# Total costs and cost components of structured investment products

# Study

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## Management summary

In the study, we determined the total costs of investment in structured products, based on 16,495 structured investment products issued by twelve members of the DDV in the second half of 2020, constituting a total investment volume of € 6.284 billion in the month of issuance or the following month. This study updates the results of the study from December 2017, in which, on the basis of investment products issued in the first half of 2016, the total costs of structured investment products were determined for the first time.

The total costs for the second half of 2020 from the expected issuer margin (including hedging costs), sales commissions, and front-end loads amounted to 0.81 % per year of investment. The average lifetime of the products was 5.15 years. Of the total costs of 0.81 %, some 0.47 % was attributable to the expected issuer margin (including 0.26 % for hedging costs), 0.28 % to sales commissions, and 0.06 % to front-end loads. The expected issuer margin goes to the issuer as compensation for structuring, market making, and settlement, and also includes the issuers' profits. The hedging costs represent the transaction costs for purchasing the product components. In contrast, the sales commissions and front-end loads compensate the distributors and advisory services.

In this study, we determined total costs per year of investment to be around 0.19 percentage points lower than in the 2017 study.

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#### 1. Introduction

In addition to the risk, expected return, and liquidity, the costs of investing in securities are an important consideration in investment decisions. For this reason, the regulator implemented the PRIIPs Regulation, which has provided for the disclosure of all product costs in the Key Investor Information Documents (KIIDs) since 2018. Further to this, product and advisory costs are disclosed according to the MiFID cost disclosure requirements.1

The DDV was advocating for product cost transparency for the structured products issued by its members long before the introduction of the PRIIPs Regulation. In 2013, a study was published on issuer margins, which were not transparent at the time. For a representative sample, average costs of 0.35 % per year of investment were determined by re-evaluating these products with mathematical pricing models.<sup>2</sup>

Also in 2013, the DDV published the Fairness Code, in which DDV members undertook, among other things, to publish the Issuer Estimated Value (IEV) for investment products in the product information sheets from May 2014. The difference between the issuance price and the IEV includes the expected issuer margin as well as the distribution costs. "The expected issuer margin covers, inter alia, the operational costs incurred by the issuer for structuring, market making and settlement of the respective structured product, and it also includes the expected profit for the issuer."3 Potential front-end loads are added to the issuance price. Thus, investors received information on the total costs of structured investment products well before the PRIIPs Regulation came into force in 2018.

In December 2017, the DDV published a study in which, for the first time, the total costs of various derivative investment products were comprehensively determined on the basis of the disclosed IEVs, and the expected issuer margin, sales commission, and front-end load cost components were differentiated. Total costs of 0.71 % per year of investment were determined for 24,830 structured investment products issued by DDV members in the first half of 2016, which had a total investment volume of € 8.169 billion in the month following issuance. Of this 0.71 %, 0.30 % was attributable to the expected issuer margin, 0.32 % to sales commissions, and 0.10% to front-end loads.4 These

<sup>&</sup>lt;sup>1</sup> PRIIPs stands for "Packaged Retail and Insurance-based Investment Products", and MiFID for "Markets in Financial Instruments Directive". See European Union (2014a) and European Union

<sup>&</sup>lt;sup>2</sup> See Döhrer / Johanning / Steiner / Völkle (2013). For details on the difficulties in valuation of derivative investment products, see the literature discussed therein, as well as Bauer / Fink / Stoller (2020).

<sup>&</sup>lt;sup>3</sup> See DDV (2013a), p. 10.

<sup>&</sup>lt;sup>4</sup> The sum of the individual costs listed here is 0.72 % due to rounding, however, the calculated total costs were actually 0.71 % per year of investment.

costs did not include the hedging costs (transaction costs for the purchasing of product components), which were estimated by experts at around 0.29 % per year of investment. With the hedging costs included, costs totalled around 1 % per year of investment.<sup>5</sup>

As investment costs are still highly relevant in national and European regulation, the DDV commissioned an update of the 2017 study in May 2021 in order to determine the total costs of structured investment products based on the product issuances in the second half of 2020. As information on the fair value of the products is now also available with the entry into force of the PRIIPs Regulation in 2018, both the total costs and the hedging costs can be estimated more accurately.<sup>6</sup> In this study, we present the results of this cost analysis.

Based on 16,495 structured investment products issued by twelve DDV members in the second half of 2020 with a total investment volume of  $\in$  6.284 billion in the month of issuance or the month following issuance, we calculated total costs from the expected issuer margin (including estimated hedging costs), sales commissions, and front-end loads, of 0.81 % per year of investment. The average lifetime of the products was 5.15 years. Of the total costs of 0.81 %, 0.47 % were attributable to the expected issuer margin (including 0.26 % hedging costs), 0.28 % to sales commissions, and 0.06 % to front-end loads.

Overall, we determined total costs per year of investment to be 0.19 percentage points lower than in the 2017 study.

#### 2. Data and cost calculation

The analysis is based on the product issuances of twelve members of the DDV in the second half of 2020.<sup>7</sup> The DDV issuers follow different business models; some of them are focused purely on the primary market (i.e., on product distribution via branches), while others offer products mainly (or only) on the secondary market for self-directed investors, wealth managers, or other institutional investors. Finally, there are issuers that serve both markets. Other issuers use structured products primarily as a source of funding – these issuers (and others) often buy the hedging of these products on the market from other banks (i.e., they do not hedge the products in their own trading).

<sup>&</sup>lt;sup>5</sup> See Müller / Johanning / Koziol / Schiereck / Rudolph (2017).

<sup>&</sup>lt;sup>6</sup> In contrast to the DDV Fairness Code, according to the Regulator's provisions, expected hedging costs are to be included in the total costs. See also DDV (2013b), p. 12. While the difference between the issuance price and IEV does not include hedging costs, these are included in the difference between the issuance price and fair value. For the hedging costs, see Chapter 4.

<sup>&</sup>lt;sup>7</sup> The twelve issuers account for 94 % of the outstanding volume of investment products recorded by the DDV as of 30 June 2020. According to the DDV, the survey of volume statistics covers 90 % of the outstanding volume of structured products. See DDV (2020), p. 2 and p. 4.

The following data fields were provided by the twelve banks for investment products issued in the second half of 2020: ISIN, product type, issuance price, fair value, hedging costs, sales commissions, front-end loads (if any), information on whether the product was a primary or secondary market product, and whether the product was hedged internally or externally on the market. This issuer data was reconciled with the master data of Infront Quant AG, which collects data on issuance volumes on a monthly basis on behalf of the DDV, and supplemented with the following additional data fields: issuance date, product lifetime, and investment volume (open interest) for the products in the following month or in the second month after issuance.<sup>8</sup>

The difference between the issuance price and the fair value comprises the expected issuer margin and the sales commission (if applicable). If there is a front-end load, this will be added. The sum of these figures is the total costs. All costs are determined as a percentage of the issuance price. Each cost component and the total costs are multiplied with the invested volume (open interest). The result in Euros is then divided by the total volume in Euros. For the total sample of 16,495 products, this volume totalled € 6.284 billion. Finally, the costs are annualised by dividing each cost component and the total costs by the lifetime of the product. This allows the individual costs per year of investment to be added to the total costs per year of investment. In comparison with the geometric annualisation of costs, there are only very minor deviations. We follow the approach of the PRIIPs Regulation by assuming that the product lifetime defined at the time of issuance corresponds to the holding period. If the products are sold prematurely, the effective costs per year of investment are higher. However, this situation is not specific to structured products, but rather affects all investments products as well as funds. It is a special feature of structured products that some products, such as express certificates, can mature early if certain target returns are achieved. Although investors bear higher effective costs in this case, they typically also receive generous returns.

The data provided by the twelve issuers was comprehensively validated and standardised, including the product designations. Some 369 products had an expected issuer margin of less than zero, and were excluded from the analysis. These values can be explained by rounding errors, as well as differing points in time for the determination of the fair value and issuance price. Issuers may also intentionally issue products with negative margins for reasons of competition. In addition, products that are issued for the purposes of hedging generally have a margin of zero. Seven products with a lifetime of less than one month were also excluded, as annualisation could then distort the results. The issuer-specific results were submitted to the twelve banks for validation, and there were no adjustments to the calculations.

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<sup>&</sup>lt;sup>8</sup> In order to reflect the conditions at the time of issuance, the investment volume in the month of issuance was used in the calculations. If this was zero, the volume in the following month was used. In the 2017 study, however, the volume of the following month was always used.

## 3. Average costs of structured investment products

For the 16,495 products with an investment volume of € 6.284 billion, the volume-weighted costs per year of investment amounted to 0.81 % (as compared with 1 % total costs in the 2017 study). Of this 0.81 %, 0.47 % was attributable to the expected issuer margin – including hedging costs of 0.26 % (2017: 0.59 % expected issuer margin, including 0.30 % hedging costs attributable to the expected issuer margin alone), 0.28 % to sales commissions (2017: 0.32 %), and 0.06 % (2017: 0.10 %) on average to front-end loads (see Table 1). The expected issuer margins are shown including hedging costs, the latter estimated on the basis of a partial sample (see Section 4 for details). The average lifetime of the products issued in the second half of 2020 was 5.15 years. The average costs of 0.81 % result from multiplying the costs by the weightings of the individual products.

The products with the highest investment volumes in the second half of 2020 were capital protection products with coupon (26 %), reverse convertibles (28 %), and express certificates (33 %). As such, around 87 % of the volume was accounted for by products that include an annual interest payment (coupon products). The total costs were particularly influenced by the high investment volume and the long lifetimes of these primary market products.

- Reverse convertibles had total costs per year of investment of 1.37 % (2017: 1.19 % without hedging costs) and an average lifetime of 2.4 years. In the 2017 study, the hedging costs were not broken down at the level of individual product types, which is why comparison with the results from the current study is limited.
- The total costs of bonus certificates came to 0.85 % per year of investment, significantly lower than in the 2017 study, which put total costs at 1.51 % without hedging costs.
- Discount certificates had total costs of 0.49 % (2017: 0.78% without hedging costs) and an average lifetime of 0.9 years.
- Total costs for express certificates were 0.80 % (2017: 0.74 % without hedging costs) and had a lifetime of 5.7 years on average.
- The total costs for uncapped capital protection products were 0.87 % (2017: 0.60 % without hedging costs, and they had an average lifetime of 6.1 years.
- Credit-linked notes had low total costs of 0.32 % (2017: 0.39 % without hedging costs), with an average lifetime of 7.2 years.
- Capital protection products with coupon had the lowest total costs; 0.23 % (2017: 0.21 % without hedging costs), and had an average lifetime of 8.6 years
- With total costs of 1.59 % per year of investment, tracker certificates were significantly more expensive than in the 2017 study (0.74 % without hedging costs).

<sup>9</sup> The expected issuer margin is thus lower than the issuer margin of 0.35 % determined by Döhrer / Johanning / Steiner / Völkle (2013) in a representative sample of structured investment products.

<sup>&</sup>lt;sup>10</sup> If the costs were determined without annualisation, the total costs across all products would amount to 3.09 % and would thus be significantly lower than the product of total costs per maturity year of 0.81 % and average maturity of 5.15 years.

The reason for this is that, in 2020, cryptocurrencies and ESG investments served as underlyings for tracker certificates, while underlyings in 2016 were usually standard stock market indices.

- Compared with other product types, the expected issuer margin was notably higher for bonus certificates at 0.72 %, of which 0.19 % was hedging costs (2017: 0.76 %, excluding hedging costs), and reverse convertibles at 0.85 %, of which 0.52 % was hedging costs (2017: 0.50 %, excluding hedging costs).

It should be noted that the number of products was low for credit-linked notes, and tracker, outperformance, and uncapped capital protection certificates. With respect to credit-linked notes, it can also be seen that the estimated hedging costs of 0.18 % per year of investment were almost as large as the expected issuer margin of 0.21 %. In reality, the pure expected issuer margin is greater than 0.03 % per year of investment. This discrepancy results from the estimate of hedging costs from a subsample (see Section 4).

Overall, the total costs per year of investment were 0.19 percentage points lower than in the 2017 study, with a reduction across all cost components (see Figure 1). The largest nominal reduction can be seen in the pure expected issuer margin dropping from 0.30 % to 0.21 %, while sales commissions also decreased from 0.32 % to 0.28 %, and the front-end loads fell from 0.10 % to 0.06 %. The hedging costs, estimated at 0.29 % by experts in the 2017 study, were determined to be 0.26 % (for more detail here, see Section 4). This trend provides support to our statement from 2017 that high cost transparency leads to greater competition and thus also to efficient price structures.<sup>11</sup>

Product type	Expected issuer margin	Thereof, hedging costs	Sales commission	Front-end load	Total costs	Lifetime (years)	Volume (in € M)	Number of products
Reverse conv.	0.85%	0.52%	0.48%	0.04%	1.37%	2.43	1,761	6,099
Bonus	0.72%	0.19%	0.07%	0.05%	0.85%	1.33	214	3,205
CLN	0.21%	0.18%	0.11%	0.00%	0.32%	7.22	55	105
Discount	0.44%	0.26%	0.05%	0.00%	0.49%	0.89	304	3,958
Express	0.36%	0.18%	0.34%	0.10%	0.80%	5.68	2,046	2,319
Tracker	0.66%	0.26%	0.40%	0.52%	1.59%	4.73	83	45
<b>Uncapped CP</b>	0.31%	0.15%	0.15%	0.41%	0.87%	6.11	85	39
Outperformance	0.46%	0.26%	0.71%	0.29%	1.46%	2.63	1	68
CP with coupon	0.15%	0.08%	0.07%	0.01%	0.23%	8.63	1,619	447
Other	0.52%	0.30%	0.26%	0.17%	0.95%	5.35	116	210
Total	0.47%	0.26%	0.28%	0.06%	0.81%	5.15	6,284	16,495

<sup>&</sup>lt;sup>11</sup> See Brunnermeier / Oehmke (2009) and Becker / Döhrer / Johanning (2012), who also come to the conclusion that appropriate transparency of costs and risks is more effective than product interventions. See also Carlin (2009) and Carlin / Kogan / Lowery (2013).

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#### Table 1: Costs per year of investment in %

Reverse conv. = reverse convertibles, CLN = credit-linked notes, Uncapped CP = uncapped capital protection, CP with coupon = capital protection with coupon, weighted according to invested volume, total costs may deviate slightly from the sum of individual costs due to rounding.

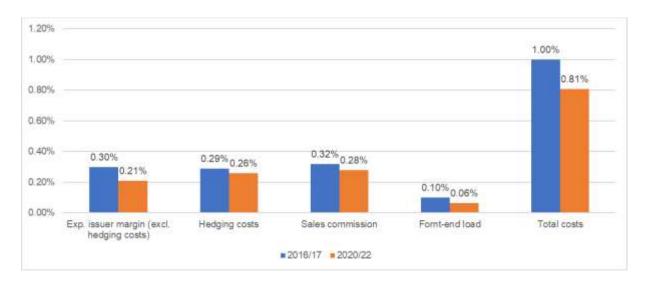


Figure 1: Comparison of the results of the 2016/17 study and the 2020/22 study – costs per year of investment in %

Hedging costs in the 2016/2017 study estimated by experts, hedging costs in the 2020/2022 study estimated on the basis of 1,464 products with an investment volume of € 1,947 million, total costs may deviate slightly from the sum of individual costs due to rounding.

In Table 2, costs are differentiated according to primary and secondary market products. In the case of primary market products, investors generally receive investment advice and subscribe to the products through a bank branch. On the secondary market, products are bought in particular by self-directed investors. Hedging costs were only estimated at the product type level (see Section 4), and were not differentiated between primary and secondary market products.

The total costs of primary market products averaged 0.83 % per year of investment (2017: 0.67 %, excluding hedging costs). Of this, 0.45 % was attributable to the expected issuer margin, including hedging costs of 0.24 % (2017: 0.27 %, excluding hedging costs), 0.31 % to sales commissions (2017: 0.29 %), and 0.07 % to front-end loads (2017: 0.11 %). Of the total volume of products in the study, some 86 % were sold via the primary market (€ 5.396 billion).

In the sample, secondary market products accounted for a volume of € 0.888 billion, representing 14 % of total investments in the second half of 2020. Total costs were

<sup>&</sup>lt;sup>12</sup> In the 2017 study, we also distinguished between secondary market products with and without commission. As the secondary market without commission is now less significant, we do not make this distinction in the present study.

0.66 % per year of investment (2017: 1.09 %, excluding hedging costs). The expected issuer margin per year of investment was 0.58 %, of which 0.36 % was estimated hedging costs (2017: also 0.58 %, but excluding hedging costs). Sales commissions averaged 0.08 % (2017: 0.50 %), while front-end loads did not play a role. The large difference in the sales commissions can be explained by that fact that, in 2020, business with sales commissions in the secondary market was much less important than in 2016.

Primary and secondary market	Expected issuer margin	Thereof, hedging costs	Sales commission	Front-end load	Total costs	Lifetime (years)	Volume (in € M)	Number of products
Primary market	0.45%	0.24%	0.31%	0.07%	0.83%	5.84	5,396	6,172
Secondary market	0.58%	0.36%	0.08%	0.00%	0.66%	0.94	888	10,323
Total	0.47%	0.26%	0.28%	0.06%	0.81%	5.15	6,284	16,495

Table 2: Costs per year of investment in % – primary and secondary market products

Weighted according to invested volume, total costs may deviate slightly from the sum of individual costs due to rounding.

Tables 3 and 4 show the costs of the various product types separately for the primary and secondary markets. As hedging costs were only generally estimated for the product types (see Section 4), they are not differentiated according to primary and secondary market products.

Product type	Expected issuer margin	Thereof, hedging costs	Sales commission	Front-end load	Total costs	Lifetime (years)	Volume (€ M)	Number of products
Reverse conv.	0.92%	n.a.	0.59%	0.06%	1.57%	2.86	1,365	2,884
Bonus	0.40%	n.a.	0.34%	0.38%	1.12%	4.08	31	61
CLN	0.21%	n.a.	0.11%	0.00%	0.32%	7.22	55	105
Discount	0.65%	n.a.	0.14%	0.00%	0.80%	1.25	28	52
Express	0.36%	n.a.	0.34%	0.10%	0.79%	5.72	2,020	2,289
Tracker	0.67%	n.a.	0.41%	0.53%	1.61%	4.66	81	35
Uncapped CP	0.31%	n.a.	0.15%	0.41%	0.87%	6.11	85	39
Outperformance	0.46%	n.a.	0.71%	0.29%	1.46%	2.63	1	68
CP with coupon	0.15%	n.a.	0.07%	0.01%	0.23%	8.63	1,619	447
Other	0.47%	n.a.	0.23%	0.18%	0.88%	5.58	110	192
Total	0.45%	0.24%	0.31%	0.07%	0.83%	5.84	5,396	6,172

Table 3: Costs per year of investment in % – primary market products

Reverse conv. = reverse convertibles, CLN = credit-linked notes, Uncapped CP = uncapped capital protection, CP with coupon = capital protection with coupon, n.a. = not available, weighted according to invested volume, total costs may deviate slightly from the sum of individual costs due to rounding.

The main results for the primary market are:

- Capital protection products with coupon had a market volume of € 1.619 billion and total costs of 0.23 % (2017: 0.21 % without hedging costs).
- Express certificates had a market volume of € 2.020 billion and total costs of 0.79 % (2017: 0.74 % without hedging costs).
- Reverse convertibles had an open intere
- st of € 1.365 billion and total costs per year of investment of 1.57 % (2017: 1.22 %, excluding hedging costs).

The key findings for the secondary market products can be summarised as follows:

- The total costs and expected issuer margin for bonus certificates were 0.80 % and 0.78 % respectively (2017: 1.52 % and 0.82 % without hedging costs), and had an investment volume of € 0.183 billion (20.6 % of the volume of secondary market products).
- Discount certificates had total costs of 0.46 % (2017: 0.87 % without hedging costs), and an investment volume of € 0.276 billion (31 % of the investment volume of secondary market products).
- Reverse convertibles had average total costs of 0.68 % (2017: 0.97 %, excluding hedging costs) and an investment volume of € 0.396 billion (44.6 % of the investment volume of secondary market products).
- Other product types played only a very minor role in the secondary market.

Product type	Expected issuer margin	Thereof, hedging costs	Sales commission	Front-end load	Total costs	Lifetime (years)	Volume (€ M)	Number of products
Reverse conv.	0.59%	n.a.	0.09%	0.00%	0.68%	0.93	396	3,215
Bonus	0.78%	n.a.	0.03%	0.00%	0.80%	0.86	183	3,144
Discount	0.42%	n.a.	0.04%	0.00%	0.46%	0.85	276	3,906
Express	0.65%	n.a.	0.59%	0.00%	1.25%	2.13	26	30
Tracker	0.23%	n.a.	0.00%	0.00%	0.22%	9.95	1	10
Other	1.32%	n.a.	0.85%	0.00%	2.17%	0.91	6	18
Total	0.58%	0.36%	0.08%	0.00%	0.66%	0.94	888	10,323

Table 4: Costs per year of investment % – secondary market products

Reverse conv. = reverse convertibles, n.a. = not available, weighted according to invested volume, total costs may deviate slightly from the sum of individual costs due to rounding.

While coupon products are characteristic of the primary market, the secondary market is characterised by products with equity underlyings. Primary market products have an average, volume-weighted product lifetime of 5.84 years, while this figure is only 0.94 years for secondary market products.

## 4. Hedging costs

In the 2017 study, the hedging costs were estimated by experts. For simple discount certificates, the value was estimated at 0.15 % per year of investment, and for bonus certificates with a barrier option at an average of 0.45 % per year of investment. In total, we estimated hedging costs of 0.29 % and thus total costs per year of investment of 1 %.

Although there are limitations to our estimates of hedging costs in this study, we could estimate them much more precisely, as we had the explicit hedging costs of 1,464 products with a market volume of € 1.947 billion. We could not distinguish between the expected issuer margin and the hedging costs for the other products, because for the observation period of the study we had data on the fair value and issuance price, but not separately on the hedging costs. In order to estimate the hedging costs for these products as well, we proceeded as follows:

- 1. The hedging costs per year of investment and product type were estimated as the mean value of the hedging costs of the 1,464 products available.
- 2. For each product without an explicit indication of the hedging costs, the costs were estimated from the mean value of the costs of each product type multiplied by the lifetime of the product. Discount, tracker, and outperformance certificates were not present in the sample of 1,464 products, thus the hedging costs for these product types could not be estimated. As such, the average hedging costs of 0.26 % were applied to these product types.
- 3. Hedging costs were only determined per product type in general (shown in Table 1), but not for the types of primary and secondary market products in Tables 3 and 4.

As explained in Section 2, some banks purchase the hedge on the market from other banks. As a result, they take the purchase price of this hedge as the fair value, which is in line with the calculation rules of the implicit costs of PRIIPs other than investment funds under the PRIIPs Regulation.<sup>13</sup> These products do not have hedging costs, whereas identical but internally hedged products may have hedging costs. This is because a bank that internally hedges would buy the individual product components

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<sup>&</sup>lt;sup>13</sup> The PRIIPs Regulation states: "38. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly observable or estimated using another valuation technique." European Union (2017), p.44. This approach would consider fair value to be that value that would be arrived at between knowledgeable, professional counterparties, analogous to the accounting standard IFRS 9 (International Financial Reporting Standards) for financial instruments. Expected margins and costs of both parties would be taken into account.

on the market and would have to include transaction costs in the hedging costs.<sup>14</sup> The fair value would consequently be lower. This means that internally hedged products can have higher costs on paper than comparable but externally hedged products at the same product price, neglecting issuer risks.

In the estimate of hedging costs described above, we took this into account by adding additional hedging costs to the products with external (purchased) hedging. Some 1,964 products with a market volume of € 1.909 billion were externally hedged (see Table 5). For these products, we determined additional hedging costs of 0.31 % per year of investment using the previously described method. In the total sample of 16,495 products, the hedging costs and expected issuer margins (and thus also the total costs) increased by 0.09 percentage points. <sup>15</sup> As such, we took a conservative approach to estimating costs in this study.

Hedging	Expected issuer margin	Hedging costs	Sales commission	Front-end load	Total costs	Lifetime (years)	Volume (€ M)	Number of products
Internal	0.38%	0.24%	0.25%	0.07%	0.71%	4.57	4,374	14,531
External	0.65%	0.31%	0.35%	0.04%	1.04%	6.46	1,909	1,964
Total	0.47%	0.26%	0.28%	0.06%	0.81%	5.15	6,284	16,495

Table 5: Costs per year of investment in % – internal versus external hedging

Weighted according to invested volume, total costs may deviate slightly from the sum of individual costs due to rounding.

#### 5. Outlook

With the disclosure of fair value and costs components in accordance with the PRIIPs Regulation from January 2018, comprehensive data on the total and individual costs of investment products are now available to the public, the regulator, and academia. The present study is based on this data and contributes to cost transparency by determining the total and individual costs for 16,495 derivate investment products issued by twelve DDV members in the second half of 2020. <sup>16</sup> By doing so, we do not

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<sup>&</sup>lt;sup>14</sup> The PRIIPs Regulation states: "One-off entry costs and charges include, but are not limited to, the following types that shall be taken into account in the cost amount to be disclosed for PRIPs other than investment funds: (a) sales commissions; (b) structuring costs, including market making costs (spread) and settlement costs; (c) hedging costs (to ensure that the PRIIP manufacturer is able to replicate the performance of the derivative component of the structured product — these costs include transaction costs); (d) legal fees; (e) costs for capital guarantee; (f) implicit premium paid to the issuer." European Union (2017), p. 43. This approach would equate the time value with the naked option model price without margins and costs.

<sup>&</sup>lt;sup>15</sup> The estimation of hedging costs for products with internal hedging, on the other hand, leads to a reduction in the expected issuer margin and an increase in hedging costs by the same amount (redistribution of costs).

<sup>&</sup>lt;sup>16</sup> See for other studies Baule / Münchhalfen / Shkel (2017) and Bauer / Fink / Stoller (2020).

only provide comprehensive information on the costs of structured investment products, but can also track developments through comparison with the results of the 2017 study. We are not aware of any comparably comprehensive studies for other asset classes. We recommend further analysis, especially of the hedging costs.

The costs of investment will continue to be the focus for investors and the regulator in the coming years. <sup>17</sup> In the "Disclosure, inducements, and suitability rules for retail investors study" published by the European Commission in May 2022, the Commission indicates that cost information is not comprehensive enough and does not allow consumers to assess products' value for money. Further standardisation of cost information is therefore expected, with the PRIIPs risk indicator highlighted as a positive example. In this context, it should be clarified that this is a fundamental statement on cost information, and does not refer specifically to individual investment products. For structured products in particular, the Commission regards the precontractual cost information as highly standardised and clear.

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<sup>&</sup>lt;sup>17</sup> We had previously indicated the importance of cost transparency for the Regulator in our 2017 study. See ESMA (2013) and Hespeler (2017).

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