

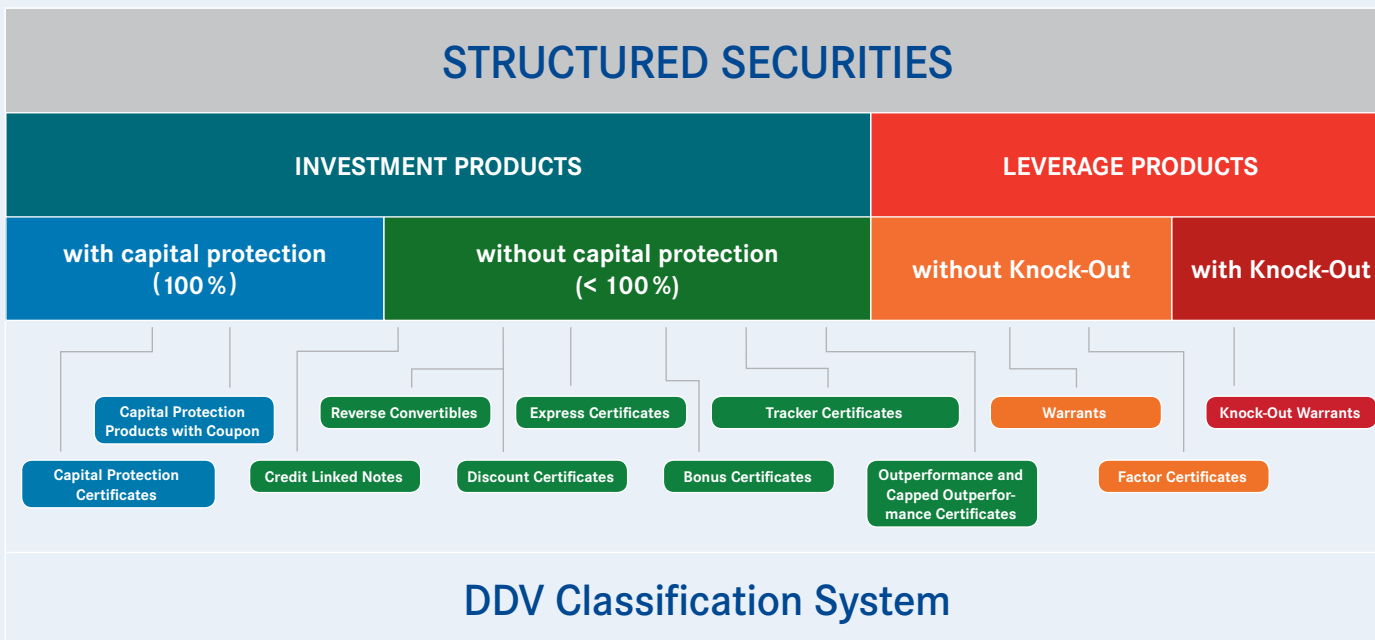
Market Volume

in Derivatives

German structured products market at EUR 68.3 billion

Express Certificates and Reverse Convertibles in brisk demand

STRUCTURED SECURITIES



DDV Classification System

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October | 2016

- In October, the total volume of the German structured products market amounted to EUR 68.3 billion.
- The market volume of Capital Protection Products decreased. Uncapped Capital Protection Certificates and Capital Protection Products with Coupon accounted for a total of 38.9 percent of the aggregate volume.
- Contrary to the general trend, the market volume of Express Certificates rocketed by 4.7 percent and stood at EUR 9.4 billion.
- At EUR 520.5 million, the market volume of leverage products with indices as an underlying was 4.1 percent higher than in the previous month.

German structured products market at EUR 68.3 billion

Express Certificates and Reverse Convertibles in brisk demand

The outstanding volume of the German structured products market went slightly down in October 2016. Some product categories bucked the overall trend, and in particular Express Certificates and Reverse Convertibles recorded considerable growth.

Overall, the market volume was down 0.2 percent or EUR 122.7 million compared with the previous month. These trends became apparent from the latest figures collected each month from 15 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 operating on the market puts the **total volume of the German structured products market at EUR 68.3 billion at the end of October 2016.**

Compared with the previous month, the **ratio of investment products to leverage products** shifted in favour of leverage products. The total share of investment products was 97.3 percent, while leverage products made up 2.7 percent of the market.

Investment products by product category

Overall, the volume of **Capital Protection Products** decreased in the month under review. Compared with the figure for September, the market volume of **Capital Protec-**

tion Products with Coupon fell by 3.8 percent to EUR 16.4 billion. This corresponded to a 26.8 percent share of the investment products market. **Uncapped Capital Protection Certificates** experienced a decline of 1.5 percent to stand at EUR 7.4 billion and thus made up a share of 12.1 percent of the investment products market. The two product categories accounted for a total of 38.9 percent of the market volume in October.

The volume of **Reverse Convertibles** edged up 3.7 percent to EUR 9.0 billion. This corresponded to a share of 14.7 percent.

Express Certificates upped their volume substantially, with growth of 4.7 percent to come in at EUR 9.4 billion. Their share in the volume of investment products was 15.3 percent in October.

Credit Linked Notes lost 3.5 percent to stand at EUR 6.0 billion. They accounted for 9.9 percent of the volume.

Discount Certificates registered a plus of 0.3 percent and came in at EUR 5.3 billion, representing a share of 8.6 percent.

At EUR 3.9 billion, the market volume recorded for **Tracker Certificates** remained unchanged in the reporting month.

Their volume share made up 6.3 percent of the investment products segment.

The volume of **Bonus Certificates** increased a clear 5.3 percent. It rose to EUR 2.6 billion, representing 4.3 percent of the total market.

Outperformance and Capped Outperformance Certificates jumped by 18.4 percent taking their volume to EUR 82.0 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 trend.

The volume of **other Yield Enhancement Products** lost 1.6 percent and stood at EUR 1.1 billion. They represented a share of 1.8 percent of the aggregate volume.

Leverage products by product category

Contrary to the general trend, the market volume of **leverage products** gained 2.5 percent to stand at EUR 1.7 billion in October.

Knock-Out Warrants went up by a marked 4.7 percent in comparison with the previous month and amounted to a volume of EUR 709.9 million. Their share of the leverage products segment was 42.1 percent. ►►

Warrants increased their volume by 2.3 percent to come in at EUR 627.0 million. Their market share stood at 37.2 percent.

The volume invested in **Factor Certificates** went down by 1.4 percent and stood at EUR 347.7 million. This category accounted for a 20.6 percent share of the leverage products market.

Investment products by underlying

Despite losing 3.9 percent, structured products with **interest rates as an underlying** remained the most popular category. At EUR 23.0 billion, their investment volume represented 37.6 percent of the market.

At EUR 18.7 billion, investment products with **indices as an underlying** followed in second place. Their volume grew by 1.8 percent, taking their share of the total volume to 30.6 percent.

Investment products with **equities as an underlying** were the third most popular investment category, accounting for a volume of EUR 18.2 billion. They charted gains of 2.5 percent and accounted for 29.9 percent of the total volume.

Following at a considerable distance behind the other asset classes were investment products with **commodities as an underlying**. Their outstanding volume decreased by 3.6 percent in October, taking it to EUR 794.7 million. Commodities therefore represented 1.3 percent of the aggregate volume.

At EUR 407.3 million, investment products with **investment funds as an underlying** recorded a 0.1 percent gain. They held a 0.7 percent piece of the total volume.

With a share of 0.04 percent, investment products with **currencies as an underlying** were fairly insignificant in relation to the general development. The volume invested in this category dropped by 1.7 percent to EUR 24.0 million in the reporting month.

Leverage products by underlying

The market volume of leverage products with **equities as an underlying** was up by 3.8 percent and amounted to EUR 902.9 million. This product category accounted for 53.6 percent of the total leverage products volume.

Leverage products with **indices as an underlying** gained 4.1 percent to stand at EUR 520.5 million. The figure corresponded to a 30.9 percent share of the total volume.

Lagging some way behind leverage products based on equities and indices were those with **commodities as an underlying**. Their volume dropped by a noticeable 11.1 percent month on month and came in at EUR 182.8 million. Their market share was 10.9 percent.

Leverage products with **currencies as an underlying** notched up 8.0 percent. Their volume stood at EUR 54.7 million, corresponding to a 3.2 percent share of the total volume.

The market volume of leverage products with **interest rates as an underlying** climbed by 39.0 percent to EUR 23.8 million in October. However, since they accounted for only 1.4 percent of the total 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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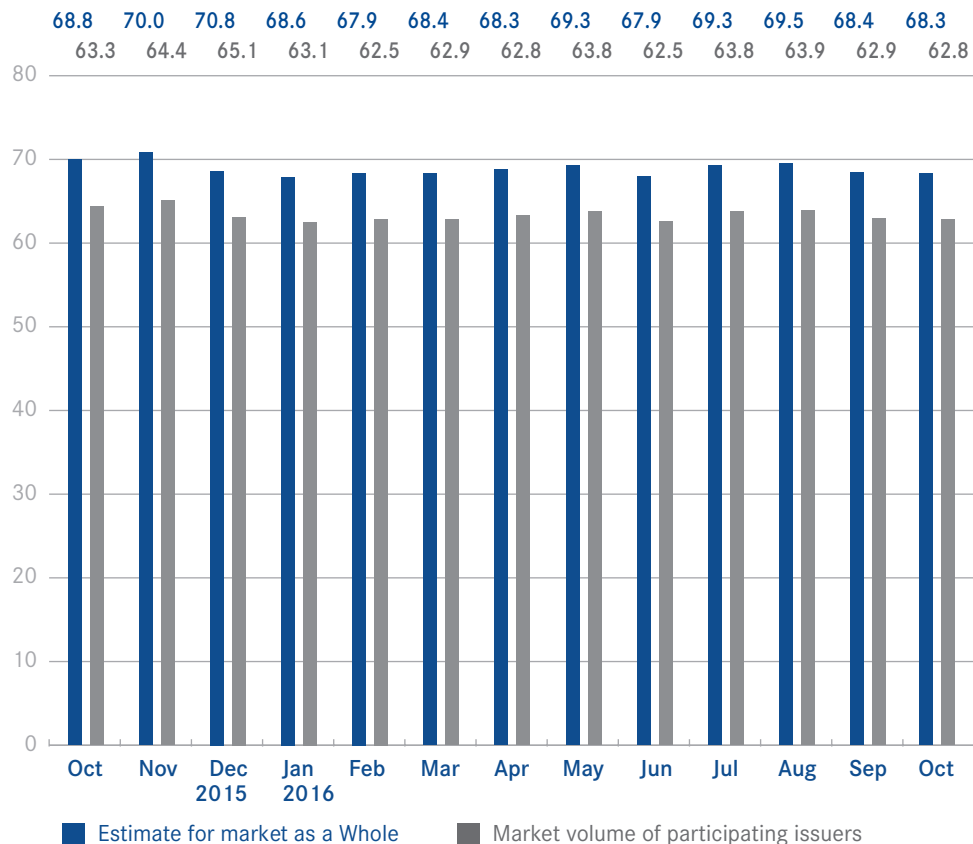
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Market volume since October 2015



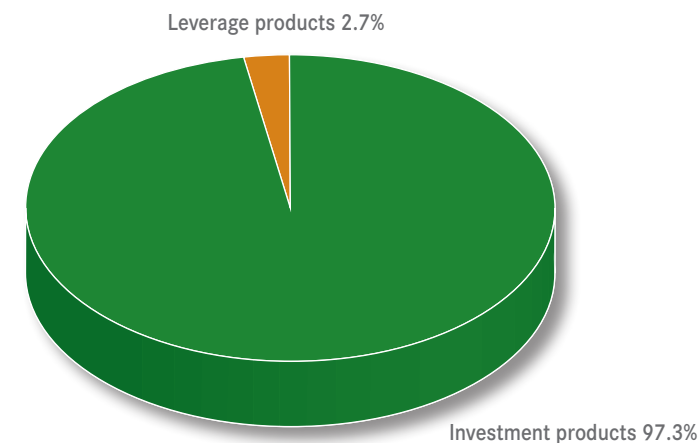
Product classes

Market volume as at 30 October 2016

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	23,783,214	38.9%
Investment products without capital protection	37,326,909	61.1%
Total Investment products	61,110,123	100.0%
Leverage products without Knock-Out	974,740	57.9%
Leverage products with Knock-Out	709,913	42.1%
Total Leverage products	1,684,653	100.0%
Total Investment products	61,110,123	97.3%
Total Leverage products	1,684,653	2.7%
Total Derivatives	62,794,777	100.0%

Product classes

Market volume as at 30 October 2016

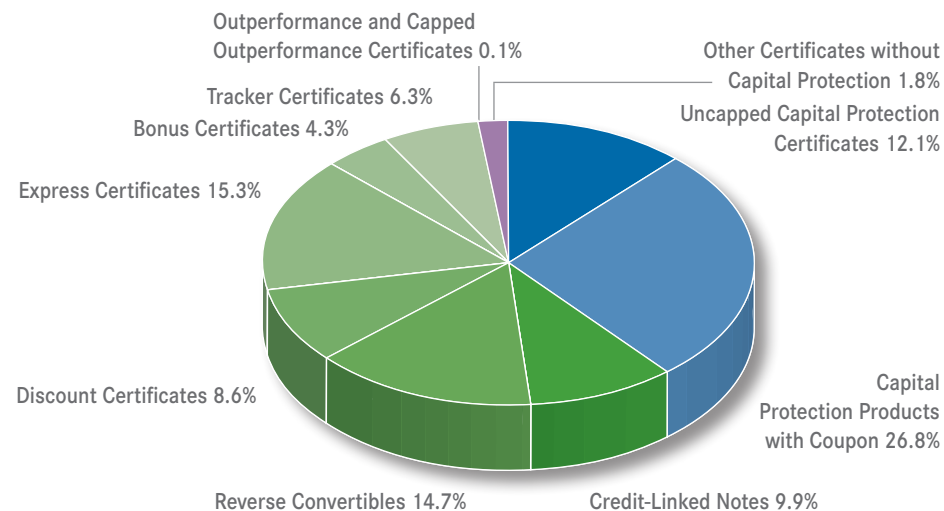


Market volume by product category as at 31 October 2016

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	7,405,716	12.1%	7,428,829	12.2%	2,110	0.4%
■ Capital Protection Products with Coupon	16,377,498	26.8%	16,447,855	27.0%	2,427	0.5%
■ Credit-Linked Notes	6,036,254	9.9%	6,058,744	10.0%	2,421	0.5%
■ Reverse Convertibles	8,984,616	14.7%	8,886,669	14.6%	99,588	20.4%
■ Discount Certificates	5,259,013	8.6%	5,213,179	8.6%	150,989	31.0%
■ Express Certificates	9,376,764	15.3%	9,179,702	15.1%	9,622	2.0%
■ Bonus Certificates	2,616,516	4.3%	2,583,593	4.2%	216,904	44.5%
■ Tracker Certificates	3,870,778	6.3%	3,882,116	6.4%	1,827	0.4%
■ Outperformance and Capped Outperformance Certificates	81,968	0.1%	80,149	0.1%	564	0.1%
■ Other Certificates without Capital Protection	1,101,002	1.8%	1,101,021	1.8%	890	0.2%
Investment products total	61,110,123	97.3%	60,861,856	97.2%	487,342	40.1%
■ Warrants	627,003	37.2%	648,385	37.2%	380,901	52.2%
■ Factor Certificates	347,737	20.6%	378,221	21.7%	3,894	0.5%
■ Knock-Out Warrants	709,913	42.1%	715,439	41.1%	344,505	47.2%
Leverage products total	1,684,653	2.7%	1,742,046	2.8%	729,300	59.9%
Total	62,794,777	100.0%	62,603,901	100.0%	1,216,642	100.0%

Investment products by product category

Market volume as at 31 October 2016

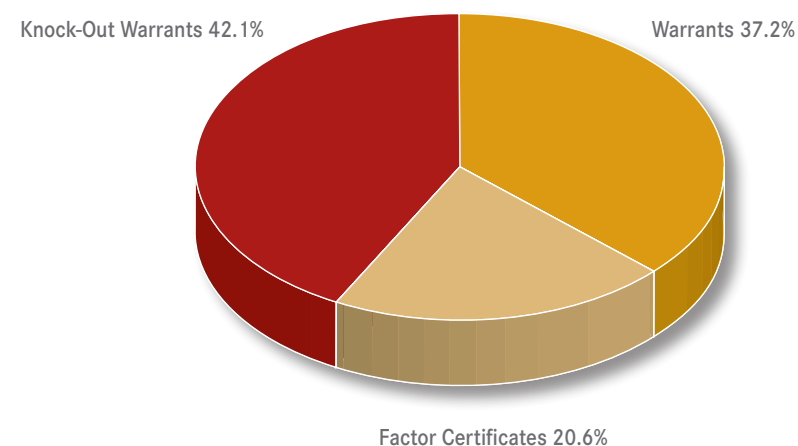


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect
	T€	in %	T€	in %	
■ Uncapped Capital Protection Certificates	-116,518	-1.5%	-93,405	-1.2%	-0.3%
■ Capital Protection Products with Coupon	-652,725	-3.8%	-582,369	-3.4%	-0.4%
■ Credit-Linked Notes	-221,190	-3.5%	-198,700	-3.2%	-0.4%
■ Reverse Convertibles	320,771	3.7%	222,824	2.6%	1.1%
■ Discount Certificates	18,088	0.3%	-27,745	-0.5%	0.9%
■ Express Certificates	423,318	4.7%	226,257	2.5%	2.2%
■ Bonus Certificates	130,767	5.3%	97,844	3.9%	1.3%
■ Tracker Certificates	-60,747	-1.5%	-49,410	-1.3%	-0.3%
■ Outperformance and Capped Outperformance Certificates	12,759	18.4%	10,940	15.8%	2.6%
■ Other Certificates without Capital Protection	-18,407	-1.6%	-18,387	-1.6%	0.0%
Investment products total	-163,884	-0.3%	-412,151	-0.7%	0.4%
■ Warrants	13,998	2.3%	35,380	5.8%	-3.5%
■ Factor Certificates	-4,836	-1.4%	25,648	7.3%	-8.6%
■ Knock-Out Warrants	32,052	4.7%	37,578	5.5%	-0.8%
Leverage products total	41,215	2.5%	98,607	6.0%	-3.5%
Total	-122,669	-0.2%	-313,545	-0.5%	0.3%

Leverage products by product category

Market volume as at 31 October 2016



Market volume by underlying asset as at 31 October 2016

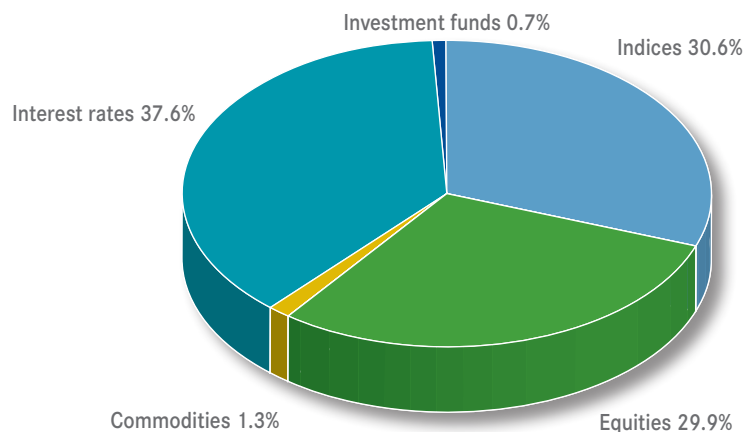
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	18,685,744	30.6%	18,618,235	30.6%	118,046	24.2%
Equities	18,241,736	29.9%	17,949,684	29.5%	361,779	74.2%
Commodities	794,677	1.3%	811,678	1.3%	2,408	0.5%
Currencies	24,032	0.0%	23,895	0.0%	19	0.0%
Interest rates	22,956,623	37.6%	23,050,529	37.9%	4,958	1.0%
Investment funds	407,311	0.7%	407,834	0.7%	132	0.0%
	61,110,123	97.3%	60,861,856	97.2%	487,342	40.1%
Leverage products						
Indices	520,500	30.9%	539,775	31.0%	171,222	23.5%
Equities	902,862	53.6%	909,274	52.2%	481,428	66.0%
Commodities	182,818	10.9%	222,384	12.8%	37,225	5.1%
Currencies	54,653	3.2%	50,637	2.9%	35,864	4.9%
Interest rates	23,799	1.4%	19,954	1.1%	3,553	0.5%
Investment funds	21	0.0%	21	0.0%	8	0.0%
	1,684,653	2.7%	1,742,046	2.8%	729,300	59.9%
Total	62,794,777	100.0%	62,603,901	100.0%	1,216,642	100.0%

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

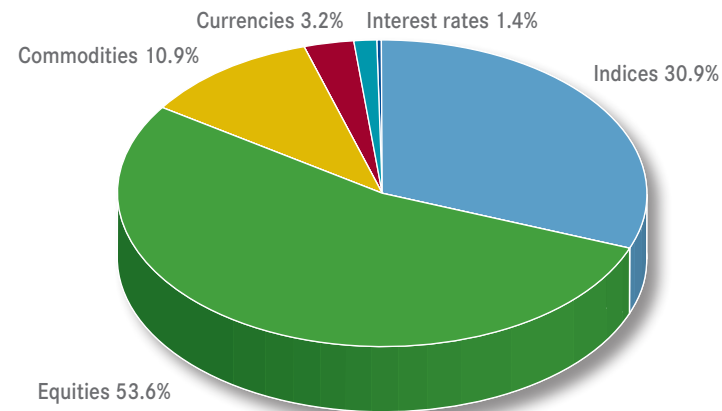
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	327,296	1.8%	259,787	1.4%	0.4%
Equities	450,998	2.5%	158,946	0.9%	1.6%
Commodities	-30,027	-3.6%	-13,026	-1.6%	-2.1%
Currencies	-422	-1.7%	-558	-2.3%	0.6%
Interest rates	-921,153	-3.9%	-827,247	-3.5%	-0.4%
Investment funds	9,424	2.4%	9,947	2.5%	-0.1%
	-163,884	-0.3%	-412,151	-0.7%	0.4%
Leverage products					
Indices	20,435	4.1%	39,710	7.9%	-3.9%
Equities	32,857	3.8%	39,269	4.5%	-0.7%
Commodities	-22,775	-11.1%	16,791	8.2%	-19.2%
Currencies	4,027	8.0%	11	0.0%	7.9%
Interest rates	6,671	39.0%	2,826	16.5%	22.5%
Investment funds	0	0.0%	0	0.0%	0.0%
	41,215	2.5%	98,607	6.0%	-3.5%
Total	-122,669	-0.2%	-313,545	-0.5%	0.3%

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



Leverage products by underlying asset Market volume as at 31 October 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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