

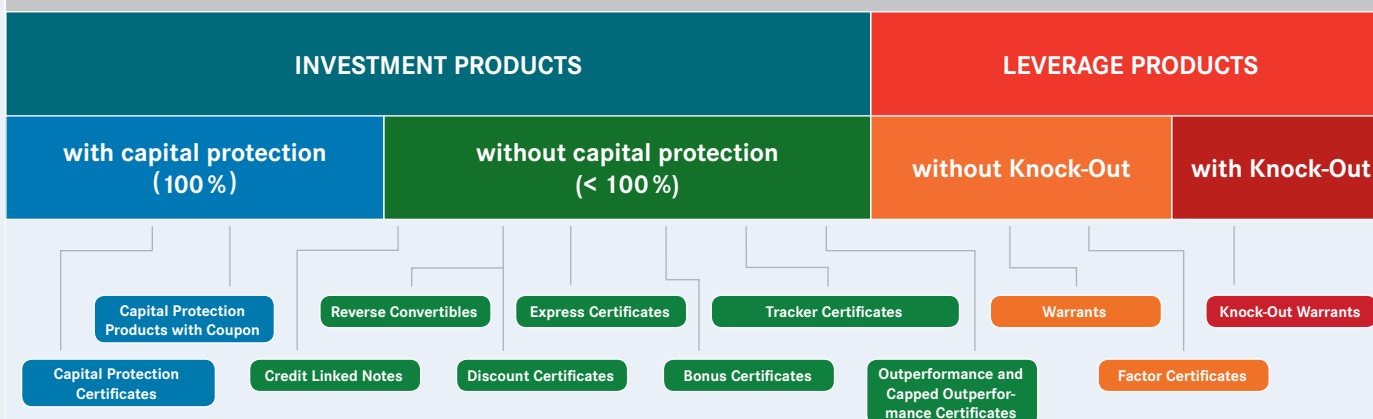
Market Volume

in Derivatives

Structured products market grows again

Express Certificates and Reverse Convertibles particularly popular

STRUCTURED SECURITIES



DDV Classification System

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February | 2019

- In February, the total volume of the German structured products market rose to EUR 72.6 billion.
- Express Certificates experienced above-average growth of 5.2 percent, taking their volume to EUR 16.9 billion.
- Leverage products saw a sharper increase – 6.5 percent – than the overall market.
- Leverage products with equities as an underlying experienced growth of 10.5 percent. The volume invested in them rose to EUR 1.1 billion.

Structured products market grows again

Express Certificates and Reverse Convertibles particularly popular

The outstanding volume of the German structured products market increased again in February. Extrapolating the figures to all issuers puts the total volume of the German structured products market at EUR 72.6 billion in February 2019. This corresponds to growth of 1.8 percent or EUR 1.3 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 positive overall trend meant that demand once again increased in almost all product categories on the previous month. **Express Certificates** and **Reverse Convertibles** in particular experienced above-average growth in volumes. The volume invested in Express Certificates climbed to EUR 16.9 billion as a result. Growth was also seen in **Tracker Certificates**. **Capital Protection Products** bucked the trend by dwindling in popularity, however. A total of EUR 25.3 billion was invested in these products in the reporting month.

Leverage products by product category

The market volume of **leverage products** rose considerably in the month under review, coming in at EUR 1.8 billion. Clear increases were seen in all product categories, with the sharpest rise in **Warrants**.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in February. However, the volume invested in them dipped slightly to stand at EUR 24.4 billion. Investment products with **indices as an underlying** followed in second place. The volume invested in them totalled EUR 19.8 billion. Investment products with **equities as an underlying** were up as well. However, investment products with **commodities as an underlying** were down at EUR 507.6 million, having increased in the previous month. By contrast, there was further growth in investment products with **investment funds as an underlying**, taking their total to EUR 862.2 million. Interest in investment products with **currencies as an underlying** also rose markedly. They stood at EUR 35.9 million as a result.

Leverage products by underlying

Marked increases were seen in the main classes of leverage products in the reporting month. The market volume of leverage products with **equities as an underlying** climbed to EUR 1.1 billion, while the volume invested in leverage products with **indices as an underlying** increased to EUR 476.1 million. Having risen in the previous month, the market volume of leverage products with **commodities as an underlying** fell to EUR 131.5 million, while leverage products with **currencies as an underlying** edged up slightly. By contrast, the volume invested in leverage products with **interest rates as an underlying** fell to EUR 16.2 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.

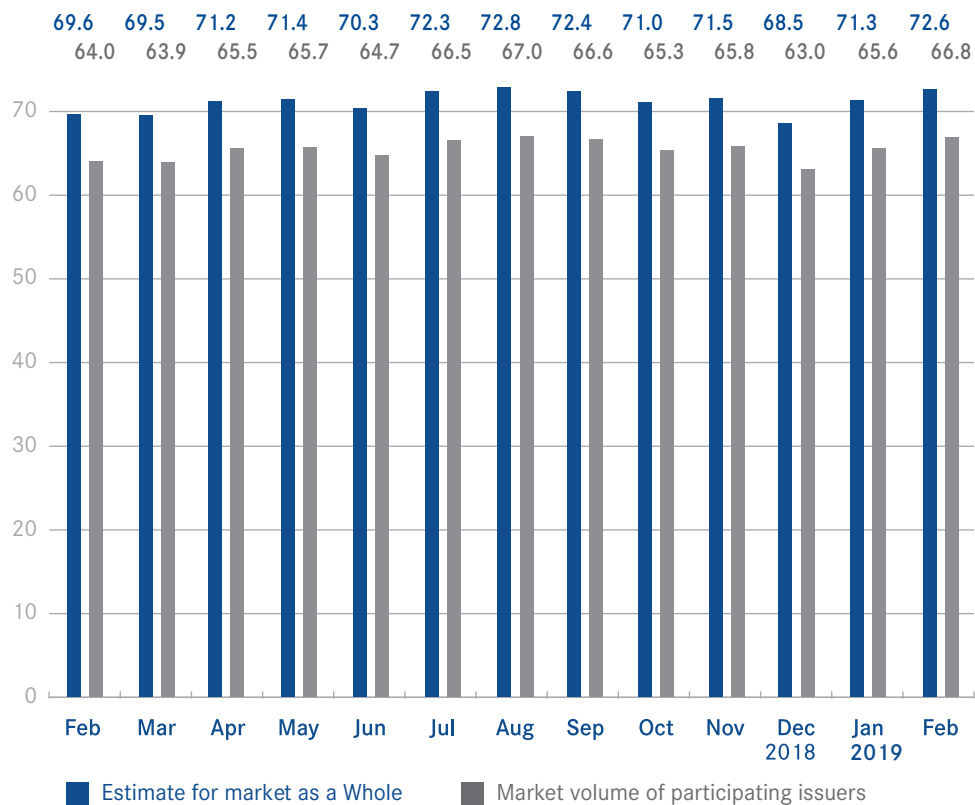
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Market volume since February 2018



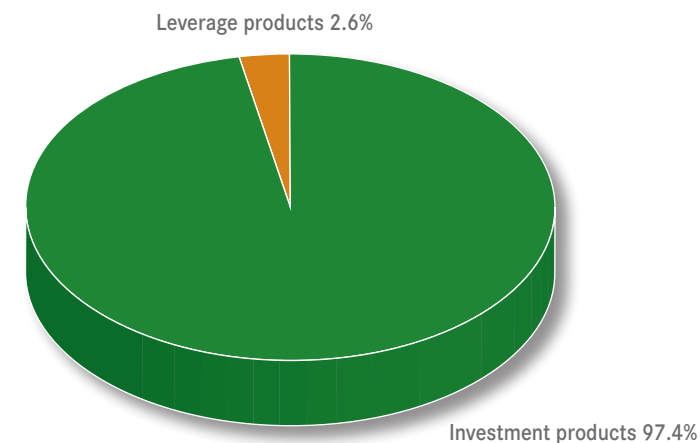
Product classes

Market volume as at 28 February 2019

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	25,289,525	38.9%
Investment products without capital protection	39,746,029	61.1%
Total Investment products	65,035,555	100.0%
Leverage products without Knock-Out	996,401	56.3%
Leverage products with Knock-Out	772,125	43.7%
Total Leverage products	1,768,525	100.0%
Total Investment products	65,035,555	97.4%
Total Leverage products	1,768,525	2.6%
Total Derivatives	66,804,080	100.0%

Product classes

Market volume as at 28 February 2019

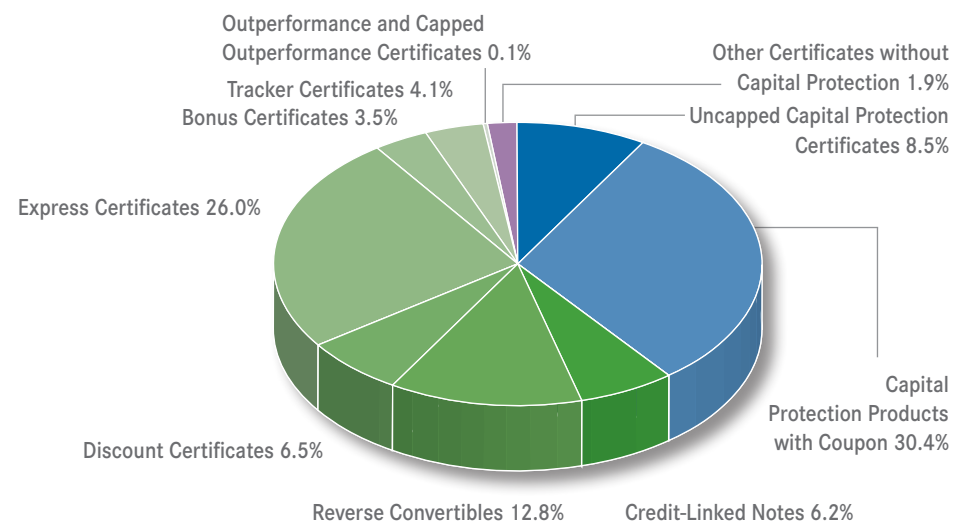


Market volume by product category as at 28 February 2019

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,530,194	8.5%	5,512,734	8.6%	1,445	0.3%
■ Capital Protection Products with Coupon	19,759,331	30.4%	19,765,618	30.7%	4,041	0.8%
■ Credit-Linked Notes	4,046,203	6.2%	4,035,466	6.3%	2,480	0.5%
■ Reverse Convertibles	8,315,105	12.8%	8,203,639	12.8%	116,949	22.2%
■ Discount Certificates	4,246,780	6.5%	4,188,618	6.5%	195,848	37.2%
■ Express Certificates	16,914,583	26.0%	16,530,918	25.7%	15,061	2.9%
■ Bonus Certificates	2,247,882	3.5%	2,215,764	3.4%	188,093	35.7%
■ Tracker Certificates	2,664,660	4.1%	2,570,069	4.0%	1,300	0.2%
■ Outperformance and Capped Outperformance Certificates	53,842	0.1%	51,598	0.1%	865	0.2%
■ Other Certificates without Capital Protection	1,256,974	1.9%	1,238,531	1.9%	1,083	0.2%
Investment products total	65,035,555	97.4%	64,312,955	97.1%	527,165	30.7%
■ Warrants	703,694	39.8%	740,223	38.3%	644,651	54.2%
■ Factor Certificates	292,707	16.6%	414,642	21.5%	26,474	2.2%
■ Knock-Out Warrants	772,125	43.7%	778,074	40.3%	518,602	43.6%
Leverage products total	1,768,525	2.6%	1,932,939	2.9%	1,189,727	69.3%
Total	66,804,080	100.0%	66,245,894	100.0%	1,716,892	100.0%

Investment products by product category

Market volume as at 28 February 2019

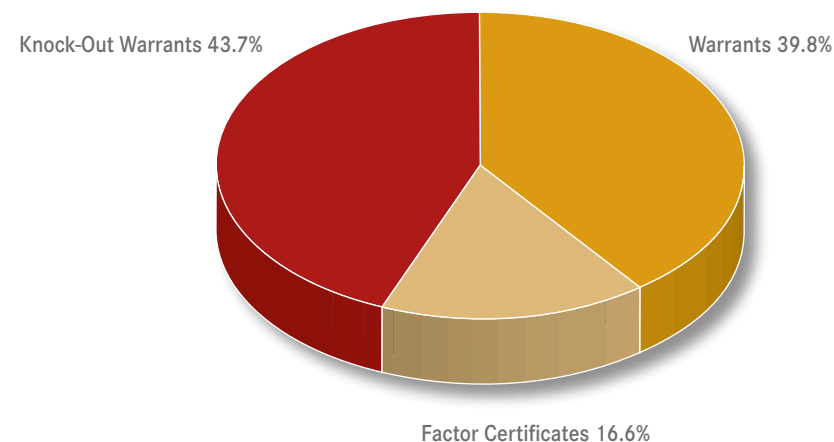


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	T€	in %
■ Uncapped Capital Protection Certificates	18,858	0.3%	1,397	0.0%		0.3%
■ Capital Protection Products with Coupon	-121,296	-0.6%	-115,008	-0.6%		0.0%
■ Credit-Linked Notes	39,915	1.0%	29,178	0.7%		0.3%
■ Reverse Convertibles	157,757	1.9%	46,290	0.6%		1.4%
■ Discount Certificates	35,623	0.8%	-22,539	-0.5%		1.4%
■ Express Certificates	829,526	5.2%	445,861	2.8%		2.4%
■ Bonus Certificates	28,575	1.3%	-3,543	-0.2%		1.4%
■ Tracker Certificates	56,914	2.2%	-37,678	-1.4%		3.6%
■ Outperformance and Capped Outperformance Certificates	-4,739	-8.1%	-6,983	-11.9%		3.8%
■ Other Certificates without Capital Protection	35,569	2.9%	17,126	1.4%		1.5%
Investment products total	1,076,702	1.7%	354,102	0.6%		1.1%
■ Warrants	71,135	11.2%	107,665	17.0%		-5.8%
■ Factor Certificates	7,453	2.6%	129,387	45.4%		-42.7%
■ Knock-Out Warrants	29,990	4.0%	35,940	4.8%		-0.8%
Leverage products total	108,578	6.5%	272,992	16.4%		-9.9%
Total	1,185,280	1.8%	627,094	1.0%		0.9%

Leverage products by product category

Market volume as at 28 February 2019



Market volume by underlying asset as at 28 February 2019

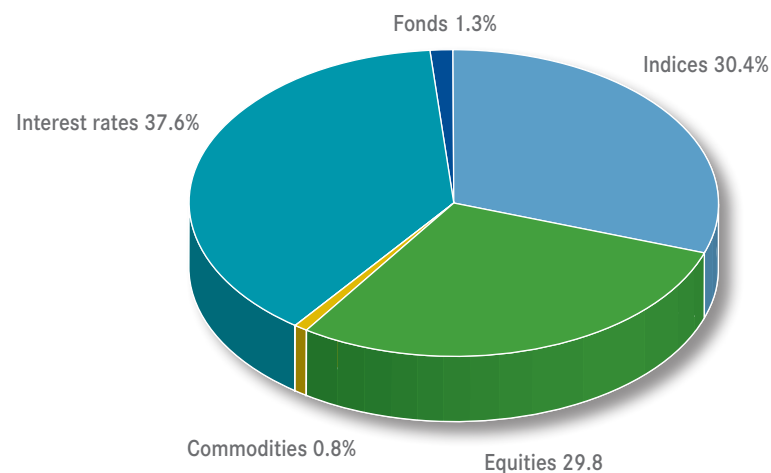
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	19,792,961	30.4%	19,512,333	30.3%	112,795	21.4%
Equities	19,388,864	29.8%	18,978,194	29.5%	404,649	76.8%
Commodities	507,637	0.8%	489,081	0.8%	2,803	0.5%
Currencies	35,867	0.1%	32,406	0.1%	13	0.0%
Interest rates	24,448,076	37.6%	24,445,994	38.0%	6,639	1.3%
Investment funds	862,150	1.3%	854,947	1.3%	266	0.1%
	65,035,555	97.4%	64,312,955	97.1%	527,165	30.7%
Leverage products						
Indices	476,101	26.9%	561,772	29.1%	279,289	23.5%
Equities	1,109,272	62.7%	1,176,233	60.9%	776,436	65.3%
Commodities	131,540	7.4%	142,781	7.4%	62,103	5.2%
Currencies	35,429	2.0%	35,612	1.8%	62,673	5.3%
Interest rates	16,184	0.9%	16,541	0.9%	9,226	0.8%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	1,768,525	2.6%	1,932,939	2.9%	1,189,727	69.3%
Total	66,804,080	100.0%	66,245,894	100.0%	1,716,892	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 28 February 2019 x price as at 31 January 2019

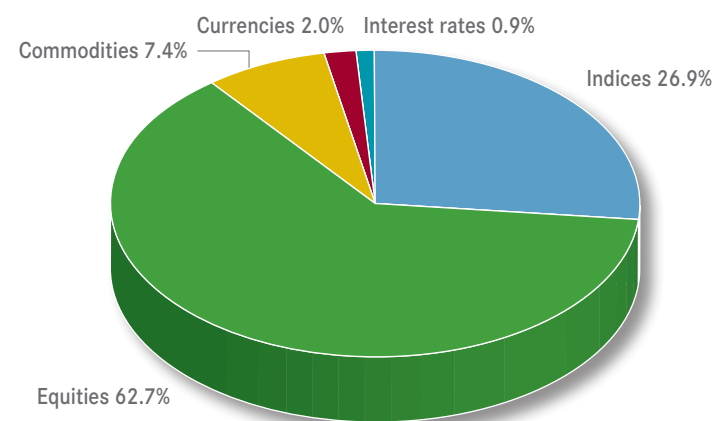
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	427,407	2.2%	146,779	0.8%	1.4%
Equities	689,581	3.7%	278,911	1.5%	2.2%
Commodities	-5,919	-1.2%	-24,475	-4.8%	3.6%
Currencies	3,571	11.1%	110	0.3%	10.7%
Interest rates	-54,293	-0.2%	-56,375	-0.2%	0.0%
Investment funds	16,355	1.9%	9,152	1.1%	0.9%
	1,076,702	1.7%	354,102	0.6%	1.1%
Leverage products					
Indices	7,020	1.5%	92,691	19.8%	-18.3%
Equities	105,809	10.5%	172,770	17.2%	-6.7%
Commodities	-4,293	-3.2%	6,949	5.1%	-8.3%
Currencies	78	0.2%	262	0.7%	-0.5%
Interest rates	-37	-0.2%	320	2.0%	-2.2%
Investment funds	0	n. a.	0	n. a.	n. a.
	108,578	6.5%	272,992	16.4%	-9.9%
Total	1,185,280	1.8%	627,094	1.0%	0.9%

Investment products by underlying asset Market volume as at 28 February 2019



Leverage products by underlying asset Market volume as at 28 February 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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