

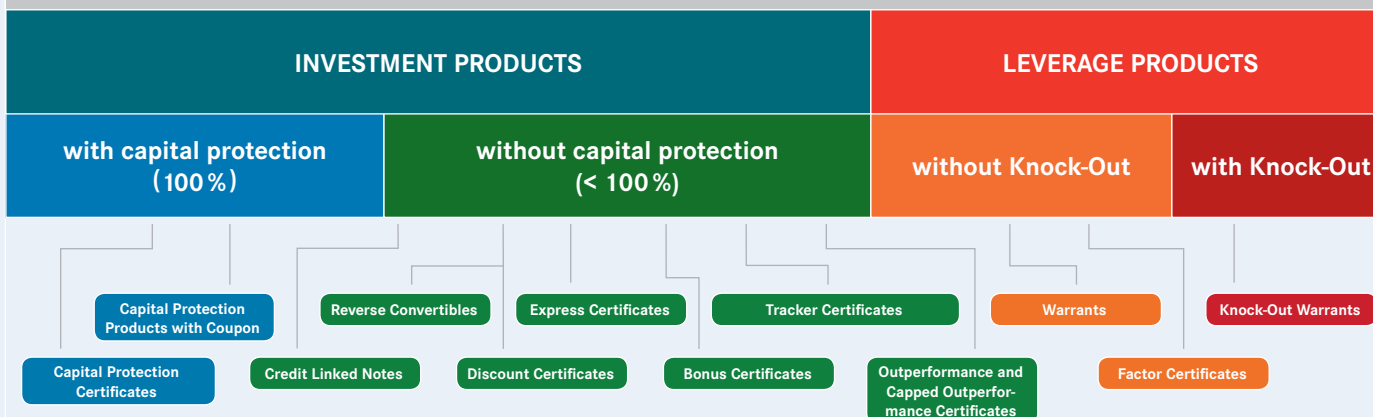
Market Volume

in Derivatives

German structured products market totals EUR 72,4 billion

Express Certificates and Capital Protection Products with Coupon were in particularly high demand

STRUCTURED SECURITIES



DDV Classification System

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September | 2018

- In September, the total volume of the German structured products market stood at EUR 72.4 billion.
- With a decline of 6.2 percent, the market volume of leverage products fell stronger than the market as a whole.
- Express Certificates recorded a significant plus of 2.7 percent, which brought their volume to EUR 15.8 billion.
- Investment products with funds as an underlying recorded a growth of 7.7 percent. The volume invested in these products stood at EUR 862.4 million.

German structured products market totals EUR 72,4 billion

Express Certificates and Capital Protection Products with Coupon were in particularly high demand

The outstanding volume of the German structured products market slightly fell in September. When the figures are extrapolated to all issuers, the total volume stood at EUR 72.4 billion. This represents a decrease of 0.6 percent, or EUR 0.4 billion, on the previous month. These trends are shown by the latest set of figures collected each month from 16 banks by the European Derivatives Group (EDG) on behalf of the German Derivatives Association (Deutscher Derivate Verband, DDV). The ratio of investment products to leverage products shifted slightly in favour of investment products.

Investment products by product category

The negative overall trend meant that demand was down on the previous month in almost all product categories. **Discount Certificates** and **Bonus Securities** in particular experienced an above-average downturn in volumes. The volume invested in Discount Certificates decreased to EUR 4.6 billion. The volume invested in **Reverse Convertibles** also fell. **Express Certificates** and **Capital Protection Products with Coupon** bucked the trend by recording growth. In September, 37.5 percent of the market volume was invested in **Capital Protection Products offering full protection**.

Leverage products by product category

After an increase in the previous month, the market volume of **Leverage Products** fell significantly and stood at EUR 2.4 billion in September. Decreases were seen in all product categories, with the most significant decline in **Warrants**.

Investment products by underlying

Structured products with **interest rates as an underlying** remained the most popular category in. Their volume went up slightly to EUR 23.3 billion. Investment products with **equities as an underlying** followed in second place. The volume invested in them totalled EUR 20.5 billion. After an increase in the previous month, investment products with **indices as an underlying** recorded a decline in the month under review. The volume invested in them totalled EUR 18.9 billion. Interest in investment products with **commodities as an underlying** fell in September, taking their total to EUR 592.8 million. There was a significant increase of 7.7 percent in investment products with **investment funds as an underlying**, which brought their volume to EUR 862.4 Mio.

Leverage products by underlying

Marked losses were seen in the dominant classes of leverage products in September. The market volume of leverage products with **equities as an underlying** decreased to EUR 1.6 billion, while the volume invested in leverage products with **indices as an underlying** fell to EUR 554.4 million. Together, leverage products with **commodities** or **currencies as an underlying** accounted for a slightly increased market share of 6.5 percent. The volume invested in leverage products with **interest rates as an underlying** bucked the overall trend by increasing to EUR 25.6 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.

www.derivateverband.de

Office Berlin, Pariser Platz 3, 10117 Berlin, Germany

Office Frankfurt a.M., Feldbergstr. 38, 60323 Frankfurt a.M., Germany

Your contact:

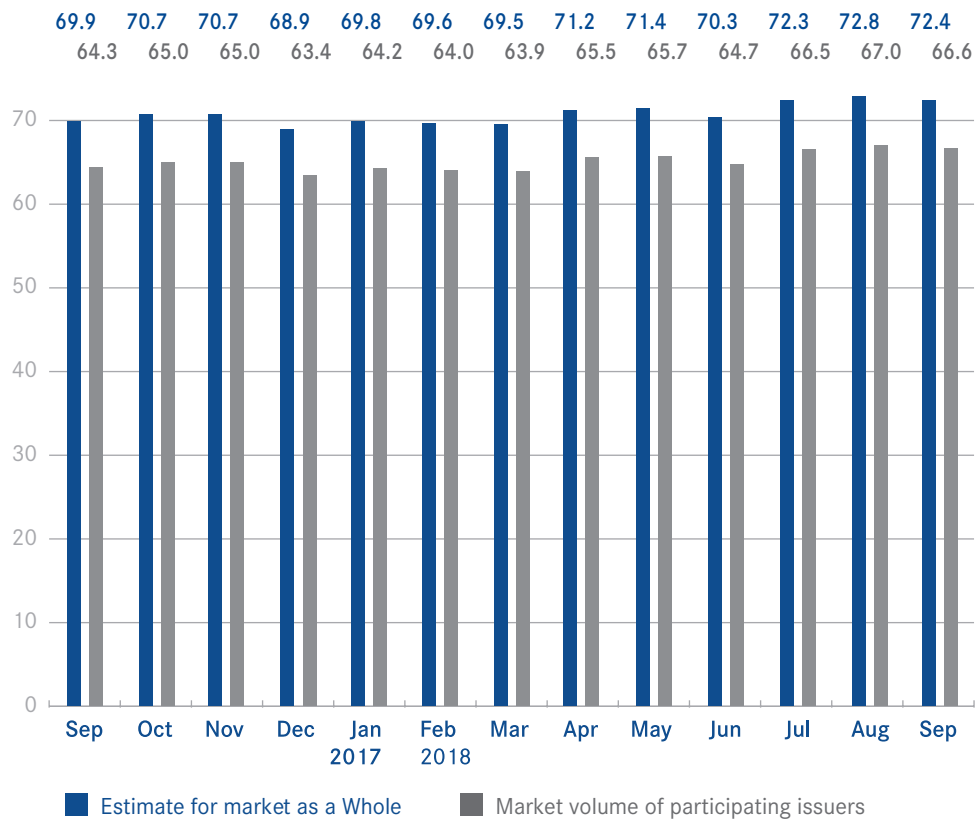
Alexander Heftrich, Media Relations Officer

phone: +49 (0)69 244 33 03 70, mobile phone: +49 (0)160 805 30 34

heftrich@derivateverband.de

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Market volume since September 2017



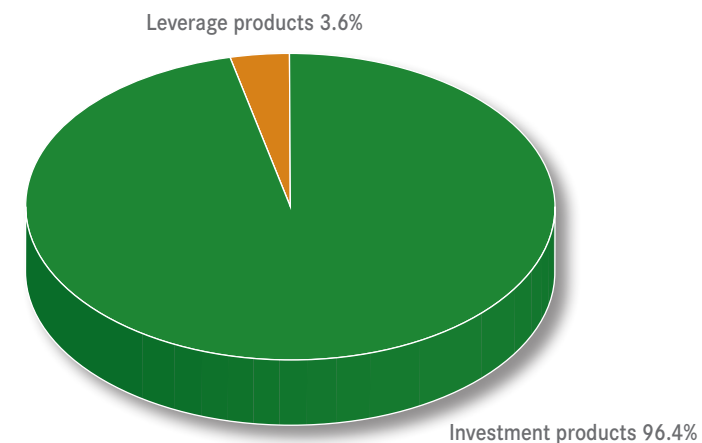
Product classes

Market volume as at 30 September 2018

Product classes	Market volume	Share
	T€	%
Investment products with capital protection	24,067,974	37.5%
Investment products without capital protection	40,152,556	62.5%
Total Investment products	64,220,530	100.0%
Leverage products without Knock-Out	1,469,659	61.8%
Leverage products with Knock-Out	910,251	38.2%
Total Leverage products	2,379,911	100.0%
Total Investment products	64,220,530	96.4%
Total Leverage products	2,379,911	3.6%
Total Derivatives	66,600,441	100.0%

Product classes

Market volume as at 30 September 2018

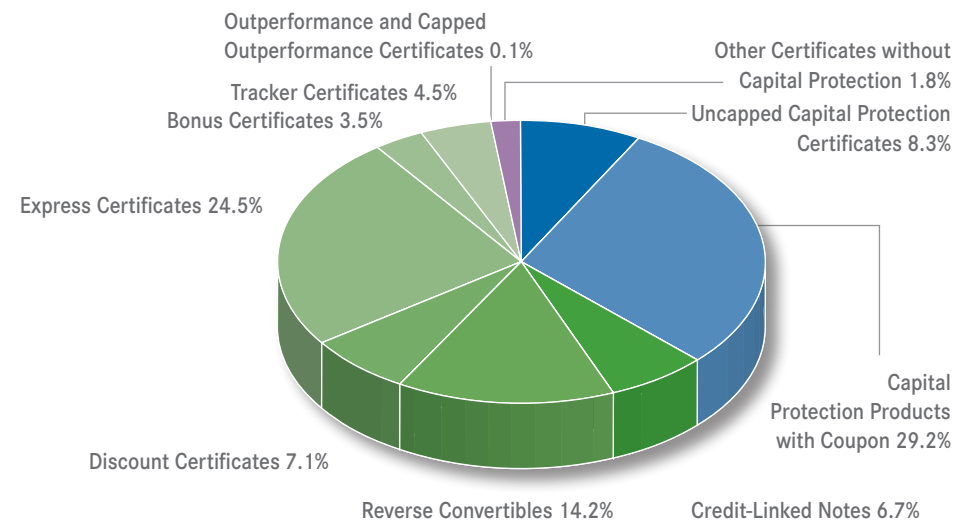


Market volume by product category as at 30 September 2018

Product categories	Market volume		Market volume price-adjusted		Number of Products	
	T€	in %	T€	in %	#	in %
■ Uncapped Capital Protection Certificates	5,322,396	8.3%	5,333,346	8.3%	1,457	0.3%
■ Capital Protection Products with Coupon	18,745,577	29.2%	18,815,761	29.2%	3,668	0.7%
■ Credit-Linked Notes	4,278,780	6.7%	4,285,327	6.7%	2,405	0.5%
■ Reverse Convertibles	9,127,811	14.2%	9,177,877	14.3%	116,348	23.7%
■ Discount Certificates	4,572,002	7.1%	4,582,747	7.1%	167,750	34.2%
■ Express Certificates	15,761,350	24.5%	15,774,926	24.5%	13,240	2.7%
■ Bonus Certificates	2,279,016	3.5%	2,265,320	3.5%	182,346	37.2%
■ Tracker Certificates	2,899,631	4.5%	2,906,624	4.5%	1,333	0.3%
■ Outperformance and Capped Outperformance Certificates	79,281	0.1%	78,965	0.1%	1,028	0.2%
■ Other Certificates without Capital Protection	1,154,685	1.8%	1,154,313	1.8%	983	0.2%
Investment products total	64,220,530	96.4%	64,375,205	96.3%	490,558	30.4%
■ Warrants	1,022,510	43.0%	1,055,601	42.5%	613,449	54.7%
■ Factor Certificates	447,149	18.8%	479,273	19.3%	18,084	1.6%
■ Knock-Out Warrants	910,251	38.2%	946,627	38.1%	489,952	43.7%
Leverage products total	2,379,911	3.6%	2,481,500	3.7%	1,121,485	69.6%
Total	66,600,441	100.0%	66,856,706	100.0%	1,612,043	100.0%

Investment products by product category

Market volume as at 30 September 2018

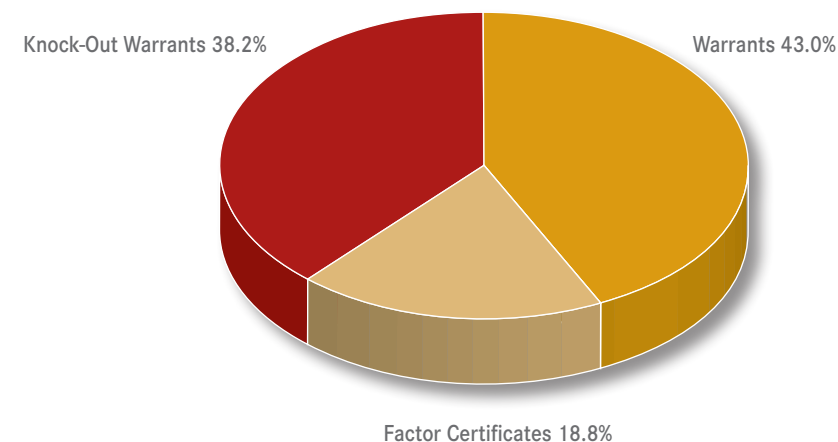


Change in market volume by product category in comparison with previous month

Product categories	Change		Change price-adjusted		Price effect	
	T€	in %	T€	in %		in %
■ Uncapped Capital Protection Certificates	-76,861	-1.4%	-65,912	-1.2%		-0.2%
■ Capital Protection Products with Coupon	127,507	0.7%	197,690	1.1%		-0.4%
■ Credit-Linked Notes	-40,803	-0.9%	-34,257	-0.8%		-0.2%
■ Reverse Convertibles	-149,514	-1.6%	-99,448	-1.1%		-0.5%
■ Discount Certificates	-382,628	-7.7%	-371,884	-7.5%		-0.2%
■ Express Certificates	415,982	2.7%	429,558	2.8%		-0.1%
■ Bonus Certificates	-207,129	-8.3%	-220,825	-8.9%		0.6%
■ Tracker Certificates	24,003	0.8%	30,995	1.1%		-0.2%
■ Outperformance and Capped Outperformance Certificates	-987	-1.2%	-1,303	-1.6%		0.4%
■ Other Certificates without Capital Protection	11,407	1.0%	11,036	1.0%		0.0%
Investment products total	-279,025	-0.4%	-124,350	-0.2%		-0.2%
■ Warrants	-92,887	-8.3%	-59,796	-5.4%		-3.0%
■ Factor Certificates	-14,789	-3.2%	17,334	3.8%		-7.0%
■ Knock-Out Warrants	-49,687	-5.2%	-13,312	-1.4%		-3.8%
Leverage products total	-157,363	-6.2%	-55,774	-2.2%		-4.0%
Total	-436,388	-0.7%	-180,123	-0.3%		-0.4%

Leverage products by product category

Market volume as at 30 September 2018



Market volume by underlying asset as at 30 September 2018

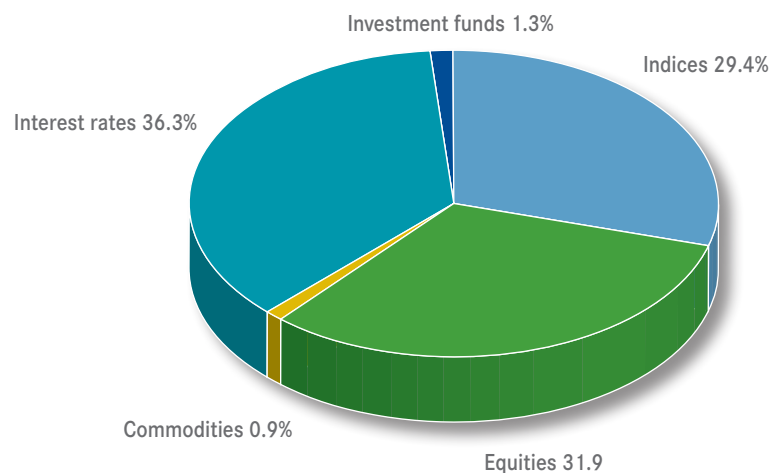
Underlying	Market volume		Market volume price-adjusted*		Number of Products	
	T€	%	T€	%	#	%
Investment products						
Indices	18,861,597	29.4%	18,837,022	29.3%	104,770	21.4%
Equities	20,517,338	31.9%	20,629,077	32.0%	376,766	76.8%
Commodities	592,832	0.9%	579,545	0.9%	2,595	0.5%
Currencies	61,541	0.1%	64,377	0.1%	15	0.0%
Interest rates	23,324,836	36.3%	23,403,315	36.4%	6,150	1.3%
Investment funds	862,386	1.3%	861,869	1.3%	262	0.1%
	64,220,530	96.4%	64,375,205	96.3%	490,558	30.4%
Leverage products						
Indices	554,438	23.3%	588,475	23.7%	257,888	23.0%
Equities	1,646,288	69.2%	1,715,606	69.1%	742,887	66.2%
Commodities	116,130	4.9%	116,056	4.7%	52,074	4.6%
Currencies	37,432	1.6%	39,027	1.6%	60,056	5.4%
Interest rates	25,623	1.1%	22,337	0.9%	8,580	0.8%
Investment funds	0	0.0%	0	0.0%	0	0.0%
	2,379,911	3.6%	2,481,500	3.7%	1,121,485	69.6%
Total	66,600,441	100.0%	66,856,706	100.0%	1,612,043	100.0%

*Market volume adjusted for price changes = quantity outstanding as at 30 September 2018 x price as at 31 August 2018

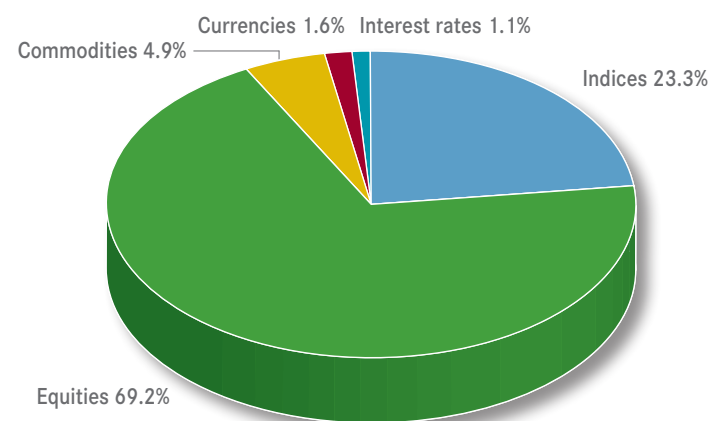
Change in the market volume by underlying asset in comparison with previous month

Underlying	Change		Change price-adjusted		Price effect
	T€	%	T€	%	
Investment products					
Indices	-68,176	-0.4%	-92,751	-0.5%	0.1%
Equities	-345,806	-1.7%	-234,067	-1.1%	-0.5%
Commodities	-10,981	-1.8%	-24,268	-4.0%	2.2%
Currencies	-3,603	-5.5%	-766	-1.2%	-4.4%
Interest rates	88,032	0.4%	166,511	0.7%	-0.3%
Investment funds	61,509	7.7%	60,992	7.6%	0.1%
	-279,025	-0.4%	-124,350	-0.2%	-0.2%
Leverage products					
Indices	-23,624	-4.1%	10,412	1.8%	-5.9%
Equities	-133,990	-7.5%	-64,671	-3.6%	-3.9%
Commodities	1,717	1.5%	1,644	1.4%	0.1%
Currencies	-4,443	-10.6%	-2,849	-6.8%	-3.8%
Interest rates	2,976	13.1%	-310	-1.4%	14.5%
Investment funds	0	n. a.	0	n. a.	n. a.
	-157,363	-6.2%	-55,774	-2.2%	-4.0%
Total	-436,388	-0.7%	-180,123	-0.3%	-0.4%

Investment products by underlying asset Market volume as at 30 September 2018



Leverage products by underlying asset Market volume as at 30 September 2018



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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