Nasdaq & Sustainalytics: ESG Meets the Nasdaq-100®

Mark Marex, Index Product Development Senior Specialist
Tobias Lazar, Index Product Development Senior Manager
Efram Slen, Global Head of Index Research

Introduction

The Nasdaq-100 ESG™ Index (NDXESG™) launched on June 21, 2021, leveraging Morningstar's industry-leading Sustainalytics ESG data and methodology to ensure all constituents meet specific ESG criteria. While the Nasdaq-100 ESG Index is broadly similar to the Nasdaq-100 in terms of its constituents, sector exposures, and overall return/risk profile, there are several meaningful differences worth analyzing. Let's first take a deep dive into the Sustainalytics approach to ESG and how Nasdaq employs their data in NDXESG. Thereafter, we will review the Nasdaq-100 ESG Index components today, in tandem with how and why the index differs from the Nasdaq-100. We will close with competitive positioning against other large-cap and ESG indexes.

What is the Nasdaq-100?

The Nasdaq-100 is one of the world's preeminent large cap indexes, comprised of 100 of the largest domestic and international non-financial companies listed on The Nasdaq Stock Market.

What is ESG?

ESG is a well-documented acronym that stands for Environmental, Social and Governance. According to the CFA Institute, "Investors are increasingly applying these non-financial factors as part of their analysis process to identify material risks and growth opportunities. ESG metrics are not commonly part of mandatory financial reporting, though companies are increasingly making disclosures in their annual report or in a standalone sustainability report. Numerous institutions, such as the Sustainability Accounting Standards Board (SASB), the Global Reporting Initiative (GRI), and the Task Force on Climate-related Financial Disclosures (TCFD) are working to form standards and define materiality to facilitate incorporation of these factors into the investment process." [1]

[1] https://www.cfainstitute.org/en/research/esg-investing

Who is Sustainalytics?

Sustainalytics, a Morningstar Company, is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. For nearly 30 years, the firm has been at the forefront of developing high-quality, innovative solutions to meet the evolving needs of global investors. Today, Sustainalytics works with hundreds of the world's leading asset managers and pension funds who incorporate ESG and corporate governance information and assessments into their investment processes. Sustainalytics also works with hundreds of companies and their financial intermediaries to help them consider sustainability in policies, practices and capital projects. With 17 offices globally, Sustainalytics has more than 1,100 staff members, including more than 500 analysts with varied multidisciplinary expertise across more than 40 industry groups. Sustainalytics offers data covering over 12,500 global issuers. For more information, visit www.sustainalytics.com.

ESG Risk Ratings – Methodology Overview

The application of Sustainalytics' ESG Risk Ratings to the Nasdaq-100 universe of companies facilitates the construction of the NDXESG index, both in terms of its constituents and their weights. At a high level, these risk ratings measure not only the exposure of a company to various ESG issues at a certain threshold of materiality, but also their management of those issues. Thus, it is entirely plausible that a company with above-average exposure to ESG issues may score lower (i.e., better, in terms of its final ESG risk rating) than a company with below-average exposure, assuming it has superior issue management. Per Sustainalytics, the scoring of Management takes into consideration a company's preparedness as well as its track record, by evaluating policies, programs, management systems and controversies. Unmanaged Risk, therefore, determines the final risk rating, after adding across the net impact of each material ESG issue for a given company. For many companies, the Unmanaged Risk will be a combination of systemic risk exposures, as well as a "management gap" – exposure that exists but could be reduced with the appropriate strategy.

This approach allows for a "like-for-like" comparison of companies' ESG risks across different industries since one unit of risk for one issue is equivalent to one unit of risk for another issue (i.e., a "single currency" to measure risk). In addition to the evaluation of material ESG issues, the risk rating also includes a full-bore assessment of Corporate Governance. Lastly, while they rarely occur, Idiosyncratic ESG issues (with a weight of zero until a highly significant event occurs) are also considered.

Companies with a "Severe" ESG Risk Rating are automatically disqualified from inclusion in NDXESG. A rating of greater than 40 is considered "Severe"; 30-40 is considered "High"; 20-30 is "Medium"; 10-20 is "Low"; and 0-10 is "Negligible".

Sustainalytics' ESG Risk Ratings are unique thanks to their:

- Focus on Materiality, with respect to issues only of financial significance;
- Granularity, with respect to model specifications done at the subindustry level, plus company-level refinement via beta factors and company-specific indicator disablements;
- Forward-Looking nature, as a result of explicitly quantifying *exposure*, as well as offering an "outlook" for every controversy assessed;
- Controversy Discounting Effect applied to management scores that increases with severity (with daily monitoring of controversies via tens of thousands of sources from around the world);

- Strong Foundation, by using the full Corporate Governance rating as a baseline (scoring areas such as Board/Management Quality & Integrity, Board Structure, Ownership & Shareholder Rights, Remuneration, Audit & Financial Reporting, and Stakeholder Governance); and
- Comparability, the "like-for-like" quality described above.

NDXESG Methodology Highlights

The index, at all times, consists of a selection of securities from the Nasdaq-100. While the Nasdaq-100 is reconstituted annually each December, the Nasdaq-100 ESG Index is reconstituted on a quarterly basis (in March, June, September, and December), at which time the ESG characteristics of all issuers are reviewed. Securities removed from NDX outside of a reconstitution are removed from NDXESG and are not replaced.

NDXESG Exclusions

NDXESG's screening process considers 15 problematic areas of business activity at the company level, with Sustainalytics assessing the absolute level of involvement via percentage thresholds of revenue derived from each area, as well as the category of involvement (core operations/production vs. sales/distribution vs. ownership level of an asset or business, etc.). The full list of activities can be found in the index methodology. The product breakdown covered can be grouped into four broader themes:

1) Energy (Arctic oil & gas, nuclear power, oil & gas, oil sands, shale energy, thermal coal)
2) Health & Life (Alcohol, recreational cannabis, tobacco)
3) Defense & Military (controversial weapons, military contracting, riot control, small arms)
4) Values-Based (adult entertainment, gambling)

Nasdaq-100 companies that are involved in any of these activities are not permitted for inclusion into NDXESG; with some exceptions (e.g., alcoholic beverages), minimal levels of involvement are permissible.

Sustainalytics monitors whether securities violate any of the 10 principles around human rights, labor, environment, and anti-corruption from the **United Nations Global Compact**. Securities are excluded from NDXESG that are classified as non-compliant, ensuring that each company in the index is either compliant or on the watch-list[2] with the UN Global Compact framework for following international norms.

Exclusions will also result from a Category 5 score (the most severe of categorical scores on a scale of 1-5) for any material controversy affecting a company. The **controversy** rating reflects a company's level of involvement in and how it manages incidents with negative ESG implications.

[2] A company is assessed as watch-list if it is determined to be at risk of contributing to severe or systemic and/or systematic violations of international norms and standards.
A company is assessed as watch-list when it is determined to be:

- Causing or contributing to severe negative impacts (harm) to stakeholders and/or the environment, but for which not all requirements for a Non-Compliant status could be established (e.g., company accountability cannot be confirmed);
- Accountable for negative impacts, but there is insufficient information to determine that the company is violating international norms;
- Linked to a violation of international norms, but the negative impacts are not severe enough to warrant a Non-Compliant status, or the negative impacts are still remediable;
- Improving its policies and programmes to prevent a reoccurrence, having been assessed previously as Non-Compliant, and further monitoring is required due to pending resolutions or remediation efforts.

Putting it together with the exclusions from "Severe" **ESG Risk Rating Score**, there are multiple levels of screening to ensure controversial companies with poor performance across any E, S, or G factor will not make it into NDXESG.

NDXESG Weighting

The index is a modified market capitalization weighted Index that considers a company's ESG Risk Rating Score as an adjustment factor. The process to calculate weights is rather straightforward. The ESG Risk-Adjusted NDX Market Value is calculated for each Index Security as follows:

$$ESG\ Risk - Adjusted\ NDX\ Market\ Value = \frac{40 - ESG\ Risk\ Rating\ Score}{40} \text{ x } NDX\ Market\ Value$$

Initial security weights are calculated by dividing a security's ESG Risk-Adjusted NDX Market Value by the sum of the ESG Risk-Adjusted NDX Market Values of all Index Securities. Afterwards, the same four-stage weight adjustment process as exists for NDX at its annual reconstitution is applied to produce final weights on a quarterly basis for NDXESG. Everything else equal, the higher the weight in the Nasdaq-100 and/or the better ESG risk rating, the higher the weight in the NDXESG Index, and vice versa.

ESG Risk Rating Example – Apple (AAPL)

In the case of Apple, Sustainalytics assessed exposures to seven material ESG issues, only one of which – Corporate Governance – was considered high. Coupled with broadly strong management of these various exposures, the net risk of Apple is considered low, and only one area – Business Ethics – received an ESG Risk Rating of medium or higher. Apple's momentum has also been trending in the right direction, with a drop in its ESG Risk Rating since 2020, driven by decreasing Exposure Scores and increasing Management Scores across its portfolio of ESG issues. Currently, Apple's ESG Risk Rating Score sits in the middle of the low-risk category (between 10-20) with a score of 16.9.

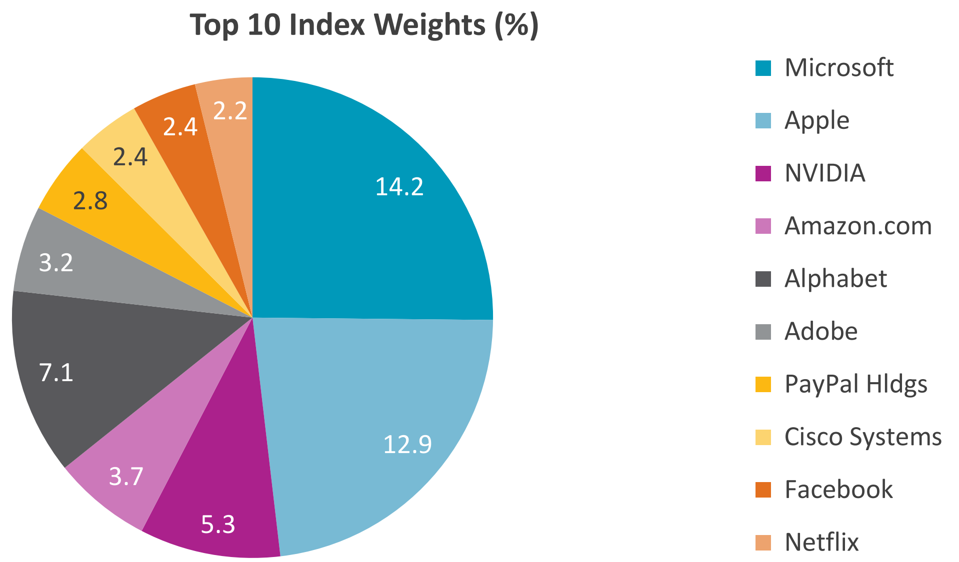
Data as of 9/30/2021.

ESG Risk Rating Example – Amazon (AMZN)

Unlike Apple, which earned a higher weight in NDXESG than in NDX, Amazon saw its weight reduced in proportion to its higher (i.e., worse) ESG Risk Rating. Sustainalytics assessed exposures to eight material ESG issues, with only Corporate Governance considered to be high. However, five issues earned weak management ratings, accounting for four of the five "medium" ESG Risk Ratings (compared to Apple's single one). The Unmanageable Risk portion of the Exposure Score came in at almost twice the level of Apple. Amazon's momentum has also been trending in the wrong direction, with a year-over-year increase in its overall risk rating, driven by an increase in the Exposure Score that was only partially offset by a mildly improving Management Score. Currently, Amazon's ESG Risk Rating Score sits at the low end of the high-risk category (between 30-40) with a score of 30.9.

Data as of 9/30/2021.

Current Composition



Data as of 9/20/2021.

Of the 96 constituents in NDXESG, the top 10 represented 56.3% of the index weight as of September 20, 2021, the effective date of the most recent quarterly reconstitution. The largest of these were Microsoft (MSFT) and Apple (AAPL), whose upsized weightings versus NDX are a function of their relatively lower overall ESG risk exposures, as well as their above-average execution of ESG risk management – at least compared to Amazon (AMZN) and Alphabet (GOOG), whose weightings are lower vs. the standard Nasdaq-100 (NDX™). Below is an overview of the top 10 most significant overweights vs. NDX:

Symbol	Nasdaq-100 ESG Weight (%)	Nasdaq-100 Weight (%)	Difference Weight (%)	Company Name	ICB Industry
MSFT	14.17	10.17	4.00	MICROSOFT	Technology
AAPL	12.94	10.89	2.05	APPLE	Technology
NVDA	5.33	3.76	1.57	NVIDIA	Technology
ADBE	3.25	2.14	1.11	ADOBE	Technology
CSCO	2.45	1.64	0.80	CISCO SYSTEMS	Telecommunications
PYPL	2.76	2.23	0.53	PAYPAL HOLDINGS	Industrials
AMAT	1.26	0.87	0.39	APPLIED MATERIALS	Technology
NFLX	2.17	1.79	0.37	NETFLIX	Consumer Discretionary
INTC	1.81	1.51	0.30	INTEL	Technology
PEP	1.72	1.46	0.26	PEPSICO	Consumer Staples

Data as of 9/20/2021.

Below are the top 10 most significant underweights:

Symbol	Nasdaq-100 ESG Weight (%)	Nasdaq-100 Weight (%)	Difference Weight (%)	Company Name	ICB Industry
AMZN	3.74	7.91	(4.18)	AMAZON.COM	Consumer Discretionary
TSLA	1.93	4.25	(2.32)	TESLA	Consumer Discretionary
FB	2.45	3.92	(1.48)	FACEBOOK	Technology
MRNA	0.62	1.19	(0.57)	MODERNA INC	Health Care
GOOG	3.64	4.09	(0.44)	ALPHABET CL C	Technology
GOOGL	3.41	3.83	(0.41)	ALPHABET CL A	Technology
ISRG	0.46	0.85	(0.38)	INTUITIVE SURGICAL	Health Care
AVGO	1.08	1.43	(0.34)	BROADCOM	Technology
CHTR	0.71	0.96	(0.25)	CHARTER COMMUNICATIONS	Telecommunications
KHC	0.09	0.31	(0.22)	KRAFT HEINZ	Consumer Staples
COST	1.22	1.39	(0.17)	COSTCO WHOLESALE	Consumer Discretionary

Data as of 9/20/2021.

Overall, 59 constituents earned higher index weights in NDXESG vs. NDX with an average weight increase of 0.26%, and 37 constituents earned lower weights with an average decrease of 0.34%. In addition, the following companies were fully disqualified from inclusion in NDXESG, either due to specific controversy exclusion rules, or in the case of Peloton, insufficient Sustainalytics data:

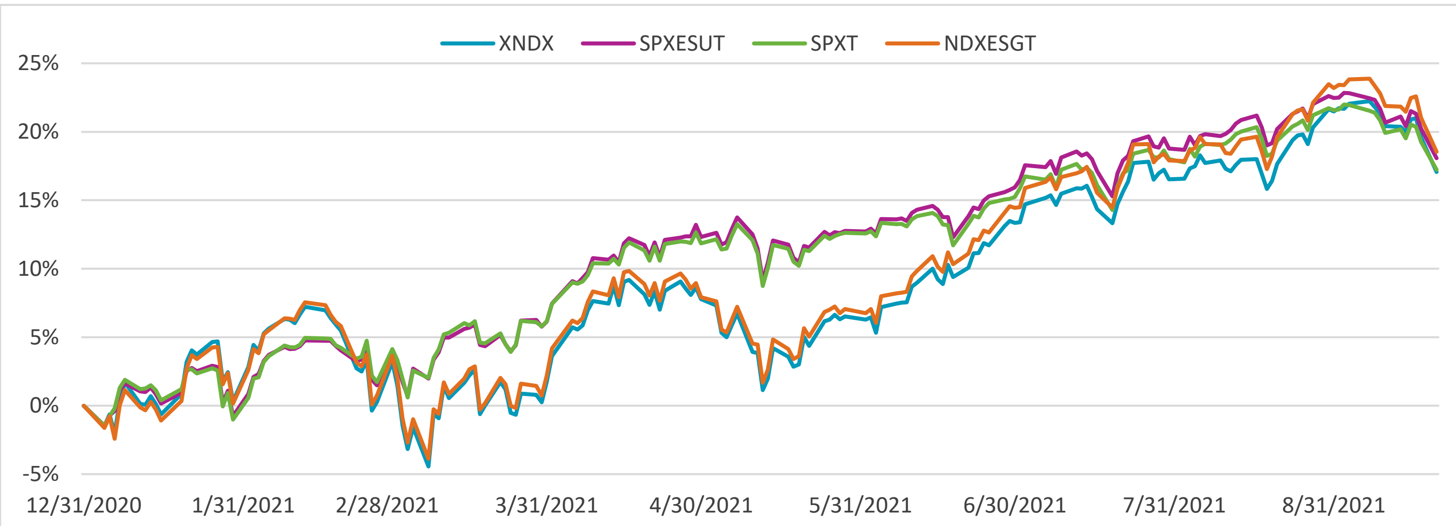
Symbol	Nasdaq-100 ESG Reason for Exclusion	Nasdaq-100 Weight (%)	Company Name	ICB Industry
HON	Revenue from military weapons. Provide non-nuclear materials for nuclear weapons and involved in management of labs where nuclear weapons are designed and tested.	1.04	HONEYWELL INTERNATIONAL	Industrials
ADI	Revenue from military contracting weapon-related products and/or services.	0.63	ANALOG DEVICES	Technology
EXC	Revenue from nuclear energy and oil & gas power generation.	0.33	EXELON	Utilities
AEP	Revenue from thermal coal power generation, nuclear energy, and oil & gas power generation.	0.29	AMERICAN ELECTRIC POWER COMPANY	Utilities
XEL	Revenue from thermal coal power generation and oil & gas power generation.	0.24	XCEL ENERGY	Utilities
PTON	ESG Risk Rating Score has not yet been determined.	0.19	PELOTON INTERACTIVE	Consumer Discretionary

Data as of 9/20/2021.

The resulting weight differences across sectors were most pronounced in Technology (as defined by the Industry Classification Benchmark), with an increase of 8.4 percentage points vs. NDX to 63.7%, and in Consumer Discretionary, with a decrease of 5.9 percentage points to 15.6%. Utilities disappeared entirely as an industry exposure due to the exclusion of all three of its constituents within the Nasdaq-100. The remaining industry exposures of any significance were Industrials, Healthcare, Telecommunications, and Consumer Staples.

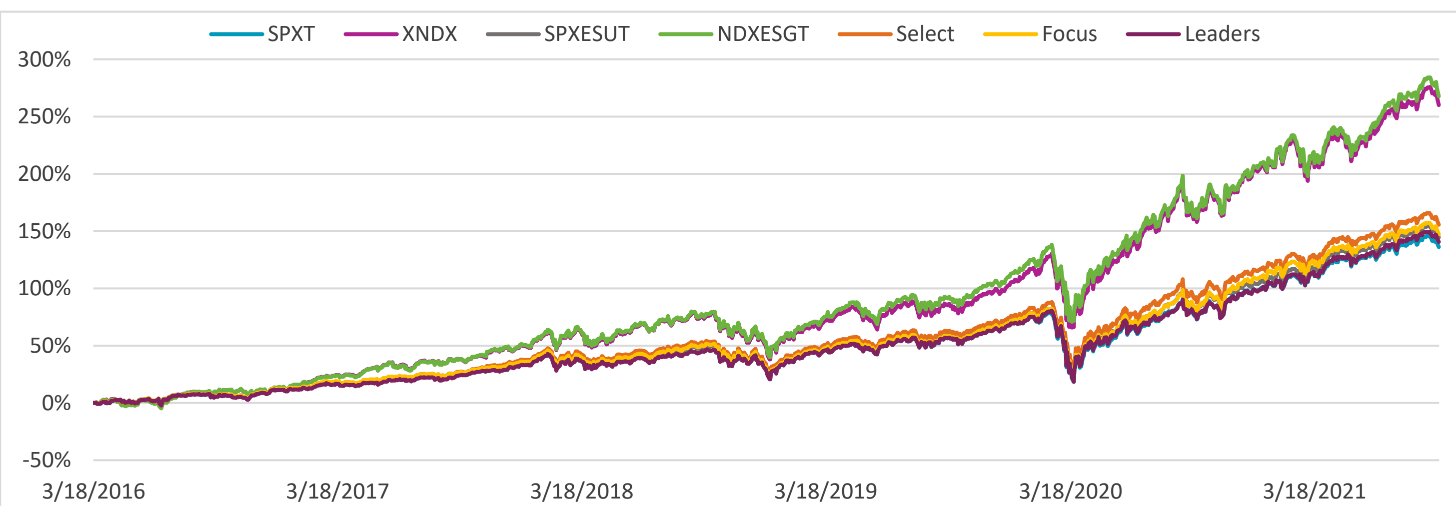
Performance Overview

The Nasdaq-100 ESG Total Return™ Index (NDXESGT™) has marginally outperformed the Nasdaq-100 Total Return™ Index (XNDX™), the S&P 500 Total Return Index (SPXT), and the S&P 500 ESG Total Return Index (SPXESUT) in the first nine months of 2021, with a gain of 18.5% vs. 16.5%, 17.2%, and 18.1%, respectively (as of September 20, 2021):



Data as of 9/20/2021.

On a longer time horizon dating back to the beginning of the NDXESGT backtest in March 2016, it is evident that very minor tracking error exists vs. XNDX (1.40% annualized). The significant outperformance of the Nasdaq-100 against the broader US equity market, as measured by the S&P 500 Total Return Index, extends into the ESG universe of benchmarks including the MSCI USA Extended ESG Focus Gross Return Index (Focus), MSCI USA Extended ESG Leaders Gross Return Index (Leaders), and the MSCI USA ESG Universal Select Business Screens Gross Return Index (Select).



Data as of 9/20/2021.

ESG Comparisons

The Nasdaq-100 by itself has a compelling ESG narrative. Despite all of the screens employed in the Nasdaq-100 ESG Index, only 6 securities were removed. For context, the Nasdaq-100 has over a 5% lower weighted average Sustainalytics ESG Risk Rating Score than the S&P 500 and MSCI USA Indexes. Furthermore, the Nasdaq-100 has a lower ESG Risk Rating than two ESG indexes in the table below, one of which is the S&P 500 ESG Index and the other is the MSCI USA Extended ESG Focus Index.

Now let's see how the Nasdaq-100 ESG Index shapes up versus the competition.

The Nasdaq-100 ESG Index has a material drop in its ESG Risk Rating Score to be almost 10% lower than the Nasdaq-100. The Nasdaq-100 ESG Index is 3-10% lower than a host of other ESG-focused indexes. Reiterating from above, the Nasdaq-100 ESG Index also only took a 6% drop in the number of constituents from the Nasdaq-100 to achieve this new ESG stature, having the lowest score of all of the alternative ESG indexes present in the analysis. Other indexes dropped anywhere from 9% to 56% of the securities from their respective benchmarks to achieve stronger ESG Risk Rating Scores. Of course, these other indexes may not use Sustainalytics exclusively (in the case of the S&P 500 ESG Index) or at all (in the case of the MSCI Indexes), and there are different scores and processes associated with these other strategies. Be that as it may, the results are still quite impressive.

Index	Benchmark	Number of Securities	% Exclusion from the Benchmark	Weighted Average Sustainalytics ESG Risk Score	Simple Average Sustainalytics ESG Risk Score
MSCI USA Index	--	626	n/a	21.58	22.45
MSCI USA Extended ESG Focus Index	MSCI USA Index	351	44%	20.91	21.58
MSCI USA Extended ESG Leaders Index	MSCI USA Index	278	56%	19.22	20.94
MSCI USA ESG Universal Select Business Screens Index	MSCI USA Index	569	9%	20.10	21.67
Nasdaq-100 Index	--	102	n/a	20.42	20.49
Nasdaq-100 ESG Index	Nasdaq-100 Index	96	6%	18.56	20.09
S&P 500 Index	--	507	n/a	21.49	22.25
S&P 500 ESG Index	S&P 500 Index	314	38%	20.51	21.11

Data as of 7/30/2021.

Summary

The Nasdaq-100 ESG Index was designed with the following objectives in mind:

1. Reduce the degree to which the portfolio's economic value is at risk because of ESG factors, or more technically, aim to significantly improve the portfolio's ESG score;
2. Exclude enterprises that create reputational risks or violate fundamental values;
3. Eliminate business exposures that are off-limit for most ESG-conscious investors; and
4. Aim to deliver similar performance to the Nasdaq-100 (very low tracking error).

The Nasdaq-100 ESG Index achieves all of these objectives while handily outpacing the competition from both a performance and ESG Risk Rating Score perspective.

Sources: Sustainalytics, FactSet, Bloomberg, Nasdaq Global Indexes.