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From New PRIIPs to Arrival Price transaction costs Impact on KID disclosures for UCITS funds

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From New PRIIPs to Arrival Price transaction costs

An analysis of how the Arrival Price methodology transition for PRIIPs KID will affect implicit transaction spreads

Executive summary

The transition from New PRIIPs (NP) methodology to the Arrival Price (AP) methodology to calculate implicit transaction costs will significantly affect spreads, with fixed-income instruments and debt investment strategies likely to disclose lower implicit transaction costs. If timestamps or AP data are not available, the fallback method of using open/previous close prices (OP/PCP) would result in higher volatility of spreads.

The AP methodology tends to capture transaction costs more effectively, particularly in scenarios with more liquid instruments such as large cap equities (compared to small cap) and investment grade corporate bonds (compared to high yield). It also reduces the average transaction spreads for higher portfolio turnover strategies. However, it can also yield unpredictable results, particularly for lower turnover strategies.

NP versus AP

The Packaged Retail and Insurance-based Investment Products (PRIIPs) Regulation requires UCITS funds to use arrival prices to calculate implicit transaction costs instead of NP by the end of 2024. While most global asset managers have already adopted the AP standard, many market participants have not yet transitioned from NP to AP, which has significant data management and technology infrastructure implications.

The NP methodology relies on one-year average half bid-ask positive spreads at the asset class level. In comparison, the AP methodology requires security level spreads between the execution price and the mid-market price at the time of transmission of the order for execution, which can lead to positive or negative spreads.

Timestamps for each transaction are essential to receive meaningful and insightful AP information. If this data is unavailable, the transaction costs methodology will rely on OP/PCP data instead, resulting in higher transaction cost volatility and less comparability.

Measuring the migration's impact

This article presents a statistical analysis of the impact of migrating from the NP to the AP methodology for compiling transaction costs, by assessing the spread differences between the two methodologies across various asset classes and investment strategies.

We used a transaction sample of 587 sub-funds covering all public asset classes, major currencies, listed derivatives and major regulated exchanges in Europe, Asia, and the Americas. The sample included half a million trades over all liquid asset classes and multiple market segments in developed and emerging markets. We applied the NP and AP methodologies to each transaction to compare the spreads.

AP data was sourced from three different vendors to ensure the sample's heterogeneity and remove any potential bias in the market data source. For NP spreads, the Association Française de la gestion financière (AFG) market standard was used.

Comparisons performed

1. Comparison at transaction level per asset class

The first comparison was performed on average spreads at the transaction level per asset class between AP and NP methodologies. This granular analysis enabled a detailed examination of spread variations between NP and AP across different asset classes, providing insights into AP's ability to capture transaction spreads. These spreads were compared to the NP approach's bulk assessment of average spread at the asset class level. We compared the spreads instead of the final transaction costs, which are impacted by portfolio turnover, the level of explicit costs and flooring rules under the EU and UK methodologies.

2. Comparison at transaction level per asset class for the OP/PCP fallback

If timestamps or AP data are unavailable, the PRIIPs Regulation allows a waterfall method that uses the open price (OP) or, if unavailable, the previous close price (PCP). Therefore, this analysis compared average spreads at the transaction level per asset class between the NP and the OP/PCP methods.

3. Analysis per investment strategy

The weighted average AP versus NP spreads were compiled for each sub-fund and averaged across sub-funds of the same investment strategy, as defined by an external source. This allowed us to assess how the AP methodology impacts transaction spreads for each investment strategy.

4. Impact of turnover on spread retrieved

A fund's turnover indicates its activity level. For this analysis, each sub-fund's weighted average spread was analyzed by the level of portfolio turnover per investment strategy, comparing average spreads between NP and AP methodologies

1 Comparison at transaction level per asset class

The first analysis compared the average AP spread of each transaction with the AFG matrix spread per asset class. When the AP methodology was adopted over the NP, there was a reduction in the average spreads across all types of fixed income and money market instruments.

Figure 1: Fixed income and money market instruments spreads



We then observed that more liquid instruments, such as "Government bonds in developed markets with market rating above A" and "Money market instruments", saw significant reductions in average spreads with AP, almost reaching 0%. However, while less liquid asset classes, such as "Government bonds in emerging markets" and "High yield corporate bonds" also showed significant decreases in average spreads after the AP transition, they fell short of the relative spread reduction for more liquid asset classes.

This observation underscores the AP methodology's ability to capture transaction costs more effectively, particularly in scenarios with more liquid instruments where NP spreads were higher.

The overall order of liquidity is reflected in spreads, a fundamental consideration in both methodologies. Notably, trades in Government bonds in emerging markets exhibited higher AP spreads than developed markets, reflecting the order of liquidity dynamics across different asset classes. Similarly, High yield corporate bond transactions consistently demonstrated higher spreads than Investment grade corporate bonds, highlighting liquidity's persistent influence on transaction costs. More volatility in the AP results could have been expected, which would not have represented the order of liquidity between asset classes; however, over a large sample of data, this is not the case.

The situation is different with **equities** instruments.

Figure 2: Equity instruments spreads



We observed that applying the AP methodology increased the spreads in most categories, especially for lower liquidity categories.

We also detected the notable impact of market capitalization on transaction spreads, reflecting its liquidity assessment—a notion previously highlighted by the NP methodology's half bid-ask spread matrix and corroborated by AP spreads. Across both developed and emerging markets, a discernible negative correlation emerged between spreads and market capitalization, with smaller companies consistently demonstrating higher spreads.

Particularly in emerging markets, the AP methodology effectively addresses a constraint of the NP spread matrix by providing varying AP spreads per capitalization category. This category alignment in developed markets allows AP spreads to accurately reflect liquidity levels.

While developed market spreads were lower than emerging market spreads for large and mid-caps, this was not the case for small-cap shares, potentially due to this asset class's high level of volatility. This observation underscores liquidity's significant influence on spreads, surpassing geographical considerations.

Finally, derivatives were analyzed.

Figure 3: Derivatives instruments spreads



For listed derivatives like options and futures, we observed implicit spreads with AP, even though the NP methodology indicated zero spread. AP would better reflect actual implicit spreads on these types of instruments.

On the other hand, over-the-counter currency (OTC FX) transactions displayed lower spreads under AP compared to NP due to their liquidity level, similar to equities and bonds.

2 Comparison at transaction level per asset class for the OP/PCP fallback

If AP data is not available—for example, the transaction data source is an accounting book of record that lacks timestamps—the PRIIPs Regulation mandates the OP/PCP fallback methodology. This section compares the effect of the NP and the OP/PCP methodologies on the transaction spreads of various asset classes.

Similar to the AP methodology, applying the OP/PCP method reduced spreads compared to NP for fixed-income and money market instruments. However, for all equity asset classes, the OP/PCP method increased spreads compared to NP, which was not observed with the AP methodology.

Another interesting comparison is between the AP and the OP/PCP spreads. The standard deviation of the OP/PCP spread distribution is much higher than the AP spread distribution.



Figure 4: AP spreads distribution



Figure 5: OP/PCP spreads distribution

This higher spread volatility generated more dispersed results, as shown in the standard deviation (STD) column in Figure 6. On average, OP/PCP spreads resulted in higher spreads than AP spreads, or resulted in negative spreads.

However, in several asset classes (highlighted in orange in Figure 6), the OP/PCP spreads were lower than the AP spreads, indicating higher volatility. This is why the OP/PCP methodology should only be used as a last-resort option.

Figure 6: Asset class comparison between NP and OP/PCP and how it differs from AP

Classification	Final OP/PCP mean	Final AP mean	STD OP/ PCP	STD AP	AFG matrix November 2023	Difference between OP/PCP and NP	Difference between AP and NP	Difference between AP and OP/PCP
Government bonds and similar instruments developed market rating AAA-A	-0.021%	0.002%	0.75%	0.48%	0.050%	-0.071%	-0.048%	0023%
Government bonds and similar instruments developed market different rating below A	-0.057%	-0.035%	0.75%	0.44%	0.060%	-0.117%	-0.095%	0.022%
Government bonds emerging markets (hard and soft currency)	0.018%	0.127%	1.42%	1.17%	0.400%	-0.382%	-0.273%	0.109%
Investment grade corporate bonds	0.071%	0.092%	0.75%	0.66%	0.140%	-0.069%	-0.048%	0.021%
High-yield corporate bonds	0.059%	0.132%	1.39%	1.21%	0.510%	-0.451%	-0.378%	0.073%
Money market instruments (for clarity, money market funds are not included)	-0.020%	-0.001%	0.17%	0.17%	0.020%	-0.040%	-0.021%	0.019%
Large-cap shares (developed markets)	0.058%	0.035%	1.31%	1.06%	0.030%	0.028%	0.005%	-0.023%
Mid-cap shares (developed markets)	0.113%	0.078%	1.70%	1.48%	0.080%	0.033%	-0.002%	-0.035%
Small-cap shares (developed markets)	0.208%	0.452%	1.90%	1.90%	0.110%	0.098%	0.342%	0.244%
Large-cap shares (emerging markets)	0.135%	0.057%	1.50%	1.19%	0.070%	0.065%	-0.013%	-0.078%
Mid-cap shares (emerging markets)	0.162%	0.121%	1.84%	1.74%	0.070%	0.092%	0.051%	-0.041%
Small-cap shares (emerging markets)	0.240%	0.234%	1.95%	1.54%	0.070%	0.170%	0.164%	-0.006%
Listed derivatives	0.035%	0.030%	1.24%	0.75%	0.000%	0.035%	0.030%	-0.005%
OTC FX forwards (developed markets)	-0.002%	0.005%	0.35%	0.14%	0.010%	-0.012%	-0.005%	0.007%
OTC FX forwards (emerging markets)	-0.105%	0.016%	0.43%	0.25%	0.030%	-0.135%	-0.014%	0.121%

3 Analysis per investment strategy

To compare the effect of the NP and AP methodologies on average spreads for a given investment strategy, each sub-fund in the sample was first mapped to one of 47 Morningstar investment strategies. Then, the spread of each transaction was pro-rated according to its weight in each sub-fund, allowing the calculation of a weighted average AP and NP spread at the sub-fund level. Finally, by averaging the AP and NP spreads across all sub-funds within a given investment strategy, we derived the average AP and NP spread for that particular investment strategy.

The differences in average spread per strategy provided an insight into the AP transition's expected proportional increase or decrease of transaction costs. The weighted average spreads approach allowed us to neutralize any direct impact of portfolio turnover on transaction costs.

This analysis confirms the above results from the asset class comparison in section 1.

When we focused on the 20 categories linked to fixed income and money market instruments in the Figures 7a and 7b graphs, the comparison between the NP and AP average spreads proved the reduced implicit transaction spreads for the AP methodology.



Figure 7a: Fixed income strategies



Figure 7b: Money market strategies

As expected, in emerging markets equity funds strategies and asset classes characterized by high volatility, AP spreads significantly fluctuated from a high of +32 bps to a low of -12 bps. This can be found in Figure 8a.

The same conclusion was derived when analyzing mid-and-small cap equities, as seen in Figure 8b. For these investment strategies, the AP model can result in higher and more volatile spreads.





Figure 8a: Emerging market equity strategies





Impact of turnover on spread retrieved

Finally, we analyzed the relationship between fund turnover and the weighted average spread in NP and AP per investment strategy.

First, fund turnovers were averaged by investment strategy, comprising 47 distinct categories. Then, we ranked the data strategies based on fund turnover. This allowed us to analyze how the AP transition affected the most actively managed funds and investment strategies.

This comparison, shown in Figure 9, is enlightening. The higher the portfolio turnover, the higher the percentage of funds and investment strategies where the AP spreads are lower than the NP spreads. In other words, the more active the fund, the more its implicit transaction costs should be reduced when transitioning to AP.

More specifically, all eight investment strategies with an average annual portfolio turnover greater than 100% exhibited lower AP spreads than the respective NP spreads, with most indicating an average AP spread close to 0%. One statistical interpretation is that more transactions (observations) drive the mean spread towards 0%, as positive and negative spreads offset each other.

Figure 9: Link between portfolio turnover and reduction of spread with AP

PTF Turnover	0%-25%	25%-100%	>100%
#Investment Strategies	20	18	8
AP < NP spread	8	13	8
% of lower AP	40%	72%	100%

Figure 10: Categories with high turnover

Category with high turnover	Average turnover	Weighted AP mean	Weighted NP mean	Delta
Financials sector equity	481,58%	-0,27%	0,07%	-0,33%
Euro money market	464,25%	0,01%	0,08%	-0,07%
Market neutral	265,35%	-0,02%	0,12%	-0,14%
Asia ex-Japan equity	228,95%	-0,03%	0,06%	-0,10%
US money market	220,96%	0,00%	0,06%	-0,06%
Currency	185,02%	0,18%	0,40%	-0,21%
Long/short equity	127,88%	-0,03%	0,07%	-0,11%
Money market miscellaneous	120,19%	0,01%	0,06%	-0,05%

Figure 11: Categories with average turnover

Category with average turnover	Average Turnover	Weighted _AP _mean	Weighted _NP _mean	Delta
US equity large cap blend	70,94%	0,05%	0,03%	0,02%
Natural resources sector equity	69,98%	0,11%	0,05%	0,06%
UK equity mid/small cap	61,56%	0,28%	0,10%	0,18%
US equity large cap value	53,42%	-0,03%	0,05%	-0,08%
US fixed income	45,93%	0,10%	0,27%	-0,16%
Global fixed income	42,24%	0,00%	0,12%	-0,12%
Global emerging markets equity	39,66%	0,04%	0,06%	-0,03%
Europe fixed income	39,45%	0,04%	0,16%	-0,13%
Emerging markets fixed income	37,02%	0,09%	0,31%	-0,21%
Convertibles	36,62%	-0,12%	0,25%	-0,36%
Japan equity	35,23%	0,24%	0,06%	0,18%
Moderate allocation	32,17%	0,02%	0,06%	-0,04%
Cautious allocation	31,98%	0,01%	0,07%	-0,06%
Global equity large cap	31,27%	0,09%	0,05%	0,04%
Aggressive allocation	31,08%	0,04%	0,05%	-0,02%
India equity	30,63%	-0,08%	0,07%	-0,15%
Equity miscellaneous	27,03%	0,02%	0,05%	-0,03%
Asia fixed income	25,57%	0,00%	0,26%	-0,26%

Figure 12: Categories with low turnover

Category with low turnover	Average turnover	Weighted AP mean	Weighted NP mean	Delta
Africa equity	23,52%	-0,12%	0,07%	-0,19%
Flexible allocation	20,83%	0,13%	0,05%	0,07%
Consumer goods and services sector equity	18,31%	-0,03%	0,05%	-0,08%
UK equity large cap	16,95%	0,08%	0,06%	0,02%
Fixed income miscellaneous	16,03%	-0,09%	0,28%	-0,36%
Europe equity mid/small cap	11,54%	0,53%	0,09%	0,44%
Technology sector equity	10,85%	0,08%	0,05%	0,03%
Real estate sector equity	7,59%	0,33%	0,09%	0,25%
US equity large cap growth	5,48%	0,15%	0,04%	0,11%
Europe equity large cap	3,78%	0,11%	0,05%	0,06%
Sterling money market	1,73%	0,02%	0,06%	-0,04%
Commodities specified	0,17%	0,00%	0,19%	-0,18%
Target date	0,00%	0,14%	0,07%	0,07%
Allocation miscellaneous	0,00%	0,16%	0,08%	0,08%
Sterling fixed income	0,00%	0,03%	0,10%	-0,08%
Energy sector equity	0,00%	0,12%	0,05%	0,07%
Greater China equity	0,00%	0,05%	0,06%	-0,01%
Precious metals sector equity	0,00%	-0,04%	0,06%	-0,10%
Global equity mid/small cap	0,00%	0,15%	0,08%	0,06%
Healthcare sector equity	0,00%	0,22%	0,06%	0,16%

The analysis of Figure 13 revealed a noteworthy negative correlation between the degree of turnover and the resulting level of AP spread. This highlights the AP methodology's capability to effectively capture transaction spreads when the number of transactions increases, reducing the impact of sampling errors.



Figure 13: Average turnover per global category

Average Turnover Per Global Category

O Delta between AP and NP

Please note that, while our analysis was based on a large data set, AP methodology can yield unpredictable results in terms of sign and magnitude, especially for lower turnover strategies



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