Market data – relevance for the financial market and the economy
How they are generated and used

We live in a data age. This development also holds true for financial markets: every day, stock exchanges provide billions of pieces of information. Deutsche Börse Group alone makes up to four billion pieces of information available worldwide in real time every day – and counting. The high quality and reliability of these market data are particularly important for customers.

But what exactly are market data, how are they created, why are they important and for whom?

What are market data?

The definition of market data is provided by a single legal framework in the EU: trading venues such as stock exchanges continuously publish current bid and ask prices for financial instruments during their trading hours and indicate how many units are available at these prices on their trading venue (pre-trading data). After a trade has been concluded, the executed price, the volume and the time of the trade are also published (post-trading data).
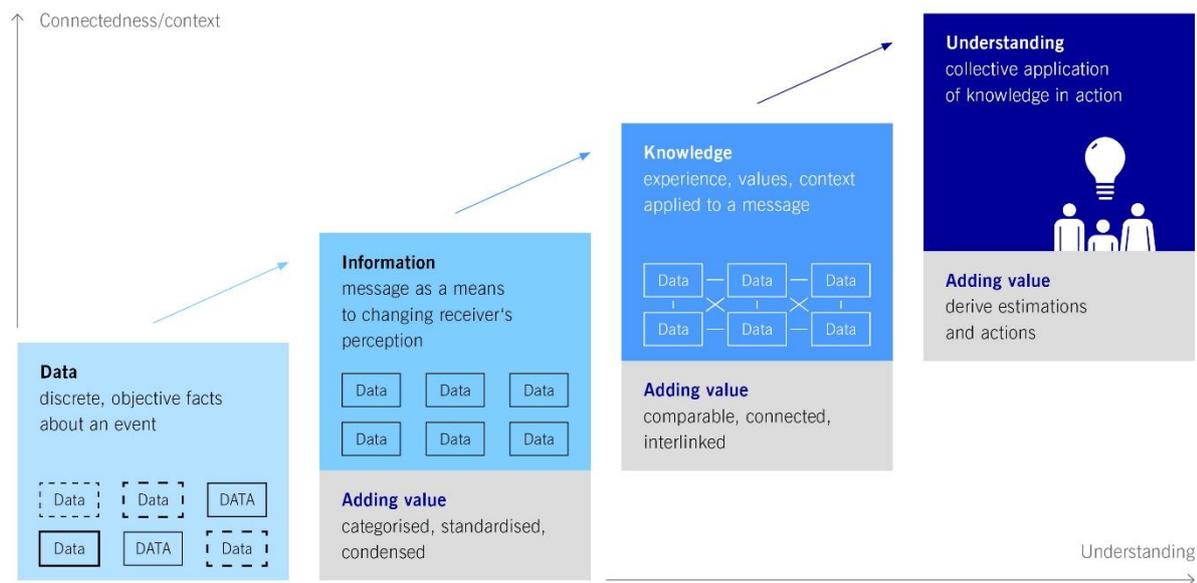
How market data are generated – the process

Market data are generated by means of an elaborate process that is organised, operated and monitored by exchanges. One of the core functions of stock exchanges is organised and transparent pricing.

Regulated markets offer an attractive, secure and liquid trading environment in which fairness and transparency are paramount. Exchange trading and exchange data are two sides of the same coin. Trading and data are created on the same technical infrastructure: the exchange's trading system. Market data is thus generated as a so-called "joint product" and cannot be separated from a trade's execution. This is because every trade contains information such as the price, time and volume of the transaction. There's no data without trading – and no trading without data. Many other markets, from bitcoin to used cars, have no comparable structures and are thus generally much less transparent and fair.

Stock exchanges continuously invest in reliable, efficient and monitored trading systems. This ensures that trading participants are not disadvantaged, manipulation of prices is prevented and technical errors can be discovered and corrected. Regulated trading in turn generates reliable, high-quality data. The value of market data lies in the trust placed in their quality and, more precisely, in the transparency, fairness and integrity with which they are generated on an exchange. At the same time, this trust is the basis for the comprehensive role they play in the economy.

What are data?

From unstructured raw data to deriving actions

Connectedness/context

Understanding
collective application
of knowledge in action

Knowledge
experience, values, context
applied to a message

| Data | Data | Data |
| Data | Data | Data |

Adding value
derive estimations
and actions

Information
message as a means
to changing receiver's
perception

| Data | Data | Data |
| Data | Data | Data |

Adding value
comparable, connected,
interlinked

Data
discrete, objective facts
about an event

| Data | Data | DATA |
| Data | DATA | Data |

Adding value
categorised, standardised,
condensed

Understanding

Example

| red, coordinates: 194.254.154.754.797 | Traffic light at corner X and Y turned red. | Traffic light I am driving towards has turned red. | Stop the car! |

The value of reliable data

When you put individual data points together, you get information; combined with evaluations, economic interests and experience, this leads to knowledge. Knowledge, on the other hand, enables us to not have to guess when making decisions, but to give reasons why we are making a certain choice or not. The usefulness of the data keeps increasing: from the mere collection of data to the processing of useful information to strategic trading decisions. But decisions can only be made on the basis of reliable and correct data.

Stock exchanges cannnot function without market data. Everyone uses data – whether it's for exchange trading, finding out the value of securities in a portfolio, or monitoring if everyone is following the rules. Financial markets only work when there is reliable and transparent information.

Data quality is one factor that determines the trust placed in the decisions we make.

Who uses market data?

Stock exchange data are used extensively and by different customer groups such as trading participants, investors, index providers and competitors.

Market data generated on exchanges support and boost functioning trading, competition and job creation. Below you can find a selection from among their various uses with corresponding background information:

Valuation of companies, investments and portfolios

After a transaction has been executed, market data allow for the respective trading decision to be evaluated retrospectively. For example, it becomes clear whether the broker who executed the transaction on an exchange for an investor executed it at the "best possible" conditions. In this way, an investor can compare, and decide which provider to place his transactions with in the future. In the same way, market data enable the valuation of an entire portfolio or individual positions and thus provide information on the profitability of investments made or risk profiles.

Trading decisions

Anyone who trades on the stock exchange needs reliable and high-quality market data. This starts with something as simple as a current share price. In addition, traders in particular need insight into available volumes, i.e. how many shares are currently tradeable at a given price. Trading decisions are often also based on additional information, such as current news, the company's business figures, macro-economic parameters (such as current economic data) or the price trend over the last few days, weeks or months (historical data). Traders use these data to make their trading decisions. Since not all investors need the same data, however, the stock exchange offers different data products that differ in terms of data depth and content. Private investors can also obtain these data.

Market surveillance on stock exchanges

By means of trading surveillance and market supervision stock exchanges ensure that pricing takes place properly and that market manipulation is prevented. These "market maintenance activities", which also benefit the pricing process, are another reason for the particular quality of market data.

Passive investment strategies

Passive investment strategies based on exchange-traded funds (ETFs) are making up an increasingly significant share of the total investment volume. ETFs are usually based on indices. In order to develop and structure indices, index administrators in turn need reliable and correct stock exchange data, among other things.

A large number of trading venues ensures competition

Market data generated on exchanges are an essential part of a long value chain and used for new business models, sometimes directly, sometimes indirectly: this includes alternative trading venues (which do not have their own pricing process, but rather use exchange prices as a reference), index providers, vendors and risk model providers, who benefit from this valuable data. Thus, market data do not only lead to more transparency but also to product innovation, more competition and choice for market participants.

Single European legal framework

Market data and its generation and publication by stock exchanges are subject to a legal framework and oversight by supervisory authorities. This is regulated uniformly in the EU in accordance with the European financial market regulation MiFID II/ MiFIR.

A key objective of these regulations is to promote transparency of the financial markets and competition. Stock exchanges therefore play an important role in the pricing process and thus for the proper functioning of the market.

Market data services of Deutsche Börse Group

The following data products are part of the offering:

- Market data in real time
- 15-minutes-delayed data
- Historical data
- Signals from the cash and derivatives markets

Deutsche Börse Group – we make markets work

Headquartered in Frankfurt/Main, Deutsche Börse Group is one of the largest exchange organisations worldwide. It operates markets that provide integrity, transparency and security for investors wishing to invest capital and for issuers wishing to raise capital. On these markets, institutional traders buy and sell shares, derivatives and other financial instruments in accordance with clear rules and under strict supervision.

Deutsche Börse Group is now more than just a trading venue or exchange – it is a provider of financial market infrastructure. Its products and services span the entire finance value chain – its business areas range from pre-IPO services and the admission of securities, through trading, clearing, settlement and custody of securities and other financial instruments to collateral management. It also offers IT services, indices and market data worldwide.