DBS Group Holdings Ltd D05 ★★★★ 7 Aug 2024 10:32, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
33.65 SGD 7 Aug 2024	43.00 SGD 2 May 2024 06:33, UTC	0.78	95.70 SGD Bil 7 Aug 2024	Narrow	Large Value	Medium	Exemplary	3 Jul 2024 05:00, UTC

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Contents

Reporting Currency: NATIVE | Trading Currency: SGD
Currency amounts expressed with "$" are in U.S. dollars (USD) unless otherwise denoted.

[1]The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating.

DBS Earnings: FVE Raised as Strong Fee Income Growth Surprises; Firm Names New CEO

Analyst Note Lorraine Tan, CFA, Regional Director, 7 Aug 2024

We increased our fair value estimate for Singapore's DBS Group Holdings to SGD 44 from SGD 43 following its second-quarter results, as we have revised our forecast for net fee income growth this year to 15%, up from our previous estimate of 6%. Net fee income increased by 27% year on year in the quarter, driven by a 37% rise in wealth management fees (25% excluding the Taiwan business acquired from Citi) and a 32% increase in credit card fees (up 9% excluding Citi). The strength in fee income growth from the first quarter, when net fees rose by 22%, not only continued but also accelerated in the second quarter.

While fee income growth was particularly impressive, other aspects of DBS' earnings were also robust: net interest margin (NIM) remained stable as DBS reduced its rate sensitivity by increasing fixed-rate assets, cost control was excellent with a cost/income ratio of 40%, and annualized credit costs remained low at 14 basis points of loans (with specific provisions at only 8 basis points). The annualized return on equity (ROE) was 18%, well above our estimate of DBS' cost of equity. Although the dividend per share remained at 54 Singapore cents, the total dividend payout increased by 10% following DBS's bonus share award in April.

DBS has appointed Tan Su Shan, the head of institutional banking, as deputy CEO, with plans for her to succeed longtime CEO Piyush Gupta next March when Gupta retires at age 65. Given the extended transition period and Tan's extensive experience working with Gupta for 14 years at DBS (and before DBS at Citi), we view Tan as a continuity candidate. While we expect that Gupta is likely to give Tan time to shape her own plans for DBS' future

Financial Summary and Key Statistics

	Actual		Forecast	
	2022	2023	2024	2025
Net Interest Income (NATIVE Mil)	10,941	13,642	14,211	14,190
Non Interest Income (NATIVE Mil)	5,561	6,520	7,457	7,869
Total Pre-Provision Revenue (NATIVE Mil)	16,502	20,162	21,668	22,058
Provision for Loan Losses (NATIVE Mil)	237	590	630	783
Operating Expenses (NATIVE Mil)	7,090	8,291	8,776	8,934
Operating Income (NATIVE Mil)	9,382	11,486	12,463	12,577
Net Income Available to Common Stockholders (NATIVE Mil)	8,193	10,062	10,854	10,929
Earnings Per Share (Diluted) (NATIVE)	3.19	3.91	4.01	3.85
Adjusted Earnings Per Share (Diluted) (NATIVE)	3.19	3.91	4.01	3.85
Adjusted EPS Growth %	19.9	22.6	2.6	-3.9
ROE %	14.3	16.9	16.9	15.9
Price/Earnings	7.9	6.5	6.3	6.6
Price/Book	—	—	—	—

Source: Morningstar Valuation Model. Data as of 07 Aug 2024.

Morningstar Equity Analyst Note | Report as of 7 Aug 2024 19:23, UTC | Reporting Currency: NATIVE | Trading Currency: SGD | Exchange: SINGAPORE EXCHANGE

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Sector	Industry
Financial Services	Banks - Regional

Business Description

DBS Group is a Singapore-based banking group offering a full range of services to consumers, small to midsize enterprises, and corporations and institutions. Its main presence is in Singapore and Greater China. The acquisition of Lakshmi Vilas Bank has strengthened DBS' operations in India, and the acquisition of Citibank's Taiwan operation should bring additional growth in Greater China. DBS' wealth management division is one of the largest in Asia, with assets under management of SGD 365 billion as of 2023.

capital allocation, we believe there is potential for an increase in shareholder distributions before Gupta's departure if DBS continues to deliver strong results.

Morningstar Equity Analyst Note | Report as of 7 Aug 2024 19:23, UTC | Reporting Currency: NATIVE | Trading Currency: SGD | Exchange: SINGAPORE EXCHANGE

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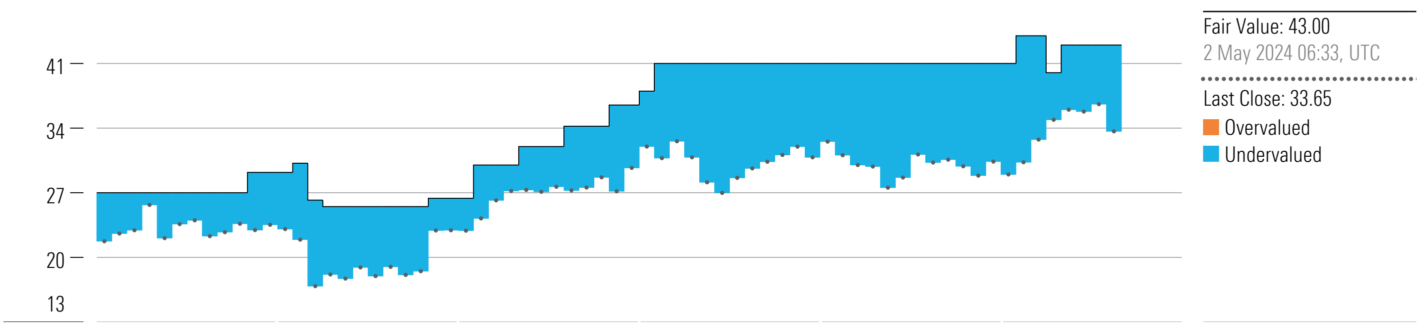
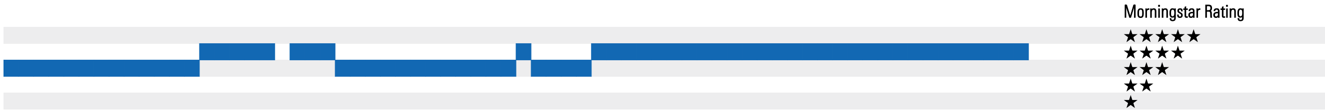
Price vs. Fair Value

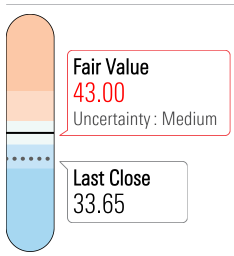
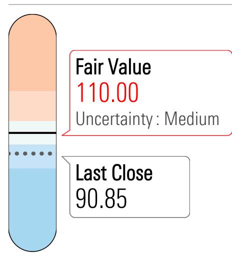
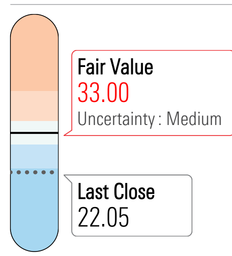
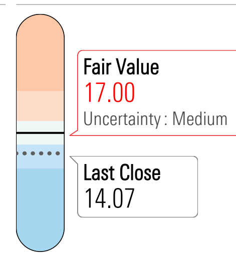


	2019	2020	2021	2022	2023	YTD
Price/Fair Value	0.89	0.96	0.89	0.83	0.81	0.78
Total Return %	15.58	1.43	33.49	8.27	5.28	14.18

Morningstar Rating



Competitors

	DBS Group Holdings Ltd D05	Hang Seng Bank Ltd 00011	BOC Hong Kong Holdings Ltd 02388	Oversea-Chinese Banking Corp Ltd O39
				
	Fair Value 43.00 Uncertainty : Medium; Last Close 33.65	Fair Value 110.00 Uncertainty : Medium; Last Close 90.85	Fair Value 33.00 Uncertainty : Medium; Last Close 22.05	Fair Value 17.00 Uncertainty : Medium; Last Close 14.07
Economic Moat	Narrow	Narrow	Narrow	Narrow
Currency	SGD	HKD	HKD	SGD
Fair Value	43.00 2 May 2024 06:33, UTC	110.00 18 Dec 2023 04:59, UTC	33.00 18 Dec 2023 04:56, UTC	17.00 10 May 2024 12:44, UTC
1-Star Price	58.05	148.50	44.55	22.95
5-Star Price	30.10	77.00	23.10	11.90
Assessment	Undervalued 7 Aug 2024	Undervalued 7 Aug 2024	Significantly Undervalued 7 Aug 2024	Undervalued 7 Aug 2024
Morningstar Rating	★★★★7 Aug 2024 10:32, UTC	★★★★7 Aug 2024 16:41, UTC	★★★★★7 Aug 2024 16:44, UTC	★★★★7 Aug 2024 10:32, UTC
Analyst	Lorraine Tan, Regional Director	Lorraine Tan, Regional Director	Lorraine Tan, Regional Director	Lorraine Tan, Regional Director
Capital Allocation	Exemplary	Exemplary	Exemplary	Exemplary
Price/Fair Value	0.78	0.83	0.67	0.83
Price/Sales	4.51	4.10	3.33	4.55
Price/Book	1.47	1.02	0.72	1.11
Price/Earnings	8.15	9.94	6.83	8.43
Dividend Yield	5.66%	7.35%	7.62%	5.83%
Market Cap	95.70 Bil	171.51 Bil	233.13 Bil	63.24 Bil
52-Week Range	28.19—38.55	78.05—117.50	17.86—26.10	12.17—15.38
Investment Style	Large Value	Large Value	Large Value	Large Value

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Morningstar Valuation Model Summary

Financials as of 07 Aug 2024	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Net Interest Income (NATIVE Mil)	8,440	10,941	13,642	14,211	14,190	13,940	14,633	15,359
Non Interest Income (NATIVE Mil)	5,961	5,561	6,520	7,457	7,869	8,303	8,762	9,246
Total Pre-Provision Revenue (NATIVE Mil)	14,401	16,502	20,162	21,668	22,058	22,243	23,394	24,605
Provision for Loan Losses (NATIVE Mil)	52	237	590	630	783	914	1,055	1,209
Operating Expenses (NATIVE Mil)	6,569	7,090	8,291	8,776	8,934	9,009	9,475	9,965
Operating Income (NATIVE Mil)	7,780	9,382	11,486	12,463	12,577	12,569	13,124	13,704
Net Income Available to Common Stockholders (NATIVE Mil)	6,805	8,193	10,062	10,854	10,929	10,896	11,351	11,853
Adjusted Net Income (NATIVE Mil)	6,805	8,193	10,062	10,854	10,929	10,896	11,351	11,853
Weighted Average Diluted Shares Outstanding (Mil)	2,560	2,571	2,576	2,708	2,838	2,838	2,838	2,838
Earnings Per Share (Diluted) (NATIVE)	2.66	3.19	3.91	4.01	3.85	3.84	4.00	4.18
Adjusted Earnings Per Share (Diluted) (NATIVE)	2.66	3.19	3.91	4.01	3.85	3.84	4.00	4.18
Dividends Per Share (NATIVE)	1.20	2.00	2.42	2.30	2.35	2.38	2.52	2.72

Margins & Returns as of 07 Aug 2024		Actual			Forecast					
	3 Year Avg	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**5 Year Avg**
Net Interest Margin %	1.6	1.3	1.6	1.9	2.0	1.9	1.8	1.8	1.8	1.8
Efficiency Ratio %	43.2	45.6	43.0	41.1	40.5	40.5	40.5	40.5	40.5	40.5
Provision as % of Loans	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2

Growth & Ratios as of 07 Aug 2024		Actual			Forecast					
	3 Year Avg	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**5 Year Avg**
Net Interest Income Growth %	14.5	-7.0	29.6	24.7	4.2	-0.2	-1.8	5.0	5.0	2.4
Non Interest Income Growth %	5.7	8.1	-6.7	17.3	14.4	5.5	5.5	5.5	5.5	7.2
Total Pre-Provision Revenue Growth %	—	-1.3	14.6	22.2	7.5	1.8	0.8	5.2	5.2	—
Operating Expenses Growth %	—	6.7	7.9	16.9	5.9	1.8	0.8	5.2	5.2	—
Operating Income Growth %	—	44.9	20.6	22.4	8.5	0.9	-0.1	4.4	4.4	—
Net Income Growth %	28.7	44.1	20.4	22.8	7.9	0.7	-0.3	4.2	4.4	—
Earnings Per Share Growth %	28.3	43.7	19.9	22.6	2.6	-3.9	-0.3	4.2	4.4	1.4

Valuation as of 07 Aug 2024	Actual			Forecast				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Price/Earnings	9.1	7.9	6.5	6.3	6.6	6.6	6.3	6.1
Price/Book	—	—	—	—	—	—	—	—
Price/Tangible Book	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1.0
Dividend Yield %	4.3	5.4	5.7	9.1	9.3	9.4	9.9	10.7
Dividend Payout %	45.3	62.8	62.0	60.0	61.0	62.0	63.0	65.0

Operating Performance / Profitability as of 07 Aug 2024	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
ROA %	1.0	1.2	1.4	1.4	1.4	1.3	1.3	1.3
ROE %	12.1	14.3	16.9	16.9	15.9	15.0	14.8	14.6
Return on Tangible Equity %	14.2	16.6	19.6	19.6	18.5	17.3	17.1	16.9

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Financial Leverage (Reporting Currency)	Actual			Forecast				
Fiscal Year, ends 31 Dec	2021	2022	2023	2024	2025	2026	2027	2028
Equity/Assets %	8.4	7.6	8.4	8.7	8.8	8.9	8.9	9.0

Forecast Revisions as of	2024		2025		2026	
Prior data as of	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	44.00	—	—	—	—	—
Net Interest Income (NATIVE Mil)	14,211	14,211	14,190	14,190	13,940	13,940
Total Pre-Provision Revenue (NATIVE Mil)	21,668	21,365	22,058	21,737	22,243	21,903
Operating Income (NATIVE Mil)	12,463	12,283	12,577	12,386	12,569	12,366
Net Income (NATIVE Mil)	—	—	—	—	—	—
Earnings Per Share (Diluted) (NATIVE)	4.01	3.95	3.85	3.79	3.84	3.78
Adjusted Earnings Per Share (Diluted) (NATIVE)	4.01	3.95	3.85	3.79	3.84	3.78
Dividends Per Share (NATIVE)	2.30	2.26	2.35	2.31	2.38	2.34

Key Valuation Drivers as of 07 Aug 2024	
Cost of Equity %	9.0
Stage II Net Income Growth Rate %	4.0
Stage II Incremental ROIC %	12.0
Perpetuity Year	15

Additional estimates and scenarios available for download at https://pitchbook.com/.

Discounted Cash Flow Valuation as of 07 Aug 2024	NATIVE Mil
Present Value Stage I	0
Present Value Stage II	0
Present Value of the Perpetuity	0
Total Common Equity Value before Adjustment	**0**
Other Adjustments	—
Equity Value	**122,499**
Projected Diluted Shares	2,838
Fair Value per Share (SGD)	**44.00**

Morningstar Equity Analyst Note | Report as of 7 Aug 2024 19:23, UTC | Reporting Currency: NATIVE | Trading Currency: SGD | Exchange: SINGAPORE EXCHANGE Page 6 of 13

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Income Statement (NATIVE)	Actual			Forecast				
Fiscal Year, ends 31 Dec	2021	2022	2023	2024	2025	2026	2027	2028
Net Interest Income (Mil)	8,440	10,941	13,642	14,211	14,190	13,940	14,633	15,359
Provision for Losses on Loans (Mil)	52	237	590	630	783	914	1,055	1,209
Net Interest Income after Provision (Mil)	8,388	10,704	13,052	13,581	13,406	13,027	13,577	14,151
Non-Interest Income (Mil)	5,961	5,561	6,520	7,457	7,869	8,303	8,762	9,246
Net Revenue (Mil)	14,401	16,502	20,162	21,668	22,058	22,243	23,394	24,605
Net Revenue After Provision (Excluding Gains on Sale) (Mil)	14,349	16,265	19,572	21,038	21,275	21,330	22,339	23,396
Gains on Sale (Mil)	0	0	0	0	0	0	0	0
Net Revenue After Provision (Including Gains on Sale) (Mil)	14,349	16,265	19,572	21,038	21,275	21,330	22,339	23,396
Non-Interest Expense (Mil)	6,569	7,090	8,291	8,776	8,934	9,009	9,475	9,965
Operating Income (Excluding Gains on Sale) (Mil)	7,780	9,382	11,486	12,463	12,577	12,569	13,124	13,704
Taxes (Mil)	973	1,188	1,423	1,608	1,648	1,672	1,772	1,850
Minority Interest, net of income taxes (Mil)	2	1	1	1	1	1	1	1
Income after Taxes (Mil)	6,805	8,193	10,062	10,854	10,929	10,896	11,351	11,853
Other After-Tax Items (Mil)	0	0	0	0	0	0	0	0
Preferred Dividends (Mil)	0	0	0	0	0	0	0	0
Net Income Attributable to Common Shareholders (Excluding All After-tax Items) (Mil)	6,805	8,193	10,062	10,854	10,929	10,896	11,351	11,853
Net Income Attributable to Common Shareholders (Including All After-tax Items) (Mil)	6,805	8,193	10,062	10,854	10,929	10,896	11,351	11,853
Weighted Average Diluted Shares Outstanding (Mil)	2,560	2,571	2,576	2,708	2,838	2,838	2,838	2,838
Diluted Earnings Per Share	2.66	3.19	3.91	4.01	3.85	3.84	4.00	4.18
Diluted Earnings Per Share (Adjusted)	2.66	3.19	3.91	4.01	3.85	3.84	4.00	4.18
Dividends Per Common Share (NATIVE)	1.20	2.00	2.42	2.30	2.35	2.38	2.52	2.72

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Balance Sheet (NATIVE)	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Assets								
Securities (Mil)	122,954	140,452	152,300	164,484	172,708	181,344	190,411	199,931
Loans and Leases (Mil)	415,072	420,284	422,152	430,595	452,125	474,731	498,468	523,391
Allowance for Loan Losses (Mil)	-6,079	-5,765	-5,989	-6,109	-6,414	-6,735	-7,072	-7,425
Net Loans and Leases (Mil)	**408,993**	**414,519**	**416,163**	**424,486**	**445,711**	**467,996**	**491,396**	**515,966**
All Other Earning Assets (Mil)	127,435	159,236	140,374	144,812	151,817	159,162	166,865	174,943
Premises & Equipment, Net (Mil)	3,262	3,238	3,689	3,689	3,689	3,689	3,689	3,689
Goodwill (Mil)	0	0	0	0	0	0	0	0
Identifiable Intangibles (Mil)	5,362	5,340	6,313	6,813	7,313	7,813	8,313	8,813
Deferred Tax Assets (Mil)	0	0	0	0	0	0	0	0
Other Non-Earning Assets (Other Real Estate Owned etc.) (Mil)	18,067	20,583	20,462	21,271	22,116	22,999	23,923	24,887
Total Assets (Mil)	**686,073**	**743,368**	**739,301**	**765,555**	**803,354**	**843,003**	**884,596**	**928,229**
Liabilities								
Deposits (Mil)	501,959	527,000	535,103	548,481	575,905	604,700	634,935	666,682
Total Debt (Mil)	57,206	51,600	49,398	54,116	57,026	60,379	64,008	68,041
Deferred Tax Liabilities (Mil)	0	0	0	0	0	0	0	0
All Other Liabilities (Mil)	69,194	107,696	92,553	96,295	99,497	102,859	106,387	110,092
Total Liabilities (Mil)	**628,359**	**686,296**	**677,054**	**698,892**	**732,427**	**767,938**	**805,331**	**844,815**
Equity								
Common Stock + Paid-in Capital + Treasury Stock (Mil)	11,383	11,495	11,604	11,604	11,604	11,604	11,604	11,604
Retained Earnings (Mil)	39,941	44,347	48,167	52,509	56,771	60,910	65,110	69,259
Preferred Equity (Mil)	2,392	2,392	2,392	2,392	2,392	2,392	2,392	2,392
AOCI + Other Equity (Mil)	3,810	-1,347	-23	-23	-23	-23	-23	-23
Shareholders Equity (Mil)	**57,526**	**56,887**	**62,140**	**66,482**	**70,744**	**74,883**	**79,083**	**83,232**
Total Liabilities & Shareholders Equity (Including Minority Interest) (Mil)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

Morningstar Equity Analyst Note | Report as of 7 Aug 2024 19:23, UTC | Reporting Currency: NATIVE | Trading Currency: SGD | Exchange: SINGAPORE EXCHANGE Page 8 of 13

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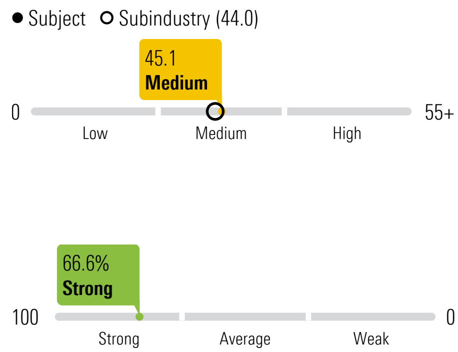
ESG Risk Rating Breakdown

Exposure	
Company Exposure[1]	45.1
– Manageable Risk	42.7
Unmanageable Risk[2]	**2.4**
Management	
Manageable Risk	42.7
– Managed Risk[3]	28.4
Management Gap[4]	**14.3**
Overall Unmanaged Risk	**16.7**



- Exposure represents a company's vulnerability to ESG risks driven by their business model
- Exposure is assessed at the Subindustry level and then specified at the company level
- Scoring ranges from 0-55+ with categories of low, medium, and high-risk exposure

- Management measures a company's ability to manage ESG risks through its commitments and actions
- Management assesses a company's efficiency on ESG programs, practices, and policies
- Management score ranges from 0-100% showing how much manageable risk a company is managing

ESG Risk Rating

ESG Risk Ratings measure the degree to which a company's value is impacted by environmental, social, and governance risks, by evaluating the company's ability to manage the ESG risks it faces.

1. A company's Exposure to material ESG issues 2. Unmanageable Risk refers to risks that are inherent to a particular business model that cannot be managed by programs or initiatives 3. Managed Risk = Manageable Risk multiplied by a Management score of 66.6% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating Assessment[5]

ESG Risk Rating is of Jul 03, 2024. Highest Controversy Level is as of Jul 08, 2024. Sustainalytics Subindustry: Diversified Banks. Sustainalytics provides Morningstar with company ESG ratings and metrics on a monthly basis and as such, the ratings in Morningstar may not necessarily reflect current Sustainalytics' scores for the company. For the most up to date rating and more information, please visit: sustainalytics.com/esg-ratings/.

Peer Analysis 03 Jul 2024

Peers are selected from the company's Sustainalytics-defined Subindustry and are displayed based on the closest market cap values

Company Name	Exposure		Management		ESG Risk Rating	
DBS Group Holdings Ltd	45.1 | Medium	0 – 55+	66.6 | Strong	100 – 0	16.7 | Low	0 – 40+
BOC Hong Kong Holdings Ltd	37.1 | Medium	0 – 55+	53.4 | Strong	100 – 0	18.1 | Low	0 – 40+
Hang Seng Bank Ltd	37.1 | Medium	0 – 55+	54.6 | Strong	100 – 0	17.7 | Low	0 – 40+
United Overseas Bank Ltd	44.8 | Medium	0 – 55+	71.5 | Strong	100 – 0	14.5 | Low	0 – 40+
Oversea-Chinese Banking Corp Ltd	43.0 | Medium	0 – 55+	45.9 | Average	100 – 0	24.2 | Medium	0 – 40+

Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' 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, indepth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss shortterm market-price movements), but we believe these negatives are mitigated by deep analysis and our longterm approach.

Morningstar's equity research group ("we," "our") believes 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 stocks sell for the biggest risk adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our singlepoint star rating.

1. Economic Moat

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 economic profits as returns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

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.

When considering a company's moat, we also assess whether there is a substantial threat of value destruction, stemming from risks related to ESG, industry disruption, financial health, or other idiosyncratic issues. In this context, a risk is considered potentially value destructive if its occurrence would eliminate a firm's economic profit on a cumulative or midcycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in workingcapital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and the net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

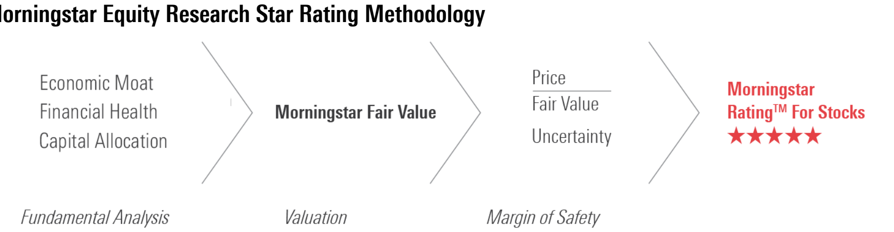
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. This rating is used to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating is aimed at identifying the confidence we should have in assigning a fair value estimate for a given stock.

Our Uncertainty Rating is meant to take into account anything that can increase the potential dispersion of future outcomes for the intrinsic value of a company, and any-

Morningstar Equity Research Star Rating Methodology



Morningstar Equity Analyst Note | Report as of 7 Aug 2024 19:23, UTC | Reporting Currency: NATIVE | Trading Currency: SGD | Exchange: SINGAPORE EXCHANGE

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thing that can affect our ability to accurately predict these outcomes. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. An analyst overlay is then applied, with analysts using the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Ultimately, the rating decision rests with the analyst. Analysts take into account many characteristics when making their final decision, including 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.

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. The more uncertain we are about the potential dispersion of outcomes, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the Uncertainty Rating provides guidance in portfolio construction based on risk tolerance.

Our Uncertainty Ratings are: Low, Medium, High, Very High, and Extreme.

	Margin of Safety	
Qualitative Analysis Uncertainty Ratings	★★★★★Rating	★Rating
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly, when a stock hits 1 star, we expect there is a 75% chance that the intrinsic value of that stock lies below the current market price.

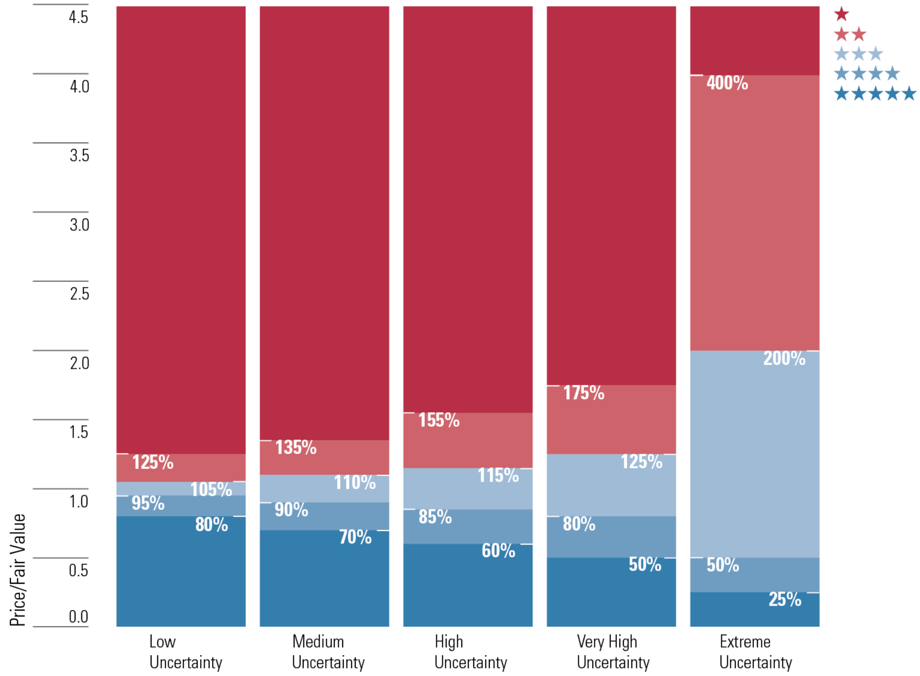
4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

For more details about our methodology, please go to https://shareholders.morningstar.com

Morningstar Star Rating for Stocks

Morningstar Equity Research Star Rating Methodology



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 star rating is automatically re-calculated at the market close on every day the market on which the stock is listed 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.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our 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.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ 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.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ 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.

Other Definitions

Last Price: Price of the stock as of the close of the market of the last trading day before date of the report.

Capital Allocation Rating: 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 compan-

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ies' 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.

Capital Allocation Rating: 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.

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Sustainalytics ESG Risk Rating Assessment: The ESG Risk Rating Assessment is provided by Sustainalytics; a Morningstar company.

Sustainalytics' ESG Risk Ratings measure the degree to which company's economic value at risk is driven by environment, social and governance (ESG) factors.

Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low, medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit sustainalytics.com/esg-ratings/

Ratings should not be used as the sole basis in evaluating a company or security. Ratings involve unknown risks and uncertainties which may cause our expectations not to occur or to differ significantly from what was expected and should not be considered an offer or solicitation to buy or sell a security.

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