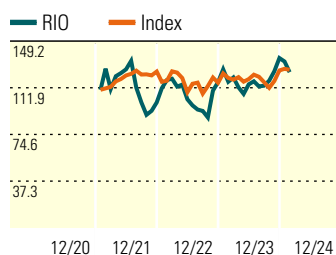


Rio Tinto Limited RIO ★★ (0:06AM 23-Feb-2024)

Snapshot

Fair Value Uncertainty	Medium
Moat Rating	None
Fair Value \$	116.00
Capital Allocation	Standard
Market Cap \$Mil	46,164
Morningstar Style Box	
Price \$ (4:00PM 22-Feb-2024)	124.36
52 Week High/Low \$	136.73/102.51
Shares Issued Mil	371
Morningstar Sector	Basic Materials
Morningstar Industry	Other Industrial
GICS Sector	Metals & Mining
	Materials

Price vs. Market



	12/22	12/23	12/24e	12/25e
NPAT (\$Mil)	19,285.4	17,889.2	23,793.4	22,124.7
EPS ¢	1,183.4	1,096.5	1,458.4	1,356.1
EPS Chg %	-32.6	-7.3	33.0	-7.0
DPS ¢	710.3	662.0	727.3	679.8
Franked %	100.0	100.0	100.0	100.0
Div Yld %	6.7	5.6	5.8	5.5
P/E x	9.0	10.7	8.5	9.2

Source: Morningstar estimates 22-Feb-2024.

Profile

Rio Tinto Limited (RIO) is engaged in minerals and metals exploration, development, production, and processing. The Company's Portfolio of assets is condensed into four product groups: Iron Ore, Aluminium, Copper, and Minerals.

Rio Tinto Earnings: Sound Result Due to Iron Ore, the Main Driver of Earnings

Investment Perspective By Jon Mills (22-Feb-2024)

Like BHP, Rio Tinto has ridden the commodity supercycle since the early 2000s. Its asset portfolio is concentrated on iron ore. Copper and aluminum are moderate contributors along with the minerals business, with all coal sold by 2018. Aluminum should constitute a substantially larger share, given the USD 44 billion that Rio Tinto paid for Alcan in 2007, but the acquisition was near the top of the market. Rio Tinto and BHP have the lowest operating costs of the iron ore players. Despite iron ore being the bulk of company earnings, expectations for long-term excess returns are weighed down by the value-destructive overinvestment during the China boom, which diluted returns. After adding back the not-inconsiderable writedowns, we expect adjusted midcycle returns modestly above Rio's cost of capital.

Analyst Note (0:06AM 23-Feb-2024)

No-moat Rio Tinto's adjusted net profit after tax fell 12% to USD 11.8 billion or USD 7.21 per share, about AUD 10.92, driven by lower aluminum prices and higher unit cash costs. Adjusted EBITDA of USD 23.9 billion was 9% below 2022 but broadly in line with our estimate. The Pilbara iron ore business had a solid year. Average iron ore prices of USD 108 per metric ton were modestly higher than in 2022. Along with 4% higher volumes of about 280 million metric tons and modestly lower unit cash costs of roughly USD 22 per metric ton, close to our forecast, iron ore EBITDA rose 7%. The iron ore business continues to drive Rio's earnings, comprising 84% of 2023 EBITDA. While Rio's free cash flow of USD 7.7 billion fell 15% lower, the balance sheet remains very strong. Net debt of about USD 4.2 billion is minimal, roughly 0.2 times EBITDA. Rio will pay a fully franked final dividend of USD 2.58, about AUD 3.91, in April. Total 2023 dividends of USD 4.35 (AUD 6.59) were down 12% on lower earnings, but the 60% payout ratio is at the top end of Rio's target.

We retain our fair value estimate for no-moat Rio Tinto of AUD 116 per share after incorporating higher Pilbara unit cash costs, driven by inflation, and adding earnings from the Simandou project in Guinea. Simandou is due to ramp up to full production by the end of our forecast period in 2028, faster than we had previously assumed. While we continue to forecast Pilbara iron ore sales of roughly 280 million metric tons (Rio's share) in 2024, similar to last year, we now forecast unit cash costs of roughly USD 23 per metric ton, 8% higher than previously. We forecast Rio's share of Pilbara iron ore sales to rise to about 300 million metric tons midcycle from 2028 as Rio brings on additional capacity in the Pilbara. Rio's share of Simandou adds roughly another 30 million metric tons.

We forecast 2024 EBITDA of about USD 28.6 billion, roughly 20% up on 2023 driven by higher iron ore prices. This is based on our recently updated price assumptions, which reflect materially higher near-term iron ore futures in recent months (see our recent note 'Commodity Price Update: Gold and Thermal Coal Companies Among the Cheapest.') Rio shares trade around a 7% premium to fair value which we think is likely due to high near-term iron ore prices driven by strong China steel production. The iron ore cost curve is relatively flat but has risen with inflation. However, in the long term, we think additional supply from Simandou and Vale is likely, and we expect demand from China to moderate. Hence, we expect a long-term price falling towards around USD 60 per metric ton, based on our estimate of the marginal cost of production.

While higher iron ore sales will likely partially offset lower assumed prices, the division is likely to be the main driver of Rio's earnings for the foreseeable future. It represents around two-thirds of the forecast midcycle EBITDA from 2028. As such, while Rio is diversified by commodity, the importance of iron ore earnings to the

Rio Tinto Limited RIO ★★ (0:06AM 23-Feb-2024)

valuation means it is essentially an iron ore company.

Simandou's ore has an average iron content of roughly 65%, higher than the 62% benchmark and the 61%-62% average for Rio and no-moat BHP. As such, it will likely attract a premium to the 62% benchmark price. However, the cost of transporting the iron ore from the mine in the interior of Guinea to the port 600 kilometers away, then to customers in Asia, means Simandou is likely to be middling on the industry cost curve. That likely places it close to no-moat Vale, with a higher cost than BHP and Rio, but a lower cost than no-moat Fortescue once discounts for the latter's lower-grade ore are considered.

Rio's share of the cost to develop Simandou mine and the associated infrastructure, including a railway and port, is roughly USD 6 billion. This represents a capital intensity of roughly USD 230 per metric ton for its share of about 30 million metric tons, materially above the cost to add additional mines in the Pilbara. For example, Rio's 25 million metric ton per year Western Range project in the Pilbara has a capital intensity of around USD 80 to 90 per metric ton. While much of the difference in building Simandou is due to having to develop the infrastructure from scratch, unlike in the Pilbara, we don't think Simandou will earn its cost of capital. While there are potential expansion options that are likely to have lower capital intensity once the infrastructure is built, we think returns on the project are likely to be mediocre unless iron ore prices stay elevated for longer than we assume. Simandou accounts for around 3% of our fair value estimate.

The development of Simandou also has implications for long-term or midcycle iron ore prices. Once both joint ventures developing the two mines that make up the project are fully ramped up, it will produce around 120 million metric tons of high-grade ore per year, with options to expand. Combined with planned increases in supply from the iron ore majors led by Vale, we forecast seaborne supply to increase by roughly 20% over the next five years. This excludes additional planned supply increases from smaller non-Chinese as well as domestic Chinese producers. Along with a potential peak in China steel demand, this is why we are more circumspect over midcycle iron ore prices than many investors.

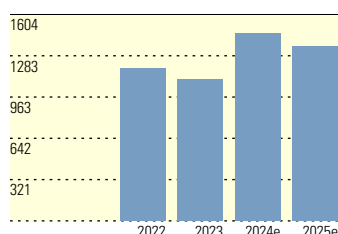
Elsewhere, we forecast copper sales of roughly 850,000 metric tons (Rio's share) in 2024, up from approximately 630,000 in 2023. This is driven by higher production at Oyu Tolgoi as its underground operations ramp up along with a recovery in production at Rio's Utah operations after recent maintenance. The continued ramp-up of Oyu Tolgoi means we forecast copper sales of more than 1 million metric tons midcycle from 2028, with the copper division accounting for about 25% of forecast midcycle EBITDA.

Rio Tinto Limited RIO ★★ (0:06AM 23-Feb-2024)

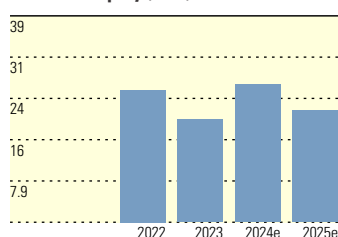
Key Valuation Assumptions

Cost of Equity %	11.0
Weighted Avg Cost of Capital %	9.0
Long Run Tax Rate %	26.0
Stage II EBI Growth Rate %	5.0
Stage II Investment Rate %	16.7
Perpetuity Year	10.0

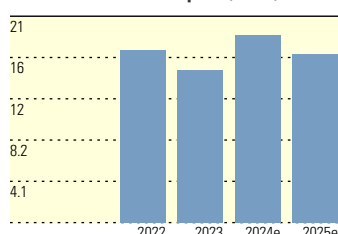
EPS ¢



Return on Equity (ROE) %



Return on Invested Capital (ROIC) %



Rio Tinto Earnings Likely to Remain Driven by Iron Ore; Shares Overvalued

Business Strategy and Outlook (22-Feb-2024)

Rio Tinto is one of the world's largest miners with operations in iron ore, aluminum (including bauxite and alumina), copper, and minerals (mineral sands, borates, salt, diamonds). Commodity demand is tied to global economic growth, China's in particular. Rio Tinto benefited greatly from the China boom over the past two decades. The firm's largest customer by far is China, with about 60% of sales in 2023. We think the outlook is for earnings to materially decline with demand for many commodities likely to soften with the end of the China boom, particularly iron ore which has disproportionately benefited from the boom in infrastructure and real estate investment.

Rio Tinto has a large portfolio of long-lived assets with low operating costs, meaning it is one of few miners profitable through the commodity cycle. Most revenue comes from operations located in the relatively safe havens of Australia and North America. The invested capital base was inflated by substantial procyclical investment during the height of the China boom, including overpaying for Alcan. The subsequent iron ore expansion was also made when unit capital costs were high. These factors diluted returns to the point where we struggle to justify a moat. As a commodity producer, Rio Tinto is a price-taker, with the lack of pricing power reflecting in cyclical commodity prices.

The recent focus has been to run a strong balance sheet, tightly control investments, and return cash to shareholders. Rio Tinto is also focused on winning back the trust of investors and other stakeholders such as regulators and the indigenous peoples on whose lands many of Rio's mines are located after the destruction of the caves at Juukan Gorge in 2020. The company's major expansion projects are the Oyu Tolgoi underground mine and the expansion of the Pilbara iron ore system's capacity from 330 million metric tons to between 345 and 360 million metric tons. Those projects are expected to complete in the next few years. Otherwise, the focus is on incremental expansions through productivity and debottlenecking initiatives. These will be small but capital-efficient and should modestly improve unit costs and returns.

Economic Moat

As a commodity producer, Rio is a price taker and needs low-cost mines with long lives and a low installed capital base to support the longer-term excess returns needed to justify an economic moat. We forecast midcycle returns on invested capital, or ROIC, slightly above its WACC driven by its moaty iron ore business which accounts for roughly 60% of midcycle EBIT. Our forecasts are based on an assumed iron ore price of USD 60 per metric ton (which we note is materially less than the average price of around USD 100 per metric ton over the past decade), aluminum price of about USD 0.80 per pound and copper price of USD 3.60 per pound. Our midcycle assumed prices are based on our estimates of the marginal costs of production. As we think Rio's midcycle ROIC isn't sufficiently above its WACC to justify assigning a narrow moat, we don't assign a moat to Rio. In calculating ROIC, we have added back to invested capital around USD 8.3 billion in asset and goodwill writedowns taken over the past decade on the basis that these amounts relate to assets developed or acquired in the ordinary course of business and so should be included when calculating ROIC. Some of the more material amounts include USD 2.7 billion in relation to its copper business, USD 2 billion in relation to aluminum and USD 1.4 billion in relation to diamonds. However, we have not added back USD 21.1 billion in relation to aluminum assets purchased in 2007 nor USD 3.3 billion in relation to coal assets purchased in 2011 on the basis that management was subsequently replaced (in 2013) and that Rio has shown much improved investment discipline since then, as evidenced by relatively small writedowns subsequent. If we did also add back these USD 24.4 billion in aluminum and coal writedowns, Rio's midcycle ROIC would be modestly below its WACC of 9%. Alternatively, if we instead chose not to add back any writedowns, Rio's midcycle ROIC in 2028 would be in the low-double digits compared with its WACC of 9%. Looking at each of Rio's segments in turn: Iron ore (narrow moat): Rio's Pilbara iron ore assets have cash costs in or around the lowest quartile of the cost curve and in line with BHP's. Like Vale, however, Rio expanded much more aggressively during the last iron ore

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boom than peer BHP. Even so, its port, rail, and mine assets are fully integrated, benefit from scale, and are favorably located to key Asian markets. New mines are periodically developed to continue to feed and utilize the installed infrastructure base, with incremental capacity able to be added for very low capital costs through incremental expansions and efficiencies, including innovative technology such as automated haulage. We estimate that iron ore will produce roughly 60% of midcycle EBIT and generate a midcycle ROIC of about 30%, materially above Rio's WACC of 9%. As such, we consider Rio's iron ore business moatworthy. Copper (no moat): The majority of Rio's current copper operations are represented by its 30% stake in the Escondida mine in Chile, the world's largest copper mine. At full capacity, Escondida sits around the 25th percentile in the cost curve, with Rio's smaller, 100% owned Kennecott (KUC) copper mine near the middle of the cost curve. The existing open cut mine at Oyu Tolgoi is much higher cost but we think that once the underground expansion at Oyu Tolgoi ramps up, this mine will move toward the lowest quartile on the cost curve. However, the inflated capital base of the copper segment means we think the copper segment is unlikely to generate ROIC above Rio's WACC for at least 10 years. As such, we don't deem the copper segment moatworthy. Aluminum including bauxite and alumina (no moat): While the company's bauxite mines are in the bottom half of the cost curve, its aluminum smelters sit at various points on their cost curve. Rio's eight smelters in Canada are all located in the bottom decile but its remaining smelters are higher cost. Rio Tinto paid USD 44 billion (including assumed debt) for Alcan, a Canadian based bauxite, alumina and aluminum producer, in 2007 but ultimately incurred writedowns of more than USD 23 billion on this investment. We forecast that the aluminum segment will generate around 10% of midcycle EBIT. Even if we don't add back these writedowns to the segment's invested capital base, it generates a midcycle ROIC modestly below below Rio's WACC of 9%. Accordingly, we don't deem the aluminum business as moatworthy. However, we also consider the impact of a potential carbon price on carbon dioxide produced by aluminum smelters. The global average is around 11 to 12 metric tons of carbon dioxide produced per metric ton of aluminum smelted. Hydro-powered smelters produce between

2 and 4 metric tons of carbon dioxide while gas-powered smelters produce between 5 and 8 metric tons of carbon dioxide per metric ton of aluminum produced. Coal-fired smelters produce even higher emissions. Rio uses an assumed carbon price of USD 75 per metric ton of carbon dioxide when considering investments to decarbonize its operations. If we assume a similar carbon price and further assume this is passed on to customers, the aluminum segment produces a midcycle ROIC in the low-double digits assuming an average of 10 metric tons of carbon dioxide produced per metric ton of aluminum. While this potentially makes the aluminum segment moatworthy, Rio's ROIC as a whole in this scenario is in the low-double digits, which we think isn't sufficiently far enough above its WACC to deem the company moatworthy. Minerals (no moat): Comprising various operations in mineral sands, borates, salt, and diamonds, these businesses generally lack a cost advantage. As such, we think it unlikely that the minerals segment will generate above-WACC returns. Exploration projects: These are an immaterial part of Rio and way too early in their potential development to assign any of them a moat.

Fair Value and Profit Drivers (22-Feb-2024)

We retain our fair value estimate for Rio Tinto of AUD 116 per share.

We assume iron ore averages about USD 120 per metric ton from 2024 to 2026 based on the futures curve. Our assumed midcycle iron ore price remains roughly USD 60 per metric ton from 2027, based on our estimate of the marginal cost of production. The iron ore cost curve is relatively flat but has risen with inflation. However, longer-term we think additional supply from Simandou and Vale is likely, and we expect demand from China to moderate. Hence we expect a long-term price substantially below the current spot around USD 130 per metric ton.

We assume copper prices average around USD 3.90 per pound from 2024 to 2026, reverting to our assumed midcycle copper price of roughly USD 3.60 per pound from 2027. This is also based on our estimate of the marginal cost of production.

Our assumed average aluminium price is about USD 1.10 per pound from 2024 to 2026 and we assume alumina averages about USD 330 per metric ton.

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We assume gold averages around USD 1,970 per ounce from 2024 to 2026 based on the futures curve. Our assumed midcycle gold price is USD 1,740 per ounce from 2027, reflecting our estimate of the marginal cost of production.

Our other midcycle price forecasts are about USD 0.80 per pound for aluminium and USD 320 per metric ton for alumina from 2027.

Our fair value estimate employs an 11% cost of equity, reflecting high cyclicity and operating leverage, coupled with moderate financial leverage. Our assumed 9% weighted average cost of capital reflects a long-run 30/70 debt/equity split, appropriate for a major mining company such as Rio. Our fair value estimate equates to an enterprise value/EBITDA exit multiple in 2027 of 7.5 times.

Risk and Uncertainty

Our Morningstar Uncertainty Rating for Rio Tinto is Medium. Rio Tinto has an outsize exposure to iron ore mining and demand is heavily reliant on China's continued outsize investment in infrastructure and fixed assets. Rio Tinto has low operating costs and a strong balance sheet, with capital allocation significantly improved following a period of overinvestment through the China commodities boom. However, Rio still faces the cyclicity of commodity prices, operating leverage, high capital intensity and the risk of poor capital allocation.

Rio Tinto's environmental, social, and governance, or ESG, risks are relatively small, relating to carbon emissions, water resource dependency, land disturbance, labor strikes and disputes, and community relations. Emissions can carry carbon-related costs, though we think demand for steel is relatively price inelastic and any carbon price is likely to be passed on to steel consumers. There is also potential for Rio's higher-grade iron ore to attract a premium for lower emissions incurred in the steelmaking process due to lower fuel use (usually coal). Mining operations are water intensive where scarcity can limit production capacity and require costly workarounds such as desalination plants installed in Rio's part-owned Escondida. Mining developments and operations have a significant environmental footprint requiring good relations with local communities and labor unions. To the extent

that relations can limit industry supply, this factor can also work in favor of the incumbent producers. Community opposition may challenge Rio's social license to operate and future developments. Poor construction and failures can lead to major remediation and reparation costs. We see the likelihood of such occurrences as low where Rio Tinto operates, especially after the recent tailings dam failures by other industry participants and the destruction of the caves at Juukan Gorge.

Financial Strength

Rio Tinto's balance sheet is sound with minimal net debt of around USD 4.2 billion as of the end of December 2023 or about 0.2 times trailing 12 months EBITDA. We forecast net debt/EBITDA and net debt to remain at close to zero through our forecast period, in the absence of a large acquisition, which we don't expect. The strong balance sheet may allow the company to make targeted investments or acquisitions through the downturn, important flexibility, but it appears management is favoring distributions to shareholders.

Barring a major spending spree, which appears unlikely, Rio's balance sheet is likely to remain strong, with excess cash flows returned to shareholders.

Capital Allocation (22-Feb-2024)

We assign a Standard Capital Allocation Rating to Rio Tinto. The key considerations for our rating are balance sheet, investments, and shareholder distributions. Of the three, investment is likely most important for Rio Tinto's future shareholder returns. Exposure to cyclical commodity prices presents a risk of materially value-destructive investment, such as the acquisition of Alcan in the past. And high capital intensity means future investments are likely to be the primary long-run driver, along with commodity prices, of total shareholder returns. We think Rio Tinto's investment is likely to remain relatively disciplined in the near to medium term. If we thought Rio Tinto's new investments would reliably be above the firm's cost of capital, support and improve the competitive position and add shareholder value, then an Exemplary capital allocation rating would be appropriate. However, mining is a cyclical and capital-intensive business where significant capital

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can be misallocated. In the long term, we lack sufficient confidence that the firm will remain disciplined, consistently invest to add value and avoid value destructive mistakes. A return to loose expenditure in future, though we don't think this likely, could even justify a Poor rating. Rio Tinto's balance sheet is sound, with minimal net debt as of the end of December 2023, and we expect the company to run a relatively conservative balance sheet for the foreseeable future. This reflects painful lessons from the global financial crisis when the company undertook a value-destructive discounted equity issue after taking on too much debt for acquisitions during the preceding boom. We like the focus on returning excess cash to shareholders and think the company's approach to shareholder distributions is appropriate. Given we think Rio's recent capital discipline will continue, the balance sheet will remain sound and shareholder distributions will be appropriate, the Standard capital allocation rating is appropriate.

Bulls Say

- Rio Tinto is one of the direct beneficiaries of China's continuing strong appetite for natural resources.
- The company's operations are generally well run, large-scale, low-operating-cost assets. Mine life is generally long, and some assets, such as iron ore, have incremental expansion options.
- Capital allocation has improved following the missteps of the China boom with management generally preferring to return cash to shareholders than to make material expansions or acquisitions.

Bears Say

- With miners including Rio benefiting from high commodity prices, governments may use it as a source of tax revenue to plug shaky budgets.
- Rio Tinto is leveraged to demand for iron ore. If iron ore prices fall materially, the company's earnings will decline significantly.
- While Rio has shown much improved investment discipline since its mis-steps during the China boom, if commodity prices remain high, then the temptation to once again expand aggressively will increase.

General Financials

Per Share	Historical					Forecast		
	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Sales ¢	3,504.9	3,953.8	5,218.2	4,921.4	5,040.9	5,695.3	5,495.1	5,338.6
Adjusted Earnings ¢	842.3	1,103.3	1,757.1	1,183.4	1,096.5	1,458.4	1,356.1	1,302.6
Free Cash Flow ¢	773.6	828.2	1,499.6	770.5	683.0	1,155.9	1,072.4	1,132.9
Net Tangible Assets ¢	3,384.6	4,272.1	4,345.8	4,276.1	4,771.7	5,688.3	6,364.6	7,019.0
Book Value ¢	3,291.1	4,170.4	4,226.9	4,485.6	5,091.7	6,020.8	6,697.1	7,351.5
Dividends ¢	509.3	669.7	1,061.6	710.3	662.0	727.3	679.8	648.2
Franking %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Growth %	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Sales Revenue	6.5	11.9	32.0	-5.6	2.5	13.0	-3.5	-2.8
EBITDA	-29.8	33.6	68.9	-28.4	-14.8	51.0	-6.7	-2.1
Pre-Tax Profit	-38.7	47.5	87.5	-35.3	-22.7	61.7	-8.1	-5.3
Adjusted EPS	24.2	31.0	59.3	-32.6	-7.3	33.0	-7.0	-3.9
DPS	24.4	31.5	58.5	-33.1	-6.8	9.9	-6.5	-4.7
Free Cash Flow per share	-28.1	6.2	81.1	-48.6	-11.2	69.2	-7.2	5.6
Profit & Loss (\$Mil)	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Sales Revenue	57,553.3	64,392.3	85,000.0	80,199.2	82,241.7	92,919.2	89,652.3	87,099.5
EBITDA	20,458.7	27,338.3	46,178.0	33,076.4	28,179.9	42,539.1	39,701.5	38,879.8
Depreciation	5,696.0	5,880.5	6,057.6	7,031.9	7,572.7	9,302.9	9,191.5	10,061.9
Amortisation	-	-	-	-	-	0.0	0.0	0.0
EBIT	14,762.7	21,457.9	40,120.5	26,044.5	20,607.2	33,236.3	30,510.0	28,818.0
Interest Expense	738.7	386.8	325.3	483.6	1,471.6	1,157.2	1,078.1	999.1
Interest Income	400.0	203.5	85.7	258.4	815.7	176.6	221.3	271.5
Profit Before Tax	14,424.0	21,274.5	39,880.9	25,819.3	19,951.3	32,255.7	29,653.2	28,090.4
Tax	5,529.3	7,204.1	11,054.9	8,104.5	5,831.7	9,676.7	8,896.0	8,286.7
Reported NPAT	10,680.0	14,100.8	28,238.3	17,889.4	15,306.7	23,793.4	22,124.7	21,252.3
Non-Recurring Items After Tax	-3,150.7	-3,866.9	-382.9	-1,396.0	-2,582.6	0.0	0.0	0.0
Adjusted NPAT	13,830.7	17,967.7	28,621.2	19,285.4	17,889.2	23,793.4	22,124.7	21,252.3
Free Cash Flow	12,703.5	13,488.7	24,426.2	12,555.3	11,142.9	18,858.2	17,496.5	18,483.8
Effective Tax Rate %	38.3	33.9	27.7	31.4	29.2	30.0	30.0	29.5
Cash Flow (\$Mil)	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Receipts from Customers	57,756.0	63,501.7	85,093.7	80,337.8	81,531.0	92,373.2	89,890.7	87,285.8
Payments to Suppliers	-32,080.0	-31,515.6	-38,249.0	-44,154.8	-50,395.7	-51,158.6	-50,125.1	-48,694.0
Other Operating Cashflow	-5,793.3	-9,071.9	-12,915.7	-12,891.6	-8,064.2	-10,028.0	-9,611.8	-8,630.8
Net Operating Cashflow	19,882.7	22,914.3	33,929.0	23,291.5	23,071.1	31,186.6	30,153.8	29,961.0
Capex	-7,317.3	-8,933.3	-9,884.9	-9,744.5	-10,783.7	-14,229.2	-14,624.5	-13,438.7
Acquisitions & Investments	-85.3	17.3	5.4	-1,111.6	-1,269.2	0.0	0.0	0.0
Sales of Investments & Subsidiaries	53.3	83.7	92.4	1,208.3	1,797.3	0.0	0.0	0.0
Other Investing Cashflow	14.7	-630.8	203.5	-34.6	-339.4	0.0	0.0	0.0
Net Investing Cashflow	-7,334.7	-9,463.0	-9,583.7	-9,682.4	-10,595.0	-14,229.2	-14,624.5	-13,438.7
Proceeds from Issues	-1,934.7	-114.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from Borrowings	-584.0	-1,327.9	-772.4	-1,217.0	1,669.5	-1,581.0	-1,581.0	-1,581.0
Dividends Paid	-13,778.7	-8,851.0	-20,558.2	-16,929.4	-9,846.3	-11,865.5	-11,091.6	-10,575.7
Other Financing Cashflow	5.3	1.4	96.4	-4,190.8	146.1	1,214.4	1,367.4	1,448.6
Net Financing Cashflow	-16,292.0	-10,291.6	-21,234.3	-22,337.2	-8,030.7	-12,232.1	-11,305.2	-10,708.2
Net Increase Cash	-3,816.0	3,397.8	3,245.0	-8,706.5	4,410.3	4,725.3	4,224.1	5,814.1
Cash at Beginning	14,590.7	11,348.2	13,765.7	18,465.4	10,345.5	15,293.3	20,018.6	24,242.7
Exchange Rate Adjustment	-72.0	238.2	133.9	21.7	-35.0	0.0	0.0	0.0
Cash at End	10,702.7	14,984.1	17,144.6	9,780.6	14,720.7	20,018.6	24,242.7	30,056.8

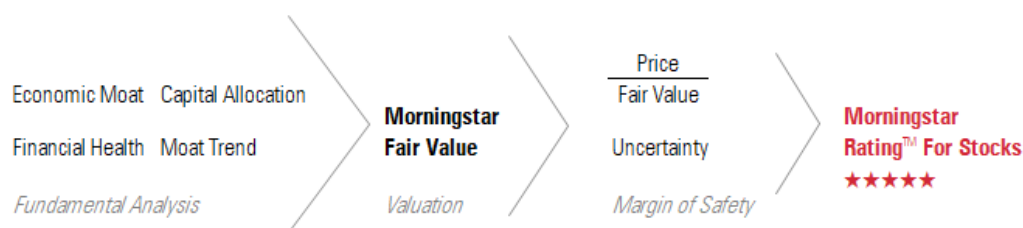
General Financials

	Historical					Forecast		
Balance Sheet (\$Mil)	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Cash & Equivalents	10,702.7	14,984.1	17,144.6	9,780.6	14,720.7	20,018.6	24,242.7	30,056.8
Accounts Receivable	4,036.0	5,259.8	4,784.5	5,020.9	6,003.7	6,783.1	6,544.6	6,358.3
Inventory	4,617.3	5,653.9	7,277.1	8,969.3	10,133.9	9,898.7	9,757.8	9,374.3
Other Short-Term Operating Assets	3,714.7	4,204.7	3,500.7	3,619.2	1,876.4	1,949.4	1,949.4	1,949.4
Total Current Assets	23,070.7	30,102.5	32,706.8	27,389.9	32,734.7	38,649.8	42,494.4	47,738.8
Property Plant & Equipment, Net	76,496.0	90,765.0	86,917.0	93,451.7	101,153.6	110,014.1	115,447.2	118,824.1
Goodwill, Net	1,229.3	1,365.5	1,176.7	1,192.4	1,212.9	1,260.1	1,260.1	1,260.1
Other Intangibles	3,516.0	3,976.6	3,791.2	5,262.0	6,679.3	6,939.1	6,939.1	6,939.1
Other Long-Term Operating Assets	8,614.7	9,473.2	8,635.9	8,373.0	10,289.1	10,689.3	10,689.3	10,689.3
Deferred Tax Assets	4,142.7	4,891.7	4,518.1	4,036.4	5,515.1	5,729.6	5,729.6	5,729.6
Long-Term Non-Operating Assets	0.0	0.0	0.0	0.0	—	0.0	0.0	0.0
Total Assets	117,069.3	140,574.5	137,745.6	139,705.5	157,584.8	173,282.2	182,559.8	191,181.0
Accounts Payable	8,640.0	10,711.6	10,352.1	11,616.9	12,536.9	12,245.9	12,071.5	11,597.2
Short-Term Debt	1,829.3	876.2	1,848.7	1,853.6	2,194.5	2,279.8	2,279.8	2,279.8
Other Short-Term Operating Liabilities	4,364.0	5,166.0	4,702.8	3,279.9	4,661.4	4,842.7	4,842.7	4,842.7
Total Current Liabilities	14,833.3	16,753.8	16,903.6	16,750.4	19,392.8	19,368.5	19,194.1	18,719.7
Total Long-Term Debt	17,788.0	19,353.3	17,119.1	17,265.8	20,843.1	20,072.7	18,491.7	16,910.7
Long-Term Operating Liabilities	1,058.7	688.5	1,068.3	872.0	907.0	942.3	942.3	942.3
Deferred Tax Liabilities	4,794.7	4,675.2	5,573.0	4,619.6	3,979.6	4,134.4	4,134.4	4,134.4
Long-Term Non-Operating Liabilities	18,272.0	24,185.9	21,325.3	24,059.5	26,720.4	27,759.7	27,759.7	27,759.7
Total Liabilities	56,746.7	65,656.8	61,989.3	63,567.2	71,842.9	72,277.6	70,522.1	68,466.7
Preferred Stock	—	—	—	—	—	0.0	0.0	0.0
Minority Interest	6,280.0	6,999.1	6,905.0	3,041.7	2,670.8	2,774.7	2,774.7	2,774.7
Total Equity	60,322.7	74,917.7	75,756.4	76,138.3	85,741.9	101,004.6	112,037.7	122,714.3
Profitability %	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
EBITDA Margin	35.6	42.5	54.3	41.2	34.3	45.8	44.3	44.6
EBIT Margin	34.6	39.8	47.4	35.6	29.2	35.8	34.0	33.1
Net Profit Margin	18.6	21.9	33.2	22.3	18.6	25.6	24.7	24.4
Free Cash Flow Margin	22.1	21.0	28.7	15.7	13.6	20.3	19.5	21.2
Return on Equity	19.0	23.1	41.3	25.2	19.6	26.2	21.3	18.5
Return on Assets	9.0	10.9	20.3	12.9	10.3	14.4	12.4	11.4
Return on Invested Capital(w/Goodwill)	16.4	18.7	29.6	17.2	15.2	18.7	16.8	15.5
ROIC (w/Goodwill) Less WACC	7.4	9.7	20.6	8.2	6.2	9.7	7.8	6.5
Leverage & Liquidity	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Net Debt to Capital %	14.2	7.2	2.6	11.3	9.1	2.3	-3.3	-10.0
Net Debt/(Net Debt + Equity) %	14.2	7.2	2.6	11.3	9.1	2.3	-3.3	-10.0
Net Debt/Equity %	16.5	7.7	2.6	12.8	10.0	2.4	-3.2	-9.1
Net Debt/EBITDA x	0.4	0.2	0.0	0.3	0.3	0.1	-0.1	-0.3
EBIT/Net Interest Expense x	43.6	117.1	167.4	115.6	31.4	33.9	35.6	39.6
Current Ratio (Current Assets/Current Liabilities) x	1.6	1.8	1.9	1.6	1.7	2.0	2.2	2.6
Dividend Payout Ratio %	60.5	60.7	60.4	60.0	60.4	49.9	50.1	49.8
Net Cash Per Share ¢	-542.9	-322.1	-111.9	-573.1	-509.8	-143.1	212.8	666.0
Valuation	12/19	12/20	12/21	12/22	12/23	12/24	12/25	12/26
Price/Earnings x	11.2	8.8	6.4	9.0	10.7	8.5	9.2	9.5
PEG Ratio x	0.5	0.3	0.1	-0.3	-1.5	0.3	-1.3	-2.4
EV/EBITDA x	8.0	6.0	4.0	5.5	7.1	5.0	5.3	5.4
EV/EBIT x	8.2	6.4	4.6	6.4	8.3	6.4	6.9	7.3
Free Cash Flow Yield %	8.2	8.5	13.2	7.3	5.8	9.3	8.6	9.1
Dividend Yield %	5.4	6.9	9.4	6.7	5.6	5.8	5.5	5.2
Price/(OCF per share) x	7.8	6.9	5.4	7.4	8.3	6.5	6.7	6.8
Price/(FCF per share) x	12.2	11.7	7.6	13.8	17.2	10.8	11.6	11.0
Price/Sales x	2.7	2.5	2.2	2.2	2.3	2.2	2.3	2.3
Price/NTA x	2.8	2.3	2.6	2.5	2.5	2.2	2.0	1.8
Price/Book x	2.9	2.3	2.7	2.4	2.3	2.1	1.9	1.7

Equities Research Methodology

We believe that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star, or Buy-rated, stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star, or Sell-rated, stocks trade at premiums to their intrinsic worth. Four key components drive the Morningstar rating: our assessment of the firm's economic moat, our estimate of the stock's fair value, our uncertainty around that fair value estimate and the current market price. This process ultimately culminates in our single-point star rating. Underlying this rating is a fundamentally focused methodology and a robust, standardized set of procedures and core valuation tools used by Morningstar's equity analysts. In this document, we provide a detailed overview of how the Morningstar Rating for stocks is derived, and also outline the analytical work that feeds into our coverage of stocks.

Morningstar Research Methodology



Morningstar's Economic Moat™ Rating

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define excess profits as returns on invested capital, or ROICs, above our estimate of a firm's cost of capital, or WACC (weighted average cost of capital). Without a moat, profits are more susceptible to competition. Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Measuring a Moat

Determining Fair Value

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' independent primary research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process.

The Uncertainty Rating

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. Analysts use the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Our Uncertainty Rating is meant to consider anything that can increase the potential dispersion of outcomes for the intrinsic value of a company, and anything that can affect our ability to predict these outcomes accurately. These can include cyclical factors, operational and financial factors such as leverage, company-specific events, ESG risks, and anything else that might increase the potential dispersion of future outcomes and our ability to estimate those outcomes. We have five different ratings: Low, Medium, High, Very High, or Extreme. Our recommended margin of safety—the discount to fair value demanded before we'd recommend buying or selling the stock—widens as our uncertainty of the estimated value of the equity increases.

Equities Research Methodology

Morningstar Equity Research Star Rating Methodology

Equities Research Methodology

Generating the Morningstar Star Rating

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the recommendation, or star rating, is automatically re-calculated at the market close on every day the market is open.

Our analysts keep close tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted. Furthermore, we would expect our fair value estimates to generally rise over time, due to the time value of money. Specifically, over the course of a year, barring major changes to analyst assumptions, we would expect our fair value estimates to increase at the level of our estimate of a firm's cost of equity (net of shareholder returns attributed to dividends). So, for a stock that pays no dividends with a \$100 fair value estimate today and an estimated 10% cost of equity, we would expect our fair value estimate to rise to \$110 in 12 months, all else equal.

It is also worth noting that there is no predefined distribution of our recommendations. That is, the percentage of stocks that earn a Buy rating can fluctuate daily, so the recommendations, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many Buy-rated stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

Our recommendations /star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential. This rating encourages investors to consider an overweight position in the security relative to the appropriate benchmark.

★★★★ Appreciation beyond a fair risk-adjusted return is likely, in our opinion. This rating encourages investors to own the firm's shares, possibly overweight relative to the appropriate benchmark after fully considering more attractively priced alternatives, such as our Buy recommendations.

★★★ Indicates that we believe investors are likely to receive a fair risk-adjusted return (approximately cost of equity). Concentrated portfolios might consider exiting these positions if more attractively priced alternatives are available.

★★ We believe investors are likely to receive a less than fair risk-adjusted return and should consider directing their capital elsewhere. Securities with this recommendation should generally be underweight, assuming less expensive alternatives are available for the portfolio strategy being employed.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss. This rating encourages investors to strongly consider exiting portfolio positions in the security in nearly all strategies.

Capital Allocation

Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

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Morningstar Medalist Rating Methodology

The Morningstar Medalist Rating is underpinned by the three pillars — People, Process, and Parent. Morningstar's global analyst team believes these three pillars are crucial to predicting the future gross performance of strategies and their associated vehicles.

In accordance with the Morningstar Medalist Rating Methodology, Morningstar assigns pillar ratings to vehicles in

one of three ways: "Directly, by Analysts"; "Indirectly, by Analysts"; or "Directly, by Algorithm."

The Morningstar Medalist Rating is accompanied by two newly implemented data points: Data Coverage % and Analyst-Driven %. The Data Coverage % data point is a summary metric describing the level of data completeness used to generate the overall rating. The Analyst-Driven % data point displays the weighted percentage of a vehicle's pillar ratings assigned.

Vehicles expected to receive a Morningstar Medalist Rating should meet the following criteria:

- All three pillar ratings will be either directly or indirectly assigned by an analyst; or
- If an analyst assessment is absent on any Pillar the machine-learning model will assign the Pillar Rating. A Medalist Rating will be produced when 80% or greater Data Coverage exists at the fund level.

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