The YAAP Roundtable
Introduction to damages calculations

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Introduction to FTI Consulting

We are the leading firm in valuation and damages

- Our practice comprises over 100 economists, econometricians, accountants and finance professionals focused on valuation and damages issues

- Deep industry expertise in industries with significant disputes: Energy, Metals and Mining, Financial Services, Telecoms and Pharmaceuticals

- **FTI Consulting has received the Arbitration Firm of the Year honour every year since it was introduced in 2015**

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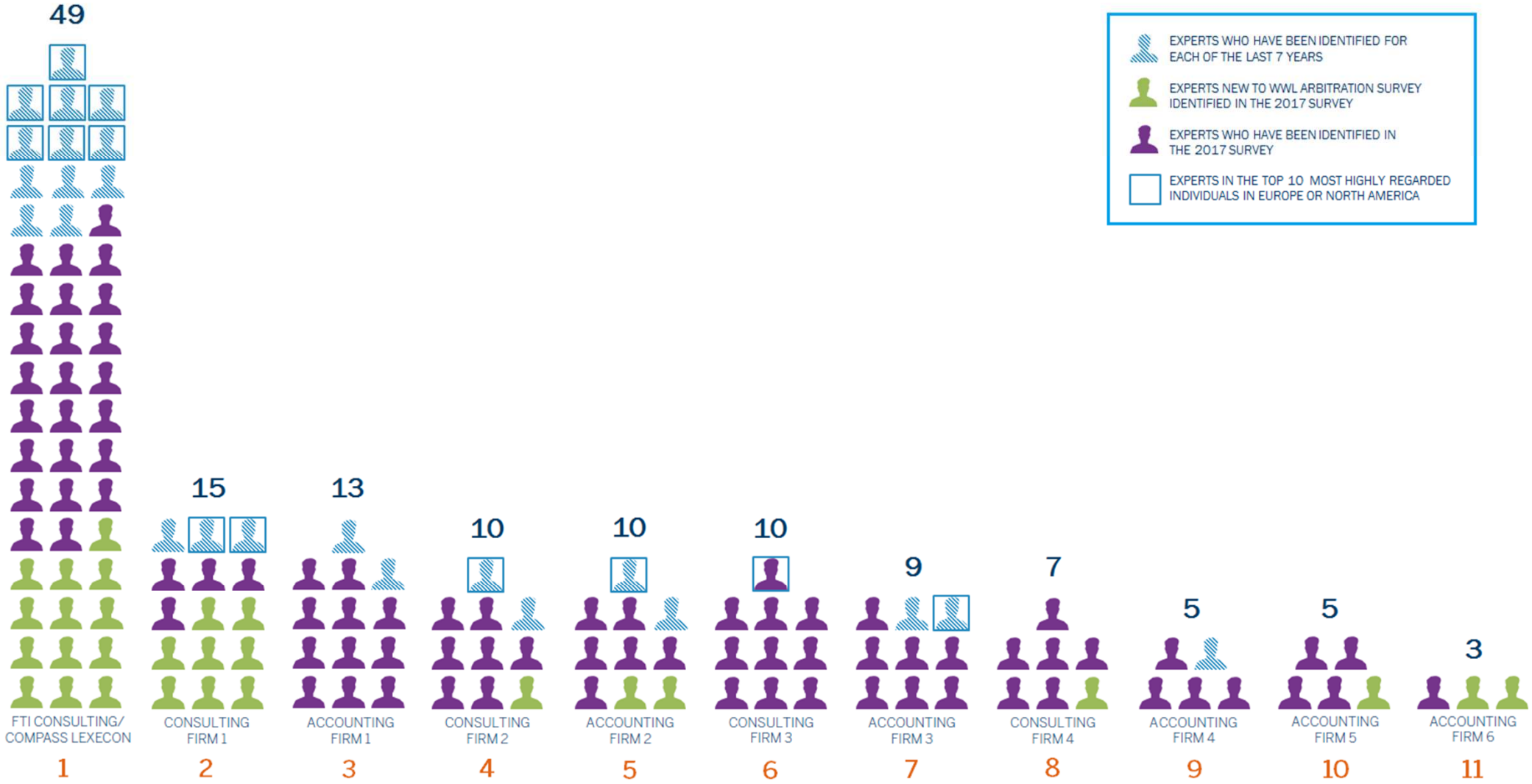
2015, 2016 & 2017

Arbitration Expert Firm of the Year

Who's Who Legal & Global Arbitration Review

We provide support throughout the dispute resolution cycle

We have more leading experts identified by Who's Who Legal than the next four firms combined



Sources: *Global Arbitration Review's*, Who's Who Legal: Arbitration 2017, November 2016

Global Arbitration Review's Who's Who Legal: Arbitration, 2011-2017

Andrew Wynn

- Senior Managing Director based in the London office
- Economist and financial analyst
- Specialist in valuation and damages issues
- Recent projects have included:
  - Assessment of damages following misuse of confidential information by a Chinese chemical company
  - Assessment of damages following a breach of an option agreement in respect of a Georgian bank
  - Assessment of damages in respect of a number of failed Moroccan real estate investments

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Damages Framework

Framework for calculating damages: International Arbitration

- Tribunals in international arbitration have not often commented on the theory of damages. An exception is the Factory at Chorzów case, in which the Tribunal stated:

"The essential principle contained in the actual notion of an illegal act – a principle which seems to be established by international practice and in particular by the decisions of arbitral tribunals – is that ***reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed****. Restitution in kind, or, if this is not possible, payment of a sum corresponding to the value which a restitution in kind would bear; the award, if need be, of damages for loss sustained which would not be covered by restitution in kind or payment in place of it – such are the principles which should serve to determine the amounts of compensation due for an act contrary to international law."*

Framework for calculating damages

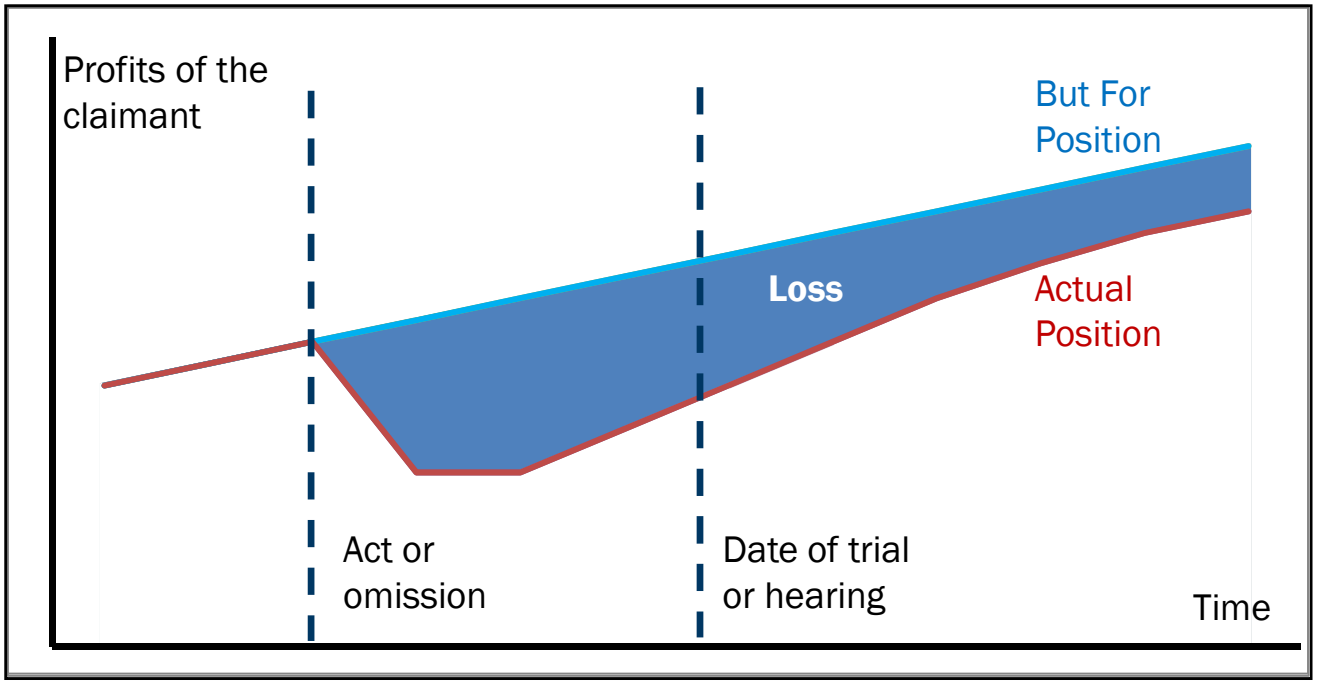
- In almost all cases, we assess the loss a claimant has suffered by comparing:
  - the financial position the claimant is actually in, referred to as the "**Actual Position**"; with
  - the financial position the claimant would have been in, but for the wrongful act complained of, referred to as the "**But-For Position**" or the "**Counterfactual Position**"
  - The loss is the difference between the two
- Usually it is preferable to consider the two scenarios explicitly – do not try to cut corners by calculating incremental costs incurred or cash flows lost directly

Framework for calculating damages: “expectation loss”

- Calculating the incremental gains a claimant might reasonably have expected to make is sometimes referred to as the “expectation loss”

Expectation loss

The incremental profits or cash flows the Claimant could reasonably have expected to earn but for the action of the Respondent



The quantum expert has to make projections about the But For Position, and potentially the Actual Position

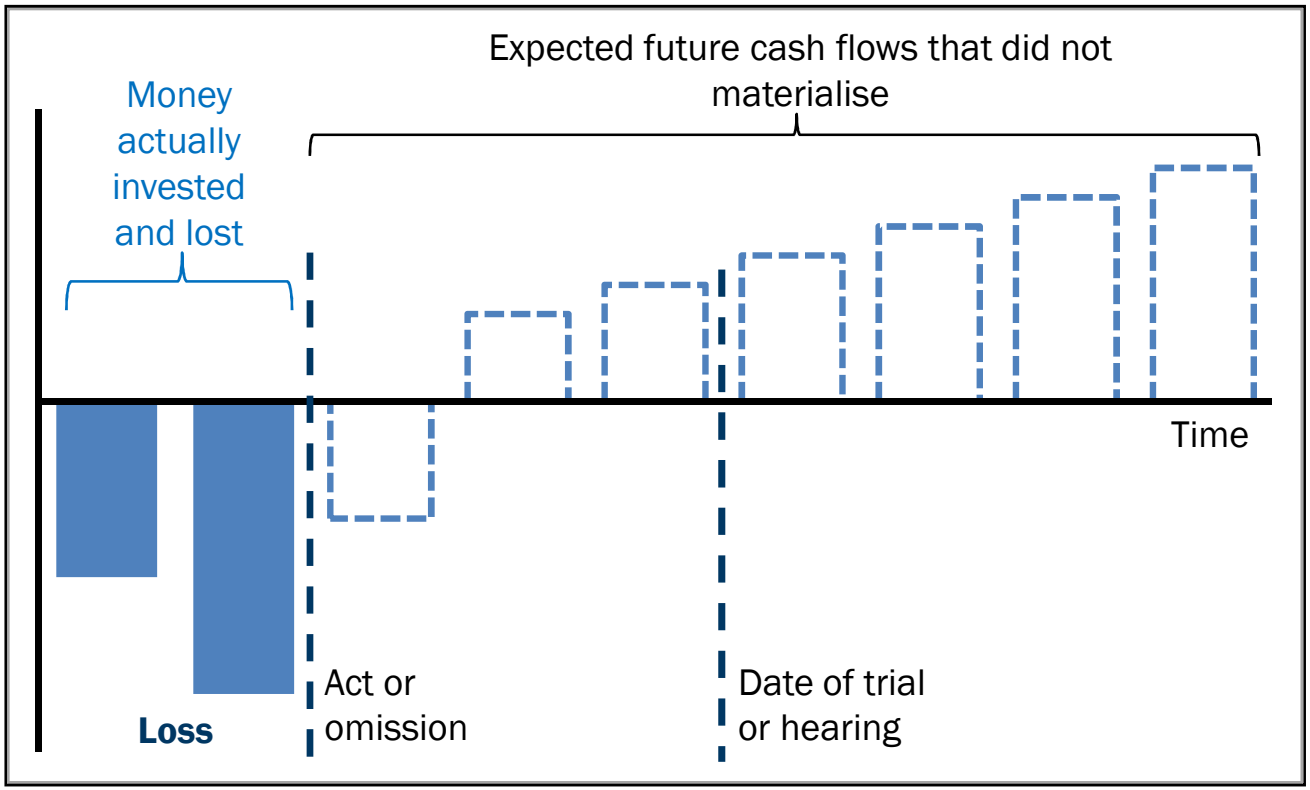
There is therefore an inherent uncertainty in the calculations

Framework for calculating damages: reliance loss

- Expectation loss can be contrasted with the "reliance loss": the amount of money wasted pursuing the opportunity (sometimes referred to as "wasted costs")
- A claimant cannot recover both expectation loss and reliance loss

Reliance loss

The money wasted investing in reliance on a promise made



The quantum expert does not need to make projections about the future

There is generally less uncertainty in the calculations, relative to expectation loss

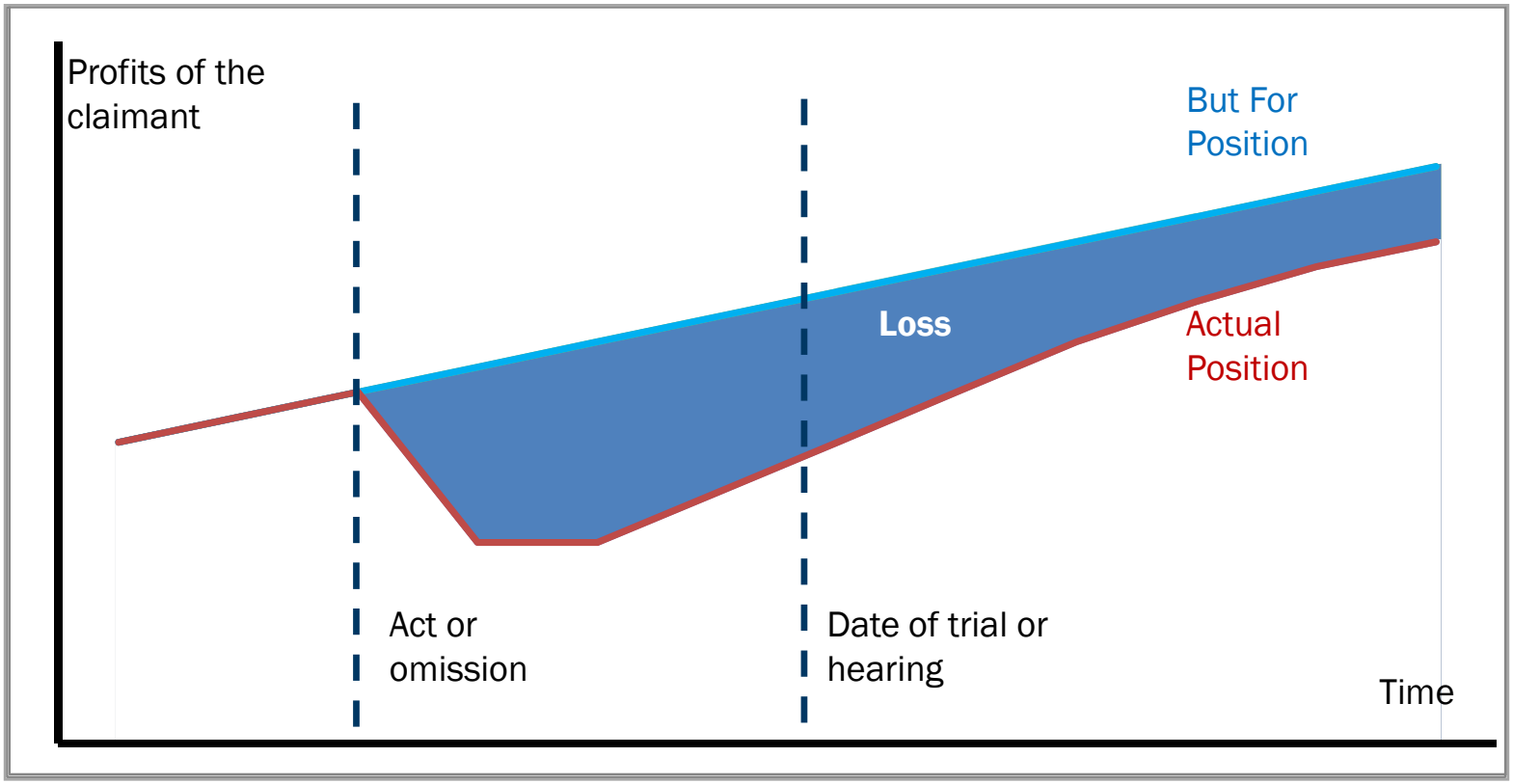
Framework for calculating damages: example

- ICSID arbitration
- Claimant alleged that the early removal of certain investment incentives had a significant detrimental impact on its business, to the point where it became financially distressed
- Claimant wanted to claim:
  - amounts invested in reliance on promise of incentives and subsequently lost; and
  - amount of debt taken on to make those investments; and
  - value of future profits on investments it would have made had the incentives not been withdrawn
- Claiming back the money you have invested and lost, and the amount of debt you took out to make the investments, and the future profits you expected to make on the investments is triple counting

Date of Assessment

Date of assessment (or “valuation date”)

- Date at which damages are assessed is usually a legal question
- The date of assessment affects the information available to determine quantum. That, in turn, can have significant implications for the overall loss calculation



The date of assessment can be the date of breach or the date of the hearing/award

Date of breach

- Restores the Claimant to the financial position it would have been in but for the breach, on the date of breach
- **Lost value of an asset**: what is the fair market value of the relevant asset at the date of breach?
- **Lost profits**: what is the present value of the expected loss in profits at the date of breach?

Date of hearing / award

- Restores the Claimant to the financial position it would have been in but for the breach, on the date of the award
- **Lost value of an asset**: what is the fair market value of the relevant asset at the date of the award?
  - *Plus any lost income from the asset between the date of breach and date of award*
- **Lost profits**: what is the present value of the expected loss in profits at the date of the award?
  - *Plus any lost profits between the date of breach and the date of the award*

Two, related, implications of choice:

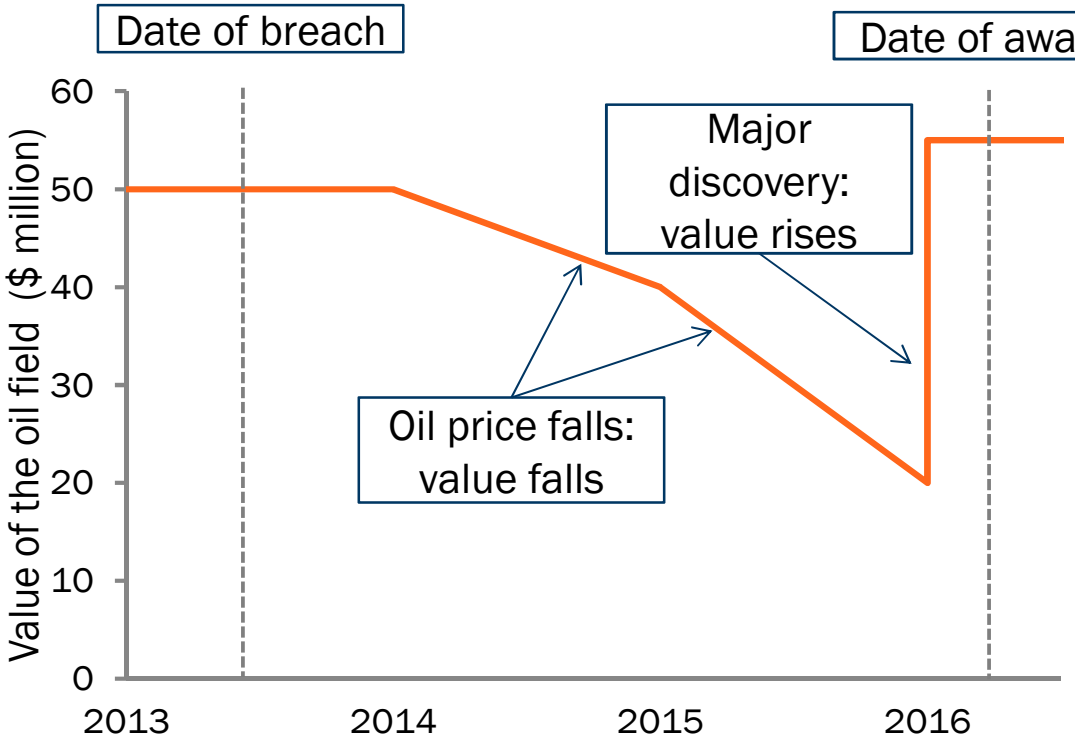
1. "Mechanics" of calculations
2. Information set available to assess loss (use of hindsight)

Economic consequences of choice can be significant

- Valuations of assets and lost profits can change significantly over time. For example, valuations pre and post the following events:
  - Fluctuating oil price – it was over $100 per barrel in 2013, down to $40 per barrel in 2016
  - OPEC arrangements to reduce production since 2016
  - Changes in trade sanctions (e.g. Russia, Myanmar, Cuba, Iran)
- Changes over time can be both macro-economic and particular to the relevant asset

Example

- An oil exploration company buys an oil field, which is expropriated on 30 June 2013
- The value of the oil field drops as oil prices fall during 2014
- On 1 January 2016, oil is discovered, and the value of the oil field rises
- At what date should we assess the company's losses?



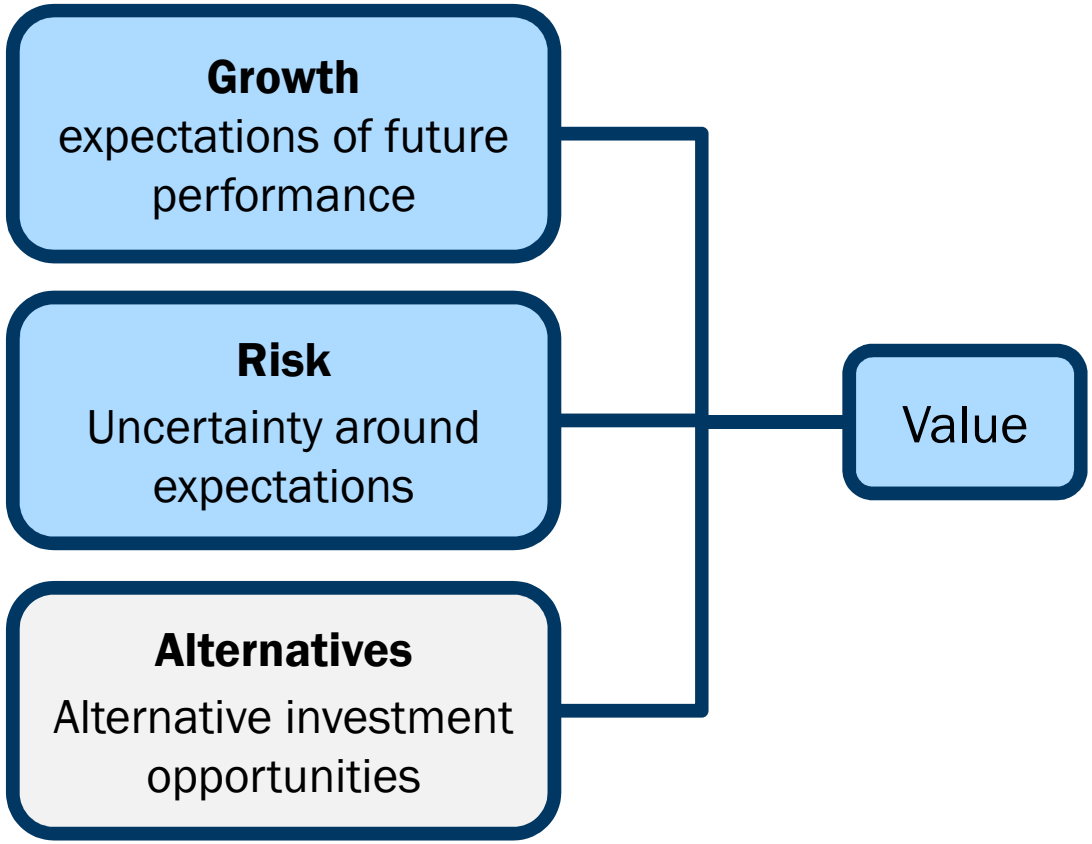
Valuation concepts in damages analysis

When does a damages issue give rise to a valuation?

- The assessment of damages often involves the valuation of an asset or stream of cash flows. This might include:
  - The value of a business – either in its entirety, or a shareholding.
  - The value of a stream of lost future cash flows.
  - The value of a piece of equipment or plant.
  - The value of another financial instrument (debt, an option).
- Valuing an entire business can be necessary when:
  - The claimant's losses relate to the entirety of a business (for example, an expropriation).
  - The claimant is affected so materially that the loss is most easily considered as a loss of overall business value.
  - The claim relates to a transaction. For example a post acquisition dispute relating to a breach of warranty claim.
- The damages concepts remain the same:
  - Comparing: (i) the value of the business in the But For Position and (ii) the value in the Actual Position (which may be nil).

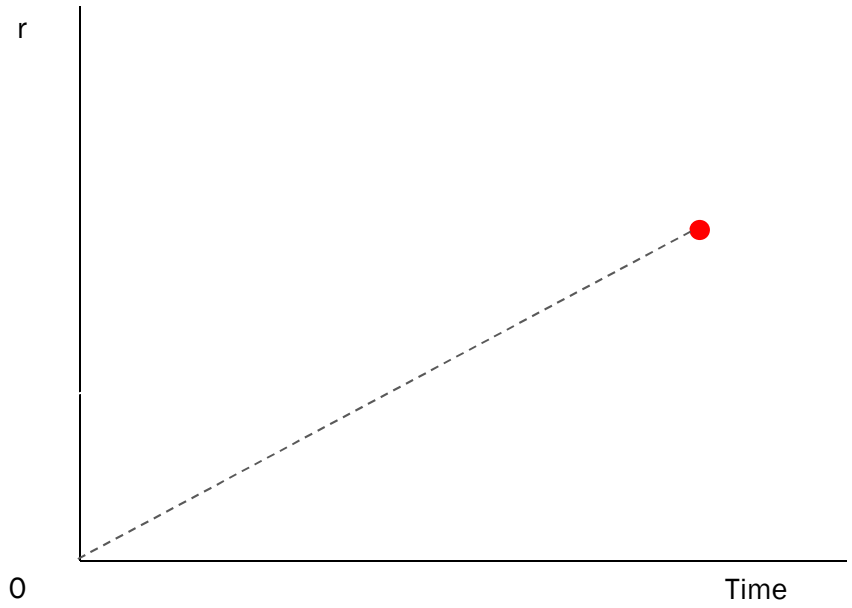
What is “value”?

- The sum of cash that could be exchanged for an asset.
  - This depends fundamentally on three factors:



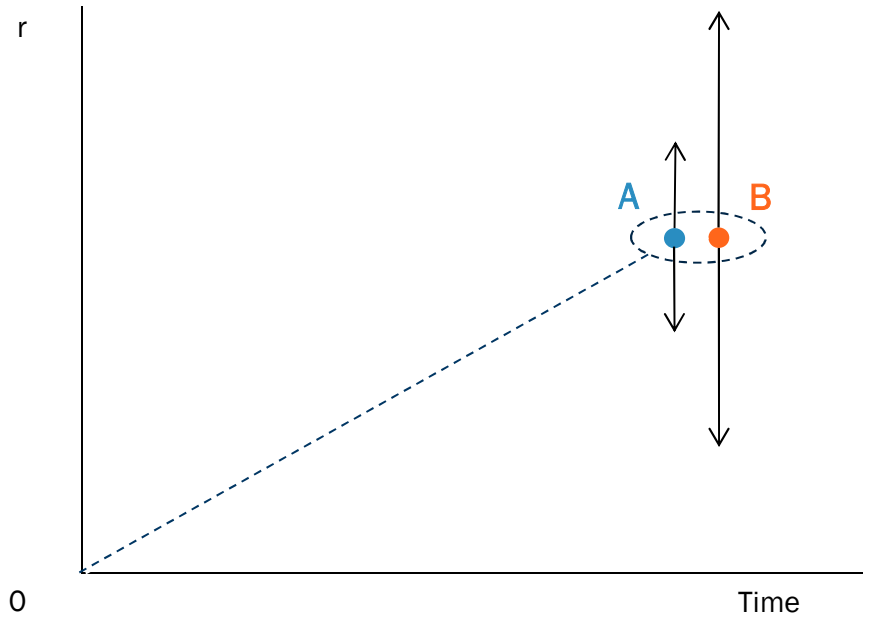
What do we mean by growth?

- Growth in expected future cash flows
- In theory, the cash flows should be a probability weighted average reflecting all possible future developments, including matters that are
  - specific to the firm (e.g. likely success of a new product launch)
  - related to the market (e.g. expectations of economic growth)
- In practice, it is difficult to allow for all possible future events:
  - When available, a probability weighted cash flow forecast generally will not consider matters that are remote.
  - Often the valuer will only have access to a forecast for the single most likely scenario.



What do we mean by risk?

- Finance theory states that there is a fundamental relationship between risk and return:
  - Investors are assumed to be risk averse
  - Investors will only take on additional risk if they are compensated with additional expected return
- Risk is often described in terms of the variation around the average expected return
  - An implication of this description is that risk includes the chance of 'out performance' as well as 'under performance'
  - Faced with a choice between two investments with the same expected return, investors will prefer the investment with the least extent of variation around that expected return
  - With reference to the diagram, investors will prefer investment A to investment B



Valuation methods

Valuation methods

- Valuation methods can be classified in two groups
  - those based principally on the **observed prices of transactions**
  - those that depend principally on the **theory of finance**
- These two groups are not independent of each other
  - Parties often rationalise the price for a transaction by reference to finance theory
  - Finance theory makes use of observed prices to estimate the opportunity cost of capital
- Both groups of valuations methods address (explicitly or implicitly) risk and growth
  - Observed prices in transactions reflect the transacting parties' views on risk and growth
  - Methods grounded in finance theory require the valuer to assess risk and growth (from the perspective of investors)
- Where there is reliable data, actual transactions in the subject matter of the valuation will generally provide the best evidence of value. This is because those transactions reflect the views of actual market participants, rather than the valuer's subjective assessment of those views

Transactions in the subject matter of the valuation

Highly relevant information

- Transactions in the asset or company under consideration
- Offers for the business / potential sales
- Unsuccessful funding rounds or bids for the business that fell away

- Actual **recent, arm's length** transactions in the asset (or shares in it) often the best guide to value
- A failure to raise funds may provide directional guidance on value (i.e. an upper limit)
- Understanding how the asset was acquired and what, if anything, has changed since the valuation date can potentially shortcut much of the uncertainty inherent in the valuation

Potentially relevant information

- Behaviour of management / internal correspondence
- Analyst coverage
- Existence of well-developed plans, budgets, strategy papers

- There may be other indicators of value that help anchor the valuation. For example, did management behave with the urgency one would expect for a highly valuable opportunity?
- Did analysts attribute much value to it?

Figures and facts changed to preserve confidentiality

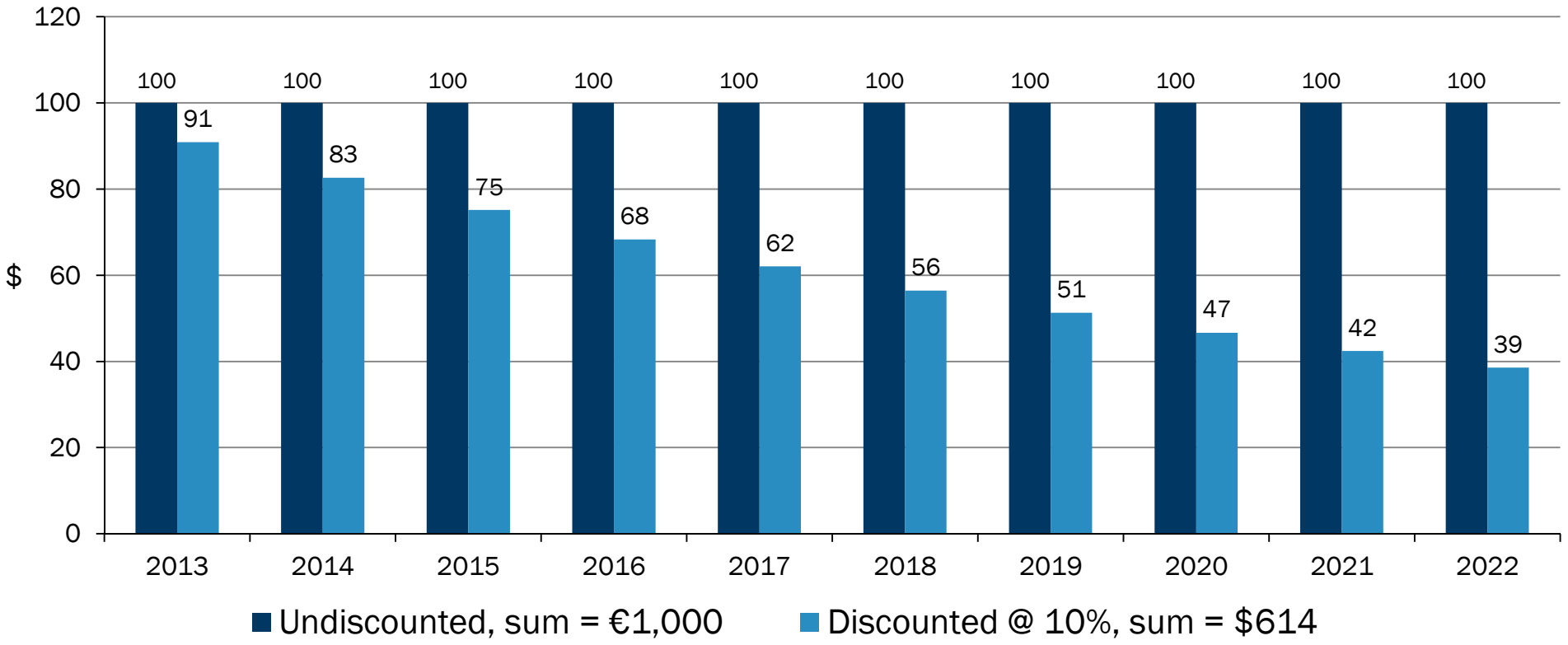
Transactions in the subject matter of the valuation: illustration

- Claimant held a licence for a trade mark and planned to develop a business sub-licensing this trade mark into new products/ applications
- The trade mark owner initially prevented the Claimant from sub-licensing the trade mark
- Claimant's expert projected revenues in excess of €1 billion per year in the But For Scenario
- Key facts about the history of the business that "anchor" the valuation
  - The sub-licence rights were granted to Claimant between signing and closing the deal, with no adjustment to the purchase price or adverse reaction from shareholders in the trade mark owner
  - Following the insolvency of the Claimant, potential acquirers of the business described values of the sub-licensing opportunity at €20m as 'excessively high'
  - Claimant did not conduct its business with the urgency or scale of investment that would be required to support an opportunity on the scale envisaged by the Claimant's expert

Discounted Cash Flow ('DCF') analysis

- DCF analysis involves discounting a forecast of future expected cash flows by an discount rate that reflects relevant risks
- DCF analysis requires risk and growth to be considered explicitly
  - Growth is considered for the cash flow forecast
  - Risk is considered for the discount rate

Discounting illustration: Value of $100 a year over 10 years



Discounting at 6% sum = $736

Discounting at 10% sum = $614

Discounting at 14% sum = $522

Discounting is a means of placing a lump sum value today on future cash flows

In discounting, the valuer identifies the 'opportunity cost of capital' – the return available on alternative investments of similar risk, often measured by the ex ante returns sought by investors on such assets.

The valuer is making two adjustments to the stream of future cash flows to place a value on them today:

- **First** – adjusting for 'time value of money' – preference to have €1m today vs in the future
- **Second** – adjusting for risk – investors prefer a certain outcome (eg, a guaranteed €1m) over an uncertain situation with the same expected outcome (eg, a 50% chance of €0.8m and a 50% chance of €1.2m)
  - Business profits are inherently risky. The effect of this on value is typically captured in the discounting process
  - The riskier the business or project, the higher the discount rate used

Comparable company analysis

- Comparable company multiples are calculated by applying a multiple of value observed for comparable companies to a corresponding measure of financial performance for the subject company
- E.g. P/E multiple:

$$Per\ share\ value_{\substack{subject\\company}} = Earnings\ per\ share_{\substack{subject\\company}} \times PE\ multiple_{\substack{comparable\\companies}}$$

- Other multiples of value can also be used (e.g. EV/EBIT, EV/EBITDA etc)
- Comparable company analysis is **also based on growth and risk**: these are reflected in the multiple applied
  - Multiples are calculated from the multiples observed for comparable companies
  - Comparable companies are those which have growth and risk prospects that are comparable with those of the subject company
  - The valuer may adjust the observed multiple in order to allow for different growth and risk prospects

Comparable company analysis (cont.)

- Factors that are relevant to the identification of companies with comparable risk and growth prospects include:
  - Industry
  - Business model
  - Cost structure (fixed vs variable costs)
  - Country (arguably)
  - Size (arguably)
- Sometimes other factors are also considered, though it is not always clear that they provide a relevant benchmark for risk and growth prospects
  - for example, profitability

Valuation methods – advantages and disadvantages

Discounted cash flow

- Projections are specific to the asset, its market, and so on
- Flexible – can be used to test various scenarios or changes in circumstances

BUT

- Time consuming and can be difficult
- Requires detailed information on revenues and costs of the asset
- Subjective assumptions
- Can be very sensitive to inputs

Relative or multiples based

- Based more directly on actual market transactions – may be affected less by the judgement of one person
- Usually faster

BUT

- Can be hard to find truly comparable assets or transactions
- Adjustments to calculated metrics can be hard to assess
- Also subjective (identification of comparable companies and application of any adjustment)

Undertake more than one method if possible, even if you think that one particular method is likely to give the more/most reliable result

Plausibility of the but-for scenario

Plausibility of the but-for scenario

- In our experience tribunals and courts are sensitive to the plausibility of the but-for scenario
- Implausible scenarios are usually one of three types:
  1. "**but for a single nail**" – the action or omission was a critical element of a large and profitable business opportunity that has been lost;
  2. "**the sun will come out tomorrow**" – despite mediocre past performance, but for the complained of action the Claimant would have performed very strongly; and
  3. "**it is such a perfect day**" – apart from the complained of action, there were no other risks that could have jeopardised the Claimant's success
- The expert needs to develop a hypothetical, but realistic, projection of financial performance that:
  - is sense-checked against available measures or benchmarks including past performance, amounts invested, industry returns;
  - takes account of future opportunities for the Claimant to mitigate its losses; and
  - refers wherever possible to contemporaneous plans and projections

Plausibility of counterfactual scenario – examples

ICSID case: "but for a single nail"

- Claimant had been denied import tax exemption on raw materials for approximately 4 years, amounting to some €10s of millions
- Claimant stated that the loss of this income prevented it from making some investments, the final pieces of its integrated manufacturing facility "jigsaw"
- Those investments would have generated additional profits that would themselves have been invested in new projects, and so on, enabling it to become the low cost producer in Europe with significant export potential
- Overall impact of lost investments assessed by client ("conservatively") at over €3 billion

UNCITRAL arbitration: supporting assumptions

- Claimant was denied opportunity to acquire a majority shareholding in a business, as per its pre-emption rights, and claimed that it would have managed the business much more successfully than the acquirer actually did
- Counterfactual scenario assumptions of the Claimant's expert ("Mr X"), on which a claim for several US$ billion rested, were not well supported, which troubled the Tribunal:

  Tribunal 1: Sorry, why are those assumptions reasonable up to 2010?

  Mr X: Because I believe them to be reasonable in terms of looking at the position as to what [the company] could have achieved

  Tribunal 3: That's just question begging: why are their assumptions reasonable? Because I believe them to be reasonable. Is there no more objective basis for the reasonableness of the assumptions?

Concluding remarks

In summary…

- Damages calculations usually involve a comparison of the Actual Position and a But For Position
- A quantum expert must develop a hypothesis of how the claimant's financial position would have developed but for the act or omission complained of
- Tribunals and judges often have to decide between two experts positing very different damages conclusions. It is therefore critical that your expert:
  - Bases his/her calculation on a plausible, well supported But For Position, drawing on experts in other disciplines where appropriate
  - Is rooted in contemporaneous forecasts, and is consistent with any other indicators of value
- DCF and multiples methods are commonly used valuation tools to assess damages. Wherever possible, a damages expert should seek to use more than one valuation method to support a claim
- It is important not to neglect information about transactions in the subject asset even if such information is imperfect.

Questions?