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# Merck KGaA

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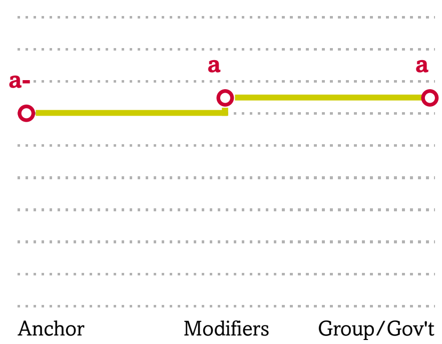
# Merck KGaA

**Business Risk:** STRONG

Vulnerable — Excellent

**Financial Risk:** INTERMEDIATE

Highly leveraged — Minimal




| Issuer Credit Rating |
|---|
| **A/Stable/A-1** |

## Credit Highlights

### Overview

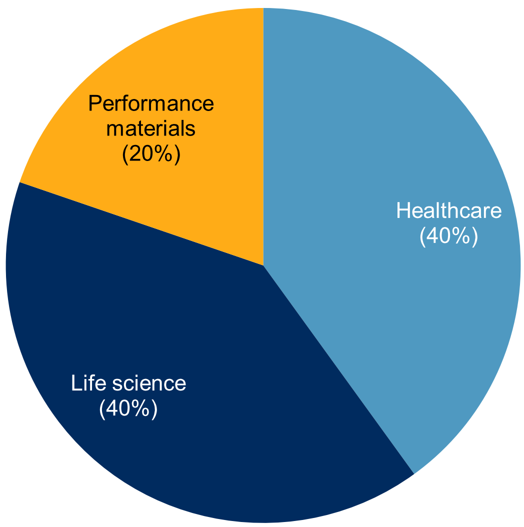
| **Key strengths** | **Key risks** |
|---|---|
| Very strong product diversification and resilient earnings, thanks to its three divisions with different market dynamics. | Competitive pressure on Rebif and Erbitux, the group's first- and third-best-selling drugs. |
| Increasing presence in immuno-oncology field, with a robust pipeline of products that should enable solid organic growth of 5%-10% in the medium to long-term for the Healthcare division. | Potential cash flow leakage from potential patent infringement related to Rebif in the U.S. |
| Leading player in life sciences, enjoying best-in-class margins versus industry leader Thermo Fisher Scientific Inc. | Potential operational headwinds due to the COVID-19 pandemic slowing operations in Asia for its Healthcare and Performance Materials divisions, and Life Science division to a lesser extent. |
| Leading integrated player in the performance materials sector, after the acquisitions of Versum Materials, Inc. in 2019. | Stiff competition in the liquid crystal market from an increased number of Chinese players. |
| A track record of steep deleveraging after sizeable acquisitions. | |
| Public commitment to a prudent financial policy. | |

***Merck KGaA continues to demonstrate earnings resiliency during a global recession, thanks to the depth and breadth of its products and services, which cater to three markets with uncorrelated dynamics.*** With its three divisions serving multiple end markets with uncorrelated market dynamics, Merck enjoys resilient revenue streams that underpin our current 'A' rating. We consider that this diversification will enable Merck to post solid revenue growth of about 5% in 2020, despite the pandemic-induced recession. This diversification was strengthened by the group's merger and acquisition (M&A) strategy over the past 15 years, under which it carried out six transformational transactions (Serono in 2006 for the Healthcare division; Millipore in 2010 and Sigma Aldrich in 2015 for the Life Science division; and AZ Electronics in 2014 and Versum Materials in 2019 for the Performance Materials division), representing more than €35 billion of M&A spending. The track record of successful integrations followed by steep deleveraging show that the top management's key priority is to expand each leg of the company. Historically, this has enabled Merck to reach a relevant size to remain competitive. All divisions will be impacted by the current pandemic though, given that global lockdowns created a dramatic drop in demand not seen since the Great Depression in 1929. We expect demand to rebound somewhat later this year, as consumption patterns return to normal once end customers return to their usual lifestyle. However, we don't believe it will be enough for sales to fully recover in the second half of the year.

Since March, Merck has implemented several cost-containment measures to protect profitability and cash flow. The company's continued cost discipline and expense prioritization have strengthened, leading to lower sales, general and administrative (SG&A) costs as a percent of sales and mitigating margin pressure.

**Chart 1**

**Merck's Revenue By Division**
% of sales expected as of Dec. 31, 2020



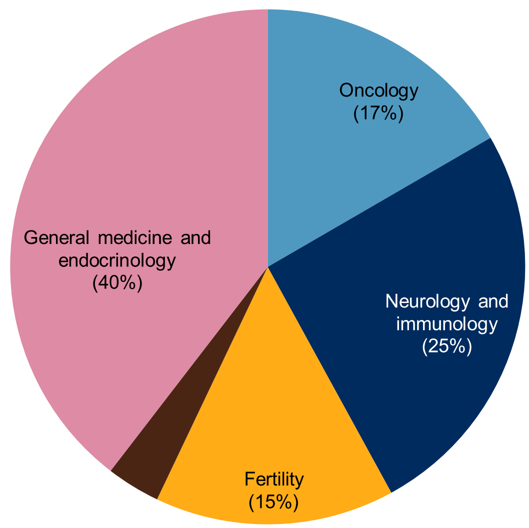

Source: S&P Global Ratings.


***We expect the Healthcare division's organic growth will be limited in 2020, due to competitive pressure and negative impacts from the pandemic, especially in its fertility franchise.*** We anticipate that competitive pressure will continue to dampen sales of Merck's best-selling drug, Rebif, which is used to treat relapsing forms of multiple sclerosis. Sales of a hormone used in infertility treatment (Gonal-f) were heavily impaired in first-half 2020 by the closure of fertility clinics during lockdowns, with a 40% drop in the second quarter, which is very unlikely to be compensated for in the third and fourth quarter. For Erbitux, Merck's third-best-selling drug, declining organic sales in its main market of Europe (45% of sales in second-quarter 2020) were offset by geographic diversification. Notably there were resilient sales in Asia-Pacific (APAC; 40%), with 2.2% organic growth, and the Middle East and Africa (MENA) posted strong momentum with a 47% increase in sales.

Some positive signs for the Healthcare division materialized in June 2020, and should carry into the third and fourth quarter. For example, the reopening of clinics will support the fertility franchise, as well as the ramp-up of two drugs, Mavenclad and Bavencio. As a result, we project very limited sales growth of about 0.5% for this year. Margins should be resilient in the Healthcare division, thanks to a positive product mix contribution while SG&A costs are carefully managed, which mitigates the negative impact from foreign currency fluctuations and one-off COVID-19-related costs.

**Chart 2**

**Merck's Revenue By Therapeutic Area**
% of sales




Source: S&P Global Ratings. Data as of June 30, 2020.


***The Life Science division should continue to support Merck's solid operating performance in 2020, thanks to higher demand for process solutions due to the pandemic more than offsetting weak demand for research solutions.*** Merck has become a leader in the life science industry thanks to sizeable recent acquisitions, notably Sigma-Aldrich in 2015 and Millipore in 2010. Successful integration of these businesses has enabled the group to compete with major players like Thermo Fisher Scientific Inc., which posted sales in excess of $25 billion at Dec. 31, 2020, compared to sales of close to €7 billion for Merck.

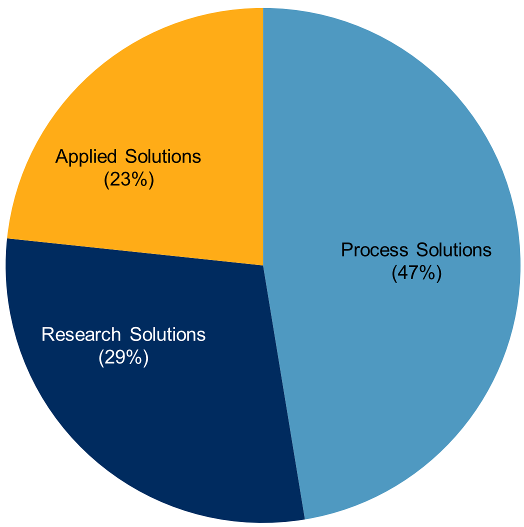
We consider that COVID-19 will have a mixed impact on sales for the Life Science division, with positives outweighing negatives. Process solutions and applied solutions should benefit from continuing demand mostly stemming from COVID-19-related projects, or increasing demand for diagnostic reagents. The race to find a vaccine for the new virus will continue to support Merck's process solutions, after enabling it to post organic revenue growth of 20% in second-quarter 2020.

On the flip side, the research solutions segment has been hit by the COVID-19 pandemic and resulting lockdowns. There was early disruption in China, with several sites closed for almost 10 weeks, and similar situations in other key countries like Germany, the U.K., and Italy. We expect revenue for the research segment to rebound in second-half of 2020 though, as lockdowns lift and clinical research labs reopen, allowing researchers and medical laboratory professionals to resume their studies and researches.

We consider that the Life Science division's sales growth will be positive in 2020, with slight margin shrinkage due to higher costs stemming from temporary disruption of sites and cost overruns for logistics.

**Chart 3**

**Revenue From Merck's Life Science Division By Segment**
% of sales

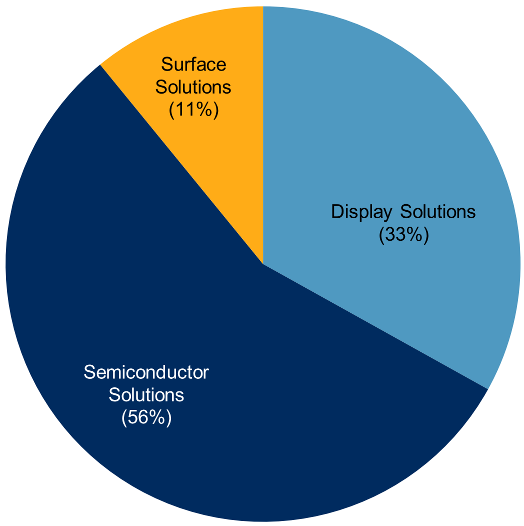



Source: S&P Global Ratings. Data as of June 30, 2020.


***The Performance Materials division should post 33% growth in 2020, thanks to the full consolidation of Versum Materials supporting sales growth.*** We expect the division will post solid topline growth stemming from the consolidation of its latest acquisition (Versum Materials in 2019), which will enable Merck to offer additional solutions for semiconductor manufacturers. This division operates through three business segments, namely Display Solutions (32% of sales in the second quarter), Semiconductor Solutions (59%), and Surface Solutions (9%). The Display Solutions segment has been under severe pressure from stiff competition weighing on the sales of liquid crystals, while COVID-19 led to weaker end user demand and in turn lower customer production volume for both liquid crystal diode (LCD) and organic light emitting diode (OLED) products. The combined impact of these two factors resulted in a 20% organic decline in sales in second-quarter 2020, which is unlikely to be compensated for in the second half of the year. The semiconductor segment continued to post strong momentum in the second quarter of this year, with organic sales increasing by more than 12%. Surface Solutions' performance will also be hampered by COVID-19, because it serves automotive and cosmetics markets, which have seen their fundamentals severely challenged by the pandemic and its impact on global consumption. The division's margins should be supported by Versum Materials' positive contribution offsetting one-time costs linked to COVID-19, and we forecast an EBITDA margin of 27.4% at year-end 2020.

**Chart 4**

**Revenue From Merck's Performance Materials Division By Segment**
% of sales




Source: S&P Global Ratings. Data as of June 30, 2020.

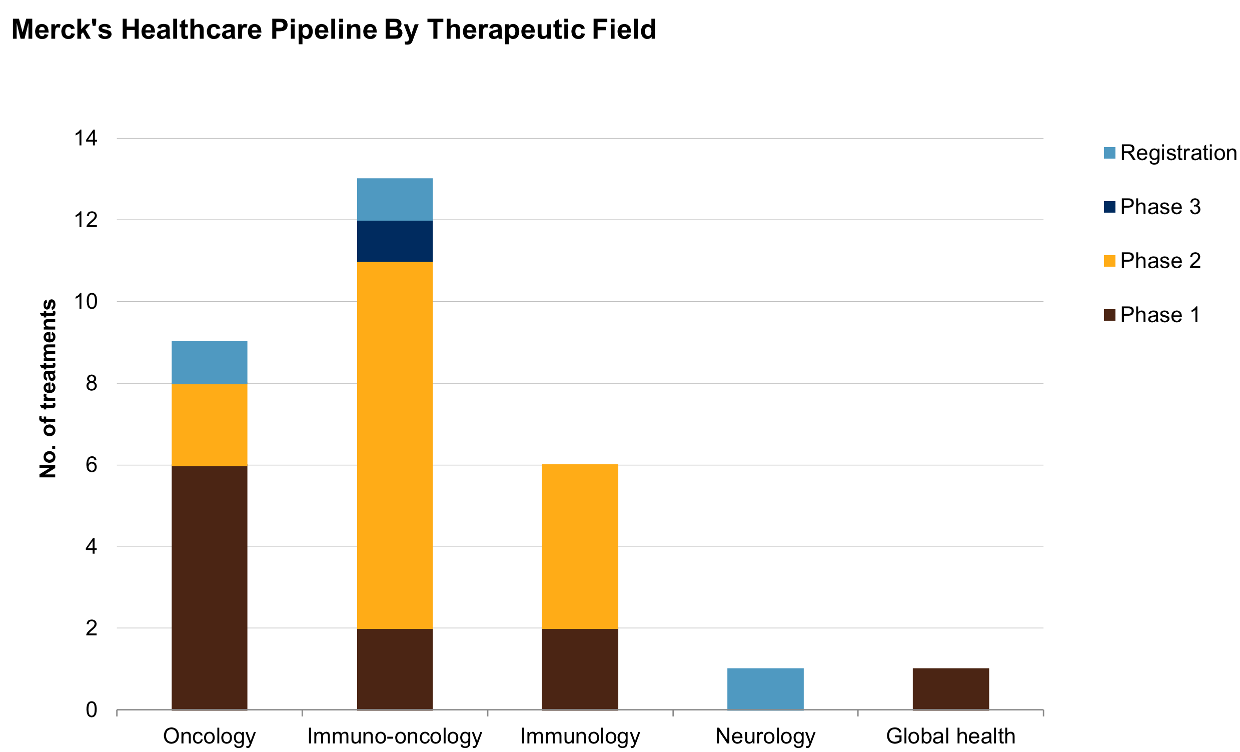

***The successful ramp-up of drugs Mavenclad and Bavencio should support topline growth of about 1.5%-2.0% in the next 12-18 months and beyond, while the group's promising product pipeline insures long-term growth.*** As announced in September 2019, Merck's new drugs (Mavenclad, Bavencio, and Tepotinib) could reach sales of close to €2 billion by 2022.

We anticipate that the group's successful ramp-up for Mavenclad, which started in 2019 and has carried on into the first and to a lesser extent second quarter of 2020, should offset the decline in Rebif (blockbuster drug). However, we consider that growth will come at a slower pace than previously anticipated, mainly due to COVID-19, which has translated into restricted access to health care professionals, as lockdowns where in place in most mature countries, impacting for example the fertility franchise. The group's initiatives to increase the number of prescribers and adopters will be supported by strong clinical results, and the proven long-term effectiveness of Mavenclad at preventing relapses or disease progression of multiple sclerosis relapsing-remitting forms, despite tough competition from Roche with Ocrevus.

In addition, Bavencio, the group's latest immune-oncology drug codeveloped with Pfizer since 2015, should support sales as it represents the first immunotherapy to significantly increase the overall survival rate for patients affected by metastatic urothelial carcinoma (bladder cancer). Moreover, the group is actively leveraging the drug's potential, and launching it for renal cell carcinoma (kidney cancer), with key approvals from the FDA, the EU, and the Japanese health authority in 2019. Further key treatment for other type of cancers should stem from the Javelin trial, like the one announced on June 22, 2020, by the European Medicines Agency (EMA) validating the drug as first-line maintenance treatment for adult patients suffering from bladder cancer (previously only first-line treatment).

Last but not least, Merck entered into a new partnership in February 2019 with GlaxoSmithKline (GSK) to develop a novel immunotherapy drug, which should ensure Merck's continued presence in the quickly expanding immune-oncology field. The deal's total value was €3.7 billion, comprising an upfront fee, development milestone, and approval and commercial milestones. This should support the group's long-term organic growth after 2023. With more than 32 potential treatments stemming from its product pipeline, and a clear focus on the developing fields of immunology, oncology, and immuno-oncology, Merck's Healthcare division has demonstrated a winning strategy of in-house product development mixed with the right strategic partnerships.

**Chart 5**




Source: S&P Global Ratings. Data as of July 31, 2020.

## Outlook: Stable

The stable outlook reflects S&P Global Ratings' view that Merck's financial metrics are in line with the current ratings, despite a spike in leverage in 2019 following the Versum Materials acquisition.

We expect the group's leverage will decrease at year-end 2020, reflecting less debt due to the recent disposal of Allergopharma and higher EBITDA amid solid margins, despite some headwinds from COVID-19 and full consolidation of Versum Materials. We also anticipate that the group's leverage will remain comfortably within the 2x-3x range.

Our stable outlook underpinned by solid cash-flow generation, which is likely to be lower than last year, once we strip out asset disposals and account for one-off costs and working capital outflow stemming from COVID-19 that will mostly impact the Healthcare and Performance Materials divisions over 2020.

### Downside scenario

We could lower the rating if Merck was unable to reach funds from operations (FFO) to debt of close to 30%, and debt to EBITDA below 3x in the next 12-18 months. This could stem from either:

- A steeper-than-expected decline in sales of Merck's top-selling multiple sclerosis drug Rebif, or a setback for the group's third-best-selling drug Erbitux, causing erosion in profitability not fully offset by the ramp-up of Mavenclad and Bavencio;
- Stiffer-than-expected competition from Chinese players in liquid crystals; or
- A larger impact from COVID-19 on the group's profitability, leading to significantly weaker credit metrics.

We regard the downside scenario as remote at this stage. This is because the group's earning resilience benefits from broad product diversification in industry with different market dynamics. It also has a strong track record of deleveraging after large acquisitions (Serono in 2007, Millipore in 2010, and Sigma Aldrich in 2015). Downside risk is therefore more related to operational challenges due to global economic slowdown and inability to maintain operational excellence in a tougher economic environment due to the current pandemic.

### Upside scenario

Any ratings upside is unlikely in the medium term, due to the current economic environment that has created uncertainties and challenges for the group. We continue to consider that Merck faces fierce competition in the Healthcare and Performance Materials divisions.

A higher rating could be based on good performance from Merck's recent partnerships in immuno-oncology paying off more quickly than anticipated, with Mavenclad or Bavencio becoming top-selling drugs. We would need to see stronger credit metrics, with FFO to debt above 45%, or steep deleveraging below 2x, along with a more prudent and conservative financial policy, which might not fit well with Merck's strategy of creating value through a mix of internal projects and relatively sizable debt-financed acquisitions every three to five years.

## Our Base-Case Scenario

### Assumptions

- Group revenue growth of about 5% in 2020, and up to 6.5% in 2021.
- Revenue growth at the Healthcare division of 0.5%-1.0% in 2020, after a low in 2019. We expect the division's top-10 drugs to register solid organic growth of 4%, thanks to the ramp-up of Bavencio and Mavenclad fully offsetting declines from Rebif and Erbitux. Revenue growth at the Life Science division, thanks to strong momentum in the Process Solutions segment offsetting negative impacts in Applied Solutions and Research Solutions from COVID-19. The Performance Materials division should registered significant growth of about 33%, thanks to full consolidation of Versum Materials, although the existing portfolio should registered negative organic growth owing to competitive pressure in the Display Solutions segment.
- Revenue growth of 6.5% in 2021 supported by a pick-up in all the divisions. The Healthcare division should achieve 8%-9% organic growth, due to mid-double-digit sales growth for Mavenclad and Bavencio. The Life Science division should also register 5% organic growth, due to easing of negative effects resulting from COVID-19. For the Performance Materials division, we also anticipate sales increasing by 4%.
- The adjusted EBITDA margin slightly increasing by 70 basis points (bps) to 25.8%, supported by decreasing SG&A costs at the group level thanks lower travel expenses, and tight cost management offsetting cost overruns related to the pandemic mainly affecting margins at the Healthcare and Performance Materials divisions. Margins should further increase in 2021 due to lower cost of goods sold, reflecting extraction of synergies following the Versum Materials acquisition for the Performance Materials division. Also we consider a positive product mix impact from the successful ramp-up of the higher-margin Mavenclad replacing Rebif. Life Science should continue to contribute with Sigma Aldrich synergies reaching their run-rate level.
- Working capital outflows of €300 million-€350 million in 2020, with higher inventories despite a continued focus on optimization, increasing receivables, and impact of the Versum Materials consolidation.
- Annual capital expenditure (capex) of €1.0 billion-€1.3 billion in 2020 and 2021.
- Cash dividends in line with last year's pay-out or equivalent to 20%-25% of earnings per share at about €750 million in 2020 and €800 million in 2021.
- Very limited tuck-in acquisition that should not exceed €150 million-€200 million per year.

### Key Metrics

**Merck KGaA--Key Metrics***

| | --Fiscal year ended Dec. 31-- | | | | |
|---|---|---|---|---|---|
| **(Mil. €)** | **2018a** | **2019a** | **2020e** | **2021f** | **2022f** |
| Revenue | 14,836.0 | 16,152.0 | 17,068.3 | 18,208.2 | 19,026.9 |
| Revenue growth (%) | (3.2) | 8.9 | 5.7 | 6.7 | 4.5 |
| EBITDA | 3,645.9 | 4,052.1 | 4,409.0 | 4,938.6 | 5,271.7 |
| EBITDA margin (%) | 24.6 | 25.1 | 25.8 | 27.1 | 27.7 |
| Funds from operations (FFO) | 3,249.5 | 2,865.1 | 3,328.5 | 3,858.2 | 4,186.7 |

| Merck KGaA--Key Metrics* (cont.) | | | | | |
|---|---|---|---|---|---|
| | --Fiscal year ended Dec. 31-- | | | | |
| **(Mil. €)** | **2018a** | **2019a** | **2020e** | **2021f** | **2022f** |
| Capital expenditure | 1,001.0 | 1,008.0 | 1,247.0 | 1,267.0 | 1,273.0 |
| Free operating cash flow (FOCF) | 1,306.6 | 1,835.0 | 1,679.0 | 2,324.3 | 2,597.0 |
| Dividends | 768.0 | 689.0 | 754.0 | 807.0 | 879.0 |
| Debt | 8,541.4 | 13,380.5 | 11,697.2 | 10,419.4 | 8,946.9 |
| Debt to EBITDA (x) | 2.3 | 3.3 | 2.7 | 2.1 | 1.7 |
| FFO to debt (%) | 38.0 | 21.4 | 28.5 | 37.0 | 46.8 |
| FOCF to debt (%) | 15.3 | 13.7 | 14.4 | 22.3 | 29.0 |

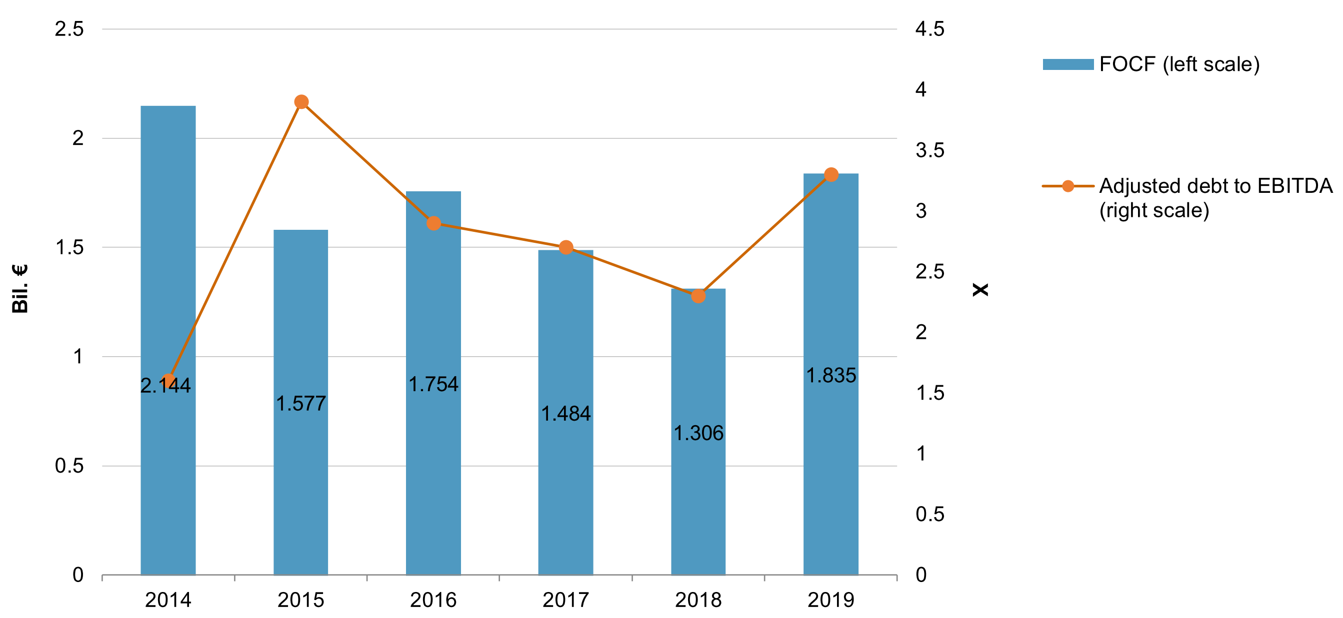
a--Actual. e--Estimate. f--Forecast. *All figures adjusted by S&P Global Ratings.

***The group's organic growth will be challenged by the COVID 19 pandemic, but full consolidation of Versum Materials will enable topline growth of about 5.0%-5.5% in 2020.*** In addition to Merck's organic growth being constrained by the current pandemic, the Healthcare division is currently in transition, with declining volumes of best-performing drug (Rebif) and delays in the ramp-up of its most promising drugs (Bavencio and Mavenclad), while the fertility business is suffering from clinic closures as lockdowns were implemented in most countries. The Life Science division was, in our view, more resilient, with strong growth momentum in the Process Solutions segment more than offsetting Applied Solutions and Research Solutions suffering from a temporary slowdown in academia and temporary closure of labs. We expect that the Performance Materials division, outside the positive contribution of Versum Materials, will post negative organic growth due to negative impacts from the pandemic hampering demand for display and surface solutions.

***Positive topline growth, and profitability enhancement should allow the group to be on track with deleveraging.*** Merck's operating performances should remain sound for full-year 2020, despite current global recession and challenges arising from it. The group's negative organic growth should be mitigated by Merck's ability to improve its margins thanks to a positive product mix contribution, and portfolio effects combined with cost discipline. This will translate into robust free cash flow generation and debt to EBITDA falling back below the 3x threshold. The integration of Versum Materials is progressing in line with the company's expectations, and synergies should boost profitability from end-2020, reaching a full run rate in 2022 of €75 million as reported by the company. We expect Merck's total debt to be relatively stable and anticipate deleveraging toward below 3x, thanks to solid margins and robust free cash flow generation.

**Chart 6**

**Merck's Free Cash Flow Generation And Leverage Ratio**




FOCF--Free operating cash flow. Source: S&P Global Ratings.



## Company Description

MERCK Kommanditgesellschaft auf Aktien operates in the pharmaceutical, life science, and performance materials sectors worldwide, with total sales of €16 billion as of Dec. 31, 2019 (Healthcare 42% of sales, Life Science 42%, and Performance Materials 16%).

Among other things, the Healthcare division offers prescription medicines to treat cancer, multiple sclerosis, infertility, growth hormone deficiencies, type 2 diabetes, cardiovascular and thyroid diseases, as well as carcinoma of the head and neck. Over the years, the group has entered into strategic alliances with large pharmaceutical players. More recent partnerships include the codevelopment of Bavencio with Pfizer, and Bintrafusp Alfa with GSK--both in the immuno-oncology field, which is one of the fastest developing segments in pharmaceutical industry.

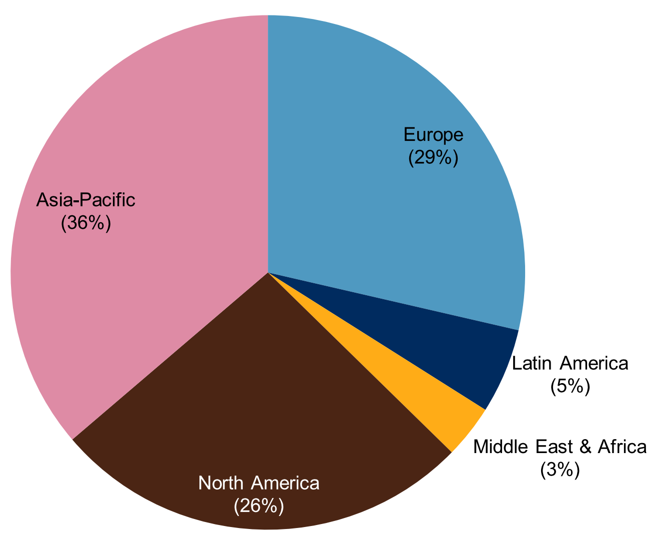
The company also provides life science products and services for the research and applied laboratory applications, as well as for formulating, purifying, manufacturing, and quality-assuring drug therapies of chemical and biological origin. Following the acquisition of Sigma-Aldrich in 2015, the group has one of the most powerful e-commerce platforms dedicated to the entire pharmaceutical industry. Also its Life Science division provides a full range of advanced technologies for small and large biotech and biopharmaceutical companies, such as Gene Editing (CRISPR technology), and other novel modalities (such as viral vectors and antibody drug conjugates).

The Performance Materials division offers specialty chemicals, such as liquid crystals and OLED materials used in displays, materials for integrated circuits, effect pigments for coatings and color cosmetics, as well as functional materials for energy solutions. The group acquired Versum Materials, Inc. in 2019, enabling it to become a leading integrated player in the semiconductor industry.

The company was founded in 1668 and is headquartered in Darmstadt, Germany. MERCK Kommanditgesellschaft auf Aktien is a subsidiary of E. Merck Kommanditgesellschaft.

**Chart 7**

**Merck's Half-Year Revenues By Geography**
% of sales




Source: S&P Global Ratings. Data as of June 30, 2020.


## Business Risk: Strong

In pharmaceuticals, Merck is much smaller than industry leaders like Roche, Novartis, Pfizer, and Merck Co., the U.S. group with the same name, which is known as MSD outside the U.S. Despite a relatively modest size (as per industry standards), Merck enjoys a good degree of diversification in terms of therapies, with a presence in multiple sclerosis, oncology, fertility, endocrinology, and cardiometabolic care.

The group's Healthcare business benefits from the solid foundation of its old products, and is supported by the launch of two new promising products, Mavenclad and Bavencio. Their emergence is a real milestone following more than 10 years of research and development (R&D). However, we do not expect these two drugs will become multi-billionaire drugs, which clearly differentiates Merck from the leading pharmaceutical companies.

Mavenclad is an oral drug used to treat adults with the relapsing forms of multiple sclerosis. It is absorbed during a short period of time (10 days), which makes it much less disruptive for patients than competitive products which usually take the form of a weekly injection. Mavenclad is now approved in about 80 countries, and enjoys a strong uptick across all regions, fueled by above-average clinical perception, with almost no side-effects. This is a noteworthy performance in a segment where competition is intense, with the presence of Roche (Ocrevus), Novartis (Gilenya), and Sanofi (Lemtrada). Lemtrada has been on the declining curve for some time, while Gilenya is facing a patent cliff, so the main competition comes from Ocrevus. We understand that Mavenclad and Ocrevus are broadly similar in terms of efficiency and pricing, but Ocrevus was launched much earlier, and we expect it will continue to have a leading market share. Mavenclad could however reach blockbuster status by 2024, a genuine milestone for Merck's R&D. Second-quarter results were strong, despite a significant COVID-19-related decline in patient consults with neurologists, leading to fewer treatment initiations, and fewer treatment switches.

Merck's second new product is Bavencio, an immunotherapy that helps the body's immune system fight tumors. The product first received approvals in the U.S., the EU, and Japan, for Merkel cell carcinoma, a rare and aggressive cancer of the skin. Bavencio was also approved in 2019 for renal cell carcinoma cancer, and recently received a breakthrough designation for bladder cancer, which is a larger market (10th largest cancer market). But clearly, high volumes would come from a successful filing for first-line lung cancer: Phase III read-out is expected in 2021, and Bavencio would face strong competition, in particular from Astra Zeneca's new blockbuster, Tagrisso, which is now already approved for first-line, and enjoys a very strong uptick, following an earlier success as a second-line therapy. The success of Bavencio in lung cancer, a segment with sizable volumes, will be key to tease out the molecule's potential. Failure to file in 1-L lung cancer would likely cap sales potential at $500 million annually. For the time being, the molecule is filed for small cell cancers, which limits the sales potential. We note that Avelumab (the molecule of Bavencio) was developed jointly by Pfizer, and that Merck's expertise in immuno-oncology is now well recognized. The recent collaboration with GSK, whereby GSK will pay milestones to Merck attests to it. The partnership is centered on the development and marketing of a promising molecule called Bintrafusp, and encompasses about six projects in phase II all of which target cancer treatment. We understand that more than half of the group's pipeline projects target oncology.

For the time being, the performance of the group's Healthcare division continues to hinge on the multiple-sclerosis drug, Rebif, which is still generating substantial profits despite increased competition and no patent protection. Rebif is resilient to a patent cliff, because it is efficient and very well perceived by patients, which enabled in the recent past price hikes in the key U.S. market, although Rebif lost exclusivity in 2014. Higher prices therefore have been able to offset sagging volumes. We expect sales erosion, but in a very controlled and gradual way. We note that Rebif does not directly compete with Roche's recently launched Ocrevus, which boasts an unparalleled efficiency, but applies to more severe types of multiple sclerosis.

We expect a long-term 3% compound annual growth rate for Glucophage, Merck's second-best-selling drug, thanks to good growth prospects in China.

We expect sales resilience for Merck's third-best-selling drug, an oncology drug called Erbitux, which lost exclusivity four years ago and faces sharp competition in Europe from Roche (Avastin) and Amgen. The drug however enjoys tailwind in China amid a recent reimbursement recognition.

With Rebif, Glucophage, and Erbitux, we note the very strong resilience of Merck's off-patent products, which is relatively unusual, and attests to the quality of the group's existing products. The strong resilience of Merck's old portfolio afford the group time and resources as it invests heavily in the marketing of Mavenclad and conducts expensive Phase III projects for Avelumab. We underline, specifically, Rebif's extremely high profitability.

The Life Science division has proven to be resilient during the pandemic, reflecting its important scale of operation in providing analytical instruments, equipment, and reagents for the research market, with a large and efficient distribution network and powerful online platform. It benefits from a diverse presence across geographies and customers, an ability to maintain higher margin than peers' or industry leaders', while serving large numbers of end markets, thanks notably to Sigma Aldrich's successful integration into the group in the past five years.

With roughly €7 billion in annual sales, Merck is one of the leading players in the expanding life sciences industry, which experienced very solid market growth of about 4%-6% in recent years. Merck's Life Science division generates 33% of its sales from Europe, 36% in North America, 26% in Asia-Pacific, and the remaining 5% from the rest of the world.

The group continues to benefit from strong demand in the pharmaceutical sector, with a broad product and service offering, while research solutions support pharmaceutical, biotechnology, and academic research laboratories with chemicals and unique tools needed for scientific discovery. The Process Solutions segment benefits from high barrier to entry, due to larger numbers of technological platforms needed to provide a complete development solution to larger drug manufacturers.

The Performance Materials division does not directly compete against top electronic manufacturers, such as Samsung Electronics, Intel, or Taiwan Semi-Conductor. We consider that despite its relatively small size of operations, the group has a expertise from its natural background in organic chemistry that enables it to propose value-added solution for electronic companies. The group has been able in the past to be well-positioned in display technology like liquid crystals. However, this segment faced fierce competition from low-cost producers mainly in Asia, pushing Merck to strengthen its product offering in more complex technology like OLED displays. The group's operations are concentrated in Asia with 80% of its sales made in APAC, but we do not consider that as negative given that the bulk of the electronic manufacturers operate in this region. With the recent acquisition of Versum Materials, the company became a leading electronic material provider proposing a full range of products and services for semiconductor manufacturers. The group's Performance Materials division is well diversified, with 32% of sales from display solutions, semiconductor solutions 59% of sales, and surfaces solutions 9%.

## Financial Risk: Intermediate

Merck has a track record of maintaining adjusted net leverage at 2.0x-3.0x, with occasional spikes above 3.0x following large acquisitions, before quickly returning below 3.0x. Most recently, it demonstrated its ability to deleverage after acquiring Sigma-Aldrich back in 2015 when debt to EBITDA spiked to 4.0xbefore decreasing to 2.9x in 2016. We remain confident in the company's commitment to a disciplined and prudent financial policy, and its ability to maintain leverage below the 3.0x threshold, with expected leverage of 2.7x as of Dec. 31, 2020, after it increased to 3.3x on Dec. 31, 2019, following the Versum Materials acquisition.

Also, we believe that the company's deleveraging path is supported by its EBITDA growth and resilient free cash flow generation. We expect respectively EBITDA to increase by 10% in 2020 versus last year, and free operating cash flow to be close to €1.7 billion this year. We expect the company will continue to be acquisitive, and pursue larger acquisitions once deleveraging is complete as it has done in the past. As such, we do not anticipate acquisitions in the short term. The dividend policy remains clear, with a pay-out of 20%-25% of earnings per share as communicated publicly by the company.

### Financial summary

**Table 1**

| Merck KGaA--Financial Summary | | | | | |
|---|---|---|---|---|---|
| **Industry sector: Pharmaceuticals** | | | | | |
| | **--Fiscal year ended Dec. 31--** | | | | |
| | **2019** | **2018** | **2017** | **2016** | **2015** |
| **(Mil. €)** | | | | | |
| Revenue | 16,152.0 | 14,836.0 | 15,327.0 | 15,024.0 | 12,844.7 |
| EBITDA | 4,052.1 | 3,645.9 | 4,413.7 | 4,506.8 | 3,459.6 |
| Funds from operations (FFO) | 2,865.1 | 3,249.5 | 4,011.6 | 4,092.5 | 2,985.3 |
| Interest expense | 468.5 | 335.0 | 349.6 | 333.7 | 335.4 |
| Cash interest paid | 329.0 | 331.4 | 329.2 | 351.2 | 313.3 |
| Cash flow from operations | 2,843.0 | 2,307.6 | 2,788.3 | 2,599.0 | 2,270.4 |
| Capital expenditure | 1,008.0 | 1,001.0 | 1,304.0 | 845.0 | 693.0 |
| Free operating cash flow (FOCF) | 1,835.0 | 1,306.6 | 1,484.3 | 1,754.0 | 1,577.4 |
| Discretionary cash flow (DCF) | 1,146.0 | 538.6 | 859.3 | 1,154.0 | 1,009.6 |
| Cash and short-term investments | 598.0 | 1,899.0 | 339.0 | 846.0 | 505.6 |
| Gross available cash | 598.0 | 1,899.0 | 429.0 | 846.0 | 732.6 |
| Debt | 13,380.5 | 8,541.4 | 11,796.0 | 13,125.4 | 13,885.3 |
| Equity | 19,405.5 | 17,979.0 | 14,817.0 | 14,801.0 | 13,605.3 |
| **Adjusted ratios** | | | | | |
| EBITDA margin (%) | 25.1 | 24.6 | 28.8 | 30.0 | 26.9 |
| Return on capital (%) | 7.3 | 6.4 | 9.5 | 9.0 | 9.0 |
| EBITDA interest coverage (x) | 8.6 | 10.9 | 12.6 | 13.5 | 10.3 |
| FFO cash interest coverage (x) | 9.7 | 10.8 | 13.2 | 12.7 | 10.5 |
| Debt/EBITDA (x) | 3.3 | 2.3 | 2.7 | 2.9 | 4.0 |

**Table 1**

**Merck KGaA--Financial Summary (cont.)**

**Industry sector: Pharmaceuticals**

| | --Fiscal year ended Dec. 31-- | | | | |
|---|---|---|---|---|---|
| | **2019** | **2018** | **2017** | **2016** | **2015** |
| FFO/debt (%) | 21.4 | 38.0 | 34.0 | 31.2 | 21.5 |
| Cash flow from operations/debt (%) | 21.2 | 27.0 | 23.6 | 19.8 | 16.4 |
| FOCF/debt (%) | 13.7 | 15.3 | 12.6 | 13.4 | 11.4 |
| DCF/debt (%) | 8.6 | 6.3 | 7.3 | 8.8 | 7.3 |

## Reconciliation

**Table 2**

**Merck KGaA--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (Mil. €)**

| | --Fiscal year ended Dec. 31, 2019-- | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Merck KGaA reported amounts** | | | | | | | | |
| | **Debt** | **Shareholders' equity** | **EBITDA** | **Operating income** | **Interest expense** | **S&P Global Ratings' adjusted EBITDA** | **Cash flow from operations** | **Capital expenditure** |
| Reported | 11,647.0 | 17,865.0 | 4,064.0 | 2,120.0 | 430.0 | 4,052.1 | 2,856.0 | 1,021.0 |
| **S&P Global Ratings' adjustments** | | | | | | | | |
| Cash taxes paid | -- | -- | -- | -- | -- | (858.0) | -- | -- |
| Cash interest paid | -- | -- | -- | -- | -- | (316.0) | -- | -- |
| Reported lease liabilities | 567.0 | -- | -- | -- | -- | -- | -- | -- |
| Intermediate hybrids reported as debt | (1,492.5) | 1,492.5 | -- | -- | (21.5) | -- | -- | -- |
| Postretirement benefit obligations/deferred compensation | 2,412.0 | -- | 11.0 | 11.0 | 47.0 | -- | -- | -- |
| Accessible cash and liquid investments | (598.0) | -- | -- | -- | -- | -- | -- | -- |
| Capitalized interest | -- | -- | -- | -- | 13.0 | (13.0) | (13.0) | (13.0) |
| Share-based compensation expense | -- | -- | 7.1 | -- | -- | -- | -- | -- |
| Nonoperating income (expense) | -- | -- | -- | 66.0 | -- | -- | -- | -- |
| Noncontrolling interest/minority interest | -- | 48.0 | -- | -- | -- | -- | -- | -- |
| Debt: Derivatives | (75.0) | -- | -- | -- | -- | -- | -- | -- |
| Debt: Other | 920.0 | -- | -- | -- | -- | -- | -- | -- |
| EBITDA: Gain/(loss) on disposals of PP&E | -- | -- | (30.0) | (30.0) | -- | -- | -- | -- |
| Total adjustments | 1,733.5 | 1,540.5 | (11.9) | 47.0 | 38.5 | (1,187.0) | (13.0) | (13.0) |

**Table 2**

| Merck KGaA--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (Mil. €) (cont.) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **S&P Global Ratings' adjusted amounts** | | | | | | | | |
| | **Debt** | **Equity** | **EBITDA** | **EBIT** | **Interest expense** | **Funds from operations** | **Cash flow from operations** | **Capital expenditure** |
| Adjusted | 13,380.5 | 19,405.5 | 4,052.1 | 2,167.0 | 468.5 | 2,865.1 | 2,843.0 | 1,008.0 |

## Liquidity: Strong

Our assessment of the group's liquidity as strong reflects our view that the group's future liquidity uses will cover sources by more than 1.5x over the next year. Our projection takes into account capex of about €1 billion and dividends of about €0.7 billion. We foresee similar coverage of liquidity uses by sources in the next 12 months. The group's strong liquidity is underpinned by sizable cash balances and undrawn long-term committed lines. Thanks to Merck's high standing in credit markets, and track record in accessing debt markets even during periods of economic and financial stress, as well as supporting treasury policy, we expect the company will maintain a ratio of 1.5x on a rolling basis.

| Principal Liquidity Sources | Principal Liquidity Uses |
|---|---|
| • Cash and cash equivalents of €1.5 billion as of June 30, 2020;<br>• Cash FFO of €3.5 billion;<br>• Available bank lines of €2.0 billion as of June 30, 2020; and<br>• At least €2 billion of funding inflows before the end of second-half 2020. | • Short-term debt repayments of €4.0 billion as of June 30, 2020;<br>• Working capital outflows of €230 million;<br>• Capex of €1.0 billion; and<br>• Annual dividend payment of €780 million in 2021. |

### Debt maturities

- 2021 €1 billion of callable hybrid
- 2022 €1 billion U.S. bonds and €550 million Eurobonds
- 2023 €1 billion of callable hybrid
- 2024 €1.6 billion of U.S. bonds
- 2025 €750 million of Eurobonds

Thereafter €2.15 billion of Eurobonds, and €1 billion hybrid callable in 2029

## Other Credit Considerations

We apply one notch of uplift to the 'a-' anchor for our favorable assessment of Merck's diversification. Merck's moderate portfolio diversification reflects our view that the benefits of the group's business diversification can mitigate earnings volatility between the Healthcare division, which can be exposed to pricing pressure and patent expiries; the Life Science division, which shares the characteristics of a business services activity; and the Performance Materials division, which can be viewed as a specialty chemicals business, and is exposed to cyclical demand weakness.

**Environmental, Social, And Governance**

Merck is a pharmaceutical, life science, and special chemical company. Its life science division, which provides solutions and testing capabilities to the industry, and its Healthcare division accelerate access to health care globally. The group's fight against worm disease, or schistosomiasis, in Africa is a good example. Merck's approach is to ensure availability, affordability, and accessibility of its products, as well as patient awareness. Still, criticism over the group's high pricing in the U.S. exists, especially for the Rebif, whose price has steadily increased even after its patent expiry. The group's Performance Materials division contributes to environmental sustainability: new display technologies both with liquid crystals and OLEDs are an example. OLEDs lower the power consumption of some electronics. In the cosmetics industry, Merck is addressing the continuing trend for ingredients that meet stringent sustainability criteria. The group's portfolio of fillers dispenses entirely with microplastic particles, which can pollute waters and harm marine life. Merck is looking for greener alternatives, such as the new solvent Cyrene. Cyrene is derived from waste cellulose, and is employed as an alternative to solvents that are widely used but under increasing regulatory restrictions due to their associated toxicity.

## Ratings Score Snapshot

### Issuer Credit Rating

A/Stable/A-1

### Business risk: Strong

- **Country risk:** Low
- **Industry risk:** Low
- **Competitive position:** Strong

### Financial risk: Intermediate

- **Cash flow/leverage:** Intermediate

### Anchor: a-

### Modifiers

- **Diversification/portfolio effect:** Moderate (+1 notch)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Neutral (no impact)
- **Liquidity:** Strong (no impact)
- **Management and governance:** Strong (no impact)
- **Comparable rating analysis:** Neutral (no impact)

**Stand-alone credit profile : a**

## Related Criteria

- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Criteria | Corporates | General: Reflecting Subordination Risk In Corporate Issue Ratings, March 28, 2018
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria | Corporates | General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- Criteria | Corporates | Industrials: Key Credit Factors For The Health Care Services Industry, April 16, 2014
- Criteria | Corporates | Industrials: Key Credit Factors For The Pharmaceutical Industry, April 8, 2014
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- General Criteria: Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010

**Business And Financial Risk Matrix**

| | **Financial Risk Profile** | | | | | |
|---|---|---|---|---|---|---|
| **Business Risk Profile** | Minimal | Modest | **Intermediate** | Significant | Aggressive | Highly leveraged |
| Excellent | aaa/aa+ | aa | a+/a | a- | bbb | bbb-/bb+ |
| **Strong** | aa/aa- | a+/a | **a-/bbb+** | bbb | bb+ | bb |
| Satisfactory | a/a- | bbb+ | bbb/bbb- | bbb-/bb+ | bb | b+ |
| Fair | bbb/bbb- | bbb- | bb+ | bb | bb- | b |
| Weak | bb+ | bb+ | bb | bb- | b+ | b/b- |
| Vulnerable | bb- | bb- | bb-/b+ | b+ | b | b- |

| Ratings Detail (As Of August 25, 2020)* | | |
|---|---|---|
| **Merck KGaA** | | |
| Issuer Credit Rating | | A/Stable/A-1 |
| Junior Subordinated | | BBB+ |
| Senior Unsecured | | A |
| Subordinated | | BBB+ |
| **Issuer Credit Ratings History** | | |
| 11-Oct-2016 | *Foreign Currency* | A/Stable/A-1 |
| 24-Sep-2014 | | A/Negative/A-1 |
| 29-May-2013 | | A/Stable/A-1 |
| 11-Oct-2016 | *Local Currency* | A/Stable/A-1 |
| 24-Sep-2014 | | A/Negative/A-1 |
| 29-May-2013 | | A/Stable/A-1 |

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings' credit ratings on the global scale are comparable across countries. S&P Global Ratings' credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.

**Additional Contact:**
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