

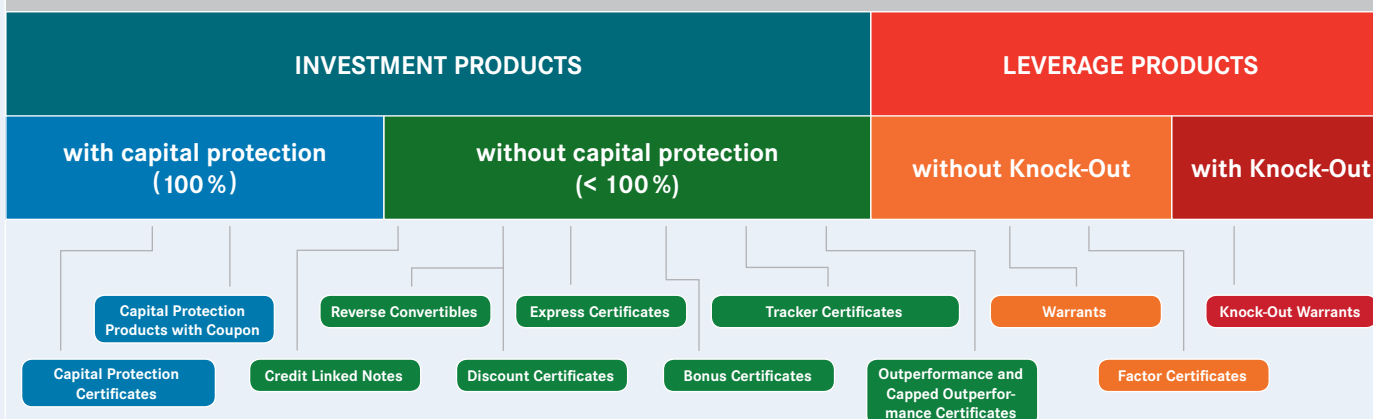
Market Volume

in Derivatives

Positive start into the last quarter

Capital Protection Products with Coupon and Express Certificates in particularly high demand

STRUCTURED SECURITIES



DDV Classification System

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October | 2017

- The total volume of the German structured products market rose to EUR 70.7 billion in October.
- Capital Protection Products with Coupon saw an above-average growth of 2.1 percent, which brought their volume to EUR 16.9 billion.
- With a plus of 13.3 percent, the market volume of leverage products grew once again stronger than the market as a whole.
- Leverage products with equities as an underlying recorded a significant growth of 14.5 percent. The volume invested in these products stood at EUR 1.4 billion.

Positive start into the last quarter

Capital Protection Products with Coupon and Express Certificates in particularly high demand

The outstanding volume of the German structured products market increased in October 2017. When the figures are extrapolated to all issuers, the total volume of the German structured products market works out at EUR 70.7 billion in October 2017. This represents month-on-month growth of 1.1 percent, or EUR 0.8 billion. These trends are shown by the latest set of the figures collected each month from 15 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 leverage products.

Investment products by product category

The overall upward trend meant there was an increase in demand in most product categories compared with the previous month. **Capital Protection Products with Coupon** and **Express Certificates** recorded particularly strong growth in volumes. The volume invested in Express Certificates rose to EUR 12.9 billion. In total, 36.6 percent of the market volume was invested in **Capital Protection Products with Coupon** and **Uncapped Capital Protection Certificates**. **Tracker Certificates** and **Reverse Convertibles** saw slight increases, whereas the volume of **Credit Linked Notes** went down again.

Leverage products by product category

Just as in the previous month, the market volume of **leverage products** grew in October and stood at EUR 2.3 billion. All

product categories posted considerable increases, but the strongest growth was visible in the Warrants category.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in October. After an increase in the previous month, their volume rose to EUR 22.3 billion. Investment products with **equities as an underlying** showed a strong rise and came in second. The volume invested in these products was EUR 20.5 billion. Investment products with **indices as an underlying** also recorded an increase, following a downturn in the previous month. Investment products with **commodities as an underlying** fell to EUR 734.1 million in October. Investment products with **currencies as an underlying** saw particularly strong growth of 30.8 percent, which brought their volume to EUR 57.2 million.

Leverage products by underlying

As in the previous month, the dominant classes of underlyings for leverage products generated considerable growth in the first month of the fourth quarter. The market volume of leverage products with **equities as an underlying** climbed to EUR 1.4 billion, while the volume invested in leverage products with **indices as an underlying** rose to EUR 689.3 million. The market volume of leverage products with **commodities as an underlying** went up to EUR 165.1 million, whereas leverage products with **currencies or interest as an underlying** suffered losses. ■



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, Deka-Bank, Deutsche Bank, DZ BANK, Goldman Sachs, Helaba, HSBC Trinkaus, HypoVereinsbank, LBBW, Société Générale, UBS and Vontobel. Furthermore, the Association's work is supported by fourteen 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.

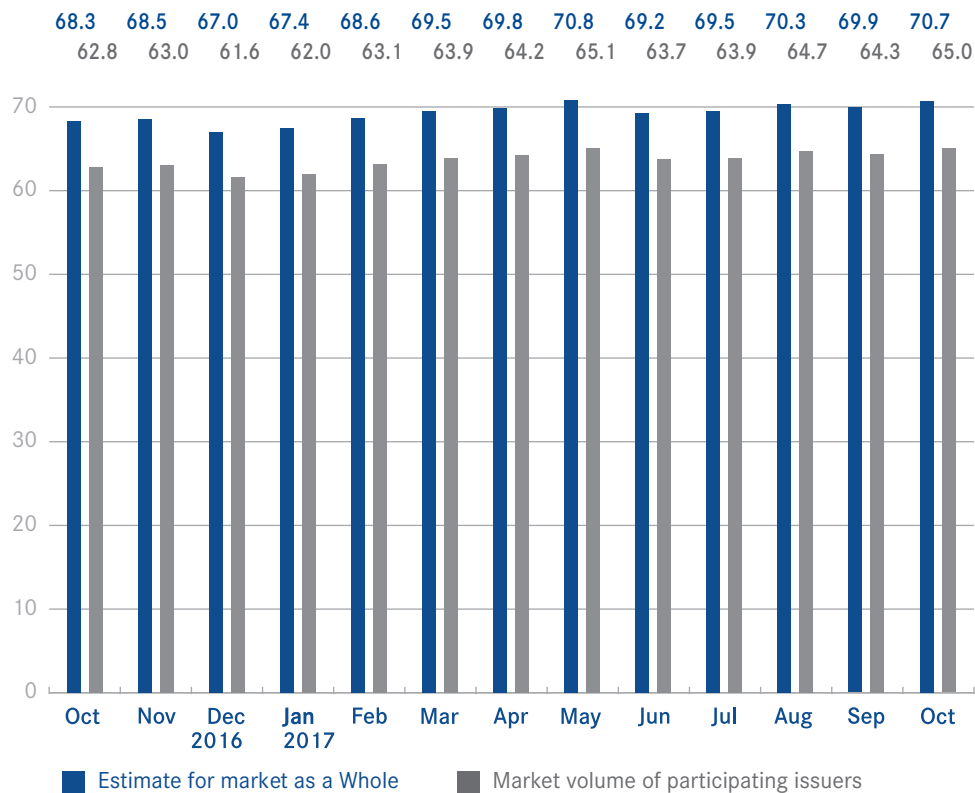
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Market volume since October 2016



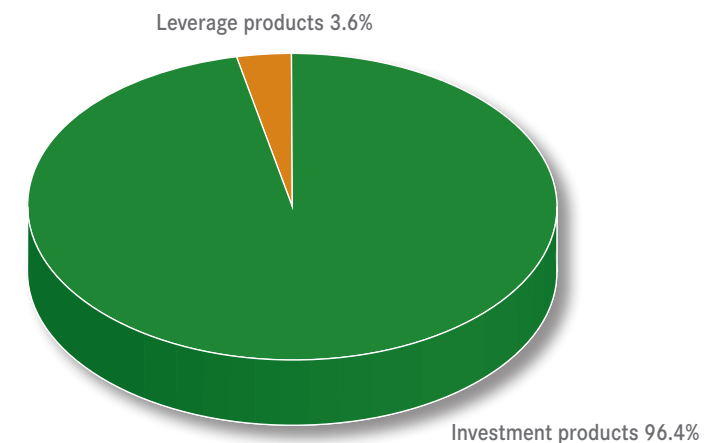
Product classes

Market volume as at 31 October 2017

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	22,963,620	36.6%
Investment products without capital protection	39,731,501	63.4%
Total Investment products	62,695,121	100.0%
Leverage products without Knock-Out	1,241,336	53.4%
Leverage products with Knock-Out	1,084,058	46.6%
Total Leverage products	2,325,394	100.0%
Total Investment products	62,695,121	96.4%
Total Leverage products	2,325,394	3.6%
Total Derivatives	65,020,514	100.0%

Product classes

Market volume as at 31 October 2017

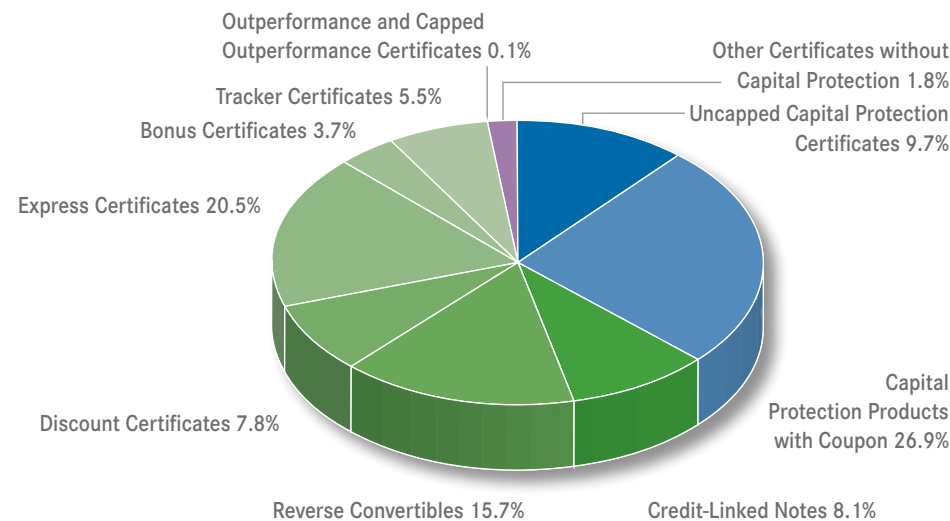


Market volume by product category as at 31 October 2017

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	6,068,985	9.7%	6,042,292	9.7%	1,700	0.3%
■ Capital Protection Products with Coupon	16,894,635	26.9%	16,852,715	27.1%	2,984	0.6%
■ Credit-Linked Notes	5,073,272	8.1%	5,042,672	8.1%	2,328	0.5%
■ Reverse Convertibles	9,872,341	15.7%	9,842,660	15.8%	132,668	26.2%
■ Discount Certificates	4,886,739	7.8%	4,865,537	7.8%	146,856	29.0%
■ Express Certificates	12,877,323	20.5%	12,745,179	20.5%	11,101	2.2%
■ Bonus Certificates	2,323,387	3.7%	2,329,000	3.7%	205,980	40.6%
■ Tracker Certificates	3,453,248	5.5%	3,328,884	5.3%	1,516	0.3%
■ Outperformance and Capped Outperformance Certificates	87,575	0.1%	85,049	0.1%	1,034	0.2%
■ Other Certificates without Capital Protection	1,157,614	1.8%	1,143,225	1.8%	876	0.2%
Investment products total	62,695,121	96.4%	62,277,212	96.7%	507,043	33.3%
■ Warrants	876,038	37.7%	770,200	35.9%	575,159	56.7%
■ Factor Certificates	365,298	15.7%	344,891	16.1%	5,272	0.5%
■ Knock-Out Warrants	1,084,058	46.6%	1,030,787	48.0%	433,150	42.7%
Leverage products total	2,325,394	3.6%	2,145,878	3.3%	1,013,581	66.7%
Total	65,020,514	100.0%	64,423,090	100.0%	1,520,624	100.0%

Investment products by product category

Market volume as at 31 October 2017

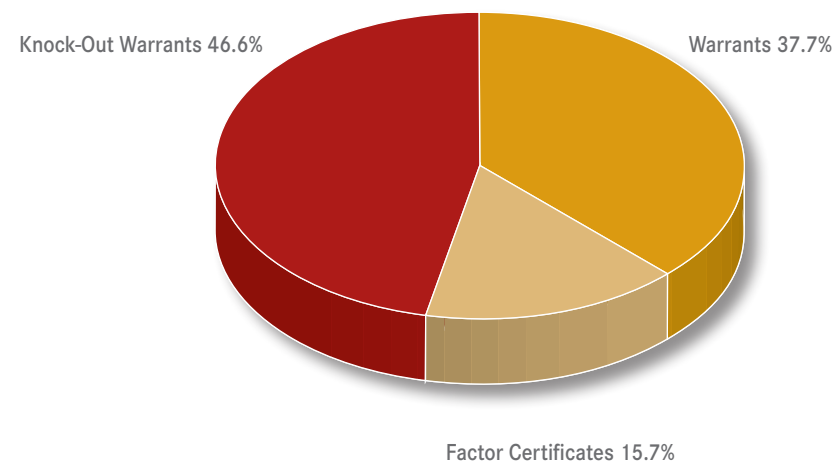


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	T€	in %
■ Uncapped Capital Protection Certificates	-79,944	-1.3%	-106,637	-1.7%		0.4%
■ Capital Protection Products with Coupon	344,604	2.1%	302,684	1.8%		0.3%
■ Credit-Linked Notes	-228,531	-4.3%	-259,132	-4.9%		0.6%
■ Reverse Convertibles	20,911	0.2%	-8,770	-0.1%		0.3%
■ Discount Certificates	-30,010	-0.6%	-51,213	-1.0%		0.4%
■ Express Certificates	282,213	2.2%	150,069	1.2%		1.0%
■ Bonus Certificates	-6,076	-0.3%	-464	0.0%		-0.2%
■ Tracker Certificates	97,566	2.9%	-26,798	-0.8%		3.7%
■ Outperformance and Capped Outperformance Certificates	-3,898	-4.3%	-6,423	-7.0%		2.8%
■ Other Certificates without Capital Protection	11,475	1.0%	-2,914	-0.3%		1.3%
Investment products total	408,310	0.7%	-9,598	0.0%		0.7%
■ Warrants	137,184	18.6%	31,346	4.2%		14.3%
■ Factor Certificates	22,460	6.6%	2,053	0.6%		6.0%
■ Knock-Out Warrants	114,061	11.8%	60,790	6.3%		5.5%
Leverage products total	273,704	13.3%	94,189	4.6%		8.7%
Total	682,015	1.1%	84,591	0.1%		0.9%

Leverage products by product category

Market volume as at 31 October 2017



Market volume by underlying asset as at 31 October 2017

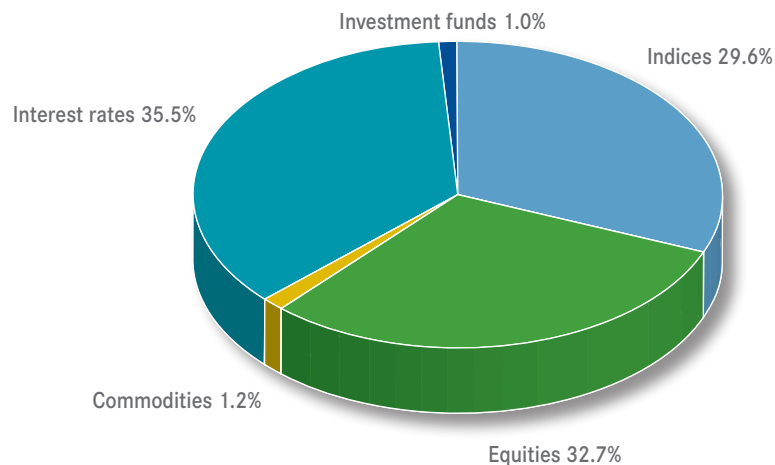
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	18,542,783	29.6%	18,409,203	29.6%	115,302	22.7%
Equities	20,494,059	32.7%	20,333,518	32.7%	383,712	75.7%
Commodities	734,147	1.2%	708,364	1.1%	2,430	0.5%
Currencies	57,158	0.1%	42,882	0.1%	30	0.0%
Interest rates	22,267,778	35.5%	22,193,614	35.6%	5,378	1.1%
Investment funds	599,196	1.0%	589,631	0.9%	191	0.0%
	62,695,121	96.4%	62,277,212	96.7%	507,043	33.3%
Leverage products						
Indices	689,343	29.6%	657,991	30.7%	220,866	21.8%
Equities	1,391,799	59.9%	1,237,094	57.6%	680,176	67.1%
Commodities	165,149	7.1%	165,278	7.7%	47,786	4.7%
Currencies	46,865	2.0%	47,328	2.2%	59,037	5.8%
Interest rates	32,213	1.4%	38,162	1.8%	5,708	0.6%
Investment funds	24	0.0%	24	0.0%	8	0.0%
	2,325,394	3.6%	2,145,878	3.3%	1,013,581	66.7%
Total	65,020,514	100.0%	64,423,090	100.0%	1,520,624	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 31 October 2017 x price as at 30 September 2017

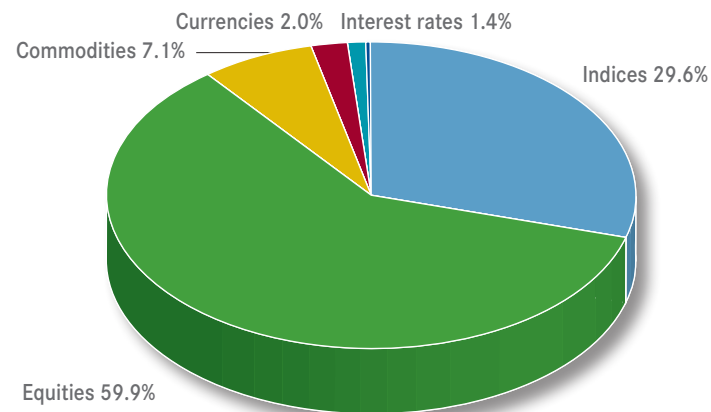
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	41,023	0.2%	-92,558	-0.5%	0.7%
Equities	258,332	1.3%	97,792	0.5%	0.8%
Commodities	-19,744	-2.6%	-45,528	-6.0%	3.4%
Currencies	13,449	30.8%	-827	-1.9%	32.7%
Interest rates	103,779	0.5%	29,615	0.1%	0.3%
Investment funds	11,472	2.0%	1,907	0.3%	1.6%
	408,310	0.7%	-9,598	0.0%	0.7%
Leverage products					
Indices	99,094	16.8%	67,742	11.5%	5.3%
Equities	176,019	14.5%	21,314	1.8%	12.7%
Commodities	5,088	3.2%	5,218	3.3%	-0.1%
Currencies	-1,652	-3.4%	-1,188	-2.4%	-1.0%
Interest rates	-4,845	-13.1%	1,103	3.0%	-16.1%
Investment funds	1	2.2%	0	0.0%	2.2%
	273,704	13.3%	94,189	4.6%	8.7%
Total	682,015	1.1%	84,591	0.1%	0.9%

Investment products by underlying asset Market volume as at 31 October 2017



Leverage products by underlying asset Market volume as at 31 October 2017



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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