

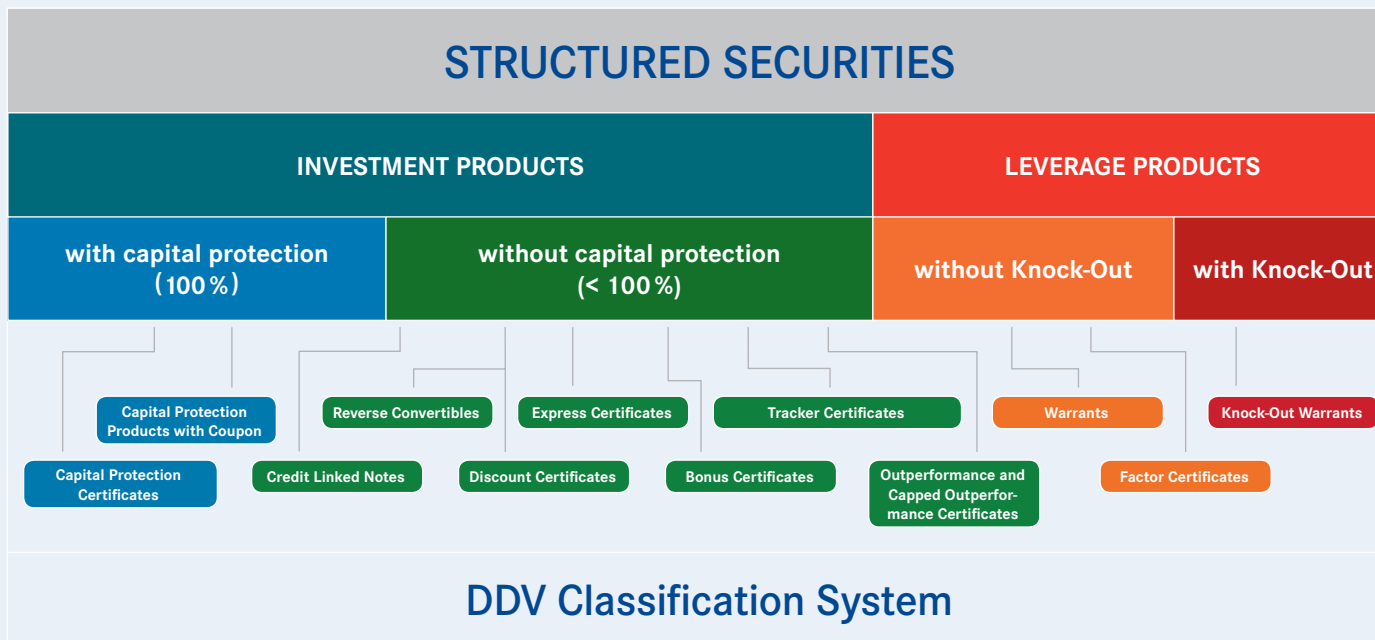
Market Volume

in Derivatives

Structured securities market gets off to a good start in the second half of the year

Express Certificates and Reverse Convertibles in particularly high demand

STRUCTURED SECURITIES



CONTENTS

| | |
|---|---|
| Market volume since July 2015 | 4 |
| Market volume by product class | 4 |
| Market volume by product category | 5 |
| Change in the market volume by product category | 5 |
| Investment products by product category | 5 |
| Leverage products by product category | 5 |
| Market volume by underlying | 6 |
| Change in market volume by underlying | 6 |
| Investment products by underlying | 6 |
| Leverage products by underlying | 6 |
| Collection, validation and analysis methodology | 7 |

July | 2016

- In July, the total volume of the German structured products market increased to EUR 69.3 billion.
- Express Certificates registered above-average growth of 6.7 percent. Their volume amounted to EUR 8.6 billion.
- The market volume of leverage products soared 13.8 percent and stood at EUR 1.7 billion.
- Leverage products with equities as an underlying recorded a plus of 24.1 percent. The volume invested in them was EUR 871.4 million.

Structured securities market gets off to a good start in the second half of the year

Express Certificates and Reverse Convertibles in particularly high demand

The outstanding volume of the German structured products market increased in July 2016. In particular, Express Certificates and Reverse Convertibles charted above-average growth. Contrary to the overall positive development, the market volume of Capital Protection Products offering full capital protection decreased further.

Overall, the market volume rose by 1.3 percent or EUR 799.0 million compared with the previous month. This trend is 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 69.3 billion at the end of July 2016.**

The **ratio of investment products to leverage products** changed in favour of leverage products. Investment products made up 97.4 percent of the total market share. Leverage products accounted for 2.6 percent.

Investment products by product category

Going against the generally positive mood, the aggregate volume of **Capital Protection Products offering full capital protection** fell in the month under review. The market volume of Capital Protection Products with Coupon lost 1.2 percent on the prior month. Their volume stood at EUR 17.7 billion. This

figure corresponded to a 28.5 percent share of the investment products market. Uncapped Capital Protection Certificates recorded a minus of 3.5 percent, taking their volume to EUR 7.9 billion. Their share represented 12.7 percent of the investment products market. A total of 41.2 percent of the market volume was invested in these two product categories in July.

The market volume of **Reverse Convertibles** rose by 3.7 percent to EUR 8.5 billion. This corresponded to a market share of 13.7 percent.

Express Certificates gained 6.7 percent to stand at EUR 8.6 billion. Their share of the market was 13.8 percent in July. For this product category, the data shown for the previous month was adjusted in the month under review owing to the late reporting of products which had not been included in the statistical figures so far.

The market volume of **Credit Linked Notes** fell by 1.1 percent to come in at EUR 6.3 billion. They accounted for a share of 10.1 percent of the total volume.

Discount Certificates registered a 3.1 percent increase to EUR 5.6 billion – a share of 9.1 percent.

Tracker Certificates upped its market volume by 1.1 percent to stand at EUR 3.9 billion. Their share of the investment products segment accounted for 6.3 percent.

Bonus Certificates also experienced a growth in market volume in July. At EUR 2.5 billion, their market volume was up 4.1 percent on the previous month. This corresponded to a 4.0 percent share of the total market.

The market volume for **Outperformance and Capped Outperformance Certificates** went up by 5.3 percent and came in at EUR 80.8 million. However, as they accounted for just 0.1 percent of the total investment products volume, this category had scarcely any impact on the overall development.

The volume of **other Yield Enhancement Products** increased 0.5 percent to EUR 1.1 billion. They accounted for a 1.7 percent share of the aggregate market volume.

Leverage products by product category

The market volume of **leverage products** increased by an above-average 13.8 percent to stand at EUR 1.7 billion in July.

The volume invested in **Knock-Out Warrants** rose by 13.6 percent, taking it to EUR 650.3 million. The share of Knock-Out Warrants in the leverage products market was 39.1 percent.

Warrants recorded a plus of 16.8 percent to come in at EUR 652.4 million. Their market share stood at 39.3 percent.



The volume invested in **Factor Certificates** upped 9.1 percent to EUR 359.0 million. This category accounted for 21.6 percent of the leverage products market.

Investment products by underlying

Despite suffering losses, structured products with **interest rates as an underlying** remained the most popular category. Their volume lost 1.8 percent and fell to EUR 24.7 billion. This took their share to 39.8 percent.

Investment products with **equities as an underlying** followed in second place. Their volume rose by 3.0 percent, taking it to EUR 18.5 billion. This corresponded to 29.7 percent of the total volume.

Investment products with **equities as an underlying** were the third most popular investment category. Their share of the total volume went up by 3.2 percent to EUR 17.7 billion. This corresponded to a share of 28.5 percent.

Investment products with **commodities as an underlying** followed at a considerable distance behind the other asset classes. Their outstanding volume declined by 4.2 percent to stand at EUR 823.9 million in July. Commodities represented a 1.3 percent share of the market.

Investment products with **investment funds as an underlying** held a 0.6 percent chunk of the market. Their volume came in at EUR 373.4 million.

With a share of 0.04 percent, investment products with **currencies as an underlying** were fairly insignificant in re-

lation to the general trend. The volume invested in them decreased by 2.0 percent to end at EUR 24.9 million in the reporting month.

Leverage products by underlying

The market volume of leverage products with **equities as an underlying** recorded above-average growth of 24.1 percent and totalled EUR 871.4 million. These instruments made up 52.4 percent of the total leverage products volume.

The market volume of leverage products with **indices as an underlying** went up by 4.5 percent, increasing their market volume to EUR 510.0 million. This corresponded to a 30.7 percent share of the total volume.

Lagging some way behind were leverage products with **commodities as an underlying**. Their volume increased by 6.7 percent on the previous month and reached EUR 216.1 million. They accounted for a 13.0 percent share of the market volume.

The market volume of leverage products with **currencies as an underlying** dropped 3.1 percent to stand at EUR 46.3 million. This corresponded to a 2.8 percent share of the market.

At EUR 17.9 million, the market volume of leverage products with **interest rates as an underlying** recorded a 6.5 percent loss in July. However, as they accounted for only 1.1 percent of the aggregate volume, their impact on the general trend was not significant. ■



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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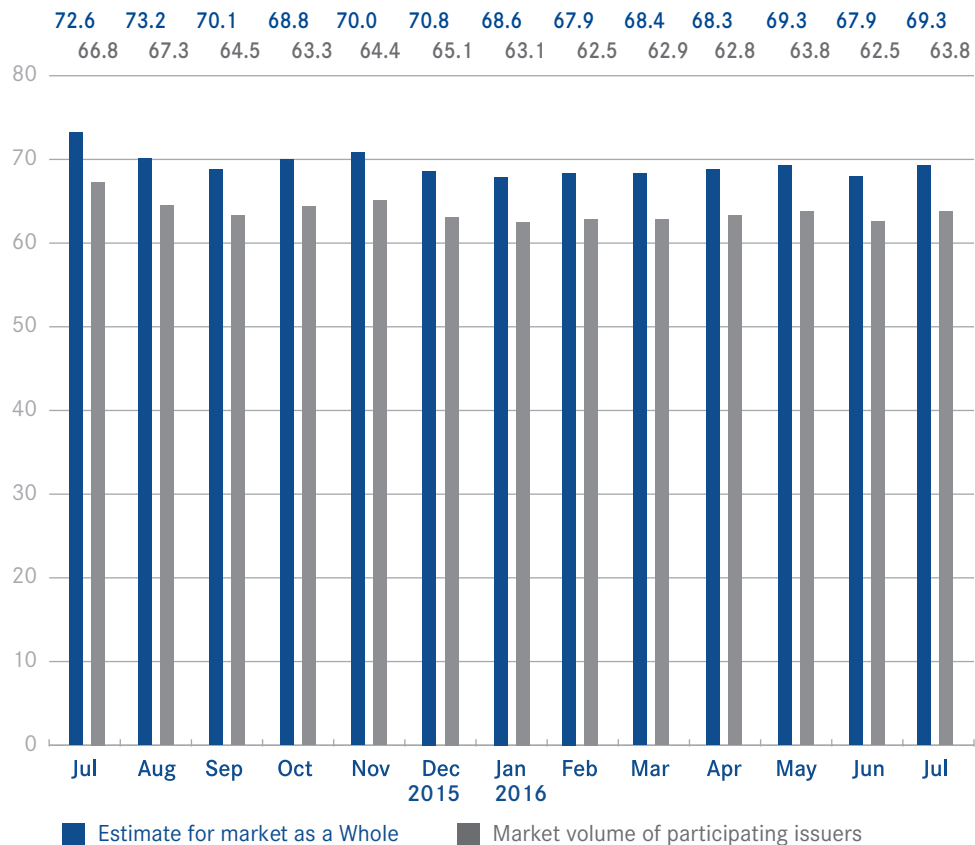
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Market volume since July 2015



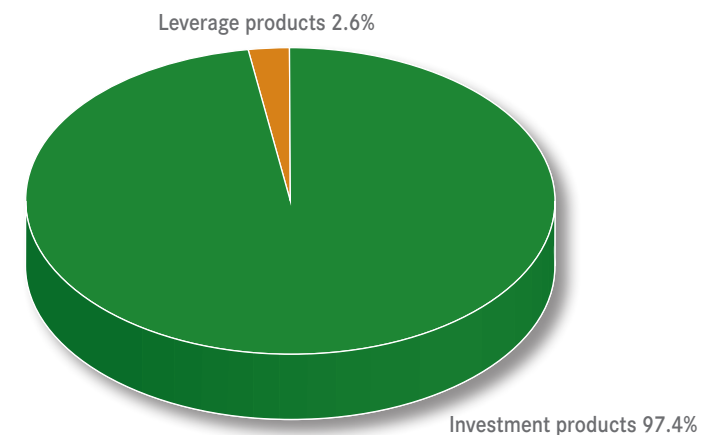
Product classes

Market volume as at 31 July 2016

| Product classes | Market volume | Share |
|--|-------------------|---------------|
| | T€ | % |
| Investment products with capital protection | 25,592,311 | 41.2% |
| Investment products without capital protection | 36,537,377 | 58.8% |
| Total Investment products | 62,129,688 | 100.0% |
| Leverage products without Knock-Out | 1,011,335 | 60.9% |
| Leverage products with Knock-Out | 650,338 | 39.1% |
| Total Leverage products | 1,661,674 | 100.0% |
| Total Investment products | 62,129,688 | 97.4% |
| Total Leverage products | 1,661,674 | 2.6% |
| Total Derivatives | 63,791,361 | 100.0% |

Product classes

Market volume as at 31 July 2016

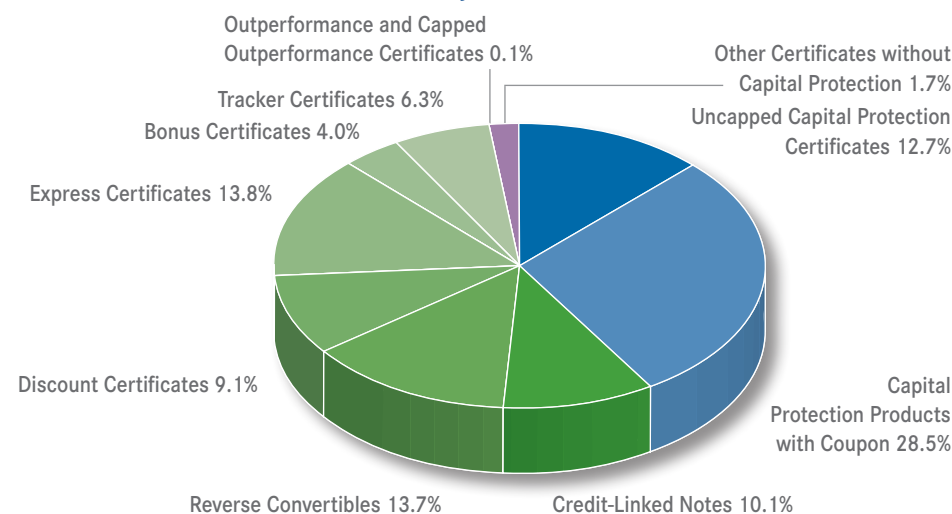


Market volume by product category as at 31 July 2016

| Product categories | Market volume | | Market volume price-adjusted | | Number of Products | |
|---|-------------------|---------------|------------------------------|---------------|--------------------|---------------|
| | T€ | in % | T€ | in % | # | in % |
| ■ Uncapped Capital Protection Certificates | 7,901,119 | 12.7% | 7,866,321 | 12.8% | 2,269 | 0.5% |
| ■ Capital Protection Products with Coupon | 17,691,192 | 28.5% | 17,677,454 | 28.8% | 2,350 | 0.5% |
| ■ Credit-Linked Notes | 6,273,300 | 10.1% | 6,231,896 | 10.2% | 2,415 | 0.5% |
| ■ Reverse Convertibles | 8,506,363 | 13.7% | 8,300,787 | 13.5% | 97,059 | 19.6% |
| ■ Discount Certificates | 5,624,725 | 9.1% | 5,510,582 | 9.0% | 162,009 | 32.7% |
| ■ Express Certificates | 8,559,237 | 13.8% | 8,284,493 | 13.5% | 8,960 | 1.8% |
| ■ Bonus Certificates | 2,487,938 | 4.0% | 2,427,410 | 4.0% | 216,462 | 43.7% |
| ■ Tracker Certificates | 3,923,444 | 6.3% | 3,857,651 | 6.3% | 1,881 | 0.4% |
| ■ Outperformance and Capped Outperformance Certificates | 80,778 | 0.1% | 76,793 | 0.1% | 893 | 0.2% |
| ■ Other Certificates without Capital Protection | 1,081,591 | 1.7% | 1,063,198 | 1.7% | 918 | 0.2% |
| Investment products total | 62,129,688 | 97.4% | 61,296,585 | 97.4% | 495,216 | 41.1% |
| ■ Warrants | 652,351 | 39.3% | 647,241 | 39.1% | 373,972 | 52.6% |
| ■ Factor Certificates | 358,984 | 21.6% | 374,481 | 22.6% | 3,749 | 0.5% |
| ■ Knock-Out Warrants | 650,338 | 39.1% | 635,168 | 38.3% | 333,259 | 46.9% |
| Leverage products total | 1,661,674 | 2.6% | 1,656,890 | 2.6% | 710,980 | 58.9% |
| Total | 63,791,361 | 100.0% | 62,953,476 | 100.0% | 1,206,196 | 100.0% |

Investment products by product category

Market volume as at 31 July 2016

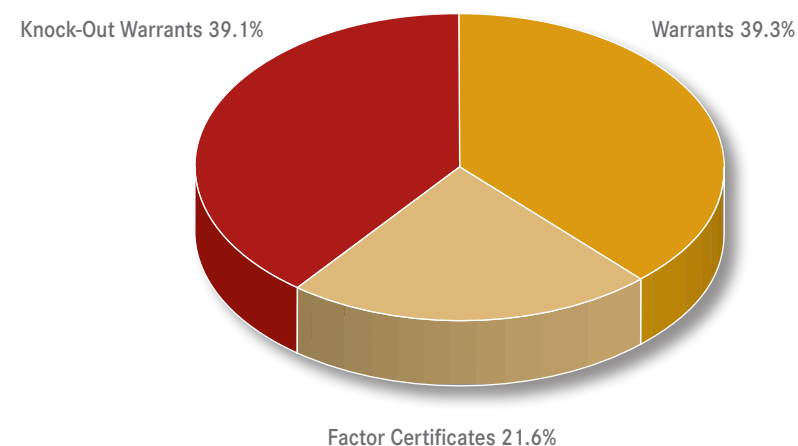


Change in market volume by product category in comparison with previous month

| Product categories | Change | | Change price-adjusted | | Price effect |
|---|----------------|--------------|-----------------------|--------------|--------------|
| | T€ | in % | T€ | in % | |
| ■ Uncapped Capital Protection Certificates | -285,189 | -3.5% | -319,987 | -3.9% | 0.4% |
| ■ Capital Protection Products with Coupon | -208,935 | -1.2% | -222,673 | -1.2% | 0.1% |
| ■ Credit-Linked Notes | -71,645 | -1.1% | -113,049 | -1.8% | 0.7% |
| ■ Reverse Convertibles | 303,379 | 3.7% | 97,803 | 1.2% | 2.5% |
| ■ Discount Certificates | 168,692 | 3.1% | 54,548 | 1.0% | 2.1% |
| ■ Express Certificates | 540,726 | 6.7% | 265,982 | 3.3% | 3.4% |
| ■ Bonus Certificates | 98,365 | 4.1% | 37,837 | 1.6% | 2.5% |
| ■ Tracker Certificates | 42,534 | 1.1% | -23,260 | -0.6% | 1.7% |
| ■ Outperformance and Capped Outperformance Certificates | 4,067 | 5.3% | 81 | 0.1% | 5.2% |
| ■ Other Certificates without Capital Protection | 4,983 | 0.5% | -13,410 | -1.2% | 1.7% |
| Investment products total | 596,975 | 1.0% | -236,127 | -0.4% | 1.4% |
| ■ Warrants | 93,860 | 16.8% | 88,749 | 15.9% | 0.9% |
| ■ Factor Certificates | 30,073 | 9.1% | 45,570 | 13.9% | -4.7% |
| ■ Knock-Out Warrants | 78,057 | 13.6% | 62,886 | 11.0% | 2.7% |
| Leverage products total | 201,990 | 13.8% | 197,206 | 13.5% | 0.3% |
| Total | 798,965 | 1.3% | -38,921 | -0.1% | 1.3% |

Leverage products by product category

Market volume as at 31 July 2016



Market volume by underlying asset as at 31 July 2016

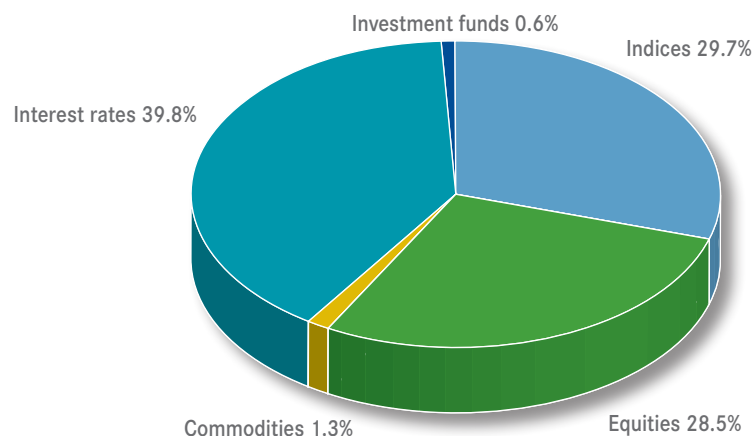
| Underlying | Market volume | | Market volume price-adjusted* | | Number of Products | |
|----------------------------|-------------------|---------------|-------------------------------|---------------|--------------------|---------------|
| | T€ | % | T€ | % | # | % |
| Investment products | | | | | | |
| Indices | 18,478,894 | 29.7% | 18,122,007 | 29.6% | 123,846 | 25.0% |
| Equities | 17,706,778 | 28.5% | 17,247,159 | 28.1% | 363,930 | 73.5% |
| Commodities | 823,853 | 1.3% | 864,214 | 1.4% | 2,389 | 0.5% |
| Currencies | 24,852 | 0.0% | 25,013 | 0.0% | 31 | 0.0% |
| Interest rates | 24,721,922 | 39.8% | 24,667,710 | 40.2% | 4,911 | 1.0% |
| Investment funds | 373,389 | 0.6% | 370,482 | 0.6% | 109 | 0.0% |
| | 62,129,688 | 97.4% | 61,296,585 | 97.4% | 495,216 | 41.1% |
| Leverage products | | | | | | |
| Indices | 509,980 | 30.7% | 576,734 | 34.8% | 178,415 | 25.1% |
| Equities | 871,372 | 52.4% | 769,379 | 46.4% | 461,203 | 64.9% |
| Commodities | 216,081 | 13.0% | 239,563 | 14.5% | 37,093 | 5.2% |
| Currencies | 46,334 | 2.8% | 50,694 | 3.1% | 31,530 | 4.4% |
| Interest rates | 17,886 | 1.1% | 20,499 | 1.2% | 2,729 | 0.4% |
| Investment funds | 21 | 0.0% | 21 | 0.0% | 10 | 0.0% |
| | 1,661,674 | 2.6% | 1,656,890 | 2.6% | 710,980 | 58.9% |
| Total | 63,791,361 | 100.0% | 62,953,476 | 100.0% | 1,206,196 | 100.0% |

*Market volume adjusted for price changes = quantity outstanding as at 31 July 2016 x price as at 30 June 2016

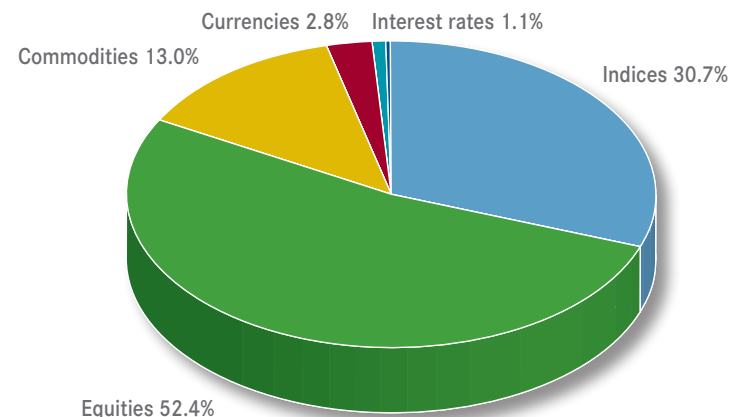
Change in the market volume by underlying asset in comparison with previous month

| Underlying | Change | | Change price-adjusted | | Price effect |
|----------------------------|----------------|--------------|-----------------------|--------------|--------------|
| | T€ | % | T€ | % | |
| Investment products | | | | | |
| Indices | 530,535 | 3.0% | 173,648 | 1.0% | 2.0% |
| Equities | 557,234 | 3.2% | 97,615 | 0.6% | 2.7% |
| Commodities | -36,537 | -4.2% | 3,824 | 0.4% | -4.7% |
| Currencies | -496 | -2.0% | -335 | -1.3% | -0.6% |
| Interest rates | -450,060 | -1.8% | -504,271 | -2.0% | 0.2% |
| Investment funds | -3,701 | -1.0% | -6,608 | -1.8% | 0.8% |
| | 596,975 | 1.0% | -236,127 | -0.4% | 1.4% |
| Leverage products | | | | | |
| Indices | 21,912 | 4.5% | 88,665 | 18.2% | -13.7% |
| Equities | 169,161 | 24.1% | 67,168 | 9.6% | 14.5% |
| Commodities | 13,659 | 6.7% | 37,141 | 18.3% | -11.6% |
| Currencies | -1,503 | -3.1% | 2,857 | 6.0% | -9.1% |
| Interest rates | -1,233 | -6.5% | 1,380 | 7.2% | -13.7% |
| Investment funds | -5 | -18.6% | -5 | -18.6% | 0.0% |
| | 201,990 | 13.8% | 197,206 | 13.5% | 0.3% |
| Total | 798,965 | 1.3% | -38,921 | -0.1% | 1.3% |

Investment products by underlying asset Market volume as at 31 July 2016



Leverage products by underlying asset Market volume as at 31 July 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).

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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