

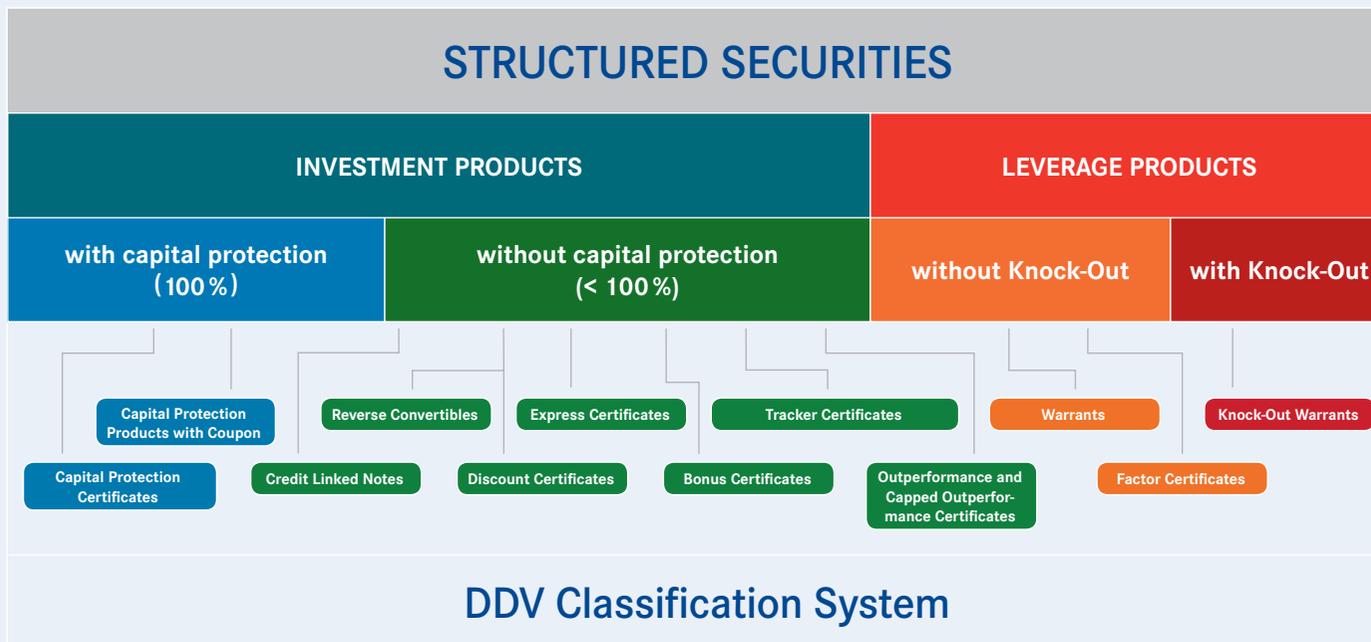
Market Volume

in Derivatives

Structured products market up again

Capital Protection Products with Coupon and Discount Certificates were in particularly high demand

STRUCTURED SECURITIES



DDV Classification System

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August | 2018

- August was another positive month for structured products in Germany: the total market volume stood at EUR 72.8 billion.
- Capital Protection Products with Coupon ended the month at EUR 18.6 billion, up 1.7 percent.
- The market volume of leverage products rocketed by 8.3 percent to EUR 2.5 billion.
- Leverage products with equities as an underlying recorded growth of 13.7 percent. The volume invested in this class of leverage products rose to EUR 1.8 billion.

Structured products market up again

Capital Protection Products with Coupon and Discount Certificates were in particularly high demand

The outstanding volume of the German structured products market increased further in August. When the figures are extrapolated to all issuers, the total volume of the German structured products market in August 2018 works out at EUR 72.8 billion. This represents an increase of 0.9 percent, or EUR 0.5 billion, on the previous month. These trends are shown by the latest set of figures collected each month from 16 banks by the European Derivatives Group (EDG) on behalf of the German Derivatives Association (Deutscher Derivate Verband, DDV). The ratio of investment products to leverage products shifted in favour of leverage products.

Investment products by product category

The positive overall trend meant that demand was up on the previous month in almost all product categories. **Capital Protection Products with Coupon** and **Discount Certificates** in particular experienced an above-average rise in volumes. The volume invested in Capital Protection Products with Coupon increased to EUR 18.6 billion as a result. **Bonus Securities** and **Express Certificates** also saw volumes rise, whilst **Reverse Convertibles** bucked the trend by recording a decline. The volume invested in these product categories totalled EUR 9.3 billion. **Tracker Certificates** trended downwards.

Leverage products by product category

The market volume of **Leverage Products** rose significantly and stood at EUR 2.5 billion in August. Considerable increases were seen in all product categories, with the most significant growth in **Warrants**.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in August. Their volume went up to EUR 23.2 billion. Investment products with **equities as an underlying** followed in second place. The volume invested in them totalled EUR 20.9 billion. Investment products with **indices as an underlying** recorded further growth in the month under review. Investment products with **commodities as an underlying** gained in volume and stood at EUR 603.8 million in August. Investment products with **investment funds as an underlying** exceeded average growth, went up by 8.9 percent and stood at EUR 800.9 million. Investment products with **currencies as an underlying** moved against the general market trend by posting a fall in volume to EUR 65.1 million.

Leverage products by underlying

The dominant classes of underlying assets for leverage products showed a mixed picture in August. While the market volume of leverage products with **equities as an underlying** rose significantly to EUR 1.8 billion, the volume invested in leverage products with **indices as an underlying** fell to EUR 578.1 million. Bucking the general trend, the market volume of leverage products with **commodities as an underlying** decreased to EUR 114.4 million, whereas leverage products with **currencies as an underlying** experienced an upswing in popularity, and the volume invested in them stood at EUR 41.9 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, HypoVereinsbank, 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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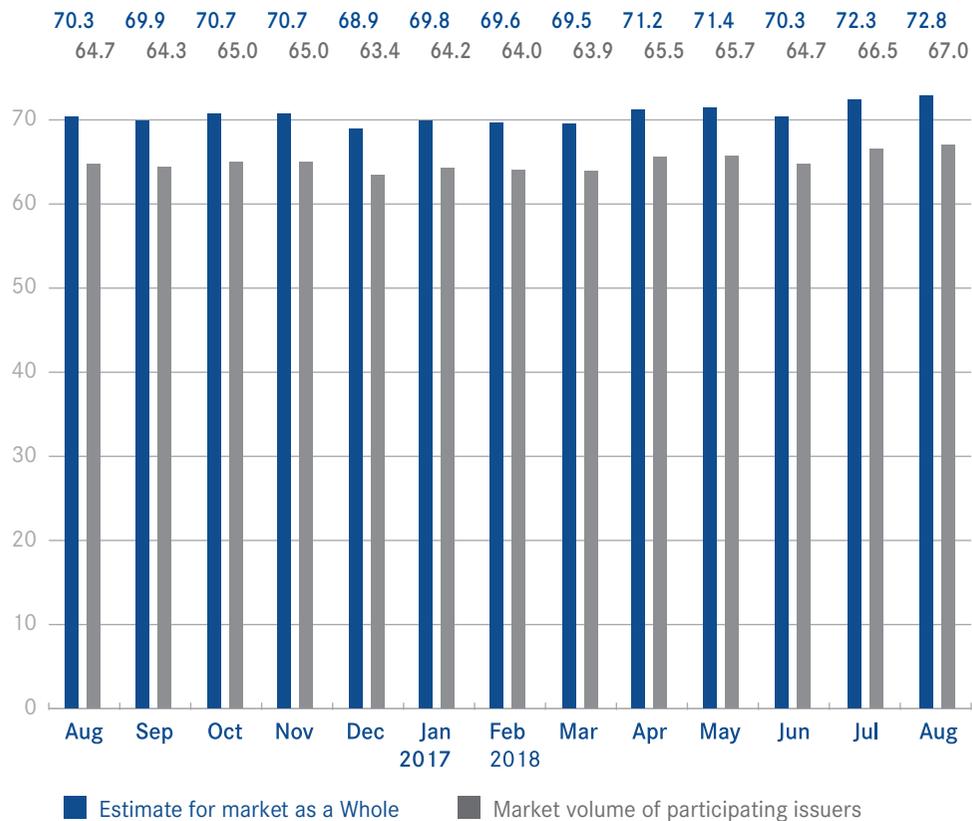
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Market volume since August 2017



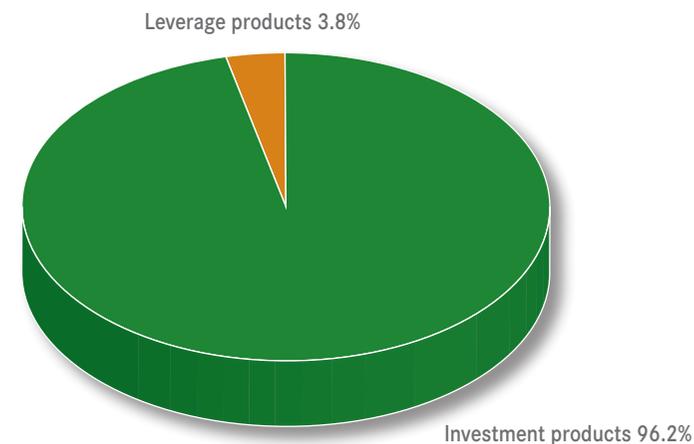
Product classes

Market volume as at 31 August 2018

Produktklasse	Marktvolumen	Anteil
	T€	%
Investment products with capital protection	24,017,329	37.2%
Investment products without capital protection	40,482,226	62.8%
Total Investment products	64,499,555	100.0%
Leverage products without Knock-Out	1,577,336	62.2%
Leverage products with Knock-Out	959,938	37.8%
Total Leverage products	2,537,274	100.0%
Total Investment products	64,499,555	96.2%
Total Leverage products	2,537,274	3.8%
Total Derivatives	67,036,829	100.0%

Product classes

Market volume as at 31 August 2018

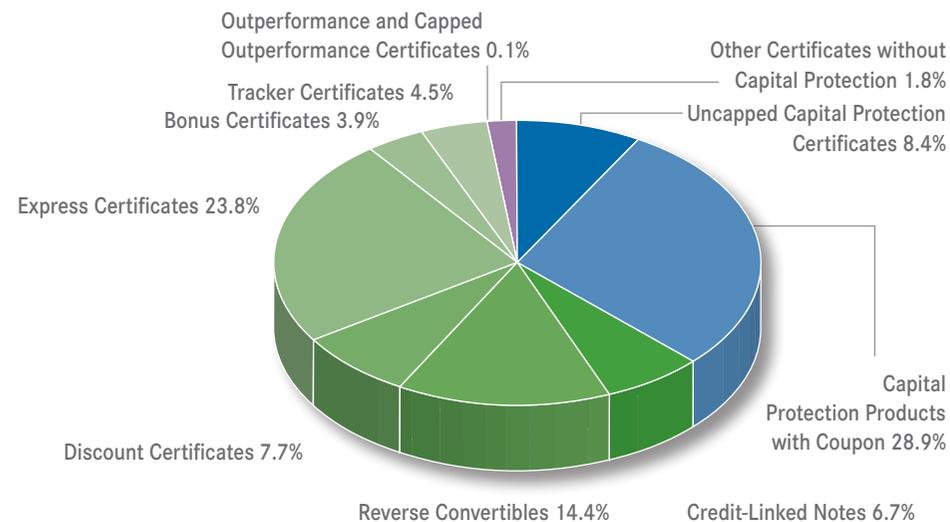


Market volume by product category as at 31 August 2018

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,399,258	8.4%	5,395,582	8.3%	1,462	0.3%
■ Capital Protection Products with Coupon	18,618,071	28.9%	18,580,118	28.6%	3,607	0.7%
■ Credit-Linked Notes	4,319,583	6.7%	4,319,915	6.6%	2,406	0.5%
■ Reverse Convertibles	9,277,326	14.4%	9,450,062	14.5%	121,472	24.0%
■ Discount Certificates	4,954,631	7.7%	4,995,762	7.7%	177,299	35.1%
■ Express Certificates	15,345,368	23.8%	15,698,013	24.1%	12,871	2.5%
■ Bonus Certificates	2,486,145	3.9%	2,509,704	3.9%	183,360	36.3%
■ Tracker Certificates	2,875,628	4.5%	2,880,716	4.4%	1,333	0.3%
■ Outperformance and Capped Outperformance Certificates	80,268	0.1%	83,066	0.1%	1,028	0.2%
■ Other Certificates without Capital Protection	1,143,278	1.8%	1,154,720	1.8%	975	0.2%
Investment products total	64,499,555	96.2%	65,067,657	96.3%	505,813	30.4%
■ Warrants	1,115,397	44.0%	1,047,569	41.7%	640,544	55.4%
■ Factor Certificates	461,938	18.2%	489,862	19.5%	16,695	1.4%
■ Knock-Out Warrants	959,938	37.8%	971,915	38.7%	499,104	43.2%
Leverage products total	2,537,274	3.8%	2,509,347	3.7%	1,156,343	69.6%
Total	67,036,829	100.0%	67,577,004	100.0%	1,662,156	100.0%

Investment products by product category

Market volume as at 31 August 2018

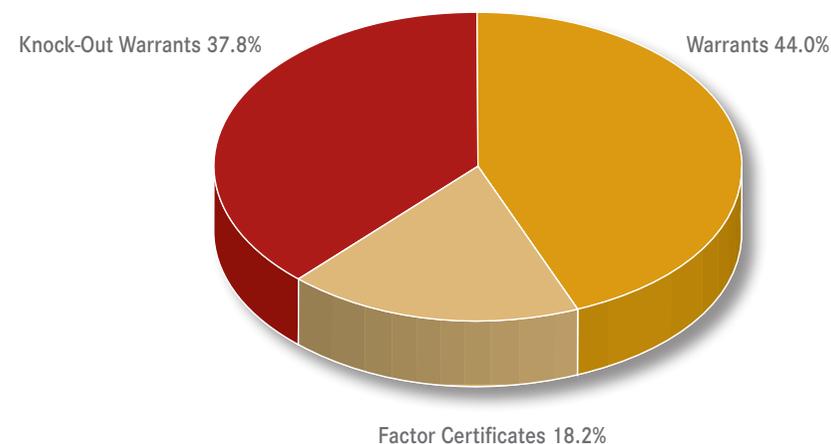


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	in %	
■ Uncapped Capital Protection Certificates	-40,125	-0.7%	-43,802	-0.8%		0.1%
■ Capital Protection Products with Coupon	315,714	1.7%	277,762	1.5%		0.2%
■ Credit-Linked Notes	11,036	0.3%	11,368	0.3%		0.0%
■ Reverse Convertibles	-158,510	-1.7%	14,226	0.2%		-1.8%
■ Discount Certificates	119,527	2.5%	160,658	3.3%		-0.9%
■ Express Certificates	63,499	0.4%	416,144	2.7%		-2.3%
■ Bonus Certificates	76,822	3.2%	100,381	4.2%		-1.0%
■ Tracker Certificates	-24,142	-0.8%	-19,055	-0.7%		-0.2%
■ Outperformance and Capped Outperformance Certificates	-3,496	-4.2%	-698	-0.8%		-3.3%
■ Other Certificates without Capital Protection	13,251	1.2%	24,694	2.2%		-1.0%
Investment products total	373,576	0.6%	941,678	1.5%		-0.9%
■ Warrants	148,389	15.3%	80,561	8.3%		7.0%
■ Factor Certificates	38,975	9.2%	66,898	15.8%		-6.6%
■ Knock-Out Warrants	7,981	0.8%	19,959	2.1%		-1.3%
Leverage products total	195,345	8.3%	167,418	7.1%		1.2%
Total	568,921	0.9%	1,109,096	1.7%		-0.8%

Leverage products by product category

Market volume as at 31 August 2018



Market volume by underlying asset as at 31 August 2018

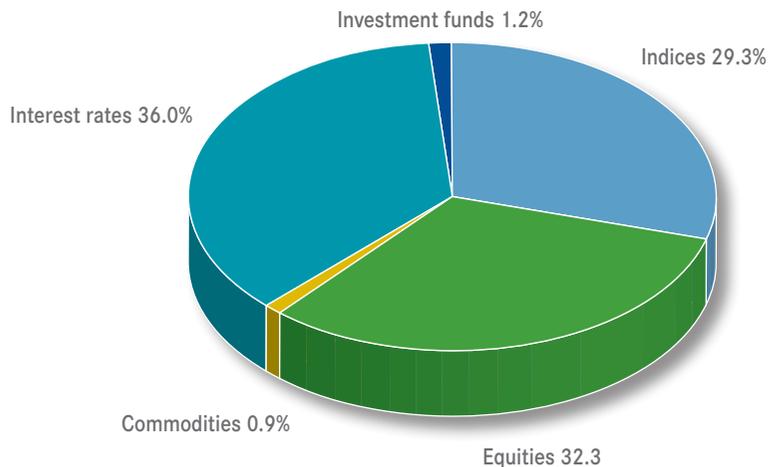
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	18,929,773	29.3%	19,070,463	29.3%	106,950	21.1%
Equities	20,863,144	32.3%	21,330,667	32.8%	389,879	77.1%
Commodities	603,813	0.9%	598,241	0.9%	2,623	0.5%
Currencies	65,144	0.1%	71,062	0.1%	16	0.0%
Interest rates	23,236,804	36.0%	23,198,595	35.7%	6,088	1.2%
Investment funds	800,877	1.2%	798,628	1.2%	257	0.1%
	64,499,555	96.2%	65,067,657	96.3%	505,813	30.4%
Leverage products						
Indices	578,062	22.8%	640,663	25.5%	260,070	22.5%
Equities	1,780,277	70.2%	1,665,651	66.4%	773,467	66.9%
Commodities	114,412	4.5%	136,095	5.4%	52,813	4.6%
Currencies	41,875	1.7%	40,649	1.6%	6,1284	5.3%
Interest rates	22,647	0.9%	26,289	1.0%	8,709	0.8%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	2,537,274	3.8%	2,509,347	3.7%	1,156,343	69.6%
Total	67,036,829	100.0%	67,577,004	100.0%	1,662,156	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 31 August 2018 x price as at 31 July 2018

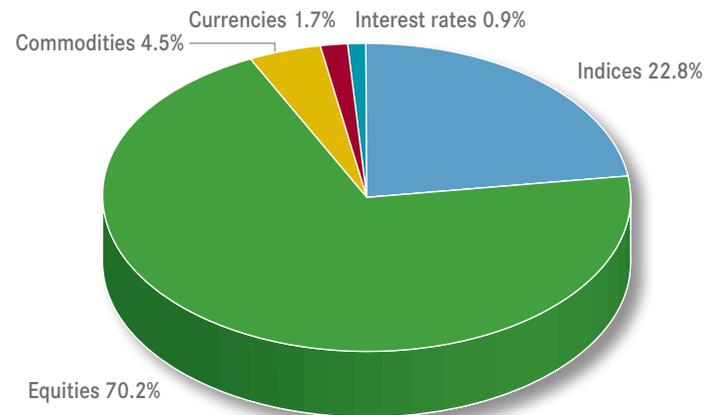
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	54,885	0.3%	195,576	1.0%	-0.7%
Equities	-97,377	-0.5%	370,145	1.8%	-2.2%
Commodities	11,584	2.0%	6,012	1.0%	0.9%
Currencies	-4,278	-6.2%	1,641	2.4%	-8.5%
Interest rates	343,190	1.5%	304,982	1.3%	0.2%
Investment funds	65,570	8.9%	63,322	8.6%	0.3%
	373,576	0.6%	941,678	1.5%	-0.9%
Leverage products					
Indices	-17,668	-3.0%	44,932	7.5%	-10.5%
Equities	214,831	13.7%	100,205	6.4%	7.3%
Commodities	-463	-0.4%	21,220	18.5%	-18.9%
Currencies	2,226	5.6%	999	2.5%	3.1%
Interest rates	-3,580	-13.7%	62	0.2%	-13.9%
Investment funds	0	n. a.	0	n. a.	n. a.
	195,345	8.3%	167,418	7.1%	1.2%
Total	568,921	0.9%	1,109,096	1.7%	-0.8%

Investment products by underlying asset Market volume as at 31 August 2018



Leverage products by underlying asset Market volume as at 31 August 2018



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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