

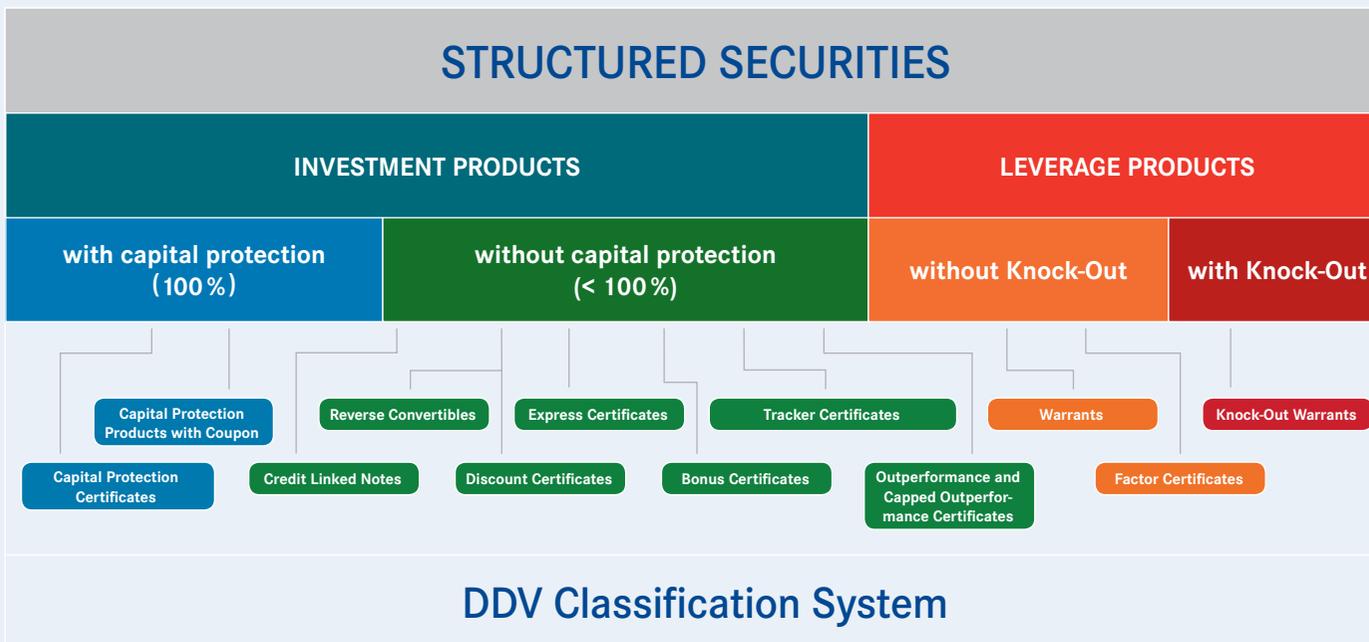
Market Volume

in Derivatives

Structured products market grows

Reverse Convertibles and Discount Certificates in particularly high demand

STRUCTURED SECURITIES



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May | 2017

- In May, the total volume of the German structured products market rose to EUR 70.8 billion.
- Reverse Convertibles experienced an above-average growth of 2.4 percent and came in with a volume of EUR 10.2 billion.
- Once again, growth in the leverage products category (1.7 percent) was stronger than growth in the market as a whole.
- Investment products with equities as underlying gained 2.6 percent. The volume invested in this type of product was EUR 20.2 billion.

Structured products market grows

Reverse Convertibles and Discount Certificates in particularly high demand

Structured products continue to gain in popularity. When the figures are extrapolated to all issuers, the total volume of the German structured products market works out at EUR 70.8 billion in May 2017. This represents growth of 1.3 percent, or EUR 1.0 billion, compared with the previous month. These trends are shown by the latest set of the figures collected each month from 15 banks by the European Derivatives Group (EDG AG) 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 positive overall trend meant that demand was up on the previous month in almost all product categories. **Reverse Convertibles** and **Discount Certificates** in particular experienced above-average growth in volumes. The volume invested in Reverse Convertibles rose to more than EUR 10 billion as a result. The upward trend in **Express Certificates** that began at the start of the year also continued in the month under review. A market volume of EUR 12.1 billion was recorded for this type of product. **Capital Protection Products** with full capital protection recorded growth. A total of 35.8 percent of the market volume was invested in **Capital Protection Products with Coupon** and **Uncapped Capital Protection Certificates** in May.

Leverage products by product category

Having made gains in the previous month, the market volume of **Leverage Products** rose again and stood at EUR 2.0 billion in May. Increases were seen in all product categories, with the strongest upsurge in Warrants.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in May. Their volume increased for the first time in 2017 to EUR 22.1 billion. Thanks to significant increases, investment products with **equities as an underlying** followed in second place. The volume invested in them totalled EUR 20.2 billion, whereas investment products with **indices as an underlying** registered negative growth once again. After recording losses in April, investment products with **commodities as an underlying** showed an upward trend in May and stood at EUR 788.5 million.

Leverage products by underlying

The picture among the dominant classes of underlyings for leverage products in May was mixed. The market volume of leverage products with **equities as an underlying** increased markedly to EUR 1.1 billion, whereas the volume invested in leverage products with **indices as an underlying** fell to EUR 586.5 million. The market volume of leverage products with **commodities as an underlying** went up to EUR 183.7 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, 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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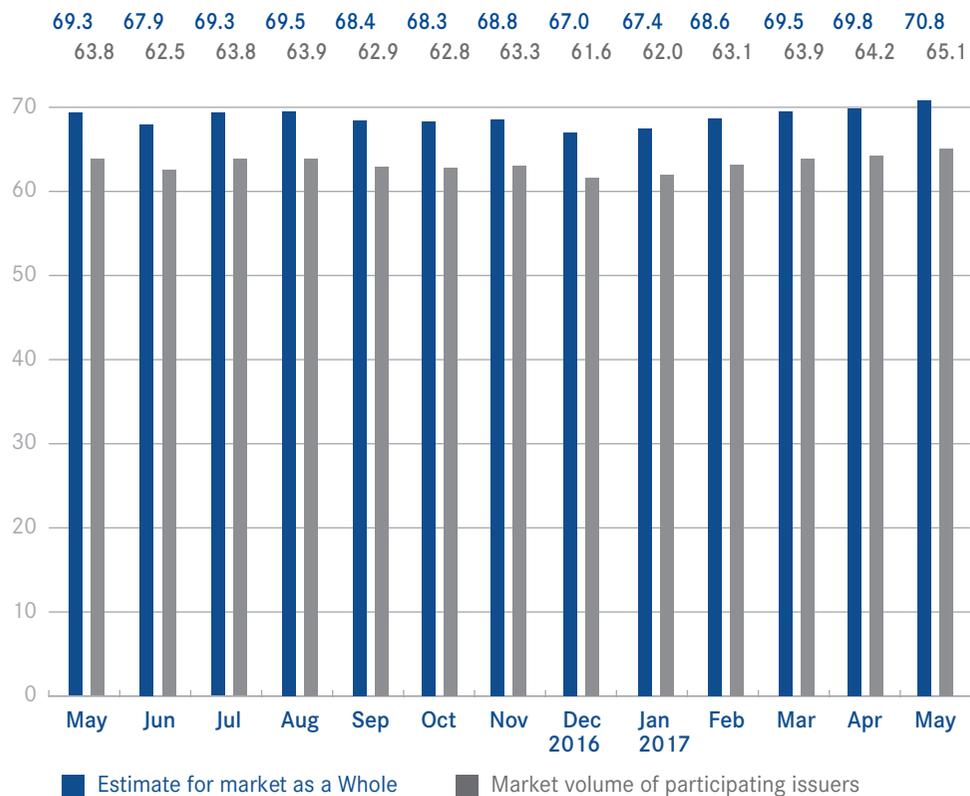
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Market volume since May 2016



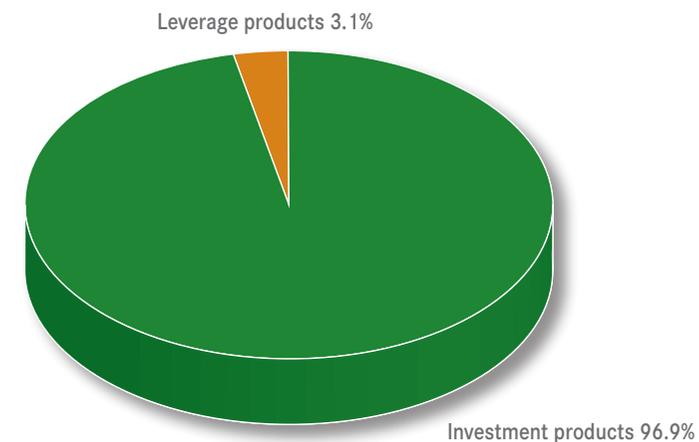
Product classes

Market volume as at 31 May 2017

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	22,635,827	35.9%
Investment products without capital protection	40,486,062	64.1%
Total Investment products	63,121,889	100.0%
Leverage products without Knock-Out	1,085,112	54.5%
Leverage products with Knock-Out	906,384	45.5%
Total Leverage products	1,991,496	100.0%
Total Investment products	63,121,889	96.9%
Total Leverage products	1,991,496	3.1%
Total Derivatives	65,113,385	100.0%

Product classes

Market volume as at 31 May 2017

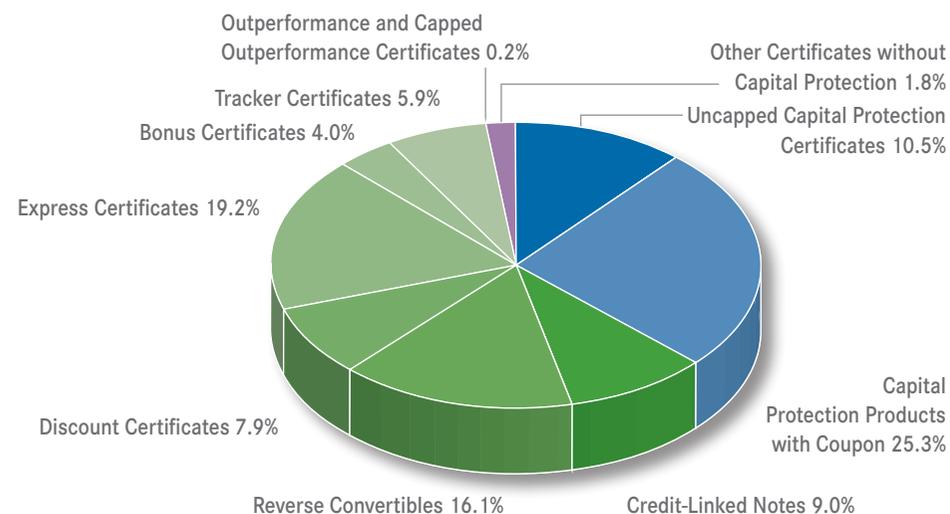


Market volume by product category as at 31 May 2017

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	6,644,845	10.5%	6,638,133	10.5%	1,877	0.4%
■ Capital Protection Products with Coupon	15,990,982	25.3%	15,960,518	25.3%	2,717	0.5%
■ Credit-Linked Notes	5,667,062	9.0%	5,657,207	9.0%	2,323	0.4%
■ Reverse Convertibles	10,188,822	16.1%	10,214,578	16.2%	126,015	23.4%
■ Discount Certificates	4,957,634	7.9%	4,949,602	7.8%	168,083	30.9%
■ Express Certificates	12,146,955	19.2%	12,168,089	19.3%	10,343	2.0%
■ Bonus Certificates	2,556,249	4.0%	2,552,409	4.0%	218,961	41.6%
■ Tracker Certificates	3,743,649	5.9%	3,713,239	5.9%	1,633	0.3%
■ Outperformance and Capped Outperformance Certificates	98,235	0.2%	97,137	0.2%	1,595	0.3%
■ Other Certificates without Capital Protection	1,127,457	1.8%	1,121,981	1.8%	857	0.2%
Investment products total	63,121,889	96.9%	63,072,894	96.9%	534,404	37.5%
■ Warrants	731,587	36.7%	733,990	36.6%	501,370	56.4%
■ Factor Certificates	353,525	17.8%	378,418	18.9%	4,888	0.5%
■ Knock-Out Warrants	906,384	45.5%	892,434	44.5%	382,960	43.1%
Leverage products total	1,991,496	3.1%	2,004,843	3.1%	889,218	62.5%
Total	65,113,385	100.0%	65,077,736	100.0%	1,423,622	100.0%

Investment products by product category

Market volume as at 31 May 2017

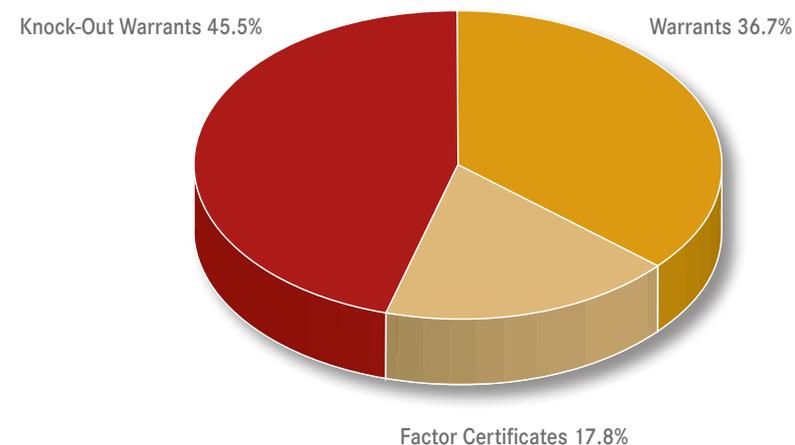


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %	in %	
■ Uncapped Capital Protection Certificates	-143,123	-2.1%	-149,835	-2.2%		0.1%
■ Capital Protection Products with Coupon	360,918	2.3%	330,454	2.1%		0.2%
■ Credit-Linked Notes	2,873	0.1%	-6,982	-0.1%		0.2%
■ Reverse Convertibles	236,981	2.4%	262,737	2.6%		-0.3%
■ Discount Certificates	118,743	2.5%	110,711	2.3%		0.2%
■ Express Certificates	131,911	1.1%	153,045	1.3%		-0.2%
■ Bonus Certificates	7,754	0.3%	3,915	0.2%		0.2%
■ Tracker Certificates	97,919	2.7%	67,509	1.9%		0.8%
■ Outperformance and Capped Outperformance Certificates	2,612	2.7%	1,514	1.6%		1.1%
■ Other Certificates without Capital Protection	15,555	1.4%	10,078	0.9%		0.5%
Investment products total	832,142	1.3%	783,146	1.3%		0.1%
■ Warrants	17,416	2.4%	19,819	2.8%		-0.3%
■ Factor Certificates	1,102	0.3%	25,996	7.4%		-7.1%
■ Knock-Out Warrants	14,257	1.6%	308	0.0%		1.6%
Leverage products total	32,776	1.7%	46,122	2.4%		-0.7%
Total	864,917	1.3%	829,268	1.3%		0.1%

Leverage products by product category

Market volume as at 31 May 2017



Market volume by underlying asset as at 31 May 2017

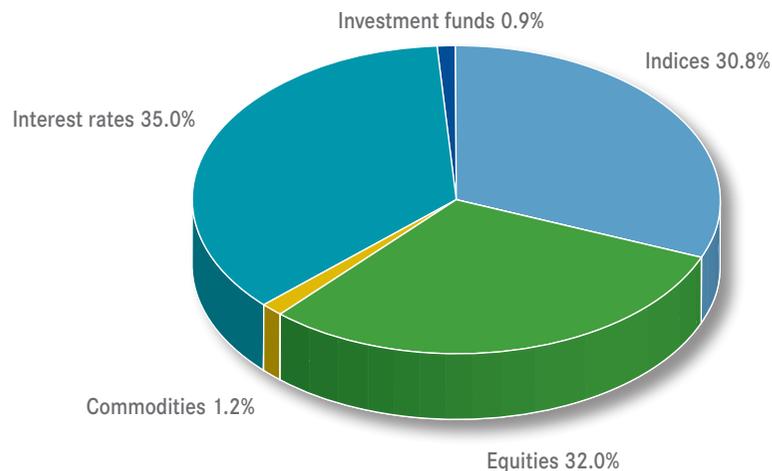
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	19,456,810	30.8%	19,425,661	30.8%	131,508	24.6%
Equities	20,176,713	32.0%	20,194,364	32.0%	395,244	74.0%
Commodities	788,478	1.2%	806,045	1.3%	2,308	0.4%
Currencies	40,564	0.1%	36,282	0.1%	40	0.0%
Interest rates	22,073,695	35.0%	22,031,934	34.9%	5,125	1.0%
Investment funds	585,629	0.9%	578,607	0.9%	179	0.0%
	63,121,889	96.9%	63,072,894	96.9%	534,404	37.5%
Leverage products						
Indices	586,542	29.5%	615,295	30.7%	203,009	22.8%
Equities	1,137,179	57.1%	1,097,862	54.8%	582,871	65.5%
Commodities	183,697	9.2%	198,720	9.9%	50,972	5.7%
Currencies	50,193	2.5%	55,984	2.8%	47,765	5.4%
Interest rates	33,863	1.7%	36,959	1.8%	4,593	0.5%
Investment funds	22	0.0%	22	0.0%	8	0.0%
	1,991,496	3.1%	2,004,843	3.1%	889,218	62.5%
Total	65,113,385	100.0%	65,077,736	100.0%	1,423,622	100.0%

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

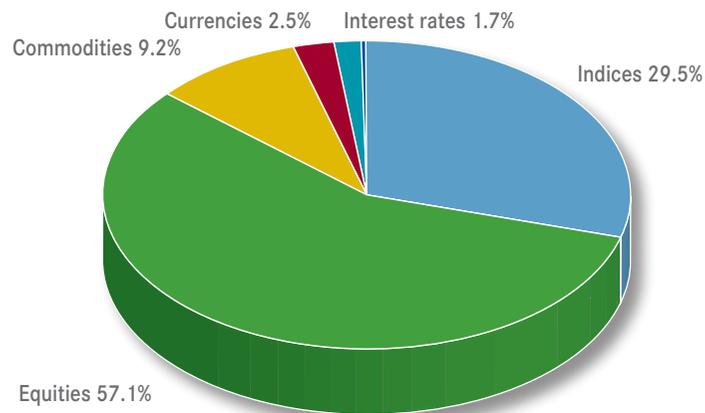
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	-66,397	-0.3%	-97,545	-0.5%	0.2%
Equities	502,914	2.6%	520,565	2.6%	-0.1%
Commodities	14,259	1.8%	31,826	4.1%	-2.3%
Currencies	15,391	61.1%	11,109	44.1%	17.0%
Interest rates	346,876	1.6%	305,115	1.4%	0.2%
Investment funds	19,098	3.4%	12,076	2.1%	1.2%
	832,142	1.3%	783,146	1.3%	0.1%
Leverage products					
Indices	-33,731	-5.4%	-4,978	-0.8%	-4.6%
Equities	72,061	6.8%	32,744	3.1%	3.7%
Commodities	3,226	1.8%	18,249	10.1%	-8.3%
Currencies	-2,436	-4.6%	3,355	6.4%	-11.0%
Interest rates	-6,344	-15.8%	-3,248	-8.1%	-7.7%
Investment funds	0	-2.1%	0	0.0%	-2.1%
	32,776	1.7%	46,122	2.4%	-0.7%
Total	864,917	1.3%	829,268	1.3%	0.1%

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



Leverage products by underlying asset Market volume as at 31 May 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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