

Global Arbitration Review

# The Guide to Damages in International Arbitration

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Editor  
John A Trenor

Third Edition

# The Guide to Damages in International Arbitration

Third Edition

Editor

John A Trenor

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This article was first published in December 2018  
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Published in the United Kingdom  
by Law Business Research Ltd, London  
87 Lancaster Road, London, W11 1QQ, UK  
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[www.globalarbitrationreview.com](http://www.globalarbitrationreview.com)

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ISBN 978-1-78915-098-8

Printed in Great Britain by  
Encompass Print Solutions, Derbyshire  
Tel: 0844 2480 112

# Acknowledgements

The publisher acknowledges and thanks the following firms for their learned assistance throughout the preparation of this book:

A&M GMBH WIRTSCHAFTSPRÜFUNGSGESELLSCHAFT

ALIXPARTNERS

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# Preface

This third edition of Global Arbitration Review's *The Guide to Damages in International Arbitration* builds upon the successful reception of the first two editions. As explained in the introduction, this book is designed to help all participants in the international arbitration community understand damages issues more clearly and communicate those issues more effectively to tribunals to further the common objective of assisting arbitrators in rendering more accurate and well-reasoned awards on damages.

The book is a work in progress, with new and updated material being added to each successive edition. In particular, this third edition incorporates updated chapters from various authors and features several new chapters addressing such issues as best practices and issues in discounted cash flow models, full compensation and total reparation, and estimation of harm in antitrust damages actions.

We hope that this revised edition advances the objective of the first two editions to make the subject of damages in international arbitration more understandable and less intimidating for arbitrators and other participants in the field, and to help participants present these issues more effectively to tribunals. We continue to welcome comments from readers on how the next edition might be further improved.

**John A Trenor**

Wilmer Cutler Pickering Hale and Dorr LLP

# Part III

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Approaches and Methods for the Assessment  
and Quantification of Damages

# 11

## Overview of Damages and Accounting Basics

**Gervase MacGregor, Andrew Maclay and David Mitchell<sup>1</sup>**

### Introduction

In this chapter, we set out an overview of how damages are calculated in international arbitration, and we include an explanation of some of the fundamentals of accounting on which the damages calculation is necessarily based. Unlike law, which may fundamentally differ between jurisdictions, accounting and damages are based on accounting and economic concepts that are common to all jurisdictions – although any damages calculation for any particular arbitration dispute will need to be rooted in the legal principles of the law that governs that arbitration.

### Accounting basics

#### Double-entry bookkeeping

A fundamental building block of accountancy is the principle of double-entry bookkeeping. This means that every accounting transaction that is recorded in a set of company accounts is effectively entered twice; this helps ensure that the accounts include all the company's transactions and are free from input errors (although the accounts may still include errors or fraud, where the transactions have been recorded wrongly). For example, if a company is recording all the payments from a set of bank statements in its accounts, it will record all these payments as debits to various accounts, such as purchases of raw materials or purchases of machinery, and it will also record all the payments as credits to the bank account (i.e., reductions in the bank balance – for an accountant, a credit to the bank account is a reduction, while a debit is an increase).

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<sup>1</sup> Gervase MacGregor is head of forensic services, Andrew Maclay is a forensic accountant and David Mitchell is head of the valuations team at BDO LLP.

The development of computerised enterprise systems means that double-entry is often hidden from view. But it remains the key structure in accounting and explains why balance sheets balance and the components of a set of financial statements reconcile with each other.

A company normally prepares its accounts annually by extracting a trial balance from its accounting system and turning this into a set of financial statements. The trial balance lists the total value of items debited or credited to each particular accounting category in the year; so, for example, it will include the total of purchases of raw materials, the total of salaries and other employee benefits, the total of entertaining costs, the total of purchases of fixed assets and so forth.

## Financial statements

From the trial balance, a company prepares its financial statements, which comprise a profit and loss account, balance sheet, cash flow statement and explanatory notes. The profit and loss account records the company's income and expenses, together with certain accounting adjustments, such as depreciation, to arrive at the profit or loss after tax for the year. The cash flow statement also records the company's transactions for the year, but on the basis of the money flowing into and out of the company, showing, for example, how the company has financed its purchases by way of loans or net reduction in its bank balances. The balance sheet summarises the state of the company at the end of the year, showing its assets and liabilities, with double-entry bookkeeping recording the overall balance as accumulated profit or loss. The financial statements also include a large number of pages of notes, which include details of the accounting policies adopted by the company and more detailed explanations of many of the summary items included in the profit and loss account and balance sheet.

An important page in the financial statements is the audit report. Most large companies have to have their accounts audited by a qualified firm of auditors, who review all the company's accounting transactions and financial statements on a sample basis, and conclude on whether or not the financial statements show a true and fair view of the company's transactions in the year and comply with accounting standards and include all the disclosures the financial statements are required to include. Audit reports are prepared on a formulaic basis, whereby the auditors note any exceptions from a 'clean' audit report in their report; consequently, lawyers and other users of financial statements are well advised to consider carefully the implications of a qualified audit report on the financial statements of any company they are reviewing.

## IFRS

To ensure adherence to accounting principles and to ensure reasonable consistency between different companies, accountants have developed standard ways of accounting for specific items. Thus, large international companies are often obliged to prepare their accounts in accordance with International Financial Reporting Standards (IFRS).<sup>2</sup> IFRS

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<sup>2</sup> Not all companies prepare their accounts in accordance with IFRS. For example, US companies normally prepare their accounts in accordance with US GAAP, and smaller UK companies may use UK GAAP. There

sets out standard ways of accounting for particular transactions, such as revenue, fixed assets and depreciation.

In this short introduction, we will not comment on how accountants account for every type of transaction under IFRS, but we will briefly comment on a few types of transaction that often arise in international arbitration cases:

- The accruals concept – accountants record income and expenses on the basis of the accounting period that is affected by the income or expense. For example, for a company with a calendar-year accounting period, a payment of 12 months' rent in September will be recorded as four months in the period up to December and eight months in the following period.
- Revenue – sales are generally recorded at the value received by the company, but IFRS includes a number of detailed rules, for example, in relation to recording transactions at 'fair value', recording revenue on long-term contracts and recording transactions in the correct period.
- Depreciation – this is a very important accounting concept whereby tangible (e.g., land, buildings, machinery) and intangible (e.g., IP, patents, goodwill) assets are recorded at cost or 'fair value' in the balance sheet, but are then depreciated over their useful lives. For example, if a piece of machinery has an estimated life of 10 years, depreciation at 10 per cent of its value is charged as a cost in the profit and loss account each year.
- Impairment – companies are required to test their cash-generating units to ensure that they remain worth at least the value at which they are recorded in the financial statements. Thus, for example, if a company has overpaid for an asset, it should then record an impairment provision against the cost of the asset.
- Contingent liabilities – companies are required to recognise a liability when it is likely that they will be required to make a payment in respect of the item in the future. When there is less likelihood of having to make a payment or it is not possible to calculate the amount of such a future payment, the company records a contingent liability in the notes to the accounts, but does not record the amount as an expense.
- Related-party transactions – companies are required to list transactions with related parties in their financial statements. The related party note can be a useful place to understand the relationship between entities that appear to be under common ownership.

### Flexibility, consistency and estimates

Preparers of financial statements often face a choice of ways of applying accounting policies; for example, the depreciation rate. Indeed, one of the challenging areas of interpreting accounting information is the fact that one is often choosing between two or more reasonable treatments. Within this flexibility, there is the need for preparers to be consistent in their treatment from year to year.

The very nature of business means that preparers are faced with uncertainty, meaning that estimates must be made. The word 'reasonable' is a key adjective in accounting; the use of judgement is a key task.

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are differences in how certain transactions have to be recorded between these different accounting standards – and these differences may have a material effect on the financial statements.

And within all this, one must not forget the ‘dark side’ of accounting: the aggressive accounting policies in areas such as income recognition, provisions and impairment – indeed, all areas where one is faced with choice, has to use judgement and can push reasonableness to the limits and beyond.

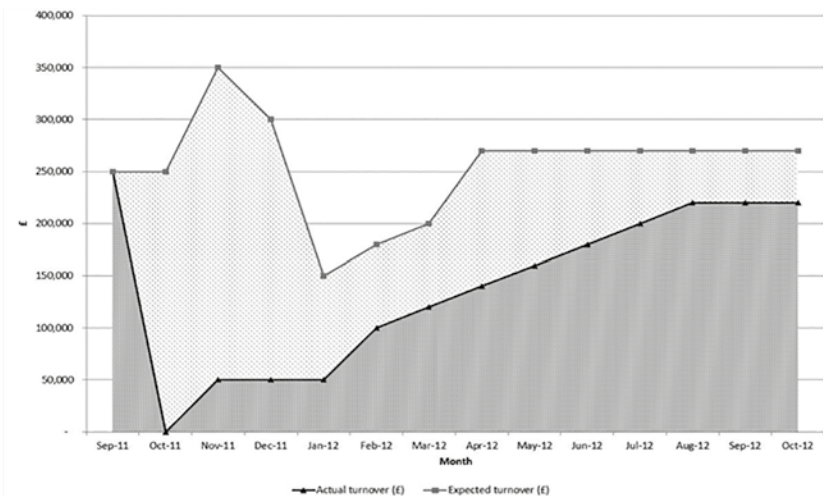
It is worth bearing all of this in mind in relation to damages claims, because accounts are the building blocks of quantum.

### Basic principles of damages – loss of profit

If an entity has suffered damages, but still continues in operation, the goal of a damages award is to put the claimant back into the position in which it would have been, had the company not suffered the damage; for example, if a contract had not been breached. On this basis, forensic accountants, valuers and economists have developed the ‘but-for’ principle as the basis for calculating damages, whereby damages are based on the difference between what would have happened ‘but for’ the breach of contract or other intervening event and what actually happened.

The second limb is normally relatively straightforward; for example, the profit the claimant actually made. What is more difficult is calculating what would have happened if the contract had not been breached (i.e., the but-for scenario).

The but-for scenario needs to be realistic, and one needs to remember that the calculation can only ever be an estimate – because nobody can ever actually know with complete certainty what would have happened in an alternative universe in which the breach of contract, or treaty, never occurred. The but-for scenario also needs to be possible (e.g., it takes into account the production capacity of the company’s factory). The following graph illustrates the basic calculation of economic damages:



The damages suffered by a claimant in a commercial arbitration are likely to be based on the profits that it would have earned, had the breach of contract not occurred, but which it did not actually earn. While in theory one can simply estimate the profits in a but-for

scenario, the calculation is likely to be more accurate if the loss of profit is broken down into its constituent parts, which are:

- loss of gross revenue;
- gross profit margin, as a percentage;
- variable overheads; and
- fixed overheads.

The damages expert tends to estimate the loss of future revenue of a business as a separate exercise – this is often the parameter that drives profitability, and it may also be the most difficult and subjective number to estimate. On the other hand, many companies' gross profit margins remain reasonably constant as a percentage of sales, and this constant margin may be reflected in the company's budgets – so in many cases it may be fairly uncontroversial to assume that the gross profit margin in the future will be the same as in the past.

Overhead costs are the costs a company incurs that are not directly related to producing its output for sale. When calculating overheads, it is important to distinguish between variable overheads that are linked to sales (such as transport and distribution costs) and fixed overheads that remain the same regardless of the level of sales (such as general and administrative costs). Variable costs need to be deducted in calculating the future loss of profits, whereas fixed costs may not change at all whether the company is selling anything or not, and so they are generally not deducted in a loss of profits calculation.

### Estimating what would have happened in the future 'but for'

The most important part of a damages calculation is estimating what would have happened had the breach not occurred. There are three commonly used ways of doing this:

- The company's own forecast. If the company had its own forecast of the future profits it expected to make, this may be the best data to use to estimate what would have happened but for the breach. However, before relying on a forecast, one needs to consider the purpose for which it was prepared, and how accurate it is likely to be. If the forecast was prepared for the company's bank, which had carried out due diligence and lent the claimant money based on this forecast, and if the company's actual results over the past five years have always been within 5 per cent of its forecasts, then one could feel reasonably confident in relying on the forecast. If, on the other hand, the company's forecast was limited to a single sheet of paper prepared by the directors after the breach of contract occurred, and it had never actually achieved its budget in the past, one would not feel confident in relying on the forecast without first determining whether serious adjustments must be made to it.
- Extrapolating from the past to the future. Where a company has been operating for many years, and has a track record of always achieving a certain level of sales and profit, and where profits have grown consistently at, say, 5 per cent per year, the best estimate of future profits may be an extrapolation of past profits. This may be based on professional judgement, or it may be based on a statistical regression line, which estimates the future based on the past.
- Comparison with what actually happened to a similar company or store. If one can find a similar company operating in the same field, and one can see that the claimant's results have been closely correlated with the results of that company in the past, the best way



of estimating what would have happened may be to consider what actually happened to the comparator company.

### Frequently arising issues

Having set out the basic principles of how damages are calculated, some issues that frequently arise in arbitration include the following:

- Lack of trading history – the claimant may have no history of trading. Many claims arise very early on in a project life cycle, for example, because one party terminated the contract while the factory was still being built and before it started trading. If the future cash flows can be estimated reasonably reliably, damages can be calculated on the basis of the net present value model, following which, the value of a project is equal to the cash flows expected over the project's life, discounted by an appropriate discount rate.<sup>3</sup> However, if the future profits cannot be estimated reliably, the only fair basis for damages may be the amount of costs the claimant has actually incurred.<sup>4</sup>
- How long should one claim for? – If the company has been driven out of business and has gone into liquidation, normal practice is for the claim to be based on the 'valuation' model discussed below. However, if the claim is based on the company using the damages recovered from the respondent to recapitalise its business and start trading again, a key question is how long that will take, and what resources it will require for the company to ramp its business back up to its previous level of operations.
- The use of hindsight – a key legal question is whether or not one should take account of hindsight in calculating damages. This may depend on the jurisdiction of the claim – for example, the traditional position in English law was that damages for breach of contract were evaluated at the date of the claim, but this has been modified by the case of *Golden Strait Corporation v. Nippon Yusen Kubishika Kaisha* [2007] UKHL 12 (known as the Golden Victory), in which the House of Lords held that achieving an accurate assessment of damages based on the losses that had actually happened was more important than considerations of contractual certainty and finality. In other jurisdictions, the use of hindsight in calculating damages is the default position.
- Sunk costs – generally, costs that have already been incurred at the date of the loss cannot be claimed in addition to lost future profits. This is because profits can only be generated if the factory that will be used to generate them already exists, and so it would be double-counting to claim for both loss of profits and the cost of building the factory.
- Overhead recovery rates – an issue that often arises is the definition of what exactly is a cost. For example, the cost of employees may be measured as the amount actually paid to them (including overtime, pension, etc.) divided by the number of hours they work, or as the hourly 'charge-out rate' (which may be equal to direct salary cost multiplied by a factor of 3 or 4, to take account of the general and administrative and other fixed cost overheads of the company) or the rate that is charged by a service company in the group.

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3 As, for example, in *CMS v. Argentina*.

4 As, for example, in *Metalclad Corporation v. Mexico*.

- Management time – again, the principles here may vary between jurisdictions, but generally the rule is that one can only claim damages for lost management time if the claimant can demonstrate that this management time would otherwise have been spent on generating profits on other projects. This is because management time is a fixed cost that would have been incurred whether or not the event causing the loss had occurred.

Chapter 12 on assessing damages for breach of contract discusses the valuation of damages for breach of contract in greater detail.

### **Basic principles of damages – valuation**

In circumstances where the asset has been expropriated or the company has gone into liquidation, the normal way of calculating damages is the ‘valuation’ basis. This is because the actual value of the asset or company tends to be zero, while the but-for value tends to be the value of the company immediately before the event of expropriation. Consequently, this approach is commonly used to quantify damages in investment treaty expropriation cases.

On this basis, the loss is calculated in accordance with the normal ways of estimating ‘fair market value’, which are as follows:

- The income (or discounted cash flow, DCF) approach. This approach is commonly used because it can be applied to any company or project that has reliable projections of future income. The approach involves estimating the future cash flows from the company or the project, and then discounting these back to a net present value by applying a suitable discount rate. The big challenges in applying this approach in practice are calculating reliable cash flows into the future and calculating the discount rate. This approach is discussed in further detail in Chapter 15 on income approach and the discounted cash flow methodology and Chapter 17 on determining the weighted average cost of capital.

The concept of the net present value is this – a dollar today is worth more in economic terms than a dollar in a year’s time. Indeed, if I have a dollar today and place it in a bank account, even with the current low interest rate I will still have more than a dollar in a year’s time.

This simple insight is the basis for discounting. The key, of course – and one can see this when one considers how interest rates have changed over the past decade – is what is a suitable rate to discount at.

- The market (or earnings) approach. This approach values a company by multiplying its annual earnings by a multiple based on multiples applicable to other similar quoted companies. This is the method more commonly used for valuing companies being bought and sold in the real world. It is often used as a check on a valuation given by the income approach. This approach is discussed in further detail in Chapter 18 on market approach or comparables. A company may also be valued on the basis of comparable transactions in similar companies or of the company itself.
- The net assets approach. This approach values a company on the basis of the value of its assets. The value of its assets (e.g., its machinery) is based on the resale value of those assets, which in practice may be based on their cost, or their second-hand value or their replacement cost, adjusted for depreciation over the period in which they have been operating. As this approach does not take any account of the ability of the assets

to generate profits in the future, it tends to give a lower value than the income and the market approaches, and it tends to be used in situations when the company itself has gone into liquidation and will never operate again. It is also used in start-up situations when there is insufficient certainty about future cash flows to use the income approach, and so tribunals value the company on the basis of the costs incurred to date on building the plant. This approach is discussed in further detail in Chapter 19 on asset-based approach and other valuation methodologies.

## **Other issues**

### **Tax**

If the goal of a damages award is to place the claimant in the same post-tax position as it would have been in if the relevant breach or expropriation had not occurred, the damages calculation has to take account of tax. Thus, both the actual and the but-for calculations should be carried out on a post-tax basis. If the tax rates have changed considerably over time, or if damages awards are taxed on a different basis from income, or if dividends from a project would have been subject to withholding tax, but a damages award is not, the impact of tax may be considerable. Consequently, care must be taken to make sure that tax has been treated consistently in the damages calculation.

### **Currency**

The choice of which currency a claim is made in may have a very considerable impact on the size of the claim, particularly in developing economies or economies with hyperinflation. Again, legal principles may vary between jurisdictions, but the general principle is that the claimant should be compensated for what it has lost. Thus, damages should generally be calculated in the currency in which the loss of profit or the increased costs have been suffered. A claimant generally also has a right to be compensated in a freely convertible currency – so, even if the damages are calculated in a local currency, the tribunal may wish to translate the award into US dollars or euros at the rate of exchange on the date of the award.

### **Interest**

As some awards are rendered many years after the date of the breach or expropriation, an award for interest is often a very sizeable element of an award. The purpose of pre-award interest is to compensate the claimant for not having had its money over the period from the date of the breach to the date of the award, and consequently, it is often based on the claimant's marginal borrowing rate, to compensate the claimant for the additional cost it incurred in borrowing money. Other bases for calculating interest include the rate the claimant could have earned from putting the money in a deposit account, the risk-free rate and the respondent's borrowing rate, and these are discussed in greater detail in Chapter 22 on interest, which also considers the appropriate interest rate for post-award interest.

Finally, by way of introduction, the tribunal needs to decide whether to award interest on a simple or a compound basis; while the simple basis used to be the default basis in some jurisdictions, and still is in certain countries, it is generally acknowledged today that the compound basis (which results in a higher award) more accurately compensates claimants for what they would actually have done with the money if they had had it earlier.

It is also important that the interest rate used is based on the currency of the claim, as it makes no economic sense for the award to be in a hard currency, with a high interest rate based on a soft currency that is expected to depreciate.

## **Data management and modelling**

The final topic we consider in this introductory chapter is the use of modelling and statistics in damages awards.

### *Models*

As we have discussed earlier, the but-for and DCF approaches to damages generally require the damages expert to prepare a model of what would have happened in the future. This may be a simple one-page spreadsheet or it may be a 100-page interlinked corporate finance workbook forecasting the future profit and loss account and balance sheet of the company, showing when all the borrowings would have been repaid, etc. Such complex models are commonly prepared by banks and project finance initiative transactions, so that the company and banks can understand when the project is anticipated to produce income and how borrowings will be repaid.

A model that was prepared at the time and was relied on by a bank for lending money to a company is likely to be more reliable than a model that was prepared by the company solely for an arbitration, and that may be biased in favour of the claimant.

There is a major risk that models include errors. Consequently, it is vital that models are prepared in a systematic way, and that they are systematically checked by an independent third party. For example, the Institute of Chartered Accountants in England & Wales has prepared a helpful booklet entitled ‘Twenty principles for good spreadsheet practice’.

### Sampling

Where there is a large population of data, it may not be possible or cost-efficient to review or to test every item in the population, and the most efficient way of considering the validity of the data may be to use a sampling methodology. If the data population includes 10 large items comprising 90 per cent of the data, a valid sampling methodology may be to review those 10 items as part of a judgement sample. However, where the population includes thousands of similar small items, the only statistically reliable method may be to select a sample of the items and test these. In order to rely on the output of the sample of items tested, the sample should be selected in a statistically valid way, such as by cumulative monetary sampling, which selects items on the basis of every so many dollars, and thus includes the possibility of selecting all the items in the population, but biased towards larger items; if a sample is selected in this way, any errors found can also be extrapolated across the entire population to give an estimated error rate in the entire population.

### Statistics

Statistics can be a useful tool to use in damages quantification. Two of the most commonly used statistical tools are:

- Regression analysis. In graphical terms, regression analysis is plotting certain points on a graph, such as historic profits over the previous 10 years, and then using the past to

forecast future profits, by drawing a straight line into the future. This approach has the advantage that the output can be shown to have a statistical basis, rather than simply being based on the damage expert's judgement, and a coefficient of correlation can be calculated, indicating how reliable the particular regression analysis is. More complicated regression tools can also be used.

- Seasonal adjustment. If there is a seasonal pattern to a company's sales, seasonal adjustment may be needed to estimate future profits.

Finally, there are other more sophisticated statistical tools that can also be used to improve the reliability of damages calculations. Many of these have yet to gain traction with decision makers and experts. However, with low-cost add-ins increasingly available for spreadsheets, the humble laptop has a powerful means of crunching vast amounts of data in stochastic approaches that attempt to model more accurately the effects of uncertainty. One can expect to see more use of stochastic approaches like the Monte Carlo method in damages.

## **Conclusion**

Damages calculations are rooted in a claimant's financial accounts, and the accounting principles on which these are based need to be understood in order to arrive at a reliable quantification of loss. The basic approach to calculating damages is to compare the claimant's actual position with the position it would have been in but for the intervening event causing the loss; this requires an analysis of revenue, gross profit margin, variable and fixed costs and projections of the future. Where a claimant has lost all its business, such as in an expropriation, the normal method of valuation is the fair market value of the business immediately before the expropriation, which is normally calculated using the income, market or assets approaches.

# Appendix 1

## About the Authors

### **Gervase MacGregor**

BDO LLP

Gervase MacGregor is head of forensic services at BDO. He has a bachelor's degree in geology from the University of Liverpool and a master's degree from HEC in Paris.

He is a chartered accountant and a certified fraud examiner.

He joined BDO in 1982, qualified in 1986, was made a partner in BDO in 1991 and became head of the London-based litigation support and forensic accounting department in 1994.

His first forensic investigation, in 1985, was into a contested takeover by a client of his firm, Caparo Plc. His work into accounting irregularities gave rise to the *Caparo* case on auditors' liability. Since then, he has undertaken a great many investigations and acted as expert in disputes on a large number of occasions.

He has particular expertise in valuation and damages disputes, and share purchase agreement disputes in the natural resources sector.

He has given evidence in the High Court, in international arbitrations and before select committees of the UK Parliament.

### **Andrew Maclay**

BDO LLP

Andrew Maclay is a forensic accountant who has worked on many different types of investigations and disputes since 1996. He has an MA in economics from the University of Cambridge.

He is a chartered accountant, a certified fraud examiner and an accredited accountant expert witness.

He specialises in the quantification of damages in international arbitration, and has worked on disputes in many jurisdictions, particularly France and Switzerland, and in

west and east Europe, Africa and the Middle East. Between 1991 and 1994, he worked in Burundi, Africa and is fluent in French.

He has given evidence in international arbitration tribunals, the High Court, a criminal court and by way of deposition in US proceedings.

## **David Mitchell**

### **BDO LLP**

David is head of the valuations team at BDO LLP. He has over 15 years' valuation experience and works in a variety of industries, jurisdictions and forums, including the UK courts and international arbitrations.

He is a fellow of the Association of Chartered Certified Accountants and is a chartered tax adviser. He is also a member of the Society of Share & Business Valuers, the Royal Institution of Chartered Surveyors, and a guest lecturer at Brunel University.

He has been appointed as an expert on over 30 occasions and has given oral testimony in the UK courts, deposition, the Dubai International Financial Centre Court, and to arbitral tribunals in a number of jurisdictions.

He has extensive experience in both contentious and non-contentious matters. His main areas of expertise are in the field of natural resources, telecom, intangible assets, takeover disputes, transactions, and in the valuation of companies and damages quantification.

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ISBN 978-1-78915-098-8