



INDEX METHODOLOGY

NASDAQ ALPHADEX® GERMANY INDEX

NQDXDE

INDEX DESCRIPTION

The Nasdaq AlphaDEX® Index Family employs the AlphaDEX® security screening methodology to select and weight securities from their respective Nasdaq Global Index Family classifications. The Nasdaq AlphaDEX® Index Family is constructed by ranking securities in the corresponding Index families separately on growth and value factors.

SECURITY ELIGIBILITY CRITERIA

Parent index

In order to be eligible for the Nasdaq AlphaDEX® Germany Index, a security must be a component of the Nasdaq Germany Index (NQDE), as determined at the semi-annual reconstitution.

Multiple classes of securities

One Index Security per issuer is permitted. If an issuer has multiple securities, the security with the highest median liquidity will generally be selected for Index inclusion.

Market capitalization eligibility

Each index security must have a consolidated market capitalization greater than the midcap breakpoint (50% percentile) of eligible securities, as determined by Nasdaq.

Consolidated market capitalization refers to the market capitalization of an entire company or entity as determined by Nasdaq.

Liquidity eligibility

Over the 60 trading day period leading up to the reconstitution reference date, each Index Security must have a rolling, five-day average dollar trading volume greater than USD 500,000.

INDEX CALENDAR

Reconstitution schedule

The Index is reconstituted semi-annually in January and July.

Reconstitution reference dates

The January reconstitution is conducted using market data as of the end of December while the July reconstitution is conducted using market data as of the end of June.

Reconstitution announcement dates

Index reconstitution changes are announced at market open on the 6th business day of the reconstitution month.

Reconstitution effective dates

Index reconstitution changes become effective at market open on the 9th business day of the reconstitution month.

Rebalance schedule

The Index is rebalanced semi-annually in conjunction with the Index Reconstitution. The reference, announcement, and effective dates are the same as those of the Reconstitution.

CONSTITUENT SELECTION AND WEIGHTING

Constituent selection factors

The growth factors used for ranking eligible securities are:

- 3-, 6- and 12-month price appreciation
- sales to price
- 1-year sales growth

The value factors used for ranking eligible securities are:

- book value to price
- cash flow to price
- return on assets

Constituent selection and weighting process

- I. Nasdaq applies the security eligibility criteria to the components of the Nasdaq Germany Index (NQDE) to arrive at the initial eligible universe. If fewer than 54 securities qualify, then those with the next largest consolidated market capitalization(s) below the midcap breakpoint are included in the ranking until there is a ranked pool of 54 securities.
- II. Eligible securities are ranked on the sum of ranks for growth and value factors. A security must have data available for all growth and/or value factors to receive a rank for that style category.
- III. Securities are classified as either a value stock or growth stock, as determined by Nasdaq. Securities classified as value securities will receive their value rank and securities classified as a growth security will receive their growth rank as their “selection score.”
- IV. Based on the “selection score,” the 40 top-scoring securities comprise the “selected securities” universe.
- V. The “selected securities” are then split into quintiles based on their selection scores. The top ranked quintile receives 5/15 (33.3%) of the portfolio weight with successive quintiles receiving 4/15 (26.7%), 3/15 (20.0%), 2/15 (13.3%) and 1/15 (6.7%), respectively. Securities are equally weighted within each quintile.
- VI. After weights are assigned, each stock is tested in order of its selection score rank to check whether the weight assigned to that stock violates a sector weighting constraint.
- VII. Sector weights in the Nasdaq AlphaDEX® Germany Index are capped at 15% above their respective weight in the NASDAQ Germany Index as of the reconstitution reference date.
- VIII. Securities will fail the sector constraint if the sum of the security weight and the weight assigned to all higher ranked securities in its sector is greater than the sector constraint determined in step VII.
- IX. Securities failing the sector constraint test are lowered in rank to the highest rank in the next quintile. Securities previously lower in rank than the failing stock move up one rank. This may result in a weighting change for these securities if they move up to a higher quintile. The failing stock will later be retested for constraint violations with its new lower assigned weight in the order determined by its new rank. Securities in the lowest quintile that fail a constraint are removed from the portfolio and replaced by the highest scoring stock not originally selected, subject to sector constraints.
- X. The securities remaining in each of the five quintiles will make up the final Index Securities.

Constituent weighting scheme

Nasdaq AlphaDEX® Indexes are modified equal-weighted indexes.

For additional information about index weighting, see **Nasdaq Standard Index Weight Adjustment Guidelines**.

INDEX MAINTENANCE

Deletion policy

If, at any time during the year other than the Index Reconstitution(s), an Index Security that no longer meets the Eligibility Criteria, or is otherwise determined to have become ineligible for inclusion in the Index, it is removed from the Index. This includes circumstances where an Index Security is determined to be ineligible for continued inclusion in the Index due to bankruptcy, delisting, or a definitive agreement that would likely result in the security no longer being Index eligible. Please refer to **Nasdaq's Corporate Actions and Events Manual – Equities** for detailed handling of the aforementioned event types.

Replacement policy

Index securities deleted at any time during the year other than the Index Reconstitution(s) are not replaced.

Corporate actions

In the interim periods between scheduled index reconstitution events, individual Index securities may be the subject to a variety of corporate actions and events that require maintenance and adjustments to the Index. Specific treatment of each type of corporate action or event is described in **Nasdaq Corporate Actions and Events Manual – Equities**, which is incorporated herein by reference.

In certain cases, corporate actions and events are handled according to the weighting scheme or other index construction techniques employed. Wherever alternate methods are described, the Index will follow the “Non-Market Cap Corporate Action Method.”

Index share adjustments

Other than as a direct result of corporate actions, the index does not normally experience share adjustments between scheduled index rebalance and reconstitution events.

ADDITIONAL INFORMATION

Announcements

Nasdaq announces Index-related information via the Nasdaq Global Index Watch (GIW) website at <http://indexes.nasdaqomx.com>.

For more information on the general Index Announcement procedures, please refer to the **Nasdaq Index Methodology Guide**.

Holiday schedules

The Index is calculated Monday through Friday and does not close for holidays, as it is a Global Index.

Unexpected market closures

For information on Unexpected Market Closures, please refer to the **Nasdaq Index Methodology Guide**.

Calculation types

For information on the Index calculation types as well as the mathematical approach used to calculate the Index(es), please refer to the **Calculation Manual – Equities & Commodities**.

Recalculation and restatement policy

For information on the Recalculation and Restatement Policy, please refer to the **Nasdaq Index Recalculation Policy**.

Data sources

For information on data sources and the classification of dividends and associated tax rates, please refer to the **Nasdaq Index Methodology Guide**.

Contact information

For any questions regarding an Index, please contact the Nasdaq Index Client Services team at indexservices@nasdaq.com.

Index dissemination

Index values and weightings information are available through Nasdaq Global Index Watch (GIW) website at <https://indexes.nasdaqomx.com/> as well as the Nasdaq Global Index FlexFile Delivery Service (GIFFD) and Global Index Dissemination Services (GIDS). Similar to the GIDS offerings, Genium Consolidated Feed (GCF) provides real-time Index values and weightings for the Nordic Indexes.

For more detailed information regarding Index Dissemination, see the **Nasdaq Index Methodology Guide**.

Index calculation and dissemination schedule

The index is calculated starting at (Asia/Tokyo) market open and ending at (America/New York) market close in USD as well as GBP and EUR variants.

Website

For further information, please refer to Nasdaq GIW website at <https://indexes.nasdaqomx.com/>.

FTP and dissemination service

Index values and weightings are available via FTP on the Nasdaq Global Indexes FlexFile Delivery Service (GIFFD). Index values are available via Nasdaq's Global Index Dissemination Services (GIDS).

GOVERNANCE

Index governance

All Nasdaq Indexes follow the same governance structure. For a detailed list of this information, please see the **Nasdaq Index Methodology Guide**.

Nasdaq Index Management Committee

The Nasdaq Index Management Committee approves all new Index Methodologies. This committee is comprised of full-time professional members of Nasdaq. The committee meets regularly, and reviews items including, but not limited to, pending corporate actions that may affect Index constituents, statistics comparing the composition of the indexes to the market, companies that are being considered as candidates for addition to an Index, and any significant market events.

For a detailed overview of the Index Management Committee, please see the **Nasdaq Index Methodology Guide**.

Internal reviews of methodology

For a detailed description on internal reviews of the Methodology, please see the **Nasdaq Index Methodology Guide**.

Communication with stakeholders and consultations

For a detailed description on Consultations and Communications with Stakeholders, please see the **Nasdaq Index Methodology Guide**.

Index cessation

Nasdaq has a documented procedure that is followed for Index Cessation that includes termination/retirement of an Index or Index Family.

For more information, please refer to the **Nasdaq Index Cessation Policy**.

Discretionary adjustment

This Index Methodology was created by Nasdaq to achieve the aforementioned objective of measuring the underlying purpose of each Index governed by this methodology document. Any deviations from this methodology are made in the sole judgment and discretion of Nasdaq so that the Index continues to achieve its objective.

For more information on potential adjustments including Calculation and Pricing Disruptions, Expert Judgment, and Unexpected Reconstitution/Rebalances, please refer to the **Nasdaq Index Methodology Guide**.

GLOSSARY OF TERMS AS USED IN THIS DOCUMENT

For the glossary of key terms, please refer to the **Nasdaq Index Methodology Guide**.

DISCLAIMER

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity, including but not limited to, quantitative inclusion criteria. Nasdaq may also, due to special circumstances, if deemed essential, apply discretionary adjustments to ensure and maintain the high quality of the index construction and calculation. Nasdaq does not guarantee that any Index accurately reflects future market performance.

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