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## Asset Valuation Methodology in Asset Recycling

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Valuation of the asset is conducted to estimate and determine the fair value of the upfront fee that a bidder may pay to the Relevant Authority (or any other form of consideration).

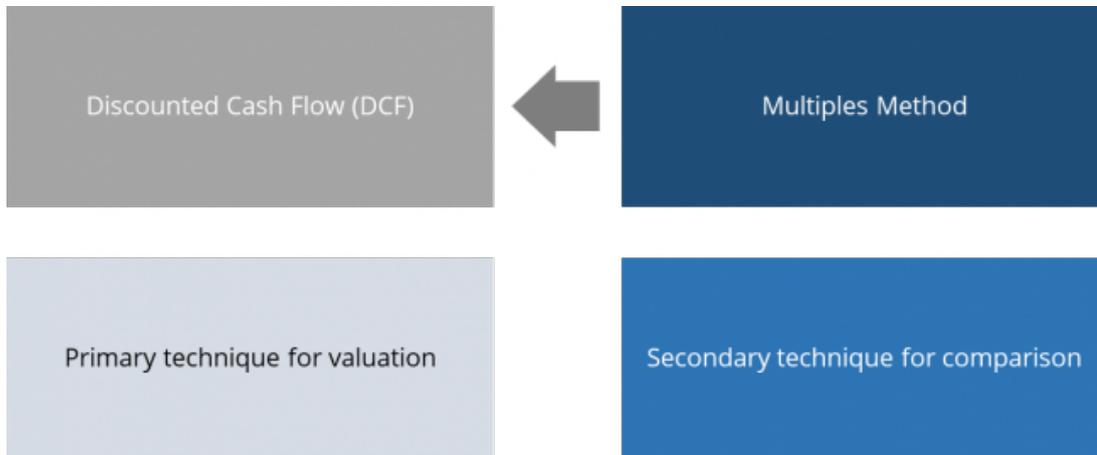
This is a crucial step in the due diligence process. The financial advisor typically is required to conduct such asset valuation exercise as part of its scope of work. Hiring experienced advisors is a significant factor to ensure that asset valuation is done as accurately and as closely to international best practice as possible.

The following basic principles would need to be applied in conducting valuation for assets under an asset recycling transaction:

- Appropriate techniques and methodology, such as the ones presented below, should be applied with respect to the nature, facts, circumstances of the asset and use of reasonable market data and technical assumptions.
- Due to uncertainties inherent in estimating the fair value for the asset, care should be applied in exercising judgement and making the necessary estimates.
- All available information that may materially impact the valuation should be factored in.
- Proper assessment of quality and reliability of all the data used in valuation.

There are two broad methodologies – [Discounted Cash Flow](#) (DCF) method and [Multiples](#) method – which can be used to value the asset.

Both discounted cash-flow and multiples approach have their own advantages and disadvantages. Therefore, both approaches should be conducted together to identify an appropriate asset price range.



Generally, the multiples approach should be utilized to verify or benchmark the asset value with other similar assets. It should be noted that for many infrastructure projects, it may be difficult to find similar transactions with publicly available accurate information, or publicly listed entities to use as benchmark for multiples-based valuation assessment given the specific nature of the concession arrangements.

Table 5: Asset Valuation Methodologies

Valuation Techniques	Methodology
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- This approach is used to estimate asset value based on its potential future cash flow. This form of analysis estimates the value of an asset based on projections of future free cash flows that can be generated over a specified timeframe (e.g., the proposed concession term).
- The discounted cash flow formula is equal to the sum of the cash flow in each period, discounted to the present by using a discount rate.

$$DCF = \frac{CF_1}{1+r} + \frac{CF_2}{1+r} + \frac{CF_n}{1+r}$$

Where:

CF = The cash flow for the given year

CF1 is for year one, CF2 is for year two

CFn is for additional years

r = Discount rate

n = Period number

## Discounted Cash Flow

- **Free cash flow to the firm (FCFF):** represents the amount of cash flow from operations available after accounting for depreciation expenses, taxes, working capital and investment. This approach is an indicator of a company's operations and performance.
- $FCFF = \text{Net income} + \text{non-cash charges} + (\text{interest} \times (1 - \text{tax rate})) - \text{long-term investment} - \text{investment in working capital}$ .
- **Free cash flow to equity (FCFE):** represents how much cash is available to be distributed to equity shareholders after all expenses, reinvestment and debts are paid.
- $FCFE = \text{Cash flow from operations} - \text{capex} + \text{net debt issued}$ .
- **Discount Rate:** Given that the discount rate is crucial in arriving at the upfront concession fee, the discount rate should be reasonably aligned to the weighted average cost of capital of the private sector.

## Multiples

- This approach is used to evaluate asset value as a ratio of another in order to make a comparison.
- This approach is based on the premise that similar assets are valued at similar multiples with reference to their profit generation capacity (for instance, EBITDA or Profit after tax). This approach is relatively simple and uses similar prior transactions as a guide for determining valuation.
- Some common enterprise value multiples used in valuation analysis:
  - EV/Revenue – the ratio of enterprise (asset) value (upfront proceeds to be realized) to the revenue of the project.
  - EV/EBITDA – the ratio of enterprise (asset) value (upfront proceeds to be realized) to the operational profit of the project.
- The above matrices can be analysed using two common approaches to valuation multiples:
  - **Comparable company analysis:** Analyse assets that are similar to the valued asset. Some criteria that should be considered in finding the right comparable asset are (1) industry classification, (2) geography, (3) size (revenue, asset), (4) growth rates, (5) margin and profitability.
  - **Precedent transactions:** Analyse past transactions for assets within the same size / industry, which can be used as a reference point for the asset that is being valued. Some criteria that should be considered in finding the relevant transactions are (1) industry classification, (2) financial metrics (revenue, EBITDA, net income), (3) geography, (4) company size (revenue, assets).

## Related Content

- [The PPPRC Asset Recycling Section](#)
- [Executive Summary: Asset Recycling](#)
- [Asset Recycling Projects](#)
- [Asset Recycling Programs](#)
- [Table of Contents for Asset Recycling](#)

## Additional Resources

- [Contract Expiry and Asset Handover](#)
- [PPP Reference Guide](#)

*This section has not been prepared with any specific transaction in mind and are meant to serve only as general guidance. It is therefore critical that the content will be reviewed and adapted for specific transactions.*

*This is a new section of the website and is currently in draft form. For feedback on the content of this section or to suggest additional links or materials, please [contact the PPP Resource Center](#) using the feedback form.*

