



Asset Management updates

**Private equity
and ILS valuations**

—
September 2020



Agenda

- **Private equity valuations**
- **ILS valuations**
- **Audit considerations**
- **Q&A**





Private equity valuations



Principles of valuation



Key underlying thoughts

01

Valuation is an art not a science



02

Substance over form



03

Refer to the valuation guidance



04

Documentation and reasoning for inputs and assumptions is (always) key



05

Valuation is the most difficult area of the audit



Valuation guidance

- International Private Equity and Venture Capital (“IPEV”) Valuation Guidelines (“IPEV Guidelines”) – updated December 2018
- AICPA ‘Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies’ (“AICPA Guidance”) – released August 2019

Considerations

- Previously IPEV guidelines were the main source of guidance for valuations of PE investments
- AICPA released guidelines in August 2019 which applies US GAAP principles to valuation principles
- There are no significant differences between the two sets of guidelines

Key points to note

- Neither IPEV nor AICPA support the use of Price of a Recent Investment as a standalone valuation technique
- Both IPEV (Chapter 3.10) and AICPA (Chapter 10) discuss and promote the concept of ‘Calibration’, whereby the Price of Recent Investment is used to calibrate inputs for another formal valuation techniques e.g. Market Multiples



Valuation guidance

Focus on early stage investments

IPEV guidelines (Chapter 3.10) provide guidance for valuing seed, start-up and early-stage investments. The Milestone Approach can be used whereby the valuer attempts to assess whether there is an indication of change in Fair Value based on a consideration of milestones e.g. changes in results vs budget, changes in the market, etc.

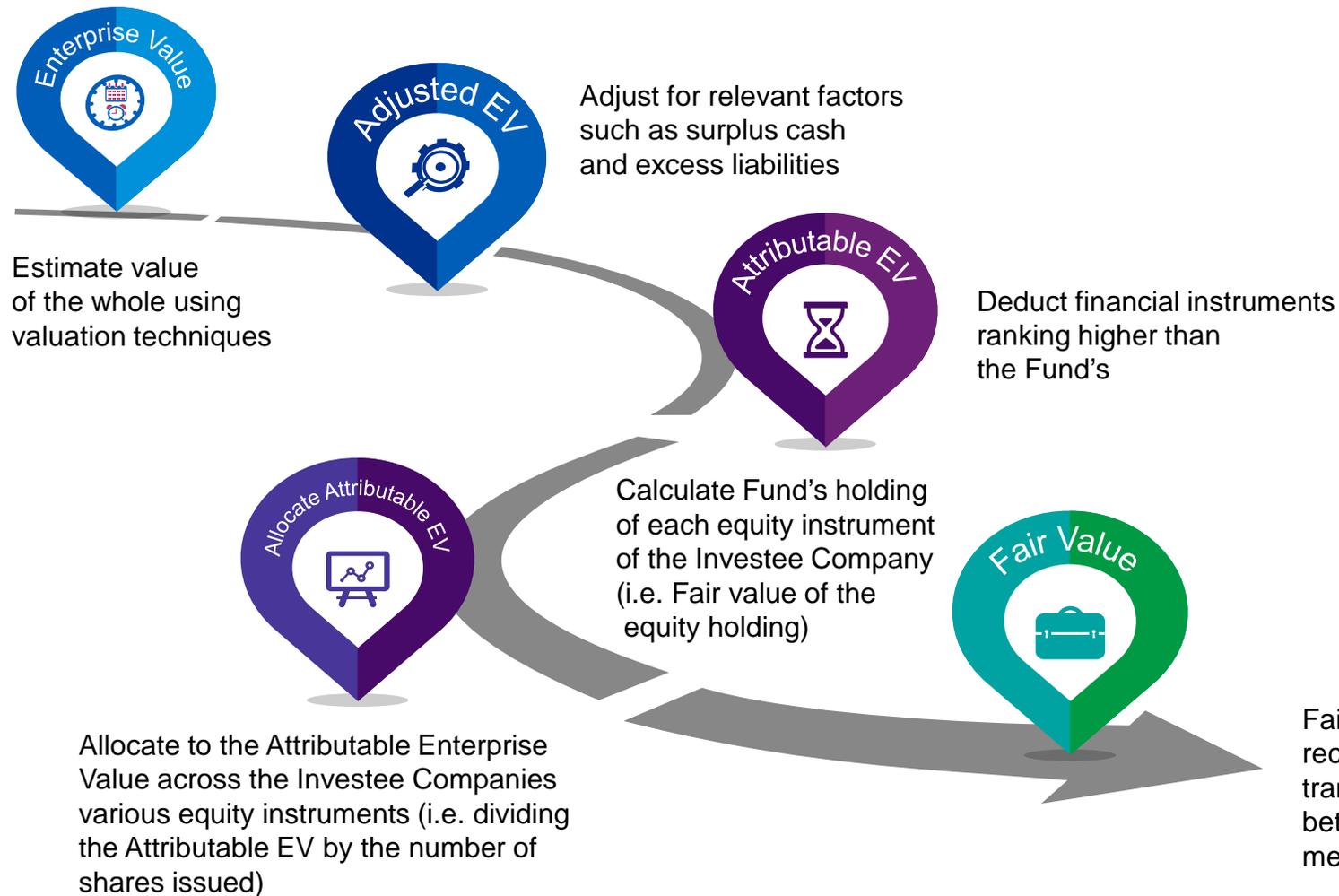
AICPA Guidance acknowledges the challenges associated in valuing early-stage investments and that traditional approaches may not be appropriate. It sets out some more prescriptive guidance around the valuation of early-stage portfolio company investments:

- Chapter 13 (13.39 – 13.42) notes that financing transactions, particularly arm's length transactions that involve new investors, are generally viewed as better evidence for establishing fair value estimates because transactions between shareholders are infrequent, and the motivations for these transactions may not be known.
- Appendix B of the AICPA Guidance summarizes the typical stages of development for many portfolio companies (Stage 1 to Stage 6) and which valuation approach(es) would typically be appropriate or inappropriate for each stage.
- Although the AICPA Guidance gives some more prescriptive guidance around the valuation of early-stage portfolio company investments, the underlying principles are consistent with those set out in the IPEV guidelines.



How do we estimate Fair Value?

Market Participants determine the price they will pay for individual equity instruments using Enterprise Value estimated from a hypothetical sale of the Investee Company, as follows:



Are you happy with the answer?

Because of the uncertainties inherent in estimating Fair Value for private equity Investments, care should be applied in exercising judgment and making the necessary estimates. However, the valuer should be wary of applying excessive caution.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date – **it is an exit price**

Valuation techniques - arriving at Enterprise Value

Asset approach	Income Approach	Market approach
<ul style="list-style-type: none">• Based on net asset value (NAV)• Balance sheet-focused• Assets and liabilities of the company are adjusted from book value to fair market values	<ul style="list-style-type: none">• Converts future amounts (e.g. cash flows or income and expenses) to a single current (i.e. discounted) amount.• Fair value measurement reflects current market expectations about those future amounts. <p>Example of valuation techniques:</p> <ul style="list-style-type: none">• Present value techniques• Option pricing models, such as the Black-Scholes-Merton formula or a binomial model (ie a lattice model), that incorporate present value techniques and reflect both the time value and the intrinsic value of an option	<ul style="list-style-type: none">• Uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business.• E.g. Use market multiples derived from a set of comparables.

- The Valuer should exercise their judgment to select the valuation technique or techniques most appropriate for a particular Investment.
- Methodologies are not ranked, but those that are based on market inputs are likely to be more reliable



Market approach

Multiples

The ballpark estimation of value is typically derived from the peers' trading multiples. A range may be established based on the high, low, and interquartile multiples.

EQ Multiples

- Price / Earnings (PE)
- Price / Book Value of Equity (PB)
- Price / Free Cash Flow to Equity
- Price / Earnings to Growth (PEG)

EV Multiples

- Enterprise Value (EV) / EBIT
- EV / EBITDA
- EV / Book Value of Assets
- EV / Free Cash Flow to Firm
- EV / Sales

Industry-Specific Multiples

- EV / # of Subscriptions (Cable)
- EV / # of Beds (Hospitals)
- EV / R&D Expenditure (Pharma)
- EV / EBITAR (Airlines)
- PB (FIs)

Considerations

- Industry-specific multiples
- Capital structure
- Consistency
- Adjustments to financials
- Trailing / forward multiples
- Outliers
- Only use multiples that are generally accepted in the industry.
- EV multiples are more meaningful when the companies have different capital structure.
- Debt-free earnings (e.g. EBIT) should be compared to EV multiples; residual earnings (e.g. EPS) to EQ multiples.
- Adjustments should be made to exclude extraordinary items outside the normal course of business.
- Multiples should best reflect normalised earnings (e.g. forward multiples are more meaningful for high growth companies).
- Peers with radically different business environments should be excluded (e.g. distressed companies).

Identifying comparable companies

Comparable companies are publicly traded companies with available market data that are used to determine a ballpark estimate of value. Peers must be carefully selected in order to reach meaningful conclusions.

Selection Criteria

Geography

Seek peers in close geographic proximity with the same general economic value drivers and risks

Operational

Industry and sector, product mix, market structure, customers, channels, business cycle and stage

Financial

Size, profitability, growth prospects, asset-base (manufacturing vs service), ownership vs leasehold

Number of Peers

- Ideally 5-10 peers with sufficiently similar operations and financial characteristics
- If large (>15), it could be reasonable to eliminate the least comparable peers

Adjustments

- Non-recurring and / or non-operating items
- Differences in the amortization of tangible and intangible assets and the handling of goodwill
- Differences in the treatment of leases (operational leasing vs financial leasing)
- Adjusting for acquired, divested or terminated businesses

Fair value waterfall - worked example

i. Estimate value of the whole using valuation techniques – Enterprise Value

EV/EBITDA Multiple

	\$m	
EBITDA	20	A
Multiple	9x	B
Enterprise Value	180.0	C = A x B

ii. Adjust for relevant factors such as surplus cash and excess liabilities – Adjusted Enterprise Value

Fair Value of pension deficit	(25)	E
Deferred tax asset on pension deficit	5	F
Cash and cash equivalents	15	G
Adjusted Enterprise Value	175	H = C + E + F + G

Fair value waterfall - worked example (cont.)

iii) Deduct financial instruments ranking higher than the Fund's – Attributable Enterprise Value:

	\$m	
Bank (3 rd party) debt	(100)	I
Attributable Enterprise Value	75	J = H + I
Loan Notes	50	K
Ordinary equity	25	L

iv) Allocate to the Attributable Enterprise Value across the Investee Company's various equity instruments and

v) Calculate Fund's holding of the instruments of the Investee Company

Loan Notes	50%	M
Ordinary Equity	80%	N

	\$m	
Loan Notes	25	P = K x M
Ordinary Equity	20	Q = L x N
Net attributable value	45	R = P + Q

Discounts/premiums

Application of discounts / premiums:

Control premium	Minority discount	Illiquidity discount
<p>amount buyer is willing to pay over the market price to acquire a controlling share</p> <p>May be applicable if buying a controlling share in an entity i.e. >50%</p>	<p>amount deducted to reflect that partial ownership may be worth less than its proportional share of the total business</p> <ul style="list-style-type: none">- May be applicable when using the CoTrans method- Applicable when there is no transfer of control i.e. <50%- Consider tag / drag rights	<p>amount deducted to reflect the relative absence of marketability</p> <p>May be applicable when comparing to prices quoted in an active market</p>



Discounts/premiums

'Marketability' vs liquidity

- Marketability and liquidity adjustments are often confused
- Under IPEV (since 2008) and IFRS 13 a 'marketability' discount is no longer appropriate
- However, the impact of liquidity or illiquidity should be taken into account when determining Fair Value

Marketability



A discount to reflect the time required to effect a transaction

The perceived inability to realise an investment on a timely basis due to:

- The type of investment
- Barriers to exit
- Market in which to expect to transact

Liquidity



An adjustment to reflect the relative liquidity of an investment

- An liquid asset is more valuable to a market participant than an illiquid asset
- Market Participant purchaser would assess that there is a higher risk associated with holding a minority position than for a control position.



Income approach

Income approach: Discounted Cash Flow

Discounted Cash Flow

**Present Value* of Cash Flow for
Explicit Forecast Period**

+

Present Value* of Terminal Value

(based on another investment
or market approach)

+

Redundant (Non-Operating) Net Assets

(not required for business operations)

=

Fair Market Value

(adjusted enterprise value)

**Calculated using
the estimated market
discount rate*

Applicability of Approach

- Historical results are not indicative of future expected results
- Typically, significant near-term growth expected
- DCF is perceived to be the most theoretically sound of the valuation methodologies, when meaningful detailed forecasts are available.
- Due to the high level subjectivity in selecting inputs in DCF, private equity funds tend to prefer the market approach.

Discounted cash flows

“

There is no hierarchy of Valuation Techniques required by accounting standards. However, the use of multiple Valuation Techniques is encouraged. Therefore, while many industry participants believe that DCF-based valuations are open to a high level of subjectivity in selecting inputs for this technique when valuing equity Investments for the Private Capital industry, income-based techniques may be helpful in corroborating Fair Value estimates determined using market-based techniques.

”

Per 2019 IPEV Guidelines

Discounted cash flows or earnings of the underlying business

Deriving the value of a business by calculating the present value of expected future cash flows, made up of

- Cash flows from the underlying business
- Terminal value of the enterprise at a hypothetical exit

Offers a high level of flexibility as can be applied to any stream of cash flows, hence often used when no other basis is relevant. However.....

- Lots of highly subjective inputs and assumptions
 - Cash flow forecasts
 - Terminal value
 - Appropriate risk-adjusted discount rate
- Limited 'hard' or market based inputs
- Valuation very sensitive to the assumptions
- Bulk of the value often arises from terminal value assumptions

Use with extreme caution!

Ensure that it is used in corroborating Fair Value estimates determined using market based techniques.

- Commonly used:
 - High growth companies, start-ups, predictable forecasts and earnings.

Discounted cash flows of the investment

Particularly suitable for valuing non-equity investments in instruments such as debt or mezzanine debt, since the value of such instruments derives mainly from **instrument-specific cash flows and risks** rather than from the value of the Underlying Business as a whole

Project cash flows forward and discount back at the cost of capital

- Same caveats as previous slide

Commonly used

- Nearing realization event:
once sale price is agreed and heads of agreement signed
- Mezzanine debt instruments



Price of recent investment and calibration



Price of recent investment

Is the initial cost (transaction price) of an investment in a private operating company an acceptable proxy for fair value at subsequent measurement dates?



Price of Recent Investment **removed as a valuation technique** to reinforce the premise that fair value must be estimated as each measurement date. Use PRI observations to calibrate your model.

...which brings us to Calibration.

Calibration

The process of using observed transactions to ensure valuation techniques begin with assumptions consistent with original observed transaction

- **Required when initial transaction is at fair value**
 - Also required for subsequent transactions at fair value

- **Carry forward calibrated inputs and adjust to reflect comparable market date and any change to company itself**
 - Ensures valuation technique reflects current market conditions and helps to determine whether adjustment to valuation technique is necessary

- **Calibration is most relevant when the measurement date is close to the transaction date**
 - However, even if substantial time has passed, calibration may be useful
 - If there have been additional orderly transactions in portfolio company's instruments subsequent to initial transaction:
 - Calibrating to the more recent transactions will typically be more relevant than calibrating to the original transaction

- **Calibration can also be used to ensure that the movement in the valuation between measurement dates is reasonable, even in the absence of a recent transaction**

- **Calibration stops being relevant when there has been a significant change in circumstances as to warrant a change in valuation methodology**

Calibration example

Scenario

- Buyout Fund Tabart Capital Partners (TCP) purchases 100% of Portfolio Company A (PCA) for consideration of \$1,000, financed by:
 - \$500 equity and \$500 debt (variable market interest rate; repayable upon a change in control)
- The transaction is considered to have taken place at fair value
- The fair value of the enterprise is therefore \$1,000 (the purchase price)
- PCA's LTM EBITDA at the date of acquisition is \$100
- Indicating an implied EBITDA multiple of 10.0x at acquisition ($\$1,000 / \100)

Calibration at acquisition date

- A basket of comparable companies trades at an EBITDA multiple of 11.0x.
- Calibration therefore indicates:
 - PCA's fair value using a market methodology is based on an EBITDA multiple that is 9.1% less than the comparable company multiples ($10.0x / 11.0x - 1$)

Calibration example (cont.)

Subsequent valuation

- PCA's LTM EBITDA is now \$110
- Comparable company multiples have increased to 12.0x
- Judgement is required to understand what, if anything, has changed that would indicate that PCA's discount to the comparable companies would be more, less, or the same as the calibrated 9.1% discount at entry.
- Assuming that PCA is 50% along the way to achieving expected operational improvements, the difference to comparable companies' multiple is now deemed to be 5%.

PCA's enterprise value would be estimated as:

LTM EBITDA: **\$110**

Multiplied by (12.0x * 95%): **11.4x**

EV: **\$1,254**



Early stage investments

Challenges in estimating equity value

Conventional valuation techniques are often challenging to apply to startup companies

Asset Approach

- Net asset value (NAV) is generally not a good indicator of business value, especially for FinTech, which are cash flow-based businesses that are not asset heavy
- NAV generally does not consider intangible assets or economic goodwill

Income Approach

- Cash flows are very difficult to reliably forecast
 - Business model unproven, and ability to pivot is not considered
 - Complete management team may not be in place
 - Minimal short term prospects of being self-sustaining
- Limited historical / comparable data to assess projections
- Appropriate discount rate is difficult to estimate; traditional CAPM models are not applicable
- With losses in initial years, terminal value is a larger component of equity value, making valuation less reliable
- Probability of failure is generally considered

Market Approach

- Financial data only available for listed companies, which generally are not comparable to startups
- Many startups have negative earnings, so earnings multiples are not applicable
- Other types of multiples (e.g., revenue, GMV, views, etc.) are indirectly linked to final cash flows which makes comparability difficult (e.g., different margins, growth rates)
- Implied multiples from publicly reported valuations are not comparable without knowing the deal terms

Considerations for early-stage portfolio companies

- With no revenues or profits, typical valuation models are difficult to apply
- Portfolio companies typically receive several rounds of financing based on overall outlook and:
 - Achievement of past milestones
 - Probabilities of meeting future milestones
 - Cash needs
- Few, if any, publicly traded comparable companies can be used as benchmarks for valuation
- Models used require significant judgement and often are not continually updated

Must consider numerous subjective inputs and assumptions to gain perspective about the reasonableness of any valuation!

Relationship between FV and stages of enterprise development

- Fair value is not static; its changes over time
- Stages of development is one of the principal elements contributing to changes in fair value
- Consider achievement of milestones in conjunction with other relevant factors
- Different approaches may be more appropriate for some stages of enterprise development than for other stages

Valuers should consider all three approaches!



Valuation pitfalls

Pitfalls to be wary of

- A degree of caution or prudence is good
 - Excessive or outrageous prudence is not!
- Use reasonable assumption and estimates
- Sector multiples
- Focus on the Fund's package of investments
- Historic or prospective data?
- Some judgments may be too big to call
- Consideration of premiums/discounts to multiples
- Consideration of rights attaching to the investment
e.g. pure equity, preference shares, etc.
- Valuing convertible instruments? (can refer to Appendix B of AICPA Val Guide)

Valuations in turbulent times (CV-19)

Use your policy as an anchor to enable consistency over a period and robustness.

Price of recent investments was encouraged to be supplemented with alternative valuation techniques in the 2018 update to the Guidelines – this is even more relevant now since those recent transaction prices are no longer reliable indicators of fair value.

Consider triangulation where market multiples are particularly volatile and / or unreliable.

Be careful not to double dip – be cautious not to be exposed to the ‘dominator effect’, where comps earnings have not reduced, yet their multiples have come down significantly.

When valuations have been compiled – take a step back in the current environment – what would you pay for this asset in today's market – if not, ask why? Does it make sense

Does the original investment thesis still hold?

May need to be innovative – consider a range, consider increased disclosure.



Governance and documentation

Governance considerations

A valuation is never 'right' unless sold on that day, but the reported valuation reflects the judgement of the valuer/ house / board, hence a suitable control environment and level of documentation will drive the suitability of the output

- Preparation should involve both:
 - Deal team: who know the individual asset best; and
 - Finance teams: to ensure compliance with IPEV and consistency in applications of methods;
 - i.e. not just one or the other.
- Internal approval challenge process –deal partners scrutinising each others valuations prior to submission to valuation committee / board
- Valuation committee –should have an element of independence and authority
- Backtesting – now a requirement per IPEV 2015 and should be documented more fully than previously. Also consider history of asset value growth, not just period between recent valuation and final exit.
- SEC has increased focus on use of independent valuers, though market practice in Europe is still some way off, despite initial sentiment within AIFMD

Backtesting

Backtesting is now a requirement per IPEV (since 2015) and should be documented more fully than previously. Also consider history of asset value growth, not just period between recent valuation and final exit.

Primary objective of backtesting is to assess and improve the fund's valuation processes using the benefit of hindsight.

Not intended to highlight mistakes of correct previous valuation conclusions.

Elements of backtesting are to:

- Determine what information and factors were **known or knowable** as of the measurement date;
- Assess how well those factors were considered in developing the fair value measurement; and
- Identify whether there were factors that were relevant to the valuation as of the event date that were not considered or given weight as of the measurement date

Limitations of backtesting – may not be able to anticipate the exact price an actual transaction would close until a liquidity event occurs.

Best practice for investment companies to perform periodic backtesting on investments which have had subsequent realizations, liquidity or other significant events

Documentation

Considerations we would expect to be covered in a valuation memo

- Investment background
- Rights attaching to the investment shares e.g. pure equity or preference shares
- Valuation methodology
- Changes during the year which may include:
 - Increase/decrease in shareholding
 - Acquisitions or disposals of underlying investments
 - Changes in valuation methodology
 - Exit strategy
- Valuation calculations
- Support for key assumptions



Principles of ILS valuation

Kyle Vrieze, FCAS

—
September 28, 2020

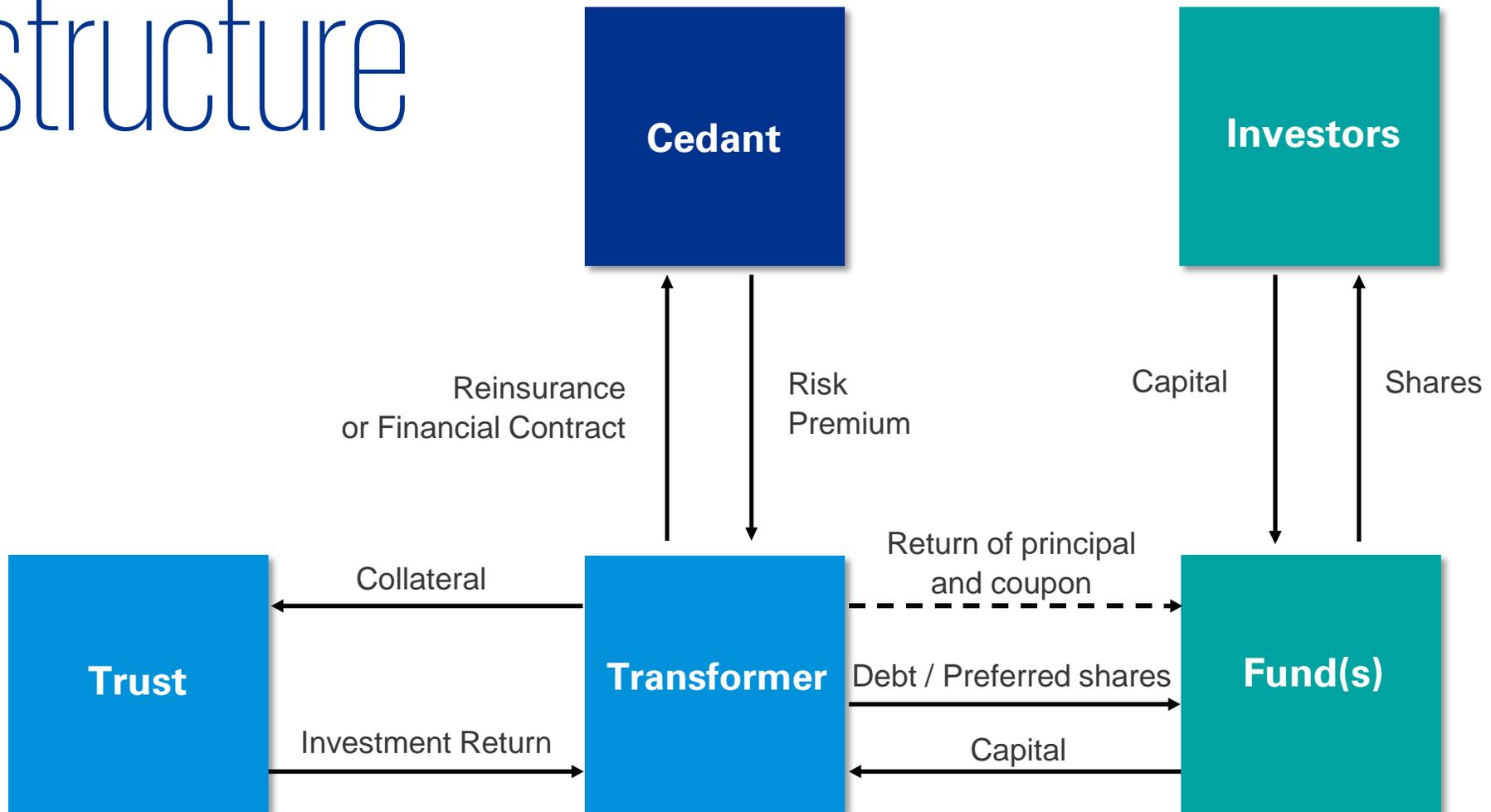


Agenda

- **Structure and nature of an ILS Investment**
- **Components of value**
- **Fair value considerations**
- **Trapped collateral**



Example ILS structure



Components of value

- **Original Funds Invested**
- **Earned Risk Premium**
- **Accrued Investment Income**
- **Accrued Expenses**
- **Profit Commissions (sometimes)**
- **Covered Losses**



Seasonal accrual of risk premium and expenses

- **Some major ILS perils are seasonal**
 - Atlantic hurricanes and Japan typhoons peak in late Summer/early Fall
 - Europe windstorm peaks in Winter
 - It's always earthquake season
- **Risk Premium and Expenses are accrued according to pattern of seasonality.**
- **Aggregate structures can impact the pattern.**



Fair value considerations

- **Present Value Adjustment**
- **Risk Margin**
 - At what price would the security freely exchange between a knowledgeable buyer and seller?



Trapped collateral

- **Reinsurance ILS depends on commutation to release collateral.**
- **ILWs must wait until the index provider issues a final notice.**
- **Hurricane Irma—index provider notice is still not final.**





Auditing level 3 investments



Audit team scope

Review and test the ***process*** used by management to determine the fair value

Test accuracy of the ***calculation***

Confirm the ownership of the investment at year end (can be multiple layers and require many share registers for holcos)

Review ***subsequent events*** or transactions occurring prior to completion of the fieldwork

Review and test the ***reliability and appropriateness*** of inputs to the valuations and ensuring relevant inputs are ***maintainable***

Initial questions

- Changes in business, changes in assumptions or methodologies
- Purchases / sales transactions (retrospective review - during year and post year end)
- Has there been a change in methodology?
- Why is initial transaction price still appropriate?
- Provide support for:
 - The choice of multiples
 - Any internally generated figures
 - Cash flow
 - Discount rates
- Have external valuers been engaged / are reports available?

Common issues

- Models – version control, final values not agreeing to financials
- Holdcos
 - Consolidation analysis
 - TBs and share registers are required
 - SOI disclosure – is the correct entity / investment being disclosed?
- Valuing at NAV as practical expedient – most recent audited financial statements are best evidence



Useful resources

Useful resources

IPEV Valuation Guidelines

(latest guidelines Dec 2018, plus Coronavirus Special Valuations Guidance March 2020)

<http://www.privateequityvaluation.com/valuation-guidelines/4588034291>

AICPA ‘Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies’ (“AICPA Guidance”) – released August 2019

BVCA Guide to Private Equity

http://www.bvca.co.uk/Portals/0/library/Files/Website%20files/2012_0001_guide_to_private_equity.pdf

KPMG Q&A: Fair value measurement (Dec 2019)

<https://frv.kpmg.us/reference-library/2017/qa-fv-measure.html>

Covid

KPMG Article March 2020: Are fair values appropriately determined?

<https://home.kpmg/xx/en/home/insights/2020/03/covid-19-assets-1b.html>



Questions?





Thank you



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