

Recommendation

BUY \star \star \star \star

Price 12-Mo. Target Price USD 143.00 (as of market close Nov 03, 2023) USD 175.00

Report Currency USD

Investment Style Large-Cap Value

Equity Analyst Kenneth Leon

GICS Sector Financials Sub-Industry Diversified Banks Summary JPMorgan Chase is one of the largest global financial services companies, with nearly \$3.7 trillion in assets & operations around the globe as of December 31, 2022.

Key Stock Statistics (Source: CFRA, S&P Global Market Intelligence (SPGMI), Company Reports)

USD 17.00 52-Wk Range USD 159.38 - 123.11 Oper.EPS2023**E** Market Capitalization[B] USD 408.85 1.08 Trailing 12-Month EPS **USD 16.75** Oper.EPS2024**E** USD 15.95 Yield [%] 2.97 3-yr Proj. EPS CAGR[%] 3 Trailing 12-Month P/E Dividend Rate/Share USD 4.2 8.54 P/E on Oper.EPS2023E 8.41 SPGMI's Quality Ranking A-USD 10K Invested 5 Yrs Ago 15,355.0 Common Shares Outstg.[M] 2,891.00 Trailing 12-Month Dividend **USD 4.05** Institutional Ownership [%] 71.0



Source: CFRA, S&P Global Market Intelligence

Past performance is not an indication of future performance and should not be relied upon as such. Analysis prepared by Kenneth Leon on Oct 16, 2023 01:47 AM ET, when the stock traded at USD 148.00.

Highlights

- ▶ We forecast \$158.0B revenue in 2023 and \$157.0B in 2024, versus \$128.7B in 2022, with higher rates and loan volume benefiting net interest income (NII), and the purchase of First Republic Bank. We think consumer spending and commercial loan balances remain healthy. Credit card spending does not show signs of recession, but JPM did add to loan loss reserves.
- ► Consumer net revenue was +29%, with banking/ wealth management +43%, home lending +36%, and card services and auto +7%. Commercial banking revenue was +32%, with middle markets +37%, gaining market share, and corporate client banking +15%. Investment banking fees realized M&A advisory -2%, equity underwriting -6%, and debt underwriting +8%. Fixed income trading was +1% Y/Y, equity markets -10%, and security services +9%.
- ► NII rose 30% Y/Y with wider interest rate spread to 2.00% vs. 1.79% and higher total loan growth (+17%) but lower total deposits (-4%). NII was driven by total interest-earning assets at 5.32% and total interest-bearing liabilities at 3.32%. In 03 2023, total allowance for credit losses was down \$132M O/O to \$24.14B. Largest areas for allowances were credit card (\$11.9B), wholesale loans (\$8.2B), and other consumer loans [\$1.9B].

Investment Rationale/Risk

- ► We are seeing results underscoring that JPM is not only the largest global bank but also leading peers in most businesses. JPM realized an 18% ROE in Q3 2023 versus 15% a year ago. We are positive on JPM's purchase of the FDIC-closed First Republic Bank. JPM received about \$92B of deposits (3.7% of JPM's total deposits) and \$30B of securities. Unlike JPM's acquisitions of Bear Stearns and Washington Mutual in 2008, JPM is buying a "clean bank" from the FDIC. We think JPM gains potential wallet share with venture capital and technology clients.
- ► Macro risks are global recession, slower corporate borrowing, and weak consumer loan demand.
- ▶ On October 13, we kept our \$175 target, forward P/E of 11x, below the 3-year historic average at 12.3x. We increased our 2023 EPS estimate by \$0.75 to \$17.00 and 2024's by \$0.40 to \$15.95. We think JPM is executing across most businesses despite headwinds in investment banking. JPM estimates that there is \$500M of earnings accretion from the purchase of the closed bank. FDIC signed with JPM a loss share agreement covering residential mortgage loans and commercial loans. Our review of loan credit quality and loan losses suggest JPM has ample reserves to a recession.

Analyst's Risk Assessment

| LOW | MEDIUM | HIGH |
|-----|--------|------|

Our risk assessment reflects our view of the bank's strong balance sheet, diversified lines of business, and strong capital ratios. JPM's geographic and product diversity provide significant protection from a local or regional downturn. The bank does have exposure to economic weakness, interest rate volatility, and weaker loan demand from both consumer and commercial customers. Investment banking and markets trading are both cyclical businesses whereby it is difficult to forecast with geopolitical, monetary, and interest rate risks. We think a shallow and perhaps short recession would not hurt the U.S. banking industry.

Revenue/Earnings Data

Revenue (Million USD)

| | 10 | 20 | 30 | 40 | Year |
|------|--------|--------|--------|--------|------------------|
| 2024 | | | | | E 157,000 |
| 2023 | 36,074 | 35,708 | 38,390 | | E 158,000 |
| 2022 | 30,717 | 30,715 | 32,716 | 34,547 | 128,695 |
| 2021 | 32,266 | 30,479 | 29,647 | 29,257 | 121,649 |
| 2020 | 28,192 | 32,980 | 29,147 | 29,224 | 119,543 |
| 2019 | 27,581 | 27,598 | 27,827 | 26,903 | 110,041 |

Earnings Per Share (USD)

Dividend Data

| | 10 | 2Q | 30 | 4Q | Year |
|------|---------------|---------------|---------------|---------------|----------------|
| 2024 | E 4.10 | E 4.00 | E 3.90 | E 3.95 | E 15.95 |
| 2023 | 4.10 | 4.75 | 4.33 | E 3.82 | E 17.00 |
| 2022 | 2.63 | 2.76 | 3.13 | 3.57 | 12.09 |
| 2021 | 4.59 | 3.78 | 3.55 | 2.86 | 14.78 |
| 2020 | 0.78 | 1.38 | 2.93 | 3.79 | 8.88 |
| 2019 | 2.65 | 2.82 | 2.68 | 2.57 | 10.72 |

Fiscal Year ended Dec 31. EPS Estimates based on CFRA's Operating Earnings; historical earnings are adjusted. In periods where a different currency has been reported, this has been adjusted to match the current quoted currency.

| Dividona D | utu | | | |
|------------------|---------------|-----------------|-------------------|-----------------|
| Amount (USD) | Date Decl. | Ex-Div. Date | Stk. of Record | Payment Date |
| 1.0500 | Sep 19 | Oct 05 | Oct 06 | Oct 31 '23 |

May 15

1.0000 1.0000 Mar 21 Apr 05 Apr 06 Apr 30 '23 1.0000 Dec 13 Jan 05 Jan 06 Jan 31 '23 Dividends have been paid since 1971. Source: Company reports

Jul 05

Jul 06

Past performance is not an indication of future performance and should not be relied as such.

Forecasts are not a reliable indicator of future performance. Dividends paid in currencies other than the Trading currency have been accordingly converted for display purposes.

Redistribution or reproduction is prohibited without written permission. Copyright © 2023 CFRA. This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. Investors should seek independent financial advice regarding the suitability and/or appropriateness of making an investment or implementing the investment strategies discussed in this document and should understand that statements regarding future prospects may not be realized. Investors should note that income from such investments, if any, may fluctuate and that the value of such investments may rise or fall. Accordingly, investors may receive back less than they originally invested. Investors should seek advice concerning any impact this investment may have on their personal tax position from their own tax advisor. Please note the publication date of this document. It may contain specific information that is no longer current and should not be used to make an investment decision. Unless otherwise indicated, there is no intention to update this document.

Jul 31 '23



Business Summary Oct 16, 2023

CORPORATE OVERVIEW. JPM is one of the world's leading investment banks, with clients consisting of corporations, financial institutions, governments, and institutional investors worldwide. Its products and services include advising on corporate strategy and structure, equity and debt capital raising, sophisticated risk management, research, market making in cash securities and derivative instruments, and prime brokerage and research.

Corporate and Investment Banking offers a broad suite of investment banking, market-making, prime brokerage, treasury, and securities products and services to a global client base of corporations, investors, financial institutions, government, and municipal entities. This reporting segment provides a full range of products and services related to advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. This segment also includes Treasury Services, which provides transaction services consisting of cash management and liquidity solutions. Besides Treasury Services, another area of high recurring revenue is Markets & Investor Services for cash securities and derivative instruments, which complements its prime brokerage unit.

Commercial Banking provides lending, treasury services, investment banking, and investment management services to corporations, municipalities, financial institutions, and not-for-profit entities. Treasury Securities Services offers transaction, investment, and information services to support the needs of corporations, issuers, and institutional investors worldwide.

Asset and Wealth Management [AWM] provides investment management to retail and institutional investors, financial intermediaries, and high-net-worth families and individuals globally. AWM clients include institutions, high-net-worth individuals, and retail investors in major markets throughout the world. AWM offers investment management across most major asset classes, including equities, fixed income, alternatives, and money market funds. AWM also offers multi-asset investment management, providing solutions for a broad range of clients' investment needs. For Wealth Management clients, AWM also provides retirement products and services, brokerage, and banking services, including trusts and estates, loans, mortgages, and deposits.

Consumer & Community Banking (CCB) offers services to consumers and businesses through bank branches, ATMs, digital [including mobile and online], and telephone banking. CCB is organized into Consumer & Business Banking (including Consumer Banking/Chase Wealth Management and Business Banking], Home Lending (including Home Lending Servicing, and Real Estate Portfolios), and Card, Merchant Services, and Auto. Consumer & Business Banking offers deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. Home Lending includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans.

IMPACT OF MAJOR DEVELOPMENTS. In September 2008, JPM purchased all the assets and certain liabilities of Washington Mutual from the FDIC for \$1.9 billion. The acquisition significantly expanded JPM's footprint. particularly in California. Earlier, JPM acquired Bear Stearns in a stock-for-stock exchange, completed in May 2008.

On May 1, 2023, JPM agreed to purchase from the FDIC the majority of the assets of First Republic Bank, \$92 billion of total deposits including \$30 billion of large bank deposits put there in April, and certain other liabilities. Key terms of the transactions are receiving most of First Republic Bank's assets including \$173 billion of loans and \$30 billion of securities. As noted, FDIC is providing JPM with a loss share agreement covered acquired single-family residential mortgage loans and commercial loans as well as \$50 billion of five-year, fixed-rate term financing. We think this is a clean deal because JPM is not assuming the corporate debt or preferred stock for this bankrupt bank. All of the legacy First Republic branches opened on May 1 as JPMorgan Chase banks. JPM expects to book a one-time \$2.6 billion post-tax gain that does not reflect \$2.0 billion of post-tax restructuring costs anticipated in the next 18 months. The deal could be accretive to JPM earnings for \$500 million.

LEGAL/REGULATORY ISSUES. The Bank Holding Company Act generally restricts JPM and other banks from engaging in business activities other than the business of banking and certain closely related activities. Financial holding companies generally can engage in a broader range of financial activities that are otherwise permissible for BHCs, including underwriting, dealing and making markets in securities, and making merchant banking investments in non-financial companies.

FINANCIAL TRENDS. As of December 31, 2022, JPM's tangible book value per share was \$73.12, up 2.0% from a year ago, and its Basel III common equity Tier I capital was 13.2% versus 13.1%. In 2022, JPM's total gross loans to total deposits was 48% compared to 44% in 2021. We think loan activity is likely to grow moderately in 2023 with rising rates and increased commercial demand for capital plans and consumer loans picking up with reduced savings

Regarding 2023 forward guidance, management expects NII, excluding Markets, to be roughly \$88.5 billion in 2023 versus \$66.7 billion in 2022. We are assuming one more rate hike in 2023 by the Federal Reserve Bank and a yield curve that may be leveling off during 2024. Higher NII is a positive that also depends on loan volume and loan balances outstanding. On adjusted noninterest expense, JPM is forecasting a \$3 billion increase to \$84 billion in 2023 related to impact from inflation on compensation expense, higher technology costs, and other operating costs. There was no other changes in financial guidance. JPM thinks inflation will come down but could either be stickier than most people think, or the rate curve may go up a little bit. There is going to be some credit tightening in areas like commercial real estate loans, where the majority of JPM's loan book is multi-family lending, not office buildings.

Corporate information

Investor contact

M. Grubb (212 270 6000)

Office

383 Madison Avenue, New York, New York, 10179

Telephone

212 270 6000

Fax

N/A

Website

www.jpmorganchase.com

Officers

Executive VP & General

Counsel

J. Dimon

S. Friedman

President & COO

Chairman & CEO

MD, Firmwide Controller & D. E. Pinto **Principal Accounting** Officer

E. A. Korablina

Executive VP & CFO

J. Barnum

Board Members

A. B. Davis M. L. Hobson A. Gorsky P. N. Novakovic D. Li S. B. Burke J. Dimon T. A. Combs L. B. Bammann T. P. Flynn M. A. Neal V. M. Rometty

Domicile

Auditor

PricewaterhouseCoopers ПP

Delaware

Founded 1799

Employees

308,669

Stockholders

203,141





| Quantitative Eva | aluations | | | | | | | |
|---------------------------|--------------|--|------|---------|-----|--------|--|--|
| Fair Value Rank | | 1 | 2 | 3 | 4 | 5 | | |
| | | LOWEST HIGHEST Based on CFRA's proprietary quantitative model, stocks are ranked from most overvalued [1] to most undervalued [5]. | | | | | | |
| Fair Value Calculation | USD 70.71 | Analysis of the stock's current worth, based on CFRA's proprietary quantitative model suggests that JPM is overvalued by USD 72.29 or 50.55% | | | | | | |
| Volatility | | LOW AVERAGE HIGH | | | | | | |
| Technical Evaluation | BEARISH | Since August, 2023, the technical indicators for JPM have been BEARISH" | | | | | | |
| Insider Activity | | UNFAVOR | ABLE | NEUTRAL | FAV | ORABLE | | |

| Expanded Ratio Analysis | | | | |
|--|----------|----------|----------|----------|
| | 2022 | 2021 | 2020 | 2019 |
| Price/Sales | 3.26 | 3.66 | 3.83 | 4.09 |
| Price/Pretax Income | 8.63 | 8.05 | 10.95 | 10.04 |
| P/E Ratio | 11.09 | 10.35 | 14.98 | 13.00 |
| Avg. Diluted Shares Outstg. [M] | 2,970.00 | 3,026.60 | 3,087.40 | 3,230.40 |
| Figures based on fiscal year-end price | | | | |

| Key Growth Rates and Averages | | | |
|-------------------------------|--------|---------|---------|
| Past Growth Rate (%) | 1 Year | 3 Years | 5 Years |
| Net Income | NM | 1.13 | 9.04 |
| Ratio Analysis (Annual Avg.) | | | |
| Net Interest Margin (%) | 2.00 | 1.87 | 2.12 |
| Return on Assets [%] | 1.02 | 1.11 | 1.19 |
| Loan Loss Reserve (%) | 1.67 | 1.94 | 1.69 |
| Return on Equity (%) | 12.85 | 13.49 | 13.45 |

| Company Financials Fiscal year ending Dec 31 | | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Per Share Data (USD) | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 |
| Tangible Book Value | 72.27 | 70.68 | 65.30 | 60.22 | 55.64 | 52.93 | 50.54 | 47.27 | 43.84 | 40.03 |
| Earnings | 12.09 | 15.36 | 8.88 | 10.72 | 9.00 | 6.31 | 6.19 | 6.00 | 5.29 | 4.34 |
| Earnings (Normalized) | 12.09 | 15.30 | 8.48 | 10.72 | 9.00 | 6.87 | 6.06 | 6.00 | 5.29 | 5.70 |
| Dividends | 4.00 | 3.80 | 3.60 | 3.40 | 2.72 | 2.12 | 1.88 | 1.72 | 1.58 | 1.44 |
| Payout Ratio (%) | 36.00 | 26.60 | 43.56 | 33.88 | 31.13 | 36.79 | 34.27 | 32.21 | 32.15 | 33.86 |
| Prices: High | 169.81 | 172.96 | 141.10 | 140.08 | 119.33 | 108.46 | 87.39 | 70.61 | 63.49 | 58.55 |
| Prices: Low | 101.28 | 123.77 | 76.91 | 95.94 | 91.11 | 81.64 | 52.50 | 50.07 | 52.97 | 43.05 |
| P/E Ratio: High | 14.00 | 11.30 | 16.60 | 13.10 | | 15.80 | 14.40 | 11.80 | 12.00 | 10.30 |
| P/E Ratio: Low | 8.40 | 8.10 | 9.10 | 8.90 | 10.10 | 11.90 | 8.70 | 8.30 | 10.00 | 7.60 |
| Income Statement Analysis [Million USD] | | | | | | | | | | |
| Net Interest Income | 66,710 | 52,311 | 54,563 | 57,245 | 55,059 | 50,097 | 46,083 | 43,510 | 43,634 | 43,319 |
| Non Interest Income | 61,985 | 69,331 | 65,388 | 58,474 | 53,556 | 49,938 | 50,486 | 49,519 | 51,478 | 54,048 |
| Loan Loss Provision | 6,389 | -9,256 | 17,480 | 5,585 | 4,871 | 5,290 | 5,361 | 3,827 | 3,139 | 225.00 |
| % Expense/Operating Revenue | 62.00 | 54.20 | 64.00 | 59.00 | 60.60 | 62.80 | 62.50 | 62.80 | 63.50 | 61.10 |
| Pretax Income | 46,166 | 59,562 | 35,815 | 44,866 | -, | 35,900 | 34,536 | 30,702 | 30,699 | 26,675 |
| Effective Tax Rate | 18.40 | 18.90 | 18.70 | 18.80 | 20.30 | 31.90 | 28.40 | 20.40 | 29.20 | 32.90 |
| Net Income | 37,676 | 48,334 | 29,131 | 36,431 | 32,474 | 24,441 | 24,733 | 24,442 | 21,745 | 17,886 |
| Net Income (Normalized) | 29,020 | 37,493 | 23,081 | 28,191 | 25,523 | 22,013 | 21,387 | 20,724 | 20,989 | 23,636 |
| % Net Interest Margin | 2.00 | 1.64 | 1.98 | 2.46 | 2.52 | 2.37 | 2.25 | 2.14 | 2.18 | 2.23 |
| Balance Sheet and Other Financial Data (Million USD) | | | | | | | | | | |
| Investment Securities | 747,449 | 748,249 | 655,375 | 491,167 | 480,802 | 335,829 | 770,279 | 710,439 | 883,925 | 745,433 |
| Total Loans | 1,180,961 | 1,128,707 | 1,052,754 | 1,024,460 | 1,003,144 | 954,145 | 892,137 | 835,653 | 750,119 | 728,088 |
| Total Assets | 3,665,743 | 3,743,567 | 3,384,757 | 2,687,379 | 2,622,532 | 2,533,600 | 2,490,972 | 2,351,698 | 2,572,274 | 2,415,689 |
| Non Perform Assets/Total Assets | 0.20 | 0.22 | 0.32 | 0.19 | | 0.25 | 0.30 | 0.30 | 0.31 | 0.40 |
| Common Equity | 264,928 | 259,289 | 249,291 | 234,337 | | 229,625 | 228,122 | | 211,664 | 200,020 |
| % Return on Assets | 1.02 | 1.36 | 0.96 | 1.37 | 1.26 | 0.97 | 1.02 | 0.99 | 0.87 | 0.75 |
| % Return on Equity | 12.80 | 16.90 | 10.80 | 14.10 | 12.70 | 9.60 | 9.90 | 10.20 | 9.80 | 8.60 |

Source: S&P Global Market Intelligence. Data may be preliminary or restated; before results of discontinued operations/special items. Per share data adjusted for stock dividends; EPS diluted. E-Estimated. NA-Not Available. NM-Not Meaningful. NR-Not Ranked. UR-Under Review.

CFRA

Sub-Industry Outlook

We have a positive outlook on the diversified banks sub-industry, as we expect consumer and commercial loan activity to moderate but remain positive. Bank stocks are cyclical, and we see all banks affected by a slowing economy and market uncertainty, but no recession. Banks successfully handled credit risks, and we think loan loss reserves are reverting to normalized levels.

The U.S. economy is likely to be a key driver to bank performance in 2023, and the Ukraine-Russia war creates extended uncertainty for global banks. Unlike most industries, banks benefit from the Federal Reserve's rate rise regime with higher net interest income. Banks may realize wider spreads and net interest margins [NIMs]. Risks to NIMs are higher deposit costs that narrow asset to liability spreads.

Consumer loans for all commercial banks continue to rise with the last reported data showing \$1,895 billion in activity as of September 13, 2023, compared to \$1,800 billion a year ago, or \$1,600 billion at the beginning of the pandemic in February 2020. Regarding demand for consumer loans, banks reported weaker demand for auto, mortgage, personal, and credit card loans in 2022, with mixed results in 2023 as credit card loan volumes lead the way.

In March 2023, Fed watching took a dramatic turn away from monetary policy to the financial stability of the U.S. banking system. As such, the Fed's Supervision and Regulation organization released its findings on the failures of Silicon Valley Bank and Signature Bank in late April 2023. In addition, Vice Chairman Michael Barr has been steadfast in increasing the Fed's supervision for banks. A July 2023 speech by Mr. Barr points to raising the capital buffers for banks with \$100 billion or more in total assets versus the current \$250 billion threshold. He believes credit risk is directly tied to liquidity risk, thus both areas have to be better regulated.

Return of capital from the Fed's Dodd Frank Stress Test results helps large banks keep a higher capital buffer. Any changes to the stress test are likely to be complementary to the changes in the risk-based capital framework to reflect credit, trading, and operational risk. There are likely to be changes to the supplementary leverage ratio (SLR), the global systemically important bank (G-SIB) surcharge, and/or the countercyclical capital buffer (CCB) cited in the July speech, called the "Holistic Capital Review."

During the September 19-20, 2023 FOMC meeting, the Fed decided to maintain the target range for the federal funds rate at 5.25%-5.50%. Monthly quantitative tightening [QT] of the Fed's balance sheet, with \$35 billion in mortgage-backed securities and \$60 billion in U.S. Treasury bonds began in June 2022. QT is part of the Fed's monetary policy to return inflation to its 2.0% mandate. Many Fed observers see a rate increase at the next FOMC session to be held October 31 to November 1.

To date, we think the U.S. economy has remained strong with no signs of a sharp contraction in credit that would significantly slow economic activity. We believe strong balance sheets for households and businesses and the growing role of non-banks as sources of credit suggest the Fed's monetary policy may have smaller effects on the U.S. economy.

Year-to-date as of September 22, 2023, the S&P Diversified Banks Index has underperformed, declining 3.7% versus a 12.5% increase for the S&P 500 Index. In 2022, the S&P Diversified Banks Index declined 19.3% versus a 19.4% drop for the S&P 500 Index.

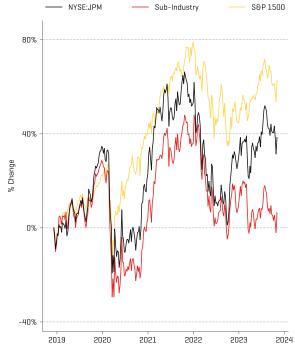
/ Kenneth Leon

Industry Performance

GICS Sector: Financials
Sub-Industry: Diversified Banks

Based on S&P 1500 Indexes

Five-Year market price performance through Nov 04, 2023



NOTE: A sector chart appears when the sub-industry does not have sufficient historical index data.

All Sector & Sub-Industry information is based on the Global Industry Classification Standard (GICS).

Past performance is not an indication of future performance and should not be relied upon as such.

Source: CFRA, S&P Global Market Intelligence

| Sub-Industry: Diversified Banks Peer Group*: Diversified Banks | | | | | | | | | | | | |
|--|-----------------|----------|----------|--------------------------|-----------------------|-----------------------------|-----------------------------|--------------|------------------------|-----------|----------------------------|-------------------|
| Peer Group | Stock Symbol | Exchange | Currency | Recent Stock Price | Stk. Mkt. Cap. (M) | 30-Day Price Chg. (%) | 1-Year Price Chg. (%) | P/E Ratio | Fair Value Calc. | Yield (%) | Return on Equity (%) | LTD to Cap (%) |
| JPMorgan Chase & Co. | JPM | NYSE | USD | 141.42 | 408,846.0 | -0.9 | 11.4 | 8.0 | 70.71 | 3.0 | 16.9 | N/A |
| Bank of America Corporation | BAC | NYSE | USD | 27.62 | 218,577.0 | 6.6 | -23.5 | 8.0 | 32.10 | 3.5 | 11.0 | N/A |
| Bank of Montreal | BMO | NYSE | USD | 78.57 | 56,240.0 | -1.9 | -13.8 | 9.0 | 72.46 | 5.4 | 10.3 | N/A |
| Citigroup Inc. | С | NYSE | USD | 41.35 | 79,628.0 | 3.7 | -9.2 | 7.0 | 20.68 | 5.1 | 6.7 | N/A |
| HSBC Holdings plc | HSBC | NYSE | USD | 37.02 | 141,038.0 | -5.8 | 41.8 | 21.0 | N/A | 5.3 | 15.7 | N/A |
| Royal Bank of Canada | RY | NYSE | USD | 83.56 | 116,281.0 | 1.3 | -8.9 | 10.0 | 76.56 | 4.7 | 13.5 | N/A |
| The Bank of Nova Scotia | BNS | NYSE | USD | 42.87 | 51,467.0 | 1.1 | -10.3 | 8.0 | 40.48 | 7.3 | 10.9 | N/A |
| The PNC Financial Services Group, Inc. | PNC | NYSE | USD | 119.85 | 47,731.0 | 0.1 | -24.5 | 8.0 | 196.10 | 5.2 | 13.1 | N/A |
| The Toronto-Dominion Bank | TD | NYSE | USD | 58.08 | 103,960.0 | -0.0 | -8.6 | 10.0 | 54.11 | 4.8 | 13.5 | N/A |
| U.S. Bancorp | USB | NYSE | USD | 34.34 | 53,466.0 | 9.6 | -17.8 | 10.0 | 26.24 | 5.6 | 10.9 | N/A |
| Wells Fargo & Company | WFC | NYSE | USD | 40.51 | 147,118.0 | 4.8 | -13.6 | 7.0 | 49.12 | 3.5 | 9.9 | N/A |

^{*}For Peer Groups with more than 10 companies or stocks, selection of issues is based on market capitalization.

NA-Not Available; NM-Not Meaningful.

Note: Peers are selected based on Global Industry Classification Standards and market capitalization. The peer group list includes companies with similar characteristics, but may not include all the companies within the same industry and/or that engage in the same line of business.



Analyst Research Notes and other Company News

October 13, 2023

09:52 AM ET... CFRA Keeps Buy Rating on Shares of JPMorgan Chase & Co. (JPM 145.81****):

Despite no lift from investment banking fee income, JPM is executing across most businesses with 18% ROE. We keep our \$175 target, a forward P/E of 11x, below the three-year historic average at 12.3x. We increase our 2023 EPS estimate by \$0.75 to \$17.00 and 2024's by \$0.40 to \$15.95. Loan growth remains critical to net interest income [NII] and non-interest income in 2023-2024, assuming economic growth. NII rose 30% Y/Y, with a rise in interest rate spread to 2.00% vs. 1.79% Y/Y [1.97% Q/Q] and total loans +17% Y/Y, while deposit-related fees were -4%. Consumer net revenue was +29%, with banking/wealth management +43%, home lending +36%, and card services and auto +7%. Commercial banking revenue was +32%, with middle markets +37% [gaining market share], corporate client banking +15%, and commercial real estate +48%. Investment banking fees were -2% Y/Y, with M&A advisory -10%, equity underwriting -6%, and debt underwriting +8%. Fixed income trading was +1% Y/Y, equity markets -10%, and security services +9%. / Kenneth Leon

July 14, 2023

09:35 AM ET... CFRA Reiterates Buy Opinion on Shares of JPMorgan Chase & Co. [JPM 148.87****]:

We raise our 12-month target by \$15 to \$175 using a forward P/E of 10.8x our 2023 earnings estimate, below the three-year historic average at 12.3x. We think JPM is executing across most businesses despite headwinds in investment banking. We increase our 2023 EPS estimate by \$2.75 to \$16.25 and 2024's by \$1.85 to \$15.55. Loan growth can benefit both net interest income [NII] and non-interest income in 2023-2024, assuming economic growth. NII rose 44% Y/Y, with a rise in interest rate spread to 1.97% vs. 1.68% and total loans +19%, while deposit-related fees were -3%. Consumer net revenue was +37%, with banking/wealth management +68%, home lending +1%, and card services and auto +5%. Commercial banking revenue was +48%, with middle markets +64%, gaining market share, and corporate client banking +33%. Investment banking fees realized M6A advisory -12%, equity underwriting +12%, and debt underwriting -22%. Fixed income trading was +3% Y/Y, equity markets -20%, and security services +6%. ROE was 20% vs. 13%. / Kenneth Leon

May 01, 2023

09:46 AM ET... CFRA Reiterates Buy Rating on Shares of JPMorgan Chase & Co. [JPM 138.24****]:

We are positive on JPM's purchase of the FDIC-closed First Republic Bank. JPM will receive \$103.9B of deposits [only 4.2% of JPM's total deposits] and \$30B of securities. Unlike JPM's acquisitions of Bear Stearns and Washington Mutual in 2008, JPM says it is buying a "clean bank" from the FDIC. JPM conservatively estimates that there is \$500M of earnings accretion from the purchase of the closed bank. Therefore, we think there is upside potential to our current earnings estimates of \$13.50 in 2023 and \$13.70 in 2024. We will wait to digest more details about the transaction before we revise our earnings estimates. While many top producing advisors have left First Republic already, we believe JPM is getting a high quality pool of advisors and clients for its own wealth management franchise. We also think JPM gains potential wallet share with venture capital and technology clients in northern CA. More review is needed in evaluating the quality of the \$229.1B assets that JPM is getting in this deal. / Kenneth Leon

April 14, 2023

09:47 AM ET... CFRA Reiterates Buy Opinion on Shares of JPMorgan Chase & Co. [JPM 128.99****]:

We raise our target price by \$4 to \$160 on forward P/E of 11.9x our 2023 EPS, below the five-year historic average of 12.1x. We raise our 2023 EPS by \$0.70 to \$13.50 and leave 2024's at \$13.70. JPM posts Q1 2023 EPS of \$4.10, \$0.73 above consensus estimates, with a 7.2% revenue beat to consensus. JPM had \$2.28b in provision for credit losses, flat Q/Q. Net interest income (NII) rose 49% Y/Y, with a rise in interest rate spread to 3.80% vs. 1.95% and total loans +5%, while deposit-related fees were -4%. We expect NII to face tougher comps Y/Y in 2H of 2023, as the Fed pauses its rate rise regime. Consumer net revenue was +35%, with consumer banking/lending +2%, home lending -38%, and card income +18%. Commercial banking revenue was +46%, with middle markets +72%, perhaps gaining market share, and corporate client banking +42%. Investment banking fees realized M&A advisory -6%, equity underwriting -6%, and debt underwriting -34%.

Fixed income trading was flat Y/Y, equity markets -12%, and security services +7% / Kenneth Leon

January 13, 2023

09:16 AM ET... CFRA Raises Opinion on Shares of JPMorgan Chase & Co. to Buy from Hold (JPM 139.50****):

We raise our target by \$31 to \$156 on a forward P/E of 12.2x our 2023 EPS, below the five-year historic average of 12.8x. We raise our 2023 EPS by \$0.70 to \$12.80 and set 2024's at \$13.70. JPM posts Q4 2022 EPS of \$3.57, \$0.46 above consensus estimates, with revenues slightly better than estimates, while JPM had \$2.2b in provision for credit losses. Net interest income rose 48% Y/Y, with a rise in interest rate spread to 1.99% vs. 1.58% and total loans +5%, while deposit-related fees were -5%. Consumer net revenue was +29%, with consumer banking/lending +11%, home lending -71%, and card income +11%. Commercial banking revenue was +30%, with middle markets +52%, corporate client banking +20%, and odistressed industries. Investment banking fees realized -58% Y/Y revenue, with M6A advisory -53%, equity underwriting -69%, and debt underwriting -58%. Fixed income trading was +12% Y/Y, equity markets -1%, and security services +9%. JPM paid \$3.0b in dividends, with attractive growth ahead and a 37% payout ratio. / Kenneth Leon

October 14, 2022

08:53 AM ET... CFRA Keeps Hold Opinion on Shares of JPMorgan Chase & Co. (JPM 109.37***):

We raise our target by \$5 to \$125 on a forward P/E of 10.3x our 2023 EPS, near the recession historical average and forward price to net tangible book value of 1.8x, below the 5-year historic average. We raise our 2022 EPS by \$0.60 to \$11.50 and keep 2023's at \$12.10. JPM posts Q3 2022 EPS of \$3.12, \$0.27 above consensus estimates, with revenues also better than estimates, while JPM added \$1.2b to loan loss reserves. Net interest income rose 34% Y/Y, with the rise in interest rate spread to 1.79% vs. 1.58%, but lending and deposit related fees were 4% lower. Consumer net revenue rose +14%, with consumer banking/lending +30%, home lending -34%, and card 6 auto +9%. Commercial loans were +13%, with no distressed industries. Investment banking fees realized -49% Y/Y revenue, with M6A advisory -31%, equity underwriting -72%, and debt underwriting -40%. Fixed income trading was +22% Y/Y, equity markets -11%, and security services -1%. JPM did not repurchase common stock, and headcount rose 9% to 288,474 employees. / Kenneth Leon

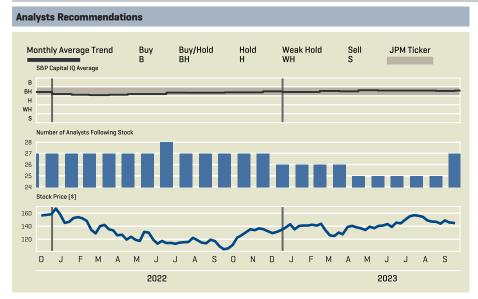
July 14, 2022

10:05 AM ET... CFRA Maintains Hold Opinion on Shares of JPMorgan Chase & Co. [JPM 106.65***]:

JPM suspending its buyback plan to increase its Fed regulated (G-SIB) capital buffers was disappointing. We lower our target \$25 to \$120 on a forward P/E of 11.0x our 2022 EPS, near the recession historical average of 11.5x and forward price to net tangible book value of 1.7x, below the 5-year historic average. We lower our 2022 EPS \$0.10 to \$10.90 and 2023's \$0.30 to \$12.10. JPM posts Q2 2022 EPS of \$2.76, \$0.12 below consensus estimates, with revenues also below estimates, while JPM added \$1.1b to loan loss reserves. Net interest income rose 19% Y/Y, with the rise in interest rate spread to 1.68% vs. 1.57% and higher loan growth (+11%). Consumer net revenue was -1%, with consumer banking/lending +9%, home lending -26%, and card 6 auto -6%. Commercial loans were +7%, with no distressed industries. Investment banking fees realized -54% Y/Y revenue, with M6A advisory -28%, equity underwriting -77%, and debt underwriting -53%. Fixed income trading was +22% and equity markets +15%, with higher trading volume. / Kenneth Leon

Note: Research notes reflect CFRA's published opinions and analysis on the stock at the time the note was published. The note reflects the views of the equity analyst as of the date and time indicated in the note, and may not reflect CFRA's current view on the company.





| | No. of | | | |
|------------|-----------------|------------|------------|-------------|
| | Recommendations | % of Total | 1 Mo.Prior | 3 Mos.Prior |
| Buy | 9 | 35 | 10 | 10 |
| Buy/Hold | 7 | 27 | 7 | 7 |
| Hold | 8 | 31 | 8 | 8 |
| Weak hold | 0 | 0 | 0 | 0 |
| Sell | 0 | 0 | 0 | 0 |
| No Opinion | 2 | 8 | 2 | 0 |
| Total | 26 | 100 | 27 | 25 |

Wall Street Consensus Estimates Estimates Previous Year Current Year Next Year ----D 2022 2023 **Fiscal Year** Avg Est. High Est. Low Est. # of Est. Est. P/E 2024 15.25 16.96 13.65 14 9.27 2023 16.47 17.20 8.59 15.13 13 2024 vs. 2023 **▼ -7% ▼ -1%** ▼ -10% **& 8% & 8%** 04'24 3.71 4.07 3.39 8 38.13 04'23 4.15 3.02 38.40 3.68 10 Q4'24 vs. Q4'23 **1%** ▼ -2% **12%** -20% **▼ -1%**

 $\label{lem:continuous} \mbox{Forecasts are not reliable indicator of future performance}.$

Note: A company's earnings outlook plays a major part in any investment decision. S&P Global Market Intelligence organizes the earnings estimates of over 2,300 Wall Street analysts, and provides their consensus of earnings over the next two years, as well as how those earnings estimates have changed over time. Note that the information provided in relation to consensus estimates is not intended to predict actual results and should not be taken as a reliable indicator of future performance.

Note: For all tables, graphs and charts in this report that do not cite any reference or source, the source is S&P Global Market Intelligence.

Wall Street Consensus Opinion

Buy/Hold

Wall Street Consensus vs. Performance

For fiscal year 2023, analysts estimate that JPM will earn USD 16.47. For fiscal year 2024, analysts estimate that JPM's earnings per share will grow by -7.41% to USD 15.25.



Glossary

STARS

Since January 1, 1987, CFRA Equity and Fund Research Services, and its predecessor S&P Capital IQ Equity Research has ranked a universe of U.S. common stocks, ADRs (American Depositary Receipts), and ADSs (American Depositary Shares) based on a given equity's potential for future performance. Similarly, we have ranked Asian and European equities since June 30, 2002. Under proprietary STARS (Stock Appreciation Ranking System), equity analysts rank equities according to their individual forecast of an equity's future total return potential versus the expected total return of a relevant benchmark [e.g., a regional index (MSCI AC Asia Pacific Index, MSCI AC Europe Index or S&P 500® Index)], based on a 12-month time horizon. STARS was designed to help investors looking to put their investment decisions in perspective. Data used to assist in determining the STARS ranking may be the result of the analyst's own models as well as internal proprietary models resulting from dynamic data inputs.

S&P Global Market Intelligence's Quality Ranking

[also known as **S&P Capital IQ Earnings & Dividend Rankings**] - Growth and S&P Capital IQ Earnings & Dividend Rankings stability of earnings and dividends are deemed key elements in establishing S&P Global Market Intelligence's earnings and dividend rankings for common stocks, which are designed to capsulize the nature of this record in a single symbol. It should be noted, however, that the process also takes into consideration certain adjustments and modifications deemed desirable in establishing such rankings. The final score for each stock is measured against a scoring matrix determined by analysis of the scores of a large and representative sample of stocks. The range of scores in the array of this sample has been aligned with the following ladder of rankings:

 A+ Highest
 B
 Below Average

 A
 High
 B- Lower

 A
 Above
 C
 Lowest

3+ Average D In Reorganization

NC Not Ranked

EPS Estimates

CFRA's earnings per share (EPS) estimates reflect analyst projections of future EPS from continuing operations, and generally exclude various items that are viewed as special, non-recurring, or extraordinary. Also, EPS estimates reflect either forecasts of equity analysts; or, the consensus (average) EPS estimate, which are independently compiled by S&P Global Market Intelligence, a data provider to CFRA. Among the items typically excluded from EPS estimates are asset sale gains; impairment, restructuring or merger-related charges; legal and insurance settlements; in process research and development expenses; gains or losses on the extinguishment of debt; the cumulative effect of accounting changes; and earnings related to operations that have been classified by the company as discontinued. The inclusion of some items, such as stock option expense and recurring types of other charges, may vary, and depend on such factors as industry practice, analyst judgment, and the extent to which some types of data is disclosed by companies.

12-Month Target Price

The equity analyst's projection of the market price a given security will command 12 months hence, based on a combination of intrinsic, relative, and private market valuation metrics, including Fair Value.

Abbreviations Used in Equity Research Reports

CAGR - Compound Annual Growth Rate

CAPEX - Capital Expenditures

CY - Calendar Year

DCF - Discounted Cash Flow

DDM - Dividend Discount Model

EBIT - Earnings Before Interest and Taxes

EBITDA - Earnings Before Interest, Taxes, Depreciation & Amortization

EPS - Earnings Per Share

EV - Enterprise Value

FCF - Free Cash Flow

FFO - Funds From Operations

FY - Fiscal Year

P/E - Price/Earnings

P/NAV - Price to Net Asset Value

PEG Ratio - P/E-to-Growth Ratio

PV - Present Value

R&D - Research & Development

ROCE - Return on Capital Employed

ROE Return on Equity

ROI - Return on Investment

ROIC - Return on Invested Capital

ROA - Return on Assets

SG&A - Selling, General & Administrative Expenses

SOTP - Sum-of-The-Parts

WACC - Weighted Average Cost of Capital

Dividends on American Depository Receipts (ADRs) and American Depository Shares (ADSs) are net of taxes (paid in the country of origin).

Qualitative Risk Assessment

Reflects an equity analyst's view of a given company's operational risk, or the risk of a firm's ability to continue as an ongoing concern. The Qualitative Risk Assessment is a relative ranking to the U.S. STARS universe, and should be reflective of risk factors related to a company's operations, as opposed to risk and volatility measures associated with share prices. For an ETF this reflects on a capitalization-weighted basis, the average qualitative risk assessment assigned to holdings of the fund.

STARS Ranking system and definition:

*** * * 5-STARS (Strong Buy):

Total return is expected to outperform the total return of a relevant benchmark, by a notable margin over the coming 12 months, with shares rising in price on an absolute basis.

* * * * * 4-STARS (Buy):

Total return is expected to outperform the total return of a relevant benchmark over the coming 12 months.

**** 1-STARS (Hold):

Total return is expected to closely approximate the total return of a relevant benchmark over the coming 12 months.

**** 2-STARS (Sell):

Total return is expected to underperform the total return of a relevant benchmark over the coming 12 months.

* * * * * 1-STAR (Strong Sell):

Total return is expected to underperform the total return of a relevant benchmark by a notable margin over the coming 12 months, with shares falling in price on an absolute basis.

Relevant benchmarks:

In North America, the relevant benchmark is the S&P 500 Index, in Europe and in Asia, the relevant benchmarks are the MSCI AC Europe Index and the MSCI AC Asia Pacific Index, respectively.



Disclosures

Stocks are ranked in accordance with the following ranking methodologies:

STARS Stock Reports:

Qualitative STARS rankings are determined and assigned by equity analysts. For reports containing STARS rankings refer to the Glossary section of the report for detailed methodology and the definition of STARS rankings.

Quantitative Stock Reports:

Quantitative rankings are determined by ranking a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five (six) model category scores are then weighted and rolled up into a single percentile ranking for that company. For reports containing quantitative rankings refer to the Glossary section seof the report for detailed methodology and the definition of Quantitative rankings.

STARS Stock Reports and Quantitative Stock Reports:

The methodologies used in STARS Stock Reports and Quantitative Stock Reports [collectively, the "Research Reports"] reflect different criteria, assumptions and analytical methods and may have differing rankings. The methodologies and data used to generate the different types of Research Reports are believed by the author and distributor reasonable and appropriate. Generally, CFRA does not generate reports with different ranking methodologies for the same issuer. However, in the event that different methodologies or data are used on the analysis of an issuer, the methodologies may lead to different views on the issuer, which may at times result in contradicting assessments of an issuer. CFRA reserves the right to alter, replace or vary models, methodologies or assumptions from time to time and without notice to clients.

STARS Stock Reports:

Global STARS Distribution as of September 30, 2023

| Ranking | North America | Europe | Asia | Global |
|---------|---------------|--------|--------|--------|
| Buy | 36.8% | 34.5% | 41.6% | 37.4% |
| Hold | 53.8% | 51.2% | 50.3% | 52.6% |
| Sell | 9.4% | 14.3% | 8.1% | 10.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

Analyst Certification:

STARS Stock Reports are prepared by the equity research analysts of CFRA and its affiliates and subsidiaries. Quantitative Stock Reports are prepared by CFRA. All of the views expressed in STARS Stock Reports accurately reflect the research analyst's personal views regarding any and all of the subject securities or issuers; all of the views expressed in the Quantitative Stock Reports accurately reflect the output of CFRA's algorithms and programs. Analysts generally update STARS Stock Reports at least four times each year. Quantitative Stock Reports are generally updated weekly. No part of analysts' or CFRA's compensation was, is, or will be directly or indirectly related to the specific rankings or views expressed in any Stock Report.

About CFRA Equity Research:

This Research Report is published and originally distributed by Accounting Research & Analytics, LLC d/b/a CFRA ("CFRA US"), with the following exceptions: In the UK/EU/EEA, it is published and originally distributed by CFRA UK Limited ("CFRA UK"), which is regulated by the Financial Conduct Authority (No. 775151), and in Malaysia by CFRA MY Sdn Bhd (Company No. 683377-A) ("CFRA Malaysia"), which is regulated by Securities Commission Malaysia, (No. CMSL/A0181/2007) under license from CFRA US. These parties and their subsidiaries maintain no responsibility for reports redistributed by third parties such as brokers or financial advisors.

General Disclosure

Notice to all jurisdictions:

Where Research Reports are made available in a language other than English and in the case of inconsistencies between the English and translated versions of a Research Report, the English version will control and supersede any ambiguities between such versions. Neither CFRA nor its affiliates guarantee the accuracy of any translation.

The content of this report and the opinions expressed herein are those of CFRA based upon publicly-available information that CFRA believes to be reliable and the opinions are subject to change without notice. This analysis has not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body. CFRA AND ALL RELATED ENTITIES SPECIFICALLY DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, to the full extent permitted by law, regarding the accuracy, completeness, or usefulness of this information and assumes no liability with respect to the consequences of relying on this information for investment or other purposes.

No content in this Research Report may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of CFRA, or used for any unlawful or unauthorized purposes. Neither CFRA nor its third-party providers, as well as its/their directors, officers, shareholders, employees or agents, guarantee the accuracy, completeness, timeliness or availability of the content herein

Past performance is not necessarily indicative of future results.

This document may contain forward-looking statements or forecasts; such forecasts are

not a reliable indicator of future performance.

This report is not intended to, and does not, constitute an offer or solicitation to buy and sell securities or engage in any investment activity. This report is for informational purposes only. Statements in this report are not made with respect to any particular investor or type of investor. Securities, financial instruments or strategies mentioned herein may not be suitable for all investors and this material is not intended for any specific investor and does not take into account an investor's particular investment objectives, financial situations or needs. Before acting on anything in this report, you should consider whether it is suitable for your particular circumstances and, if necessary, seek professional advice. CFRA may license certain intellectual property or provide services to, or otherwise have a business relationship with, certain issuers of securities that are the subject of CFRA research reports, including exchange-traded investments whose investment objective is to substantially replicate the returns of a proprietary index of CFRA. In cases where CFRA is paid fees that are tied to the amount of assets invested in a fund or the volume of trading activity in a fund, investment in the fund may result in CFRA receiving compensation in addition to the subscription fees or other compensation for services rendered by CFRA, however, no part of CFRA's compensation for services is tied to any particular viewpoint or rating. Additional information on a subject company may be available upon request.

CFRA's financial data provider is S&P Global Market Intelligence. THIS DOCUMENT CONTAINS COPYRIGHTED AND TRADE SECRET MATERIAL DISTRIBUTED UNDER LICENSE FROM S&P GLOBAL MARKET INTELLIGENCE. FOR RECIPIENT'S INTERNAL USE ONLY.

The Global Industry Classification Standard [GICS®] was developed by and/or is the exclusive property of MSCI, Inc. and S&P Global Market Intelligence. GICS is a service mark of MSCI and S&P Global Market Intelligence and has been licensed for use by CFRA.

Other Disclaimers and Notices

Certain information in this report is provided by S&P Global, Inc. and/or its affiliates and subsidiaries [collectively "S&P Global"]. Such information is subject to the following disclaimers and notices: "Copyright © 2018, S&P Global Market Intelligence (and its affiliates as applicable). All rights reserved. Nothing contained herein is investment advice and a reference to a particular investment or security, a credit rating or any observation concerning a security or investment provided by S&P Global is not a recommendation to buy, sell or hold such investment or security or make any other investment decisions. This may contain information obtained from third parties, including ratings from credit ratings agencies. Reproduction and distribution of S&P Global's information and third party content in any form is prohibited except with the prior written permission of S&P Global or the related third party, as applicable. Neither S&P Global nor its third party providers guarantee the accuracy, completeness, timeliness or availability of any information, including ratings, and are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such information or content. S&P GLOBAL AND ITS THIRD PARTY CONTENT PROVIDERS GIVE NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE AND ALL S&P INFORMATION IS PROVIDED ON AN AS-IS BASIS. S&P GLOBAL AND ITS THIRD PARTY CONTENT PROVIDERS SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, EXEMPLARY, COMPENSATORY, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES, COSTS, EXPENSES, LEGAL FEES, OR LOSSES (INCLUDING LOST INCOME OR PROFITS AND OPPORTUNITY COSTS OR LOSSES CAUSED BY NEGLIGENCE) IN CONNECTION WITH ANY USE OF THEIR INFORMATION OR CONTENT, INCLUDING RATINGS. Credit ratings are statements of opinions and are not statements of fact or recommendations to purchase, hold or sell securities. They do not address the suitability of securities or the suitability of securities for investment purposes, and should not be relied on as investment advice.



CFRA's Research Reports may be distributed in certain localities, countries and/or jurisdictions by independent third parties or independent intermediaries and/or distributors ("Intermediaries"). Intermediaries are not acting as agents or representatives of CFRA. In territories where an Intermediary distributes CFRA's Research Reports, the Intermediary, and not CFRA, is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes and guidelines established by local and/or regional regulatory authorities, including laws in connection with the distribution of third party research reports, licensing requirements, supervisory and record keeping obligations that the Intermediary may have under the applicable laws and regulations of the territories where it distributes the Research Reports.

For residents of the European Union/European Economic Area:

Research reports are originally distributed by CFRA UK Limited (company number 08456139 registered in England & Wales with its registered office address at New Derwent House, 69-73 Theobalds Road, London, WC1X 8TA, United Kingdom). CFRA UK Limited is regulated by the UK Financial Conduct Authority (No. 775151).

For residents of Malaysia:

Research reports are originally produced and distributed by CFRA MY Sdn Bhd [Company No. 683377-A] ("CFRA Malaysia"), a wholly-owned subsidiary of CFRA US. CFRA Malaysia is regulated by Securities Commission Malaysia [License No. CMSL/A0181/2007].

For Recipients in Canada:

This report is not prepared subject to Canadian disclosure requirements and may not be suitable for Canadian investors.

For residents of Singapore:

This Research Report is distributed by CFRA UK Limited to its clients in Singapore who hold a financial advisers licence or is a person exempt from holding such licence ["SG Intermediary"]. Recipients of this Research Report in Singapore should contact the SG Intermediary in respect to any matters arising from, or in connection with, the analysis in this report. Where the recipient is not an accredited, expert or institutional investor as defined by the Securities and Futures Act, the SG Intermediary accepts legal responsibility for the contents of this Research Report in accordance with applicable law. When reports are distributed by SG Intermediaries in Singapore, the SG Intermediary, and not CFRA, is solely responsible for ensuring that the recipients of the Research Reports understand the information contained in the Research Reports and that such information is suitable based on the customer's profile and investment objectives. This Research Report is intended for general circulation and no advice or recommendation is made herein or by CFRA to any particular person. CFRA does not assume any responsibility to advise on whether any particular product is suitable for any person, and the analysis herein does not take into account the specific investment objectives, financial situation or particular needs of any particular person, and should not be relied upon for any investment decision.

For residents of all other countries:

Research reports are originally distributed Accounting Research & Analytics, LLC d/b/a CFRA.

Copyright @ 2023 CFRA. All rights reserved. CFRA and STARS are registered trademarks of CFRA.