

Snowflake

BofA Cloud View suggests improving, though volatile consumption backdrop

Reiterate Rating: NEUTRAL | PO: 265.00 USD | Price: 216.21 USD

Web data points to modest Q4 product revenue upside

Snowflake will report Q4 results on Wednesday, February 28. In order to preview product revenue, we look to Similarweb data (total page views) from the [January BofA Cloud View report](#). We have found the data to have a high correlation to product revenue (78% correlation). Sequentially, total page views started trending down in November (-3.4% m/m) and continued in December (-20.8% m/m) before recovering in January (+29.9% m/m). This suggests an improving, though still volatile consumption environment. Using our regression analysis, we arrive at an implied product revenue of \$738 million (+33% y/y), 2.5% better than our base case for \$719 million.

Comfortable with our 30% FY25 product revenue estimate

Alternatively, we run a bottom-up product revenue model to validate our upside case, which assumes 1) 134% net revenue retention rate (versus 133% base case), a moderate deceleration from 135% in Q3, and 2) new contract expansion multiple of 4.0x, down from 6.1x in Q3, given our view that consumption ramp for new customers remains somewhat elongated in the current macro. We are comfortable with our FY25e product revenue growth of 31%, largely in line with the 30% long term CAGR implied by the \$10 billion FY29 target, given a generally improving consumption environment.

Reasonable valuation for secular beneficiary in large TAM

Snowflake is well positioned to continued capturing outsized share of the \$132 billion data management market given: 1) first mover in the cloud, 2) public cloud interoperability, and 3) best in class scalability. We are encouraged by channel feedback suggesting continued traction with Snowpark used to build custom LLMs in Snowflake. Also, with the stock trading at 16x CY25 sales, or 0.5x adjusted for 31% C25e growth, in line with the large cap group (0.5x 16%), the valuation is not overly demanding.

Reiterate Neutral, pending better consumption trends

We are raising our PO to \$265 from \$240 for multiple expansion across the group. However, we reiterate Neutral, given our Cloud View data suggesting consumption headwinds are easing, though not back to normal growth mode. We look for signs that consumption headwinds are easing more meaningfully. Our new PO represents 19x C25e sales (was 18x), or 0.6x adjusted for 31% growth, a premium to the large cap group (0.5x 16% growth), given a longer runway for share gains and durable growth.

Estimates (Jan) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	0.01	0.34	0.78	1.17	1.74
GAAP EPS	(2.26)	(2.50)	(2.84)	(2.80)	(2.57)
EPS Change (YoY)	NM	NM	129.4%	50.0%	48.7%
Consensus EPS (Bloomberg)			0.80	1.12	1.72
DPS	0	0	0	0	0
Valuation (Jan)					
P/E	21,621.0x	635.9x	277.2x	184.8x	124.3x
EV / EBITDA*	NM	442.3x	228.6x	136.8x	83.7x
Free Cash Flow Yield*	0.1%	0.7%	1.1%	1.5%	2.0%

* For full definitions of *IQmethod*SM measures, see page 9.

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12662436

Timestamp: 22 February 2024 05:00AM EST

22 February 2024

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	240.00	265.00

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Stock Data

Price	216.21 USD
Price Objective	265.00 USD
Date Established	21-Feb-2024
Investment Opinion	C-2-9
52-Week Range	128.56 USD - 237.72 USD
Mkt Val (mn) / Shares Out (mn)	71,198 USD / 329.3
Free Float	88.0%
Average Daily Value (mn)	1141.67 USD
BofA Ticker / Exchange	SNOW / NYS
Bloomberg / Reuters	SNOW US / SNOW.N
ROE (2024E)	5.5%
Net Dbt to Eqty (Jan-2023A)	-17.2%
ESGMeter TM	Medium

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

See Exhibit 1 for preview summary

See Exhibit 2 to Exhibit 3 for Similarweb data

See section *Partner commentary* for channel feedback

LLMs = large language models

iQprofileSM Snowflake

iQmethodSM – Bus Performance*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	-0.2%	2.8%	5.3%	8.1%	10.8%
Return on Equity	0%	2.2%	5.5%	8.4%	11.3%
Operating Margin	-2.6%	4.6%	6.8%	10.6%	14.5%
Free Cash Flow	94	521	762	1,048	1,407

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	NM	4.8x	2.8x	2.5x	2.2x
Asset Replacement Ratio	0.8x	0.4x	0.3x	0.3x	0.4x
Tax Rate	71.6%	6.3%	26.0%	26.0%	26.0%
Net Debt-to-Equity Ratio	-21.5%	-17.2%	-26.1%	-41.8%	-57.8%
Interest Cover	NA	NA	NA	NA	NA

Income Statement Data (Jan)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	1,219	2,066	2,788	3,636	4,779
% Change	106.0%	69.4%	35.0%	30.4%	31.4%
Gross Profit	855	1,467	2,045	2,685	3,547
% Change	121.6%	71.5%	39.5%	31.3%	32.1%
EBITDA	(10)	159	307	514	839
% Change	95.5%	NM	93.5%	67.1%	63.3%
Net Interest & Other Income	38	26	194	197	197
Net Income (Adjusted)	2	114	283	432	661
% Change	NM	NM	148.5%	52.6%	53.0%

Free Cash Flow Data (Jan)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	2	114	283	432	661
Depreciation & Amortization	21	64	118	127	143
Change in Working Capital	68	289	370	504	632
Deferred Taxation Charge	0	(26)	(13)	0	0
Other Adjustments, Net	18	105	35	29	29
Capital Expenditure	(16)	(25)	(31)	(43)	(57)
Free Cash Flow	94	521	762	1,048	1,407
% Change	NM	454.0%	46.4%	37.5%	34.2%
Share / Issue Repurchase	179	81	100	0	0
Cost of Dividends Paid	0	0	0	0	0
Change in Debt	0	0	0	0	0

Balance Sheet Data (Jan)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	1,086	940	1,270	2,270	3,612
Trade Receivables	546	716	859	1,118	1,464
Other Current Assets	2,967	3,329	2,849	2,917	3,015
Property, Plant & Equipment	105	161	202	167	145
Other Non-Current Assets	1,946	2,577	2,580	2,736	2,952
Total Assets	6,650	7,722	7,759	9,208	11,188
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	1,397	1,994	2,580	3,425	4,524
Long-Term Debt	0	0	0	0	0
Other Non-Current Liabilities	204	260	310	358	412
Total Liabilities	1,601	2,254	2,891	3,783	4,936
Total Equity	5,049	5,469	4,868	5,425	6,252
Total Equity & Liabilities	6,650	7,722	7,759	9,208	11,188

* For full definitions of iQmethodSM measures, see page 9.

Company Sector

Server & Enterprise Software

Company Description

Snowflake (NYSE: SNOW) provides a cloud data warehouse platform with multi-cloud interoperability and unified workloads spanning Data Warehouse, Data Engineering, Data Science/ML, Data Application and Sharing, and Cybersecurity. Snowflake was founded in 2012 by Benoit Dageville and Thierry Cruanes and is headquartered in Bozeman, Montana.

Investment Rationale

We rate SNOW Neutral. Snowflake possesses compelling competitive advantages, including 1) data warehouse first mover in the cloud, 2) native interoperability with the major public clouds, 3) ability to run multiple workloads, such as data warehouse, data engineering/data science and data sharing and 4) large installed base of enterprise customers. However, its consumption model's outsized exposure to near-term macro and premium valuation keep us at Neutral.

Stock Data

Average Daily Volume 5,280,362

Quarterly Earnings Estimates

	2023	2024
Q1	0.08A	0.15A
Q2	0.01A	0.22A
Q3	0.11A	0.25A
Q4	0.14A	0.16E

Preview summary table

Exhibit 1: Preview summary table

We look for +32.9% y/y product revenue growth for 4Q24E in our upside case

	4Q24E					1Q25E					2025E				
	Consensus	BofA (Base)		BofA (Upside)		Consensus	BofA (Base)		BofA (Upside)		Consensus	BofA (Base)		BofA (Upside)	
		Estimate	Y/Y	Estimate	Y/Y		Estimate	Y/Y	Estimate	Y/Y		Estimate	Y/Y	Estimate	Y/Y
Product revenue	\$723,134	\$719,151	29.5%	\$737,957	32.9%	\$770,171	\$764,143	29.5%	\$792,389	34.3%	\$3,471,456	\$3,467,685	31.0%	\$3,625,555	36.0%
Total revenue	\$760,715	\$756,202	28.4%	\$775,009	31.6%	\$809,549	\$804,376	29.0%	\$832,621	33.5%	\$3,640,981	\$3,635,784	30.4%	\$3,793,653	35.2%
NRR	130%	133%		134%		131%	130%		132%		127%	128%		132%	
PF Operating margin	4.9%	4.0%				7.5%	7.3%				9.6%	10.6%			
PF EPS	\$0.16	\$0.16				\$0.20	\$0.22				\$1.07	\$1.17			
FCF	\$273,887	\$270,409				\$322,083	\$274,068				\$991,940	\$999,241			
FCF margin	36%	36%				40%	34%				27%	27%			

Source: BofA Global Research

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BofA Cloud View - sustaining volatility

In order to preview product revenue, we look to Similarweb data from [January BofA Cloud View report](#). Specifically, we look at monthly total page views, which is defined as the average number of page views across all pages within a site over a given month. Given Snowflake's software offering is web-based only, we believe this metric provides a comprehensive understanding of end-user interactions with Snowflake's platform. We have found an 78% correlation of total page views to Snowflake product revenue.

At each quarter end, we sum the trailing three months' data to arrive at quarterly page views. In order to find implications on quarterly product revenue, we run a regression analysis of **1)** historical quarterly page views against **2)** Snowflake's product revenue sequential adds. The current quarter's product revenue sequential adds is then implied by the quarterly page views data and the regression analysis.

Total page views growth and seasonality discussion

On a quarterly basis, Q4 total page view was 12 million. Q4 growth of +3% y/y represents an acceleration from -19.6 y/y in Q3 and -18.1% y/y in Q2. Q4 growth of -10.9% q/q represents a deceleration from -3.6% q/q in Q3, likely driven by a slowdown during the holiday. We note that the sequential growth is weaker than normal Q4 seasonality (-7.3% q/q). Overall, we view the consumption trends as volatile, consistent with our view that headwinds facing Snowflake's business are subsiding, though still present.

On a monthly basis, total page views started trending down in November and continued to weaken in December before seeing a rebound in January. January growth of +9.6% y/y represents an acceleration from -5.4% y/y in December 2023. January growth of +29.9% m/m represents a rebound from the weaker -20.8% m/m in December 2023. We note that the sequential growth is stronger than the normal January seasonality (+19.5% m/m).

Exhibit 2: Quarterly and monthly total page view – trailing 12 months

Q4 growth of +3% y/y is encouraging, though sequential growth of -11% q/q is weaker than normal Q4 seasonality of -7.3%

Fiscal quarter	Q1FY24	Q2FY24	Q3FY24	Q4FY24E
Total page views (000's)	12,733	13,958	13,453	11,992
y/y %	(24.7%)	(18.1%)	(19.6%)	3.0%
q/q %	9.3%	9.6%	(3.6%)	(10.9%)
Historical q/q %	15.8%	10.9%	14.1%	(7.3%)



Exhibit 2: Quarterly and monthly total page view – trailing 12 months

Q4 growth of +3% y/y is encouraging, though sequential growth of -11% q/q is weaker than normal Q4 seasonality of -7.3%

Fiscal quarter Month	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Q4FY24E	Dec-23	Jan-24
Total page views (000's)	4,408	4,508	3,818	4,516	4,767	4,675	4,849	4,200	4,404	4,253	3,367	3,367	4,372
y/y %	(2.4%)	(30.4%)	(35.6%)	(20.5%)	(16.2%)	(17.7%)	(20.9%)	(22.9%)	(14.7%)	3.8%	(5.4%)	(5.4%)	9.6%
m/m %	10.4%	2.3%	(15.3%)	18.3%	5.6%	(1.9%)	3.7%	(13.4%)	4.9%	(3.4%)	(20.8%)	(20.8%)	29.9%
Historical m/m %	(3.2%)	18.4%	(8.4%)	3.7%	21.6%	7.2%	4.8%	(1.7%)	(0.0%)	(9.5%)	(10.8%)	(10.8%)	19.5%

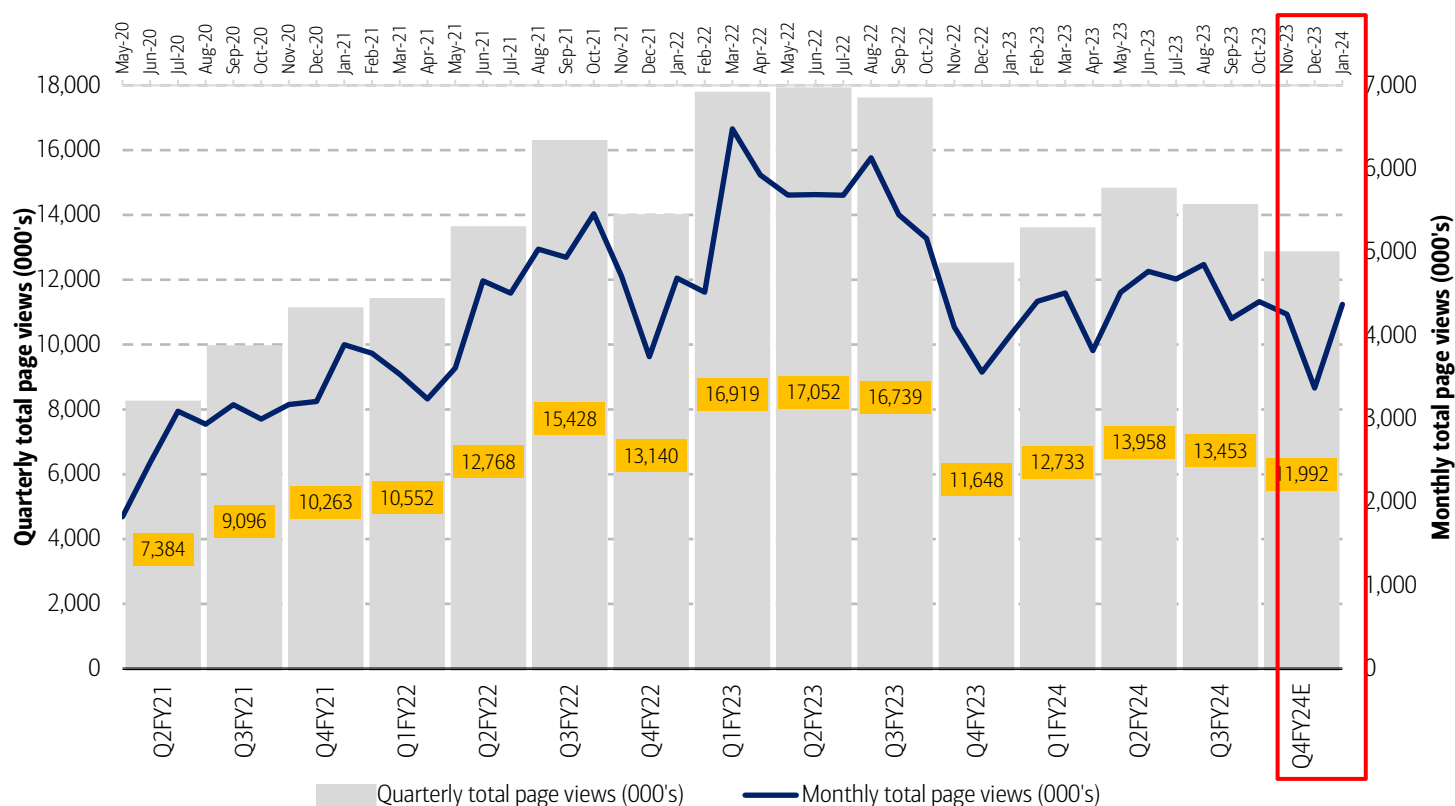
Source: Similarweb

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Given F4Q24 (November to January) total page view of 12.0 million, our regression analysis arrived at a product revenue sequential adds of \$39 million, which implies a total product revenue of \$737 million (+33% y/y). The implied product revenue represents 2.5% upside versus our base case/guidance of \$719 million (+28% y/y).

Exhibit 3: F4Q24 consumption data – monthly and quarterly

According to Similarweb, total page views for F4Q24 was 12 million



Source: Similarweb

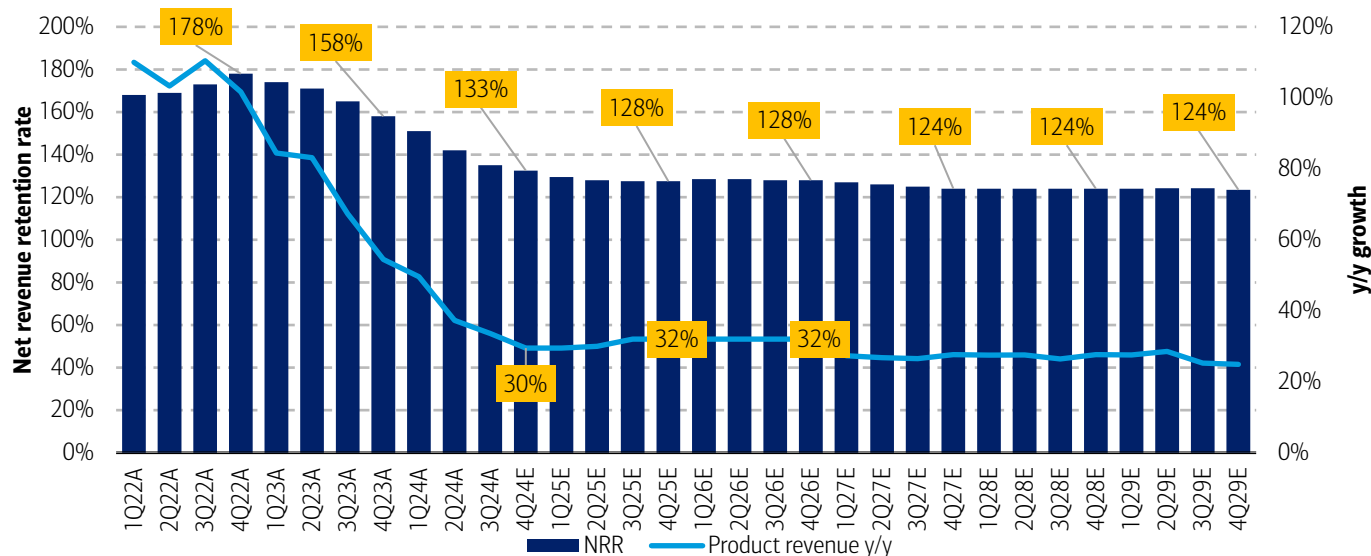
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Revenue base/upside case discussion

Our upside case model informs this implied product revenue of \$737 million, assuming **1)** 134% net revenue retention rate (versus 133% base case), **2)** new contract expansion multiple of 4.0x (same as base case), and **3)** product revenue from new contracts contributes 1% of product revenue, consistent with historical levels (same as base). Finally, assuming no upside on professional services, we arrived at a total revenue of \$775 million (+32% y/y) in our upside case (versus \$756 million base). For detailed bottoms up build, refer to the BofA Snowflake model.

Exhibit 4: Base case product revenue growth and NRR – 1Q22 to 4Q29

In our base case model, we are modeling product revenue growth to hold low 30s growth in H2FY25 through FY26 (For detailed bottoms up build, refer to the BofA Snowflake model)

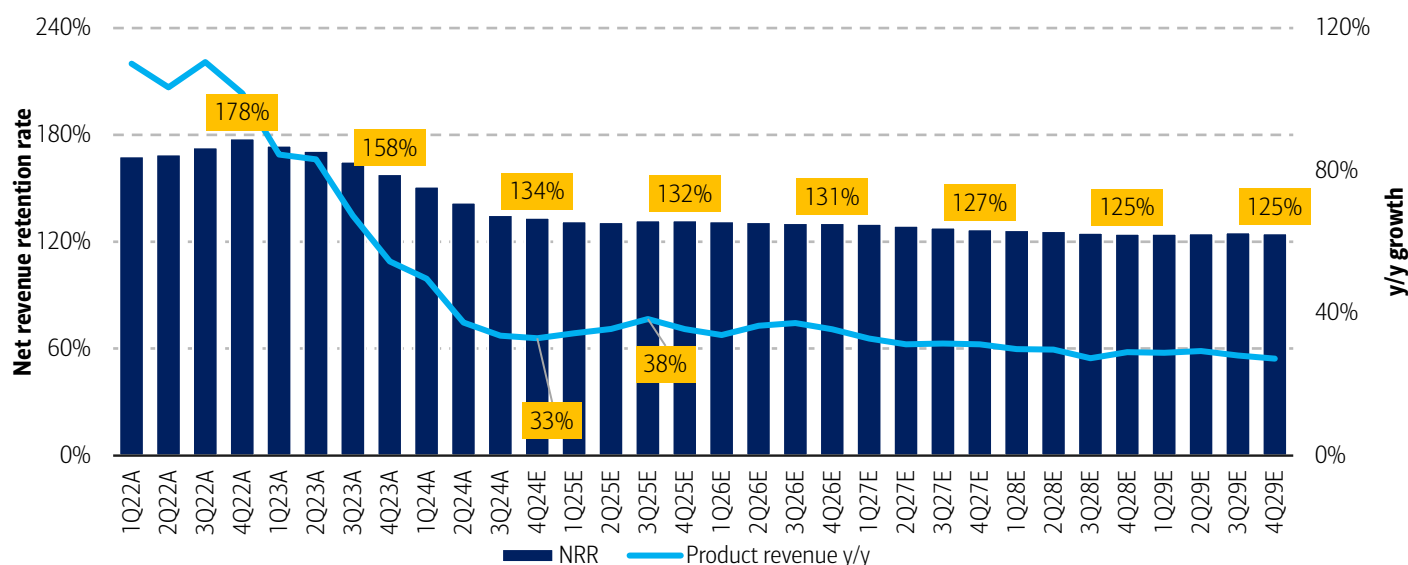


Source: BofA Global Research

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Exhibit 5: Upside case product revenue growth and NRR – 1Q22 to 4Q29

In our upside case model, we are modeling product revenue growth to accelerate to high 30s growth by Q3FY25 (For detailed bottoms up build, refer to the BofA Snowflake model)



Source: BofA Global Research

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Partner commentary

“Our partnership with Snowflake started a few years ago and we have been very satisfied with the platform ever since. Our customers in general are excited about the AI/ML workloads Snowflake launched in the past year. Examples include Snowpark as the ETL tool for processing unstructured data and the broader Snowpark stack such as Snowpark Container Services for deploying and fine-tuning generic/open source LLMs within the Snowflake data cloud. Overall, Snowpark adoption has been ramping though still at early stage, compared to Snowflake’s traditional data warehouse workloads. The biggest problem for customers now is to figure out what types of queries to run and what dataset queries need to run on; if not done properly, as data volume rises, the compute cost would be out of control. Organizations will be more prone to this problem in the new Gen AI world where LLMs can be a black hole that sucks in a lot of data, relevant or irrelevant. This is why Snowflake is pushing hard on their vertical solutions where organizations within an industry can run queries based on the most relevant dataset determined by a specific business use case, rather than running workloads on the entire business’s dataset.” – **Global SI**

“We are one of Snowflake’s top partners. In the past year or so, we launched our co-partnership with Snowflake to build proprietary LLM models for our customers. With the introduction of Snowflake Cortex, Snowflake customers have access to general open source models such as Meta AI Llama2 but also task-specific models, all in place to accelerate data analytics and build contextualized LLM for specific business use cases. In order to optimize outcome from using these new workloads, customer data (structured and unstructured) is recommended to be on Snowflake. We believe this should facilitate and accelerate data migration to Snowflake’s data cloud platform. Overall, our customers are excited about the new AI use cases unlocked but most of them are still waiting for proof of concept. We do expect customers to start some pilot programs but any actual adoption will likely not materialize this year.” – **Global SI**

“Snowflake has made some great progress last year around unstructured data and AI workloads. Snowpark continued to gain traction though we need to keep in mind that the prerequisite of adopting Snowpark is data migration, which takes time. With that said, existing Snowflake customers are more likely to adopt Snowpark to transform and load unstructured data than to use the Snowflake Spark connector. Another new workload we are excited about is Snowpipe. With the new Dynamic Table capability, Snowpipe can now ingest and transform/prepare the data for either the processing stage or analytical stage. We also view Snowflake marketplace as a great emerging opportunity. With the rising need of quality 3rd party data to train LLMs for more accurate and relevant results, Snowflake’s data sharing feature should be an emerging opportunity if executed well. With this feature, the data provider can publish the data with customized restrictions for data governance and security purposes.” – **Global SI**

“We have been a Snowflake partner and customer since 2019. Snowflake is for sure deemed as the number one cloud data warehouse for the ease of use and native elasticity. As the adoption of AI/ML is on the rise, it has become more necessary to integrate non-SQL programming languages on the same platform. This is exactly what Snowpark is built for. By introducing Python, Java, Scala on top of SQL, Snowpark allows users to adopt new developer-intense production workloads without the need to manage additional infrastructure for separate languages. We have seen some early customer interest in this new capability though not material consumption yet as it takes time for the data migration to take place. Some of our customers were using Snowflake Connector for Spark, and our view is that these customers will hold onto their existing spark workloads unless their unstructured data workloads become unmanageable using a connector. Overall, we are bullish about the opportunities around Snowpark but we believe adoption will mostly likely come from net new customers rather than replacing current spark users at least for now.” – **Global SI**

“Snowflake has consistently met our expectations since the beginning of our partnership. Our joint customers love Snowflake for its ease of use and the efficient integrations with the three public cloud hyperscalers. Snowflake also has the most comprehensive technology partner ecosystem as well, connecting to other data infrastructure vendors such as Fivetran for data integration, Alteryx for data analytics and ThoughtSpot for BI and dashboards. In the last two years or so, Snowflake strengthened their unstructured capability, and this came just in time with the rise of AI and LLMs. Now, customers can directly train their ML models using Snowpark Python to query the data. The adoption is still early but we are encouraged by the early interest shown in the pipeline. With the GA of Snowpark Python last November, we look to more meaningful adoption this year. One caveat we need to note is that in order to have the optimal experience of Snowpark, customers are encouraged to adopt Snowpark-optimized virtual warehouses which are not available in x-small and small (lower consumption credits/hour than larger-sized warehouses). This might be a hindrance to adoption as customers at the exploring stage are likely less willing to commit to a large amount of compute resources right away.” – **Global SI**

Price objective basis & risk

Snowflake (SNOW)

Our PO of \$265 is based on EV/sales of 19x our CY25e, implying 0.6x our C25E revenue growth rate of 31%, in line with the large-cap peers at 0.6x.

Upside risks to our PO: Snowflake recognizes revenue based on actual consumption (versus subscription ratably in arrears). In the event of changes to market sentiment on macro abating and IT spend returning to normal, consumption and revenue growth could quickly reaccelerate which could drive multiple expansion.

Downside risks to our PO: 1) Snowflake trades at a significant premium to its software large-cap peer group. In the event of changes to market sentiment stemming from global macro uncertainty, or potentially disappointing quarterly revenue results, there could be risk of a potential pullback, 2) The company's consumption model implies more revenue volatility than a traditional subscription model, 3) Snowflake serves in a highly competitive market, which consists of deep-pocketed next-gen DBMS vendors, public cloud vendors and legacy DBMS. An inability to execute on a product roadmap for added capabilities could result in slowing share gains or even share losses.

Analyst Certification

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

US - Enterprise Software Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	8x8	EGHT	EGHT US	Michael J. Funk
	Adobe	ADBE	ADBE US	Brad Sills
	Alarm.com	ALRM	ALRM US	Michael J. Funk
	Amplitude, Inc.	AMPL	AMPL US	Koji Ikeda, CFA
	BILL	BILL	BILL US	Brad Sills
	CCC Intelligent Solutions	CCCS	CCCS US	Michael J. Funk
	Dynatrace	DT	DT US	Koji Ikeda, CFA
	Elastic NV	ESTC	ESTC US	Koji Ikeda, CFA
	GitLab Inc.	GTLB	GTLB US	Koji Ikeda, CFA
	Global-e Online Ltd.	GLBE	GLBE US	Koji Ikeda, CFA
	HubSpot	HUBS	HUBS US	Brad Sills
	Informatica Inc.	INFA	INFA US	Koji Ikeda, CFA
	Intapp Inc.	INTA	INTA US	Koji Ikeda, CFA
	Intuit	INTU	INTU US	Brad Sills
	JFrog Ltd	FROG	FROG US	Koji Ikeda, CFA
	MeridianLink, Inc.	MLNK	MLNK US	Koji Ikeda, CFA
	Microsoft Corporation	MSFT	MSFT US	Brad Sills
	MongoDB Inc	MDB	MDB US	Brad Sills
	nCino, Inc.	NCNO	NCNO US	Adam Bergere
	NICE Ltd.	NICE	NICE US	Michael J. Funk
	NICE Ltd.	NCSYF	NICE IT	Michael J. Funk
	PagerDuty	PD	PD US	Koji Ikeda, CFA
	PowerSchool Holdings, Inc.	PWSC	PWSC US	Koji Ikeda, CFA
	RingCentral	RNG	RNG US	Michael J. Funk
	Salesforce.com	CRM	CRM US	Brad Sills
	ServiceNow	NOW	NOW US	Brad Sills
	UiPath	PATH	PATH US	Brad Sills
	Unity	U	U US	Michael J. Funk
	Weave	WEAV	WEAV US	Michael J. Funk
	Workday Inc.	WDAY	WDAY US	Brad Sills

US - Enterprise Software Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Zeta Global	ZETA	ZETA US	Koji Ikeda, CFA
	ZoomInfo	ZI	ZI US	Koji Ikeda, CFA
NEUTRAL				
	Autodesk	ADSK	ADSK US	Michael J. Funk
	Bentley Systems	BSY	BSY US	Michael J. Funk
	BigCommerce Holdings, Inc.	BIGC	BIGC US	Koji Ikeda, CFA
	Coveo	YCVO	CVO CN	Koji Ikeda, CFA
	Datadog Inc	DDOG	DDOG US	Koji Ikeda, CFA
	DocuSign	DOCU	DOCU US	Brad Sills
	Freshworks, Inc.	FRSH	FRSH US	Adam Bergere
	HashiCorp	HCP	HCP US	Brad Sills
	Jamf	JAMF	JAMF US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	LSPD	LSPD US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	YLSPD	LSPD CN	Koji Ikeda, CFA
	Oracle Corporation	ORCL	ORCL US	Brad Sills
	Paycom	PAYC	PAYC US	Adam Bergere
	Paylocity	PCTY	PCTY US	Adam Bergere
	Shopify, Inc.	SHOP	SHOP US	Brad Sills
	Snowflake	SNOW	SNOW US	Brad Sills
	Veeva Systems, Inc.	VEEV	VEEV US	Brad Sills
	Zoom Video Communications	ZM	ZM US	Michael J. Funk
UNDERPERFORM				
	AvidXchange, Inc.	AVDX	AVDX US	Brad Sills
	Blackbaud, Inc.	BLKB	BLKB US	Koji Ikeda, CFA
	BlackLine, Inc.	BL	BL US	Koji Ikeda, CFA
	C3.ai	AI	AI US	Brad Sills
	Confluent	CFLT	CFLT US	Brad Sills
	CS Disco, Inc.	LAW	LAW US	Koji Ikeda, CFA
	Dropbox	DBX	DBX US	Michael J. Funk
	Enfusion, Inc.	ENFN	ENFN US	Koji Ikeda, CFA
	Five9	FIVN	FIVN US	Michael J. Funk
	Guidewire Software, Inc.	GWRE	GWRE US	Michael J. Funk
	Twilio	TWLO	TWLO US	Michael J. Funk
	Vertex, Inc.	VERX	VERX US	Brad Sills
RSTR				
	Splunk	SPLK	SPLK US	Brad Sills

IQmethodSM Measures Definitions**Business Performance**

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

Numerator

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

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization

Shareholders' Equity

Sales

N/A

N/A

Quality of Earnings

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

Numerator

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash & Equivalents

EBIT

Denominator

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

Valuation Toolkit

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

EV / EBITDA

Numerator

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

Denominator

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization



Valuation Toolkit

Numerator

Denominator

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Snowflake (SNOW) Price Chart



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Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

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

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