Industry Practices

Key points

- Industry guidance is in line with IFRS 13.
- However, industry practices tend to rely on 'smoothed' market inputs that **do not reflect the market price of risk or its variance over time**.
- The frequent use of ad hoc 'illiquidity discounts' is not compatible with the fair value guidance.
- Comparable transactions are hard to come by in the unlisted infrastructure sector.
- Listed infrastructure proxies have been shown to include significant biases and noise, and are not representative of the unlisted infrastructure universe.
- ⚠️ Industry practices **lack a general framework for the estimation of appropriate discount factors over time** for unlisted and illiquid investments such as infrastructure equity and debt, leading to potentially significant biases in the measurement of fair value, as well as the risk taken by investors.

Industry guidance

Industry guidance for the valuation of unlisted infrastructure investments tends to follow IFRS guidance. For instance, the principles outlined in the International Private Equity and Venture Capital Valuation Guidelines (IPEV) include market- and income-based techniques and suggest using:

1. **Recent transaction prices** such as the "initial cost of the investment itself, excluding transaction costs";
2. **Earnings or revenue multiples** "that [are] appropriate and reasonable (given the size, risk profile and earnings growth prospects of the underlying company) to the applicable indicator of value (Earnings, or Revenue) of the company"; and
3. **Discounted cash flows** "using reasonable assumptions and estimations of expected future cash flows, the terminal value or maturity amount, date, and the appropriate risk-adjusted rate that captures the risk inherent to the Investment."

IPEV notes that DCF techniques would generally be applied to "investments with characteristics similar to debt," which is also the view of a majority of unlisted infrastructure investors.

In EDHEC*infra*'s 2016 survey of 184 infrastructure investors, DCF was ranked as the most appropriate methodology to value unlisted infrastructure investments, ahead of market-based methodologies and the cost approach . Likewise, a 2017 survey of valuation practices also found that 70% of respondents considered DCF to be the appropriate methodology for infrastructure investment valuation.

Industry guidance also highlights that **discount rates used at the initial investment stage should be adjusted over time for changes in market conditions**. In its valuation guidelines, IPEV refers to two important aspects of the determination of discount rates: controlling for systematic differences in business risk and calibrating implied discount rates to current market conditions. Thus:

- "In selecting a discount rate, it is important to consider not only the various inputs typically used to estimate the cost of capital, but also the differences between the underlying business and the selected comparable companies used in estimating the discount rate, which might indicate that a higher or lower cost of capital is appropriate."

- "Calibration provides an indication of the way that market participants would value the investment as of the transaction date given the differences between the underlying business and the selected comparable companies. The initial implied yield and assumptions can then be adjusted to take into account changes in the Underlying Business and the market between the transaction date and each subsequent Measurement Date."

Industry practices share common aims with the IFRS guidance, including in their recognition of different levels of valuation inputs, the appropriateness of different valuation techniques, and the requirement to *reprice* unlisted assets on a regular basis to reflect the evolution of market conditions at the time of measurement, as well as the evolution of the investment's future prospects.

Industry Practice

However, industry practices also exhibit important limitations when it comes to meeting the spirit of the IFRS guidance.

A typical example of the DCF methodology applied to unlisted assets like unlisted infrastructure requires finding the unique discount rate in order to compute:

$$NAV = \sum_{t=1}^{\infty} \frac{CF_t}{(1+r)^t} - P_0$$

with P_0, the initial investment, yielding cash flows CF_t in each period t.

The discount rate r is typically computed as

$$r = R_f + \beta \times ERP + \alpha$$

where R_f is the risk-free rate of interest (often estimated using a moving average of short-term rates), β is the sensitivity of the investment to 'market risk' and ERP is the so-called equity-risk premium, which is estimated using a moving average of stock market excess returns. In this context, α typically refers to 'asset specific risk factors' such as liquidity...

While this formula complies with the accounting guidelines identified above, it also makes two very strong assumptions:

1. that β can be known for the unlisted asset in question and
2. that ``the market price of equity risk'' is a necessary and sufficient metric of investors' required price of risk for the investment under consideration.

⚠️ This approach has several important **shortcomings**:

1. Finding an adequate proxy of unlisted companies' market can be difficult, especially if few actual listed proxies exist.
2. Using moving averages R_f and ERP tends to "**smooth**" returns and produce "stale" valuations that do not reflect current valuation preferences in the reference market and prevent adequate measurement of risk (price variance)
3. The use of a **single risk factor** (so-called market risk) to estimate the relevant discount rate implies that all relevant risks found in infrastructure investments are proxied by the stock market. In theory and in empirical tests, this is not a robust assumption.
4. The choice of market to estimate the **implies a significant overlap with the relevant principal market** for the unlisted assets so that the risk preferences captured by this aggregate public-market risk premia can be attributed to the potential buyers and sellers of the unlisted asset. However, while many heterogenous buyers and sellers are active in public equity markets, a smaller and more homogenous group of large institutional investors and managers buy and sell unlisted infrastructure companies. As a result, the price of equity risk observed in the US or UK broad equity market may not be considered representative of the risk preferences of institutional investors involved in infrastructure investment.
5. Additional premia added to the component of the discount rate are typically *ad hoc* and without much theoretical or empirical support. Moreover, **discounts for lack of marketability are not not consistent with IFRS 13,** since fair value is measured on the transaction date, presumably after any required marketing period, hence no discount is required to account for the time to execute a transaction. Likewise, the lack of frequent trading is a characteristic of unlisted infrastructure assets that market participants take into account and include in the price they are willing to pay at the date of measurement. ⛔ **Applying discounts for liquidity is ad hoc and contradicts the notion of fair value under IRFS 13**, because it is an inherently subjective consideration when buying or selling a given financial asset at a given point in time and may not reflect the average liquidity premium in the relevant market.