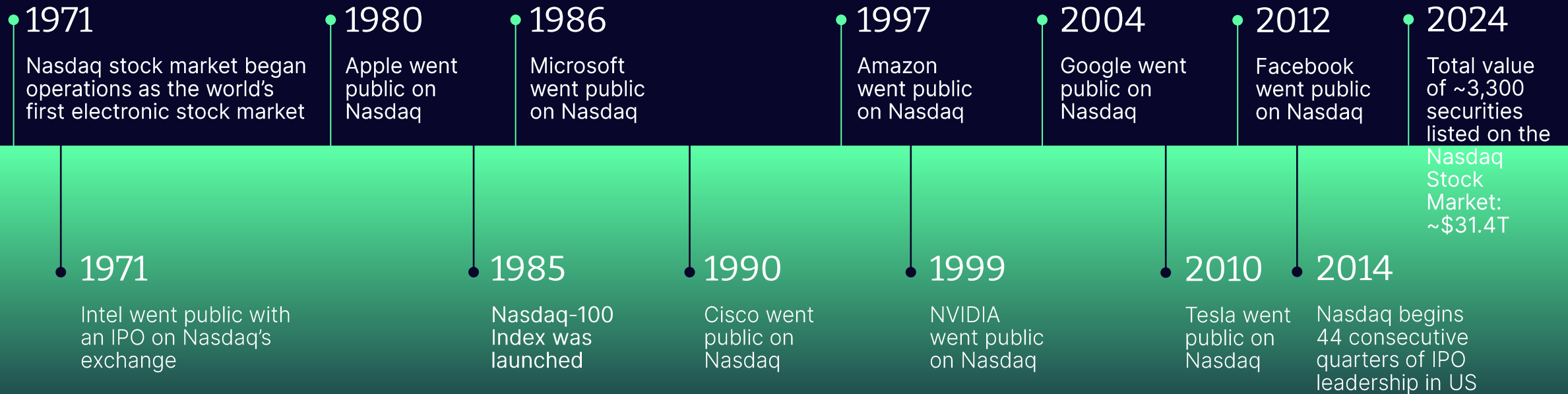




# Nasdaq-100<sup>®</sup> Index: The Benchmark of the 21st Century

January 2025

# Nasdaq: A Leading US and Global Exchange Operator with World-Class Indexing Capabilities



# What is the Nasdaq-100?

## Nasdaq-Listed Only

100% weighting in Nasdaq-listed companies

90% weighting in companies that went public since 1980



Unique among US equity benchmarks, it is the only major exchange-driven index with substantial AUM in the US ETF industry (~\$500B)

## Technology Exposure +

60% weighting in Technology (ICB Industry)

50% weighting in Information Technology (GICS Sector)



Not a “pure Tech” index, other major sector exposures (per ICB) include Consumer Discretionary (20%) and Healthcare (5%)

## Growth Exposure +

83% overlap by index weight with Russell 1000 Growth Index, spread across 62 constituents; 31% Russell 1000 Value overlap / 58 constituents



Not a “pure Growth” index, although it is disproportionately exposed to highly innovative, fast-growing large cap companies

## US Exposure +

“100 of the largest domestic and international non-financial companies listed on Nasdaq”



Includes 10 internationally-domiciled constituents with US listings, such as Arm, AstraZeneca, ASML, Lululemon, & Atlassian

# The Nasdaq-100® Ecosystem



150+

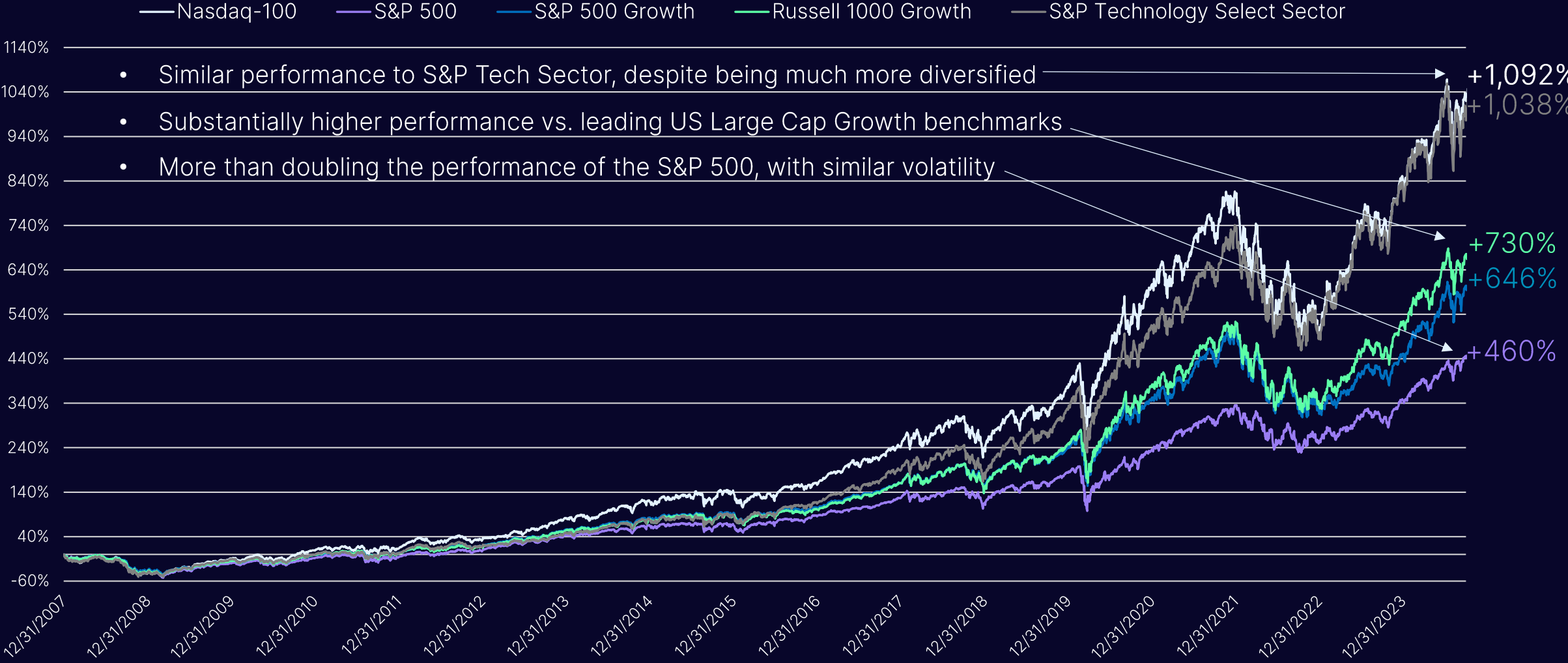
Linked Products Trading

18

Exchanges

The Nasdaq-100 Index has sparked the development of more than 150 linked products trading on 18 exchanges as well as mutual funds, CITs, SMAs, Insurance products, Options, Futures, and more.

# Nasdaq-100's Long-Run Performance vs. Benchmarks



# Nasdaq-100's 2024 Performance vs. Megacaps

Nasdaq-100 2024 Performance vs. Nasdaq-100 Megacaps



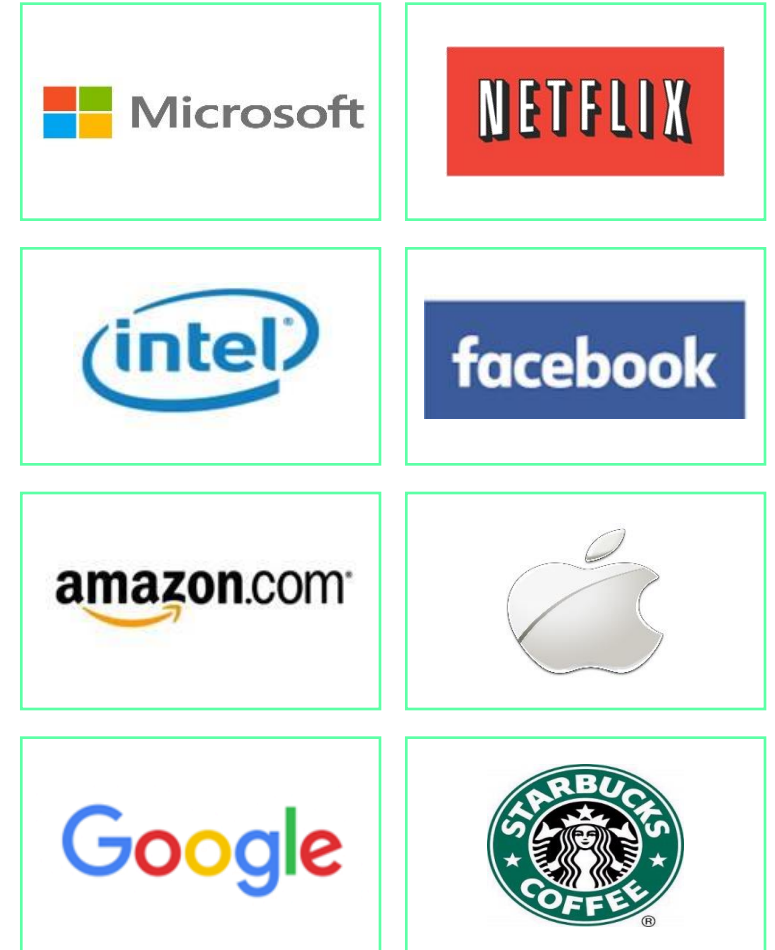
Source: Nasdaq, Bloomberg. Data as of 12/31/2024.

# Nasdaq-100 Index: Overview

The disruptors; the game-changers; the forward-thinkers.

Companies that influence our lives daily, in multiple areas.

- The original Dow Industrials, including GE and American Sugar Company, were pivotal in transitioning the US economy from agricultural to industrial in the early 20th century.
- By mid-century, GE remained a top 10 company, alongside automakers and Big Oil firms. The late 20th century saw a shift from industrial to technological sectors, marked by the Internet/Tech Bubble.
- Currently, tech giants like Apple, Google, and Microsoft dominate, offering diverse products & services from software to e-commerce, computers, smartphones, gaming systems, and other IoT devices.
- Other companies like Intel and Netflix focus on specific tech niches, while the Nasdaq-100 features innovative firms across various sectors.



# The Nasdaq-100: Index Methodology

## Summary

- 100 of the largest non-financial companies listed on the Nasdaq Stock Exchange
- Global companies including ADRs; excludes Financials/REITS (per ICB Industry Classification)
- Modified market-cap weighting process with quarterly and annual weight adjustments
- Rebalanced quarterly (March, June, September, December)
- Reconstituted annually (December)

## Quarterly Adjustments

- If any issuer >24% of index weight, capped at 20%
- If aggregate weight of any individual issuer with >4.5% of index weight exceeds 48%, that group is capped at 40%

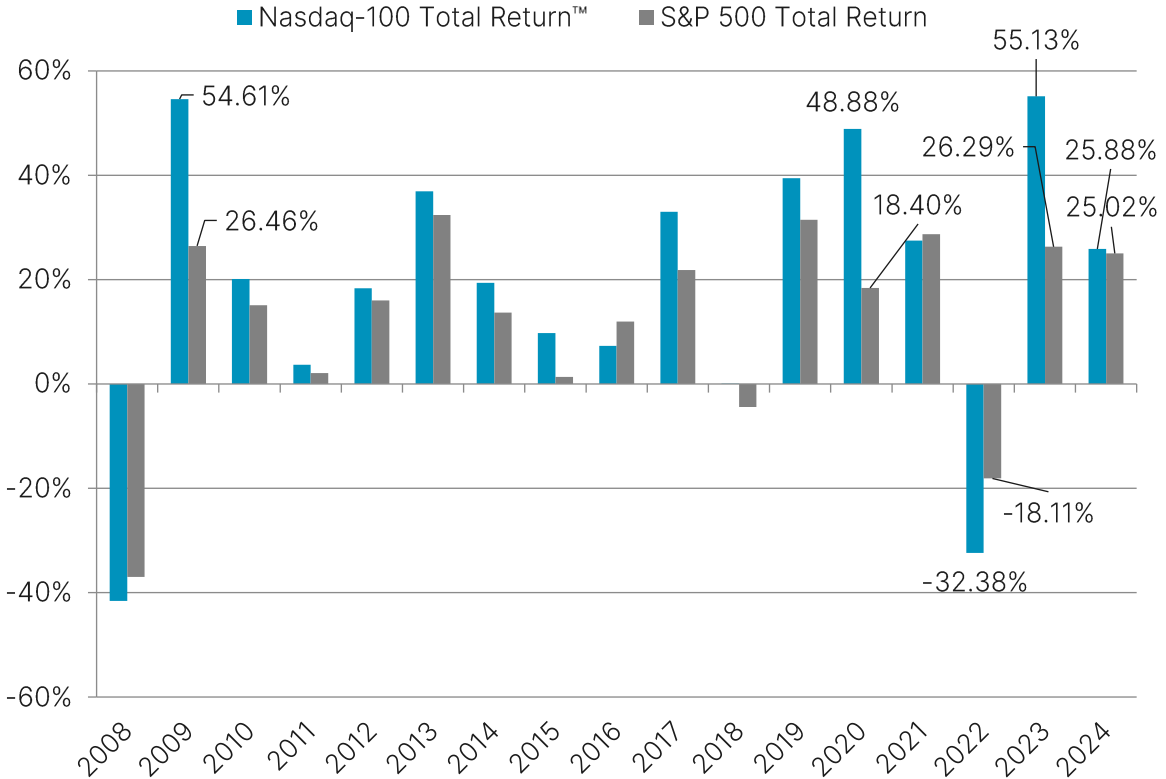
## Annual Adjustments

- If any security >15% of index weight, capped at 14%
- If aggregate weight of Top 5 securities exceeds 40%, that group is capped at 38.5%
- All other securities capped at 4.4% or, if #5 security is <4.4%, that becomes the effective cap for all others outside Top 5

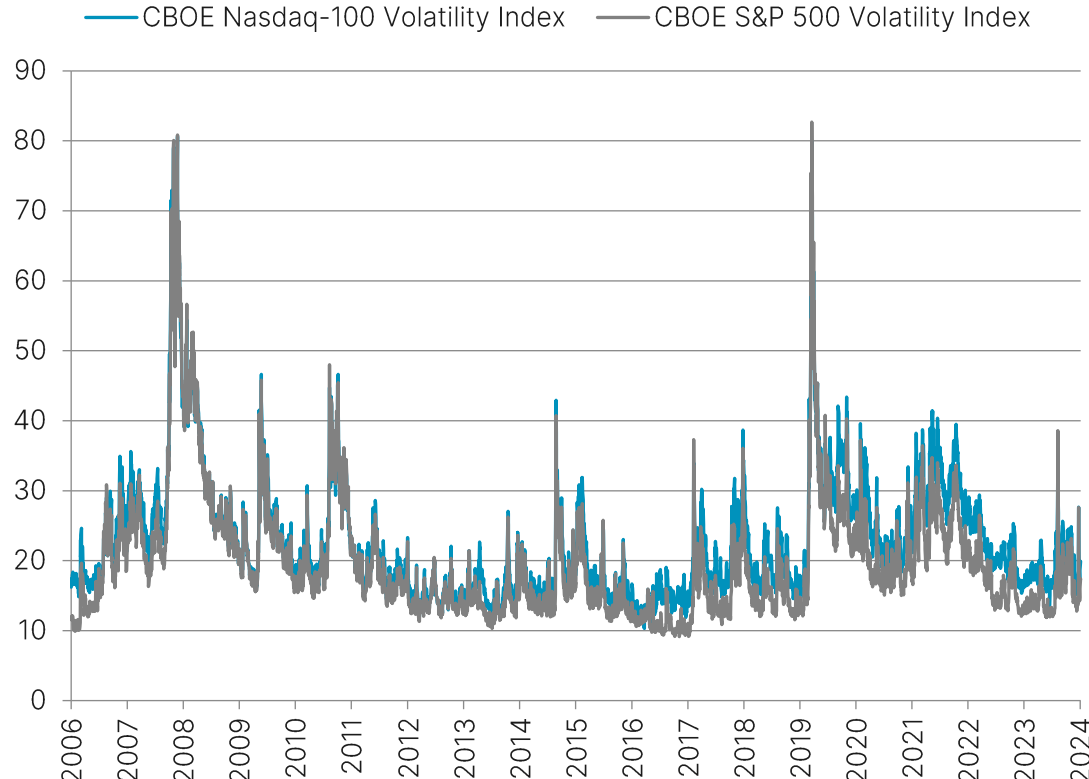


# Nasdaq-100 Index: Performance vs. S&P 500

INDEX ANNUAL TOTAL RETURNS



INDEX VOLATILITY SINCE DECEMBER 31, 2006



- NDX® has outperformed SPX in 13 of the past 17 calendar years, including by nearly 30% each in 2023 / 2020 / 2009. 2023 was the index's best year overall since 1999, more than offsetting a disappointing 2022

- Cumulative total returns through December 31, 2024 were 1,092% for NDX (15.7% annualized) – more than doubling the returns of 460% for SPX (10.7% annualized). Cumulative annualized volatility was 22.9% for NDX vs. 20.1% for SPX, only ~270 bps higher per year.



Source: Nasdaq, Bloomberg. Data as of 12/31/2024

# Performance Data (Total Return)

Year	Calendar Year Return		Correlation	Calendar Year Volatility	
	Nasdaq-100	S&P 500	NDX + SPX	Nasdaq-100	S&P 500
2007	19.24%	5.49%	0.890	18.68%	15.99%
2008	-41.57%	-37.00%	0.945	42.22%	40.89%
2009	54.61%	26.46%	0.935	26.47%	27.25%
2010	20.14%	15.06%	0.949	19.48%	18.06%
2011	3.66%	2.11%	0.948	23.75%	23.24%
2012	18.35%	16.00%	0.920	15.44%	12.74%
2013	36.92%	32.39%	0.901	12.49%	11.16%
2014	19.40%	13.69%	0.924	14.06%	11.36%
2015	9.75%	1.38%	0.947	17.85%	15.50%
2016	7.27%	11.96%	0.916	16.17%	13.11%
2017	32.99%	21.83%	0.801	10.32%	6.69%
2018	0.04%	-4.38%	0.949	22.70%	17.04%
2019	39.46%	31.49%	0.950	16.31%	12.46%
2020	48.88%	18.40%	0.937	36.29%	34.37%
2021	27.51%	28.71%	0.877	18.52%	13.08%
2022	-32.38%	-18.11%	0.967	32.43%	24.13%
2023	55.13%	26.29%	0.920	18.08%	13.08%
2024	25.88%	25.02%	0.947	18.20%	12.64%



Source: Nasdaq, Bloomberg. Data as of 12/31/2024.

  NDX outperformed SPX

# Morningstar Rankings

**Invesco QQQ Trust** QQQ ★★★★★  Morningstar Medalist Rating  
 Performance | Medalist Rating as of May 11, 2023 | [See Invesco Investment Hub](#) >

[Quote](#) [Chart](#) [Fund Analysis](#) [Performance](#) [Sustainability](#) [Risk](#) [Price](#) [Portfolio](#) [People](#) [Parent](#)

**Performance** [Returns](#) [Distributions](#)

USD | All data based off of NAV except where noted | Investment (Price) as of Jan 16, 2025 | Investment (NAV) as of Jan 16, 2025 | Category: Large Growth as of Jan 16, 2025 | Index: Morningstar US LM Brd Growth TR USD as of Jan 16, 2025

## Trailing Returns

[Day End](#) **[Month End](#)** [Quarter End](#)



Total Return %	1-Month	3-Month	YTD	1-Year	3-Year	5-Year	10-Year	15-Year	Earliest Available
Total Return % (Price)	0.45	4.91	25.58	25.58	9.45	19.95	18.28	18.51	10.03
Total Return % (NAV)	0.44	4.87	25.61	25.61	9.48	19.93	18.29	18.51	10.03
Category (NAV)	-1.33	5.39	28.96	28.96	6.74	15.42	14.02	14.17	—
Index (NAV)	-0.40	6.76	33.04	33.04	8.41	17.19	15.14	15.50	—
Quartile Rank									—
Percentile Rank	19	54	68	68	21	5	3	2	—
Tax Adj. Returns %*	0.37	4.81	25.30	25.30	9.18	19.62	17.97	18.13	9.78
Percentile Rank (tax)	13	36	58	58	13	3	1	1	—
Tax Cost Ratio	—	—	—	0.24	0.27	0.26	0.27	0.32	0.23
# of Invest. in Cat.	1,132	1,105	1,088	1,088	1,020	952	748	587	—

QQQ, largest fund tracking NDX, ranked in the top (95-99<sup>th</sup>) percentiles across all funds in its Large Growth category (trailing 5/10/15-year basis)



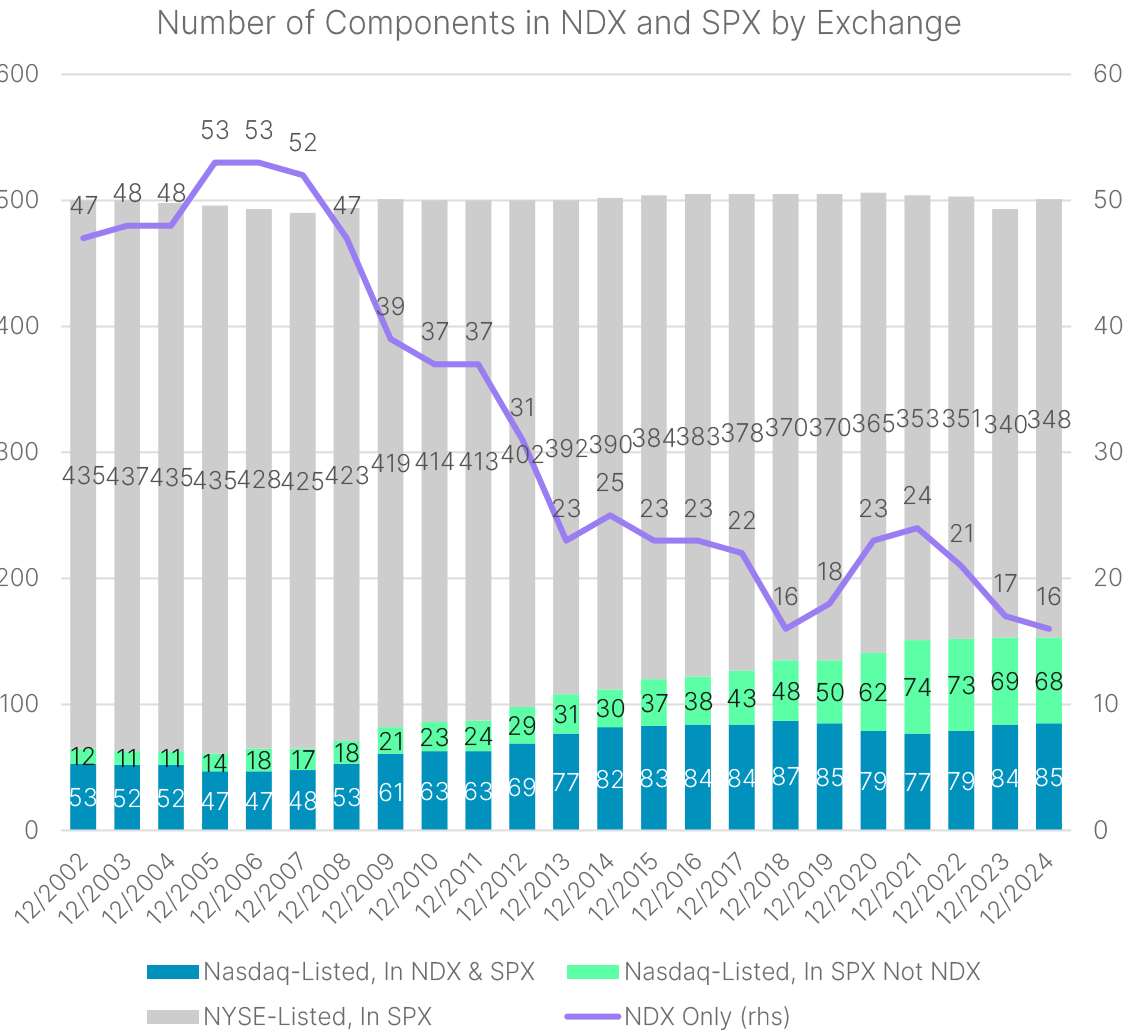
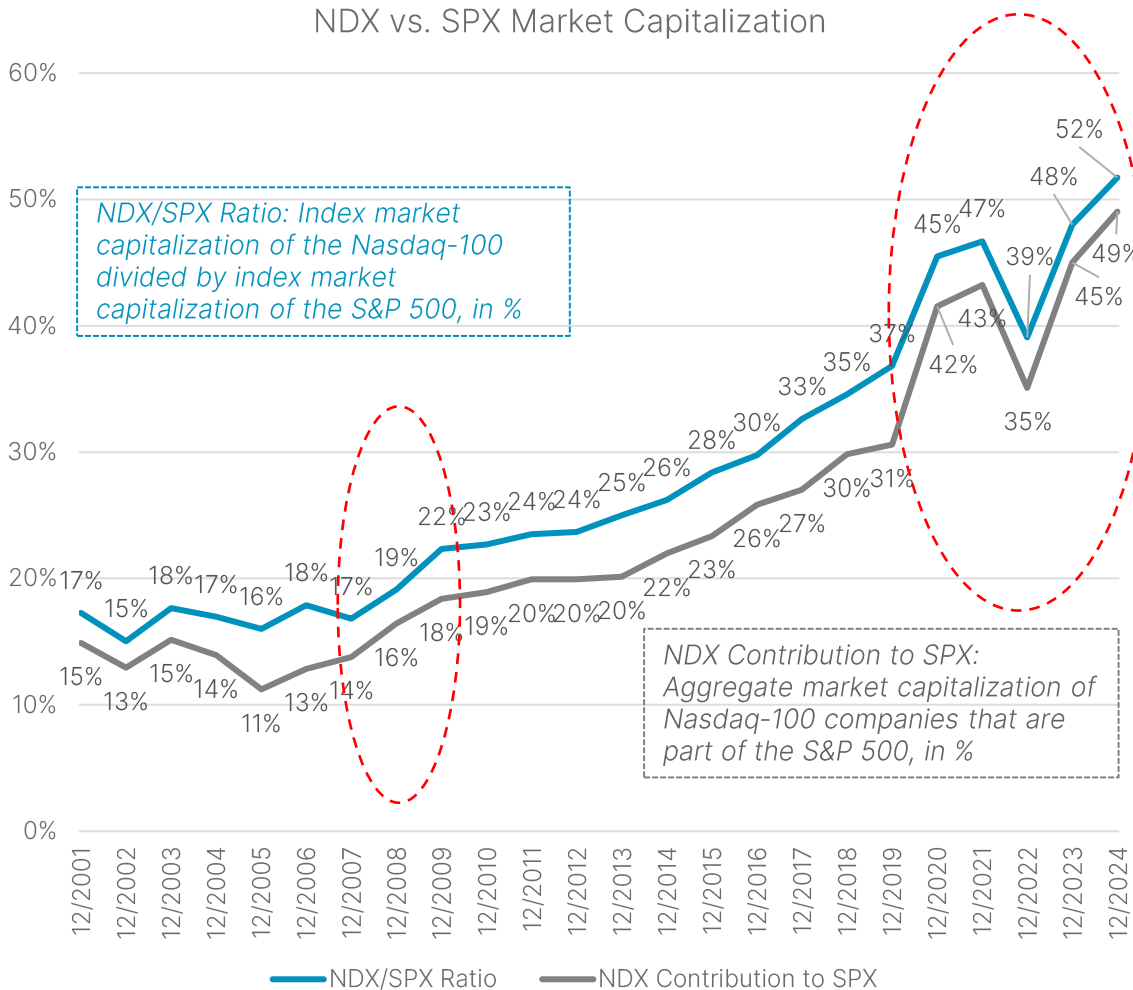
# Coveted Placement

The 100 that Make the Index

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# Nasdaq-100 vs. S&P 500: Composition Over Time



Source: Nasdaq Global Indexes, Bloomberg. Data as of 12/31/2024.

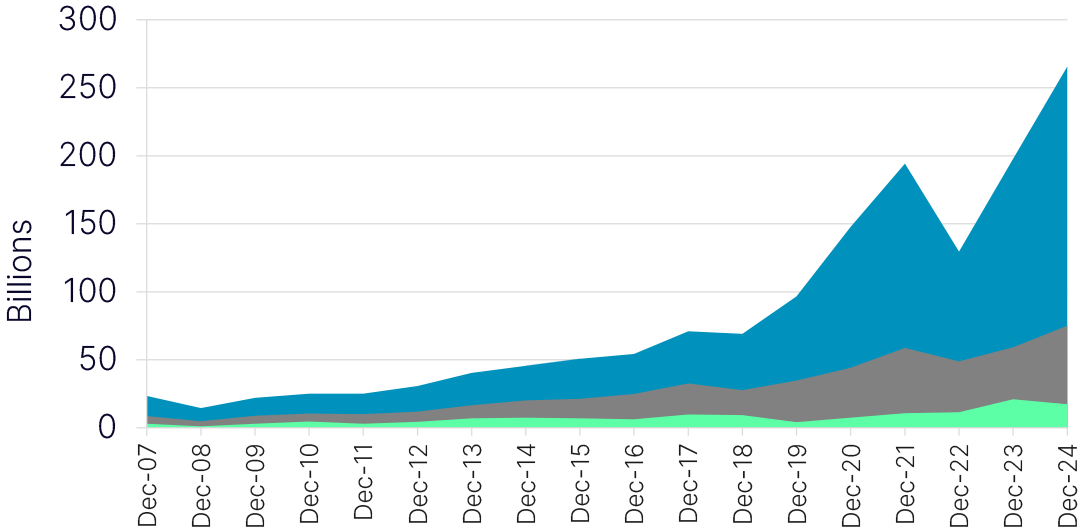
# Nasdaq-100 Index: Constituent Size vs. S&P 500

The market cap of the Nasdaq-100 tends to be truer to strict definition of “large cap” than the S&P 500.

- 15 of the last 16 years, the average market cap has been higher in NDX than SPX. As of year-end 2024, NDX: \$266B, SPX: \$104B.
- The median market cap has been higher for NDX than SPX in each of the last 12 years. As of year-end 2024, NDX: \$75B, SPX: \$36B.
- The smallest company in NDX (\$17.3B) has been larger than the smallest company in SPX (\$1.8B) for the last 16 years.
- Per Nasdaq’s own US large cap benchmark, only 332 companies meet the definition of large cap as of year-end 2024.

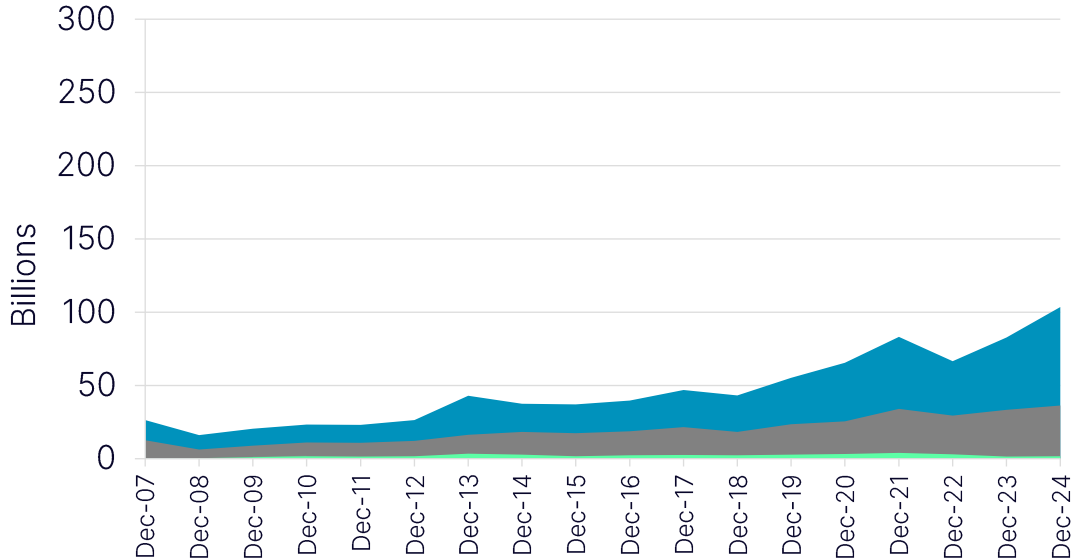
NASDAQ-100: MARKET CAP

■ Average ■ Median ■ Min



S&P 500: MARKET CAP

■ Average ■ Median ■ Min



# New Index Additions in 2024

Effective Date	SEDOL	Ticker	Company Name	ICB Industry	ICB Sector	Market Cap (\$Bn)	2023 Return (%)	2024 Return (%)
3/18/2024	BNZHB81	LIN	LINDE PLC	Basic Materials	Chemicals	199.4	25.9	1.9
6/24/2024	BNSP5P7	ARM	ARM HOLDINGS PLC ADS	Technology	Technology Hardware and Equipment	129.7	N/A	64.2
7/22/2024	B1VQR35	SMCI	Super Micro Computer, Inc.*	Technology	Technology Hardware and Equipment	17.8	246.2	7.2
11/18/2024	BMV3LG4	APP	Applovin Corporation	Technology	Software and Computer Services	96.7	278.4	712.6
12/23/2024	BDT5S35	AXON	AXON ENTERPRISE, INC	Industrials	Aerospace and Defense	45.3	55.7	130.1
12/23/2024	2974329	MSTR	MICROSTRATEGY CL A	Technology	Software and Computer Services	65.2	346.2	358.5
12/23/2024	BN78DQ4	PLTR	PALANTIR TECH CL A	Technology	Software and Computer Services	164.9	167.4	340.5

\*Super Micro was subsequently removed from the index on December 23, 2024

# Fundamentals Drive Performance

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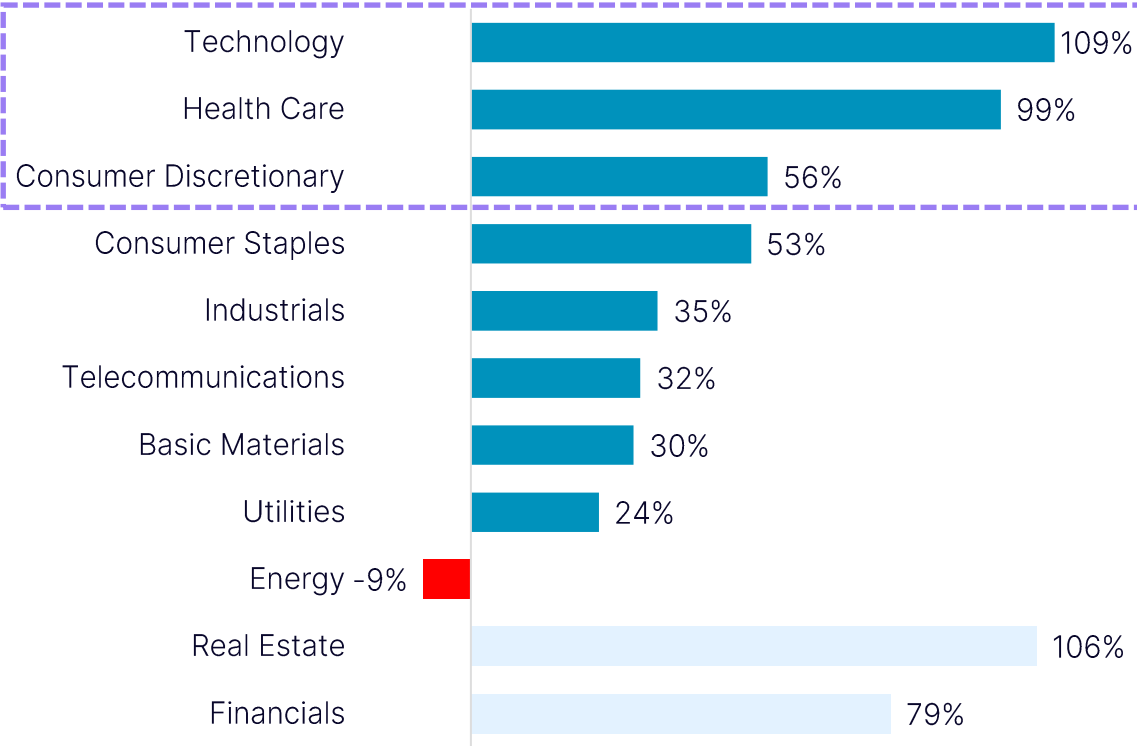




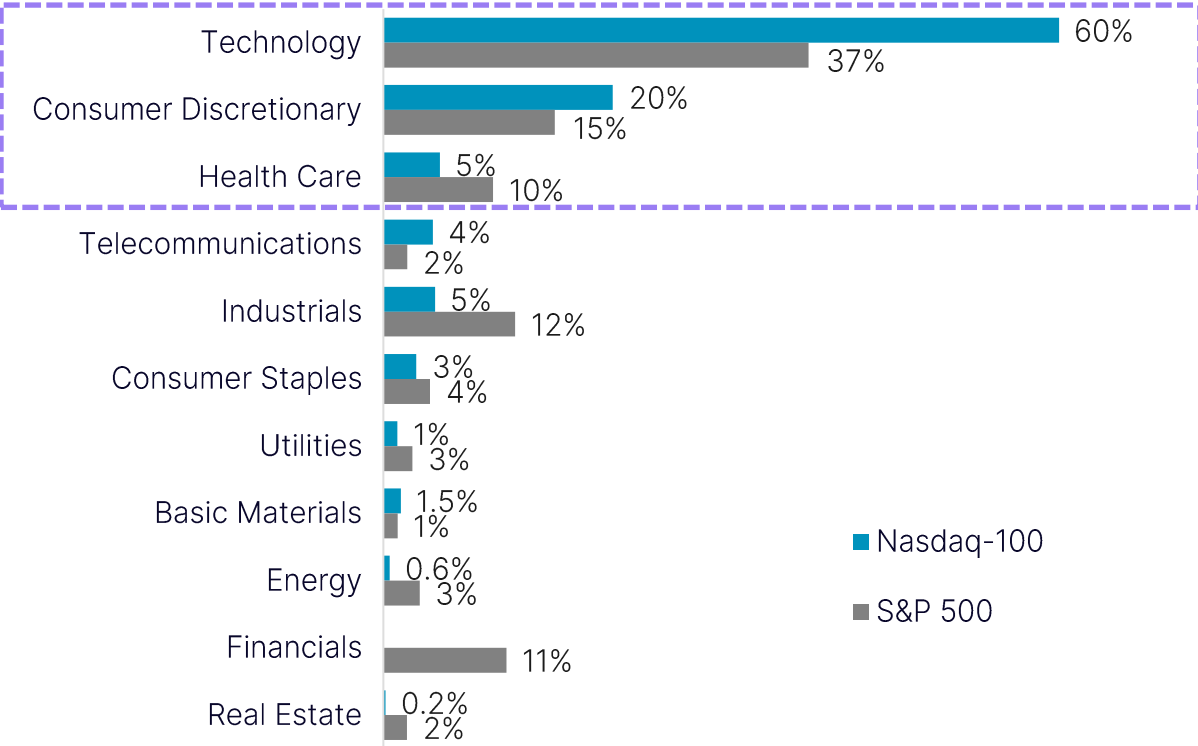
# Nasdaq-100 Tracks Growth of New Economy

The underlying story for the rise in the Nasdaq-100 is that the U.S.'s economic growth is shifting from capital-intensive, traditional industries (Industrials, Materials & Energy) to the “new-economy” sectors such as Health Care, Technology & Consumer. (Note: Real Estate was by far the smallest sector, representing ~1% of aggregate revenue.)

10-Year Sales Growth Across Industries in US Large & Midcaps

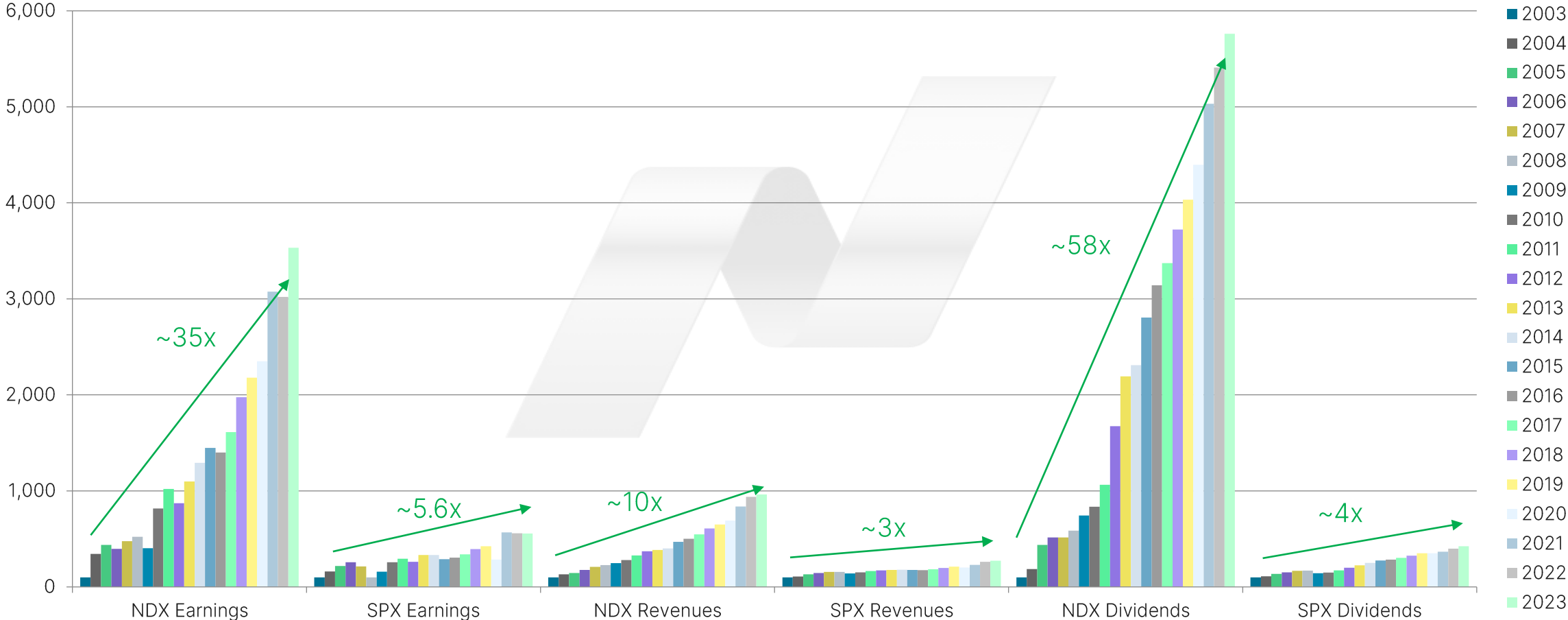


Industry (ICB) Weights (%) of Nasdaq-100 vs. S&P 500



Source: Nasdaq, Factset, Bloomberg. Industry index weights as of December 31, 2024. Sales Growth data as of December 31, 2023. Nasdaq US Large Mid Cap Index (NQUSBLM) used as the benchmark for industry sales growth.

# Nasdaq-100 vs. S&P 500: Fundamentals Over Time

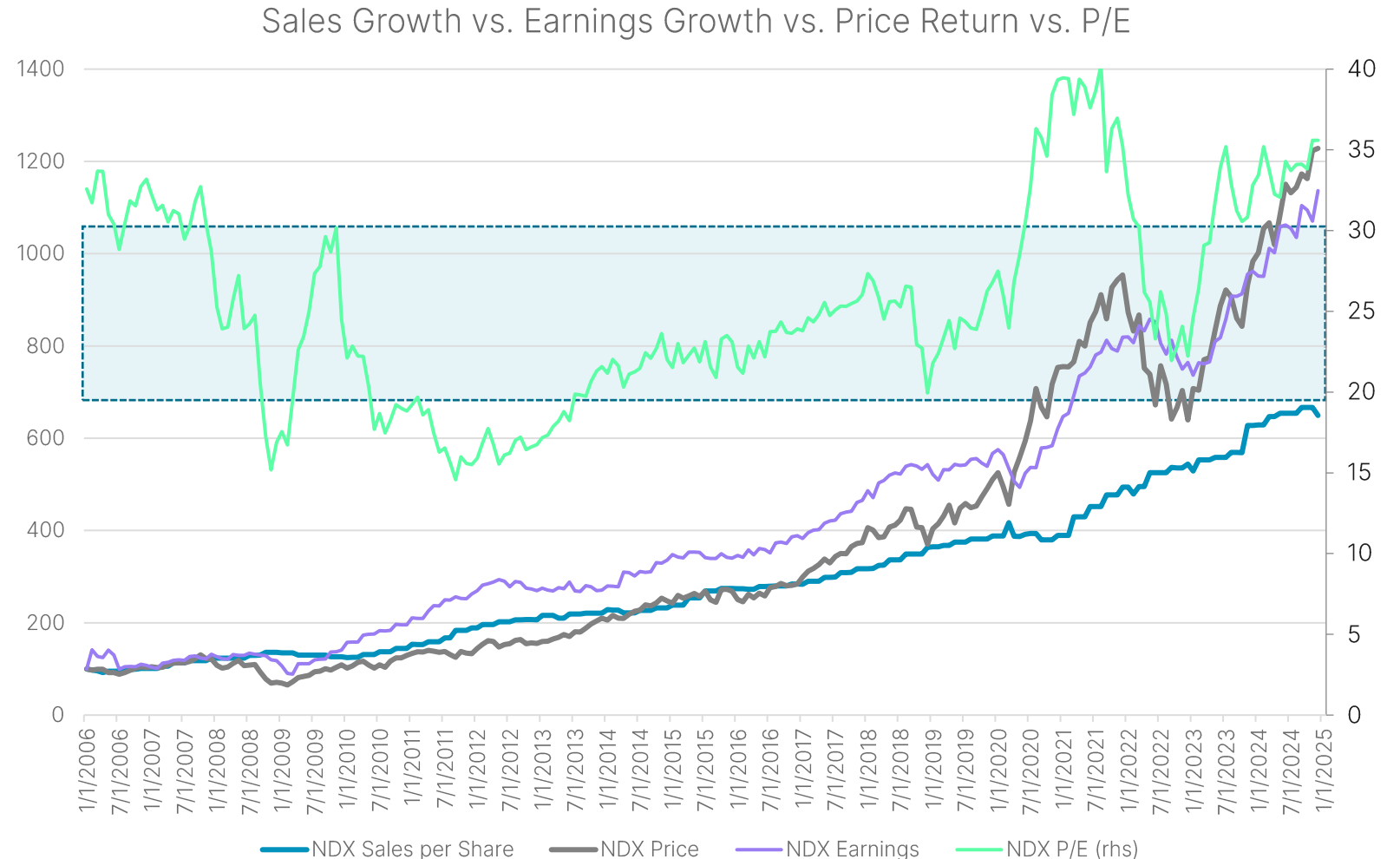


Current TTM Dividend Yield: 0.79% (NDX) vs. 1.27% (SPX)

Source: Nasdaq, Factset, Bloomberg. Data as of 12/31/2023. Current TTM Dividend Yields as of 10/14/2024.

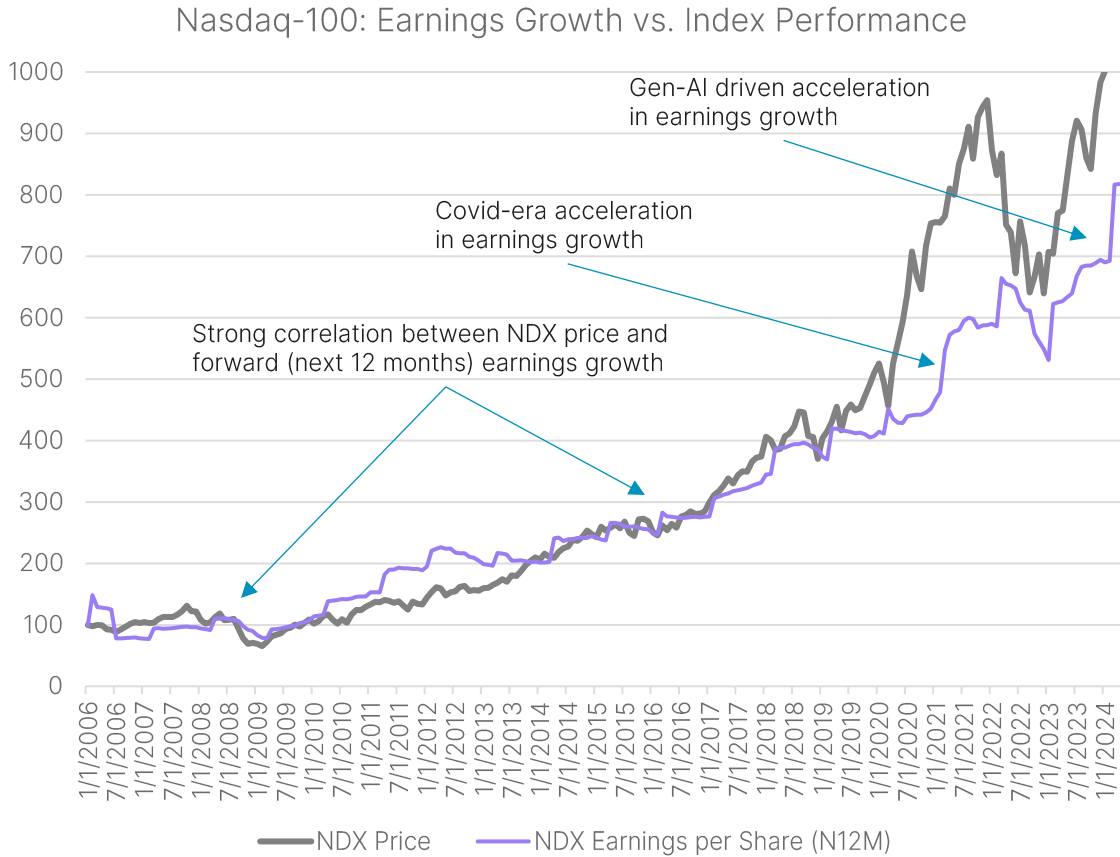
# Nasdaq-100 Index: Valuation vs. Fundamental Growth

- From 2014-2019, NDX P/E ratio (TTM basis) had stabilized in the low-to-mid 20s, below where it was in the mid-2000s
- The trend briefly diverged during 2020-2021, with P/E climbing to a range in the mid-to-upper 30s
- The trend has now diverged again, with P/Es reaching above 30 to reflect the upwardly revised expectations for earnings growth
- Fundamental story has been the main driver of long-run recovery, rewarding the growth of NDX companies
- Sales: +549%  
Earnings: +1,036%  
Price: +1,128%  
Valuation: +9%



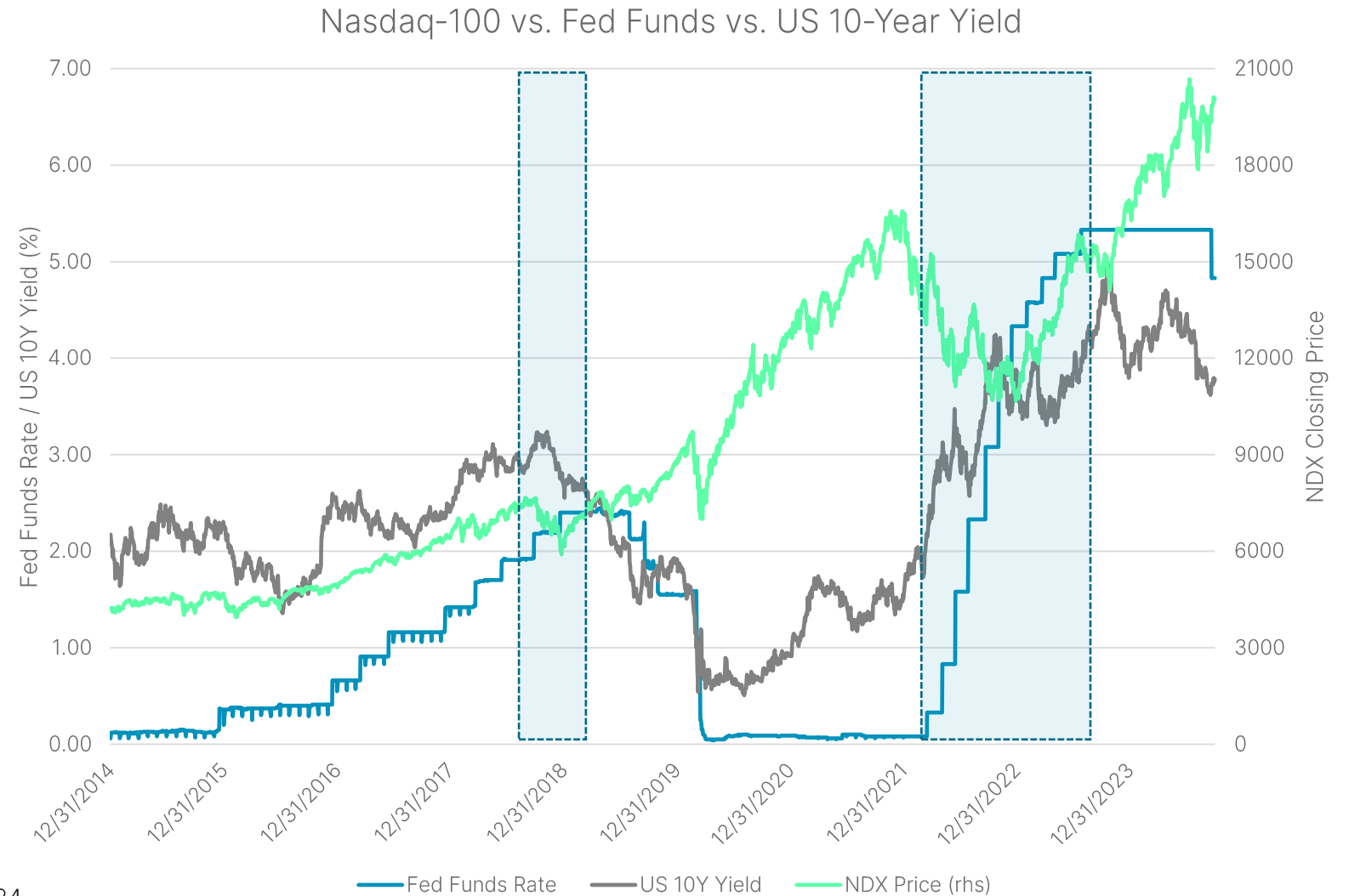
# Nasdaq-100 Index: Valuation vs. Earnings Growth

Nasdaq-100 price performance has been very strongly correlated with forward earnings growth, with a correlation coefficient of 0.97 since January 2006. Correlation with valuation ratios like P/E has been much lower (0.60), suggesting less predictive power. While current index P/E levels are elevated, so are earnings growth rates. Next 12-months consensus calls for 25% growth in index EPS.

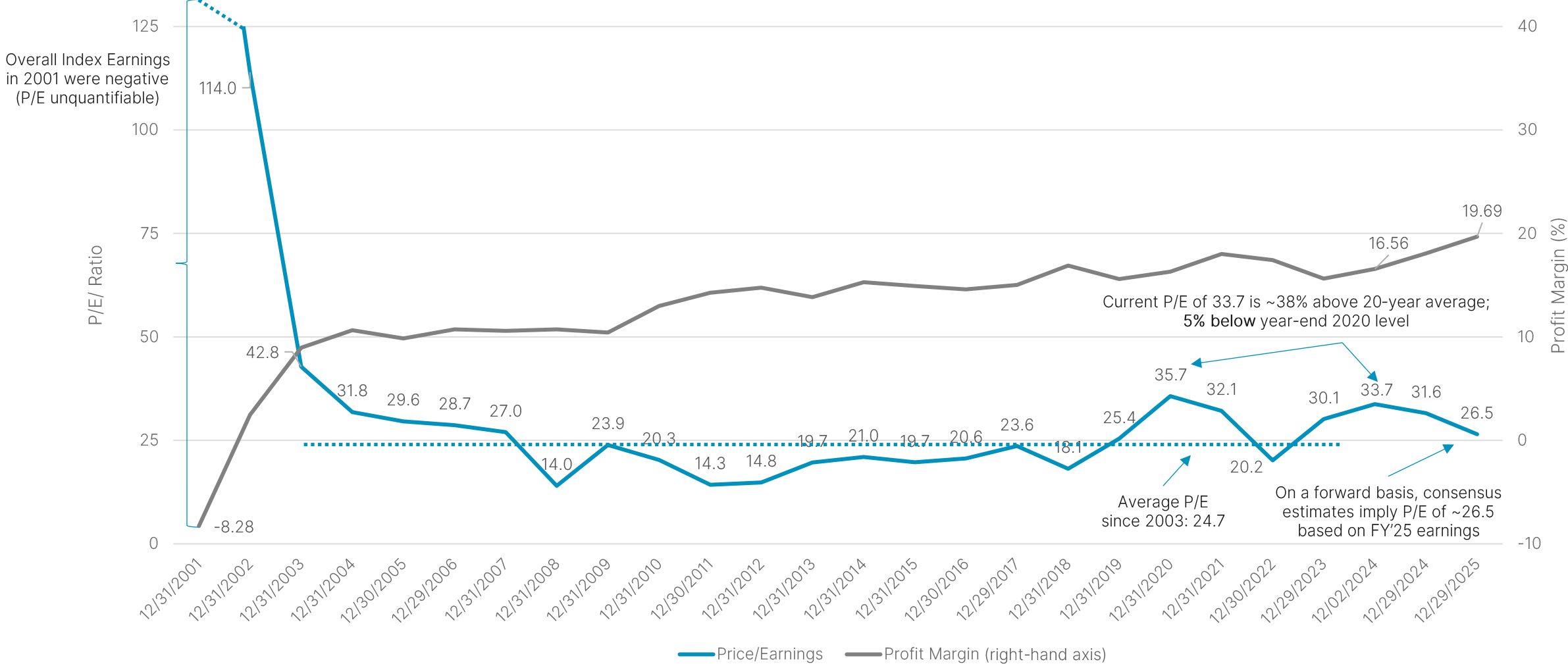


# Nasdaq-100 Index: Performance vs. Interest Rates

- The last Fed rate hiking cycle began in December 2015, and consisted of 9 hikes of 25 bps each (total = 225 bps)
- The Nasdaq-100 dropped 23% during Q4 of 2018, until the Fed began telegraphing a pause in hikes
- In 2022/3, the Fed raised rates by 525 bps, followed by a long pause as inflation cooled from a peak of ~9% to ~3% annualized
- The Fed's first rate cuts in this cycle began in September 2024

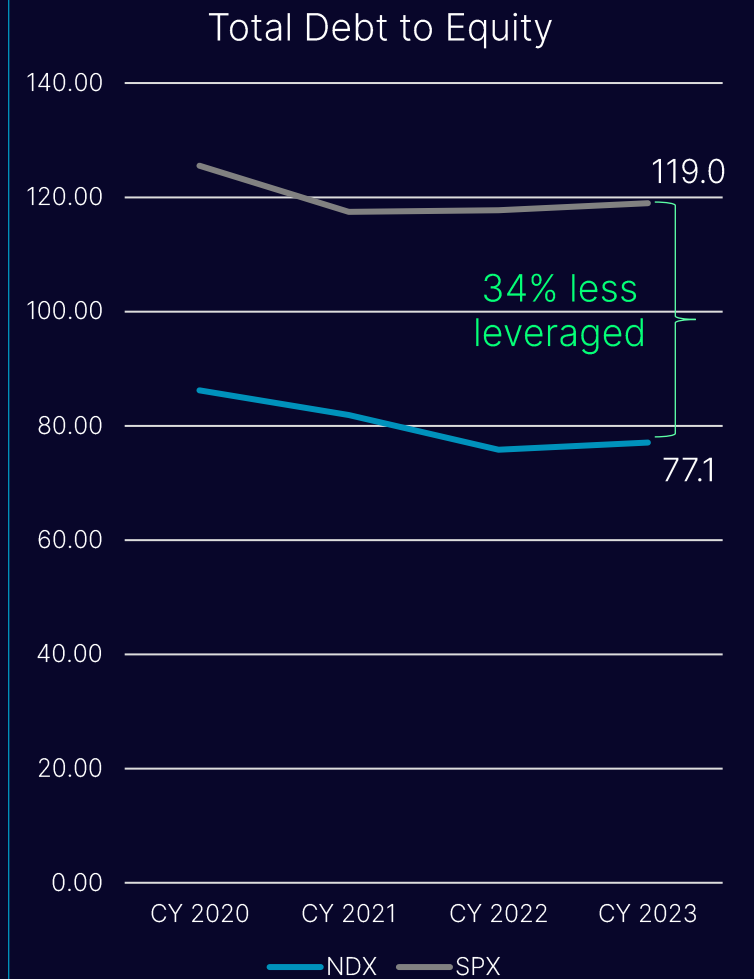
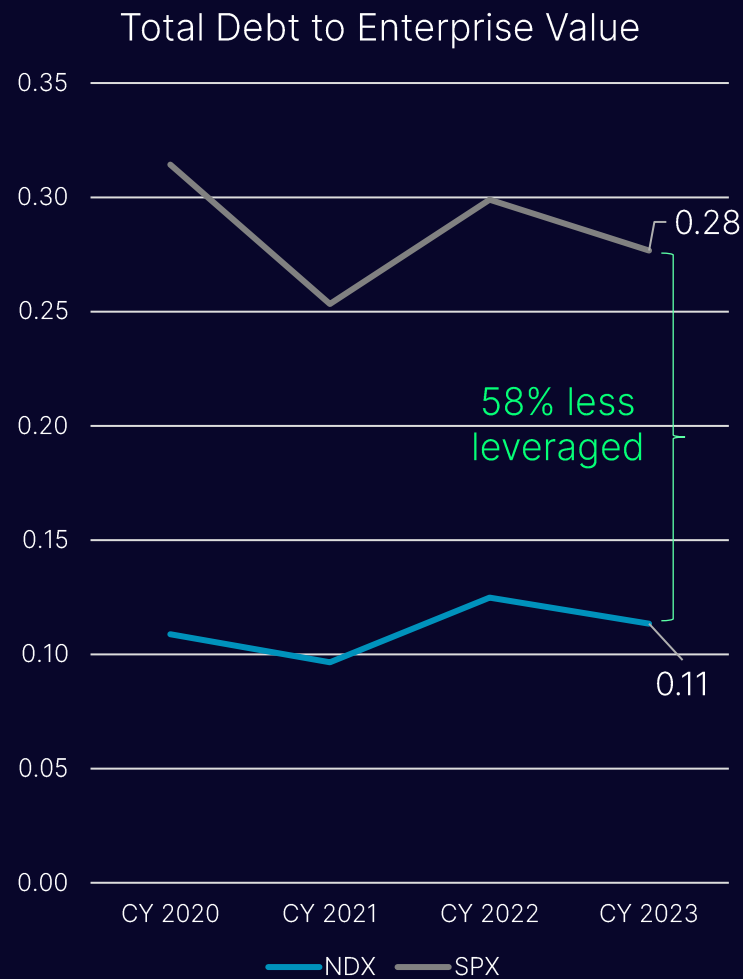
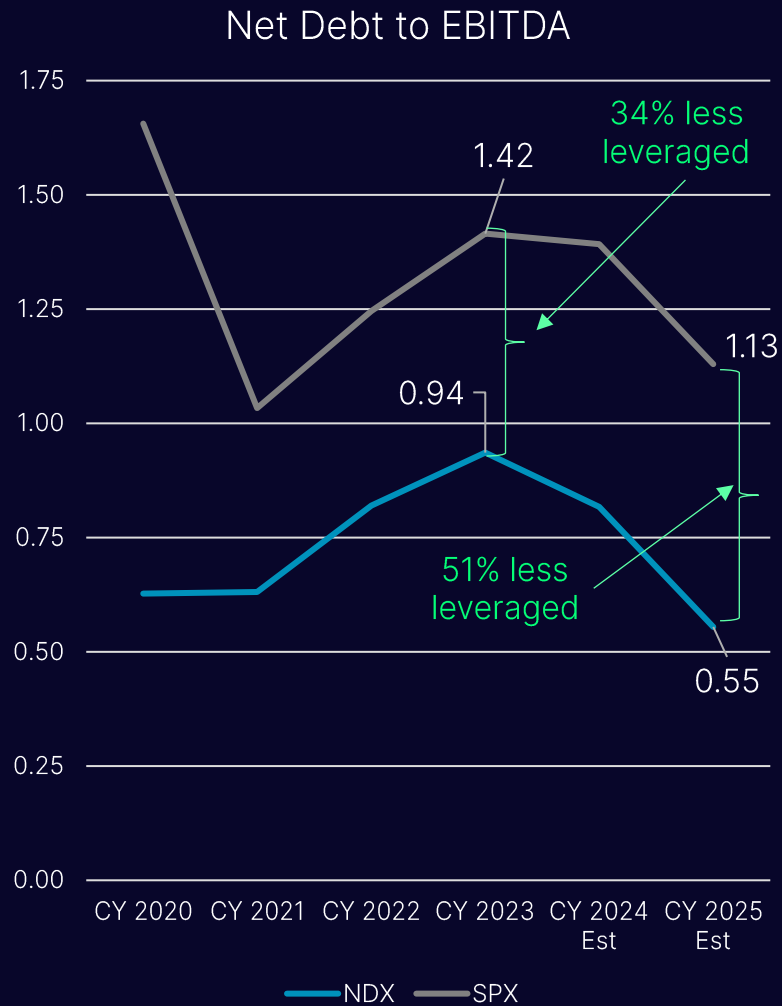


# Nasdaq-100® Historical P/E vs. Profit Margin



Source: Nasdaq, Bloomberg. Data as of 12/2/2024.

# Nasdaq-100 vs. S&P 500: Significantly Less Leveraged



Source: Nasdaq, Bloomberg. Data as of 11/29/2024.

# Quantifying Innovation

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# The Growing Importance of R&D

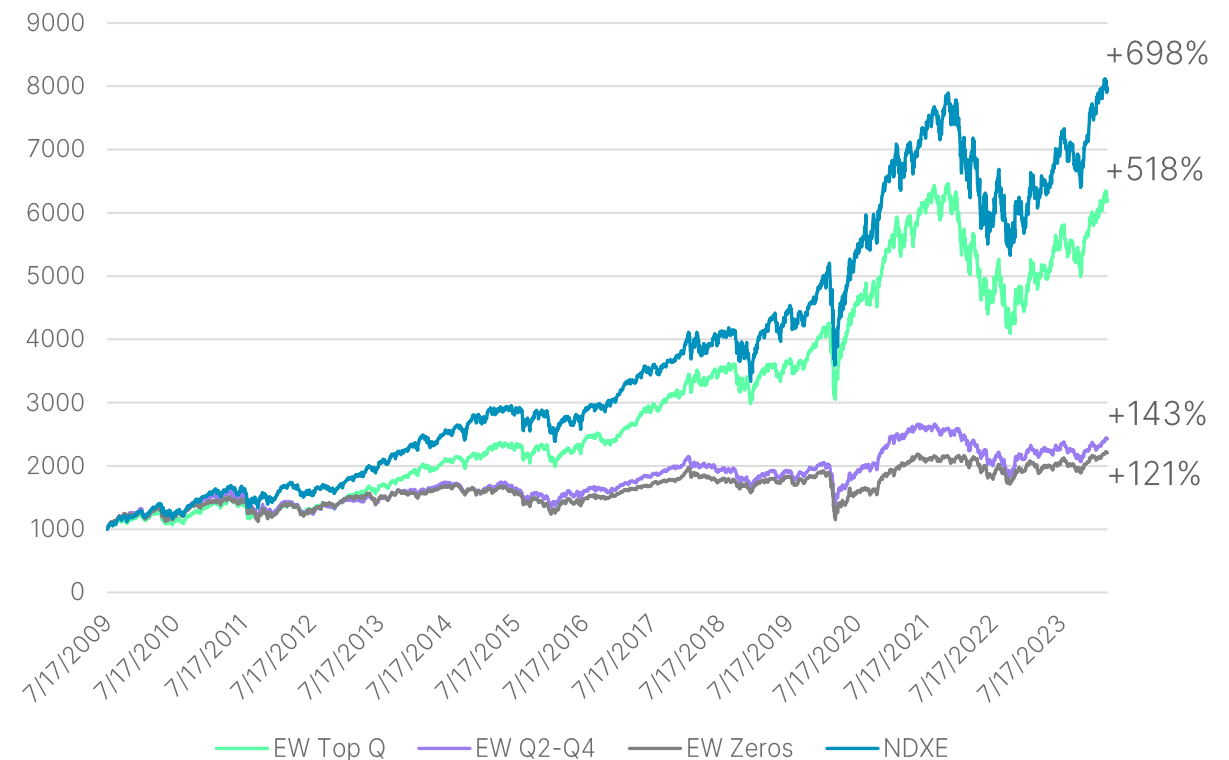
The underlying story for the rise in the Nasdaq-100 is that economic growth is shifting from capital-intensive, traditional industries to the “new-economy” sectors that are increasingly driven by innovation, which can be measured by patents and R&D spending. Top Quartile of R&D spenders reinvest ~5-6x more as % of Sales vs. Quartiles 2/3/4, & have superior sales growth / price performance

Qualcomm’s “Patent Wall” at Global Headquarters



- 2<sup>nd</sup> Most Valuable Patent Portfolio (>18,000 public companies)
- Patent filings in 20 of 35 Disruptive Tech sub-themes
- Patent contribution ratios of ~16% each in Spacecraft/Satellites + IoT

Nasdaq Global Large Caps: Top Quartile R&D % Sales vs. Q2-Q4 vs. Zeros, Equal-Weighted (PR)

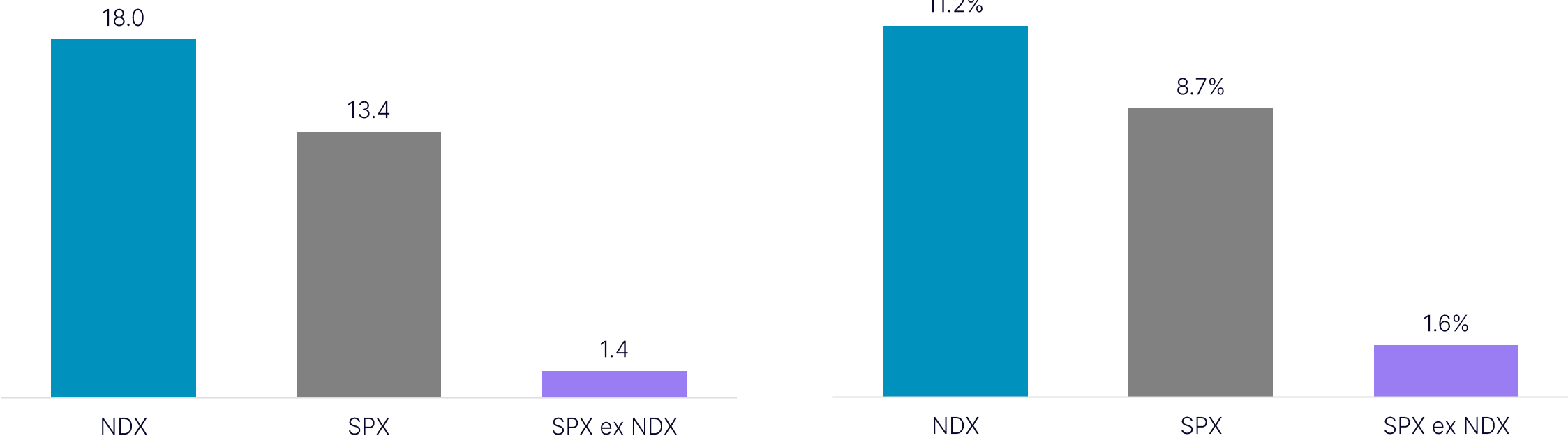


# Research and Development Powerhouse

- R&D is a key driver of innovation and economic growth
- Companies in the Nasdaq-100 spend 34% more on R&D, on average, compared to those in the S&P 500; 84 of the Nasdaq-100 are currently part of the S&P 500; excluding overlapping names, the average Nasdaq-100 company spends ~13x as much in R&D
- Calculating R&D as a percent of sales in the last 12 months, Nasdaq-100 companies averaged 30% higher than S&P 500 companies; excluding overlapping names, they spent 7x as much on average

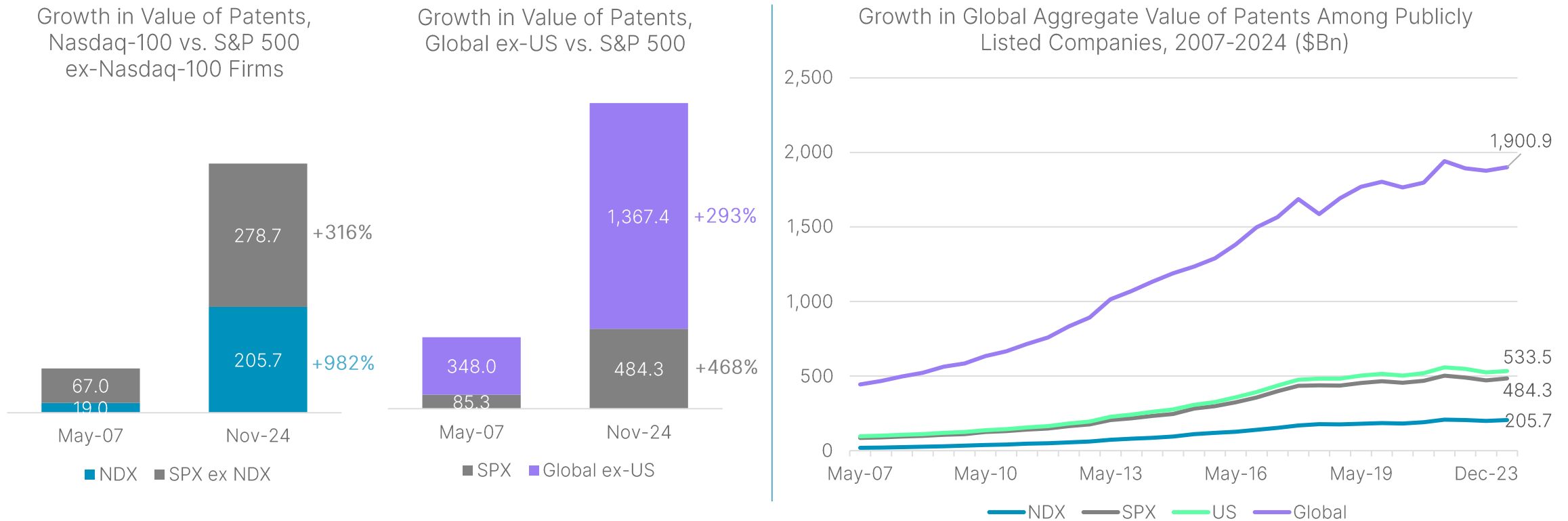
Weighted Average Annual R&D Expense, \$Bn

Weighted Average R&D as % Sales



# Accelerating Growth of Intangible Assets

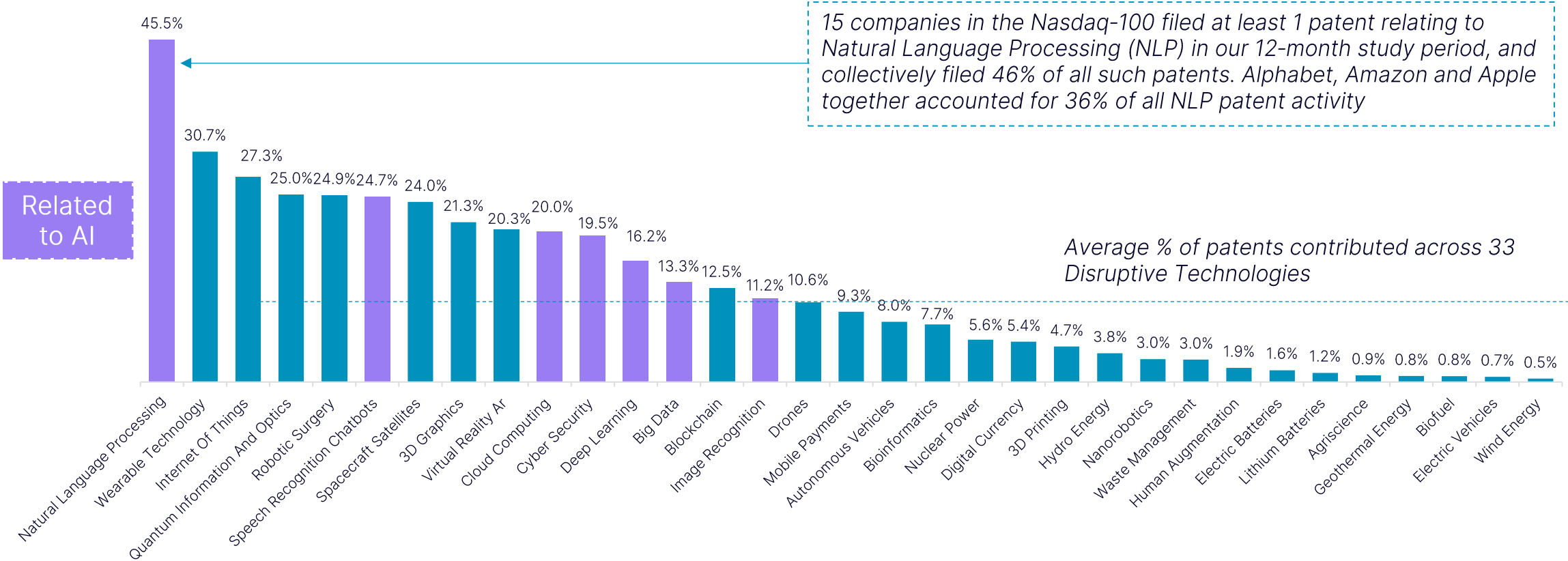
The current crop of Nasdaq-100 constituents has grown the value of their patents by ~11x since May 2007, vs. ~4x across all publicly-listed, tracked companies globally. Growth for the S&P 500 overall was ~6x, but only ~4x excluding the contribution of overlapping Nasdaq-100 firms. Global growth ex-US was also ~4x



Source: Nasdaq, IPR Strategies via Nasdaq Data Link. Based on index constituents as of 12/31/2024. IPR Data as of 11/30/2024.

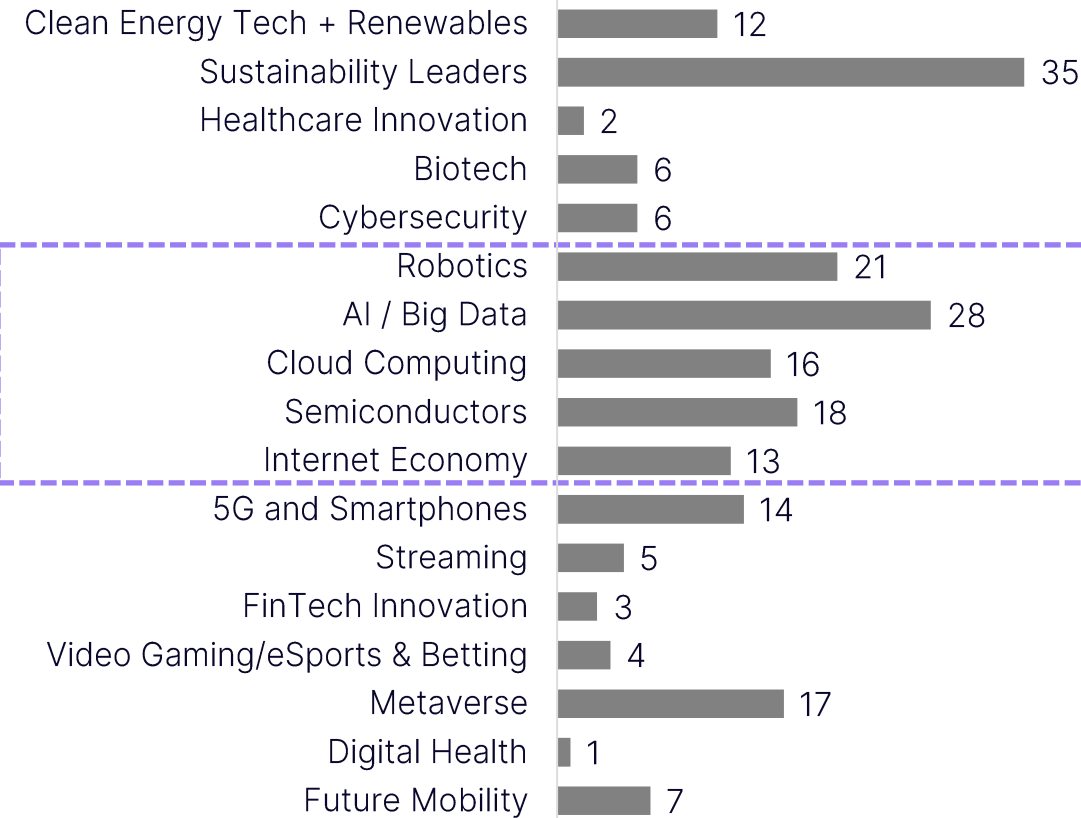
# Disruptive Technology and R&D: Nasdaq-100

- 63 companies in the Nasdaq-100 (representing 79% of index weight) recently filed patents across one or more of 35 key areas of Disruptive Technology relating to Artificial Intelligence, Energy Transition, Healthcare, etc.

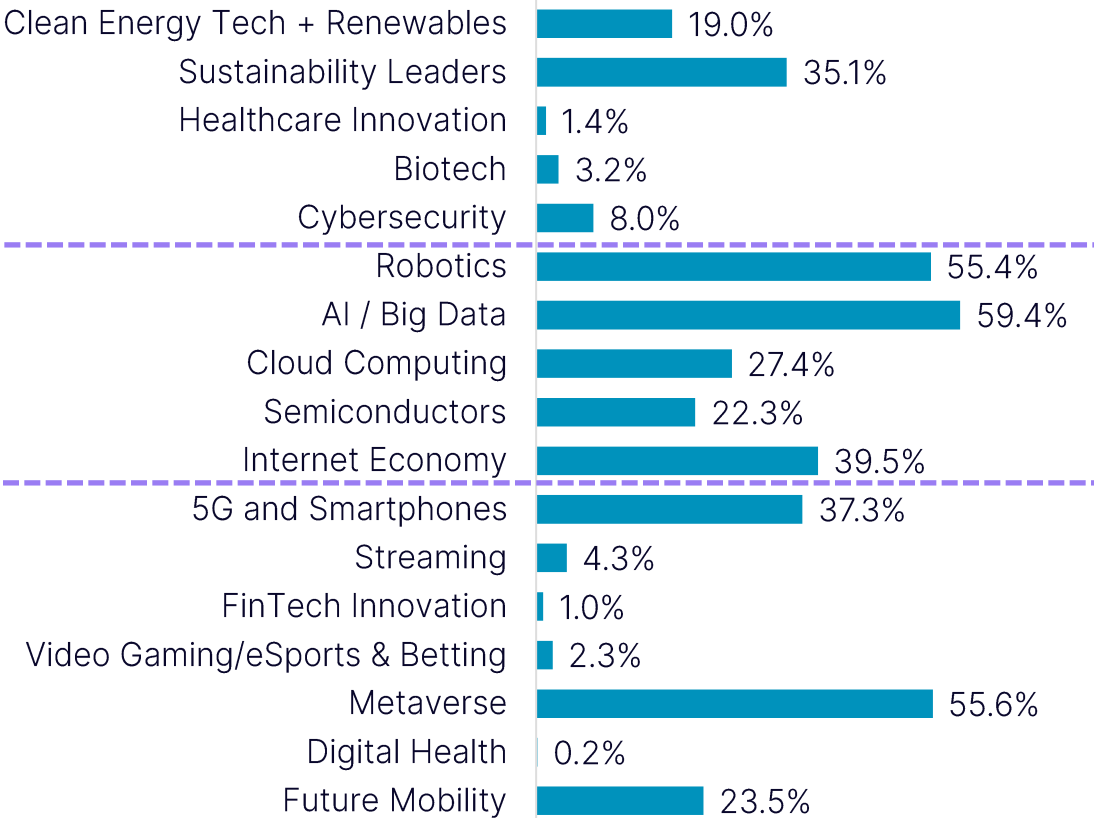


# Nasdaq-100 by Thematic Exposures

# of Constituents per Theme



Index Weight per Theme



Source: Nasdaq, FactSet. Data as of 12/31/2024. Based on overlap with existing Nasdaq Thematic Indexes, except for 5G and Smartphones, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

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