

LyondellBasell Industries

Recovery comes earlier, challenging outlook, compelling hub concept, PO \$101

Reiterate Rating: UNDERPERFORM | PO: 101.00 USD | Price: 94.61 USD

Big beat on earlier-than-expected international recovery

LYB's 1Q23 adj. EBITDA of \$1.45bn was well-ahead of our \$1.18bn estimate and the \$1.21bn consensus. Vs our forecasts the biggest delta came from Olefins & Polyolefins (O&P) EAI, where EBITDA of \$77mn compares to our -\$81mn estimate and the -\$152mn EBITDA generated in 4Q22. Lower feedstock costs, improved operating rates/demand – inclusive of the restart of the Berre, France cracker, and higher earnings at several Asian JVs led to the sizeable q/q improvement. Intermediates & Derivatives (I&D) results also topped our forecast, with the new PO/TBA plant already running at 70% in its first month of operations, which is rare, and in our view reflects LYB's operating skills.

Outlook still challenging, staying U/P with \$101 PO

We are raising our 2Q23E EBITDA to \$1,441mn from \$1,234mn, expecting no sequential improvement in profitability. On the positive side, 2Q is burdened by ~180mn in maintenance expenses, such that EBITDA could have topped \$1.6bn otherwise. On the other hand, as we noted in our DOW note, the admittedly earlier-than-expected international recovery seems to have stalled. As such we make more modest adjustments in 2H23; all-in our 2023E EBITDA is raised to \$5,785mn from \$5,140mn. Similarly, while we are raising our 2024E EBITDA to ~5.8bn from ~\$5.4bn we now see only marginal growth y/y (especially given the lack of Refinery earnings next year). To account for this slower pace of earnings growth we are now lowering our 2023 EV/EBITDA multiple to 8.5x from 9x. Our PO is raised to \$101 from \$94. Reiterate our Underperform rating given the stock's limited upside potential and challenging outlook.

Combined Hydrogen and Circular Plastics Hub is logical

LYB's refinery in Houston is a strong candidate to receive DOE funding to be developed into a hydrogen hub, particularly if the site is also developed as a circular plastic hub. In early-April, LYB submitted a proposal to DOE for a Houston-based hydrogen hub with partners Air Liquide, Chevron, and Uniper. LYB's refinery has the logistical benefits from the Houston ship channel and access to hydrogen pipelines. Pyrolysis of waste plastic for cracker feedstock requires hydrotreaters to remove oxygen and chlorine. Vegetable oil can be converted into naphtha-like renewable feedstock, but this requires significant hydrogen and hydrotreaters. LYB's refinery has 8 relatively new hydrotreaters.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	18.72	12.51	9.90	10.35	11.20
GAAP EPS	16.98	11.87	8.83	10.35	11.20
EPS Change (YoY)	227.3%	-33.2%	-20.9%	4.5%	8.2%
Consensus EPS (Bloomberg)			8.96	10.48	12.18
DPS	4.44	4.70	4.82	4.90	4.90
Valuation (Dec)					
P/E	5.1x	7.6x	9.6x	9.1x	8.4x
GAAP P/E	5.6x	8.0x	10.7x	9.1x	8.4x
Dividend Yield	4.7%	5.0%	5.1%	5.2%	5.2%
EV / EBITDA*	4.7x	6.8x	7.7x	7.7x	7.3x
Free Cash Flow Yield*	18.5%	13.7%	9.2%	7.6%	8.7%

* For full definitions of *IQmethod*SM measures, see page 5.

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Timestamp: 01 May 2023 07:48AM EDT

01 May 2023

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	94.00	101.00
2023E Rev (m)	43,985.0	42,992.4
2024E Rev (m)	38,200.8	37,579.6
2025E Rev (m)	38,174.6	37,505.9
2023E EPS	8.50	9.90
2024E EPS	9.65	10.35
2025E EPS	10.75	11.20

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Stock Data

Price	94.61 USD
Price Objective	101.00 USD
Date Established	1-May-2023
Investment Opinion	B-3-7
52-Week Range	71.46 USD - 112.53 USD
Mrkt Val (mn) / Shares Out (mn)	30,937 USD / 327.0
Average Daily Value (mn)	216.57 USD
BofA Ticker / Exchange	LYB / NYS
Bloomberg / Reuters	LYB US / LYB.N
ROE (2023E)	25.2%
Net Dbt to Eqty (Dec-2022A)	72.0%

ESGMeterTM

High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to ["BofA ESGMeter Methodology"](#).

iQprofileSM LyondellBasell Industries

iQmethodSM – Bus Performance*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Return on Capital Employed	20.5%	14.6%	11.3%	11.3%	11.9%
Return on Equity	63.0%	33.6%	25.2%	25.6%	27.1%
Operating Margin	16.3%	10.6%	9.9%	11.1%	11.7%
Free Cash Flow	5,736	4,229	2,832	2,337	2,686

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash Realization Ratio	1.2x	1.5x	1.4x	1.3x	1.4x
Asset Replacement Ratio	1.4x	1.5x	1.1x	1.5x	1.6x
Tax Rate	17.5%	18.0%	19.8%	18.0%	18.0%
Net Debt-to-Equity Ratio	84.5%	72.0%	69.1%	74.7%	76.6%
Interest Cover	14.7x	20.8x	10.7x	10.5x	11.0x

Income Statement Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Sales	46,173	50,451	42,992	37,580	37,506
% Change	66.4%	9.3%	-14.8%	-12.6%	-0.2%
Gross Profit	10,294	8,028	7,134	7,028	7,340
% Change	114.8%	-22.0%	-11.1%	-1.5%	4.4%
EBITDA	9,437	6,527	5,785	5,807	6,127
% Change	140.7%	-30.8%	-11.4%	0.4%	5.5%
Net Interest & Other Income	66	(325)	(250)	(156)	(76)
Net Income (Adjusted)	6,249	4,118	3,216	3,293	3,517
% Change	226.6%	-34.1%	-21.9%	2.4%	6.8%

Free Cash Flow Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Income from Cont Operations (GAAP)	6,255	4,123	3,224	3,300	3,524
Depreciation & Amortization	1,393	1,267	1,418	1,376	1,422
Change in Working Capital	304	97	109	(258)	37
Deferred Taxation Charge	(198)	369	6	0	0
Other Adjustments, Net	(59)	263	(324)	20	2
Capital Expenditure	(1,959)	(1,890)	(1,600)	(2,100)	(2,300)
Free Cash Flow	5,736	4,229	2,832	2,337	2,686
% Change	293.7%	-26.3%	-33.0%	-17.5%	14.9%

Balance Sheet Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash & Equivalents	1,481	2,151	1,986	1,265	711
Trade Receivables	4,808	3,593	3,922	4,280	4,167
Other Current Assets	5,928	6,101	5,654	5,673	5,616
Property, Plant & Equipment	14,556	15,387	15,627	16,352	17,230
Other Non-Current Assets	9,969	9,133	8,955	8,680	8,340
Total Assets	36,742	36,365	36,144	36,248	36,064
Short-Term Debt	368	781	775	775	775
Other Current Liabilities	6,862	5,979	5,866	5,985	5,853
Long-Term Debt	11,246	10,540	10,201	10,201	10,001
Other Non-Current Liabilities	6,278	6,322	6,292	6,292	6,292
Total Liabilities	24,754	23,622	23,134	23,253	22,921
Total Equity	11,988	12,743	13,010	12,995	13,143
Total Equity & Liabilities	36,742	36,365	36,144	36,248	36,064

* For full definitions of iQmethodSM measures, see page 5.

Company Sector

Chemicals-Major

Company Description

LyondellBasell is a leading producer of petrochemicals with \$9.4bn in EBITDA in 2021. Over half of earnings are generated in the company's Olefins & Polyolefins - Americas segment where costs are linked to the price of cheap natural gas in the US, while selling prices are correlated with the price of oil. The company has pursued a strategy of low-cost, high ROIC debottlenecks coupled with cash returns to shareholders.

Investment Rationale

LYB has shown significant leverage to ongoing strength in polyethylene and polypropylene markets. However, we believe upside to margins across these businesses are limited from here, and represent a significant source of downside risk to estimates over the cycle. While we appreciate the ongoing rebound in other businesses, we see risk that company margins may still have downside. With limited traction to earnings from here, we see risk of underperformance in shares.

Stock Data

Average Daily Volume 2289,044

Quarterly Earnings Estimates

	2022	2023
Q1	4.00A	2.51A
Q2	5.19A	2.45E
Q3	1.96A	2.75E
Q4	1.36A	2.19E

Exhibit 1: Lyondell Income Statement Summary

We are raising our 2023E EBITDA to ~\$5.8bn

Net Sales	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23E	3Q23E	4Q23E	2023E	2024E	2025E
Olefins and Polyolefins - Americas	\$15,002	\$3,595	\$4,069	\$3,566	\$2,705	\$13,935	\$2,808	\$3,352	\$3,566	\$2,965	\$12,691	\$13,766	\$13,961
Olefins and Polyolefins - EAI	13,490	3,762	3,714	2,948	2,399	12,823	2,892	2,807	2,826	2,428	10,952	11,127	10,303
Intermediates and Derivatives	10,180	3,339	3,766	3,283	2,562	12,950	2,682	3,005	2,846	2,417	10,950	13,105	13,517
Advanced Polymer Solutions	5,145	1,408	1,425	1,294	1,104	5,231	997	1,003	952	1,016	3,968	4,286	4,457
Refining	8,002	2,720	3,788	2,752	2,633	11,893	2,190	2,831	2,324	2,537	9,881	0	0
Technology	843	181	194	173	145	693	139	175	178	160	651	703	739
Other	(6,489)	(1,848)	(2,118)	(1,766)	(1,342)	(7,074)	(1,461)	(1,500)	(2,000)	(1,141)	(6,102)	(5,407)	(5,471)
Consolidated Net Sales	46,173	13,157	14,838	12,250	10,206	50,451	10,247	11,673	10,692	10,381	42,992	37,580	37,506
Change	66%	45%	28%	-4%	-20%	9%	-22%	-21%	-13%	2%	-15%	-13%	0%
EBITDA													
Olefins and Polyolefins - Americas	5,273	911	905	559	359	2,734	541	540	657	658	2,396	2,774	2,816
Olefins and Polyolefins - EAI	1,777	188	228	(83)	(152)	181	77	104	138	115	434	797	1,002
Intermediates and Derivatives	1,471	546	675	360	291	1,872	426	428	466	337	1,656	1,650	1,670
Advanced Polymer Solutions	464	125	118	66	3	312	26	48	40	44	159	206	232
Refining	(52)	148	418	190	322	1,078	315	247	187	104	853	0	0
Technology	514	103	112	92	59	366	73	75	78	67	293	380	406
Corporate & Other	(10)	(1)	(6)	8	(17)	(16)	(6)	0	0	0	(6)	0	0
Total	9,437	2,020	2,450	1,192	865	6,527	1,452	1,441	1,566	1,326	5,785	5,807	6,127
Change	141%	27%	-19%	-56%	-60%	-31%	-28%	-41%	31%	53%	-11%	0%	6%
Depreciation and Amortization	1,393	311	304	310	312	1,237	341	340	342	340	1,363	1,376	1,422
Operating Income Before Unusual Items	7,522	1,661	2,210	904	582	5,357	1,089	1,063	1,185	936	4,273	4,187	4,381
Net Interest Expense	510	72	54	63	69	258	93	100	105	102	400	400	400
Equity (Income) / Loss	(461)	(29)	(22)	26	20	(5)	(17)	(38)	(39)	(51)	(145)	(244)	(324)
Other Expense / (Income)	(115)	(19)	86	(4)	9	72	(5)	0	0	0	(5)	0	0
Pretax Income	7,587	1,637	2,092	819	484	5,032	1,018	1,001	1,119	884	4,023	4,031	4,305
Income Taxes	1,325	316	378	176	34	904	195	200	224	177	796	726	775
Income Before Nonrecurring items	6,249	1,318	1,712	642	446	4,118	820	799	892	704	3,216	3,293	3,517
Nonrecurring Items	(578)	0	(69)	(70)	(74)	(213)	(348)	0	0	0	(348)	0	0
Net Income	5,671	1,318	1,643	572	372	3,905	472	799	892	704	2,868	3,293	3,517
Diluted EPS Before Nonrecurring	\$18.72	\$4.00	\$5.19	\$1.96	\$1.36	\$12.51	\$2.50	\$2.45	\$2.75	\$2.19	\$9.90	\$10.35	\$11.20
Change Before Gains/(Charges)	227%	25%	-16%	-63%	-67%	-33%	-38%	-53%	40%	61%	-21%	5%	8%
Diluted Shares Outstanding (Million)	333.9	329.0	329.0	327.0	327.0	329.1	327.0	325.6	324.2	321.8	324.7	318.1	314.0
Segment Sales Growth:													
Olefins and Polyolefins - Americas	106%	26%	9%	-19%	-33%	-7%	-22%	-18%	0%	10%	-9%	8%	1%
Olefins and Polyolefins - EAI	61%	23%	7%	-15%	-32%	-5%	-23%	-24%	-4%	1%	-15%	2%	-7%
Intermediates and Derivatives	62%	89%	46%	13%	-13%	27%	-20%	-20%	-13%	-6%	-15%	20%	3%
Advanced Polymer Solutions	31%	11%	7%	1%	-12%	2%	-29%	-30%	-26%	-8%	-24%	8%	4%
Refining	69%	142%	95%	20%	0%	49%	-19%	-25%	-16%	-4%	-17%	0%	0%
Technology	28%	10%	6%	-27%	-44%	-18%	-23%	-10%	3%	10%	-6%	8%	5%
Consolidated Net Sales	66%	45%	28%	-4%	-20%	9%	-22%	-21%	-13%	2%	-15%	-13%	0%
EBITDA Margins Before Special Items													
Olefins and Polyolefins - Americas	35.1%	25.3%	22.2%	15.7%	13.3%	19.6%	19.3%	16.1%	18.4%	22.2%	18.9%	20.1%	20.2%
Olefins and Polyolefins - EAI	13.2%	5.0%	6.1%	-2.8%	-6.3%	1.4%	2.7%	3.7%	4.9%	4.8%	4.0%	7.2%	9.7%
Intermediates and Derivatives	14.4%	16.4%	17.9%	11.0%	11.4%	14.5%	15.9%	14.2%	16.4%	13.9%	15.1%	12.6%	12.4%
Advanced Polymer Solutions	9.0%	8.9%	8.3%	5.1%	0.3%	6.0%	2.6%	4.8%	4.2%	4.4%	4.0%	4.8%	5.2%
Refining	-0.6%	5.4%	11.0%	6.9%	12.2%	9.1%	14.4%	8.7%	8.1%	4.1%	8.6%	0.0%	0.0%
Technology	61.0%	56.9%	57.7%	53.2%	40.7%	52.8%	52.5%	43.0%	44.0%	42.0%	45.1%	54.0%	55.0%
Total	20.4%	15.4%	16.5%	9.7%	8.5%	12.9%	14.2%	12.3%	14.6%	12.8%	13.5%	15.5%	16.3%

Source: Company Reports and BofA Global Research Estimates

BofA GLOBAL RESEARCH



Price objective basis & risk

LyondellBasell Industries (LYB)

Our \$101 PO is based on a 8.5x multiple to our 2023E EBITDA ex-Refining, plus the cumulative EBITDA generated by Refining through 2023 YE. The multiple is a 1.5x premium to historic average levels, reflecting a trough in our estimates and potential recovery.

Upside risks to our price objective are an increase in global polyethylene demand, higher oil prices, and lower US NGL prices.

Downside risks to our price objective are lower oil prices, higher natural gas and feedstock costs and slower global economic growth leading to a slowdown in demand for polyethylene.

Analyst Certification

I, Steve Byrne, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

BofA Securities is currently acting as financial advisor to LyondellBasell Industries NV in their review of strategic options for the refining business.

US - Chemicals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Axalta Coating Systems	AXTA	AXTA US	Steve Byrne, CFA
	Bunge Limited	BG	BG US	Salvator Tiano, CFA
	Celanese Corporation	CE	CE US	Matthew DeYoe, CFA
	CF Industries	CF	CF US	Steve Byrne, CFA
	Chemours Company	CC	CC US	Matthew DeYoe, CFA
	DuPont	DD	DD US	Steve Byrne, CFA
	Eastman Chemical Co	EMN	EMN US	Matthew DeYoe, CFA
	Element Solutions Inc.	ESI	ESI US	Steve Byrne, CFA
	FMC Corporation	FMC	FMC US	Steve Byrne, CFA
	Linde	LIN	LIN US	Steve Byrne, CFA
	Linde	LINGY	LIN GY	Steve Byrne, CFA
	Livent	LTHM	LTHM US	Matthew DeYoe, CFA
	Nutrien	NTR	NTR US	Steve Byrne, CFA
	Olin Corp	OLN	OLN US	Steve Byrne, CFA
	Origin Materials	ORGN	ORGN US	Steve Byrne, CFA
	PPG Industries Inc.	PPG	PPG US	Steve Byrne, CFA
	Sigma Lithium	SGML	SGML US	Matthew DeYoe, CFA
	The Mosaic Company	MOS	MOS US	Steve Byrne, CFA
	Tronox Holdings	TROX	TROX US	Matthew DeYoe, CFA
NEUTRAL				
	Air Products	APD	APD US	Steve Byrne, CFA
	Archer-Daniels-Midland Company	ADM	ADM US	Salvator Tiano, CFA
	Corteva	CTVA	CTVA US	Steve Byrne, CFA
	Dow Inc	DOW	DOW US	Steve Byrne, CFA
	Green Plains	GPPE	GPPE US	Salvator Tiano, CFA
	International Flavors & Fragrances	IFF	IFF US	Matthew DeYoe, CFA
	Sherwin-Williams Company	SHW	SHW US	Steve Byrne, CFA
	Westlake Corp	WLK	WLK US	Steve Byrne, CFA
UNDERPERFORM				
	Albemarle	ALB	ALB US	Matthew DeYoe, CFA
	Ecolab Inc	ECL	ECL US	Steve Byrne, CFA

US - Chemicals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Huntsman Corp	HUN	HUN US	Matthew DeYoe, CFA
	LyondellBasell Industries	LYB	LYB US	Steve Byrne, CFA
	RPM International Inc	RPM	RPM US	Steve Byrne, CFA
	Venator Materials	VNTR	VNTR US	Matthew DeYoe, CFA
	Westlake Chemical Partners, LP	WLKP	WLKP US	Steve Byrne, CFA
RSTR				
	Diversey Holdings	DSEY	DSEY US	Steve Byrne, CFA

IQmethodSM Measures Definitions**Business Performance**

Return On Capital Employed

Return On Equity
Operating Margin
Earnings Growth
Free Cash Flow

Quality of Earnings

Cash Realization Ratio
Asset Replacement Ratio
Tax Rate
Net Debt-To-Equity Ratio
Interest Cover

Valuation Toolkit

Price / Earnings Ratio
Price / Book Value
Dividend Yield
Free Cash Flow Yield
Enterprise Value / Sales

EV / EBITDA

Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income
Operating Profit
Expected 5 Year CAGR From Latest Actual
Cash Flow From Operations – Total Capex

Numerator

Cash Flow From Operations
Capex
Tax Charge
Net Debt = Total Debt – Cash & Equivalents
EBIT

Numerator

Current Share Price
Current Share Price
Annualised Declared Cash Dividend
Cash Flow From Operations – Total Capex
EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities
Enterprise Value

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill
Amortization
Shareholders' Equity
Sales
N/A
N/A

Denominator

Net Income
Depreciation
Pre-Tax Income
Total Equity
Interest Expense

Denominator

Diluted Earnings Per Share (Basis As Specified)
Shareholders' Equity / Current Basic Shares
Current Share Price
Market Cap = Current Share Price × Current Basic Shares
Sales

Basic EBIT + Depreciation + Amortization

IQmethodSM is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and valuations. The key features of *IQmethod* are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

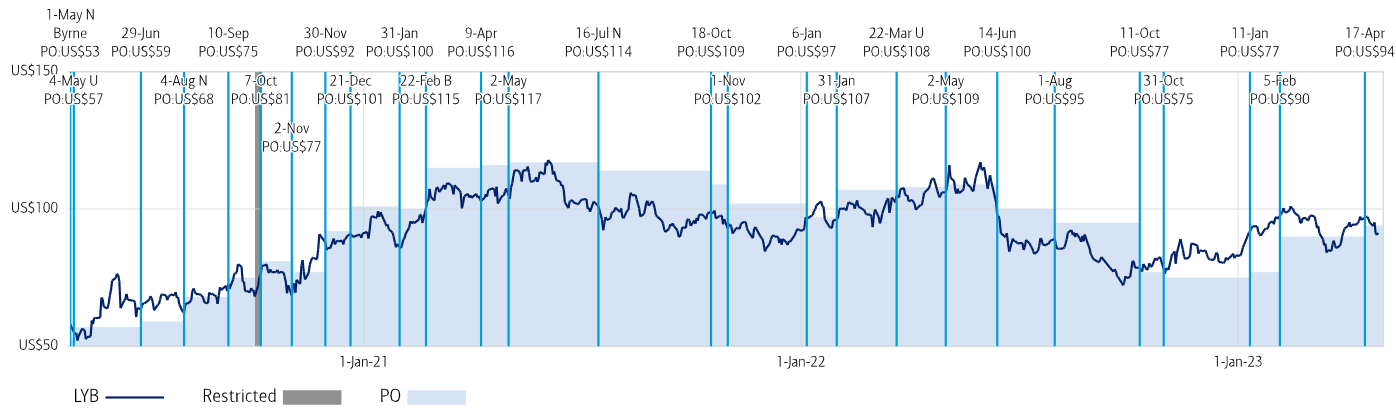
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Disclosures

Important Disclosures

LyondellBasell (LYB) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Chemicals Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	68	51.52%	Buy	32	47.06%
Hold	31	23.48%	Hold	19	61.29%
Sell	33	25.00%	Sell	18	54.55%

Equity Investment Rating Distribution: Global Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1869	53.01%	Buy	1030	55.11%
Hold	827	23.45%	Hold	476	57.56%
Sell	830	23.54%	Sell	389	46.87%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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