x	1.07x	2.64x	2.06x	2.40x	1.62x	4.01x	3.74x	3.53x	3.74x
Net Debt	7,493	6,891	19,159	17,038	13,492	4,635	36,220	33,567	29,750	33,059
Net Debt to EBITDA	0.88x	0.84x	2.38x	1.83x	1.71x	0.55x	3.52x	3.22x	2.52x	3.03x
Debt to Assets	0.17x	0.16x	0.28x	0.25x	0.22x	0.18x	0.31x	0.30x	0.34x	0.32x

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We offer special know-how in niche strategies, and we provide access to exclusive investment opportunities through our network.

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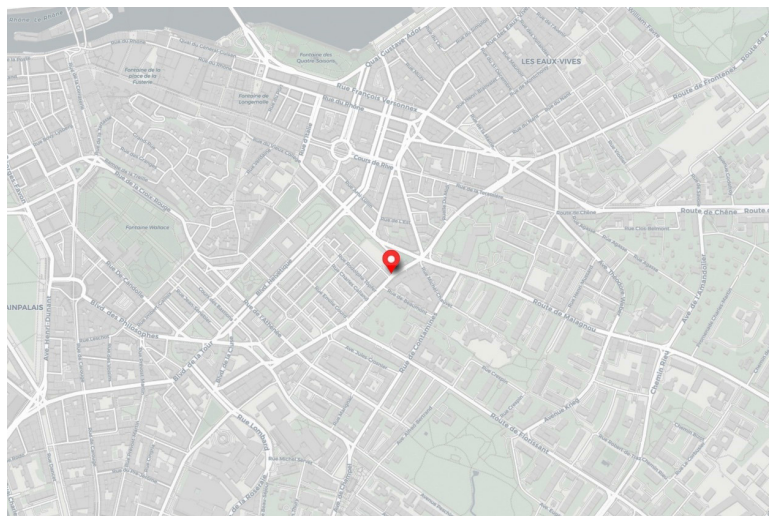
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