The value of a business or other asset depends on the expected future benefits from holding that asset and the uncertainty associated with those benefits. An expert valuer must often form an opinion on value based on their assessment of future benefits and uncertainty at a given date. This is a challenging task for many assets. It is often particularly challenging in the context of international arbitration.

In this article, we set out our views on how experts and tribunals should approach the valuation question in international arbitration given these challenges. We start with some fundamentals: what do we mean by value, and how do we define the valuation question, and what are the valuation standards frequently encountered in international arbitration. We then consider the application of common valuation methods and the ways in which a valuer can seek to navigate the uncertainty that can exist in valuing businesses and other assets.

**Defining Value**

In investment treaty arbitration, the standard of compensation is often referred to in the relevant treaty. This can set the parameters for determining value, and assessing damages, in contexts such as lawful expropriation. In commercial arbitrations the parameters for determining value may be less clear and can be contingent upon the governing law if not specified in the contract between the parties.

However, before considering valuation in the context of arbitration (be that commercial arbitration or arbitrations brought under investment treaties), it is helpful to consider the meaning of the term ‘value’ in a broader context. Put in the simplest terms, ‘value’ is often understood as the sum of cash that would be exchanged for a particular asset. That sum depends not just on the characteristics of the asset, but also, critically, on the assumed context.

As an illustration: the sum that an owner of an asset would accept in exchange for that asset if he or she were to be deprived of it, could be quite different to the sum of cash that buyers might pay for that asset if the owner wanted to sell it on a given day. For example, the owner may benefit from synergies that are not available to the buyers in the market for the asset in question or there may not be many readily available buyers. This gives rise to the need to define the circumstances of the hypothetical exchange.

The International Valuation Standard Council (IVSC) states that:

**Value is not a fact but an opinion of either:** (a) the most probable price to be paid for an asset in an exchange, or (b) the economic benefits of owning an asset. A value in exchange is a hypothetical price and the hypothesis on which the value is estimated is determined by the purpose of the valuation. A value to the owner is an estimate of the benefits that would accrue to a particular owner from ownership.
This statement introduces two, connected, measures of value. The first, ‘value in exchange’, relates value to the hypothetical price that would be agreed upon for an asset in an exchange between a buyer and a seller. The second, ‘value to the owner’, relates value to the benefits that would accrue to the owner of the asset.

In some circumstances, these two measures will be the same. An owner of an asset would not voluntarily accept a price in exchange that is lower than his or her estimate of the value that would accrue to them from continuing to hold the asset. Conversely, a potential buyer of the asset would not pay a price that is higher than his or her estimate of the value that would accrue to them from holding the asset following the exchange. Providing the benefits of ownership are the same for both parties in the hypothetical exchange underlying the ‘value in exchange’ estimate, and those benefits are also the same for the owner of the asset in the ‘value to the owner’ estimate, then the two measures of value should in theory be the same.

This will not always be the case. The ‘value in exchange’ might be estimated on the basis of a hypothetical buyer and seller, neither of which generates any synergies through ownership of the asset. In contrast the ‘value to the owner’ might be estimated on the basis of an owner who generates significant synergy benefits through ownership of the asset that are particular to him or her. In those circumstances the ‘value to the owner’ would be higher than the ‘value in exchange’.

This leads to an important and more general point: estimates of value depend on the assumptions underlying the valuation. Where value is linked to a price in a hypothetical transaction, the fundamental assumptions about that hypothetical transaction and its circumstances affect the resulting estimate of value. Those fundamental assumptions are usually about:

1. the date of the transaction;
2. the identity and characteristics of the potential participants in the hypothetical transaction;
3. their motivations; and
4. their knowledge of the subject matter of the valuation.

THE VALUATION QUESTION

Different sets of assumptions can lead to different valuations for the same asset. For example, the sale of an asset in an orderly transaction, between two knowledgeable parties who conduct an adequate amount of due diligence, whereby neither party is under financial duress, will yield a particular estimate of the price that would be agreed upon. That price would differ if instead it was assumed that, for the same asset, the transaction took place on ‘fire sale’ basis, with the vendor in financial distress and as a result, limited due diligence was conducted by the potential purchaser of the asset. Similarly, an estimate of ‘value to the owner’ will depend upon the characteristics of the owner of the asset, and the benefits that he or she would therefore enjoy from its ownership.

Consequently, before embarking on the valuation of any asset, it is important to set the parameters of the valuation question. Is the valuation of the ‘value in exchange’ or ‘value to the owner’? And what are the other assumptions underlying the valuation? The answer to those questions will ultimately depend upon the purpose of the valuation, and the choice of parameters, which is often referred to as the ‘basis of valuation’. Valuation standards provide a framework for common bases of valuation.

THE VALUATION QUESTION IN INTERNATIONAL ARBITRATION

‘Market value’ or ‘fair market value’ are probably the most frequently encountered valuation standards in international arbitration. Fair market value can be defined in the following terms: the price, expressed in cash or cash equivalents, that a willing and able buyer would pay a willing and able seller, acting at arm’s length, in an open and unrestricted market, whereby each party had reasonable knowledge of relevant facts, each desired to maximise his or her financial gain, and neither party was under compulsion to buy or sell. In our experience this is the standard that is most often applied, either implicitly or explicitly in the context of international arbitration.

The consequences of this definition are important for the valuer - and should always be borne in mind when considering the available valuation evidence. Whenever we are seeking to determine the market value of an asset, we are estimating a price: the price that would be agreed upon between a willing buyer and a willing seller.

FACTORS AFFECTING PRICE

It is therefore important to understand what factors affect the prices that a willing buyer and willing seller would be willing to pay or accept. The factors affecting the price agreed upon for an asset depend on the specific asset and the motivations of the parties to the transaction. For some assets, the motivation for acquiring the asset is the utility of the asset itself. For example, the price paid for a piece of art might reflect the utility, in the form of the pleasure of ownership that the owner of the art will receive. However, for the assets that we typically consider in an arbitration context, the principal motivations of buyers and sellers are financial. In particular, the motivation relates to the economic benefits, in terms of the cash generated, that can be obtained from ownership of the asset.

When the purpose of ownership is to generate economic benefits from the asset, there are three fundamental factors that affect the price that an asset transacts for. These are:

- The expected cash flows that the asset will generate. This in turn is linked to the current cash flows being generated by the asset, and the expected growth in those cash flows. The higher the cash flows generated, and the greater the expected growth in those cash flows then, all else being equal, the higher the value of the asset.
• The level of uncertainty, or risk, around the expectations of cash flow growth. Investors are generally risk averse, and therefore the greater the uncertainty around the expected cash flows, then all else being equal, the lower the value of the asset.

• The availability of other assets. Buyers and sellers do not consider prices of assets in a vacuum. They will consider other assets that are in a market with similar characteristics, in terms of risk and growth, and the prices of those assets.

Assumptions made – either implicitly or explicitly – about the growth and risk of the cash flows generated by an asset affect all valuations. An important consequence of this fact is that the price that two parties agree on for an asset is linked to expectations about the economic prospects, in terms of growth and risk that a buyer and seller have regarding the asset in question.

The price that any party would be willing to pay for an asset, or agree to sell it, depends on the expectations of that party. Different investors can have very different expectations. Even if those expectations are informed by a common set of information that is available to them (for example, about the asset, the market it operates in, and the overall economy), two investors might interpret the information differently. In other words, in the same way that macro-economists have a wide range of views about the prospects of the economy, investors are likely to have an equally wide range of views about the prospects of a business.

This leads to an important – and sometimes under-appreciated – conclusion: outside well-functioning and liquid markets, assets do not have a single, objective value. Value is a function of price, and price is a function of expectations. Different investors can have different expectations even when they have the same information available to them. Further, expectations change over time as new information becomes available and conditions change. The price that an investor would pay for an asset (or agree to sell it at) therefore also changes. Value is not a constant, immutable fact. Perspectives on value can differ from person to person and over time.

UNCERTAINTY AND VALUE

The role of the valuer in arbitration is usually to estimate what price would have been agreed upon for an asset (the ‘subject asset’) between a buyer and seller at a particular point in time (the ‘valuation date’). That means that the valuer must consider what expectations a hypothetical investor would have held at the valuation date regarding the economic prospects – in terms of both growth and risk – of the asset that is the subject of the valuation, and how a price would have been derived from those expectations.

There is a degree of uncertainty inherent in many valuations. However, the extent of that uncertainty depends on the available evidence. In circumstances where there are transactions involving the subject asset on the valuation date, then a valuer can – with certainty – identify prices at which parties were agreeing to buy and sell the subject asset. If there are no transactions in the subject asset on the valuation date, but there are transactions involving the subject asset that were carried out prior to the valuation date, then the uncertainty starts to increase. The valuer must then assess how expectations have changed over time and how that would affect value. If there are no transactions involving the subject asset prior to the valuation date, then the uncertainty increases further. The valuer must then consider the extent to which expectations about growth and risk can be inferred from transactions in other assets (for example, transactions in the same industry) or alternatively build up their own view about the growth and risk prospects of the subject asset and consider the price that an investor would pay in light of those views.

The uncertainty is magnified in circumstances where assets have characteristics that make them either difficult to compare to other assets, or which make it difficult to formulate reliable expectations about their future performance. For example, this situation may arise due to the assets being relatively new (that is, they have no track record) or whereby the assets operate in a market that is volatile (such as, an emerging economy).

Sometimes the uncertainty in a valuation leads commentators to make the statement that valuation is ‘more of an art than a science’. In our view that is an unhelpful analogy. While the definitions of ‘art’ and ‘science’ are manifold, one perspective is that ‘art’ is associated with fundamentally creative processes. ‘Science’, in contrast, is associated with a disciplined study of the world – observing facts and developing theories and predictions that can be tested. In our view, approaches that are likely to be associated with ‘science’ are much closer to good valuation practice. The very fact of the uncertainty present in many valuations is why a valuer should do all he or she can to study the available evidence, derive theories about value and test those theories carefully. All too often, labelling valuation as an ‘art’ can inappropriately be used as justification for paying insufficient attention to these principles.

VALUATION METHODS

In some circumstances, there is clear observable market data available to the valuer, for example, for transactions in the shares of the subject asset on a well-functioning and liquid stock market in a mature country. These types of data are likely to provide the best evidence of the most likely price that would be agreed upon between a willing buyer and a willing seller. “This is because such transactions reflect actual buyers’ and sellers’ assessments of the future benefits of holding the asset and the uncertainty in those assessments. In most circumstances in international arbitration, however, such data is not available and the valuer needs to rely on other evidence.
MARKET MULTIPLES BASED ON TRANSACTIONS IN COMPARABLE ASSETS

Where there are no, or insufficient, reliable data on transactions in the subject asset then an alternative method can be used based on market multiples. Market multiples can be calculated based on the observed prices of transactions in comparable assets.

Examples of market multiples are ‘P/E multiples’, which are the ratio of price per share to earnings per share; ‘EV/EBIT multiples’, which are the ratio of enterprise value (EV) to earnings before interest and tax (EBIT) and ‘EV/EBITDA’ multiples, which are the ratio of enterprise value to earnings before interest, depreciation and amortisation (EBITDA).

The various ratios that are calculated from observed prices of transactions are reviewed, analysed and adjusted, and a representative multiple, or often a range of multiples is thereby determined. That multiple, or range of multiples, is then applied to an appropriate corresponding measure of profitability of the company that is the subject of the valuation.

To apply market multiples, it is necessary to identify transactions in the shares of comparable companies. When identifying comparable companies it is necessary to identify companies that share similar economically relevant characteristics to the company that is the subject of the valuation. The economically relevant characteristics are those characteristics that determine the growth prospects and risk of the company. Examples of economically relevant characteristics include the industry and the geographic location of the business.

DISCOUNTED CASH FLOW ANALYSIS

Discounted cash flow (DCF) analysis involves determining the present value of future cash flows by discounting these cash flows back to the date of valuation at an appropriate discount rate. In practice, DCF analysis involves the valuer making a series of assumptions with respect to forecasted cash flows, and a series of assumptions with respect to the discount rate. Growth and risk are taken into account through the assumptions that the valuer makes about the forecasted cash flows and the discount rate.

Both the DCF and the market multiple valuation methods rely on market data. A market multiples valuation method relies on market data directly through the use of data on the price and financial performance of comparable companies. A DCF analysis relies on market data indirectly since the performance of comparable companies is often used as the basis for the growth forecasts and since market data provides the inputs to the discount rate (for example, the estimates of equity risk premium, a key input in most discount rates, are based on observed stock market returns). As the level of uncertainty associated with the prospects of the company at issue increases (such as a start-up business, or a company operating in an emerging economy), it becomes more difficult to develop appropriate assumptions for these inputs.

The key challenge when applying market multiples is identifying truly comparable companies. The key challenge when applying DCF analysis is identifying appropriate assumptions for the expected growth of the cash flows, and the level of risk that ought to be reflected in the discount rate.

ADDRESSING THE CHALLENGES OF VALUATION OF BUSINESSES IN DEVELOPING COUNTRIES

Assessing the value of a business in the context of international arbitration can be particularly challenging. Those challenges can arise because:

(i) the business has a limited track record of financial performance, making it difficult to use historical data as a basis for assessing expectations of future financial performance;
(ii) the economic and political environment in which the business operates is volatile, also making it difficult to form reliable expectations of future financial performance;
(iii) there is limited reliable market data available to assess the returns that investors require for investing in equity in the relevant economy, making it difficult to assess an appropriate discount rate; and
(iv) there are few, if any, comparable businesses with similar economically relevant characteristics, operating in similar environments.

Points (i) to (iii) above make it difficult to apply the DCF valuation method, whereas (iv) makes it difficult to apply the market multiples method.

Where available, evidence of indicators of value can provide a route through the uncertainty that these challenges create. This might include transactions in the asset or company under consideration at an earlier date than the valuation date, offers for the business or potential sales, or unsuccessful funding rounds or bids for the business that were not completed.

For example, suppose a DCF analysis yields an estimate of the value of a business of US$100 million at a particular date, say 1 January 2012, and a comparable company analysis yields an estimate of value of US$85 million. Based on this analysis an expert valuer might conclude on a valuation that lies in the range between the two estimates. However, the characteristics of the asset might mean there is considerable uncertainty around that range.

Suppose also that the business was acquired three years earlier, on 1 January 2009, for a price of US$50 million. That transaction represents the price a willing buyer and willing seller agreed upon for the asset, albeit three years prior to the valuation date.
By explaining the ways in which the characteristics of the business, and the environment it operates in, have changed between the 2009 and 2012, and understanding the associated changes in expectations of growth and risk, a valuer may be able to test the conclusions drawn from the DCF and comparable company analysis.

If it can be shown that over that period the prospects of the company have improved significantly, for example, through changes in commodity prices, an improved political environment or other macro-economic factors, that may increase a tribunal’s confidence in a valuation in the range of US$85 million to US$100 million. Such analysis can be enhanced by also examining how the value of comparable companies has shifted over time.

Conversely, if the conditions in which the business operates have deteriorated between 2009 and 2012, that can potentially help to demonstrate that the DCF and comparable company analyses are unlikely to be reliable.

This kind of analysis can be particularly helpful in circumstances where tribunals are faced with experts positing very different valuation conclusions. In some circumstances, tribunals are faced with two DCF models: one yielding a very large value and one a small value (perhaps nil). The models are sensitive to changes in the input assumptions (for example, the addition of a country risk premium to the discount rate) and there is no middle ground between the experts. There may also be no reliable data to calculate market multiples based on comparable companies.

The history of the company or asset may help address this divergence. The available facts may ‘anchor’ the value or provide directional guidance such that it is clear that one of the asserted values is too low or too high. In our experience, experts can sometimes overlook, or underplay the importance of such evidence and instead focus too much on DCF models and arguments over the appropriate inputs to their respective models.

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**CONCLUSION**

In summary, it is often necessary for arbitral tribunals to determine the ‘market value’ of an asset. Market value can be understood as the price at which a willing buyer and a willing seller would agree to transact the asset in question. That price reflects the expectations of risk and growth that are held by the buyer and sellers, which are informed by the characteristics of the asset and the market in which it operates.

Valuation methods assess value by considering expectations of risk or growth either explicitly through discounted cash flow analyses, or implicitly through observations of the prices at which comparable companies transact. For assets that are the subject of disputes in international arbitration, such methods can sometimes be difficult to apply. This might be because the asset has a limited track record, operates in an uncertain environment or lacks closely comparable companies.

In such circumstances, the history of the company or asset may help a valuer, and a tribunal, navigate the uncertainty this can create. Transactions in the subject asset at earlier dates, offers for the business, or attempts to market the business at a particular price can all provide indicators of value that help anchor the valuation, or provide directional guidance to its valuers. In our view, expert valuers should be aware of the availability of such evidence and make use of it wherever possible.

**Notes**

1. Other considerations relevant to determining value and damages may be relevant in unlawful expropriations, but are not considered in the scope of this article.
4. This assumes that the actions of the respondent have not adversely affected the trading price of the stock.

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