



**Scientific Infra
& Private Assets**

PRIVATE MARKETS RESEARCH · REGULATORY

PRIIPs and Private Asset Risk

Why default risk scores misclassify private asset funds — and how ESMA-registered, monthly index data produces accurate PRIIPs risk scores of 2–5 instead of 6 or 7.

Using the right data to accurately categorise private asset funds. SIPA indices and benchmarks allow PRIIPs manufacturers to achieve more accurate and robust risk scores, typically improving the marketability of ELTIF/PRIIPs or LTAF products, whereas listed proxies or other inadequate data only misrepresent the risk-return profile of private asset classes.

Executive Summary

SIPA indices and benchmarks allow PRIIPs manufacturers to achieve more accurate and robust risk scores, typically improving the marketability of ELTIF/PRIIPs or LTAF products, whereas listed proxies or other inadequate data only misrepresent the risk return profile of private asset classes.

PRIIPs Regulation and Private Market Funds: The PRIIPs Regulation requires that any packaged retail investment product sold to investors in the EU or UK be accompanied by a Key Information Document (KID). A central component of the KID is the Summary Risk Indicator (SRI), a score from 1 to 7 that communicates market risk to investors. For private asset funds, including private equity, infrastructure equity and infrastructure debt, determining the correct SRI category requires a Value at Risk Equivalent Volatility (VEV) calculation, which in turn demands a sufficient history of higher frequency return data.

Default SRI Score: Many private asset funds lack the return history required to perform the VEV calculation independently. Without five or more years of monthly returns and an appropriate representative benchmark, the regulation defaults to a risk score of 6 or 7, placing it in the same risk category as highly leveraged or complex derivative products. This is a potential misclassification of the product that can have an impact on its adoption and suitability for distribution.

SIPA Data and SRI Categorisation: the SIPA market indices are ESMA-registered and provide long-run, monthly, mark-to-market return series for private infrastructure equity, infrastructure debt, and private equity – i.e., precisely the data type and frequency required for the PRIIPs VEV calculation. Using ten years of monthly index data, this paper demonstrates that using SIPA indices as the product reference leads to risk scores ranging from 2 to 5, instead of 6 or 7. SIPA indices have already been accepted as the relevant risk benchmark by financial market regulators across the EU.

Sector Level View: Beyond broad market indices, granular benchmarks can be built using SIPA data and open-source private market taxonomies: PECCS® for private equity and TICCS® for infrastructure. This allows sector-focused funds to identify the most appropriate benchmark for their strategy. A healthcare-focused PE fund, for example, carries a meaningfully different risk profile than a natural resources or transportation fund. Likewise, a renewable energy fund has a different risk profile than a ports or data infrastructure focused fund. The ability to match a fund to its sector benchmark, rather than a broad market index, produces a more accurate risk score and a more informative KID for investors.

Data and Methods

Market benchmarks

In what follows, we use SIPA private market data and analytics: monthly index return series with marked-to-market pricing, whereby asset prices are updated continuously as new transaction data becomes available (see appendix on the SIPA asset pricing model).

SIPA data can be downloaded monthly and performance and risk metrics for private infrastructure equities, private infrastructure debt, and private equities computed from this data.

SIPA's flagship indices, the infra300 and private2000, represent broad market indices diversified by sector, geography, and risk profile, best capturing the systematic risk of their respective markets. Both represent excellent starting points for capturing systematic risk and returns in their respective markets, private equity and infrastructure.

- **The infra300 index** is composed of 300 unlisted infrastructure companies. The companies are selected to form a representative sample by TICCS® categories from an underlying universe of close to 9100+ firms in 27 countries. The index is global, and includes both corporate and project finance companies.
- **The private2000 index** includes the 2000 large private companies across 30 countries and diversified by sector. The companies are selected to form a representative sample by PECCS® categories from an underlying universe of close to one million firms.

Both sets of indices are published monthly, with a ten-day lag, and returns computed in a range of international currencies as well as local currency units.

The PRIIPs VEV Methodology

PRIIPs regulation (Regulation EU 1286/2014 and its subsequent amendments) applies to any financial product sold to retail investors in the EU or UK that packages or involves investment risk. For private asset managers, this most commonly arises in the context of European Long-Term Investment Funds (ELTIFs), Long-Term Asset Funds (LTAFs), and semi-liquid or evergreen fund structures that are increasingly being distributed to retail and wealth management clients.

The PRIIPs Regulatory Technical Standards define the VEV calculation as a two-step process: first, a Value-at-Risk measure incorporating the Cornish-Fisher expansion to account for return distribution skewness and excess kurtosis must be computed:

$$\text{VaR}_{\text{return}} = \sigma \sqrt{N} \cdot \left[-1.96 + 0.474 \frac{\mu_1}{\sqrt{N}} - 0.0687 \frac{\mu_2}{N} + 0.146 \frac{\mu_1^2}{N} \right] - 0.5 \sigma^2 N$$

The VaR is then converted into a Value at Risk Equivalent Volatility (VEV):

$$VEV = \frac{\sqrt{3.842 - 2 \cdot \text{VaR}_{\text{return}} - 1.96}}{\sqrt{T}}$$

The annualised standard deviation (σ) is computed from the per-period return standard deviation ($\times\sqrt{12}$ for monthly data; $\times\sqrt{4}$ for quarterly data). Moments μ_1 (skewness) and μ_2 (excess kurtosis) are estimated directly from the return history. N is the number of observations in the chosen history window. T is the fund's recommended holding period in years.

The resulting VEV is then mapped to a market risk measure (MRM) or risk score as shown in Table 1. In this paper, we present results for both T=5 and T=10 for illustrative purposes, to show how sensitive the risk score is to the holding period assumption, and to help fund managers understand the impact of their holding period choice on the KID disclosure. The choice of holding period should reflect the fund's investment horizon.

■ **TABLE 1 – MARKET RISK MEASUREMENT**

MARKET RISK MEASURE (MRM)	VEV (ANNUALISED VOLATILITY)
1	< 0.5%
2	0.5 – 5.0%
3	5.0 – 12.0%
4	12.0 – 20.0%
5	20.0 – 30.0%
6	30.0 – 80.0%
7	> 80.0%

Source: EIOPA.

The PRIIPs Challenge in Private Assets

The Minimum Data Threshold

To calculate a fund-specific VEV, PRIIPs requires a minimum of:

- **Daily prices:** 2 years of data
- **Weekly prices:** 4 years of data
- **Bi-monthly prices (every 2 weeks):** 5 years of data
- **Monthly prices:** 5 years of data

Thus a private asset fund reporting returns on a monthly frequency basis would need five full years of data before being able to use its own return history for the risk score calculation, assuming the regulator would accept risk calculation based on appraisals, which tends to understate risk level. Given the significant growth in retail-eligible private asset vehicles in recent years, a large proportion of funds currently in market have not yet accumulated this track record.

Default Score

Where a fund lacks sufficient history, the PRIIPs regulation allows the use of a representative benchmark which has to meet the same data requirements. If neither the fund nor any appropriate benchmark meets the threshold, the regulation tends to assign a default risk score of 6 or 7, positioning the product as one of the riskiest in the market. A score of 6 corresponds to a VEV of 30–80%, a range associated with leveraged or highly volatile strategies that often utilise derivative strategies. Thus, private asset funds face the risk of being improperly classified with vehicles that have very different risk profiles. Receiving a default score of 6 risks misrepresenting the risk profile of the fund to retail investors, potentially undermining investor confidence and limiting distribution.

Representative Benchmark Solution

SIPA indices are constructed to accurately represent the systematic risk of their respective private market universes by repricing index constituents monthly using an asset pricing model that captures the latest deal information available. SIPA indices:

- Are priced monthly, satisfying the data frequency requirement.
- Have five or more years of history, meeting the data length requirement. SIPA's private equities indices date back to 2013, while its infrastructure indices date all the way back to 2000.
- Cover broad market and sector-level exposures, enabling a well-matched benchmark and risk measure for generalised and specialised strategies alike.
- Have market-based pricing that captures the dynamic changes in the market, ensuring return volatility reflects actual risk. The indices are not smoothed or stale and thus do not require de-smoothing or other ad hoc adjustments.

The sections below show VEV calculations using SIPA indices and sector-level sub-indices, leading to risk scores that are more accurate and robust than what would be obtained using listed or appraisal data.

Asset Class Results

Before turning to the calculations and categorisation by SRI, we first look at some of the key risk metrics available in the SIPA index data series, to demonstrate their suitability for generating a realistic risk score. Table 2 shows the annualised volatility for the past 5 and 10 years, the 97.5% VAR required by the PRIIPs regulation, which also uses the Cornish-Fisher expansion, and the maximum drawdown.

These metrics reflect realistic risk characteristics of investing in private assets. Private equities, represented by the private2000, shows the highest annualised volatility at 16.5% over 10 years, compared to infrastructure equities at 12.6% and infra debt at 5.0%. The annualised volatilities lead to realistic VAR outputs. The maximum drawdowns illustrate that the indices do correct during market sell-offs or crises. Unlike indices based on appraisal which tend to show low volatility, low VAR, and minimal drawdowns, SIPA data provide a mark-to-market approach to private assets risk and more realistic metrics for volatility and extreme risk measures, making them much more suitable for PRIIPs purposes. Moreover, monthly returns allow the MRM risk score calculation.

■ **TABLE 2 – PRIVATEMETRICS & INFRAMETRICS INDICES: RISK AND RETURN METRICS**

INDEX	ANNUALISED VOLATILITY %		97.5% VAR		MAX DRAWDOWN %	
	5YR	10YR	5YR	10YR	5YR	10YR
private2000	13.9	16.5	19.6	20.0	12.3	20.2
infra300 equity	11.4	12.6	9.1	18.1	11.6	18.6
infra100 debt	6.0	5.0	11.4	7.6	19.2	20.0

Source: privateMetrics, infraMetrics. As of Mar 2026. private2000 VW USD, infra300 VW LCU, infra100 debt LCU.

VEV and MRM Results: PE, Infra Equity and Debt

Beginning with private equity, Table 3 displays the value at risk equivalent volatility (VEV) using actual trailing 5 and 10 year return data from privateMetrics through March 2026. On the left are the results for a recommended hold period (RHP) of 5 years, and on the right, the same measures for a 10 year RHP. Existing funds have used both RHPs in their KID – thus we present both cases.

Using an RHP of 10 years, the flagship private equity indices and the privateEurope indices would be categorised with an MRM of 4. For a shorter hold period (5 years), they would likely move to an MRM of 5. Both value weighted and equal weighted versions of the indices are presented in Table 3.

■ **TABLE 3 – PRIVATEMETRICS INDICES: VEV & MRM FOR 5- AND 10-YEAR RECOMMENDED HOLD PERIODS**

INDEX	5 YEAR HOLD PERIOD		10 YEAR HOLD PERIOD	
	VEV %	MRM	VEV %	MRM
private2000 VW	23.1	5	16.3	4
private2000 EW	20.4	5	14.5	4
privateEurope VW	24.5	5	17.3	4
privateEurope EW	21.2	5	15.4	4

Source: privateMetrics, calculations by SIPA.

Table 4 presents the same metrics for the flagship infrastructure equity and debt indices. As one might expect, infrastructure equity would have a slightly lower range than private equity, with an MRM range of 3 to 4, depending on the index. Consistent with this, infrastructure debt indices would be categorised with an MRM of between 2 and 3.

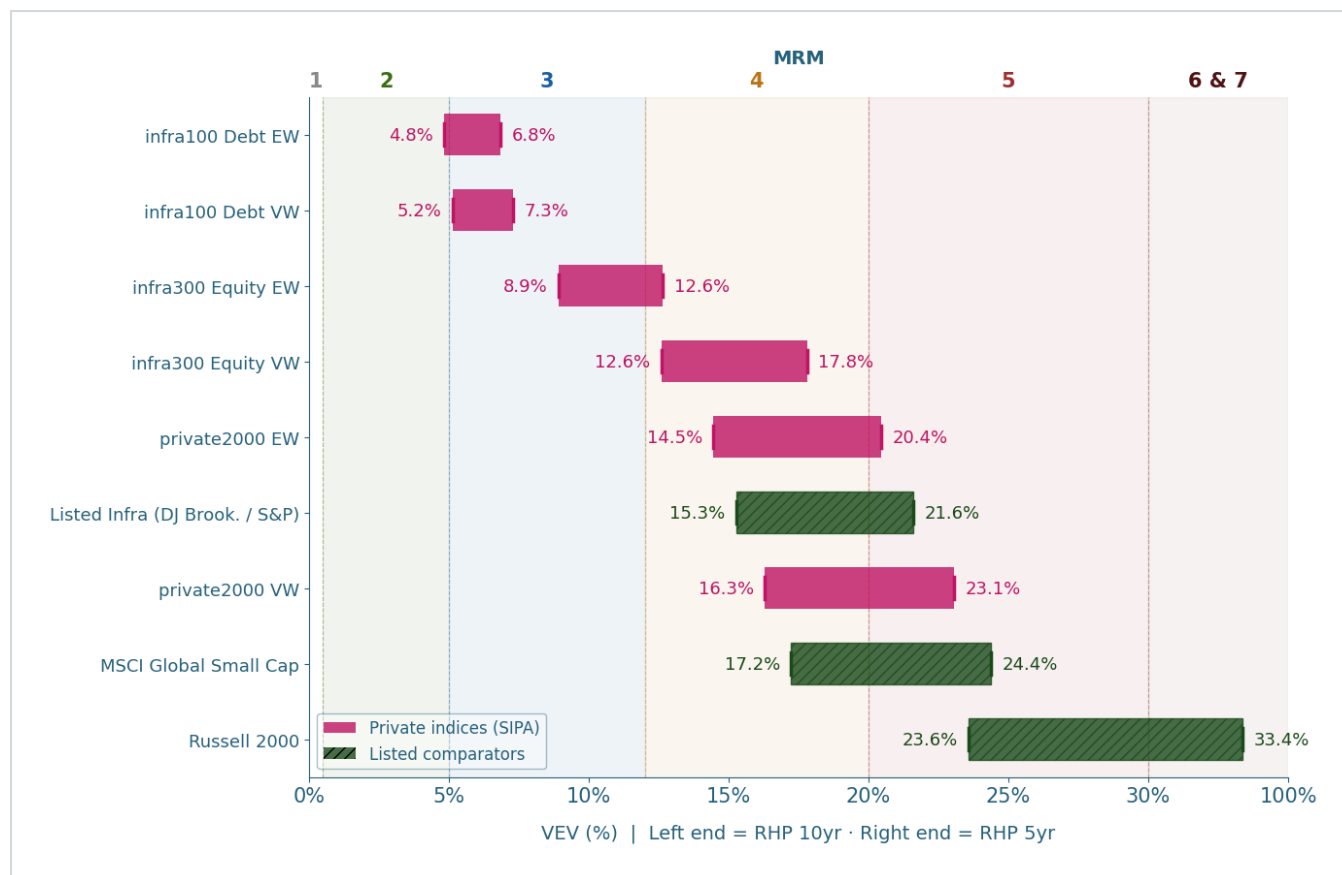
■ **TABLE 4 – INFRAMETRICS INDICES: VEV & MRM FOR 5- AND 10-YEAR RECOMMENDED HOLD PERIODS**

INDEX	5 YEAR HOLD PERIOD		10 YEAR HOLD PERIOD	
	VEV %	MRM	VEV %	MRM
infra300 equity VW	17.8	4	12.6	4
infra300 equity EW	12.6	4	8.9	3
infra100 debt VW	7.3	3	5.2	3
infra100 debt EW	6.8	3	4.8	2

Source: *infraMetrics*, calculations by SIPA.

Figure 1 consolidates the VaR equivalent volatility ranges for the two hold periods (5 and 10 years) for the flagship indices covering infrastructure debt, equity, and private equities. This makes clear the downside of not having a sufficient return history or access to a registered benchmark that can be used to quantify risk in private assets accurately. If categorised as MRM of 6 or 7, this would materially overstate the risk of the product offering, misrepresenting the risk to potential investors and perhaps limiting the attractiveness. If relying on listed indices, the risk score may be similarly miscategorised. Listed infra indices would move the MRM score to 4 to 5, from 3 to 4, while listed equities indices increase the odds of an MRM of 5 or 6.

■ FIGURE 1 – VEV AND MRM SCORE FOR FLAGSHIP INDICES VS LISTED COMPARATORS



Source: privateMetrics, infraMetrics, Bloomberg for listed indices. Presented as range of score between recommended hold periods (RHP) of 10 years and 5 years.

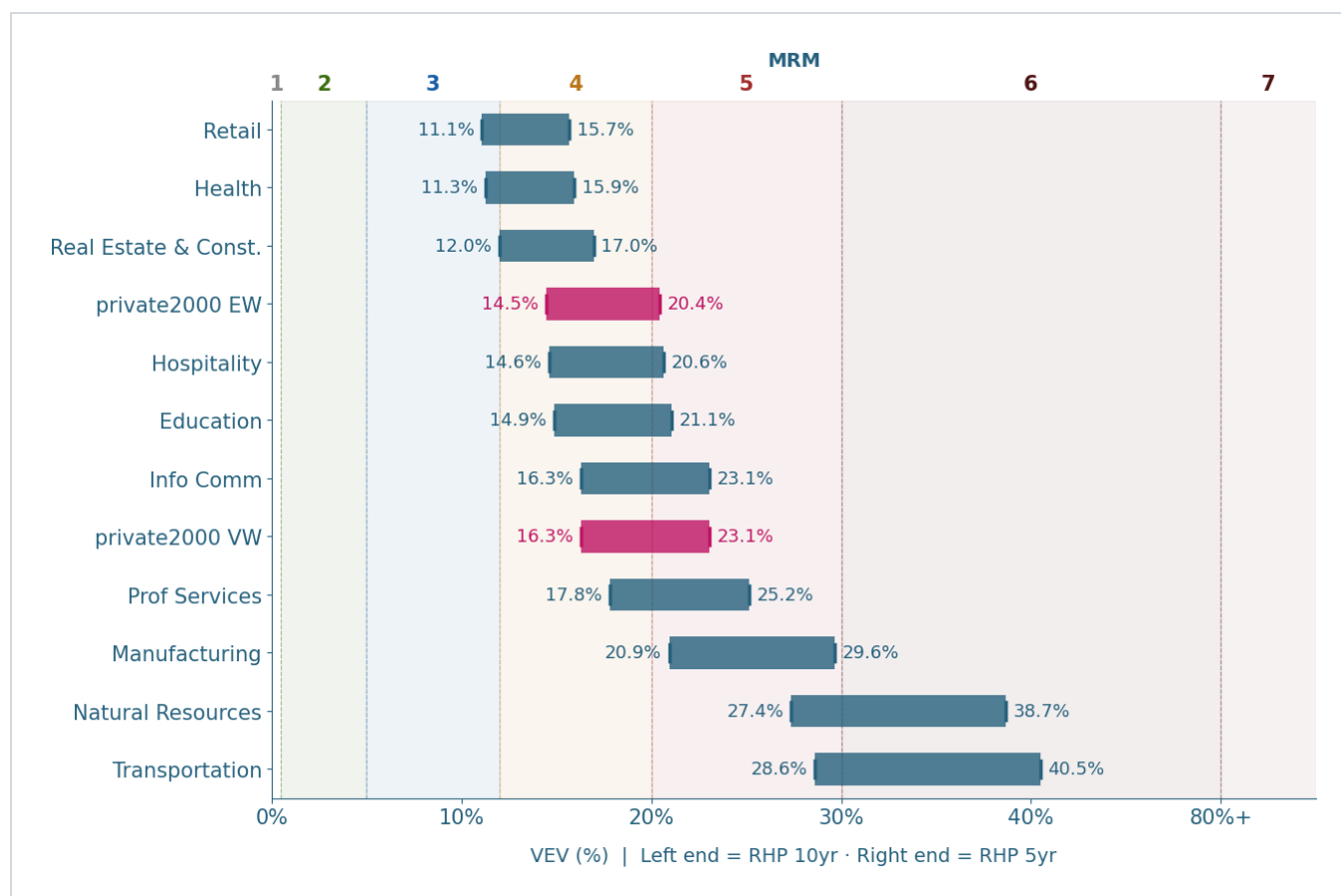
Sector Lens

Figure 2 shows the MRM score for the activity classes within privateMetrics at the private equity universe level. We include the flagship private2000 EW and VW indices as a reference point.

At the activity class or sector level, there are clear differences in risk as measured with the VEV. For example, Health and Retail have much lower VEV than Natural Resources and Transportation. This may be relevant for a sector focused fund or product. Based on the privateMetrics data, a healthcare focused fund may classify with an MRM as low as 3, while a fund focused on Natural Resources could be classified with a score of 5 or 6.

With privateMetrics, the asset level data allows one to use a flagship index, sector focused index, or even a custom index reflecting a particular strategy. This will help to arrive at the correct risk score for the product.

■ FIGURE 2 – MRM FOR PRIVATE2000 VW & EW AND BY PRIVATEMETRICS PEU ACTIVITY CLASS

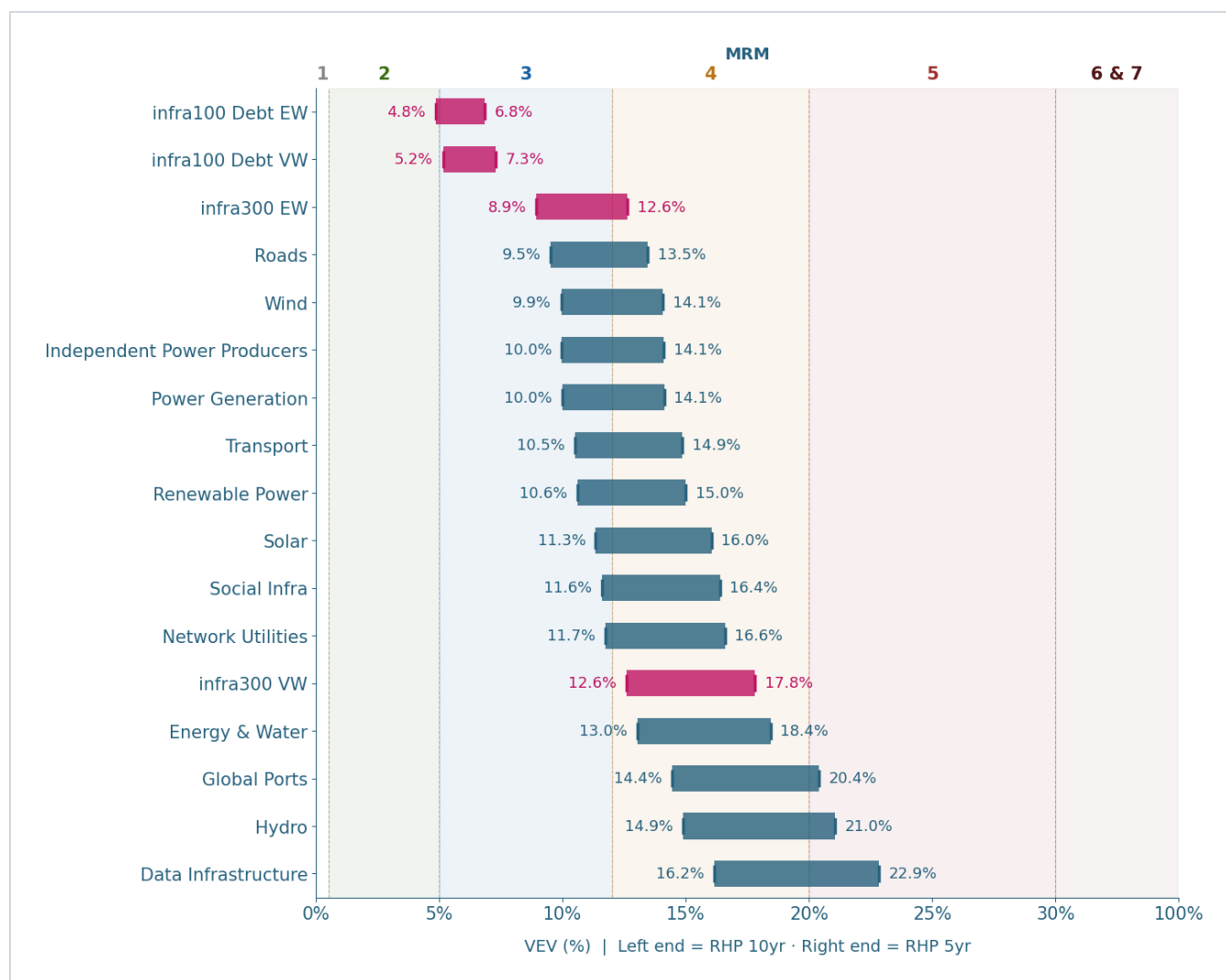


Source: privateMetrics. Presented as range of score between recommended hold periods (RHP) of 10 years and 5 years.

Figure 3 shows the MRM score for the key industrial classes within infraMetrics as organised by TICCS.

In this case, we present the VEV for the infrastructure debt indices, infrastructure equity, and the industrial classes within infrastructure equity. Much like with private equity, we observe major differences in VEV and thus implied MRM score based on the industrial class. Roads and wind assets have much lower risk profiles, with an implied MRM of 3 to 4, while Global Ports and Data infrastructure would be 4, and 4 to 5, respectively. This is particularly important given many private fund products target particular strategies, for example, renewable energy, or data infrastructure. The ability to quantify the difference in risk can help to position the product to market with the correct risk profile.

■ FIGURE 3 – MRM FOR INFRA EQUITY & DEBT INDICES AND BY INFRAMETRICS TICCS INDUSTRIAL CLASS



Source: infraMetrics. Presented as range of score between recommended hold periods (RHP) of 10 years and 5 years.

Conclusion

The growth of retail access to private asset funds, through ELTIFs, LTAFs, and evergreen structures, makes accurate PRIIPs categorisation increasingly consequential. A default MRM score of 6 or 7, assigned in the absence of sufficient return history or a suitable benchmark, materially misrepresents the risk profile of diversified private equity and infrastructure strategies, and risks limiting their distribution to the retail investors these vehicles are designed to serve.

The results presented in this paper demonstrate that this is an avoidable outcome. Using ten years of monthly data from privateMetrics® and infraMetrics®, private equity indices produce MRM scores of 4 to 5, infrastructure equity 3 to 4, and infrastructure debt as low as 2 – a far more accurate reflection of the actual risk borne by investors in these asset classes. The sector-level analysis reinforces this further: the dispersion across PECCS® and TICCS® classifications is wide enough that a generic benchmark can meaningfully over- or understate the risk of a focused strategy. SIPA's indices, covering broad markets and granular sub-sectors, ESMA-registered, and updated monthly, provide the data to produce more accurate PRIIPs disclosures.

privateMetrics API integration

Access all privateMetrics data programmatically and build your own applications for private market investing and reporting.



Index Catalogue

Browse our catalogue of hundreds of private equity, infrastructure and infra debt indices, inc. market indices like the infra300 and private2000, and thematic indices representing specific market segments.



Taxonomies

Query the PECCS® and TICCS® taxonomies used to create the privateMetrics universe. Access class codes, names and definitions to build your own index and comps customisations applications.



Index Data

Access a comprehensive set of performance and risk metrics for hundreds of private equity, infrastructure and infra debt indices tracking numerous geographies and segments.



Custom Benchmarks

Build custom benchmarks setting target weights by PECCS, TICCS, style and geography that align with your strategy. All index metrics are recalculated for you.



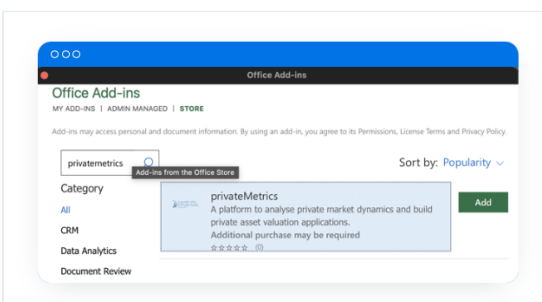
Custom Comps

Create customised comp sets using PECCS® and TICCS® segments, geography and systematic risk profiles. Get metrics like discounts rates and EBITDA multiples.



Yield Curves

Query risk-free rates for a given pricing and maturity date to support discounted cash flow (DCF) calculations, valuation models, and other financial analyses.



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The privateMetrics® Valuation Model

Our approach to the valuation of private companies is designed to maximise the available transaction and financial data in private markets and provide a standardised and systematic manner to update prices with every observed transaction.

First, we construct a multi-factor model of prices using a sample of observed transactions over time which can infer the unbiased and precise factor prices that investors pay for different characteristics of a private asset. Although every transaction is idiosyncratic or unique, in a large sample of transactions, the individual errors in each transaction price can be diversified away to discern the price attributable to each factor. Factor prices refer to the premium (or discount) that an investor is willing to pay to seek exposure to a specific factor of return in private companies. For example, observing the relationship between size and valuation among reported transactions, it can be inferred how much premium or discount an investor is willing to pay for purchasing a larger private company.

Second, an important and key application of this approach is that, with the estimated factor prices, say for size, it would then be possible to price unlisted private companies whose size information is available, irrespective of whether they are traded or not. This approach provides a more robust estimate for FV and enables the creation of representative indices of private companies.

Our approach's novelty is calibrating the model to newly observed transactions obtaining the factor price evolution over time, which allows us to update the valuation for all tracked unlisted private companies.

Common Risk Factors

If investors trade unlisted private companies from each other in mutually negotiated transactions, there must be some common characteristics that at least partially explain prices. For example, private companies that have higher profits or growth opportunities may be more valuable to investors than those that are not.

To arrive at a potential list of factors, we follow simple criteria that there needs to be an economic rationale for the factor to affect valuation. The factor should also be statistically related to the valuation. Moreover, the factor should also be objectively observable or measurable. With a potential list of factors, our factor selection is the result of a statistical approach, where the factors that can satisfactorily explain the variation in observed transaction valuations are included in the final model while trading off being parsimonious with being able to explain a higher variance in valuation. The privateMetrics asset pricing model uses five key risk factors as below:

- **Size:** Larger companies may be more complex, have higher transaction costs, and be less liquid, all of which can make them trade at a lower valuation per \$ of revenue.
- **Growth:** As traditional PE strategies rely on growing the entry multiple, that may involve both increasing its top and bottom lines, i.e., revenue and profits. Thus, companies that can grow faster can be more sought after, making them more valuable.
- **Leverage:** Leverage can make a company riskier as it increases the risk of default. However, there is also a signaling effect of leverage, as companies with stable consistent cash flows can support a higher leverage, and vice versa. Thus, leverage is expected to influence the valuation of a company.
- **Profits:** More profitable companies have more predictable (less risky) future payouts and hence attract a lower risk premium, making them more valuable.
- **Maturity:** Younger companies have fewer track records and face higher information uncertainty. Studies have shown that firms with high uncertainty tend to be overvalued and earn lower future returns. Thus, the maturity negatively affects valuation.
- **Country risk:** Investors may require a high return when investing in a high-risk country, thus depressing the current valuation. In other words, in countries with lower risk, investors may be willing to purchase assets at a higher valuation as government policies may be more predictable with lower macroeconomic risks.

■ **TABLE A1 – KEY FACTORS, THEIR EFFECT ON VALUATION & THE ECONOMIC RATIONALE FOR INCLUDING THEM**

FACTOR	DEFINITION (PROXY)	EFFECT ON PRICE	ECONOMIC RATIONALE	REFERENCES
Size	Revenues	▼ Negative	Larger firms are more illiquid and trade a lower price	Fama & French (1993)
Growth	Change in Revenues	▲ Positive	Companies with higher revenue growth trade at a higher price	Fama & French (1992), Petkova & Zhang (2005)
Leverage	Total debt / Revenues	▲ Positive	Companies that can borrow more have a lower cost of capital and a higher value	Gomes & Schmid (2010), George & Hwang (2010)
Profits	Ebitda Margin	▲ Positive	Companies that have higher profits have a higher value	Novy-Marx (2013), Hou et al. (2015)
Maturity	Years since incorporation	▼ Negative	Companies that are mature exhibit less growth potential and trade at a lower price	Jiang et al. (2005)
Country Risk	Term Spread	▼ Negative	Companies in high-risk countries face more uncertain prospects	Chen & Tsang (2013)

Source: calculated using over 10k deals from PitchBook, CapitalIQ, Factset, and other primary sources between 1999-2022.

Our factors have been documented in prior academic studies to be associated with valuation. We also include factors that have been identified as key determinants of valuation from a survey of private equity practitioners that we conducted in 2023. Table A1 summarises the key factors that we use in the model, how they are measured, each factor's effect we document in the data on average, the economic rationale for their inclusion, and citations for the work that underpins their inclusion.

Model Set Up

The privateMetrics asset pricing model uses the Price-to-Sales ratio of observable transactions (the entry price multiple) as the modelled variable. The model is estimated as the linear sum of the product of factor exposures and factor prices. The estimation can then separate the systematic part of the valuation while leaving out “noise” in each valuation.

$$\frac{P}{S} = \alpha + \sum_{k=2}^K \beta_k \lambda_k + \varepsilon$$

Following standard asset pricing notation, the factor exposure or factor loading is called a beta (β), and the factor premium is called a lambda (λ) for the k factors in the model. α is the intercept and ε is the noise or idiosyncratic part of the valuation.

Model Calibration

The privateMetrics model uses a carefully curated dataset of more than 10k+ unlisted private company investments going back two decades sourced from a wide variety of datasets including PitchBook, Factset, Capital IQ, fund manager reports, and other publicly available data sources.

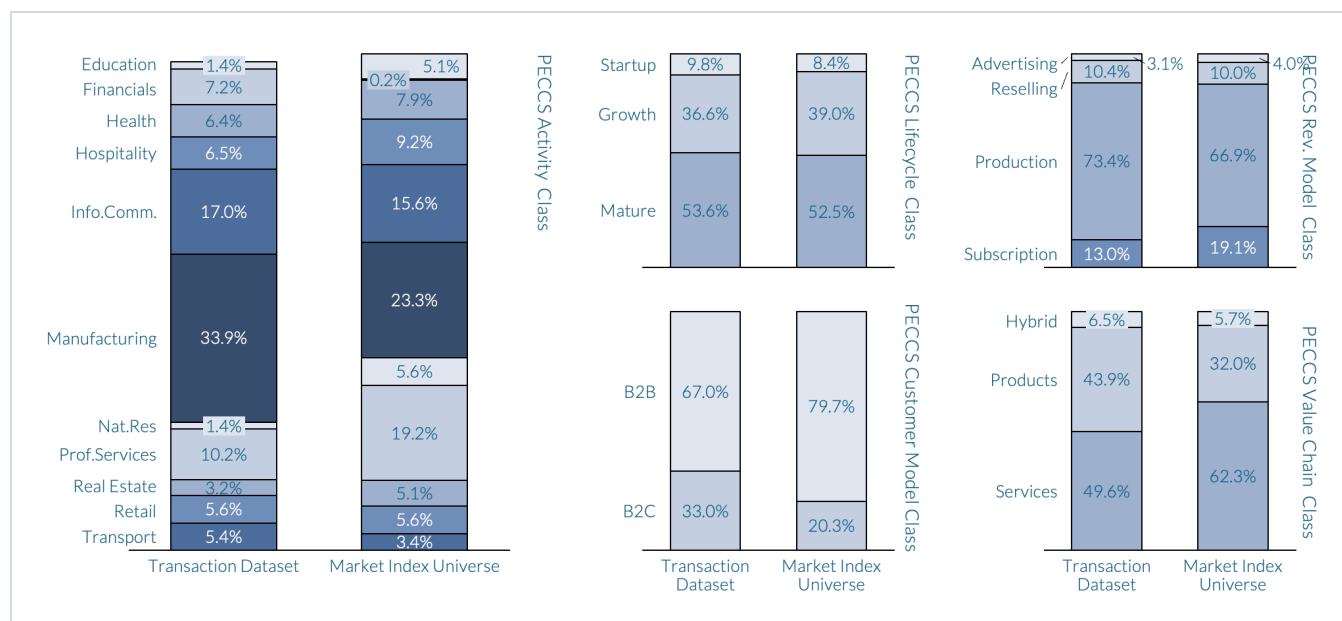
We calibrate this model using new observations monthly to update its estimation of the price of risk of each factor. In other words, each transaction observed is then used to ‘update’ this model (i.e., obtain new λ s) through a dynamic estimation (using a Kalman filter), which retains the memory of past λ s while also allowing the new transaction to influence the relationship while keeping the average ε close to zero. More details on the implementation of the model are available in our online documentation and Selvam and Whittaker (2024). The dataset covers all key segments of the market as shown in Figure A1.

A good application of using the model to value unlisted private companies is to create a representative marked-to-market index of private companies that are regularly valued. The privateMetrics index universe in Figure A1 includes the constituents of the private2000® index constructed by Scientific Infra and Private Assets, which is developed on this shadow pricing idea and captures the performance of private companies in 30 countries globally that are important for private equity investors (read more about the index [here](#)).

How Precise are the Predictions across PECCS® Pillars?

To examine how closely the predicted valuations track the raw modelled valuations in transactions, we compute the average estimation errors of the full sample, and also by classes within each PECCS® pillar. What stands out is that although the model by design is expected to have lower estimation errors in the full sample, the within PECCS® class estimation errors are also very small. All the errors are within $\pm 10\%$, reassuring that the model predictions on average even within each segment of PECCS® are reasonable. The errors are summarised in Table A2.

■ **FIGURE A1 – PRIVATEMETRICS TRANSACTION DATASET COMPARED TO THE INDEX UNIVERSE BY PECCS PILLAR & CLASS**



The most commonly used metric of valuation in private markets is EV/EBITDA as PE owners have the flexibility to alter the capital structure of their holding company and hence are more interested in operational profitability without factoring interest costs. However, our model is based on P/S because P/S is statistically better, stable, and not affected by loss-making companies. Thus, one may be concerned whether our predictions for EV/EBITDA might be biased.

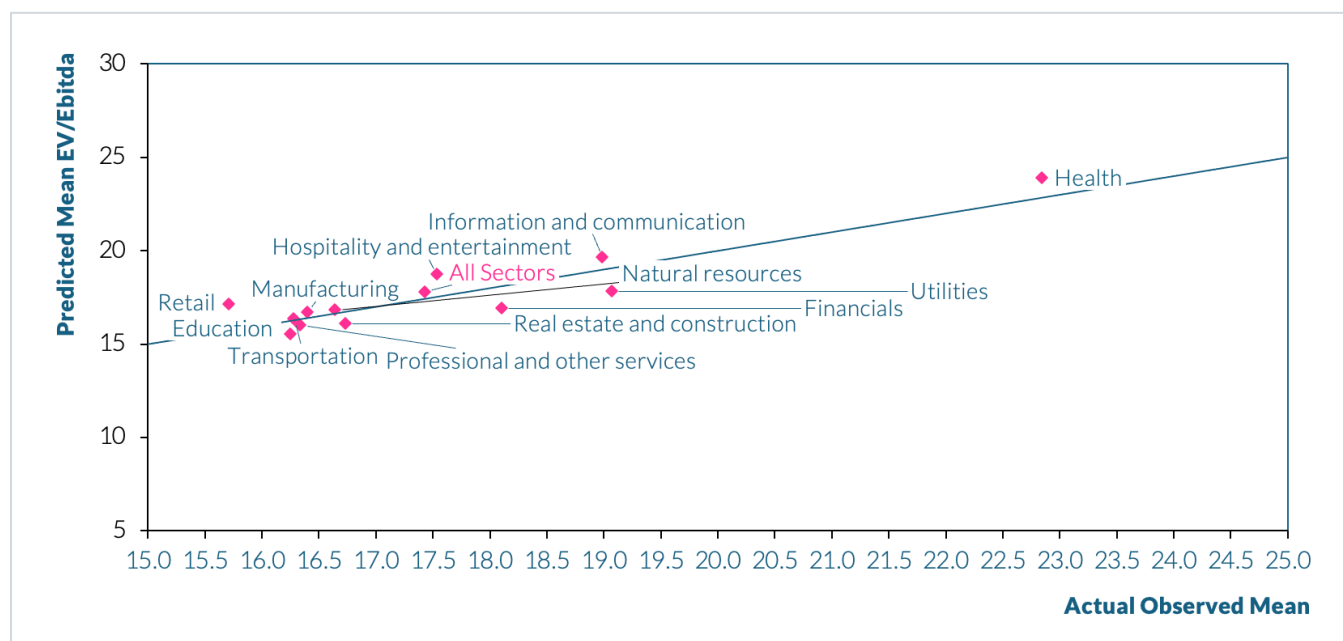
To ensure that is not the case, we compute the EV based on the book value of debt and predicted equity valuation and divide the sum by the EBITDA to get a predicted EV/EBITDA and compare it to transaction implied ratios. Figure A2 presents the average predicted and observed EV/EBITDA by PECCS® activity classes. We find that the predictions are very close to the observed values, thus mitigating this concern.

■ **TABLE A2 – AVERAGE ESTIMATION ERRORS ACROSS PECCS® CLASSES**

PECCS ACTIVITY	MEAN EST. ERROR	PECCS CLASS	MEAN EST. ERROR
Education and public	0.9%	LIFECYCLE PHASE	
Financials	1.8%	Startup	0.1%
Health	2.6%	Growth	-1.7%
Hospitality and entertainment	-1.1%	Mature	2.8%
Information and communication	-4.4%	REVENUE MODEL	
Manufacturing	2.5%	Advertising	1.2%
Natural resources	9.4%	Reselling	4.6%
Professional and other services	3.3%	Production	2.9%
Real estate and construction	1.9%	Subscription	-6.9%
Retail	0.5%	CUSTOMER MODEL	
Transportation	7.2%	B2B	1.5%
Full Sample	1.1%	B2C	0.9%
		VALUE CHAIN	
		Hybrid	0.6%
		Products	1.1%
		Services	3.4%

Source: Calculated using over 10k deals from Pitchbook, CapitalIQ, Factset, and other sources between 1999-2022.

■ **FIGURE A2 – PREDICTED VERSUS ACTUAL EV/EBITDA RATIOS BY PECCS® ACTIVITY CLASSES**



Source: Calculated using over 10k deals from PitchBook, CapitalIQ, Factset, and other sources between 1999-2022.

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