

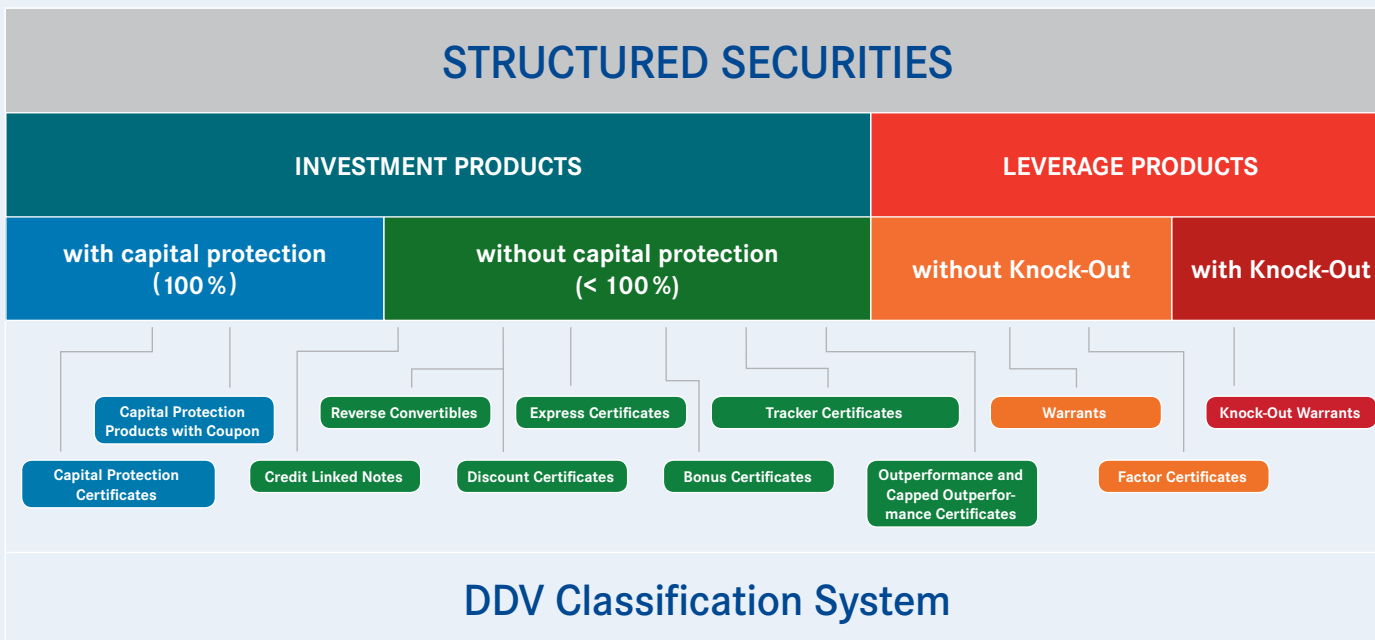
# Market Volume

in Derivatives

## German structured products market stands at EUR 71.0 billion

Demand for Capital Protection Products with Coupon and Bonus Securities was significantly up

### STRUCTURED SECURITIES



### DDV Classification System

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## October | 2018

- In October, the total volume of the German structured products market dropped to EUR 71.0 billion.
- Leverage products stood at 21.8 percent and thus suffered a stronger decline than the market as a whole.
- Capital Protection Products with Coupon bucked the overall trend by increasing to EUR 19.0 billion.
- Stronger demand was also recorded for investment products with interest rates as an underlying.

## German structured products market stands at EUR 71.0 billion

Demand for Capital Protection Products with Coupon and Bonus Securities was significantly up

The outstanding volume of the German structured products market fell at the beginning of the fourth quarter. Decreases were seen in almost all product categories. When the figures are extrapolated to all issuers, the total volume stood at EUR 71.0 billion at the end of October. This represents a decrease of 1.9 percent, or EUR 1.4 billion, on the previous month. These trends are shown by the latest set of data 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 slightly in favour of investment products.

### Investment products by product category

The negative overall trend meant that demand was down on the previous month in almost all product categories. **Reverse Convertibles** and **Express Certificates** in particular experienced an above-average downturn in volumes. Thus, capital invested in Reverse Convertibles decreased to EUR 8.8 billion. The market volume of **Tracker Certificates** fell considerably. **Capital Protection Products offering full protection** bucked the trend by recording growth. In October, 38.3 percent of the market volume was invested in **Capital Protection Products with Coupon** and **Uncapped Capital Protection Certificates**. The volume invested in **Bonus Securities** also increased.

### Leverage products by product category

After having experienced gains in volume in the previous months, the market volume of **leverage products** fell sig-

nificantly and stood at EUR 1.9 billion at the end of October. Significant decreases were seen in all product categories, with the strongest decline in **Warrants**.

### Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in October. After an upturn in the previous month, the volume increased further and stood at EUR 23.5 billion. Despite some losses, investment products with **equities as an underlying** followed in second place. The volume invested in them totalled EUR 19.7 billion. Investment products with **indices as an underlying** also recorded a downturn in volume. Interest in investment products with **commodities as an underlying** fell again in October, taking their volume to EUR 504.8 million. The volume invested in investment products with **investment funds as an underlying** decreased to EUR 854.8 million.

### Leverage products by underlying

Marked losses were seen in the dominant classes of leverage products in October. The market volume of leverage products with **equities as an underlying** decreased to EUR 1.2 billion. The volume invested in leverage products with **indices as an underlying** went down to EUR 515.6 million. A decline was also observed for leverage products with **commodities** or **currencies as an underlying**. ■



### 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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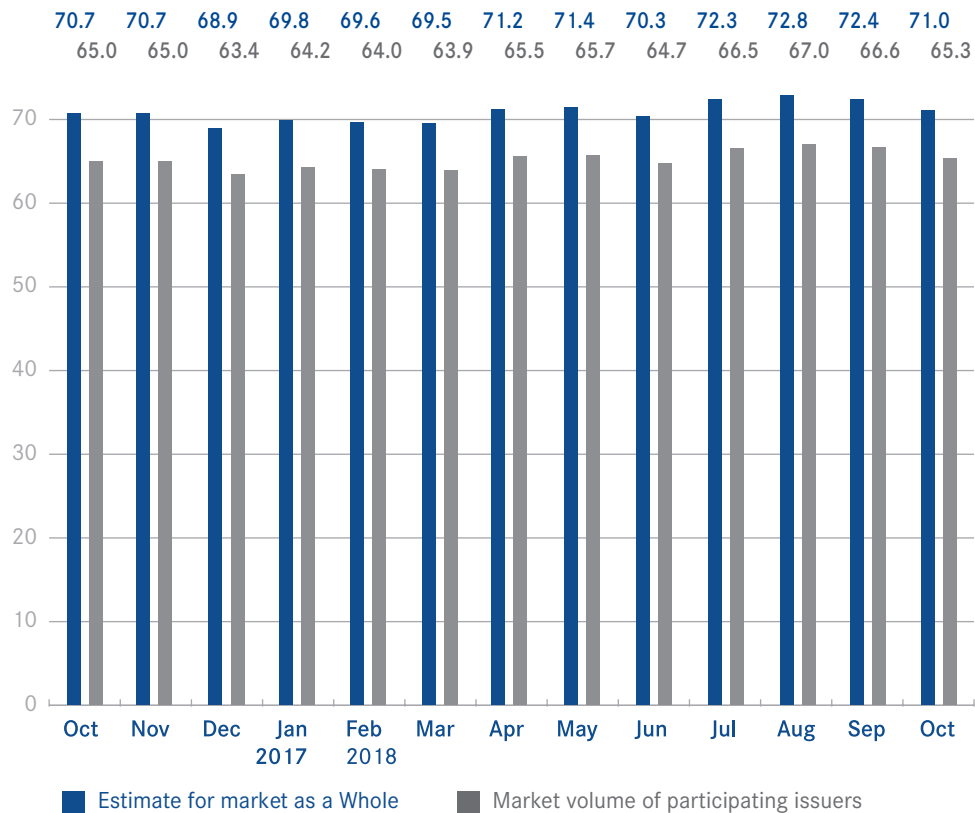
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## Market volume since October 2017



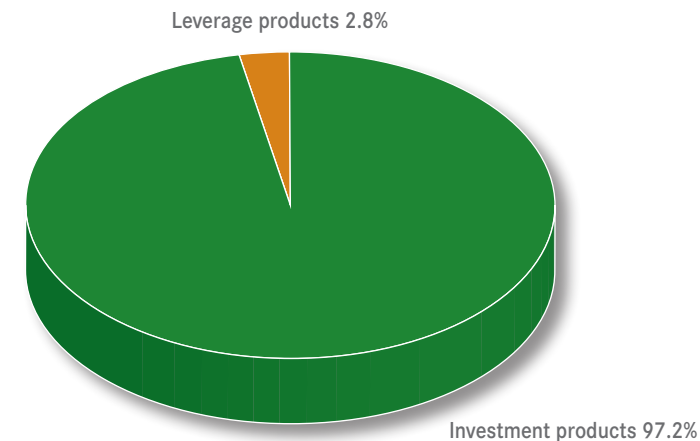
## Product classes

Market volume as at 30 October 2018

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	24,316,953	38.3%
Investment products without capital protection	39,149,501	61.7%
<b>Total Investment products</b>	<b>63,466,453</b>	<b>100.0%</b>
Leverage products without Knock-Out	1,067,689	57.4%
Leverage products with Knock-Out	792,483	42.6%
<b>Total Leverage products</b>	<b>1,860,171</b>	<b>100.0%</b>
<b>Total Investment products</b>	<b>63,466,453</b>	<b>97.2%</b>
<b>Total Leverage products</b>	<b>1,860,171</b>	<b>2.8%</b>
<b>Total Derivatives</b>	<b>65,326,624</b>	<b>100.0%</b>

## Product classes

Market volume as at 30 October 2018

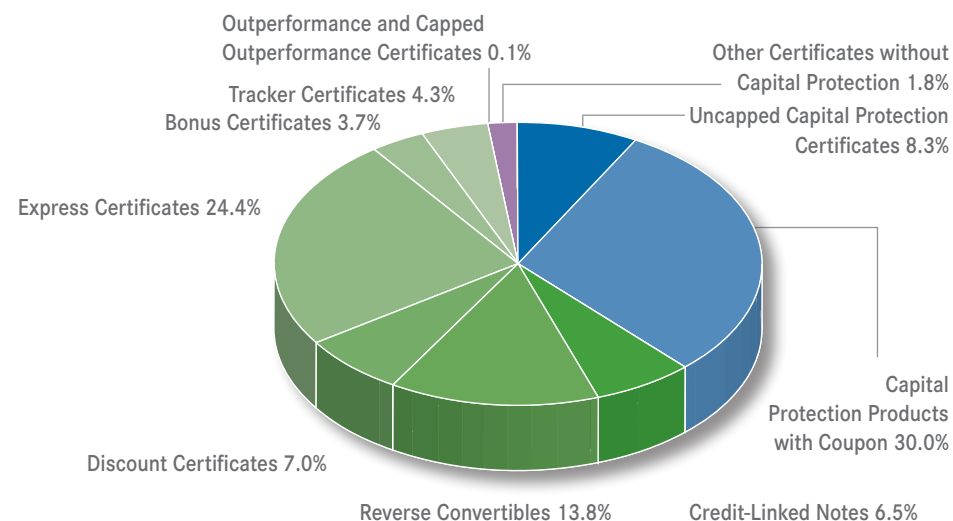


## Market volume by product category as at 31 October 2018

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,275,697	8.3%	5,299,997	8.2%	1,458	0.3%
■ Capital Protection Products with Coupon	19,041,256	30.0%	19,013,897	29.3%	3,747	0.8%
■ Credit-Linked Notes	4,147,148	6.5%	4,153,907	6.4%	2,411	0.5%
■ Reverse Convertibles	8,754,804	13.8%	9,121,185	14.1%	111,384	22.9%
■ Discount Certificates	4,457,451	7.0%	4,595,336	7.1%	170,256	35.0%
■ Express Certificates	15,477,790	24.4%	16,064,699	24.8%	13,530	2.8%
■ Bonus Certificates	2,377,648	3.7%	2,459,626	3.8%	180,185	37.0%
■ Tracker Certificates	2,706,660	4.3%	2,859,738	4.4%	1,336	0.3%
■ Outperformance and Capped Outperformance Certificates	72,307	0.1%	77,595	0.1%	947	0.2%
■ Other Certificates without Capital Protection	1,155,692	1.8%	1,182,427	1.8%	1,755	0.4%
<b>Investment products total</b>	<b>63,466,453</b>	<b>97.2%</b>	<b>64,828,407</b>	<b>96.3%</b>	<b>487,009</b>	<b>29.7%</b>
■ Warrants	748,033	40.2%	1,092,883	43.7%	598,407	52.0%
■ Factor Certificates	319,655	17.2%	510,561	20.4%	18,755	1.6%
■ Knock-Out Warrants	792,483	42.6%	896,461	35.9%	533,192	46.4%
<b>Leverage products total</b>	<b>1,860,171</b>	<b>2.8%</b>	<b>2,499,904</b>	<b>3.7%</b>	<b>1,150,354</b>	<b>70.3%</b>
<b>Total</b>	<b>65,326,624</b>	<b>100.0%</b>	<b>67,328,311</b>	<b>100.0%</b>	<b>1,637,363</b>	<b>100.0%</b>

## Investment products by product category

Market volume as at 31 October 2018

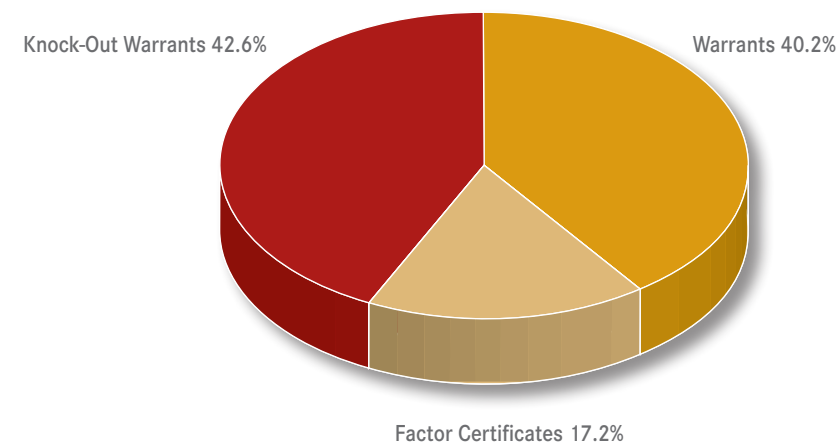


## Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %		in %
■ Uncapped Capital Protection Certificates	-46,699	-0.9%	-22,400	-0.4%		-0.5%
■ Capital Protection Products with Coupon	295,678	1.6%	268,320	1.4%		0.1%
■ Credit-Linked Notes	-131,632	-3.1%	-124,873	-2.9%		-0.2%
■ Reverse Convertibles	-373,007	-4.1%	-6,626	-0.1%		-4.0%
■ Discount Certificates	-114,552	-2.5%	23,334	0.5%		-3.0%
■ Express Certificates	-283,560	-1.8%	303,349	1.9%		-3.7%
■ Bonus Certificates	98,632	4.3%	180,610	7.9%		-3.6%
■ Tracker Certificates	-192,971	-6.7%	-39,893	-1.4%		-5.3%
■ Outperformance and Capped Outperformance Certificates	-6,974	-8.8%	-1,686	-2.1%		-6.7%
■ Other Certificates without Capital Protection	1,007	0.1%	27,742	2.4%		-2.3%
<b>Investment products total</b>	<b>-754,077</b>	<b>-1.2%</b>	<b>607,877</b>	<b>0.9%</b>		<b>-2.1%</b>
■ Warrants	-274,477	-26.8%	70,373	6.9%		-33.7%
■ Factor Certificates	-127,494	-28.5%	63,411	14.2%		-42.7%
■ Knock-Out Warrants	-117,769	-12.9%	-13,790	-1.5%		-11.4%
<b>Leverage products total</b>	<b>-519,740</b>	<b>-21.8%</b>	<b>119,994</b>	<b>5.0%</b>		<b>-26.9%</b>
<b>Total</b>	<b>-1,273,816</b>	<b>-1.9%</b>	<b>727,870</b>	<b>1.1%</b>		<b>-3.0%</b>

## Leverage products by product category

Market volume as at 31 October 2018



## Market volume by underlying asset as at 31 October 2018

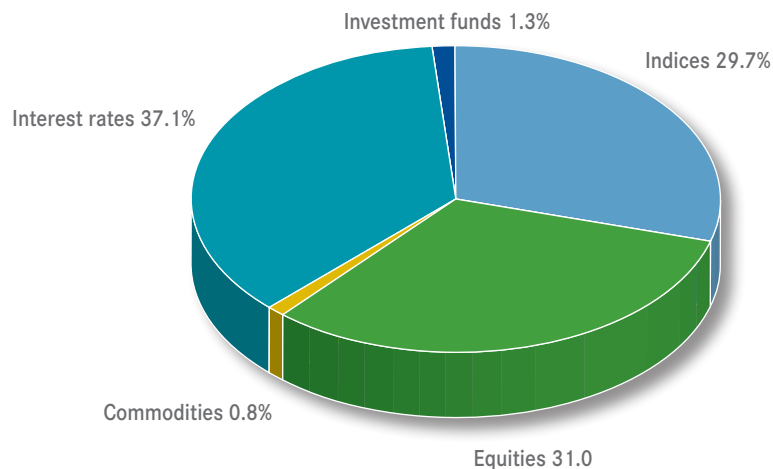
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
<b>Investment products</b>						
Indices	18,833,222	29.7%	19,265,029	29.7%	104,666	21.5%
Equities	19,696,346	31.0%	20,608,304	31.8%	373,458	76.7%
Commodities	504,801	0.8%	519,384	0.8%	2,362	0.5%
Currencies	56,361	0.1%	57,924	0.1%	13	0.0%
Interest rates	23,520,923	37.1%	23,499,609	36.2%	6,244	1.3%
Investment funds	854,800	1.3%	878,157	1.4%	266	0.1%
	<b>63,466,453</b>	<b>97.2%</b>	<b>64,828,407</b>	<b>96.3%</b>	<b>487,009</b>	<b>29.7%</b>
<b>Leverage products</b>						
Indices	515,565	27.7%	593,548	23.7%	282,811	24.6%
Equities	1,172,363	63.0%	1,709,544	68.4%	739,798	64.3%
Commodities	113,277	6.1%	132,446	5.3%	56,946	5.0%
Currencies	37,189	2.0%	39,552	1.6%	61,953	5.4%
Interest rates	21,777	1.2%	24,815	1.0%	8,846	0.8%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	<b>1,860,171</b>	<b>2.8%</b>	<b>2,499,904</b>	<b>3.7%</b>	<b>1,150,354</b>	<b>70.3%</b>
<b>Total</b>	<b>65,326,624</b>	<b>100.0%</b>	<b>67,328,311</b>	<b>100.0%</b>	<b>1,637,363</b>	<b>100.0%</b>

\*Market volume adjusted for price changes = quantity outstanding as at 31 October 2018 x price as at 30 September 2018

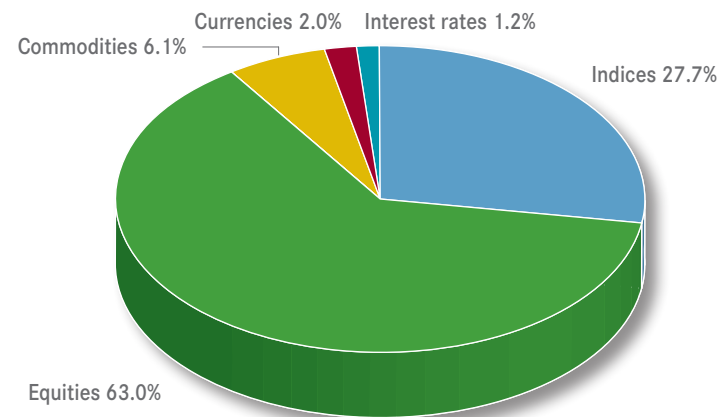
## Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
<b>Investment products</b>					
Indices	-28,375	-0.2%	403,432	2.1%	-2.3%
Equities	-820,991	-4.0%	90,966	0.4%	-4.4%
Commodities	-88,031	-14.8%	-73,449	-12.4%	-2.5%
Currencies	-5,180	-8.4%	-3,616	-5.9%	-2.5%
Interest rates	196,087	0.8%	174,773	0.7%	0.1%
Investment funds	-7,586	-0.9%	15,770	1.8%	-2.7%
	<b>-754,077</b>	<b>-1.2%</b>	<b>607,877</b>	<b>0.9%</b>	<b>-2.1%</b>
<b>Leverage products</b>					
Indices	-38,873	-7.0%	39,110	7.1%	-14.1%
Equities	-473,925	-28.8%	63,256	3.8%	-32.6%
Commodities	-2,852	-2.5%	16,317	14.1%	-16.5%
Currencies	-243	-0.7%	2,120	5.7%	-6.3%
Interest rates	-3,846	-15.0%	-809	-3.2%	-11.9%
Investment funds	0	n. a.	0	n. a.	n. a.
	<b>-519,740</b>	<b>-21.8%</b>	<b>119,994</b>	<b>5.0%</b>	<b>-26.9%</b>
<b>Total</b>	<b>-1,273,816</b>	<b>-1.9%</b>	<b>727,870</b>	<b>1.1%</b>	<b>-3.0%</b>

### Investment products by underlying asset Market volume as at 31 October 2018



### Leverage products by underlying asset Market volume as at 31 October 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](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.

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