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ATX - Framework

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The German version of this document is binding.
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General

Wiener Börse AG (“WBAG”) has been computing and disseminating tradable indices in real time since 1 January 1991; these indices serve as underlyings for standardized derivatives and structured products. The indices are subject to the highest quality and transparency requirements, and compliance is guaranteed by the corresponding procedures and an efficient technical infrastructure. The ongoing calculation of the index may be described as a purely mathematical and technical process which is carried out and monitored with utmost care.

Organization of the Index Area

WBAG has principal responsibility for all aspects of data preparation, index calculation and index dissemination.

The operations include data preparation, quickly implementing changes to underlying calculation mechanisms, the ongoing monitoring of the calculation of the index and the index quality assurance. These tasks are carried out by the employees of Market & Product Development, Listing, Team Index Management (“Index Management”).

IT Production (“IT”) is responsible for the technical implementation of index calculation. This includes support and maintenance of the technical calculation and dissemination systems.

Issuers & Market Data Services (“MDS”) is responsible for tasks relating to the dissemination of the index data via the website and specialized data vendors (such as Bloomberg, Thomson-Reuters, etc.) as well as for making available index-related information via the diverse access points such as FTP accounts and the special zones on the online index portal www.wienerborse.at/en/indices.

Market & Product Development, Listing, Team Licences is responsible for the national and international marketing of WBAG indices under license agreements with institutions such as banks, insurance companies and asset managers.

The framework regarding methodology and composition, calculation and display as well as for all adjustments of the indices is set out in “The Rules for the Austrian Indices of the Vienna Stock Exchange (“Rules”). Amendments to the rules are adopted by the Index Committee.

The following “stakeholders” are on the ATX Index Committee: representatives of members of WBAG, financial institutions that issue financial products on the indices as well as representatives of institutional investors, academic consultants and representatives of WBAG itself. The participation of external members makes it possible share views with market participants on the indices of WBAG. The Index Committee meets on a quarterly basis in March, June, September and December. All decisions that cannot be postponed and must be taken between the quarterly meetings of the Index Committee may be reached by the Index Committee convened in the function of the Urgent Action Committee. Further details on the tasks and the work of the Index Committee are contained in the chapter “Index Committee”.



The ATX Working Committee monitors the work of the Index Management team to ensure the orderly execution of operational tasks; the ATX Working Committee holds weekly meetings and guarantees the optimal exchange of information and effective control of workflows. All departments involved in the calculation of indices take part in these meetings. Further details on the tasks and the work of the Working Committee are contained in the chapter “Working Committee”.

Index Methodology

The ATX has been designed as a market-tracking and transparent index for the Austrian stock market. The ATX contains the stocks of the prime market with the highest liquidity and market capitalization. Basically, the ATX may contain only stocks issued by companies with their legal registered office and seat of operations in Austria. Even if a listed company does not have its legal registered office in Austria, it is possible to include its stocks in the ATX if the seat of its operations is in Austria and the principal listing venue of the stocks is the Vienna Stock Exchange. The principal listing venue is defined by the trading volume in monetary terms compared to other stock markets. The starting value of the ATX was fixed at 1000 index points on 2 January 1991.

The index methodology is defined in the Rules which are available for downloading from the index portal (www.wienerborse.at/en/indices) of WBAG at www.wienerborse.at/en/indices/download-area/index-rules.

Technical Calculation

Input Data

WBAG has extensive review processes for the calculation and publication/dissemination of the ATX. The input data for the calculation of the ATX are the prices generated in the trading system T7® of WBAG.

After the traded prices of the index members are entered into the index calculation infrastructure of WBAG and after undergoing several quality checks they are used for calculating the index according to a predefined calculation formula. In this process only "new" prices, i.e., prices that differ from current price trigger an index update.

Index Calculation

Index calculation is done on the basis of indices and index groups defined in a database. The indices and the index groups are assigned to calculation formulae and calculation times according to which the calculation of the index may be based.

Data Output

The index values calculated are sent to the following systems via lines that are not connected to each other:

- Data dissemination system

The Alliance Data Highway (ADH) is used to disseminate the calculated index values to data vendors. The data vendors make the data they receive available in real time or with a time delay via their data terminals. Customers from all over the world may use the data terminals to obtain the current index values and inform themselves of index movements.

- Databases of WBAG

The internal databases of WBAG are used primarily to feed the corporate websites of WBAG with information and to feed the internal data monitoring systems.

Index Adjustments – Operating Process

When index adjustments are made, the master data of the stocks or indices are changed. All changes to the master data such as those required due to changes to the capital of an index company or due to new index calculation times are entered directly by the Index Management staff into the master database with the effective date of the stock or of the index itself.



It is possible to adjust the indices on the last trading day prior to the effective date entered. This procedure must be carried out observing the principle of dual control. Once the change is entered correctly and the data of the simulation matches the data in the index calculation infrastructure, the Index Management staff confirms that the adjustment is correct. As of the effective date entered, the change to the index becomes effective for the current index calculation. This change is also forwarded to the internal databases of WBAG where it is available with the historic data.

Index Calculation – Emergency Procedures

In exceptional cases, it may become necessary to directly intervene in the index calculation. This applies, in particular, when the current index calculation is not correct or cannot be executed correctly.

The Index Management team also has the possibility of stopping the calculation, restarting calculation or stopping the calculation all together for the current calculation day.

Index Dissemination

Overview

WBAG acts as Benchmark Administrator and also publishes all indices calculated by WBAG. WBAG employs professional and experienced employees for the publication of the Benchmark (hereinafter: “ATX dissemination”) and maintains a high performance and stable technical infrastructure. The MDS Department is responsible for the dissemination of the indices and therefore for the dissemination of the ATX. The tasks of the MDS comprise, among other things, monitoring the dissemination of the ATX as well as all areas relating to communication, technical support and customer advice to data vendors (e.g. Thomson Reuters, Bloomberg, etc.) in connection with WBAG data including the ATX.

ATX Dissemination

The ATX is disseminated in real time via data vendors and also via the website of WBAG (www.wienerbourse.at) based on the technical WBAG data transmission infrastructure, the ADH – Alliance Data High Way and meets international standards.

The ADH is a market data interface and the data feed for WBAG and all indices calculated and disseminated by WBAG.

Pre-publication and Post-publication Control

The monitoring of data flows (prior to their use in index calculation) is done by the Index Management and IT teams. Monitoring dissemination of the ATX after publication is done by MDS using monitoring tools and the ADH Feed Client. The availability of the ATX data on the website is monitored and recorded by the website provider via a monitoring tool.



MDS Communication Policies

In the event of problems with the dissemination of the ATX due to errors, interruptions and delays in data transmission, MDS notifies all data vendors with the help of a specific communications tool.

MDS additionally makes general e-mail contact addresses available (e.g.: mds@wienerborse.at and datafeed@wienerborse.at for data vendors; support@wienerborse.at for website customers) which immediately forward enquiries to all employees of the MDS Department involved in the calculation and dissemination of the ATX. Moreover, the MDS Department can be reached via the telephone hotline +43-1-53165-288 during the entire dissemination time.

As soon as the correct ATX dissemination is restored, MDS communicates this status to all data vendors and to the Index Management team who then also inform the licensees. Should the closing price of the ATX be affected by a problem, the value is corrected by the Index Management team who then inform the vendors and licensees via the Infoline service. The data vendors update their databases on the basis of this information and the website provider corrects the value on the website.

Quality Management

The quality of an index is measured by its reliability. Reliability in this context means no incidence of problems – except in exceptional cases – with the index calculation or dissemination and also a guarantee of highest quality for all data used for the calculation.

Monitoring of Ongoing Index Calculation

The Index Management team is responsible for monitoring ongoing index calculation, the maintenance of all input data required for the calculation and for the proper implementation of the Rules.

■ Monitoring Tool

The tool enables the Index Management team to monitor ongoing index calculation using internal and external sources. All indices are recalculated and compared, first, with internal prices used in the calculation infrastructure, and second, with external real time prices. The following aspects of the index calculation are reviewed:

- Dissemination of the indices
- Recalculation of the indices with the internally used prices
- Updating time when disseminated

Furthermore, the monitoring tool serves as a simulation for the implementation of index adjustments. The index concerned is compared in the simulation with the result of the adjustment from the calculation infrastructure on the evening before the effective date.

A further monitoring task of the tool is the display of upcoming dividend payment dates and also index holidays.

■ Correction of Mistakes during Ongoing Index Calculation

If there are problems in the ongoing monitoring of the index, the Index Management team is responsible for immediately informing all market participants via a special communication tool and resolving the problem as fast as possible. All market participants are notified after the problem is solved. The options available for fixing an error during ongoing index calculation are described in the chapter “Index Calculation – Emergency Procedures”.

Review of the Monitoring Processes

If necessary, the index calculation monitoring processes are reviewed and optimized quickly and without delay. In addition, the monitoring processes are reviewed by the Working Committee once a year.



Control Framework

Apart from the already mentioned quality criteria of tradability, representativeness and reliability of the indices, the criterion of transparency is especially important. WBAG ensures the importance of this criterion by establishing clear internal and external control structures as well as defining clearly understandable rules and clear non-misleading communication via several channels (see below).

Rules for the ATX

The Rules describe the framework conditions for index calculation. The Index Management team implements the content of the Rules in its daily work.

The most important points of the Rules cover the following areas:

- Selection criteria of the indices
- Precise details on index calculation
- Precise description of calculation factors
- Periodical reviews by the ATX Index Committee
- Treatment of changes to the capital of a company in case of operational adjustments
- Decision-making bodies

The complete and current version of the Rules is available online for downloading at www.wienerborse.at/en/indices/download-area/index-rules on the index portal www.wienerborse.at/en/indices.

Apart from the Rules, WBAG also makes Calculation Guidelines available on www.wienerborse.at/en/indices that explains the formulae used for each of the indices in detail and the effects of changes to the share capital, and also illustrate the explanations by giving calculation examples.

Working Committee

The Working Committee includes members from all departments involved in index calculation. In the event of problems, complaints or enquiries on the methodology, the Working Committee is also the first escalation instance and decides on the further procedure. At regular meetings, the Working Committee monitors the index methodology applied and if the ATX definition is still appropriate. Moreover, it may request reports from the Index Management team on current problems and risks in the index. In the case of changes to the index methodology, the Working Committee monitors if the changes carried out do not pose a risk to the original purpose of the index and if the changes have been correctly implemented.



Index Committee

The Index Committee is made up of representatives of the management of WBAG as well as external stakeholders. It meets on a quarterly basis in March, June, September and December. All decisions, which cannot be postponed and must be reached between the quarterly meetings of the Index Committee, may be taken by the Index Committee convened in the function of the Urgent Action Committee. The rules impose the obligation on the members of the Index Committee to act objectively in the interest of investors and investor protection. Decisions are taken by the Index Committee after internal discussions by the voting members. The group of voting members is made up of one representative of the management board of WBAG, one representative of the members of WBAG who have assumed market-making commitments for structured products or derivative market products on the ATX, one representative of institutional investors and one representative from academic circles. The members of WBAG and institutional investors each appoint a representative with voting rights from their groups for the term of one year. The group of non-voting members of the Index Committee is made up of the remaining members. The Index Committee is chaired by the management board of WBAG. The resolution is reached by a simple majority vote; in the event of a tie, the vote of the person chairing the meeting shall be the casting vote. Voting members of the Index Committee do not have the right to be replaced by substitute members (except for a representative from the same institution). The transfer of voting rights by proxy to other members of the Index Committee is possible, provided the Chairperson is informed thereof in writing prior to the beginning of the meeting. The Index Committee has a quorum if three voting members are present.

Index Management Communication

WBAG uses the following communication channels to meet the transparency requirements by informing all stakeholders of the ATX on regular and/or ongoing basis.

- **E-Mail and Hotline**

The Index Management team has a general e-mail address (indices@wienerborse.at) to ensure that all enquiries are immediately forwarded to all employees involved in the calculation and dissemination of the ATX. Additionally, the Index Management team can be reached at the telephone hotline +43-1-53165-222.

- **Infoline**

Infoline is an e-mail-based customer communications tool through which all time-critical information on index calculation and market data dissemination (including index dissemination) is sent to the relevant customer groups (index customers and data vendors). Interested stakeholders are added to the distribution list on their request.

- **Index portal**

The index portal www.wienerborse.at/en/indices is one of the most important information channels relating to the indices of WBAG. The portal offers information on index calculation, the current index composition with weightings and calculation parameters, index adjustment announcements, all rules and index



guidelines, trading calendars, index fact sheets and index descriptions as well as information on the index committees free of charge and freely accessible.

■ **Publication of Committee Decisions**

Committee decisions are subject to secrecy obligations until they are published. The Index Management Department publishes Committee decisions immediately after the close of the Committee meetings.

■ **Communication regarding Index Adjustments**

Index adjustments are generally published two days before the date on which they take effect via Infoline, .csv Corporate Action Files and the index portal www.wienerborse.at/en/indices. These refer to adjustments made to indices between the regular quarterly review dates.

■ **Announcements of Changes to the Methodology**

Should changes to the methodology of the ATX become necessary, the Working Committee prepares the documents needed to reach a decision and depending on the changes needed, it supplies market surveys to support the decision-making process. Afterwards, a decision is reached in coordination with the Index Committee on when and how such a change to the methodology of the ATX is to become effective.

■ **Market Messages**

A market message is an Internet-based and e-mail-based information tool used to send messages on short notice. It is used in the case of acute problems with index calculation and dissemination. The Index Management Team announces on short notice which index or which market is currently having problems with the calculation. This type of information is intended to help stakeholders adjust to the current situation and react in time. After a problem is solved, the warning is called off in the same manner.

Complaints Policy

The complaints policy of WBAG is defined and documented in the “Enquiry and Complaints Policy of Wiener Börse AG” made available for downloading on the website of WBAG at www.wienerborse.at/en/indices.

Whistleblower Mechanism

Breach of provisions of the Benchmark Regulation (VO 2016/1011) and related European (Delegated Acts and Technical Standards) and national implementation (“Referenzwerte-Vollzugsgesetz”) is subject to the internal whistleblowing mechanism which is in place at Wiener Börse AG (according to § 9 Referenzwerte-Vollzugsgesetz).



Corrections

Corrections are ex-post changes to information already communicated such as index adjustments, announcements or closing prices that were not published correctly.

- **Correction of Index Announcements**

In the case of errors identified, WBAG will correct every published index announcement as soon as possible. All licensees and data vendors are notified immediately per Infoline and via the index portal www.wienerborse.at/en/indices.

- **Correction of Closing Prices**

Incorrect closing prices are corrected on the next trading day and communicated to licensees and vendors via Infoline.

- **Correction of Announced Changes to the Capital of a Company**

WBAG corrects all errors and false information in connection with changes to the capital of a company immediately after identifying the error and upon availability of the correct information within two trading days. The indices concerned are recalculated and the corresponding correction of the data is initiated.

In the case of an incorrect stock split, bonus issue or stock dividend, WBAG will carry out a retroactive correction within two trading days. The described mode of procedure is applied to all indices equally; all licensees and vendors are notified in time of upcoming changes and corrections.

- **Index Composition (.csv File)**

Incorrect .csv files and .csv files not updated, which are available on www.wienerborse.at/en/indices and the closed customer zone, are updated on the same day.

Discontinued Indices

The ATX cannot be discontinued without a resolution of the Index Committee. Generally, a differentiation is made between two types of reasons for discontinuing an index:

- **Force Majeure**

The index is discontinued due to force majeure, because due to a natural disaster or similar event the calculation is temporarily or definitively no longer possible: WBAG publishes (messages to customers, press releases, information via websites) the last official ATX price and the last valid composition based on the basis of which the index user (issuer of financial products, traders, clearing agents, etc.) may settle the index products.



■ **Orderly Discontinuation of the Index**

The Index Committee decides if and when the index is to be discontinued in an orderly manner. The orderly discontinuation of an index takes into account the announcement periods regarding the license agreements (the longest period is 6 months) as well as the disclosure of information to a broad audience via a press release of WBAG. A written communication to the licensee is sent at the latest 6 months before the effective date the index is to be discontinued.

On the date of the discontinuation, WBAG publishes information on the last official price and the last valid composition of the index to be discontinued by disseminating a press release, sending a message to customers and posting it on the website.

Conflicts of Interest

WBAG is owned 53% by credit institutions and 47% by issuers (“Issuers”). Representatives of the owners from the credit institutions are (also) members of the Index Committee. Therefore, there are potential conflicts of interest between the credit institutions as owners of WBAG and in their function as trading members and/or issuers of (structured) products on the ATX. The following measures have been taken to prevent conflicts of interest:

- The calculation and composition of the ATX is based on defined and transparent rules.
- Decisions of the Index Committee can only be reached with a majority of the votes cast.
- The members of the Index Committee are under the obligation to act objectively in the interest of investors and investor protection.
- The meetings of the Index Committee take place outside of trading hours so that the information from the consultations of the Index Committee cannot be used in trading.
- Decisions of the Index Committee that concern the ATX are published immediately.
- The Rules as well as the Rules of Procedure of the Index Committee (“Rules of Procedure”) contain provisions regarding objectiveness, investor protection and secrecy by the Index Committee. Furthermore, the Rules of Procedure contain provisions regarding the treatment of conflicts of interest.

Issuers who are owners of WBAG are not represented on the Index Committee, and therefore, do not take part in consultations or in the decision-making process.

The following additional measures are taken to prevent conflicts of interest:

- At WBAG, the areas of competence and the assignment of tasks are clearly defined. The index adjustments are carried out by the Index Management team observing the principle of dual control.
- Employees of the Index Management team are under the obligation to comply with the “Compliance Code of Wiener Börse AG” and the “Principles for Employee Dealings”. Compliance is monitored by the Compliance Officer of WBAG.
- Moreover, the telephone conversations of employees of the Index Management team are recorded.
- The remuneration of employees of the Index Management team is not tied to the development of the ATX.