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Methods for Presenting Expert Evidence

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Introduction

In 1782, Lord Mansfield said that 'in matters of science, the reasonings of men of science can only be answered by men of science'.[2] With this statement, his Lordship paved the way for expert opinions to be accepted as evidence designed to assist judges in common law courtrooms. Since the 18th century, the use of expert evidence has only continued to grow.[3]

Party-appointed experts are widely used in common law jurisdictions, such as the United Kingdom, where Lord Mansfield was speaking. Civil law has followed a different path, relying on court-appointed experts. In international arbitration, the two approaches have been combined but with increasing reliance by counsel from both traditions on party-appointed experts.[4]

This chapter discusses the challenges of expert evidence, from both party-appointed and tribunal-appointed experts, which can undermine the effectiveness of the evidence. The chapter then explores some ways in which these challenges may be overcome: first, considering existing solutions in international arbitration, then proposing approaches to resolving these issues that build on and supplement the existing mechanisms.

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2 *Folkes v. Chadd* (1782) 99 ER 589, 590.

3 Tal Golan, 'Revisiting the History of Scientific Expert Testimony' (2008), 73(3) *Brooklyn Law Review*, 879.

4 See International Bar Association, 'Rules on Evidence in International Arbitration' [IBA Rules]: (first edition, 1999), Articles 5 and 6, and (revised edition, 2010), Articles 5 and 6.

Before examining the challenges, however, it is instructive to consider the role of the expert witness and the distinctive approaches to expert evidence between common and civil law jurisdictions.

The role and type of expert witnesses in arbitration

The general role of expert witnesses, whether they be appointed by the parties or the tribunal, is to assist the tribunal in its decision-making by providing relevant and independent evidence in their area of expertise. Expert evidence is particularly valuable to arbitral tribunals in cases with complex factual and legal issues, as an expert can provide much-needed clarification to the tribunal on the more intricate points. As such, identifying the challenges associated with their use is vital to ensure that common traps are avoided and that maximum utility is derived from expert evidence.

There are three broad categories of expert evidence that can be identified: strictly technical expertise, legal expertise, and expertise on delay, disruption and quantum.[5] Technical experts assist when a dispute involves a specialist area of knowledge on which the tribunal may require assistance. Legal experts are primarily used to explain aspects of relevant laws with which the tribunal is not familiar. Finally, delay, disruption and quantum experts are sorters of facts, the analyses of whom are crucial to evaluating such claims. These experts are clearly distinguishable from and are deployed with greater regularity than technical experts.

There are important differences in the use of experts between common law and civil law jurisdictions. In common law domestic litigation, experts are almost invariably appointed by the parties, and only exceptionally by the court. Parties operating in an adversarial system retain control over the conduct of the proceedings and the way in which their case is presented, including the appointment, and deployment, of experts.

On the other hand, in the civil law domestic tradition, the court typically takes the initiative in appointing experts since it bears the primary responsibility for fact-finding.[6] The role of a tribunal-appointed expert is to assist the tribunal in reaching the 'objective truth'.[7] In litigation, court-appointed experts are remunerated by the court, although ultimately paid by the party who bears the costs of the litigation, and can be selected with little regard to submissions from the parties. It is said that this practice encourages experts to build favourable reputations with the court by rendering 'a careful, succinct and well-substantiated report' so that they will be retained again in other matters.[8]

5 Nigel Blackaby and Alex Wilbraham, 'Practical Issues Relating to the Use of Expert Evidence in Investment Treaty Arbitration' (2016) 31 *ICSID Review*, 655, 660.

6 Chartered Institute of Arbitrators, 'Guidelines for Witness Conferencing in International Arbitration' (April 2019).

7 Julian D M Lew, Loukas A Mistelis and Stefan Kröll, *Comparative International Commercial Arbitration* (Kluwer Law International, 2003) ch 22, 553–83.

8 John H Langbein, 'The German Arbitral Advantage' (1985) 52(4) *University of Chicago Law Review*, 823, 838.

In international arbitration, the procedure for the taking of evidence is a combination of both common law and civil law traditions.[9] Subject to any express agreement between the parties, experts can be appointed by a party or by the tribunal.[10] That being said, however, the use of party-appointed experts is the norm in practice, despite the extensive involvement of counsel and arbitrators with civil law backgrounds.[11]

What are the challenges?

The factual, technical and legal complexities that are characteristic of the disputes necessitating expert evidence amplify the challenges in expert evidence procedure. As international arbitration does not strictly ascribe to one type of expert witness (although party-appointed experts are predominantly used), this chapter considers the challenges relating to both party-appointed and tribunal-appointed experts.

Party-appointed experts

Partiality and bias

The first challenge with party-appointed experts is that of partiality and bias. It has often been lamented that party-appointed experts are nothing more than 'hired guns' who feel beholden to their appointing party and will advocate their case, whether consciously or not. According to the experience of some respondents in the 2012 Queen Mary University International Arbitration survey, the partisan behaviour of a party-appointed expert would often result in the appointment of a third expert by the tribunal, causing additional expense.[12] The problem is worsened by the appointment by counsel of arbitrators with civil law backgrounds who may be unfamiliar with the measures that domestic courts in common law systems have implemented in response to perceived bias,[13] or even of the issue itself.

The problem is twofold. First is the remuneration of party-appointed experts, who are employed and paid by the appointing party. This is not to suggest that the payment of fees itself leads to explicit bias, rather, the partiality exists on a more subconscious level. Experts may naturally feel inclined to use their testimony to 'assist' their appointing party's case.[14]

9 Rolf Trittmann and Boris Kasolowsky, 'Taking Evidence in Arbitration Proceedings Between Common Law and Civil Law Traditions: The Development of a European Hybrid Standard for Arbitration Proceedings', (2008) 31(1) *University of New South Wales Law Journal*, 330.

10 Most institutional rules and domestic legislative frameworks allow parties the freedom to determine the arbitral procedure and include express provisions for both party-appointed and tribunal-appointed experts: see United Nations Commission on International Trade Law, 'Model Law on International Commercial Arbitration' (1985, with amendments adopted in 2006), Articles 19, 26; International Chamber of Commerce, 'Arbitration Rules' (2017), Articles 25(3), 25(4).

11 Paul Friedland and Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process', 29.

12 id.

13 See, e.g., the Lord Woolf Reforms in the United Kingdom: Sir Harry K Woolf, *Acess to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales* (HMSO, 1996).

14 As observed by Sir George Jessel MR in *Abinger v. Ashton* (1873) 17 LR Eq 358, 374.

Second, and more insidiously, experts who are appointed by parties will develop a greater personal and professional connection with the party and counsel who appointed them. Again, it is not suggested that the time an expert spends with counsel or the party necessarily results in direct bias. However, the fact that the expert, in preparing for the hearing, will have had detailed exposure to only one side's case and materials has the potential to subconsciously influence his or her analysis and conclusions. Further, it would be similarly natural for an expert to feel more familiar with the counsel and parties with whom they have spent more time in preparation and discussion.

This is particularly relevant if the expert has been appointed in several different matters by the same law firm or party, an issue akin to repeat arbitrator appointments.[15] If expertise is required in niche technical areas from which there is only a limited pool of experts to select, repeat appointments can be common. One of the concerns with this is that the financial benefit accrued from being appointed repeatedly by the same party may amount to that expert having a financial interest in the outcome of the arbitration, to ensure that reappointment can continue. Finally, an expert who has been retained by a party on numerous occasions may have greater knowledge of relevant information about the party in other cases, which may affect his or her ability to give a neutral evaluation of the issues in the current case.

Of course, conflicting opinions and opposing conclusions between experts are sometimes simply a natural consequence of expert testimony on complex issues. The problem arises when differences in opinion and conclusion can instead be attributed to the reluctance of the experts to deviate from the 'party line'. This casts doubt on the fundamental utility of the evidence and, therefore, the value of a party-appointed expert's testimony has been criticised as being limited.[16] Concerns of partiality also engender suspicion between the parties and create a lack of confidence in the evidentiary procedure. At its most extreme, this could have implications regarding challenges to the final award.

Use of conflicting facts, data and methodology

There is also a risk that corresponding experts opining on the same issue will use different data sets, facts or methodologies in their reports.[17] The assumption that experts are analysing objective facts and, therefore, will necessarily come to the same conclusion, is misguided. Although in some instances there is a genuine difference in interpretation of the data, diverging conclusions can also be attributed to a number of other variables, including, but not limited to, the actual methodology, factual evidence and data sets used in the calculations.

15 Indeed, the 2018 Queen Mary University International Arbitration Survey considered whether experts should be 'held against the same standards of independence and impartiality as arbitrators': Paul Friedland and Stavros Brekoulakis, '2018 International Arbitration Survey: The Evolution of International Arbitration', 32–33.

16 See, e.g., Mark Kantor, 'A Code of Conduct for Party-Appointed Experts in International Arbitration' (2013) 26(3) *Arbitration International*, 323; Alexander Nissen, 'Expert Evidence: Problems and Safeguards' (2007) 25(7) *Construction Management and Economics*, 785, 789.

17 See Paul Friedland and Stavros Brekoulakis, '2018 International Arbitration Survey: The Evolution of International Arbitration', 33.

The difficulties here are self-evident. The existence of uncontrolled variables undermines the comparability of the experts' reports. Too often there are instances where the experts have passed each other like ships in the night, each using different facts or data on which to base their report. The subsequent analyses and conclusions presented in their respective reports cannot be usefully compared; had the experts used the same data set and facts, their conclusions may well be different. Further, had the data and facts been mutually used, the corresponding experts may have reached conclusions similar to one another, allowing them to narrow the issues. Failure to use common data sets and facts, therefore, hinders the tribunal's ability to use the experts' skills effectively and decreases the utility of the evidence.

The reliance on differing methodologies is a particularly relevant issue for experts in fields where there are a number of accepted methods that can be used to analyse data. The use of different – and sometimes conflicting – methodologies can result in similar issues, resulting in the tribunal being unable to sufficiently compare the experts' reports and assess the more persuasive position. This is the case even if both methodologies are independently acceptable – after all, apples and oranges are both acceptable fruits to eat, but that does not make it easy to compare them. Ultimately, the same issues of cost, delay and inefficiency arise out of the wasted utility of the evidence in these circumstances.

Asymmetric use of experts and over-reliance

The final issue is the asymmetric use of experts between parties and the increasing trend of over-reliance on expert evidence. There often arise situations in which one party wishes to adduce expert evidence on a certain topic while the other party has not thought it necessary, or when one party has called a multitude of experts on the topic, whereas the other has called only one. This asymmetric use of experts creates perceptions of unfairness between the parties, causing the other party to call further expert evidence despite the fact that it may be wholly superfluous. In some instances, parties will also attempt to run their case through their expert witnesses. Rather than adducing expert evidence only on the truly relevant issues, they attempt to construct their entire case through the evidence.

Much of this use of expert evidence is a misguided effort by parties to bolster their case, wrongly believing that the number of experts called adds to the strength of their submissions. The opposite is so; excessive and unnecessary reliance on expert evidence is often nothing more than a drain on time, money and efficiency of the arbitral process.

Tribunal-appointed experts

Although the use of party-appointed experts remains prevalent in arbitration, there have been calls for greater use of tribunal-appointed experts to avoid some of the issues that have been observed with their party-appointed counterparts. For example, the Rules on the Efficient Conduct of Proceedings in International Arbitration (the Prague Rules) were developed by a working group of primarily civil law practitioners from central Europe[18] as a response to growing concerns about the lack of guidelines and protocols that adopt civil law

18 G Stampa, 'The Prague Rules' (2019) 35(2) *Arbitration International*, 221–44.

traditions.[19] Accordingly, the procedure suggested by the Prague Rules is heavily influenced by civil law practices. Article 6 of the Prague Rules stipulates that the tribunal may appoint an expert either at the request of a party or of its own initiative, where expert opinion is necessary.[20] When selecting an expert, the tribunal may have regard to candidates proposed by the parties, but is not bound by them.[21] Although party-appointed experts are not precluded in the Prague Rules, they appear to be secondary to tribunal-appointed experts.

The obvious advantage of using tribunal-appointed experts is in reducing expert partisanship. In theory, removing the financial incentive and other connections between an expert and the appointing party decreases the likelihood that the expert will be biased. The appointment of an expert by the tribunal reinforces the notion that the expert's ultimate duty is to the tribunal, and to be independent and impartial. Implementing procedures such as allowing the parties to each suggest a list of names and subsequently having the tribunal appoint one expert from each list may achieve a balance between the parties' autonomy to run their cases and concerns of impartiality.[22] The use of a single tribunal-appointed expert on each issue can also mitigate the other concerns regarding conflicting data sets among experts and the asymmetric use of experts, by virtue of the fact that there will be only one expert.

There are, however, significant disadvantages to tribunal-appointed experts. First, and especially relevant to parties more familiar with the adversarial system, the tribunal appointment of experts removes the parties' autonomy to control their case. One of the reasons why international arbitration is so appealing to parties is because it allows them the freedom to decide the procedure of the dispute in a way that best showcases their submissions.[23] The way in which expert evidence is presented may be critical to a party's case, and to remove the party's ability to direct the presentation is a source of major concern.[24] A further issue is that parties are nevertheless free to call their own experts to contradict the tribunal expert, leading to greater cost than would have been the case without the tribunal expert initially.

Another concern is that the reliance on evidence from an expert appointed by the tribunal will result in the dispute being effectively decided by the expert as a 'fourth arbitrator'. The use of a tribunal-appointed expert bears with it the risk that the tribunal will rely too heavily on the expert's opinion, rather than making its own determination about the parties' submissions. The tribunal may end up delegating key decision-making

19 See A Rombach and H Shalbanava, 'The Prague Rules: A New Era of Procedure in Arbitration or Much Ado about Nothing?' (2019) 17(2) *German Arbitration Journal*, 53–54.

20 Rules on the Efficient Conduct of Proceedings in International Arbitration (2018), Article 6.1.

21 id., Article 6.2(a).

22 As proposed by Klaus Sachs at the 2010 ICCA Congress: Klaus Sachs, 'Experts: Neutrals or Advocates' (2010, ICCA Congress, Conference Paper), 13–15. However, even in those circumstances, query the true impartiality of the experts, the parties having proposed their names in the first place.

23 Respondents to the 2019 Queen Mary University International Arbitration Survey noted that the ability to tailor the arbitral process was a key advantage of arbitration: Paul Friedland and Stavros Brekoulakis, '2019 International Arbitration Survey: Driving Efficiency in International Construction Disputes', 23.

24 Klaus Sachs and Nils Schmidt-Ahrendts, 'Protocol on Expert Teaming: A New Approach to Expert Evidence' in Albert Jan van den Berg (ed), *Arbitration Advocacy in Changing Times* (ICCA Congress Series No. 15, Kluwer Law International, 2011) 135, 141.

responsibilities to the expert. Whether or not this actually occurs, there arises nevertheless a perception issue, as parties are more inclined to believe that the tribunal is abdicating its function, which is similarly problematic.

Finally, and relatedly, the use of only a single expert appointed by the tribunal could be equally unfair in determining the dispute, as the tribunal will be given only one perspective of the issue. Even if that perspective is impartial and unbiased, it may be wrong, or fail to take account of a methodology of relevant theory to which the single expert is unsympathetic. To rely only on one expert would force the tribunal to almost blindly accept his or her conclusions. Having multiple experts engage on the one issue allows for debate and discussion of differing approaches. The central premise of the adversarial system of law is that it is easier for a tribunal to make determinations when it is provided with multiple perspectives that challenge each other. Although this problem can be remedied by the tribunal appointing more than one expert per issue, the other concerns relating to tribunal appointed experts would remain.

What are the solutions?

Having outlined some of the challenges that arise with expert witnesses, it is appropriate to explore some ways in which these challenges can be mitigated. This section first considers existing solutions: frameworks in arbitral institutional rules and use of expert witness conferencing. It then proposes a novel method of proactive case management and a series of best practice directions which, it is argued, better address the challenges to expert evidence previously mentioned.

Existing solutions

Arbitral institutional guidelines

Most institutional rules contain only general provisions on the process of taking evidence,[25] leaving the details to be determined by the parties and the tribunal. However, the International Bar Association (IBA) Rules on the Taking of Evidence in International Arbitration 1999, amended in 2010, and the 2007 Chartered Institute of Arbitrators (CIArb) Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration have developed more comprehensive standards of conduct in relation to the taking of evidence, including arrangements for party-appointed experts.[26] These include setting out principles of independence, duty and opinion that should guide the expert's evidence, requiring statements of independence, and some procedural guidance.

Despite provisions in institutional guidelines, however, it is unclear whether the regulation of evidence procedure itself, through codes of conduct and protocols, actually reduces partiality and bias in experts. It has been suggested that the prescribed statements of independence 'conflate "impartiality" and "objectivity" with "independence"'.[27] An expert

25 id., 137.

26 IBA Rules (2010); Chartered Institute of Arbitrators, 'Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration' (September 2007).

27 Mark Kantor, 'A Code of Conduct for Party-Appointed Experts in International Arbitration' (2013) 26(3) *Arbitration International*, 323, 329.

can be outwardly 'independent' from the appointing party, while nevertheless harbouring subconscious biases that may influence his or her report. Neither the IBA Rules nor the CIArb Protocol themselves explain how an expert can actually be independent, and not merely show independence. This limits the existing institutional guidelines from being anything more than a mere statement of principle.

Expert witness conferencing

Expert witness conferencing, also known as 'hot-tubbing', refers to the practice of taking evidence from experts from similar disciplines together. This enables each expert to engage both with the tribunal and with each other in a forum-like discussion on the differences in their analyses and conclusions. This method of taking evidence is especially effective in complex arbitrations that have difficult factual and technical issues and in which the parties rely on evidence from multiple expert witnesses. In those cases, the conventional approach of examining witnesses from each side in a linear fashion can be confusing. This is the case particularly if there is a large number of witnesses and opposing expert witness testimony is heard days apart.

By taking expert evidence via witness conferencing, experts are able to engage with opposing views directly and in succession, thus facilitating deeper examination of the most contentious issues. The experts can keep one another accountable for their views, and are less likely to present strongly partisan opinions in the presence of peers who are able to challenge those opinions directly.

Guidance on expert witness conferencing can be found in procedures developed by common law courts. Australian courts were a pioneer of the technique[28] and the New South Wales Supreme Court Practice Note SC Gen 11 on 'Joint Conferences of Expert Witnesses' is a useful source of direction on the topic. It states that the objectives of witness conferences include:

- *the just, quick and cost-effective disposal of the proceedings;*
- *the identification and narrowing of issues in the proceedings during preparation for such a conference and by discussion between the experts at the conference. . . . ;*
- *the consequential shortening of the trial and enhanced prospects of settlement;*
- *apprising the court of the issues for determination; . . . and*
- *avoiding or reducing the need for experts to attend court to give evidence.*[29]

28 Megan A Yarnall, 'Dueling Scientific Experts: Is Australia's Hot Tub Method a Viable Solution for the American Judiciary?' (2009) 88 *Oregon Law Review*, 311, 312.

29 Supreme Court of New South Wales, 'Practice Note SC Gen 11: Joint Conferences of Expert Witnesses', 17 August 2005, [5].

These principles are equally applicable to the use of expert conferencing in arbitrations, where witness conferencing is becoming an increasingly popular method for taking expert evidence.[30] In 2019, the CIArb published its new Guidelines for Witness Conferencing in International Arbitration, which provide a flexible structure allowing parties and tribunals to adopt witness conferencing provisions in a way that best suits their arbitration.[31]

Proposed solutions and best practice

Despite the existing solutions, there is room to improve what already has been done. This chapter proposes two additional approaches. The first is a process of proactive case management of party-appointed experts from an early stage in the procedural history of an arbitration. The second is a method that allows experts to be accessed and used by the tribunal after the hearing stage for the purposes of calculations in the final award.

It should be noted that these approaches assume the use of party-appointed experts. It is contended that the proposed approaches assist in managing the challenges of party-appointed experts, whereas little can be done to overcome the difficulties, as described earlier, associated with tribunal-appointed experts.

Proactive case management directions

The value of expert evidence can be increased by proactive case management. The aim of the suggested practice directions is to maximise efficiency by focusing on limiting the differences between experts prior to the evidentiary hearing. At each stage of the process, the issues or topics requiring expert evidence are streamlined, and the variables between the experts and their opinions are reduced. This process helps to ensure that each party-appointed expert's report engages squarely with the issues raised by the other. The process of limiting the differences also means that even if there is bias on the part of the expert, then the scope of the bias is also limited. At the hearing stage, therefore, only the most relevant issues are ventilated and, consequently, hearings can be conducted more expeditiously with less expense.

The following process is proposed:

- first, identify the disciplines in need of expert evidence and propose which experts are to give evidence in each discipline;
- second, establish within each discipline a common list of questions;
- third, defer the production of all expert reports until all factual evidence (documentary and witness) is available and ensure that the experts opine on a common data set;
- fourth, require the experts within each discipline to produce a joint expert report that identifies areas of agreement and disagreement;
- fifth, require the experts within each discipline to produce individual expert reports on areas of disagreement only; and

30 The majority of respondents (62 per cent) in the 2012 Queen Mary University International Arbitration Survey believed that expert witness conferencing should take place more often: Paul Friedland and Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process' (Survey, 2012), 28.

31 Chartered Institute of Arbitrators, 'Guidelines for Witness Conferencing in International Arbitration' (April 2019), 16–17.

- sixth, require the experts to produce 'reply' expert reports containing views in the alternative, showing what their conclusions would be if the other expert's assumptions and methodologies were accepted by the tribunal.

Above all, the effectiveness of the proposed directions depends on consistent preparation and proactive case management from the tribunal. It is important that the tribunal remains honest about acknowledging the difficulties of adducing expert evidence by the arbitral tribunal and maintains open communication with the parties on those issues. As a matter of general guidance, the tribunal should raise this issue with the parties at the earliest practical stage of the proceedings, to ensure that all involved are aware of the ensuing process.

The proposed six steps are now explored in greater depth.

First, it is necessary to determine at an early stage the disciplines for which expert evidence is required and, with tribunal approval, to identify and appoint the relevant experts. This ensures from the outset that evidence will be tendered only on the relevant issues. It is not uncommon for parties to object to certain suggested experts, or to the need for experts at all on particular issues. Identifying the experts at this stage enables these objections to be dealt with early on. Parties may also find that, in the process of determining the relevant issues, the scope or value of their dispute on those issues do not warrant the production of expert evidence. To further reduce inefficiencies in the evidentiary procedure, only one expert on each side should opine on any given issue.

Once the experts have been appointed and the relevant disciplines selected, the tribunal must establish within each expert discipline a common list of questions for the appointed experts to answer. It is vital that the tribunal maintains active oversight over this process, for instance, assisting where parties are unable to agree on the questions to be asked.

Next, the experts within a single discipline should provide their opinions on the basis of the same factual evidence and a common data set. An expert should not have any more or any different information from the other experts in the same field. Accordingly, any expert reports should be deferred until production of the factual evidence (both documentary and lay witness) so that all experts have the fullest knowledge of the facts and circumstances of the matter. Furthermore, the experts must use a common data set to limit the number of uncontrolled variables that could cause differences in outcome in each expert's report. If any differentials in information are identified, the experts should inform the tribunal so that they can be corrected or accounted for. If the facts are mutually understood (even if disputed), any divergence in the expert reports can be attributed to the expert's genuine analysis, rather than a difference in factual material available to them.

After detailed, without prejudice conferral and exchanges of without prejudice drafts between themselves, the experts should provide joint reports identifying areas of agreement and disagreement, with reasons for their disagreements. Individual expert reports should be produced only after this stage and only on the areas of disagreement.

Requiring experts to produce joint reports before individual reports allows them to discuss their positions provisionally, without having committed themselves to a particular position in their individual reports. This can be useful for experts to test their preliminary conclusions and analyses. In this respect, subject to party agreement, it is critical for the

experts to meet periodically, without the presence of the parties' representatives. If there is to be any possibility of common ground between the experts, it is much more likely to be achieved before the experts have formally declared positions from which they must retreat.

It is to be expected, of course, that the experts may reach diverging conclusions. If these differences are attributable to particular factual assumptions, it is important that the experts also provide their opinions on the basis of the factual assumptions adopted by their counter-expert. Essentially, this asks the experts to consider whether, if they adopted all the same factual assumptions as their counter-expert, they would reach the same outcome, or a different outcome, and, if different, what that difference would be.

This approach is useful because the value of the experts' evidence is often contingent on the tribunal's findings on certain issues. It prevents a situation in which, if the tribunal decides a particular factual issue one way, it is left with the assistance of only the expert who relied on that same assumption. The proposed directions ensure that experts from both sides consider all the possible factual assumptions and methodologies that may be adopted by the tribunal. Consequently, their final expert reports can be used regardless of the position eventually taken by the tribunal.

The tribunal should also inform the parties and experts that they should respond only to the expert reports served by the opposing side and should not refer to any new issues not already addressed. This avoids any further proliferation of unnecessary and irrelevant evidence.

It is critical that the tribunal remain proactively engaged throughout this process. Constant review and oversight by the tribunal in case management conferences is vital to ensuring the success of each step of this process. Although this approach may appear to be labour-intensive and time-consuming, the author's experience has shown that the time and cost expended at this early stage will save a vast amount of time and cost in the future.

It is only at this stage, after these six steps have been followed, that the value of the evidence can be maximised from witness conferencing or hot-tubbing at the hearing. Tribunals wishing to implement witness conferencing should pay particular attention to the conferral of experts and joint reports to narrow the scope of the issues requiring expert evidence. This will ensure that the yield from the conference is as productive and valuable as possible.

Post-hearing experts access protocol

The second proposed solution concerns the involvement of experts after the main evidentiary hearing. Some may find this to be a radical proposal – what use remains of expert witnesses after they have provided their testimony? The answer is that experts – especially quantum experts – continue to have a valuable, and underused, role to assist the tribunal in their calculations regarding the final orders.

This concept has been realised in what this chapter terms an 'experts access protocol'. This is a tripartite agreement between the tribunal, the parties and the relevant set of experts (usually quantum experts, although the protocol can be transposed for other expert disciplines).

The protocol contains a mutual agreement that the tribunal is able to communicate with the experts solely for the purpose of performing calculations on the basis of existing material contained in their expert reports forming part of the evidentiary record. Those

communications are to be kept entirely confidential from the parties, until the tribunal's final calculations are provided to the parties with the award. The protocol stipulates in express terms that the tribunal's communications with the experts must not involve the provision of expert opinion, rather only the performance of calculations.

The utility of such a framework becomes clear in complex proceedings. In cases, for instance, where issues of quantum are multifactorial and highly variable based on numerous different assumptions, the assistance of quantum experts for calculation purposes is invaluable. In some circumstances, it may be appropriate to require the quantum experts to prepare a valuation 'model' ahead of time that allows the tribunal to input certain data and receive a valuation output. In other cases, however, especially those that are more complex, the creation of such a model would be disproportionately time-consuming and expensive. Instead, the more efficient approach would be for the tribunal to decide the factual matters and subsequently provide that information confidentially to the quantum experts for them to agree on the ultimate valuation.

One might ask why the tribunal would take this route, rather than simply publishing its reasons and requesting that the parties attempt to agree on the consequential orders to be made. There are three reasons why this approach should be preferred.

First, in some cases, there are serious concerns regarding asset preservation. Limiting the amount of time between when the parties can infer the outcome of the arbitration, for example by reading the tribunal's reasons, and when the final orders are made mitigates that risk. Second, in arbitrations involving publicly listed corporations, parties may be subject to continuous disclosure obligations relating to share market issues. If information is provided that can be translated into potential outcomes, a dispute may arise as to whether there has been a failure for one party or the other to meet those disclosure requirements. Third, and on a practical level, this approach ensures that the parties (both the client and its legal representatives) are simultaneously provided with a complete and comprehensive statement of their rights and liabilities, as finally determined by the tribunal.

Conclusion

Since Lord Mansfield's 1782 decision in *Folkes v. Chadd*, the use of expert witnesses has evolved dramatically. In circumstances where expert evidence has become so valuable to tribunals, it is critical that the issues that reduce its utility are adequately addressed. This chapter has sought to identify the most pressing challenges in expert evidence, including expert bias, the use of conflicting data and overuse of expert evidence.

This chapter sets out a framework, which supplements existing mechanisms, to address these issues. The solutions suggested, at their core, seek to limit both the amount and scope of expert evidence required and the differences between corresponding experts prior to the hearing. The intended result of this process is that only the evidence that is truly necessary is tendered. This technique will increase the efficiency of the process and the utility of the evidence, and reduce the effects of any underlying expert bias. It is hoped that this chapter, and the approaches proposed, will assist parties and tribunals to maximise the value of expert evidence.