The Henry Fund
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JP Morgan Chase & Co. (JPM)

April 18, 2023

Diversified Banks- Financial Services

Stock Rating **BUY**

Investment Thesis

We recommend a BUY rating on JP Morgan Chase & Co. (JPM) with a price target range of $172-182 with a potential upside of 22-29%. JPM is a key player in the global banking industry and has a robust balance sheet, which we believe will benefit the bank in the current economic environment.

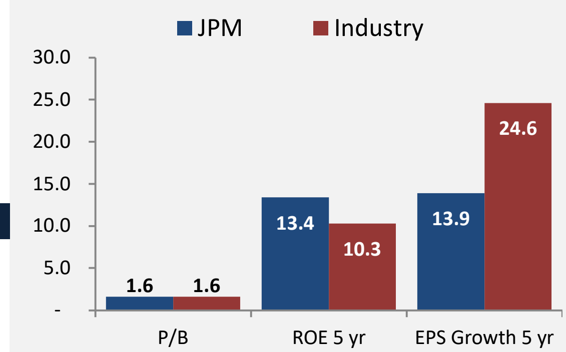
Drivers of Thesis

- JPM's biggest moat in the current environment is their diversification. We expect principal transactions and asset management fees to partially offset the decline in revenue from investment banking, cards, and mortgages.
- JPM'S strong brand recognition and years of good reputation coupled with its strong balance sheet have helped maintain shareholder value and gain depositors when smaller banks have struggled with liquidity.
- We expect JPM to fare better than the banking industry and forecast its deposits and loans to grow by 4.6% and 2.5% respectively, as customers of smaller banks go the 'flight to safety' route.
- We believe the company will benefit from its focus on technology, to make operations more efficient, and consolidation of the US banking industry in the wake of the current economic environment.

Risks to Thesis

- When a bank is so big, its growth is primarily driven by the growth prospects of the markets it is in. The biggest risk a bank of JP Morgan's size faces is prolonged global economic turmoil as it would make it difficult for JPM to find growth opportunities to tackle slowing revenue streams.
- JPM is leading from the front when it comes to technological development in the banking industry. This exposes the bank to severe cybersecurity risks which could lead to brand and reputational damage.

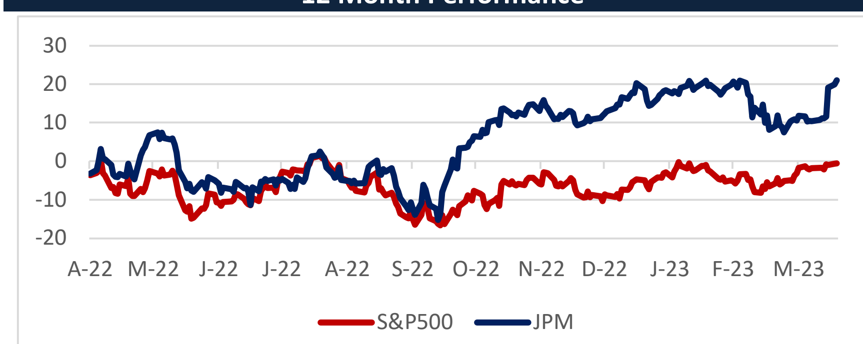
Target Price	**$172-182**
Henry Fund DCF	$172
Henry Fund DDM	$182
Relative Multiple	$89.15
Price Data	
Current Price	$141.40
52wk Range	$101.28 – 144.34
Consensus 1yr Target	$157.22
Key Statistics	
Market Cap (B)	$416.20
Shares Outstanding (M)	2,943
Institutional Ownership	71.80%
Beta	0.98
Dividend Yield	3.10%
Deposit Growth (5yr)	10.10%
Price/Earnings (TTM)	10.63
Price/Earnings (FY1)	10.10
Price/TBV(TTM)	1.78
Price/Book (TTM)	1.42
Profitability (FY22)	
Net Interest Margin	1.94%
Profit Margin	27.89%
Return on Assets	0.96%
Return on Equity	12.20%



Earnings Estimates

Year	2020	2021	2022	2023E	2024E	2025E
EPS	$8.89	$15.39	$12.10	$14.11	$13.80	$14.87
HF est.				$13.53	$13.36	$15.08
Growth	*-17.30%*	*73.12%*	*-21.38%*	*11.82%*	*-1.25%*	*12.86%*

12 Month Performance



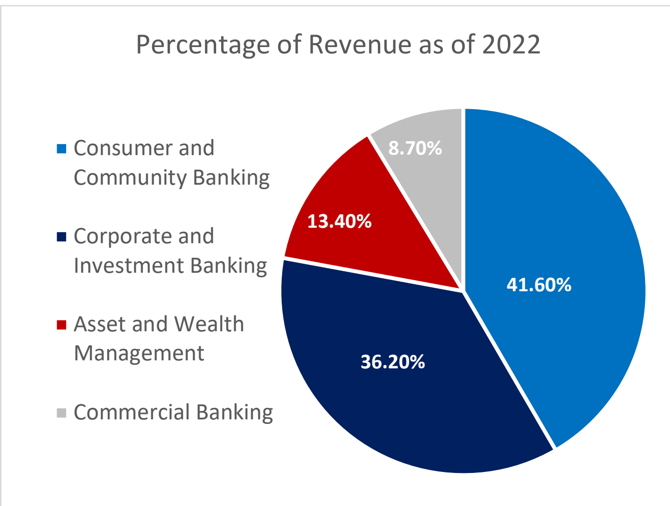
Company Description

JP Morgan Chase & Co. operates in the Consumer and Community Banking, Corporate and Investment Banking, Commercial Banking and Asset and Wealth Management segments, where it is a leader providing banking, investment management, market making, broking and advising services to its customers. In FY22, the bank saw its total revenue grow by 5.8% YoY to $128.69 billion and had total assets of more than $3.67 trillion. As of FY22, the bank's deposit base stands at $2.34 trillion.

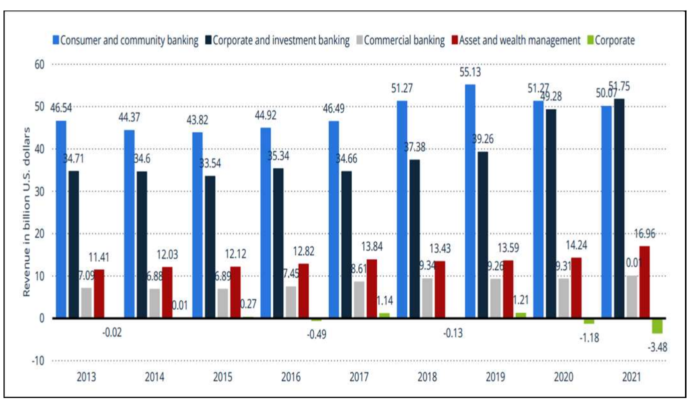
Important disclosures appear on the last page of this report.

COMPANY DESCRIPTION

JPMorgan Chase & Co. is a financial holding company that specializes in providing financial and investment banking services. The company offers a wide range of investment banking products and services across all capital markets, including advising on corporate strategy and structure, raising capital in equity and debt markets, risk management, market making in cash securities and derivative instruments, and brokerage and research. JPMorgan operates through four business segments, namely Corporate and Investment Bank (CIB), Consumer and Community Banking (CCB), Commercial Banking (CB), and Asset and Wealth Management (AWM). JPM was founded in 1968 and is headquartered in New York City.[1]



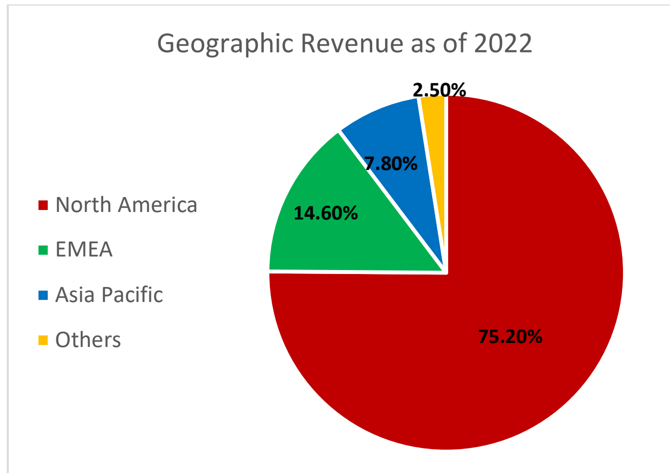
Source: FactSet



Source: Statista

The chart above shows the historical revenues and growth trends of the segments. Over the last 10 years, the CIB and AWM divisions have seen higher revenue growth, while CCB has managed to remain the major contributor to the revenue throughout, with its stable revenue stream. High M&A Activity and many IPOs due to the booming VC industry saw CIB revenues surpass CCB for the first time in 2021. However, with the tide turning in 2022, CIB dropped down to 2nd place again.

The firm's geographic revenue is mainly derived from North America, which contributes slightly over 75% of total revenue. This is followed by Europe/Middle East/Africa, which has seen its client assets grow from $367 billion in 2013 to $687 billion in 2021.[1]



Source: FactSet

JP Morgan is the number 1 bank in the US by total assets, domestic deposits, branch footprint and market capitalization. Let's take a deeper look into its four business segments.

Consumer & Community Banking (CCB)

JPMorgan's Consumer & Community Banking offers products and services to consumers and small businesses through bank branches, ATMs, digital (including mobile and online) and telephone banking. CCB is organized into Banking & Wealth Management (including Consumer Banking, J.P. Morgan Wealth Management and Business Banking), Home Lending (including Home Lending Production, Home Lending Servicing and Real Estate Portfolios) and Card Services & Auto. Banking & Wealth Management offers deposit, investment and lending products, cash management, payments, and services. Home Lending includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card Services issues credit cards and offers travel services. Auto originates and services auto loans and leases.

Year ended December 31, (in millions, except ratios)	2022	2021	2020
Revenue			
Lending- and deposit-related fees	**$ 3,316**	$ 3,034	$ 3,166
Asset management, administration and commissions	**3,754**	3,514	2,780
Mortgage fees and related income	**1,236**	2,159	3,079
Card income	**2,679**	3,563	3,068
All other income[(a)]	**4,104**	5,016	5,647
Noninterest revenue	**15,089**	17,286	17,740
Net interest income	**39,928**	32,787	33,528
Total net revenue	**55,017**	50,073	51,268
Provision for credit losses	**3,813**	(6,989)	12,312
Noninterest expense			
Compensation expense	**13,092**	12,142	11,014
Noncompensation expense[(b)]	**18,379**	17,114	16,976
Total noninterest expense	**31,471**	29,256	27,990
Income before income tax expense	**19,733**	27,806	10,966
Income tax expense	**4,862**	6,876	2,749
Net income	**$ 14,871**	$20,930	$ 8,217

Source: JP Morgan 2022 10-K

In 2022, CCB earned revenue of $55 billion, up 10% YoY and delivered an ROE of 29%.Net Interest Income was $39.9 billion, up 22% YoY due to margin expansion on higher rates and deposit growth in Banking and Wealth Management (BMW) as well as higher revolving loans in Card Services. Non-Interest revenue was $15.1 billion, down 13% YoY reduced revenue and volume from Home Lending and Auto lease. Net Income of $14.9 billion, down 29% reflecting a net increase in the provision for credit losses compared to a net benefit in 2021. Average deposits stood at $1.2 trillion, up 10% YoY and average loans stood at $439 billion, up 1% YoY. While net charge offs were at historical lows, we expect these to inch up in the next couple of years given interest rates have skyrocketed and the economy is slowing. In anticipation of this, CCB has built up $3.8 billion in provisions for credit reserves, which should be sufficient to provide for any increase in charge offs.

We expect CCB to sustain the 2023 banking crisis better than other divisions. JP Morgan Chase has a strong brand coupled with an expanding network of branches and advisors, which will help the bank gain customers in an environment where other banks are facing a risk of collapsing and customers are looking for a new banking partner. We expect the lack of confidence in the regional banks, caused by the collapse of SVB Bank and Signature Bank to drive customers and their deposits to Chase. We forecast Lending and Deposit related fees to decline 9% in 2023. Asset Management fees are estimated to increase 3.5% in 2023, primarily due to increases in AUM as capital is directed towards mutual fund products.

Consumer and Community Banking	2006	2012	2021	2022
Average Deposits ($ billion)	204	414	1,055	1,163
Client Investment Assets ($ billion)	80	159	718	647
Total Payments Volume ($ trillion)	NA	1.8	5.0	5.6
% of digital non-card payments	<25%	40%	75%	77%
Credit card sales ($ billion)	257	381	894	1,065
Debit card sales ($ billion)	NA	205	467	491
Credit card sales market share	16%	20%	22%	22%
Credit card loans ($ billion)	153	128	154	185
Credit card loans market share	19%	18%	17%	17%
Active mobile customers (million)	NA	12.4	45.5	49.7
number of branches	3,079	5,614	4,790	4,787
number of advisors	NM	2,963	4,725	5,029

Source: JP Morgan 2022 10-K

As of FY2022, the division served 79 million domestic customers and 5.7 million small businesses, where it serves as the primary banking partner for 78% of customer checking accounts. Their digital customer base stands tall at 63 million active users, including 50 million active mobile users. The division is an industry leader in domestic deposit share, primary bank for small businesses, US credit card issuer based on sales and outstandings.

In summary, the CCB division with its Chase Bank brand is focused on offering the best service to its customers by investing in technology and data, a model that is showing positive results with increasing deposits.

Corporate & Investment Bank (CIB)

JPMorgan's Corporate & Investment Bank, which consists of Banking and Markets & Securities Services, offers a broad suite of investment banking, market-making, prime brokerage, lending, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, merchants, government, and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Payments, which provides payments services enabling clients to manage payments and receipts globally, and cross-border financing. Markets & Securities Services includes Markets, a global market-maker across products, including cash and derivative instruments, which also offers sophisticated risk management solutions, prime brokerage, and research. Markets & Securities Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Year ended December 31, (in millions)	2022	2021	2020
Revenue			
Investment banking fees	**$ 6,929**	$ 13,359	$ 9,477
Principal transactions	**19,926**	15,764	17,560
Lending- and deposit-related fees	**2,419**	2,514	2,070
Asset management, administration and commissions	**5,065**	5,024	4,721
All other income[(a)]	**1,660**	1,548	1,292
Noninterest revenue	**35,999**	38,209	35,120
Net interest income	**11,900**	13,540	14,164
Total net revenue[(b)]	**47,899**	51,749	49,284
Provision for credit losses	**1,158**	(1,174)	2,726
Noninterest expense			
Compensation expense	**13,918**	13,096	11,612
Noncompensation expense	**13,169**	12,229	11,926
Total noninterest expense	**27,087**	25,325	23,538
Income before income tax expense	**19,654**	27,598	23,020
Income tax expense	**4,684**	6,464	5,926
Net income	**$ 14,970**	$ 21,134	$ 17,094

Source: JP Morgan 2022 10-K

In FY22, the CIB division earned revenue of $48 billion, down 7% YoY, with Net Income of $15 billion, down 29% YoY. While industry wide investment banking fees were down 42% YoY, JPM's investment banking fees fell 48% YoY due to volatile market conditions resulting in lower fees. Despite that, JPM's CIB stood at the number 1 rank in the investment banking fees, equity capital markets and debt capital markets, and number 2 in mergers and acquisitions. Equity underwriting fees were $1.0 billion, down 74% YoY and Debt underwriting fees were $2.8 billion, down 30% YoY, due to low issuance activity. Advisory fees were $3.1 billion, down 30%, due to fewer deals.

In 2022, the M&A franchise advised over 350 deals totaling more than $900 billion, including deals for Johnson and Johnson and Pfizer, which were some of the biggest deals in the year. Declining M&A activity and rising interest rates slowed down refinancing, which impacted debt underwriting fees, which declined 43% YoY in 2022. The IPO market was nearly shut down too. JPM CIB advised two of the year's most notable IPO's: AIG's $1.7 billion IPO of Corebridge, its retirement solutions and life insurance business, and €9.4 billion IPO of Porsche.

Corporate & Investment Banking	**2006**	**2012**	**2021**	**2022**
Global investment banking fees	2	1	1	1
Market share	8.7%	7.7%	9.3%	8.0%
Total Markets revenue	8	1	1	1
Market share	6.3%	8.6%	12.1%	11.7%
Fixed Income, Currency & Commodities	7	1	1	1
Market share	7.0%	9.0%	12.3%	11.0%
Equities	8	3	1	1
Market share	5.0%	7.8%	11.8%	13.1%
Assets under custody ($ trillion)	13.9	18.8	33.2	28.6
Average client deposits ($ billion)	190	356	715	687
Firmwide Payments revenue ($ billion)	5	7	10	14
Firmwide Payments revenue rank	NA	NA	1	1
Firmwide average daily security purchases and sales ($ trillion)	NA	NA	2.9	3.1

Source: JP Morgan 2022 10-K

As volatility persisted, the Markets business continued to do well and remains the number 1 ranked franchise in the world, generating $29 billion in revenue in 2022, $18.6 billion coming from Fixed Income, Currency, and Commodities and $10.4 billion from Equities. The decline in securitized products was offset by strong performance in currencies and emerging markets and rates amid volatile market conditions. We expect this trend to continue in 2023 and 2024.

As of fiscal 2022, the bank was the largest in terms of global investment banking fees for the 14th year in a row. It was also ranked in first place for market making, Global Equity Research, USD payments volume and US merchant transactions. It was the 2nd largest custodian globally.

The Securities Services business, which provides essential post-trade services to institutional asset managers and asset owner clients, reported revenues of $4.5 billion, up 4% YoY, driven by deposit margin expansion and offset by lower average market values of assets under management. We expect a healthy growth for this segment, and project principal transactions to grow 40% in 2023 and 15% in 2024.

The bank's Custodian business, which provides safekeeping, settlement, and services for securities around the world, reported assets under custody exceeding $28 trillion. Payments revenue was $7.4 billion, up 18%, and included the net impact of equity investments. Excluding this net impact, revenue was $7.8 billion, up 33%, driven by deposit margin expansion on higher rates and growth in fees on higher volumes.

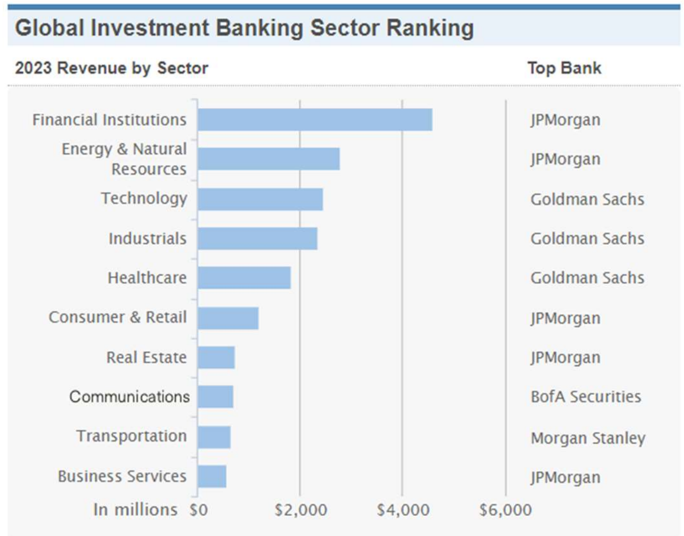
Lending revenue was $1.4 billion, up 38%, driven by higher net interest income primarily on higher loans, as well as fair value gains on hedges of retained loans, compared with losses in the prior year. The provision for credit losses was $1.2 billion, predominantly driven by a net addition to the allowance for credit losses, reflecting deterioration in the bank's macroeconomic outlook and loan growth.

Global Investment Banking Bank Ranking

YTD 2023			YTD 2022		
Bank	Revenue $m	% share	Rank	Revenue $m	% share
JPMorgan	1,494.2	8.3	1	2,308.2	8.0
Goldman Sachs	1,295.2	7.2	2	2,138.1	7.4
BofA Securities	1,030.4	5.8	3	1,775.0	6.1
Morgan Stanley	947.3	5.3	4	1,694.7	5.9
Citi	764.4	4.3	5	1,146.8	4.0
Barclays	677.1	3.8	6	981.8	3.4
BNP Paribas	356.3	2.0	14	464.0	1.6
RBC Capital Ma...	346.7	1.9	10	582.8	2.0
Deutsche Bank	338.3	1.9	8	652.8	2.3
CITIC Securities	303.3	1.7	18	337.2	1.2
Subtotal	7,553.4	42.2		12,081.3	41.9
Total	**17,915.2**	**100.0**		**28,863.6**	**100.0**

Source: Wall Street Journal

The table above showcases JP Morgan's leadership advantage in the global investment banking industry. Despite revenues declining by 48%, the bank was able to maintain its leadership position and increase its market share to 8.3%. in Q1 FY23, the market share has further increased to 8.7%. We find this advantageous because the increased market share will help boost revenues once investment banking activity picks up. In the table below, we can see that JP Morgan is ranked as the top bank in 5 out of 10 sectors by revenue. In addition, it is the leader in financial institutions and energy and natural resources, which were the highest grossing segments in 2022. While Goldman Sachs is the leader in sectors like Healthcare, Technology, and Industrials, we believe JP Morgan's business is less volatile since it is focused more on debt in comparison to equity.



Source: Wall Street Journal

In summary, the CIB division benefited from its diversified operations as industry-wide investment banking revenues were down, but the Markets and Payments segments helped soften the blow of declining revenues. We believe the division is well positioned to bounce back once the economy recovers, backed by its strong brand, skilled people, and expertise. We expect investment banking revenue growth to remain muted for 2023 and 2024, given the overall economic environment isn't favorable for new IPOs and corporate debt issuances. M&A activity is also expected to remain low due to the higher cost of capital. We forecast investment banking fees to decline by 1.75% in 2023E and a further 1.25% in 2024E.

Commercial Banking (CB)

JPMorgan's Commercial Banking provides comprehensive financial solutions, including lending, payments, investment banking and asset management products across three primary client segments: Middle Market Banking, Corporate Client Banking and Commercial Real Estate Banking. Other includes amounts not aligned with a primary client segment. Middle Market Banking covers small and midsized companies, local governments, and nonprofit clients. Corporate Client Banking covers large corporations. Commercial Real Estate Banking covers investors, developers, and owners of multifamily, office, retail, industrial and affordable housing properties.

In FY2022, CB reported record revenue of $11.5 billion, up 15% mainly driven by improvement in net interest income which stood at $8.2 billion, up 35% YoY, driven by deposit margin expansion on higher interest rates and growth in loans, which was offset by the impact of higher funding costs and lower deposits. Net Income was $4.2 billion, down 20%, reflecting a net increase in the provision for credit losses. The provision for credit losses was increased to $1.3 billion due to poor macroeconomic outlook. We expect CB to perform better than the competition due to better interest margins on loans and deposits, and a lower net decline in deposits. Market making and bookrunning activities are expected to do well, making up for lost revenue from investment banking services.

Year ended December 31, (in millions)	2022	2021	2020
Revenue			
Lending- and deposit-related fees	$ 1,243	$ 1,392	$ 1,187
All other income[a]	2,093	2,537	1,880
Noninterest revenue	3,336	3,929	3,067
Net interest income	8,197	6,079	6,246
Total net revenue[b]	11,533	10,008	9,313
Provision for credit losses	1,268	(947)	2,113
Noninterest expense			
Compensation expense	2,296	1,973	1,854
Noncompensation expense	2,423	2,068	1,944
Total noninterest expense	4,719	4,041	3,798
Income before income tax expense	5,546	6,914	3,402
Income tax expense	1,333	1,668	824
Net income	$ 4,213	$ 5,246	$ 2,578

Source: JP Morgan 2022 10-K

As of 2022, the division had 141 locations across the US and 34 international locations. The revenue from middle market expansion grew 26% YoY to $1.5 billion.

Commercial Banking	2006	2012	2021	2022
number of top 75 Metropolitan Statistical Area (MSA) with dedicated teams	36	52	66	69
number of bankers	1,203	1,240	2,254	2,360
New relationships (gross)	NA	NA	2,252	2,277
Average loans ($ billion)	54	120	205	224
Average Deposits ($ billion)	74	196	302	294
Gross Investment Banking revenue ($ billion)	1	2	5	3
Multi family lending rank	28	1	1	1

Source: JP Morgan 2022 10-K

The division serviced over 25K customers in the credit, banking, and treasury services segments and over 31K customers in the real estate segment. The division has 18 specialized industry coverage teams and is the leader in the middle market bookrunning segment in the US. In 2022, the division financed over 80,000 incremental affordable housing units.

Asset & Wealth Management (AWM)

JPMorgan's Asset & Wealth Management, with client assets of $4.0 trillion, is a global leader in investment and wealth management. Asset Management Offers multi-asset investment management solutions across equities, fixed income, alternatives, and money market funds to institutional and retail investors providing for a broad range of clients' investment needs. Global Private Bank Provides retirement products and services, brokerage, custody, estate planning, lending, deposits, and investment management to high-net-worth clients. Most client assets are in actively managed portfolios.

Fiscal 2022 revenue for the division was $17.7 billion, up 5%, net interest income was $5.2 billion, up 35%. Revenue from Asset Management was $8.8 billion, down 5% due to net investment value losses and lower asset management fees reflecting a decline in market levels and liquidity outflows. Revenue from Private Bank was $8.9 billion, up 16%, driven by margin expansion and higher average deposits and lesser average loans which was partially offset by lower brokerage and placement fees due to reduced volumes and wider spreads.

Client assets

December 31, (in billions)	2022	2021	2020
Assets by asset class			
Liquidity	$ 654	$ 708	$ 641
Fixed income	638	693	671
Equity	670	779	595
Multi-asset	603	732	656
Alternatives	201	201	153
Total assets under management	2,766	3,113	2,716
Custody/brokerage/ administration/deposits	1,282	1,182	936
Total client assets[a]	$ 4,048	$ 4,295	$ 3,652
Assets by client segment			
Private Banking	$ 751	$ 805	$ 689
Global Institutional	1,252	1,430	1,273
Global Funds	763	878	754
Total assets under management	$ 2,766	$ 3,113	$ 2,716
Private Banking	$ 1,964	$ 1,931	$ 1,581
Global Institutional	1,314	1,479	1,311
Global Funds	770	885	760
Total client assets[a]	$ 4,048	$ 4,295	$ 3,652

Source: JP Morgan 2022 10-K

JPM's AWM has one of the largest internal research budgets and employs more than 1,100 investment professionals covering over 2,500 companies, spanning every asset class and major geography. The division heavily invests in their Global Private Bank (GBP) advisors. In 2022, they surpassed 3,000 GBP advisors.

Asset & Wealth Management	2006	2012	2021	2022
Mutual Funds with a 4/5 star rating	119	172	206	203
Client assets ($ trillion)	1.3	2.0	4.3	4.0
Traditional assets ($ trillion)	1.2	1.7	3.6	3.4
Alternatives assets ($ billion)	100	177	364	372
Deposits ($ billion)	52	141	282	233
Loans ($ billion)	30	79	218	214
number of Global Private Bank client advisors	1,506	2,371	2,738	3,137
Global private bank (Euromoney)	7	3	1	1

Source: JP Morgan 2022 10-K

As of fiscal 2022, the JP Morgan Asset Management (JPMAM) long term mutual fund AUM has outperformed the median of the peer group 90% of time over the last 10 years. With 49 ETFs trading on the US markets, JP Morgan ETFs have an average expense ratio of 0.29%. The business was ranked number 3 in 5-year cumulative net client asset flows behind BlackRock and Morgan Stanley. It ranks number 2 in Institutional Money Market Funds in terms of AUM. The division has raised $98 billion in alternatives over two years. We expect the current economic environment, with its turbulent returns and volatile macro factors, to positively affect the AWM business. We base this assumption on investors seeking more guidance with their investments as they try to navigate the choppy economic waters. We forecast an increase in asset management revenues and commissions of 3.5% in 2023E and 3% in 2024E. The decline in deposits is expected to be offset by increased investments in the mutual funds as clients seek better returns.

RECENT DEVELOPMENTS

Recent Earnings Announcement

JP Morgan reported its Q1FY23 Earnings on April 14th, 2023. The bank reported revenue of $38.3 billion, including net investment securities losses of $868 million. Provision for credit losses was increased to $2.3 billion with reserves increased to $1.1 billion and net charge offs increased to $1.1 billion as well. JPM saw an average increase of 6% in loans while average deposits were down by 8%. Net Interest Income for the quarter was $20.8 billion, up 49%, predominantly driven by higher rates. Declining deposit balances partially offset the overall NII. Non-interest revenue for the quarter stood at $18.5 billion, an increase of 5%, led by higher CIB Markets noninterest revenue, offset by net investment losses and lower investment banking fees. EPS for Q1FY23 stood at $4.10 and the bank declared a common dividend of $1 per share and $1.9 billion of stock repurchases.

The CCB division saw a decline in average deposits of 4%, while client investment assets were down by 1%. Average loans were up 5% on a YoY basis and flat on a QoQ basis. Debit and Credit card sales volume was up 10% and the number of active mobile customers increased 9%. The CIB division reported revenue of $8.4 billion for total markets, down 4%, mainly due to a 12% decline in equity markets. The division was ranked number 1 for Global Investment Banking fees with 8.7% wallet share during the quarter.

The CB division reported gross investment banking revenue of $881 million, an increase of 21%, while average loans were up 13% YoY and average deposits were down 16%. Coming to the AWM division, AUM was up 2% and now stands at $3.0 trillion. Average loans were down 1% YoY and average deposits were down 22%.

We expect JP Morgan to deliver a strong performance in 2023. In this context, strong performance does not necessarily mean a strong growth in revenues across divisions. We expect certain divisions like investment banking and mortgages to suffer significant declines in revenue. However, we expect this to be considerably offset by better performance in principal transactions, credit cards and asset management fees. We also expect JP Morgan to offset declining deposits, which is a trend across the industry, by new deposits coming in as people continue switching to the bank. JP Morgan looks well positioned to strengthen its industry leadership position in the wake of the banking crisis.

Russia- Ukraine War Exposure

Being a large global diversified bank means JP Morgan conducts business in all parts of the world. The bank has exposure to both Russia and Ukraine. JP Morgan is the biggest issuer for Ukraine sovereign debt, having raised over $25 billion since 2010. When the war broke, the bank gave a 2-year payment deferral to Ukraine.

On the flipside, in line with the US sanctions on Russia, the bank decided to unwind its limited business in Russia in 2022, where it offered services like treasury services, currency conversion operations, money market transactions, securities and derivatives trading, custody services and trade finance, expecting it to result in a $1 billion opportunity loss to the business over time.

In summary, while the bank has exposure to the Russia-Ukraine war, the effects aren't significantly material to its overall operations.

INDUSTRY TRENDS

The banking sector is undergoing fundamental changes. Rapid increases in the interest rates by the Federal Reserve have caused the balance sheets of many banks, especially smaller ones, to see a significant decline in investment assets and deposits. The collapse of SVB Bank brought to light liquidity concerns and made customers of other smaller banks nervous. Community and Regional banks have since seen massive declines in deposits.

Impact of SVB's Collapse on JP Morgan

SVB Bank collapsed on March 8, 2023. After a huge inflow in deposits during 2020 and 2021, due to favorable funding environment in the VC industry, to get better returns on its investments, SVB put its assets in long-dated government bonds, which were supposed to be risk free. Its liabilities were demand deposits that start-ups could withdraw at any time. As interest rates increased, these bonds lost value, and so did the investment assets of the bank. The bank tried to sell some of its investment assets to reinvest them in higher interest T-Bills, realizing a $1.8 billion loss. Suddenly faced with more liabilities than assets, SVB attempted to raise more capital. This triggered the panic among start-up founders who stampeded to withdraw their cash and, in doing so, ruined the bank. The bank was closed as it could not generate cash in time to meet its withdrawal requirements.

After SVB's collapse, a trend started in the regional banks industry. A couple other banks failed, some reached the verge of failing and were bailed out by larger banks in an attempt to restore faith in community and regional banks.

JP Morgan ended up in a unique situation amidst all this chaos. The bank, with its fortress of a balance sheet, suddenly became the bank of choice for corporate and individual customers alike. While other banks have been bleeding deposits, JPM has seen a rather small decline in deposits, despite having the largest deposit base. If the interest rates persistently remain high and more banks illiquidity crises, the bank could potentially see its deposit base growing further in the year.

Potential Regulatory Changes Likely to be Implemented due to the Banking Crisis

Progressive lawmakers have proposed rescinding the 2018 law that exempted banks between $100 billion and $250 billion in assets from certain liquidity, stress test, and resolution planning requirements. However, obtaining agreement on action in a divided Congress is expected to be challenging, except in the event of a deepening crisis. However, the initial priority is congressional investigations into the failures. Regulators are currently assessing whether banks having assets between $100 billion and $250 billion should be subjected to more stringent regulations. Both parties have expressed interest in examining proposals aimed at safeguarding small and medium-sized banks, such as raising the deposit insurance limit. Regulators are also conducting reviews to identify lapses in oversight.

The Federal Reserve expects some degree of tightening in financial conditions, comparable to a 25-basis point interest rate increase, because of the banking crisis. This tightening may have a greater impact on businesses, both small and large, than on consumers who have already reduced their spending on high-priced items that require financing.

Looming Crisis in Commercial Real Estate

The commercial real estate market has gone through significant instability in recent years, with rapidly decreasing property values and increasing vacancy rates. The COVID-19 pandemic has expedited the move towards remote work, resulting in higher vacancy rates in commercial properties. An up-to-date report indicates that downtown office vacancy rates have surpassed 18%, a staggering number in comparison to the 14% peak during the Global Financial Crisis (GFC). High vacancy rates result in significantly lower revenues for building owners, and it is improbable that these rates will return to their previous norms due to factors such as the work-from-home trend and the likelihood of an economic recession or depression.

Over the last year and a half, interest rates have increased significantly, affecting building owners who need to refinance their debt. Mortgage-backed securities, which played a crucial role in the 2008 GFC, are now in trouble again, especially in the commercial sector. Spreads for triple-B commercial mortgage-backed securities over 10-year Treasury bonds have reached their peak levels during the pandemic, indicating an increased risk of default.

The combination of declining property values, the ongoing remote work trend, and rising vacancy rates could potentially lead to the next financial crisis. The market size of commercial real estate is approximately $20 trillion, while residential real estate is around $35 trillion. During the 2008 crisis, the highest spread for residential mortgage-backed securities was 2%, whereas currently, the spread for commercial mortgage-backed securities is over 10%. The present condition of the commercial real estate market is alarming due to the decrease in property values, the upsurge in vacancy rates, and the heightened likelihood of defaulting on mortgage-backed securities.

Sustainability and Social Responsibility

The demand for sustainable and socially responsible practices from customers, investors, and regulators is increasing, which is expected to lead to the creation of new financial products and services that support responsible investments. This trend will also raise the expectations for banks to demonstrate their commitment to sustainability and social responsibility. Banks can leverage this opportunity to develop robust digital products and reduce the need for physical branches, while increasing the requirement for digital branches and superior customer support. Such measures will aid sustainability initiatives and drive profitability. JP Morgan, ranked at 655 among 1001 banks, has an ESG score of 29.3, categorizing it as a medium-risk company.[9]

Company	ESG Scores	Risk Rating
JP Morgan Chase & Co.	29.3	Medium
Bank of America	28.3	Medium
Morgan Stanley	26.1	Medium
Goldman Sachs	25.8	Medium
Wells Fargo & Co	31.5	High
Citigroup	27.8	Medium

Source: Morningstar Sustainalytics

ESG has become an important factor for banks, with regulatory requirements, institutional investors, rating agencies and customers at large demanding that banks take steps towards sustainable operations. In this peer set Wells Fargo and JP Morgan have the highest ESG scores. Overall, the peer set has a solid ESG risk rating, with most banks being in the medium risk category. This is expected since most banks in this peer group are major financiers of fossil fuels. JP Morgan, being the leader in fossil fuel funding, has a relatively high ESG score. Wells Fargo, with its corporate governance concerns, and fossil fuel exposure, is the only bank in the peer set with a High-Risk rating.

PEER COMPARISON

Goldman Sachs (GS)

The Goldman Sachs Group, Inc. engages in the provision of financial services. It operates through the following business segments: Global Banking and Markets, Asset and Wealth Management, and Platform Solutions. The company was founded by Marcus Goldman in 1869 and is headquartered in New York, NY.[18]

in USD million	2020	2021	2022
Net Interest Income	4,751	6,470	7,678
Loan Loss Provisions	3,098	357	2,715
Non-interest Income	39,747	52,201	38,237
Non-interest expenses	25,625	30,736	29,138
Net loans	116,115	158,562	179,286
Total assets	1,163,028	1,463,988	1,441,799
Total deposits	259,962	364,227	386,665

Source: FactSet

Both Goldman Sachs and JP Morgan are top tier investment banking and market making institutions. However, JP Morgan also has a sizeable portion of its revenue coming from Retail Banking, which helps it diversify its revenue streams better than Goldman Sachs, which derives 70% of its revenue from Global Banking and Markets segment. Goldman Sachs trumps JP Morgan in the global M&A Advisor rankings, as well as the Global Equity Capital Markets Bookrunning Ranking. JP Morgan has an advantage in the Global Debt Capital Markets and Global Investment Banking Ranking.

Morgan Stanley (MS)

Morgan Stanley operates as a global financial services company. The firm provides investment banking products and services to its clients and customers including corporations, governments, financial institutions, and individuals. It operates through the following segments:

Institutional Securities, Wealth Management, and Investment Management. The company was founded by Harold Stanley and Henry S. Morgan in 1924 and is headquartered in New York, NY.[19]

in USD million	2020	2021	2022
Net Interest Income	6,313	8,045	9,327
Loan Loss Provisions	-	4	280
Non-interest Income	41,931	51,941	44,395
Non-interest expenses	33,500	39,676	39,375
Net loans	137,784	174,302	198,997
Total assets	1,118,148	1,191,473	1,183,057
Total deposits	310,782	347,574	356,646

Source: FactSet

Morgan Stanley closely follows JP Morgan and Goldman Sachs in investment banking performance. The key difference between JPM and MS is that Morgan Stanley has a greater proportion (45%) of its revenue coming from the Wealth Management division.

Citigroup (C)

Citigroup, Inc. is a holding company, which engages in the provision of financial products and services. It operates through the following segments: Global Consumer Banking, Institutional Clients Group, Corporate and Other. The company was founded in 1812 and is headquartered in New York, NY.[20]

in USD million	2020	2021	2022
Net Interest Income	43,548	42,494	48,668
Loan Loss Provisions	17,375	(3,106)	4,778
Non-interest Income	30,854	29,696	27,185
Non-interest expenses	43,227	47,618	51,774
Net loans	650,927	651,312	640,247
Total assets	2,266,238	2,296,436	2,422,356
Total deposits	1,280,671	1,317,230	1,365,954

Source: FactSet

Citi has better geographic diversification in comparison to JP Morgan, with 47% of its revenue coming from North America, 20% from EMEA, 20% from Asia and 13% from Latin America. Citi also has a solid consumer banking segment, with best-in-class credit card services and retail banking operations. JP Morgan has better Investment Banking operations, Consumer Banking rankings and a more diverse revenue stream. JP Morgan has better risk management compared to Citi, which has faced several regulatory penalties in recent years, most notably the $400 million fine for subpar risk management and internal controls.

Bank of America (BAC)

Bank of America Corp. is a bank and financial holding company, which engages in the provision of banking and nonbank financial services. It operates through the following segments: Consumer Banking, Global Wealth, and Investment Management (GWIM), Global Banking, Global Markets, and All Other. The company was founded by Amadeo Peter Giannini in 1904 and is headquartered in Charlotte, NC.[21]

in USD million	2020	2021	2022
Net Interest Income	43,360	42,934	52,462
Loan Loss Provisions	11,320	(4,594)	2,543
Non-interest Income	43,333	48,090	42,981
Non-interest expenses	55,555	61,478	60,731
Net loans	909,059	966,737	1,033,065
Total assets	2,832,182	3,180,948	3,051,375
Total deposits	1,795,480	2,064,446	1,930,341

Source: FactSet

Bank of America has a greater emphasis on consumer and commercial banking. Over 60% of its revenue comes from consumer and global banking, followed by 23% from wealth and investment banking. 87.3% of the revenue is earned in the United States, making it more concentrated compared to JP Morgan.

Wells Fargo (WFC)

Wells Fargo & Co. is a diversified, community-based financial services company. It is engaged in the provision of banking, insurance, investments, mortgage products and services, and consumer and commercial finance. It operates through the following segments: Consumer Banking and Lending, Commercial Banking, Corporate and Investment Banking, and Wealth & Investment Management. The company was founded by Henry Wells and William G. Fargo on March 18, 1852, and is headquartered in San Francisco, CA.[22]

in USD million	2020	2021	2022
Net Interest Income	39,835	35,779	44,950
Loan Loss Provisions	14,129	(4,155)	1,534
Non-interest Income	34,333	45,730	42,005
Non-interest expenses	56,289	55,776	20,040
Net loans	869,121	882,904	942,886
Total assets	1,965,874	1,958,746	1,900,933
Total deposits	1,404,381	1,482,479	1,383,985

Source: FactSet

Wells Fargo's business segments are similarly diversified to JP Morgan's, with 47% of its revenue coming from consumer banking, 20% coming from corporate and investment banking, 19% coming from wealth and investment management and 14% from commercial banking. However, all their operations are based in the US, giving it zero geographical diversification. Wells Fargo has also had its fair share of corporate governance issues and regulatory fines.

Let us look at some of the key metrics used to compare banks and see how the banks in the peer set stack up against each other. We will look at operational metrics like the efficiency ratio and revenue per branch, profitability ratios and regulatory capital requirements. We are also comparing credit quality and uninsured deposits.

Return on Equity and Return on Assets

Company	ROE	ROA
JP Morgan Chase & Co.	12.80%	1.01%
Bank of America	10.10%	0.88%
Morgan Stanley	10.70%	0.93%
Goldman Sachs	9.90%	0.78%
Wells Fargo & Co	7.20%	0.68%
Citigroup	7.40%	0.63%
Industry Average	**10.20%**	**0.73%**

Source: FactSet

Looking at the 2022 data given in the table above, we can see that JP Morgan has the highest ROE of 12.80%, followed by Morgan Stanley with 10.70%. Citi and Wells Fargo have the lowest ROE with 7.40% and 7.20% respectively. JP Morgan also has the highest ROA with 1.01%, while Citi has the lowest at 0.63%. The key advantage that JP Morgan has here comes with its diversified revenue stream. As we saw earlier in the report, despite certain sub-segments suffering from revenues having declined sharply, other sub-segments, often in the same business division, make up for it. This helps JPM tame the volatility in its returns and maintain higher return ratios as compared to the industry.

Regulatory Capital

Company	CET 1 Ratio	Tier 1 Ratio	Total Cap Ratio
JP Morgan Chase & Co.	13.50%	15.20%	16.40%
Bank of America	11.10%	12.90%	14.90%
Morgan Stanley	15.30%	17.20%	19.30%
Goldman Sachs	15.00%	16.60%	19.10%
Wells Fargo & Co	12.00%	13.70%	15.90%
Citigroup	12.20%	13.90%	15.50%
Industry Average	**13.50%**	**15.60%**	**17.30%**

Source: FactSet

Common Equity Tier 1 and Tier 1 capital ratios tell us how prepared banks are to absorb any immediate loss. A low ratio indicates a higher risk of failure. The Basel III accord requires banks to maintain a minimum capital ratio of 8%, 6% of which should be CET 1. In our peer set, Bank of America has the lowest CET 1 and Tier 1 ratios, while JP Morgan has the highest. Goldman Sachs and Morgan Stanley do not operate traditional banking shops, so their ratios are skewed higher due to different balance sheet characteristics.

Loan-to-Asset Ratio

	Loan to asset		
Company	2020	2021	2022
JP Morgan Chase & Co.	36.14%	32.20%	32.85%
Bank of America	42.39%	35.18%	37.65%
Morgan Stanley	19.93%	18.90%	22.46%
Goldman Sachs	11.39%	10.51%	11.94%
Wells Fargo & Co	53.14%	49.03%	53.90%
Citigroup	33.82%	31.14%	30.06%

Source: FactSet

Loan to asset ratios help us understand how much of the bank's assets are tied up in loans. A higher ratio indicates lower liquidity. The banks in our peer set with the most risk according to this metric are Wells Fargo and Bank of America. Goldman Sachs has the lowest ratio, however, given their business model isn't primarily traditional banking driven, it is expected to have it stray from the others. Overall, since these banks are so large, their loan to asset ratio isn't alarming. Even the bank with the highest ratio here, Wells Fargo, only has slightly more than 50% of its assets in loans.

Loan-to-Deposit Ratio

	Loan to Deposit		
Company	**2020**	**2021**	**2022**
JP Morgan Chase & Co.	52.69%	44.11%	47.52%
Bank of America	60.16%	48.08%	51.19%
Morgan Stanley	44.33%	50.15%	55.80%
Goldman Sachs	44.67%	43.53%	46.37%
Wells Fargo & Co	68.44%	60.11%	65.28%
Citigroup	50.83%	49.45%	46.87%

Source: FactSet

The loan to deposit ratio (LDR) helps us understand what percentage of the total deposits the bank can lend out and earn interest on. An ideal LDR is 80% to 90%. It is not surprising to see that none of the banks in our peer set have a loan-to-deposit ratio which is that high. This again comes down to the diversified nature of these banks.

Uninsured Deposits

Company	Uninsured Deposits
JP Morgan Chase & Co.	52.0%
Bank of America	46.1%
Morgan Stanley	47.0%
Goldman Sachs	47.6%
Wells Fargo & Co	37.0%
Citigroup	73.7%

Source: Google, FDIC, Reuters, Investopedia, Statista

The collapse of SVB Bank brought to light the issue of high uninsured deposits. Many regional banks which had a high percentage of their deposits above the FDIC insurance limit of $250,000 saw customers getting nervous and withdrawing their money. Larger banks weren't as badly affected as their solvency is perceived to be much better. Having a higher number of uninsured deposits would be considered a higher risk, however, the average proportion of uninsured deposits at large US banks stands at 45.9%, which is around where the peer set stands. Although Citi and JP Morgan have a higher proportion of uninsured deposits, these are expected to be well diversified across a large client base.

Efficiency Ratio

The Efficiency Ratio for banks means non-interest expenses/revenue. This shows how well a bank manages its overhead costs. A ratio above 50% is considered good for banks. All banks in our peer set have an efficiency ratio above 50%, with Wells Fargo having the highest ratio of 78% and JP Morgan with the lowest in the pack with 59%.

Company	Efficiency Ratio
JP Morgan Chase & Co.	59.0%
Bank of America	64.7%
Morgan Stanley	72.0%
Goldman Sachs	65.8%
Wells Fargo & Co	78.0%
Citigroup	68.1%
Industry Average	**66.6%**

Source: FactSet

Revenue per Branch

Company	# Branches	Revenue/Branch ($ mn)
JP Morgan Chase & Co.	4,787.00	26.88
Bank of America	3,913.00	24.27
Morgan Stanley	NA	NA
Goldman Sachs	NA	NA
Wells Fargo & Co	4,600.00	16.04
Citigroup	1,438.00	52.39

Source: FactSet

Since all the banks are similar in operations, we think it is beneficial to look at the revenue per branch and branch footprint for the peer set. Morgan Stanley and Goldman Sachs do not have retail banking branches. For the remaining banks, JP Morgan, Bank of America, and Wells Fargo are the closest competitors. Since Citi's primary business is Institutional Clients Group, it doesn't need as many retail branches as its peers.

Credit Quality

Company	NCO Ratio	NPLs/Loans
JP Morgan Chase & Co.	0.25%	0.59%
Bank of America	0.21%	0.53%
Morgan Stanley	0.01%	0.25%
Goldman Sachs	0.44%	1.47%
Wells Fargo & Co	0.17%	0.59%
Citigroup	0.58%	0.37%
Industry Average	**0.22%**	**1.06%**

Source: FactSet

The net charge-off rate is the annualized ratio of net charge-offs (NCOs) to average loans outstanding. NCOs are a lender's gross charge-offs less recoveries of its delinquent debt. The net charge-off rate measures the proportion of debt owed to a company that is unlikely to be paid back to the company. Therefore, a lower ratio is better. Similarly, non-performing loans (NPLs) are loans that are subject to late repayment or are unlikely to be repaid by the borrower. Here too, a lower ratio is better. Since the peer set comprises of the largest banks in the US, their NCO and NPL ratios are quite low.

ECONOMIC OUTLOOK

Inflation

Inflation was the talk of the town throughout 2022, and for good reason. Inflation in the U.S. has gone from 0.33% in April 2020 when the pandemic hit, to 6.04% as of February 2023. It reached a high of 9.06% in June 2022. A strong labor market and issues in the supply chain led the CPI to remain high. The Russia-Ukraine conflict disrupted energy markets around the world, causing energy prices to rise. At the Henry Fund, we expect inflation to remain high in the near term at 5-6%.

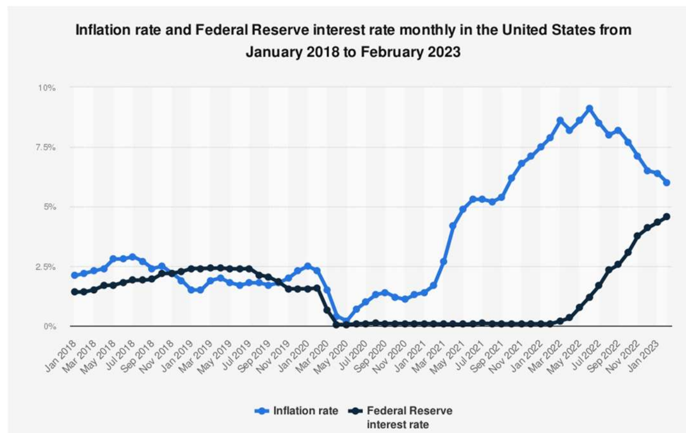
Source: Statista

Inflation is perhaps the most important economic metric to consider right now for the banking sector as it is driving the Fed policy on Interest Rates, which is putting pressure on the entire sector. JP Morgan, with its strong balance sheet, is better positioned than most banks in the US to weather this storm.

Interest Rates

Interest rates are key macroeconomic indicators affecting banks. For this reason, the banking world is highly concerned with the policies of the Federal Reserve and its influence on interest rates. Currently, the Fed Funds Rate is at 4.75%. The Henry Fund analysts expect the Fed Funds Rate to reach 5.0% in the near term (6-months).

As interest rates are rising, banks have a mark to market loss on their fixed income investment assets. Higher interest rates in a slowing economy also bring up the risk of increased defaults on loan assets. Therefore, it affects the bank's profitability due to higher provisions and liquidity, due to reducing asset values. We expect JP Morgan to benefit from the rising interest rates as it is considered a safer alternative to banking with smaller banks. As banks across the country see deposit drawdowns, we are forecasting this to be significantly offset by an inflow of deposits from other banks.

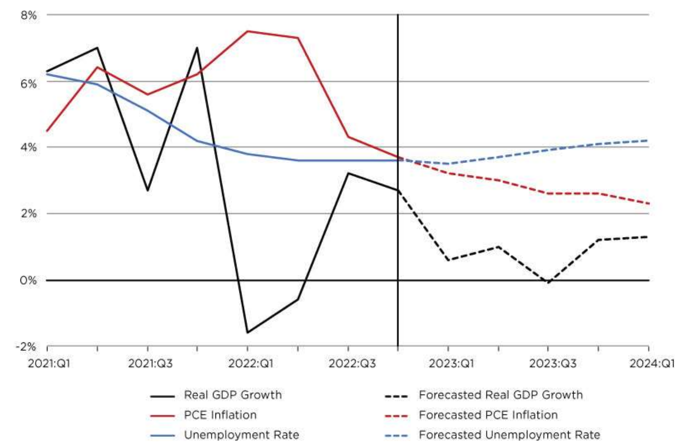


Source: Statista

GDP Growth

GDP Growth is an important economic factor for banks. In 2022, the GDP growth dropped in the first couple of quarters but rebounded in the second half of the year. Thus, the economy entered 2023 with a healthy amount of forward momentum in spending and income. However, this is not expected to continue for the rest of the year, according to the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters.

The Henry Fund analysts believe the GDP will decline by 0.33% in the short term. This belief is based on the broader consensus in the market, which believes the US economy could be in a recession sometime in the next 12 months. It is important for the GDP growth to be positive for a company of JP Morgan's size to continue growing sustainably. As a financial services company, JP Morgan's revenues and profitability are linked to the overall performance of the economy. When the economy is growing, people and businesses tend to have more money to invest and spend, which is important for any bank.



Source: Federal Reserve Bank of St. Louis

Oil Prices

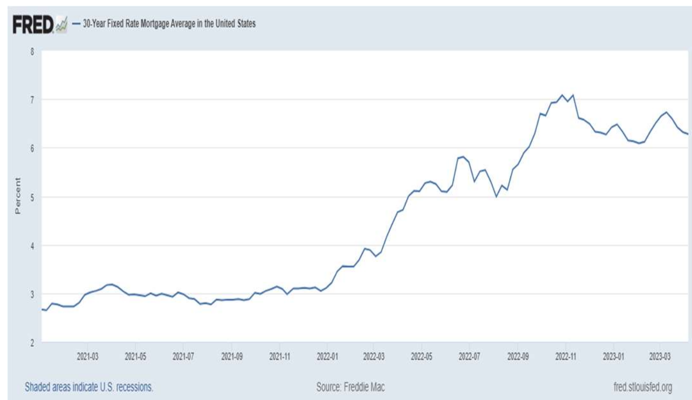
US banks continue to remain the dominant force in fossil fuel banking. The top four fossil fuel funders in the world are JP Morgan, Citi, Wells Fargo, and Bank of America. These are closely followed by Morgan Stanley and Goldman Sachs. Together these six banks provided 29% of fossil fuel financing in 2021 and 31% of fossil fuel financing since the Paris Agreement. Over 2016-2021, JP Morgan has funded over $382 billion in fossil fuel financing. Therefore, the bank's business, and in extension- our entire peer set is exposed to changes in oil prices. The Henry Fund analysts expect oil prices to hover around the $74/bl mark for the WTI Light in the short term.

Source: Federal Reserve Bank of St. Louis

JP Morgan is one of the largest financiers of fossil fuels globally. This leaves it exposed to sudden changes in oil prices, be it due to changes in production or regulation. To combat this, JP Morgan relies heavily on its 'macroeconomic variables' estimates so they can take the necessary steps to hedge and provide for credit losses.

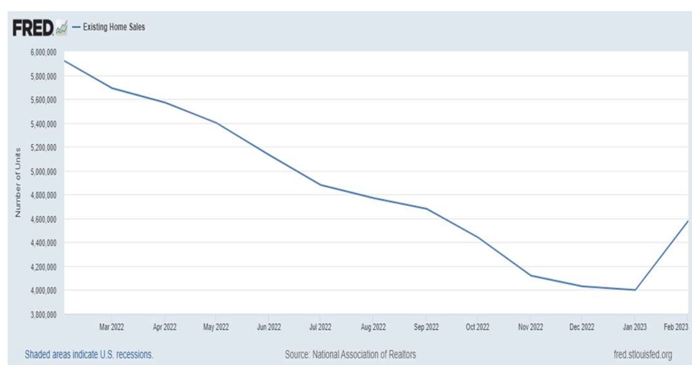
Housing Sales

Rising interest rates have caused mortgage rates to skyrocket. The chart below shows the change in 30-year mortgage rates in the US, which went from 2.65% in January 2021 to over 7% in November 2022. Currently, the 30-year mortgage rate stands at 6.28%. We expect these to stay high in the near term, in line with our expectations for the fed funds interest rates.



Source: Federal Reserve Bank of St. Louis

As we can see in the chart below, as mortgage rates rose, the number of units sold in the US declined. With mortgage rates expected to remain high in the near term, we expect home sales to remain muted too.

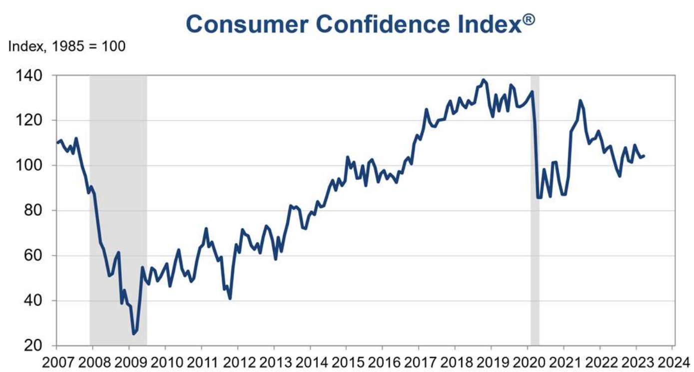


Source: Federal Reserve Bank of St. Louis

JP Morgan has significant exposure to mortgages, be it directly through home loans or through securitized residential and commercial mortgage loans. The total real estate loans comprise over 30% of total loans. While the bank securitizes its mortgages, a prolonged slump in the housing segment could adversely affect the bank's profitability.

Consumer Confidence

Consumer Confidence is an important economic indicator for large banks like JP Morgan, since this can be used to estimate credit card spending and other discretionary loans. As we can see, with rising fears of a recession, consumer confidence has been gradually declining. This is visible in JP Morgan's CCB Card Income, which saw a $309 million decrease in its card services, reflecting the declining financial strength of US consumers.



Source: Conference Board

The Henry Fund analysts expect consumer confidence to remain neutral over the short term and increase over the long term, which is a 2-year horizon.

VALUATION

Asset Decomposition

On the assets side of the balance sheet, the most important accounts are Loans, Investment Securities and Deposits with Banks. These 3 accounts make up for more than 60% of total assets for JP Morgan.

Loans

This is the largest account on the assets side, comprising nearly 30% of total assets. JP Morgan has total loans worth $1.116 trillion across divisions on its balance sheet as of fiscal 2022. The loans have grown at a CAGR of 4.4% over the last 10 years. Considering the higher interest rate environment, we are assuming muted loan growth for the next 3 years, 2.5% for FY2023E and 2.5% for FY2024E. Thereafter we expect it to go back to its long-term average and have projected loans to grow at a CAGR of 3.57% over FY2022-32E.

Investment Securities

This is the 2nd largest account, comprising more than 17% of total assets. For investment securities, these have grown at a CAGR of 13.9% over the last decade. Considering the mark to market impact on prices of investments due to increased interest rates, and our expectations for deposit growth, we have forecasted investment assets to grow at a CAGR of 4.21% for our forecast period, with investment securities flatlining at 0.04% growth in 2023. We have kept our assumptions conservative given a high base effect and uncertainty about interest rate impact for the next 3 years.

Deposits with Banks

This is the 3rd largest account on the balance sheet, comprising close to 15% of total assets. We have assumed the bank to maintain the same level as a percentage of assets as it has been very consistent historically. This is the money JPM holds with other banks as deposits. This account has grown at a CAGR of 6.09% over 2013-2022. We have projected deposits with banks to grow at a CAGR of 3.37% over 2022-2032E.

Trading Assets (including assets pledged)

These assets comprise of around 12% of total assets. This has grown at a CAGR of 3.36% over the last 10 years. We have estimated these to grow at a CAGR of 4.34% over 2022-2023E. The assumption here is the same as above, where these have remained stable around 12% of total assets.

Liability and Equity Decomposition

On the liabilities side, the most important account is the deposits. Deposits are what drive the balance sheet growth for banks, as they enable the bank to give loans on which they earn interest and invest in securities, where they earn interest.

Deposits

Deposits comprise of more than 60% of the liabilities and equity for JP Morgan. Of this, interest bearing deposits make up more than 70% while non-interest-bearing deposits make up slightly less than 30%. Deposit growth has been a strong point of JP Morgan and Chase, as this is the cornerstone of a healthy balance sheet for a bank. The bank makes efforts to offer the best services, technology, and products to its customers to maintain its deposit strength. With the regional bank crisis, set off by the collapse of SVB Bank, customers from regional banks around the country flocked to big banks like JP Morgan with their deposits. We have taken this into consideration along with the decline in deposits due to some customers withdrawing deposits to invest in other assets for higher returns. While historically the deposits have grown at a CAGR of 9.27%, with interest bearing deposits growing at 9.66% CAGR and non-interest-bearing deposits growing at 8.34% CAGR, we are projecting interest-bearing deposits to grow at a CAGR of 4.73% and non-interest-bearing deposits to grow at a CAGR of 2.22%, with total deposits growing at 4.07% CAGR over 2022-2032E. We forecast deposits to grow by 4.6% in 2023E.

Debt

JP Morgan has short-term and long-term debt on its balance sheet. As of 2022, short term debt stood at 1.20% of total liabilities and equity, and long-term debt stood at 8.07% of total liabilities and equity. These have been trending down over the years. Short-term borrowings have grown at a CAGR of 4.18% over 2013-2022 and long-term borrowings have grown at a CAGR of 0.03%. Considering the interest rate environment, we do not expect JP Morgan to issue any debt soon. We are projecting short-term borrowing to grow at a CAGR of 3.44% and long-term borrowings to grow at a CAGR of 1.50% over the forecast period of 2022-2032E.

Revenue Decomposition

JP Morgan earns its revenue from two sources: net interest income and non-interest income. In 2022, Net interest income comprised 51.8% of total revenue while non-interest income comprised 48.2% of total revenue.

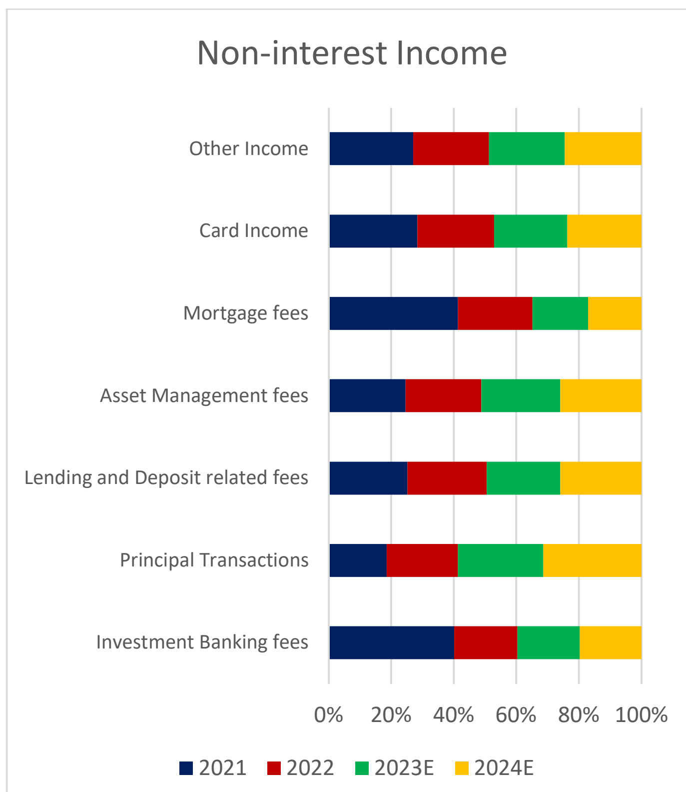
Net Interest Income

Net Interest Income is the difference between interest income and interest expense. Interest income is earned from interest charged on a variety of loans and interest earned on investment securities. Here, we have assumed interest rates to benefit JPM as they get to earn a higher return. After 2023E, we have tapered down the interest rate for all securities and loans to match the historical averages. We are projecting interest income to grow at a CAGR of 2.75% over 2022-2032E. On the flipside, Interest Expense is the interest paid to depositors, interest on debt and other trading liabilities. We have projected interest expense to grow at a CAGR of 2.75% over 2022-2032E. Our forecasts estimate the net interest income to grow at a CAGR of 2.75% over 2022-2032E.

Non-Interest Income

Non-interest income is the revenue that JP Morgan earns other than its traditional banking operations. This includes investment banking fees, principal transactions, lending and deposit related fees, asset management fees, mortgage related fees, card income, etc. The largest sources of non-interest income are asset management fees and principal transactions, contributing 33.36% and 32.12% of total non-interest revenue in 2022. We expect asset management fees to increase by 3.5% in 2023 led by investors seeking advice in volatile markets and higher fees from mutual funds. Investment banking fees are the most volatile, with high contributions in years with a greater number of capital raises. Our forecasts for fee income are conservative. We expect non-interest revenue to grow at a CAGR of 4.26% over 2022-2032E.

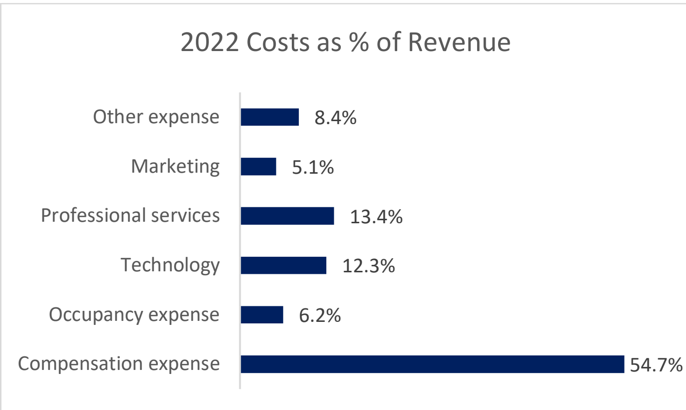
The chart below shows the trends in non-interest revenues over the last couple of years and our expectations for the next couple of years.



Source: JP Morgan 10-K, Henry Fund estimates

Cost Structure Analysis

JP Morgan's costs include compensation, occupancy costs, technology, professional services, marketing, and other expenses. As expected, compensation makes up for most of the costs, followed by professional services. Technology expenses have increased over the years. We have estimated non-interest expenses to grow at a CAGR of 1.64% over 2022-2032E, with the highest growth coming from Technology spending, which we are projecting to grow at 3.11% CAGR over the forecast horizon.



Source: JP Morgan 10-K

Cost of Equity

We arrive at our Cost of Equity by using the CAPM with inputs such as the 10- year U.S. Treasury rate, JPM's stock Beta and the Henry Fund estimate of the Equity Risk Premium. The U.S. Treasury rate we used was 3.60%, Beta sourced from FactSet was 0.98 and our ERP estimate is 5.50%. This yielded the Cost of Equity as 8.99%.

Capital Structure

Banks have a regulated capital structure and must maintain certain amounts of equity capital otherwise regulatory bodies can step in. JP Morgan is required under capital rules to maintain 4.5% CET1, 6% tier 1 capital, and 8% total capital. When constructing this model, we followed the total capital to the best of our ability. By monitoring shareholder's equity compared to total assets and making sure our forecasted numbers fell within a range consistent with the historical numbers.

Payout Policy

JP Morgan has a consistent dividend payout policy. Historically, the bank has maintained a dividend payout ratio of 30% on average. Since 2019, the bank has been increasing its dividend payment by 20 cents, starting from $3.40 per share. Subsequently, the dividend payments in 2020, 2021 and 2022 were $3.60, $3.80, and $4.00 respectively. The average payout ratio is 30% historically. We expect this trend to continue and have maintained it throughout our forecast period.

DCF Valuation

We utilized the Dividend Discount and Enterprise Profit Model as the first of our two valuation models. Our discounted cash flow model derived an intrinsic value of $172. The key assumptions that we made for this model are (a) the continuous value for Return on Equity (ROE) which is 12.00%, (b) the continuous value of the Free Cash Flow, which according to our model is projected as $814.44 billion. We are confident that JP Morgan can achieve these figures.

DDM Valuation

Our Dividend Discount Model (DDM) is based on our assumption that the bank continues paying a dividend like the historical trend. We computed this model given our EPS estimate in the terminal year of 2032 and discounted the terminal value back to time zero given our cost of equity at 8.99%. We still assumed ROE growth of 12.00%. With a consistent continuous value growth of EPS as our other model. This model gave us an intrinsic value of $182.

Relative Valuation

We utilized the relative valuation method using the peer set discussed above. We believe this is a good representation of peers as the banks all compete in a global environment offering diversified banking services. Since this is a bank, we believe a relative P/E model isn't best suited for valuing the business. Therefore, we used the relative Price/Book Value (P/B) based on FY2022 book values. The average P/B Ratio for the peer set is 0.99 with the range being 0.50 to 1.60. Using this, we arrive at a price target of $89.15 per share based on the FY2022 book value. However, JP Morgan trades at a premium over the industry peers, and has a P/B ratio of 1.57, considering the market leadership position and diversified nature of the business. That coupled with the decline in valuations of most banks, we decided that the relative valuation metrics aren't best suited for valuing JP Morgan in this environment.

KEYS TO MONITOR

Factors in favor of JP Morgan:

Diversification: JPM's biggest moat in the current environment is their diversification. The bank derives its revenue from various segments across geographies. This has helped the bank keep its balance sheet healthy despite the unfavorable interest rate environment in the US and poor investment banking revenues.

Regional Bank Crisis: JPM'S strong brand recognition and years of good reputation coupled with its strong balance sheet have helped maintain shareholder value when smaller banks have struggled to keep depositors. As depositors adopted the 'flight-to-safety' route and moved their deposits from regional and small banks to the larger banks, which they perceived to be safer and better capitalized, JP Morgan was able to soften the blow of declining deposits due to people choosing other investments in the high interest rate environment.

We expect JPM to fare much better than the overall banking industry and forecast its deposits and loans to grow, as customers of smaller banks go the 'flight-to-safety' route. The collapse of SVB Bank brought to light the stress that the small banks are facing in this high interest rate environment. As mark to market asset values decline on the balance sheet, it is important for the deposits to be well diversified, which is a challenge for regional and community banks given the scope of operations.

Technological Investments: We believe the company will benefit from its focus on technology. JP Morgan is at the forefront of technological development in the banking sector, investing close to $10 billion annually in technology development. These capital expenditures are being made to develop blockchain, applied AI and Machine Learning, etc. to reduce costs and time required for execution of processes, making the overall customer experience better. This has dual benefits; it makes the bank's operations more efficient and brings on more clients along with retaining existing ones.

The major risks that JP Morgan faces are:

Declining Growth: When a bank is so big, its growth is primarily driven by the growth prospects of the markets it is in. The biggest risk a bank of JP Morgan's size faces is prolonged global economic turmoil as it would make it difficult for JPM to find growth opportunities to tackle slowing revenue streams.

Cybersecurity Risk: JPM is leading from the front when it comes to technological development in the banking industry. The bank is the market leader in terms of the number of mobile customers. This exposes the bank to severe cybersecurity risks, like phishing assaults, which could lead to brand and reputational damage. To combat this and protect its customers and their accounts, JP Morgan spends $600 million annually on its cybersecurity programs.

CONCLUSION

JP Morgan, with its market leadership, strong balance sheet and diversified revenue streams, is perhaps the safest investment in the banking industry right now. With interest rates expected to remain elevated for the near term, most banks continue to face credit, operational and liquidity risks. We expect the bank to face the most challenges in the investment banking and mortgage segments. Credit card income is expected to grow but loan growth is expected to be tepid. We also expect deposits to decline, following the industry trend of customers choosing to park their money in better yielding instruments. However, we expect the deposit outflow to be offset due to the inflow of deposits from customers of other banks, as seen in Q1FY23. We also expect the principal transactions and asset management divisions to do well.

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22) Wells Fargo.

DISCLAIMER

JP Morgan

Revenue Decomposition

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Non-interest Revenue													
Investment Banking fees	9,486	13,216	6,686	6,569	6,487	6,617	6,749	6,884	7,022	7,162	7,305	7,451	7,600
% growth	*26.46%*	*39.32%*	*-49.41%*	*-1.75%*	*-1.25%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*
Principal Transactions	18,021	16,304	19,912	27,877	32,058	33,661	35,344	37,112	37,854	38,611	39,383	40,171	40,974
% growth	*28.56%*	*-9.53%*	*22.13%*	*40.00%*	*15.00%*	*5.00%*	*5.00%*	*5.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*
Lending and Deposit related fees	6,511	7,032	7,098	6,459	7,105	7,283	7,465	7,651	7,804	7,961	8,120	8,282	8,448
% growth	*2.23%*	*8.00%*	*0.94%*	*-9.00%*	*10.00%*	*2.50%*	*2.50%*	*2.50%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*
Asset Management, administration and c	18,177	21,029	20,677	21,401	22,043	22,704	23,385	24,087	24,568	25,060	25,561	26,072	26,594
% growth	*5.90%*	*15.69%*	*-1.67%*	*3.50%*	*3.00%*	*3.00%*	*3.00%*	*3.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*
Securities gains / losses	802	(345)	(2,380)	(2,737)	(1,916)	-	-	-	-	-	-	-	-
% growth	*210.85%*	*-143.02%*	*589.86%*	*15.00%*	*-30.00%*	*-100.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Mortgage fees and related income	3,091	2,170	1,250	938	891	906	922	938	948	957	967	976	986
% growth	*51.82%*	*-29.80%*	*-42.40%*	*-25.00%*	*-5.00%*	*1.75%*	*1.75%*	*1.75%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*
Card Income	4,435	5,102	4,420	4,685	4,755	4,839	4,923	5,010	5,060	5,110	5,161	5,213	5,265
% growth	*-16.38%*	*15.04%*	*-13.37%*	*6.00%*	*1.50%*	*1.75%*	*1.75%*	*1.75%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*
Other Income	4,457	4,830	4,322	3,998	4,018	4,038	4,058	4,078	4,099	4,119	4,140	4,161	4,181
% growth	*-22.23%*	*8.37%*	*-10.52%*	*-7.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*	*0.50%*
Provision for credit losses	(17,480)	9,256	(6,389)	(14,196)	(14,550)	(8,949)	(7,535)	(7,269)	(5,564)	(5,731)	(5,903)	(6,080)	(6,263)
% of loans	*-1.82%*	*0.91%*	*-0.59%*	*-1.25%*	*-1.25%*	*-0.75%*	*-0.60%*	*-0.55%*	*-0.40%*	*-0.40%*	*-0.40%*	*-0.40%*	*-0.40%*
% of growth	213.0%	-153.0%	-169.0%	122.2%	2.5%	-38.5%	-15.8%	-3.5%	-23.5%	3.0%	3.0%	3.0%	3.0%
Non-Interest Expenses													
Compensation expense	(34,988)	(38,567)	(41,636)	(45,295)	(46,726)	(47,321)	(47,589)	(47,913)	(47,983)	(47,290)	(47,575)	(47,848)	(47,200)
% of revenue	*-29.27%*	*-31.70%*	*-32.35%*	*31.00%*	*31.25%*	*31.50%*	*30.75%*	*29.40%*	*29.10%*	*28.00%*	*27.50%*	*27.00%*	*26.00%*
% of growth	*2.4%*	*10.2%*	*8.0%*	*8.8%*	*3.2%*	*1.3%*	*0.6%*	*0.7%*	*0.1%*	*-1.4%*	*0.6%*	*0.6%*	*-1.4%*
Occupancy expense	(4,449)	(4,516)	(4,696)	(4,383)	(4,635)	(4,807)	(5,107)	(5,297)	(5,194)	(5,236)	(5,277)	(5,316)	(5,265)
% of revenue	*-3.72%*	*-3.71%*	*-3.65%*	*3.00%*	*3.10%*	*3.20%*	*3.30%*	*3.25%*	*3.15%*	*3.10%*	*3.05%*	*3.00%*	*2.90%*
% of growth	*2.9%*	*1.5%*	*4.0%*	*-6.7%*	*5.7%*	*3.7%*	*6.2%*	*3.7%*	*-1.9%*	*0.8%*	*0.8%*	*0.8%*	*-1.0%*
Technology, communications and equipmer	(10,338)	(9,941)	(9,358)	(9,863)	(10,840)	(11,267)	(11,607)	(12,223)	(11,542)	(11,823)	(12,110)	(12,405)	(12,708)
% of revenue	*-8.65%*	*-8.17%*	*-7.27%*	*6.75%*	*7.25%*	*7.50%*	*7.50%*	*7.50%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*
% of growth	*5.3%*	*-3.8%*	*-5.9%*	*5.4%*	*9.9%*	*3.9%*	*3.0%*	*5.3%*	*-5.6%*	*2.4%*	*2.4%*	*2.4%*	*2.4%*
Professional and outside services	(8,464)	(9,814)	(10,174)	(9,497)	(10,467)	(10,516)	(10,833)	(11,408)	(11,542)	(11,823)	(12,110)	(12,405)	(12,708)
% of revenue	*-7.08%*	*-8.07%*	*-7.91%*	*6.50%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*
% of growth	*-0.8%*	*15.9%*	*3.7%*	*-6.7%*	*10.2%*	*0.5%*	*3.0%*	*5.3%*	*1.2%*	*2.4%*	*2.4%*	*2.4%*	*2.4%*
Marketing	(2,476)	(3,036)	(3,911)	(4,164)	(4,486)	(4,432)	(4,488)	(4,563)	(4,576)	(4,518)	(4,481)	(4,475)	(4,448)
% of revenue	*-2.07%*	*-2.50%*	*-3.04%*	*2.85%*	*3.00%*	*2.95%*	*2.90%*	*2.80%*	*2.78%*	*2.68%*	*2.59%*	*2.53%*	*2.45%*
% of growth	*-30.8%*	*22.6%*	*28.8%*	*6.5%*	*7.7%*	*-1.2%*	*1.3%*	*1.7%*	*0.3%*	*-1.3%*	*-0.8%*	*-0.1%*	*-0.6%*
Other expense	(5,941)	(5,469)	(6,365)	(6,210)	(6,953)	(6,760)	(6,810)	(6,926)	(7,008)	(7,009)	(6,920)	(7,089)	(7,261)
% of revenue	*-4.97%*	*-4.50%*	*-4.95%*	*4.25%*	*4.65%*	*4.50%*	*4.40%*	*4.25%*	*4.25%*	*4.15%*	*4.00%*	*4.00%*	*4.00%*
% of growth	*16.8%*	*-7.9%*	*16.4%*	*-2.4%*	*12.0%*	*-2.8%*	*0.7%*	*1.7%*	*1.2%*	*0.0%*	*-1.3%*	*2.4%*	*2.4%*
Income tax expense / benefit	(6,276)	(11,228)	(8,490)	(11,551)	(11,191)	(12,358)	(13,374)	(14,822)	(15,726)	(16,602)	(17,297)	(17,951)	(18,851)
income tax as a % of pre-tax income	*17.73%*	*18.85%*	*18.39%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*	*22.00%*
Net interest Income													
Interest income	**64,523**	**57,864**	**92,807**	**142,111**	**113,999**	**102,176**	**104,738**	**108,258**	**108,329**	**111,531**	**114,829**	**118,224**	**121,720**
Interest expense	**(9,960)**	**(5,553)**	**(26,097)**	**(65,187)**	**(39,916)**	**(31,997)**	**(32,824)**	**(31,047)**	**(30,794)**	**(31,618)**	**(32,465)**	**(33,336)**	**(34,231)**
Interest bearing deposits	2,357	531	10,082	41,707	22,417	14,392	15,255	12,937	13,713	14,124	14,548	14,984	15,434

JP Morgan

Value Driver Estimation

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Return on Equity (ROE):													
Net Income	27,410	46,503	35,892	39,170	37,892	42,032	45,634	50,765	53,971	57,078	59,543	61,861	65,051
Beg. TSE	261,330	279,354	294,127	292,332	310,199	327,469	349,535	374,799	404,308	436,152	470,248	505,802	542,199
ROE	**10.5%**	**16.6%**	**12.2%**	**13.4%**	**12.2%**	**12.8%**	**13.1%**	**13.5%**	**13.3%**	**13.1%**	**12.7%**	**12.2%**	**12.0%**
Free Cash Flow (FCFE):													
Net Income	27,410	46,503	35,892	39,170	37,892	42,032	45,634	50,765	53,971	57,078	59,543	61,861	65,051
Change in Total Assets	(698,692)	(357,496)	77,824	(145,837)	(167,115)	(199,666)	(212,275)	(226,455)	(153,234)	(159,052)	(164,183)	(168,808)	(175,114)
Change in Total Liabilities	680,668	342,723	(76,029)	127,970	149,845	177,600	187,012	196,946	121,390	124,956	128,629	132,411	136,305
FCFE	**9,386**	**31,730**	**37,687**	**21,303**	**20,622**	**19,966**	**20,371**	**21,256**	**22,126**	**22,982**	**23,989**	**25,464**	**26,242**
Economic Profit (EP):													
Beginning TSE	261,330	279,354	294,127	292,332	310,199	327,469	349,535	374,799	404,308	436,152	470,248	505,802	542,199
ROE	10.5%	16.6%	12.2%	13.4%	12.2%	12.8%	13.1%	13.5%	13.3%	13.1%	12.7%	12.2%	12.0%
Cost of Equity (Re)	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%	8.99%
Equity EP	**3,916**	**21,389**	**9,450**	**12,889**	**10,005**	**12,593**	**14,211**	**17,071**	**17,623**	**17,868**	**17,268**	**16,389**	**16,307**

JP Morgan

Income Statement

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue													
Investment banking fees	9,486	13,216	6,686	6,569	6,487	6,617	6,749	6,884	7,022	7,162	7,305	7,451	7,600
Principal transactions	18,021	16,304	19,912	27,877	32,058	33,661	35,344	37,112	37,854	38,611	39,383	40,171	40,974
Lending- and deposit-related fees	6,511	7,032	7,098	6,459	7,105	7,283	7,465	7,651	7,804	7,961	8,120	8,282	8,448
Asset management, administration and commissions	18,177	21,029	20,677	21,401	22,043	22,704	23,385	24,087	24,568	25,060	25,561	26,072	26,594
Securities gains / losses	802	(345)	(2,380)	(2,737)	(1,916)	-	-	-	-	-	-	-	-
Mortgage fees and related income	3,091	2,170	1,250	938	891	906	922	938	948	957	967	976	986
Card income	4,435	5,102	4,420	4,685	4,755	4,839	4,923	5,010	5,060	5,110	5,161	5,213	5,265
Other income	4,457	4,830	4,322	3,998	4,018	4,038	4,058	4,078	4,099	4,119	4,140	4,161	4,181
Noninterest revenue	**64,980**	**69,338**	**61,985**	69,189	75,441	80,047	82,847	85,760	87,354	88,980	90,637	92,326	94,048
			48.2%										
Interest income	64,523	57,864	92,807	142,111	113,999	102,176	104,738	108,258	108,329	111,531	114,829	118,224	121,720
Interest expense	(9,960)	(5,553)	(26,097)	(65,187)	(39,916)	(31,997)	(32,824)	(31,047)	(30,794)	(31,618)	(32,465)	(33,336)	(34,231)
Net interest income	**54,563**	**52,311**	**66,710**	76,924	74,083	70,180	71,915	77,211	77,535	79,914	82,364	84,888	87,488
			51.8%										
Total net revenue	**119,543**	**121,649**	**128,695**	146,114	149,524	150,227	154,761	162,971	164,890	168,893	173,001	177,214	181,537
Provision for credit losses	(17,480)	9,256	(6,389)	(14,196)	(14,550)	(8,949)	(7,535)	(7,269)	(5,564)	(5,731)	(5,903)	(6,080)	(6,263)
Compensation expense	(34,988)	(38,567)	(41,636)	(45,295)	(46,726)	(47,321)	(47,589)	(47,913)	(47,983)	(47,290)	(47,575)	(47,848)	(47,200)
Occupancy expense	(4,449)	(4,516)	(4,696)	(4,383)	(4,635)	(4,807)	(5,107)	(5,297)	(5,194)	(5,236)	(5,277)	(5,316)	(5,265)
Technology, communications and equipment expense	(10,338)	(9,941)	(9,358)	(9,863)	(10,840)	(11,267)	(11,607)	(12,223)	(11,542)	(11,823)	(12,110)	(12,405)	(12,708)
Professional and outside services	(8,464)	(9,814)	(10,174)	(9,497)	(10,467)	(10,516)	(10,833)	(11,408)	(11,542)	(11,823)	(12,110)	(12,405)	(12,708)
Marketing	(2,476)	(3,036)	(3,911)	(4,164)	(4,486)	(4,432)	(4,488)	(4,563)	(4,576)	(4,518)	(4,481)	(4,475)	(4,448)
Other expense	(5,941)	(5,469)	(6,365)	(6,210)	(6,953)	(6,760)	(6,810)	(6,926)	(7,008)	(7,009)	(6,920)	(7,089)	(7,261)
Total noninterest expense	**(66,656)**	**(71,343)**	**(76,140)**	(79,413)	(84,107)	(85,104)	(86,434)	(88,330)	(87,845)	(87,698)	(88,472)	(89,537)	(89,588)
Income / loss before income tax expense / benefit	**35,407**	**59,562**	**46,166**	52,505	50,866	56,175	60,793	67,371	71,480	75,464	78,625	81,596	85,686
Income tax expense / benefit	(6,276)	(11,228)	(8,490)	(11,551)	(11,191)	(12,358)	(13,374)	(14,822)	(15,726)	(16,602)	(17,297)	(17,951)	(18,851)
Net income / loss	**29,131**	**48,334**	**37,676**	40,954	39,676	43,816	47,418	52,549	55,755	58,862	61,327	63,645	66,835
Preferred stock dividends	(1,583)	(1,600)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)
Dividends and undistributed earnings allocated to participating securities	(138)	(231)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)
Net income / loss applicable to common stockholders	**27,410**	**46,503**	**35,892**	39,170	37,892	42,032	45,634	50,765	53,971	57,078	59,543	61,861	65,051
Basic EPS	8.89	15.39	12.10	13.53	13.36	15.08	16.62	18.76	20.22	21.66	22.88	24.10	25.68
Weighted average basic shares	3,082	3,022	2,966	2,895	2,836	2,787	2,745	2,706	2,669	2,635	2,602	2,566	2,533
Common Stock Dividend paid	3.60	3.80	4.00	4.20	4.40	4.60	5.00	5.40	5.80	6.20	6.60	7.00	7.40

JP Morgan

Balance Sheet

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Cash and due from banks	24,874	26,438	27,697	94,722	50,926	53,512	50,531	61,705	75,974	97,783	114,754	131,952	150,927
Deposits with banks	502,735	714,396	539,537	526,049	552,351	582,730	614,780	648,593	668,051	688,093	708,736	729,998	751,898
Federal funds sold and securities purchased under resale agreements	296,284	261,698	315,592	319,537	359,479	381,946	405,818	431,182	444,117	457,441	471,164	485,299	499,858
Securities borrowed	160,635	206,071	185,369	198,345	208,262	218,675	229,609	241,089	248,322	255,772	263,445	271,348	279,489
Trading assets included assets pledged	503,126	433,575	453,799	510,524	536,050	556,152	577,008	598,645	616,605	635,103	654,156	673,781	693,994
Investment securities, net of allowance for credit losses	589,999	672,232	631,162	631,434	685,299	728,181	773,902	822,660	847,340	872,760	898,943	925,911	953,688
Loans, net of allowance for loan losses	984,525	1,061,328	1,115,921	1,139,381	1,166,632	1,233,248	1,300,866	1,371,298	1,412,437	1,454,810	1,498,454	1,543,408	1,589,710
Accrued interest and accounts receivable	90,503	102,570	125,189	116,706	140,883	138,877	146,693	143,894	148,211	146,786	151,189	155,725	160,397
Premises and equipment	27,109	27,070	27,734	28,099	28,473	29,975	31,523	33,153	36,450	39,828	43,288	46,833	50,463
Goodwill	-	-	-	-	-	-	-	-	-	-	-	-	-
Mortgage servicing rights	-	-	-	-	-	-	-	-	-	-	-	-	-
Other intangible assets	-	-	-	-	-	-	-	-	-	-	-	-	-
Goodwill, MSRs and other intangible assets	53,428	56,691	60,859	62,072	63,780	66,172	68,653	71,228	73,365	75,566	77,833	80,168	82,573
Other assets included at fair value and assets pledged	152,853	181,498	182,884	184,713	186,560	188,892	191,253	193,644	199,453	205,437	211,600	217,948	224,486
Total assets	**3,386,071**	**3,743,567**	**3,665,743**	3,811,580	3,978,695	4,178,361	4,390,636	4,617,092	4,770,326	4,929,378	5,093,562	5,262,369	5,437,483
Liabilities													
Deposits	2,144,257	2,462,303	2,340,179	2,448,502	2,560,937	2,701,753	2,850,505	3,007,647	3,097,876	3,190,813	3,286,537	3,385,133	3,486,687
Federal funds purchased and securities loaned or sold under repurchase a	215,209	194,340	202,613	233,005	262,131	274,582	287,624	301,287	310,325	319,635	329,224	339,101	349,274
Short-term borrowings	45,208	53,594	44,027	41,826	42,871	46,087	49,543	53,259	54,857	56,502	58,197	59,943	61,742
Trading liabilities	170,181	164,693	177,976	186,875	196,219	203,086	210,194	217,551	224,078	230,800	237,724	244,856	252,201
Accounts payable and other liabilities	232,599	262,755	300,141	277,630	270,690	280,164	289,970	300,118	309,122	318,396	327,948	337,786	347,920
Beneficial interests issued by consolidated variable interest entities	17,578	10,750	12,610	13,241	13,572	13,775	13,982	14,191	14,404	14,620	14,840	15,062	15,288
Long-term debt	281,685	301,005	295,865	300,303	304,808	309,380	314,020	318,731	323,512	328,364	333,290	338,289	343,363
Total liabilities	**3,106,717**	**3,449,440**	**3,373,411**	3,501,381	3,651,226	3,828,826	4,015,838	4,212,784	4,334,174	4,459,130	4,587,759	4,720,170	4,856,475
Shareholder's Equity													
Preferred stock	30,063	34,838	27,404	27,404	27,404	27,404	27,404	27,404	27,404	27,404	27,404	27,404	27,404
Common stock	92,499	92,520	93,149	94,005	94,861	95,717	96,573	97,429	98,285	99,141	99,826	99,826	99,826
Retained earnings	236,990	272,268	296,456	323,467	348,881	378,091	409,999	446,152	484,640	525,380	567,750	611,646	657,955
Accumulated other comprehensive income / loss	7,986	(84)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)	(17,341)
Shares held in RSU Trust, at cost	-	-	-	-	-	-	-	-	-	-	-	-	-
Treasury stock, at cost	(88,184)	(105,415)	(107,336)	(117,336)	(126,336)	(134,336)	(141,836)	(149,336)	(156,836)	(164,336)	(171,836)	(179,336)	(186,836)
Total stockholders' equity	**279,354**	**294,127**	**292,332**	310,199	327,469	349,535	374,799	404,308	436,152	470,248	505,802	542,199	581,008
Total liabilities and stockholders' equity	**3,386,071**	**3,743,567**	**3,665,743**	3,811,580	3,978,695	4,178,361	4,390,636	4,617,092	4,770,326	4,929,378	5,093,562	5,262,369	5,437,483

JP Morgan

Historical Cash Flow Statement

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	**2020**	**2021**	**2022**
Operating Activities			
Funds from Operations	52,893.00	54,032.00	53,552.00
Changes in Working Capital	27,694.00	(4,572.00)	46,271.00
Net Operating Cash Flow	80,587.00	49,460.00	99,823.00
Investing Activities			
Net Assets from Acquisitions	-	-	-
Sale of Fixed Assets & Businesses	-	-	-
Purchase/Sale of Investments	(397,350.00)	(22,273.00)	(53,057.00)
Purchase of Investments	626,143.00	406,176.00	245,661.00
Sale/Maturity of Investments	228,793.00	383,903.00	192,604.00
Proceeds from Loans	(17,718.00)	(67,403.00)	(65,534.00)
Increase in Loans	50,263.00	103,248.00	128,968.00
Decrease in Loans	32,545.00	35,845.00	63,434.00
Other Funds	(7,341.00)	(11,044.00)	(11,932.00)
Other Uses	(7,341.00)	(11,044.00)	(11,932.00)
Other Sources	-	-	-
Net Investing Cash Flow	(422,409.00)	(100,720.00)	(130,523.00)
Financing Activities			
Cash Dividends Paid	(12,690.00)	(12,858.00)	(13,562.00)
Change in Deposits	602,765.00	293,764.00	(136,895.00)
Change in Capital Stock	(3,447.00)	(13,633.00)	(10,596.00)
Repurchase of Common & Preferred Stock	(7,947.00)	(20,983.00)	(10,596.00)
Sale of Common & Preferred Stock	4,500.00	7,350.00	-
Proceeds from Sale of Stock	4,500.00	7,350.00	-
Issuance/Reduction of Debt, Net	10,944.00	10,197.00	34,562.00
Change in Current Debt	35,966.00	(13,026.00)	(529.00)
Change in Long-Term Debt	(25,022.00)	23,223.00	35,091.00
Issuance of Long-Term Debt	80,033.00	82,409.00	80,647.00
Reduction in Long-Term Debt	(105,055.00)	(59,186.00)	(45,556.00)
Other Funds	(927.00)	(1,477.00)	234.00
Other Uses	(927.00)	(1,477.00)	-
Other Sources	-	-	234.00
Net Financing Cash Flow	596,645.00	275,993.00	(126,257.00)
All Activities			
Exchange Rate Effect	9,155.00	(11,508.00)	(16,643.00)
Net Change in Cash	263,978.00	213,225.00	(173,600.00)
Free Cash Flow	80,587.00	49,460.00	99,823.00
Free Cash Flow per Share	26.10	16.34	33.61
Free Cash Flow Yield (%)	20.54	10.32	25.06

JP Morgan

Forecasted Cash Flow Statement

(In USD million, except per share data)

Fiscal Years Ending Dec. 31	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Net Income	40,954	39,676	43,816	47,418	52,549	55,755	58,862	61,327	63,645	66,835
Depreciation	2,922	2,990	3,005	3,095	3,259	3,298	3,378	3,460	3,544	3,631
Trading Assets	(56,725)	(25,526)	(20,102)	(20,856)	(21,638)	(17,959)	(18,498)	(19,053)	(19,625)	(20,213)
Accrued Interest and accounts receivable	8,483	(24,177)	2,006	(7,815)	2,798	(4,317)	1,425	(4,404)	(4,536)	(4,672)
Other Assets	(1,829)	(1,847)	(2,332)	(2,361)	(2,391)	(5,809)	(5,984)	(6,163)	(6,348)	(6,538)
Trading Liabilities	8,899	9,344	6,868	7,108	7,357	6,527	6,722	6,924	7,132	7,346
Accounts Payable and other liabilities	(22,511)	(6,941)	9,474	9,806	10,149	9,004	9,274	9,552	9,838	10,134
Cash Flow from Operating Activities	**(19,806)**	**(6,481)**	**42,734**	**36,395**	**52,085**	**46,497**	**55,179**	**51,643**	**53,651**	**56,521**
Capital Expenditures	(3,288)	(3,364)	(4,507)	(4,643)	(4,889)	(6,596)	(6,756)	(6,920)	(7,089)	(7,261)
Deposits with banks	13,488	(26,302)	(30,379)	(32,050)	(33,813)	(19,458)	(20,042)	(20,643)	(21,262)	(21,900)
Federal funds sold and securities purchased	(3,945)	(39,942)	(22,467)	(23,872)	(25,364)	(12,935)	(13,324)	(13,723)	(14,135)	(14,559)
Securities borrowed	(12,976)	(9,917)	(10,413)	(10,934)	(11,480)	(7,233)	(7,450)	(7,673)	(7,903)	(8,140)
Investment securities, net	(272)	(53,865)	(42,883)	(45,721)	(48,758)	(24,680)	(25,420)	(26,183)	(26,968)	(27,777)
Goodwill, MSRs and other intangible assets	(1,213)	(1,708)	(2,392)	(2,481)	(2,575)	(2,137)	(2,201)	(2,267)	(2,335)	(2,405)
Net loans	(23,460)	(27,252)	(66,616)	(67,618)	(70,432)	(41,139)	(42,373)	(43,644)	(44,954)	(46,302)
Cash Flow from Investing Activities	**(31,664)**	**(162,351)**	**(179,657)**	**(187,319)**	**(197,310)**	**(114,177)**	**(117,565)**	**(121,053)**	**(124,646)**	**(128,345)**
Deposits	108,323	112,435	140,816	148,751	157,142	90,229	92,936	95,724	98,596	101,554
Federal funds purchased and securities sold	30,392	29,126	12,451	13,043	13,662	9,039	9,310	9,589	9,877	10,173
Short term borrowings	(2,201)	1,046	3,215	3,456	3,716	1,598	1,646	1,695	1,746	1,798
Beneficial interest issued by consolidation	631	331	204	207	210	213	216	219	223	226
Long term debt	4,438	4,505	4,572	4,641	4,710	4,781	4,853	4,925	4,999	5,074
Dividends paid	(12,159)	(12,478)	(12,822)	(13,727)	(14,612)	(15,482)	(16,338)	(17,174)	(17,964)	(18,742)
Preferred dividends paid	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)	(1,595)
Dividends and Undistributed Earnings allocated to participating securities	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)	(189)
New issues	856	856	856	856	856	856	856	685	-	-
Repurchases	(10,000)	(9,000)	(8,000)	(7,500)	(7,500)	(7,500)	(7,500)	(7,500)	(7,500)	(7,500)
Cash Flow from Financing Activities	**118,495**	**125,036**	**139,508**	**147,943**	**156,400**	**81,949**	**84,194**	**86,380**	**88,192**	**90,800**
Changes in Cash	67,025	(43,796)	2,586	(2,981)	11,174	14,269	21,809	16,970	17,198	18,976
Opening Cash Balance	27,697	94,722	50,926	53,512	50,531	61,705	75,974	97,783	114,754	131,952
Closing Cash Balance	**94,722**	**50,926**	**53,512**	**50,531**	**61,705**	**75,974**	**97,783**	**114,754**	**131,952**	**150,927**

JP Morgan

Common Size Income Statement

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenue													
Investment banking fees	7.94%	10.86%	5.20%	4.50%	4.34%	4.40%	4.36%	4.22%	4.26%	4.24%	4.22%	4.20%	4.19%
Principal transactions	15.07%	13.40%	15.47%	19.08%	21.44%	22.41%	22.84%	22.77%	22.96%	22.86%	22.76%	22.67%	22.57%
Lending- and deposit-related fees	5.45%	5.78%	5.52%	4.42%	4.75%	4.85%	4.82%	4.69%	4.73%	4.71%	4.69%	4.67%	4.65%
Asset management, administration and commissions	15.21%	17.29%	16.07%	14.65%	14.74%	15.11%	15.11%	14.78%	14.90%	14.84%	14.78%	14.71%	14.65%
Securities gains / losses	0.67%	-0.28%	-1.85%	-1.87%	-1.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mortgage fees and related income	2.59%	1.78%	0.97%	0.64%	0.60%	0.60%	0.60%	0.58%	0.57%	0.57%	0.56%	0.55%	0.54%
Card income	3.71%	4.19%	3.43%	3.21%	3.18%	3.22%	3.18%	3.07%	3.07%	3.03%	2.98%	2.94%	2.90%
Other income	3.73%	3.97%	3.36%	2.74%	2.69%	2.69%	2.62%	2.50%	2.49%	2.44%	2.39%	2.35%	2.30%
Noninterest revenue	**54.36%**	**57.00%**	**48.16%**	**47.35%**	**50.45%**	**53.28%**	**53.53%**	**52.62%**	**52.98%**	**52.68%**	**52.39%**	**52.10%**	**51.81%**
Interest income	53.97%	47.57%	72.11%	97.26%	76.24%	68.01%	67.68%	66.43%	65.70%	66.04%	66.37%	66.71%	67.05%
Interest expense	-8.33%	-4.56%	-20.28%	-44.61%	-26.70%	-21.30%	-21.21%	-19.05%	-18.68%	-18.72%	-18.77%	-18.81%	-18.86%
Net interest income	**45.64%**	**43.00%**	**51.84%**	**52.65%**	**49.55%**	**46.72%**	**46.47%**	**47.38%**	**47.02%**	**47.32%**	**47.61%**	**47.90%**	**48.19%**
Total net revenue	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Provision for credit losses	-14.62%	7.61%	-4.96%	-9.72%	-9.73%	-5.96%	-4.87%	-4.46%	-3.37%	-3.39%	-3.41%	-3.43%	-3.45%
Compensation expense	-29.27%	-31.70%	-32.35%	-31.00%	-31.25%	-31.50%	-30.75%	-29.40%	-29.10%	-28.00%	-27.50%	-27.00%	-26.00%
Occupancy expense	-3.72%	-3.71%	-3.65%	-3.00%	-3.10%	-3.20%	-3.30%	-3.25%	-3.15%	-3.10%	-3.05%	-3.00%	-2.90%
Technology, communications and equipment expense	-8.65%	-8.17%	-7.27%	-6.75%	-7.25%	-7.50%	-7.50%	-7.50%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%
Professional and outside services	-7.08%	-8.07%	-7.91%	-6.50%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%	-7.00%
Marketing	-2.07%	-2.50%	-3.04%	-2.85%	-3.00%	-2.95%	-2.90%	-2.80%	-2.78%	-2.68%	-2.59%	-2.53%	-2.45%
Other expense	-4.97%	-4.50%	-4.95%	-4.25%	-4.65%	-4.50%	-4.40%	-4.25%	-4.25%	-4.15%	-4.00%	-4.00%	-4.00%
Total noninterest expense	**-55.76%**	**-58.65%**	**-59.16%**	**-54.35%**	**-56.25%**	**-56.65%**	**-55.85%**	**-54.20%**	**-53.28%**	**-51.93%**	**-51.14%**	**-50.53%**	**-49.35%**
Income / loss before income tax expense / benefit	**29.62%**	**48.96%**	**35.87%**	**35.93%**	**34.02%**	**37.39%**	**39.28%**	**41.34%**	**43.35%**	**44.68%**	**45.45%**	**46.04%**	**47.20%**
Income tax expense / benefit	-5.25%	-9.23%	-6.60%	-7.91%	-7.48%	-8.23%	-8.64%	-9.09%	-9.54%	-9.83%	-10.00%	-10.13%	-10.38%
Net income / loss	**24.37%**	**39.73%**	**29.28%**	**28.03%**	**26.53%**	**29.17%**	**30.64%**	**32.24%**	**33.81%**	**34.85%**	**35.45%**	**35.91%**	**36.82%**
Preferred stock dividends	-1.32%	-1.32%	-1.24%	-1.09%	-1.07%	-1.06%	-1.03%	-0.98%	-0.97%	-0.94%	-0.92%	-0.90%	-0.88%
Dividends and undistributed earnings allocated to participating securities	-0.12%	-0.19%	-0.15%	-0.13%	-0.13%	-0.13%	-0.12%	-0.12%	-0.11%	-0.11%	-0.11%	-0.11%	-0.10%
Net income / loss applicable to common stockholders	**22.93%**	**38.23%**	**27.89%**	**26.81%**	**25.34%**	**27.98%**	**29.49%**	**31.15%**	**32.73%**	**33.80%**	**34.42%**	**34.91%**	**35.83%**

JP Morgan

Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Cash and due from banks	0.73%	0.71%	0.76%	2.49%	1.28%	1.28%	1.15%	1.34%	1.59%	1.98%	2.25%	2.51%	2.78%
Deposits with banks	14.85%	19.08%	14.72%	13.80%	13.88%	13.95%	14.00%	14.05%	14.00%	13.96%	13.91%	13.87%	13.83%
Federal funds sold and securities purchased under resale agreements	8.75%	6.99%	8.61%	8.38%	9.04%	9.14%	9.24%	9.34%	9.31%	9.28%	9.25%	9.22%	9.19%
Securities borrowed	4.74%	5.50%	5.06%	5.20%	5.23%	5.23%	5.23%	5.22%	5.21%	5.19%	5.17%	5.16%	5.14%
Trading assets included assets pledged	14.86%	11.58%	12.38%	13.39%	13.47%	13.31%	13.14%	12.97%	12.93%	12.88%	12.84%	12.80%	12.76%
Available-for-sale	11.46%	8.24%	5.62%	5.18%	5.34%	5.52%	5.70%	5.88%	5.86%	5.84%	5.82%	5.80%	5.79%
Held-to-maturity securities, net of allowance for credit losses	5.96%	9.72%	11.60%	11.38%	11.88%	11.91%	11.93%	11.94%	11.90%	11.87%	11.83%	11.79%	11.75%
Investment securities, net of allowance for credit losses	17.42%	17.96%	17.22%	16.57%	17.22%	17.43%	17.63%	17.82%	17.76%	17.71%	17.65%	17.59%	17.54%
Loans	29.91%	28.79%	30.98%	30.54%	29.99%	30.05%	30.10%	30.13%	30.04%	29.94%	29.84%	29.75%	29.66%
Allowance for loan losses	-0.84%	-0.44%	-0.54%	-0.65%	-0.67%	-0.54%	-0.47%	-0.43%	-0.43%	-0.43%	-0.42%	-0.42%	-0.42%
Loans, net of allowance for loan losses	29.08%	28.35%	30.44%	29.89%	29.32%	29.52%	29.63%	29.70%	29.61%	29.51%	29.42%	29.33%	29.24%
Accrued interest and accounts receivable	2.67%	2.74%	3.42%	3.06%	3.54%	3.32%	3.34%	3.12%	3.11%	2.98%	2.97%	2.96%	2.95%
Premises and equipment	0.80%	0.72%	0.76%	0.74%	0.72%	0.72%	0.72%	0.72%	0.76%	0.81%	0.85%	0.89%	0.93%
Goodwill													
Mortgage servicing rights													
Other intangible assets													
Goodwill, MSRs and other intangible assets	1.58%	1.51%	1.66%	1.63%	1.60%	1.58%	1.56%	1.54%	1.54%	1.53%	1.53%	1.52%	1.52%
Other assets included at fair value and assets pledged	4.51%	4.85%	4.99%	4.85%	4.69%	4.52%	4.36%	4.19%	4.18%	4.17%	4.15%	4.14%	4.13%
Total assets	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Liabilities													
Deposits	63.33%	65.77%	63.84%	64.24%	64.37%	64.66%	64.92%	65.14%	64.94%	64.73%	64.52%	64.33%	64.12%
Federal funds purchased and securities loaned or sold under repurchase a	6.36%	5.19%	5.53%	6.11%	6.59%	6.57%	6.55%	6.53%	6.51%	6.48%	6.46%	6.44%	6.42%
Short-term borrowings	1.34%	1.43%	1.20%	1.10%	1.08%	1.10%	1.13%	1.15%	1.15%	1.15%	1.14%	1.14%	1.14%
Trading liabilities	5.03%	4.40%	4.86%	4.90%	4.93%	4.86%	4.79%	4.71%	4.70%	4.68%	4.67%	4.65%	4.64%
Accounts payable and other liabilities	6.87%	7.02%	8.19%	7.28%	6.80%	6.71%	6.60%	6.50%	6.48%	6.46%	6.44%	6.42%	6.40%
Beneficial interests issued by consolidated variable interest entities	0.52%	0.29%	0.34%	0.35%	0.34%	0.33%	0.32%	0.31%	0.30%	0.30%	0.29%	0.29%	0.28%
Long-term debt	8.32%	8.04%	8.07%	7.88%	7.66%	7.40%	7.15%	6.90%	6.78%	6.66%	6.54%	6.43%	6.31%
Total liabilities	**91.75%**	**92.14%**	**92.03%**	**91.86%**	**91.77%**	**91.63%**	**91.46%**	**91.24%**	**90.86%**	**90.46%**	**90.07%**	**89.70%**	**89.31%**
Shareholder's Equity													
Preferred stock	0.89%	0.93%	0.75%	0.72%	0.69%	0.66%	0.62%	0.59%	0.57%	0.56%	0.54%	0.52%	0.50%
Common stock	0.89%	0.93%	0.75%	0.72%	0.69%	0.66%	0.62%	0.59%	0.57%	0.56%	0.54%	0.52%	0.50%
Additional paid-in capital	2.73%	2.47%	2.54%	2.47%	2.38%	2.29%	2.20%	2.11%	2.06%	2.01%	1.96%	1.90%	1.84%
Retained earnings	7.00%	7.27%	8.09%	8.49%	8.77%	9.05%	9.34%	9.66%	10.16%	10.66%	11.15%	11.62%	12.10%
Accumulated other comprehensive income / loss	0.24%	0.00%	-0.47%	-0.45%	-0.44%	-0.42%	-0.39%	-0.38%	-0.36%	-0.35%	-0.34%	-0.33%	-0.32%
Shares held in RSU Trust, at cost	0.00%												
Treasury stock, at cost	-2.60%	-2.82%	-2.93%	-3.08%	-3.18%	-3.22%	-3.23%	-3.23%	-3.29%	-3.33%	-3.37%	-3.41%	-3.44%
Total stockholders' equity	**8.25%**	**7.86%**	**7.97%**	**8.14%**	**8.23%**	**8.37%**	**8.54%**	**8.76%**	**9.14%**	**9.54%**	**9.93%**	**10.30%**	**10.69%**
Total liabilities and stockholders' equity	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

JP Morgan

Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:		*ASSUMPTIONS:*
Risk-Free Rate	3.60%	*10 year US treasury*
Beta	0.98	*last 12 months*
Equity Risk Premium	5.50%	*Henry Fund ERP estimate*
Cost of Equity	**8.99%**	

JP Morgan

Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models

Key Inputs:

CV Growth of NOPLAT	3.00%
CV Year ROE	12.00%
WACC	8.99%
Cost of Equity	8.99%

Fiscal Years Ending Dec. 31	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
DCF Model:										
Free Cash Flow (FCF)	21,303	20,622	19,966	20,371	21,256	22,126	22,982	23,989	25,464	26,242
Continuing Value (CV)										814,437
PV of FCF	19,546	17,360	15,422	14,436	13,822	13,200	12,580	12,048	11,734	375,299

Value of Operating Assets:	505,448
Non-Operating Adjustments	
Less: PV of ESOP	(1,504)
Value of Equity	503,943
Shares Outstanding	2,966
Intrinsic Value of Last FYE	$ 169.92
Implied Price as of Today	$ 172.13

EP Model:	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Economic Profit (EP)	12,889	10,005	12,593	14,211	17,071	17,623	17,868	17,268	16,389	16,307
Continuing Value (CV)										272,238
PV of EP	11,826	8,422	9,727	10,071	11,100	10,514	9,781	8,673	7,552	125,449

Total PV of EP	213,116
Invested Capital (last FYE)	292,332
Value of Operating Assets:	505,448
Non-Operating Adjustments	
Less: PV of ESOP	(1,504)
Value of Equity	503,943
Shares Outstanding	2,966
Intrinsic Value of Last FYE	$ 169.92
Implied Price as of Today	$ 172.13

JP Morgan

Dividend Discount Model (DDM) or Fundamental P/E Valuation Model

Fiscal Years Ending Dec. 31	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**
EPS	$ 13.53	$ 13.36	$ 15.08	$ 16.62	$ 18.76	$ 20.22	$ 21.66	$ 22.88	$ 24.10	$ 25.68
Key Assumptions										
CV growth of EPS	3.00%									
CV Year ROE	12.00%									
Cost of Equity	8.99%									
Future Cash Flows										
P/E Multiple (CV Year)										12.52
EPS (CV Year)										$ 25.68
Future Stock Price										$321.57
Dividends Per Share	4.20	4.40	4.60	5.00	5.40	5.80	6.20	6.60	7.00	
Discounted Cash Flows	3.85	3.70	3.55	3.54	3.51	3.46	3.39	3.31	3.23	$148.18
Intrinsic Value as of Last FYE	$ 179.74									
Implied Price as of Today	$ 182.09									

JP Morgan

Relative Valuation Models

Ticker	Company	Price	EPS 2023E	EPS 2024E	P/E 23	P/E 24	BV Equity	Tangible BV Equity	P/B	Tangible P/B
BAC	Bank of America	$28.59	$3.42	$3.66	8.36	7.81	30.61	21.72	0.93	1.32
MS	Morgan Stanley	$87.16	$7.10	$8.07	12.28	10.80	54.55	40.06	1.60	2.18
GS	Goldman Sachs	$326.52	$33.49	$40.17	9.75	8.13	317.95	292.92	1.03	1.11
WFC	Wells Fargo & Co	$36.89	$4.71	$5.15	7.83	7.16	41.85	34.94	0.88	1.06
C	Citigroup	$46.71	$5.82	$6.70	8.03	6.97	94.06	81.95	0.50	0.57
				Average	**9.25**	**8.18**			**0.99**	**1.25**
JPM	JP Morgan	$141.40	$13.53	$13.36	10.5	10.6	90.29	72.26	1.57	1.96

Implied Relative Value:

P/E (EPS23)	**$ 125.14**
P/E (EPS24)	**$ 109.23**
P/B(FY22)	**$ 89.15**
P/Tangible BV(FY22)	**$ 90.07**

JP Morgan

Key Management Ratios

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Liquidity Ratios:													
Cash Ratio(Cash/Total Deposits)	1.16%	1.07%	1.18%	3.87%	1.99%	1.98%	1.77%	2.05%	2.45%	3.06%	3.49%	3.90%	4.33%
Average AI Receivables(Average AI/Net Loans)	8.30%	9.10%	10.20%	10.62%	11.04%	11.34%	10.98%	10.60%	10.34%	10.14%	9.94%	9.94%	9.94%
Regulatory Capital:													
Tier 1 Capital Ratio(Tier 1 Capital/ Risk Weighted Assets)	30.10%	31.41%	33.94%	36.53%	37.68%	38.55%	39.52%	40.67%	42.89%	45.14%	47.36%	49.54%	51.74%
Equity Check(TSE/Total Capital)	8.25%	7.86%	7.97%	8.14%	8.23%	8.37%	8.54%	8.76%	9.14%	9.54%	9.93%	10.30%	10.69%
Asset-Management Ratios:													
Total Asset Turnover(Total Revenue/Total Assets)	3.53%	3.25%	3.51%	3.83%	3.76%	3.60%	3.52%	3.53%	3.46%	3.43%	3.40%	3.37%	3.34%
Loan to Asset Ratio(Total Loans/Total Assets)	29.08%	28.35%	30.44%	29.89%	29.32%	29.52%	29.63%	29.70%	29.61%	29.51%	29.42%	29.33%	29.24%
Loan Growth	4.00%	7.80%	5.14%	2.10%	2.39%	5.71%	5.48%	5.41%	3.00%	3.00%	3.00%	3.00%	3.00%
Deposit Growth	37.24%	14.83%	-4.96%	4.63%	4.59%	5.50%	5.51%	5.51%	3.00%	3.00%	3.00%	3.00%	3.00%
Loans to Deposits	45.91%	43.10%	47.69%	46.53%	45.55%	45.65%	45.64%	45.59%	45.59%	45.59%	45.59%	45.59%	45.59%
Debt to Equity	117.02%	120.56%	116.27%	110.29%	106.17%	101.70%	97.00%	92.01%	86.75%	81.84%	77.40%	73.45%	69.72%
Profitability Ratios:													
Return on Equity (NI/Beg TSE)	10.49%	16.65%	12.20%	13.40%	12.22%	12.84%	13.06%	13.54%	13.35%	13.09%	12.66%	12.23%	12.00%
Return on Assets(NI/Beg TA)	1.02%	1.37%	0.96%	1.07%	0.99%	1.06%	1.09%	1.16%	1.17%	1.20%	1.21%	1.21%	1.24%
Payout Policy Ratios:													
Dividend Payout Ratio (Dividend/EPS)	40.49%	24.69%	33.06%	31.04%	32.93%	30.51%	30.08%	28.78%	28.69%	28.62%	28.84%	29.04%	28.81%
Total Payout Ratio (Total Dividends + Share Repurchases/ Net Income)	81.57%	76.71%	72.28%	61.13%	61.39%	53.78%	50.42%	47.07%	45.89%	44.89%	44.43%	44.05%	43.08%

JP Morgan

Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding

Number of Options Outstanding (shares):	48
Average Time to Maturity (years):	7.80
Expected Annual Number of Options Exercised:	6
Current Average Strike Price:	$ 139.90
Cost of Equity:	8.99%
Current Stock Price:	$130.00

Fiscal Years Ending Dec. 31	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Increase in Shares Outstanding:	6	6	6	6	6	6	6	5		
Average Strike Price:	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90	$ 139.90
Increase in Common Stock Account:	**856**	**856**	**856**	**856**	**856**	**856**	**856**	**685**	**-**	**-**
Share Repurchases ($)	10,000	9,000	8,000	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Expected Price of Repurchased Shares:	$ 130.00	$ 138.01	$ 146.51	$ 155.54	$ 165.12	$ 175.30	$ 186.10	$ 197.56	$ 209.73	$ 222.66
Number of Shares Repurchased:	**77**	**65**	**55**	**48**	**45**	**43**	**40**	**38**	**36**	**34**
Shares Outstanding (beginning of the year)	2,966	2,895	2,836	2,787	2,745	2,706	2,669	2,635	2,602	2,566
Plus: Shares Issued Through ESOP	6	6	6	6	6	6	6	5	0	0
Less: Shares Repurchased in Treasury	77	65	55	48	45	43	40	38	36	34
Shares Outstanding (end of the year)	**2,895**	**2,836**	**2,787**	**2,745**	**2,706**	**2,669**	**2,635**	**2,602**	**2,566**	**2,533**

JP Morgan

Valuation of Options Granted under ESOP

Current Stock Price	$130.00
Risk Free Rate	3.60%
Current Dividend Yield	3.08%
Annualized St. Dev. of Stock Returns	29.47%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Range 1	48	139.90	7.80	$ 31.52	$ 1,504
Total	48	$ 139.90	7.80	$ 49.41	**$ 1,504**

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Sensitivity Tables

DCF — Equity Risk Premium (rows: Risk-Free Rate)

172.13	3.50%	4.00%	4.50%	5.50%	6.00%	6.50%	7.00%
2.40%	401.51	336.72	288.80	222.88	199.30	179.85	163.54
2.80%	347.11	296.62	258.08	203.27	183.14	166.32	152.06
3.20%	304.84	264.44	232.80	186.55	169.18	154.50	141.94
3.60%	271.10	238.07	211.65	172.13	157.00	144.09	132.95
4.00%	243.56	216.08	193.71	159.58	146.30	134.86	124.92
4.40%	220.68	197.49	178.32	148.57	136.82	126.63	117.71
4.80%	201.39	181.57	164.98	138.84	128.38	119.25	111.21

DDM — CV Year ROE (rows: CV Growth of EPS)

182.09	6.00%	8.00%	10.00%	12.00%	14.00%	16.00%	18.00%
1.50%	152.03	162.04	168.04	172.04	174.90	177.04	178.71
2.00%	146.32	160.62	169.19	174.91	179.00	182.06	184.44
2.50%	139.74	158.98	170.53	178.22	183.73	187.85	191.06
3.00%	132.05	157.07	172.09	182.09	189.24	194.61	198.78
3.50%	122.97	154.82	173.93	186.65	195.77	202.59	207.90
4.00%	112.06	152.11	176.14	192.14	203.60	212.18	218.85
4.50%	98.73	148.80	178.84	198.85	213.17	223.90	232.25

DCF — CV Growth of NOPLAT (rows: Beta)

172.13	2.25%	2.50%	2.75%	3.00%	3.25%	3.50%	3.75%
0.80	202.50	205.42	208.62	212.14	216.03	220.35	225.18
0.85	191.52	193.94	196.58	199.47	202.64	206.15	210.04
0.90	181.55	183.55	185.72	188.09	190.68	193.53	196.67
0.98	167.36	168.83	170.41	172.13	174.00	176.03	178.26
1.10	149.40	150.30	151.26	152.30	153.41	154.62	155.93
1.20	136.84	137.41	138.01	138.66	139.36	140.11	140.91
1.30	126.00	126.33	126.68	127.06	127.45	127.88	128.34

DDM — Effective Tax Rate (rows: 2023 Dividend Payout)

182.09	16.00%	18.00%	20.00%	22.00%	24.00%	26.00%	28.00%
0.05	197.55	192.34	187.12	181.91	176.69	171.47	166.26
0.10	197.61	192.40	187.18	181.97	176.75	171.53	166.32
0.15	197.67	192.46	187.24	182.03	176.81	171.59	166.38
0.20	197.73	192.52	187.30	182.09	176.87	171.65	166.44
0.25	197.79	192.58	187.36	182.14	176.93	171.71	166.50
0.30	197.85	192.64	187.42	182.20	176.99	171.77	166.56
0.35	197.91	192.70	187.48	182.26	177.05	171.83	166.62

DCF — 2023 Loan Interest Rate (rows: 2023 Deposit Interest Rate)

172.13	2.50%	3.50%	4.50%	5.50%	6.50%	7.50%	8.50%
-0.50%	171.68	171.36	171.05	170.73	170.41	170.09	169.77
0.50%	172.15	171.83	171.51	171.19	170.88	170.56	170.24
1.50%	172.62	172.30	171.98	171.66	171.34	171.03	170.71
2.50%	173.09	172.77	172.45	172.13	171.81	171.49	171.17
3.50%	173.56	173.24	172.92	172.60	172.28	171.96	171.64
4.50%	174.02	173.71	173.39	173.07	172.75	172.43	172.11
5.50%	174.49	174.17	173.85	173.54	173.22	172.90	172.58

DCF — 2023 Loan Interest Rate (rows: 2023 Provision for Loan Losses)

172.13	2.50%	3.50%	4.50%	5.50%	6.50%	7.50%	8.50%
-2.00%	173.61	173.29	172.97	172.65	172.34	172.02	171.70
-1.75%	173.44	173.12	172.80	172.48	172.16	171.84	171.52
-1.50%	173.26	172.94	172.62	172.31	171.99	171.67	171.35
-1.25%	173.09	172.77	172.45	172.13	171.81	171.49	171.17
-1.00%	172.91	172.59	172.28	171.96	171.64	171.32	171.00
-0.75%	172.74	172.42	172.10	171.78	171.46	171.14	170.83
-0.50%	172.56	172.25	171.93	171.61	171.29	170.97	170.65