

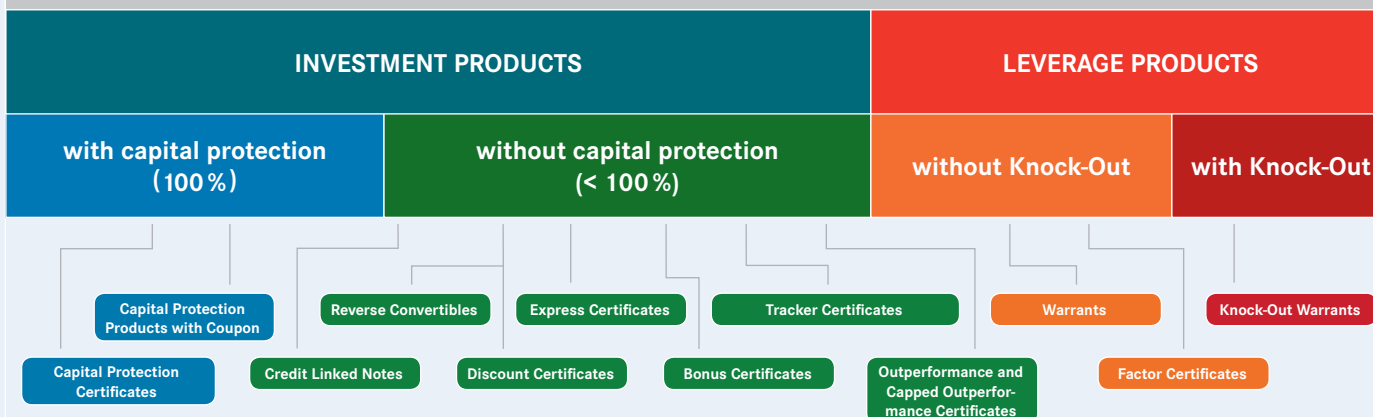
# Market Volume

in Derivatives

## German structured products market got off to positive start in the second quarter

Express Certificates and Reverse Convertibles in particularly high demand

### STRUCTURED SECURITIES



### DDV Classification System

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## April | 2016

- The total volume of the German structured products market increased to EUR 68.8 billion in April.
- Express Certificates recorded above-average growth. Their market volume increased 5.1 percent and totalled EUR 7.0 billion.
- Investment products with indices as an underlying upped 2.2 percent to EUR 17.3 billion.
- The market volume of leverage products with commodities as an underlying registered substantial growth of 23.0 percent to EUR 186.9 million.

## German structured products market got off to positive start in the second quarter

### Express Certificates and Reverse Convertibles in particularly high demand

The outstanding volume of the German structured products market was up in April 2016. In particular, Reverse Convertibles and Express Certificates registered above-average growth. Bucking the positive overall trend, the market volume of Capital Protection Products decreased further.

Overall, the market volume increased by 0.8 percent or EUR 490.3 million compared with the previous 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. Extrapolating these figures to all issuers puts the **total volume of the German structured products market at EUR 68.8 billion at the end of April 2016.**

The **ratio of investment products to leverage products** changed in favour of leverage products. Investment products accounted for 97.5 percent of the aggregate market volume, while leverage products made up 2.5 percent.

#### Investment products by product category

Contrary to the positive overall trend, the volume of **Capital Protection Products** fell in the month under review. Compared with the previous month, the market volume of Capital Protection Products with Coupon lost 1.4 percent to

stand at EUR 18.6 billion. The figure corresponded to a 30.1 percent share of the investment products market. Uncapped Capital Protection Certificates shrank by 2.5 percent, taking their volume to EUR 8.7 billion. This represented 14.0 percent of the investment products market. A total of 44.1 percent of the market volume was invested in these two product categories in April.

**Reverse Convertibles** upped their volume by 3.3 percent to EUR 8.4 billion, and thus accounted for a 13.6 percent market share.

**Express Certificates** also recorded growth. They gained 5.1 percent to come in at EUR 7.0 billion. Their market share was 11.4 percent in April.

The market volume of **Credit Linked Notes** decreased slightly by 0.1 percent and stood at EUR 6.2 billion. They made up 10.0 percent of the total volume.

**Discount Certificates** were up 3.7 percent and stood at EUR 5.3 billion – a share of 8.6 percent.

The market volume recorded for **Tracker Certificates** rose by 0.2 percent and totalled EUR 4.0 billion. Their share of the investment products segment accounted for 6.5 percent.

The market volume of **Bonus Certificates** also performed well in April. They gained 3.8 percent month on month to come in at EUR 2.3 billion. This accounted for a 3.8 percent share of the market.

The market volume of **Outperformance and Capped Outperformance Certificates** decreased by 3.3 percent, taking their volume to EUR 93.9 million. However, as they accounted for just 0.2 percent of the total investment products volume, this category had scarcely any impact on the overall trend.

The volume of other Yield Enhancement Products increased 1.8 percent to EUR 1.1 billion. This represented a 1.8 percent share.

#### Leverage products by product category

The market volume of **leverage products** climbed 6.0 percent to stand at EUR 1.6 billion in April.

The volume invested in **Knock-Out Warrants** upped 5.4 percent, to stand at EUR 570.7 million. The share of Knock-Out Warrants in the leverage products market was 36.1 percent.

**Warrants** rose by 6.6 percent to EUR 648.2 million. They accounted for 41.0 percent of the volume. ►►

The volume invested in **Factor Certificates** increased by 5.7 percent to EUR 362.8 million. This category accounted for 22.9 percent of the leverage products market.

## Investment products by underlying

Despite registering some losses, structured products with **interest rates as an underlying** remained the most popular category. Their volume went down by 1.4 percent to EUR 26.0 billion in April. This took their market share to 42.0 percent.

Investment products with **indices as an underlying** followed in second place. Their volume rose by 2.2 percent, taking it to EUR 17.3 billion. This corresponded to 28.0 percent of the total volume.

Products with **equities as an underlying** were the third most popular investment category. Their share of the total volume went up by 2.2 percent and stood at EUR 17.2 billion. This represented 27.9 percent of the market.

Following at a considerable distance behind the other asset classes were investment products with **commodities as an underlying**. Their outstanding volume grew by 1.6 percent to EUR 854.5 million in April. Their share was 1.4 percent of the total volume.

Investment products with **investment funds as an underlying** had a 0.6 percent share of the market. Their volume came in at EUR 360.5 million.

With a share of 0.05 percent, investment products with **currencies as an underlying** were fairly insignificant in relation to the general trend. The volume invested in them chartered a 4.4 percent decrease to EUR 29.6 million in the reporting month.

## Leverage products by underlying

The market volume of leverage products with **equities as an underlying** was up 2.7 percent and amounted to EUR 781.8 million. These instruments made up 49.4 percent of the total leverage products volume.

Leverage products with **indices as an underlying** grew by 6.3 percent to take their volume to EUR 536.3 million. This corresponded to a 33.9 percent share of the total volume.

Lagging some way behind were those with **commodities as an underlying**. They gained 23.0 percent on the previous month and came in at EUR 186.9 million. Their market share was 11.8 percent.

The market volume of leverage products with **currencies as an underlying** went up 1.7 percent. Their market volume amounted to EUR 55.8 million and corresponded to a 3.5 percent share of the total volume.

Leverage products with **interest rates as an underlying** increased 5.2 percent in April and amounted to EUR 20.8 million. Because they accounted for only 1.3 percent of the aggregate volume, their impact on the general trend was not significant, however. ■



## Deutscher Derivate Verband (DDV)

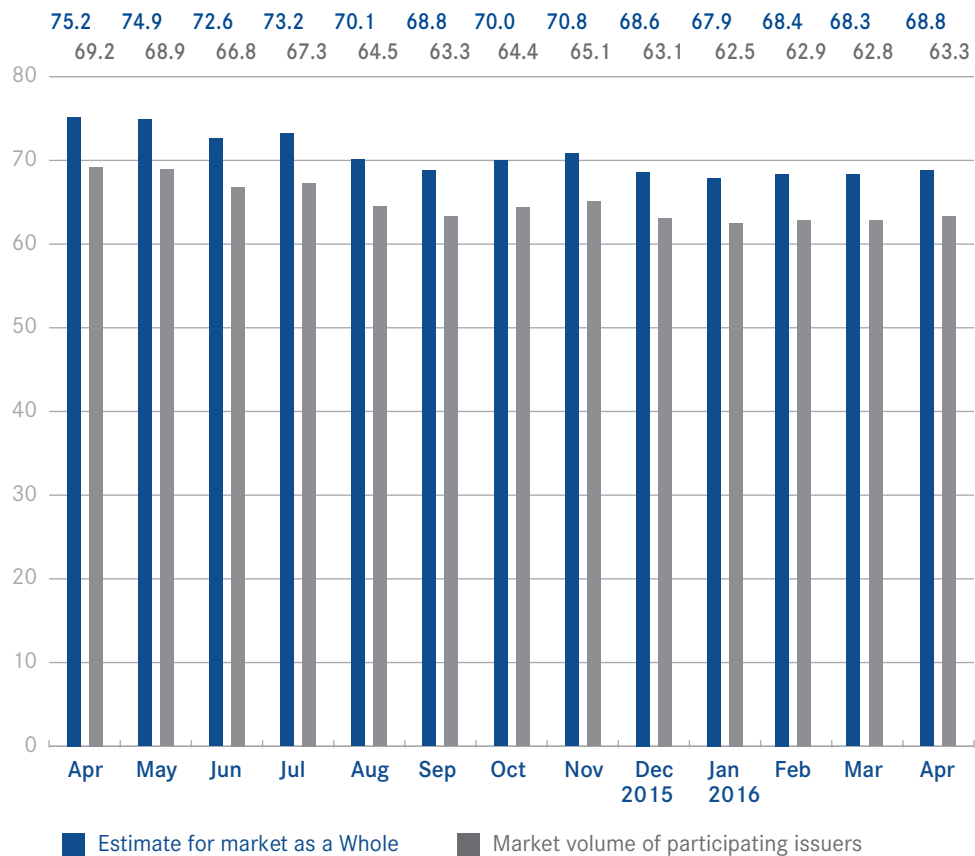
Deutscher Derivate Verband (DDV), the German Derivatives Association, is the industry representative body for the 15 leading issuers of derivatives in Germany: BayernLB, BNP Paribas, Citigroup, Commerzbank, DekaBank, Deutsche Bank, DZ BANK, Goldman Sachs, Helaba, HSBC Trinkaus, HypoVereinsbank, LBBW, Société Générale, UBS and Vontobel. The Association's work is supported by 14 sponsoring members, which include the Stuttgart and Frankfurt am Main stock exchanges, finance portals and service providers.

Office Berlin, Pariser Platz 3, 10117 Berlin  
Office Frankfurt a.M., Feldbergstr. 38, 60323 Frankfurt a.M.

Please address any queries to:  
Alexander Heftrich, Press Secretary  
phone: +49 (69) 244 33 03 – 70  
heftrich@derivateverband.de

[www.derivateverband.de](http://www.derivateverband.de)

## Market volume since April 2015



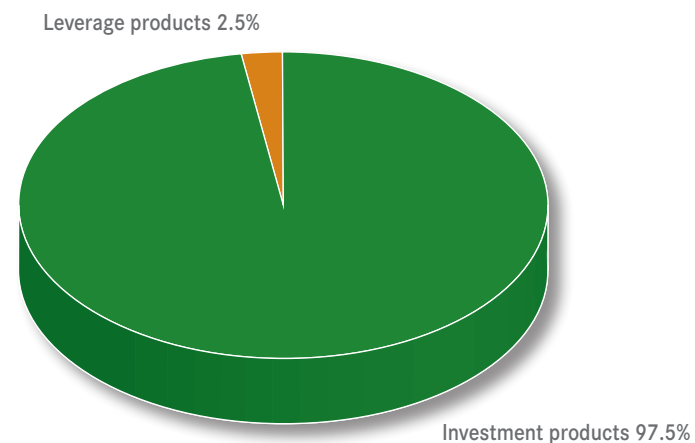
## Product classes

Market volume as at 30 April 2016

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	27,238,813	44.1%
Investment products without capital protection	34,483,848	55.9%
<b>Total Investment products</b>	<b>61,722,661</b>	<b>100.0%</b>
Leverage products without Knock-Out	1,011,007	63.9%
Leverage products with Knock-Out	570,698	36.1%
<b>Total Leverage products</b>	<b>1,581,705</b>	<b>100.0%</b>
<b>Total Investment products</b>	<b>61,722,661</b>	<b>97.5%</b>
<b>Total Leverage products</b>	<b>1,581,705</b>	<b>2.5%</b>
<b>Total Derivatives</b>	<b>63,304,366</b>	<b>100.0%</b>

## Product classes

Market volume as at 30 April 2016

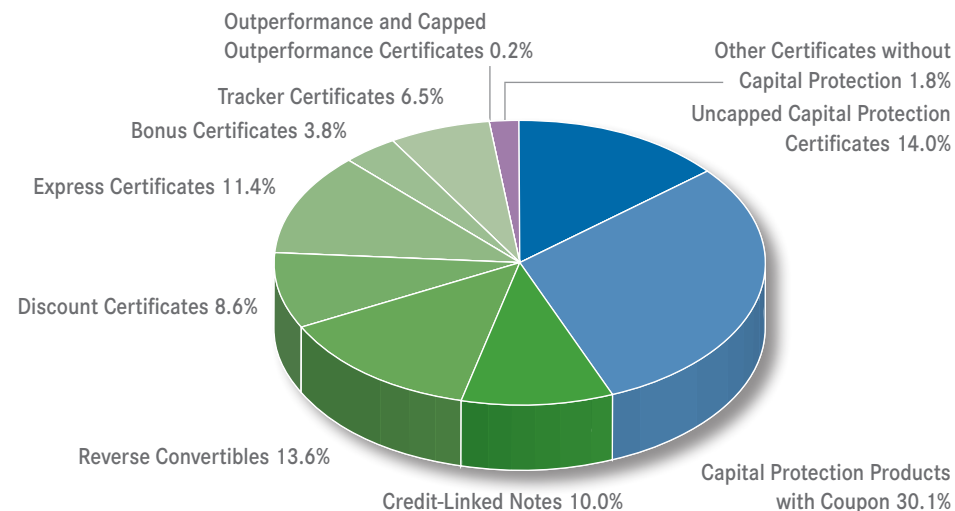


## Market volume by product category as at 30 April 2016

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	8,669,337	14.0%	8,645,665	14.1%	2,420	0.5%
■ Capital Protection Products with Coupon	18,569,476	30.1%	18,600,049	30.3%	2,282	0.4%
■ Credit-Linked Notes	6,169,175	10.0%	6,116,262	10.0%	2,255	0.4%
■ Reverse Convertibles	8,396,256	13.6%	8,385,502	13.6%	102,706	20.1%
■ Discount Certificates	5,338,236	8.6%	5,316,951	8.7%	174,166	34.0%
■ Express Certificates	7,048,039	11.4%	6,963,319	11.3%	8,131	1.6%
■ Bonus Certificates	2,337,677	3.8%	2,317,479	3.8%	216,355	42.2%
■ Tracker Certificates	4,000,934	6.5%	3,925,256	6.4%	1,861	0.4%
■ Outperformance and Capped Outperformance Certificates	93,912	0.2%	93,050	0.2%	1,005	0.2%
■ Other Certificates without Capital Protection	1,099,618	1.8%	1,096,945	1.8%	938	0.2%
<b>Investment products total</b>	<b>61,722,661</b>	<b>97.5%</b>	<b>61,460,478</b>	<b>97.5%</b>	<b>512,119</b>	<b>42.4%</b>
■ Warrants	648,232	41.0%	663,606	41.5%	360,592	51.7%
■ Factor Certificates	362,775	22.9%	376,392	23.5%	3,647	0.5%
■ Knock-Out Warrants	570,698	36.1%	559,945	35.0%	332,748	47.7%
<b>Leverage products total</b>	<b>1,581,705</b>	<b>2.5%</b>	<b>1,599,943</b>	<b>2.5%</b>	<b>696,987</b>	<b>57.6%</b>
<b>Total</b>	<b>63,304,366</b>	<b>100.0%</b>	<b>63,060,422</b>	<b>100.0%</b>	<b>1,209,106</b>	<b>100.0%</b>

## Investment products by product category

Market volume as at 30 April 2016

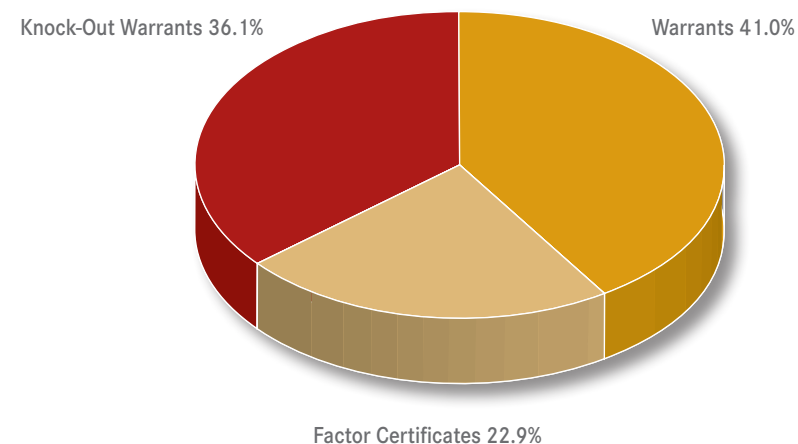


## Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	in %	
■ Uncapped Capital Protection Certificates	-226,797	-2.5%	-250,469	-2.8%		0.3%
■ Capital Protection Products with Coupon	-271,799	-1.4%	-241,227	-1.3%		-0.2%
■ Credit-Linked Notes	-9,133	-0.1%	-62,046	-1.0%		0.9%
■ Reverse Convertibles	269,399	3.3%	258,646	3.2%		0.1%
■ Discount Certificates	189,218	3.7%	167,933	3.3%		0.4%
■ Express Certificates	340,390	5.1%	255,670	3.8%		1.3%
■ Bonus Certificates	84,832	3.8%	64,633	2.9%		0.9%
■ Tracker Certificates	8,522	0.2%	-67,156	-1.7%		1.9%
■ Outperformance and Capped Outperformance Certificates	-3,232	-3.3%	-4,094	-4.2%		0.9%
■ Other Certificates without Capital Protection	19,708	1.8%	17,035	1.6%		0.2%
<b>Investment products total</b>	<b>401,108</b>	<b>0.7%</b>	<b>138,925</b>	<b>0.2%</b>		<b>0.4%</b>
■ Warrants	40,339	6.6%	55,713	9.2%		-2.5%
■ Factor Certificates	19,638	5.7%	33,255	9.7%		-4.0%
■ Knock-Out Warrants	29,209	5.4%	18,456	3.4%		2.0%
<b>Leverage products total</b>	<b>89,186</b>	<b>6.0%</b>	<b>107,425</b>	<b>7.2%</b>		<b>-1.2%</b>
<b>Total</b>	<b>490,294</b>	<b>0.8%</b>	<b>246,350</b>	<b>0.4%</b>		<b>0.4%</b>

## Leverage products by product category

Market volume as at 30 April 2016



## Market volume by underlying asset as at 30 April 2016

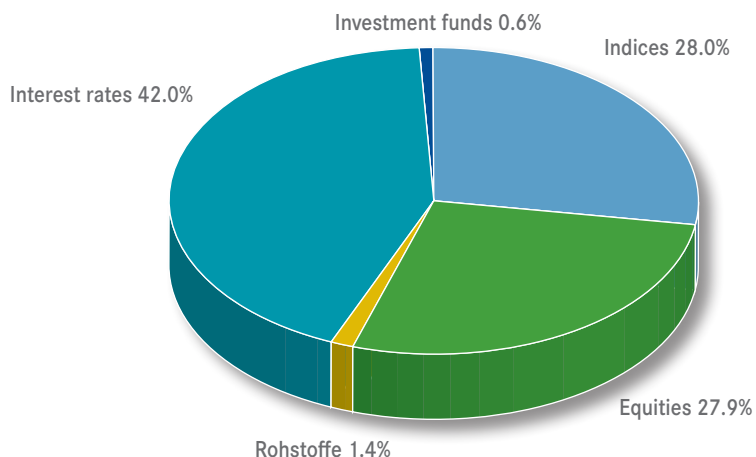
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
<b>Investment products</b>						
Indices	17,311,212	28.0%	17,235,123	28.0%	130,024	25.4%
Equities	17,216,289	27.9%	17,106,622	27.8%	374,992	73.2%
Commodities	854,498	1.4%	800,428	1.3%	2,236	0.4%
Currencies	29,582	0.0%	29,069	0.0%	59	0.0%
Interest rates	25,950,556	42.0%	25,928,629	42.2%	4,709	0.9%
Investment funds	360,525	0.6%	360,608	0.6%	99	0.0%
	<b>61,722,661</b>	<b>97.5%</b>	<b>61,460,478</b>	<b>97.5%</b>	<b>512,119</b>	<b>42.4%</b>
<b>Leverage products</b>						
Indices	536,337	33.9%	550,058	34.4%	180,772	25.9%
Equities	781,838	49.4%	803,358	50.2%	445,298	63.9%
Commodities	186,906	11.8%	172,660	10.8%	35,925	5.2%
Currencies	55,842	3.5%	54,836	3.4%	31,961	4.6%
Interest rates	20,755	1.3%	19,007	1.2%	3,021	0.4%
Investment funds	26	0.0%	26	0.0%	10	0.0%
	<b>1,581,705</b>	<b>2.5%</b>	<b>1,599,943</b>	<b>2.5%</b>	<b>696,987</b>	<b>57.6%</b>
<b>Total</b>	<b>63,304,366</b>	<b>100.0%</b>	<b>63,060,422</b>	<b>100.0%</b>	<b>1,209,106</b>	<b>100.0%</b>

\*Market volume adjusted for price changes = quantity outstanding as at 30 April 2016 x price as at 31 March 2016

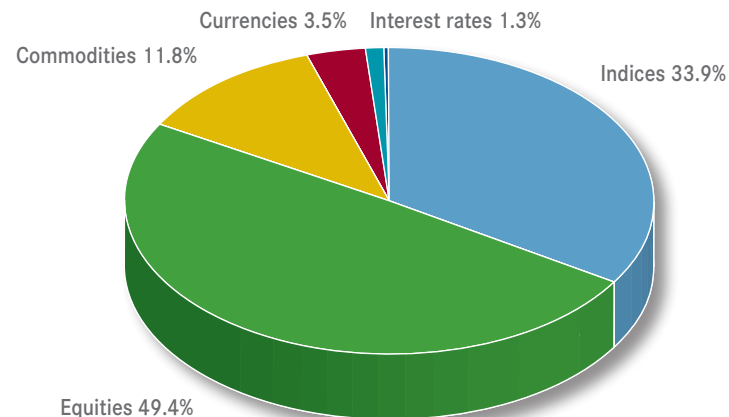
## Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
<b>Investment products</b>					
Indices	134,259	0.8%	-137,020	-0.8%	1.6%
Equities	113,606	0.7%	-382,349	-2.3%	3.0%
Commodities	2,996	0.4%	-7,792	-0.9%	1.3%
Currencies	-3,131	-9.2%	-4,156	-12.2%	3.0%
Interest rates	-194,536	-0.7%	-249,683	-0.9%	0.2%
Investment funds	-274,432	-43.4%	-269,112	-42.5%	-0.8%
	<b>-221,238</b>	<b>-0.4%</b>	<b>-1,050,111</b>	<b>-1.7%</b>	<b>1.3%</b>
<b>Leverage products</b>					
Indices	28,460	6.0%	78,597	16.5%	-10.5%
Equities	51,507	7.3%	30,030	4.2%	3.0%
Commodities	-3,007	-1.9%	2,300	1.5%	-3.4%
Currencies	-13,157	-19.3%	8,277	12.2%	-31.5%
Interest rates	413	2.1%	178	0.9%	1.2%
Investment funds	0	0.0%	0	0.0%	0.0%
	<b>64,215</b>	<b>4.5%</b>	<b>119,381</b>	<b>8.4%</b>	<b>-3.9%</b>
<b>Total</b>	<b>-157,023</b>	<b>-0.2%</b>	<b>-930,730</b>	<b>-1.5%</b>	<b>1.2%</b>

### Investment products by underlying asset Market volume as at 30 April 2016



### Leverage products by underlying asset Market volume as at 30 April 2016



## 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.

### 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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