

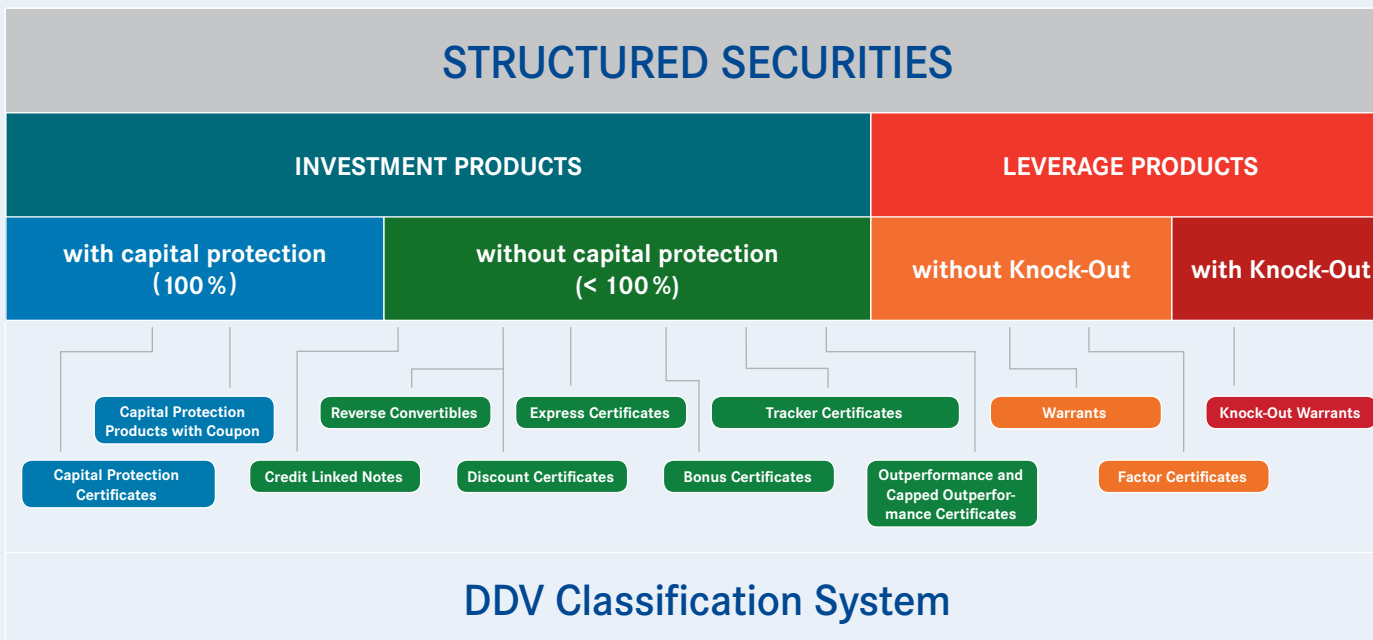
Market Volume

in Derivatives

Structured products market gains appeal

Tracker Certificates and Express Securities in particularly high demand

STRUCTURED SECURITIES



DDV Classification System

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June | 2019

- The volume of the German structured products market totalled EUR 73.5 billion in June.
- Leverage products recorded growth of 12.0 percent, and thus outperformed the overall market.
- Express Certificates came in with an above-average increase of 3.3 percent, taking their market volume to EUR 17.9 billion.
- Leverage products with equities as an underlining saw growth of 15.5 percent. The volume invested in this category rose to EUR 1.3 billion.

Structured products market gains appeal

Tracker Certificates and Express Securities in particularly high demand

The outstanding volume of the German structured products market went up at the end of the first six months. Extrapolating the figures to all issuers puts the total volume of the German structured products market at EUR 73.5 billion in June 2019. This corresponds to an increase of 0.5 percent or EUR 0.3 billion month on month. These trends are shown by the latest figures collected each month from 16 banks by the European Derivatives Group (EDG AG) on behalf of Deutscher Derivate Verband (DDV), the German Derivatives Association. The ratio of investment products to leverage products shifted in favour of leverage products.

Investment products by product category

The volumes of the individual product categories presented an inconsistent picture when compared with the previous month's figures. **Express Certificates** and **Tracker Certificates** in particular showed above-average growth in volumes. The volume invested in Express Certificates increased to EUR 17.9 billion. Likewise, Capital Protection Products offering **full capital protection** recorded slight increases. A total of EUR 25.7 billion was invested in these products in the month under review, whereas classical **Discount Certificates** and **Bonus Certificates** suffered a decline in demand. The volume invested in **Reverse Convertibles** also eased slightly.

Leverage products by product category

The market volume of **Leverage Products** recorded disproportionately strong growth rates and ended the reporting month at EUR 2.0 billion. Marked increases were seen in all product categories, with the most pleasing growth in **Knock-Out Warrants**.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in June. However, their invested volume decreased slightly to EUR 24.8 billion. Investment products with **indices as an underlying** followed in second place. The volume invested in them increased to EUR 20.3 billion. Investment products with **equities as an underlying** registered losses in the reporting month. After a decline in the prior month, products with **commodities as an underlying** experienced growth to reach EUR 556.9 million. At EUR 921.3 million, Investment products with **investment funds as an underlying** came in with an increase again. Investment products with **currencies as an underlying** posted substantial growth, taking the volume invested in this category to EUR 148.4 million.

Leverage products by underlying

The main classes of leverage products gained in popularity with investors in the reporting month. The market volume of leverage products with **equities as an underlying** increased to EUR 1.3 billion, while the volume invested in leverage products with **indices as an underlying** rose to EUR 471.1 million. The market volume of leverage products with **commodities as an underlying** fell in the previous month and soared to EUR 139.9 million in the reporting month. Leverage products with **currencies as an underlying** registered a plus. The volume invested in leverage products with **interest rates as an underlying** decreased marginally, to EUR 10.5 million. ■



Deutscher Derivate Verband (DDV)

Deutscher Derivate Verband (DDV), the German Derivatives Association, is the industry representative body for the leading issuers of derivative securities in Germany, who represent more than 90 percent of the German structured products market: BayernLB, BNP Paribas, Citigroup, Commerzbank, DekaBank, Deutsche Bank, DZ BANK, Goldman Sachs, Helaba, HSBC Trinkaus, Hypo-Vereinsbank, LBBW, Morgan Stanley, Société Générale, UBS and Vontobel. Furthermore, the Association's work is supported by seventeen sponsoring members, which include the Stuttgart and Frankfurt Exchanges, Baader Bank, the direct banks comdirect bank, Consorsbank, DAB Bank, flatex, ING-DiBa and S Broker, as well as finance portals and other service providers.

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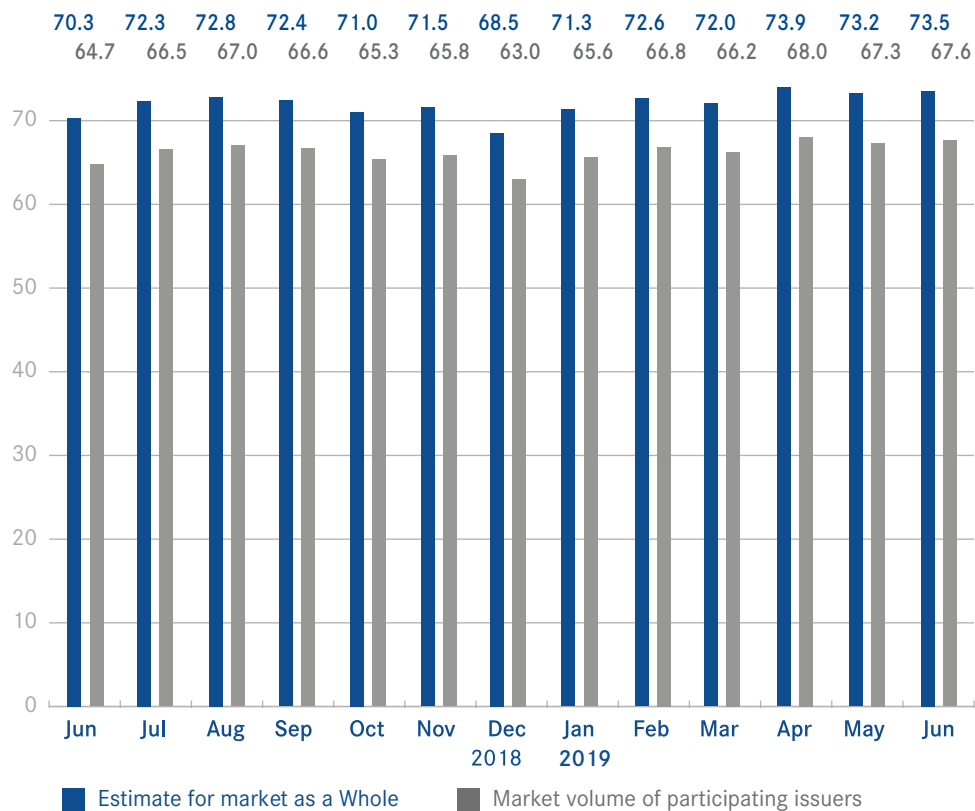
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Market volume since June 2018



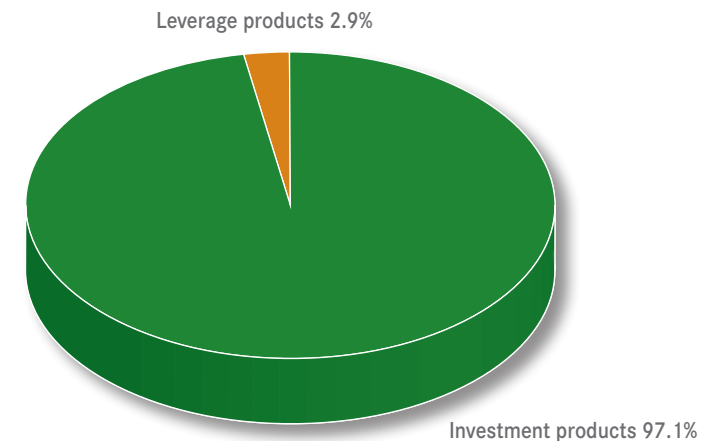
Product classes

Market volume as at 30 June 2019

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	25,731,318	39.2%
Investment products without capital protection	39,863,611	60.8%
Total Investment products	65,594,929	100.0%
Leverage products without Knock-Out	1,094,624	55.0%
Leverage products with Knock-Out	897,291	45.0%
Total Leverage products	1,991,915	100.0%
Total Investment products	65,594,929	97.1%
Total Leverage products	1,991,915	2.9%
Total Derivatives	67,586,844	100.0%

Product classes

Market volume as at 30 June 2019

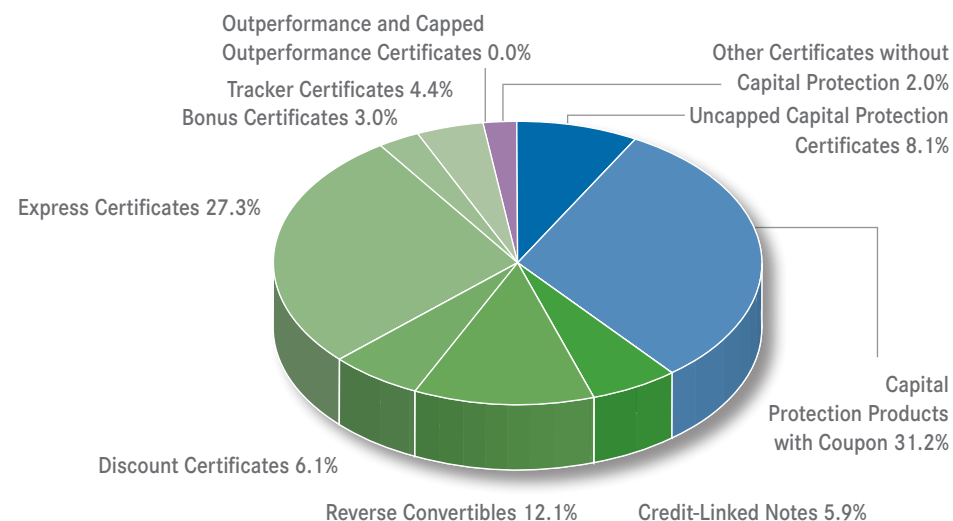


Market volume by product category as at 30 June 2019

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,292,521	8.1%	5,243,787	8.1%	1,423	0.3%
■ Capital Protection Products with Coupon	20,438,797	31.2%	20,342,386	31.6%	4,350	0.8%
■ Credit-Linked Notes	3,859,982	5.9%	3,839,728	6.0%	2,514	0.5%
■ Reverse Convertibles	7,938,894	12.1%	7,755,455	12.0%	115,213	22.4%
■ Discount Certificates	4,000,111	6.1%	3,930,369	6.1%	183,819	35.8%
■ Express Certificates	17,906,764	27.3%	17,322,672	26.9%	15,776	3.1%
■ Bonus Certificates	1,939,796	3.0%	1,919,987	3.0%	187,577	36.5%
■ Tracker Certificates	2,853,494	4.4%	2,698,976	4.2%	1,320	0.3%
■ Outperformance and Capped Outperformance Certificates	29,547	0.0%	27,931	0.0%	854	0.2%
■ Other Certificates without Capital Protection	1,335,023	2.0%	1,304,264	2.0%	1,155	0.2%
Investment products total	65,594,929	97.1%	64,385,555	97.2%	514,001	30.2%
■ Warrants	755,401	37.9%	690,865	37.5%	602,684	50.6%
■ Factor Certificates	339,223	17.0%	312,020	16.9%	31,172	2.6%
■ Knock-Out Warrants	897,291	45.0%	839,832	45.6%	556,395	46.7%
Leverage products total	1,991,915	2.9%	1,842,717	2.8%	1,190,251	69.8%
Total	67,586,844	100.0%	66,228,272	100.0%	1,704,252	100.0%

Investment products by product category

Market volume as at 30 June 2019

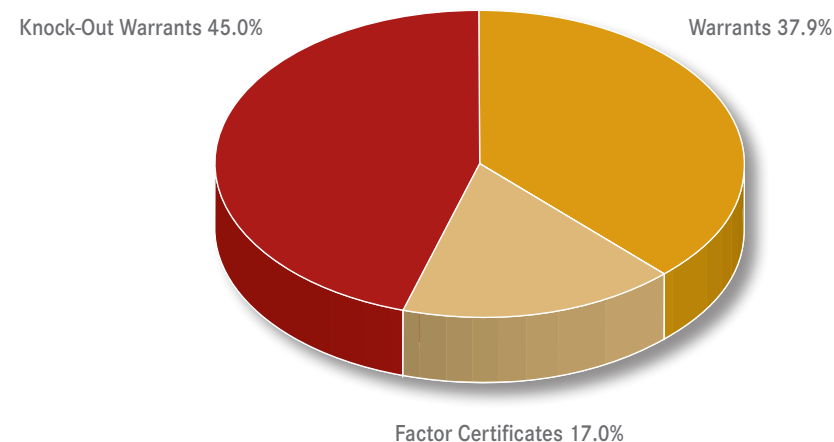


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	T€	in %
■ Uncapped Capital Protection Certificates	-13,946	-0.3%	-62,680	-1.2%		0.9%
■ Capital Protection Products with Coupon	26,035	0.1%	-70,376	-0.3%		0.5%
■ Credit-Linked Notes	-39,676	-1.0%	-59,930	-1.5%		0.5%
■ Reverse Convertibles	-89,409	-1.1%	-272,847	-3.4%		2.3%
■ Discount Certificates	-230,821	-5.5%	-300,563	-7.1%		1.6%
■ Express Certificates	568,298	3.3%	-15,793	-0.1%		3.4%
■ Bonus Certificates	-319,317	-14.1%	-339,126	-15.0%		0.9%
■ Tracker Certificates	150,531	5.6%	-3,987	-0.1%		5.7%
■ Outperformance and Capped Outperformance Certificates	-17,471	-37.2%	-19,088	-40.6%		3.4%
■ Other Certificates without Capital Protection	70,406	5.6%	39,647	3.1%		2.4%
Investment products total	104,631	0.2%	-1,104,743	-1.7%		1.8%
■ Warrants	70,530	10.3%	5,993	0.9%		9.4%
■ Factor Certificates	45,849	15.6%	18,647	6.4%		9.3%
■ Knock-Out Warrants	97,613	12.2%	40,154	5.0%		7.2%
Leverage products total	213,992	12.0%	64,794	3.6%		8.4%
Total	318,622	0.5%	-1,039,950	-1.5%		2.0%

Leverage products by product category

Market volume as at 30 June 2019



Market volume by underlying asset as at 30 June 2019

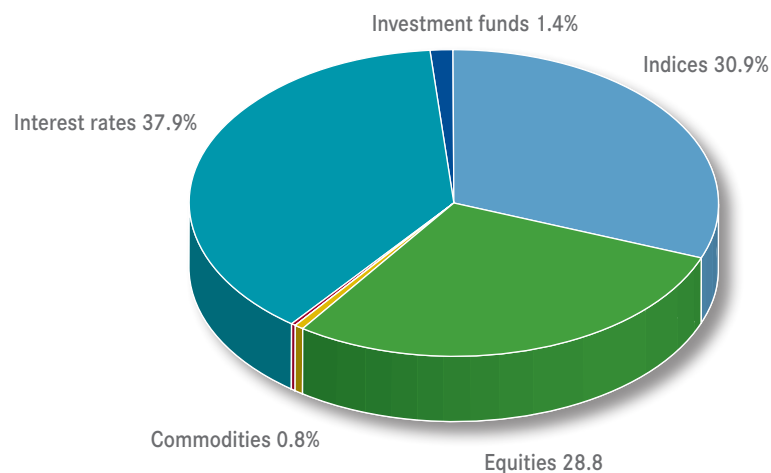
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	20,255,696	30.9%	19,900,717	30.9%	106,643	20.7%
Equities	18,868,501	28.8%	18,209,571	28.3%	397,862	77.4%
Commodities	556,857	0.8%	529,389	0.8%	2,210	0.4%
Currencies	148,368	0.2%	107,063	0.2%	14	0.0%
Interest rates	24,844,243	37.9%	24,728,225	38.4%	6,980	1.4%
Investment funds	921,265	1.4%	910,589	1.4%	292	0.1%
	65,594,929	97.1%	64,385,555	97.2%	514,001	30.2%
Leverage products						
Indices	471,077	23.6%	514,878	27.9%	270,949	22.8%
Equities	1,321,351	66.3%	1,153,653	62.6%	776,909	65.3%
Commodities	139,927	7.0%	113,652	6.2%	64,238	5.4%
Currencies	49,097	2.5%	47,334	2.6%	68,415	5.7%
Interest rates	10,462	0.5%	13,199	0.7%	9,740	0.8%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	1,991,915	2.9%	1,842,717	2.8%	1,190,251	69.8%
Total	67,586,844	100.0%	66,228,272	100.0%	1,704,252	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 30 June 2019 x price as at 31 May 2019

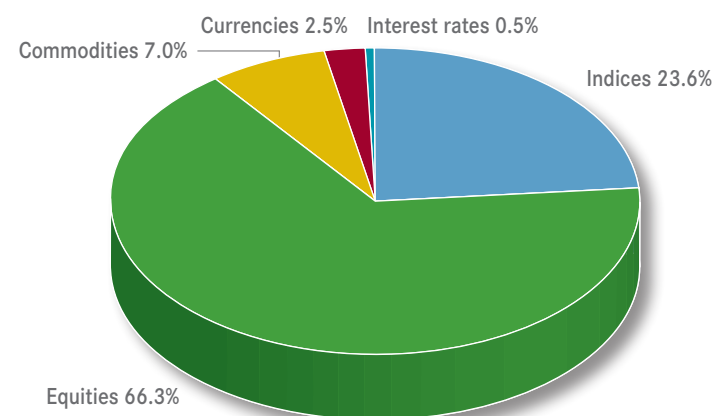
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	32,515	0.2%	-322,463	-1.6%	1.8%
Equities	-47,918	-0.3%	-706,847	-3.7%	3.5%
Commodities	64,280	13.0%	36,812	7.5%	5.6%
Currencies	44,394	42.7%	3,089	3.0%	39.7%
Interest rates	-13,156	-0.1%	-129,174	-0.5%	0.5%
Investment funds	24,516	2.7%	13,840	1.5%	1.2%
	104,631	0.2%	-1,104,743	-1.7%	1.8%
Leverage products					
Indices	4,313	0.9%	48,114	10.3%	-9.4%
Equities	177,491	15.5%	9,793	0.9%	14.7%
Commodities	28,423	25.5%	2,148	1.9%	23.6%
Currencies	4,868	11.0%	3,106	7.0%	4.0%
Interest rates	-1,104	-9.5%	1,633	14.1%	-23.7%
Investment funds	0	n. a.	0	n. a.	n. a.
	213,992	12.0%	64,794	3.6%	8.4%
Total	318,622	0.5%	-1,039,950	-1.5%	2.0%

Investment products by underlying asset Market volume as at 30 June 2019



Leverage products by underlying asset Market volume as at 30 June 2019



Collection, validation and analysis methodology

1. Calculation of the market volume

In calculating the outstanding volume, the first step is to establish the market volume for an individual issue by multiplying the quantity outstanding by the market price on the last trading day of the month under review. The total market volume is calculated by adding the individual values. The price-adjusted figure is obtained by valuing the outstanding quantities at the market prices on the last trading day of the previous month. Newly launched products are valued at the price on the last trading day in the month under review.

2. Calculation of the turnover

Turnover is calculated at the relevant exercise price by aggregating the individual trades per issue and period and then adding them up. Purchases and sales are included at their relevant absolute amounts. The only turnover recorded is that relating to end customers. Also, issues are not classified as turnover until their value dates. By contrast, repayments are not included in the turnover figures, since they do not constitute actual trades. This means that there is a natural outflow of funds at the maturity date of the products, although this is offset by new issues if investors continue to invest in these investment classes. This turnover calculation can lead to inflows of funds in one investment class in one month that exceed the turnover recorded for that month in terms of their amounts. Also, large price fluctuations can lead to a change in the market volume that exceeds the turnover amount in terms of its amount.

3. Definition of the retail products covered

The collection and analysis process covers market volume and turnover in retail products that are publicly offered and listed on at least one German stock exchange in the relevant survey period. Private placements, institutional transactions and white-label trading are not covered. The possibility that parts of an issue may be bought by institutional investors, for instance through the stock exchange, cannot be ruled out.

4. DDV classification system (Derivatives League)

The product classification system used is based on DDV's Derivatives League concept. Investment products include Uncapped Capital Protection Certificates, Capital Protection Products with Coupon, Reverse Convertibles, Discount Certificates, Express Certificates, Bonus Certificates, Tracker Certificates, Outperformance and Capped Outperformance Certificates, as well as other investment products without capital protection. Leverage products comprise Warrants and Knock-Out Warrants. (For further details please refer to http://www.derivateverband.de/DE/MediaLibrary/Document/ddv_klassifizierung_final.pdf).

5. Differentiation by investment class

Retail products are differentiated by the investment class of the underlying. All products with an equity component are included among the equity-based investment or leverage products. Products with a purely bond-based underlying (e.g. index certificates based on the German REX bond index, capital protected certificates based on the EURIBOR Euro Interbank Offered Rate) are included in the investment class of bonds. The currencies and commodities investment class comprises products based on goods, commodities and currencies. Hedge fund products are also shown separately.

6. Collection of the data

Each month, the issuers provide the relevant data in a specified scope and format from their internal systems (trading, risk management and pricing systems etc.). The mandatory information comprises ISIN, product type, asset class of the underlying, product category, turnover, market volume, quantity outstanding, maturity date of the products, product name, issue date, issue volume (quantity issued). The optional information includes details of the underlying, the knock-out thresholds, market prices and listings on German stock exchanges.

7. Monitoring of compliance with the self-commitment

Compliance with the code of conduct is monitored by means of on-site and off-site inspection of data and systems. Random sampling and targeted requests for selected information are backed up by cross-checking of data using stock exchange data, information services and the websites of issuers. In particular, the data are reconciled on a regular basis in cooperation with Boerse Stuttgart, with the main focus on stock exchange listing, the categorisation of products and the substantiation of figures for turnover and outstanding volumes.

DISCLAIMER

EDG AG regularly checks the methods and analyses on which this interpretation is based. However, it does not guarantee the correctness of the analyses. By signing up to the voluntary agreement, the issuers have agreed to ensure the correctness of the transaction data provided by them, and on which the analysis is based. However, EDG AG cannot guarantee the correctness or the completeness of the data from the issuers.

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