CONSTRUCTION LAW INTERNATIONAL

FROM THE IBA INTERNATIONAL CONSTRUCTION PROJECTS COMMITTEE OF THE ENERGY, ENVIRONMENT, NATURAL RESOURCES AND INFRASTRUCTURE LAW SECTION (SEERIL)

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INTERNATIONAL BAR ASSOCIATION

the global voice of the legal profession

Defending claims relating to the use of artificial intelligence

Duty to warn in construction contracts

Alternative dispute resolution methods applied to construction

International Bar Association Events 2024

Conference

April 2024

IBA Annual Litigation Forum
17–19 April, Amsterdam, Netherlands

Biennial Conference of the Section on Energy, Environment, Natural Resources and Infrastructure Law (SEERIL): A transformative era of action for the law and lawyers - implementing the energy transition and global sustainability
17–19 April, Universidad Externado de Colombia, Bogota, Colombia

6th IBA French-Spanish Day 2024
18 Apr 2024 La Maison de l'Amérique Latine, Paris, France

33rd Annual IBA Communications and Competition Law Conference
22–23 April, Brussels Marriott Hotel Grand Place, Brussels, Belgium

IBA European Fashion and Luxury Law Conference
22 – 23 April, Terrazza Martini, Milan, Italy

May 2024

39th Annual IBA/IFA Joint Conference
7–8 May, Grand Hyatt, Washington, USA

26th Annual Transnational Crime Conference
8–10 May, Milan, Italy

8th Global Entrepreneurship Conference
13 – 14 May, Real Fábrica de Tapices, Madrid, Spain

39th IBA International Financial Law Conference
15 – 17 May, The Alex Hotel, Dublin, Ireland

By invitation only: IBA Mid-Year Leadership meetings 2024
22 – 25 May, JW Marriott Bucharest Grand Hotel, Bucharest, Romania

17th Annual Bar Leaders' Conference
22 – 23 May, JW Marriott Bucharest Grand Hotel, Bucharest, Romania

10th Annual IBA World Life Sciences Conference
29 – 31 May, Círculo de Bellas Artes de Madrid, Madrid, Spain

June 2024

29th Annual IBA Global Insolvency and Restructuring Conference
2 – 4 June, Kunsthaus, Zürich, Switzerland

21st Annual International Mergers & Acquisitions Conference
5 – 6 June, The Plaza Hotel, New York, USA

Balkan Legal Forum
6 – 7 June, Sofia, Bulgaria

IBA Global Challenges and Opportunities for the Asset Management Industry Conference
9 – 11 June, The Ritz-Carlton , Boston, USA

IBA Maritime and Transport Law Committee Conference
12 – 14 June, Le Méridien, Hamburg, Germany

20th Annual IBA Anti-Corruption Conference
12 – 13 June, OECD, Paris, France

16th Annual US and Latin America Tax Practice Trends
12 – 14 June, Mandarin Oriental, Miami, USA

18th Annual IBA Competition Mid-Year Conference
17 – 18 June, The Savoy, London, England

2nd IBA Global Professional Ethics Symposium
26 – 28 June, Law Society of Ireland, Blackhall Place , Dublin, Ireland

July 2024

IBA Law Firm Management Committee Academy for Leaders
24 – 27 July, King's College London, London, England

August 2024

The role of the courts in arbitration: an Asia Pacific perspective
28 August, Singapore

September 2024

28th Annual Competition Conference
6 – 7 September, St Regis Florence, Florence, Italy

October 2024

IBA Private Equity Transactions Symposium 2024
17 October, The Savoy, London, England

IBA 2024
MEXICO CITY
15–20 SEPTEMBER
ANNUAL CONFERENCE OF THE INTERNATIONAL BAR ASSOCIATION

Webinars 2024

APRIL 2024

The different ethical and professional rules for witness preparation/coaching, including implications for online/hybrid examination of witnesses
17 April, 1400 – 1500 BST

Accountability for Nagorno-Karabakh
23 April, 1700 – 1800 BST

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Full and further information on upcoming IBA events can be found at:
bit.ly/IBAevents

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REGULARS

FEATURES

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FROM THE CO-CHAIRS

Dear International Construction Projects Committee members,

As we welcome the second quarter of 2024, we pause to celebrate our progress, anticipate the challenges that lie ahead, and reaffirm our commitment to advancing the global construction industry through the dedicated endeavours of our esteemed IBA International Construction Projects Committee (ICP).

Celebrating our achievements

Recent months have showcased the resilience and innovation at the heart of our committee. The ICP panels during the IBA Annual Conference in Paris, focusing on cutting-edge construction topics, brought together moderators, speakers and ICP members from around the world, demonstrating our shared pursuit of excellence and innovation.

Looking forward

The future brims with promising opportunities and formidable challenges, reflecting the dynamic nature of our industry. We are excited to announce several key initiatives:

1. 2024 Biennial Conference of the Section on Energy, Environment, Natural Resources and Infrastructure Law (SEERIL) in Bogotá, Colombia: Set for 17–19 April, this landmark event is poised to mark a transformative era for the law and lawyers, with a focus on the energy transition and global sustainability.
2. 2024 Working Weekend in Oxford, England: Scheduled for 25–28 April, this gathering will address pivotal topics, bringing together approximately 60 ICP members for in-depth discussions and networking.
3. 2024 IBA Annual Conference in Mexico City, Mexico: From 15–20 September, we will reconvene to explore new frontiers. Our traditional Wednesday dinner and the eagerly anticipated ICP excursion on Friday 20 September will provide further opportunities for engagement and camaraderie.
4. 2025 Biennial Conference on Construction Projects from Conception to Completion in Milan, Italy: Promising to be a pivotal platform for knowledge sharing, networking, and professional development, this hallmark event is not to be missed.

A call to collaborate

We wholeheartedly encourage all ICP members to contribute to *Construction Law International* (CLInt). Your insights, research and case studies are crucial to our collective knowledge base. For those interested in publishing, all necessary information can be found on the dedicated page for CLInt (www.ibanet.org/Publications/publications_construction_law_international), ensuring your contributions reach a wide and engaged audience.

We also urge every member to deepen their involvement with the ICP's initiatives. Whether you're eager to support existing projects or have new ideas to propose, please reach out. Your active participation is the bedrock of our community's success and continuous innovation. For those interested in getting involved, check the list of the ICP's new officers and get in touch with them to indicate your interest in helping.

The diversity within our committee is our greatest strength, fostering a culture of inclusivity and collaboration. We encourage every ICP member to participate in upcoming events, get involved with our initiatives and share their innovative ideas.

Together, let's expand the boundaries of our knowledge and explore new solutions for innovation, sustainability, and collaboration in the construction sector. Here's to a year rich with growth, inspiration and impactful achievements.

Warmest regards,

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Co-Chairs, International Construction Projects Committee

FROM THE EDITORS

Dear readers,

We are delighted to introduce the April issue of *Construction Law International* (CLInt) and to welcome the new editorial team. China Irwin is now the Chair of the Editorial Board, Thayananthan Baskaran is the Committee Editor, and Eric Franco is the Deputy Committee Editor.

This issue continues our FIDIC around the world series with contributions from Japan and Qatar, an update from India, and a response to our diversity questionnaire from the United Arab Emirates.

Our feature articles in this issue cover a wide range of topics, including what a contractor or design professional would need to do to defend a claim arising from the use of artificial intelligence in a construction project, the duty to warn in construction contracts, and the law and economics doctrine and alternative dispute resolution methods applied to construction contracts.

We are also pleased to share with our readers a checklist on the pros and cons of EPC contracts, which was discussed at the IBA Global Conference in Paris in October 2023.

We thank our contributors for sharing their experience and insights. As always, we encourage all International Construction Projects Committee members to contribute to CLInt by submitting articles to Thayananthan Baskaran at thaya@baskaranlaw.com.

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DIVERSITY AND INCLUSION QUESTIONNAIRE

UAE

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1. What is your current role or title?

I am the Lead Counsel for International Arbitration at Al Aidarous Advocates and Legal Consultants in the United Arab Emirates (UAE). I am also a litigator with full rights of audience in the common law courts of the DIFC (Part 2), Supreme Court of Singapore, Singapore International Commercial Courts and the Astana International Financial Courts.

2. When starting out in your career, did you have any role models?

Early in my career, I drew inspiration from two notable figures: my late father and a senior consultant at my first firm. Their influence on my approach to problem-solving and legal strategies has become ingrained in my professional repertoire. Both served as mentors in the truest sense, imparting invaluable wisdom through their actions – an approach reminiscent of a traditional mentorship model.

My late father, a source of profound guidance, instilled in me a strong work ethic and a commitment to integrity. His principled approach to both personal and professional matters left an indelible mark on my perspective. Additionally, the seasoned consultant at my first firm played a pivotal role in shaping my understanding of the legal intricacies and nuances within the professional domain. Learning from their examples not only facilitated the development of my skills but also provided a solid foundation for ethical and effective decision-making.

Characterised by a blend of traditional values and contemporary expertise, the influence of these two individuals significantly influenced my early professional years. The subtle nuances and intricacies observed during this period laid the groundwork for my subsequent endeavours in the legal field. Through their mentorship, I cultivated a mindset that values both the timeless principles of integrity and the dynamic strategies required in the legal profession.

3. What advice did you receive which helped you progress in your career?

The most impactful advice I received on advancing in my career emphasised the virtues of honesty and hard work. The guidance underscored that, in the long run, these qualities inevitably pave the way for favourable outcomes.

Beyond the professional realm, an additional nugget of wisdom emphasised the importance of kindness. It was framed as a sort of 'Karma passport', suggesting that cultivating a compassionate and considerate approach not only benefits others but also contributes positively to one's own journey.

Implementing this advice in my career has not only yielded positive results but has also fostered a sense of fulfilment in knowing that success is not only measured by personal achievements but also by the positive impact one can have on others.

This holistic perspective, encompassing honesty, hard work and kindness, continues to guide my professional journey, contributing to a meaningful and purposeful career progression.

4. Do you think that diversity is improving in your particular professional area?

The landscape of diversity within the legal professional domain has undergone significant improvement. A burgeoning talent pool now comprises individuals from diverse countries, contributing to the transformation of the legal profession in the UAE into a dynamic melting pot characterised by a blend of various nationalities, ethnicities and, of course, gender representation. This amalgamation of diverse perspectives and backgrounds has undoubtedly enriched the practice of law in our context.

The infusion of varied cultural perspectives and experiences into the legal profession has not only broadened the collective knowledge base but has also fostered an environment of inclusivity. The richness of this diversity has become a distinctive feature, enhancing the professional fabric of our legal community. It goes beyond mere representation; it has become an integral component that contributes to the depth and dynamism of the legal practice in the UAE.

Embracing diversity in this manner not only reflects a commitment to equality but also cultivates a more robust and innovative professional ecosystem. The diverse talent pool serves as a

testament to the evolving nature of the legal landscape, demonstrating that a broad spectrum of voices and backgrounds significantly contributes to the overall enrichment and advancement of the legal profession in our region.

5. What positive steps have you seen organisations take to progress diversity and inclusion?

I have observed several commendable initiatives undertaken by organisations to advance diversity and inclusion within their ranks. One notable stride involves a conscious effort to diversify top and key roles through a more inclusive approach to interviewing and recruitment. By expanding the selection process, organisations actively seek out individuals from various nationalities and genders, in growing recognition of the wealth of talents that a diverse workforce offers.

A key aspect of this positive shift is a commitment to minimise stereotyping and profiling in the evaluation of candidates. Organisations are increasingly realising the importance of assessing individuals beyond the constraints of nationality, gender and ethnicity. This nuanced approach aims to foster a more inclusive and equitable environment by acknowledging and valuing the unique skills, perspectives and experiences that each candidate brings to the table.

In essence, these positive steps go beyond superficial diversity metrics, aiming to create a workplace that genuinely values and celebrates differences. By consciously challenging biases and broadening their perspectives, organisations are not only enriching their talent pools but also cultivating environments where diversity is seen as a catalyst for innovation, creativity and overall organisational success.

6. What aspects do you think are still ripe for improvement in organisations?

There remains a significant opportunity for improvement within organisations, particularly in addressing the persistent issue of disparate remuneration for individuals performing the same roles but hailing from different countries.

The current tendency to assign different salaries based on nationality underscores an inherent challenge that needs rectification. Over-reliance on passports as a determining factor, coupled with outdated distinctions between 'first-world' and 'third-world countries', perpetuates inequalities that are incongruent with the contemporary social and economic landscape.

A crucial area requiring attention is the need for a mindset shift within organisations. While social and economic realities have evolved, the corresponding change in mindset has lagged behind. Organisations need to proactively challenge and overhaul these antiquated concepts, recognising that talent, expertise and contributions should be valued uniformly, irrespective of nationality or geographic origin.

In essence, organisations must prioritise dismantling these outdated structures, embracing a more equitable compensation model and fostering a mindset that acknowledges the true value of individuals irrespective of their nationality. By doing so, organisations can not only enhance workplace equity but also position themselves as leaders in creating diverse, inclusive and forward-thinking environments.

7. What are the indicators of when a reasonable diversity balance is reached?

Indicators of achieving a balanced diversity are most palpable when the ideas generated and solutions devised within an organisation display a notable level of creativity and multifaceted perspectives. A reasonable diversity balance is reflected in the ability of the workforce to contribute innovative insights that stem from a variety of backgrounds, experiences, and viewpoints.

When creative ideas emerge from collaborative efforts that encompass diverse perspectives, it suggests that the organisation has cultivated an environment where individuals feel empowered to express their unique viewpoints. This inclusivity is not limited to superficial diversity metrics but extends to a genuine integration of varied perspectives, enabling the synthesis of innovative and well-rounded solutions.

Additionally, a well-balanced diversity is characterised by a workplace culture that encourages open dialogue and constructive debate. When teams engage in discussions that incorporate a range of perspectives, it signifies an atmosphere where diversity is not only present but actively embraced. This dynamic interchange of ideas often leads to more comprehensive problem-solving and strategic decision-making processes.

Ultimately, the realisation of a reasonable diversity balance is marked by the organisation's ability to harness the collective intelligence and creativity of its diverse workforce. It goes beyond mere representation to the tangible impact on the quality and ingenuity of ideas, fostering a culture where diversity is not just a concept but a driving force behind innovation and excellence.

8. What do diversity and inclusion mean to you and why are they important?

To me, diversity and inclusion encapsulate the ability for individuals from varied backgrounds to seamlessly collaborate towards a shared purpose. It goes beyond merely acknowledging differences; it involves embracing them as opportunities for meaningful engagement and knowledge-sharing.

My perspective on this is deeply rooted in my experience coming from a multiracial country, where I've witnessed first-hand the significance and value derived from individuals with diverse life experiences working harmoniously together.

In practical terms, diversity has played a pivotal role in shaping my social adaptability and cultural sensitivity. Exposure to people from different walks of life has not only broadened my understanding but has also instilled in me the ability to navigate diverse environments with ease. This has been especially relevant in an era where the world has transformed into a global village, transcending the artificial constraints of national borders.

The interconnectedness facilitated by social media and the accessibility of travel have made diversity and inclusion integral aspects of our interconnected world. The necessity for understanding, appreciating and collaborating with individuals from diverse backgrounds is no longer a choice but a fundamental requirement for navigating the complexities of our globalised society. In essence, diversity and inclusion are not just buzzwords; they are essential principles that foster innovation, enrich perspectives and contribute to the fabric of a more interconnected and harmonious global community.

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FIDIC AROUND THE WORLD

Qatar

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1. What is your jurisdiction?
Qatar.

2. Are the FIDIC forms of contract used for projects constructed in your jurisdiction? If yes, which of the FIDIC forms are used, and for what types of projects?
Yes, the FIDIC forms of contract are frequently used in construction projects in Qatar. In particular, projects executed by the government and public entities such as the Public Works Authority (Ashghal), General Electricity and Water Corporation (Kahramaa) and Qatar Petroleum are usually based on the FIDIC Red Book form of contract, where the main contractor carries out the construction works with the initial design issued by the employer.

The Yellow Book FIDIC form of contract is also relied on by government and public entities in cases where the contractor is responsible for both the design and construction of the project.

Moreover, several major projects in Qatar, such as the Hamad International Airport project in Doha, have been executed under the Green Book FIDIC form of contract.

3. Do FIDIC produce their forms of contract in the language of your jurisdiction? If not, what language do you use?
FIDIC does produce its full suite of contract forms in Arabic. On 14 January 2019, the Law on the Protection of the Arabic Language was enacted in Qatar by way of Law No 7 of 2019. This law mandates that all ministries, government agencies, public bodies and institutions in Qatar use the Arabic language in their regulations, instructions, documents, contracts and correspondence, among others. As a result, the FIDIC contracts are usually adopted in Arabic in contracts entered into with government entities. However, given that the construction industry often involves international parties, English versions of the FIDIC contracts are popular and are simultaneously adopted in contractual arrangements with government entities.

In contractual relationships lower down the supply chain between main contractors and subcontractors, the FIDIC forms of contract are usually executed only in English.

4. Are any amendments required in order for the FIDIC Conditions of Contract to be operative in your jurisdiction? If yes, what amendments are required?
Generally speaking, Qatari law respects parties' freedom to contract and contractual clauses agreed between the parties in their contract are considered to be binding as long as the clauses do not contravene any mandatory Qatari law provisions. These mandatory provisions are mainly contained within the Qatari Civil Code, which expressly states that any contractual term to the contrary is void. In addition, provisions that breach public order or morality will also be considered void. Mandatory provisions under Qatari law cannot be contracted out of, even with the agreement of both parties.

One of the key mandatory provisions contained within the Qatari Civil Code is the reduction of pre-agreed damages in circumstances where it can be shown that the pre-agreed sum does not reflect the actual loss suffered, is grossly exaggerated or if the obligation has been partially performed. Another mandatory provision that cannot be contracted out of is the strict liability imposed on the contractor and the engineer with respect to any collapse or defect related to the integrity of the building under Qatari law. This liability lasts for 10 years and is known as 'decennial liability'. Under this provision, the contractor is liable for the defect related to the workmanship but will not be liable for the defective design unless the same should have been discovered by the contractor in accordance with the principles of the profession. In this case, the contractor is obligated to refuse to execute the works and to warn the employer about the defective design. Otherwise the contractor will be jointly liable with the engineer for any damages.

Another mandatory provision in contracts entered into with the Qatari government or semi-government entities is that the total amount of pre-agreed damages must not exceed 10 per cent of the value of the contract. Therefore, in contracts with a Qatari public entity, a contractor's liability for delay damages will be capped at 10 per cent of the contract price.

Where any clause in the FIDIC Conditions of Contract is not amended in line with the mandatory provisions of Qatari law, the clauses that contravene the mandatory provisions will not be enforceable and will be deemed null and void.

5. Are any amendments common in your jurisdiction, albeit not

required in order for the FIDIC Conditions of Contract to be operative in your jurisdiction? If yes, what (non-essential) amendments are common in your jurisdiction?
There are no common amendments as such. However, there are some rights provided to parties under Qatari law, in addition to contractual rights. For instance, the Qatari Civil Code entitles subcontractors (and their employees) to demand that the employer pay any outstanding sums due directly. This right may be enforced by initiating local court proceedings. If the project is located in Qatar, then the Qatari courts may accept jurisdiction to hear the proceedings irrespective of a different governing law agreed in the main contract and subcontract. If a favourable judgment is obtained, the employer will be compelled by the court's decision to make payment to the subcontractor (in the amount equivalent to its claims made in the local court proceedings) before making any further payments to the main contractor.

If the FIDIC Conditions of Contract are not amended to include clauses that provide for the additional rights allowed under Qatari law, the parties will nevertheless be able to avail themselves of such rights under Qatari law.

6. Does your jurisdiction treat Sub-Clause 20.2.1 of the 2017 suite of FIDIC contracts as a condition precedent to Employer and Contractor claims?
There has not been any definitive ruling by the Qatari courts on this matter and there are strong arguments for both positions. Sub-Clause 20.2.1 of the 2017 FIDIC contracts can be viewed as a condition precedent on the basis that Qatari law respects parties' right to agree on notice provisions, which would bar an otherwise meritorious claim from being advanced if a party fails to provide notice within an agreed or reasonable period, as the case may be. On the other hand, there are principles under Qatari law that can be relied on to mitigate the impact of a condition precedent argument, such as principles of good faith, abuse or unlawful exercise of right, estoppel and unjust enrichment to a certain extent. In particular, the Qatari Civil Code stipulates that contracts must be performed in a manner consistent with the requirements of good faith and arguably notice under sub-Clause 20.2.1 may be considered to be issued if it has been outlined in meeting minutes or reports, among others.

Sub-Clause 20.2.1 of the 2017 FIDIC contracts can also be viewed as a violation of the mandatory prescription period, which cannot be contracted out of and would be unenforceable on account of denying access to justice under Qatari law.

7. Are dispute boards used as an interim dispute resolution mechanism in your jurisdiction? If yes, how are dispute board decisions enforced in your jurisdiction?
Dispute boards have not gained much traction in Qatar and are infrequently used by the parties as an interim dispute resolution mechanism. Generally, dispute board decisions are not binding and cannot be enforced. In the rare instances they are agreed by the parties as an interim dispute resolution mechanism, they can be relied on in subsequent arbitration or litigation proceedings.

8. Is arbitration used as the final stage for dispute resolution for construction projects in your jurisdiction? If yes, what types of arbitration (ICC, LCIA, AAA, UNCITRAL, bespoke, etc) are used for construction projects? And what seats?
Yes, arbitration is frequently used as the final stage for dispute resolution in construction projects. Typically, contracts provide for arbitration under the ICC Arbitration Rules or the Qatar International Centre for Conciliation and Arbitration (QICCA) Arbitration Rules before a three-member arbitral tribunal. The seat of the arbitration is usually Qatar or the Qatar Financial Centre (QFC).

9. Are there any notable local court decisions interpreting FIDIC contracts? If so, please provide a short summary.
Previous Qatari court decisions have held that termination of contracts without a court order can only be allowed if the contractual clause explicitly indicates that a court order is not required.

Qatari courts have interpreted and applied construction clauses relating to the FIDIC forms of contract generally. However, as Qatari court cases rarely set out the full factual background in dispute, it is difficult to summarise these decisions.

10. Is there anything else specific to your jurisdiction and relevant to the use of FIDIC on projects being constructed in your jurisdiction that you would like to share?
As mentioned above, mandatory provisions that cannot be contracted out of under Qatari law will apply to the parties' FIDIC contract, whether or not the parties have explicitly agreed to these clauses. Conversely, any clause in the parties' FIDIC contract that does not respect these mandatory provisions will be deemed null and void.

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FIDIC AROUND THE WORLD

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1. What is your jurisdiction?
Japan.

2. Are the FIDIC forms of contract used for projects constructed in your jurisdiction? If yes, which of the FIDIC forms are used, and for what types of projects?
Yes, for some international works, especially off-shore wind and wave power stations, as well as for some construction projects in countries outside of Japan where the foreign investor or contractor requests the use of the FIDIC forms. Specifically, Official Development Assistance (ODA) projects funded by the Japan International Cooperation Agency (JICA) generally use the FIDIC forms of contract, as JICA recommends FIDIC contracts in its standard bidding documents for JICA-funded projects. JICA assists with the development of infrastructure – largely transportation and electric power and gas projects – in developing countries by providing concessional loans for ODA projects. In line with the JICA standard bidding documents, the Pink Book is generally used for design bid build projects, while the Yellow Book is often used for design build contracts.

For non-ODA projects, the Red Book, Yellow Book and Silver Book are the three most commonly used in practice, though use of the Silver Book has increased in recent years, due to the increased involvement of investors and financial institutions in large construction projects.

For domestic private works, however, Japanese parties typically select form contracts that are more in line with domestic practice, such as the General Conditions for Construction Contracts, published by the Committee of Seven Associations of Architects and Contractors. Public construction works are design-bid-build contracts, which are governed by the Public Work Standard Contract, published by the central government.

3. Do FIDIC produce their forms of contract in the language of your jurisdiction? If not, what language do you use?
Japanese translations have been published for some of FIDIC forms of contract. However, the English originals are generally used in Japan when contracting with international parties.

4. Are any amendments required in order for the FIDIC Conditions of Contract to be operative in your jurisdiction? If yes, what amendments are required?
Most Japanese laws related to construction projects may be altered by the agreement of the parties ('non-mandatory laws'); to the extent non-mandatory laws conflict with the terms of the FIDIC Conditions of Contract, the parties' agreement to those terms will be seen as overriding non-mandatory provisions of the Japanese Civil Code or other laws. While some laws are 'mandatory' (ie, cannot be varied by agreement), these laws are the exception and typically relate to issues of public policy, such as prohibitions of anti-competitive conduct.

For example, after 1 April 2024, if the construction project is located within Japan, it will be necessary to amend FIDIC Sub-Clause 6.5 [*Working Hours*] to comport with the *Act on the Arrangement of Related Acts to Promote Work Style Reform* (Act No 71 of 2018) (the 'Act'). Under the Act, Contractors may not cause their personnel to work for hours exceeding the limitations specified in the Act. This may conflict with FIDIC Sub-Clause 6.5, which states that work may not be carried out on-site outside of normal working hours unless if (i) otherwise stated in the Contract; (ii) the Engineer gives consent; or (iii) the work is unavoidable or necessary for the protection of life or property or for the safety of the works.

The authors are not currently aware of any other provisions of the FIDIC Conditions of Contract that require amendment to be operative in Japan.

5. Are any amendments common in your jurisdiction, albeit not required in order for the FIDIC Conditions of Contract to be operative in your jurisdiction? If yes, what (non-essential) amendments are common in your jurisdiction?
To avoid uncertainty as to the application of non-mandatory laws to a particular contract, parties sometimes amend the FIDIC Conditions of Contract to explicitly exclude application of specific non-mandatory Japanese laws.

For example, some parties choose to amend FIDIC Clause 11 [*Defects after Taking Over*] to explicitly state that Clause 11 is to be the sole remedy for defects, in order to avoid application of the Japanese Civil Code for non-conformance liability. The statute of limitations for non-conformance liability is by default potentially much longer than the Defect Notification Period set out in the FIDIC contracts. Moreover, the potential remedies for non-conformance liability under the Japanese Civil Code are potentially more severe than FIDIC Clause 11 [*Defects after Taking Over*], as they give the Employer the option to terminate the contract on the basis of non-conformance (Japanese Civil Code Article 541). Given the potential severity of remedies, and

the longer limitation period during which they might be available, some parties choose to explicitly limit the remedies for defect liability to FIDIC Clause 11.

6. Does your jurisdiction treat Sub-Clause 20.2.1 of the 2017 suite of FIDIC contracts as a condition precedent to Employer and Contractor claims?

There is no clear precedent or other guidance on this point under Japanese law, and whether failure to comply with Sub-Clause 20.2.1 would prevent an Employer or Contractor from pursuing claims would ultimately be a matter of contractual interpretation. Under Japanese law, the reasonable intention of the parties is the key guiding point, with reference to the parties' course of conduct, custom and other factors.

7. Are dispute boards used as an interim dispute resolution mechanism in your jurisdiction? If yes, how are dispute board decisions enforced in your jurisdiction?

Dispute Adjudication Boards (DABs) or Dispute Avoidance and Adjudication Boards (DAABs) are not generally used in Japan outside of the FIDIC context. Although they are permitted as a contractual dispute resolution mechanism, they are not considered international arbitration and are not enforceable as such. Rather, dispute boards are seen (and encouraged) as a mechanism for contract management or dispute prevention, rather than dispute resolution procedures.[1]

8. Is arbitration used as the final stage for dispute resolution for construction projects in your jurisdiction? If yes, what types of arbitration (ICC, LCIA, AAA, UNCITRAL, bespoke, etc) are used for construction projects? And what seats?

For Official Development Assistance (ODA) projects funded by the Japan International Cooperation Agency (JICA), the JICA standard bidding documents require that disputes be resolved through international arbitration, through the Japan Commercial Arbitration Association (JCAA), International Chamber of Commerce (ICC), or arbitration institution designated by the parties. The parties are free to choose the seat of arbitration; JICA does not provide any specific recommendations on this point.

For private non-ODA projects, the ideal for many Japanese parties would likely be a JCAA arbitration seated in Japan; however, many parties ultimately agree to Singapore International Arbitration Centre (SIAC) or ICC arbitrations seated in Singapore.

9. Are there any notable local court decisions interpreting FIDIC contracts? If so, please provide a short summary.

There are no notable local court decisions interpreting FIDIC contracts at this time. This is not surprising, as there is no general doctrine of precedent in the Japanese judicial system, and it is rare for decisions below the Supreme Court level to receive publicity.

10. Is there anything else specific to your jurisdiction and relevant to the use of FIDIC on projects being constructed in your jurisdiction that you would like to share?

The rule of good faith and fair dealing plays a larger role in contract interpretation under Japanese law compared with many other jurisdictions. Put simply, the rule of good faith requires consideration of the fairness or balance between the parties to the contract, and is oriented towards finding the most reasonable resolution of any dispute over interpretation.

The Civil Code explicitly stipulates that 'the exercise of rights and the performance of obligations shall be conducted in good faith in accordance with good faith' (Civil Code Article 1, Paragraph 2). This language is mirrored in the Construction Industry Law, Article 18, which specifically applies in relation to construction projects.

For example, in cases where following the explicit terms of a contract would lead to a result that is extremely unreasonable from a business standpoint, such as one party incurring significantly high costs, the duty of good faith and fair dealing may be recognised in order to change the result. While it is unlikely that a Japanese court would alter a contract based on the FIDIC forms on this basis – the FIDIC forms are generally understood as allocating the risk to the contracting parties in a fair manner based on the party who can best manage the risk – principles of good faith may come into play where amendments have been made to the FIDIC forms that significantly alter the allocation of risk. For example, JICA has issued a 'Check List for One Sided Contracts', identifying amendments that may significantly alter the allocation of risk in the hope of avoiding the unfair allocation of risks and liabilities between contracting parties, which may lead to frequent disputes or even termination of the contract.[2] It is possible that, where a party asserts an interpretation of a FIDIC term that would not be appropriate under the JICA Check List, that party's interpretation would be rejected based on the principle of good faith and fair dealing and on the expressed intentions of the parties.

Notes

1 See JICA *Dispute Board Manual* (March 2012) at www.jica.go.jp/Resource/english/our_work/types_of_assistance/oda_loans/oda_op_info/guide/c8h0vm0000aoeprl-att/db_manual2012.pdf accessed 15 February 2024.

2 JICA, 'Check List for One Sided Contracts' (March 2011) at www.jica.go.jp/Resource/activities/schemes/finance_co/procedure/guideline/pdf/check_e.pdf accessed 15 February 2024.

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COUNTRY UPDATES: INDIA

Complex construction arbitrations and duty of care of arbitrators: *Satluj v Jaiprakash Hyundai* case analysis

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In the recent case of *Satluj Jal Vidyut Nigam Ltd v Jaiprakash Hyundai Consortium & Ors*[1] (hereinafter referred to as '*Satluj v Jaiprakash*'), the Hon'ble High Court of Delhi, while dealing with a challenge to an award passed in a construction-related dispute, observed that in the context of construction contracts, the amounts involved are usually astronomical. The judgment, passed on 12 July 2023, sought to deal with a case where the arbitrator had allegedly granted the party's claim in the absence of any supporting evidence or justification. However, the underlying effect of the judgment gave rise to an ever-growing debate on the complexities involved in construction arbitrations and the undeniable need to handle such cases with additional care and precaution.

The case brief

The dispute arose in relation to a contract signed between the parties for the construction of 'civil works of pressure shafts and powerhouse complex of the Nathpa Jhakri Hydro Electric project'. It was alleged by the Respondent that owing to a substantial increase in minimum wages following a series of changes in law, the expenditure incurred by them was more than the claimed amount as per their lowest bid.

While the contract in question contained a clause dealing with such a situation, it was the case of the Respondent/Claimant that the formula contained therein failed to index for the 'sudden spurt in the minimum wages'. It was requested by the Respondent/Claimant that the formula should be tweaked in order to provide the appropriate compensation towards the escalation of costs. By requesting such an amendment within the formula, the claim was for the amount of INR 66.03 crores (approx $7.92m) allegedly incurred on account of labour expenses. It was noted, however, that in support of the escalated claim, the Respondent/Claimant had merely produced a set of muster rolls, which accounted for only INR 17.47 crores (approx $2.09m), while the remaining expenses were not supported by any evidence.

The Arbitrator, in line with the provisions of the Arbitration and Conciliation Act, 1996 (hereinafter referred to as 'Indian Arbitration Law'), as well as various judicial precedents, rejected the request for tweaking the formula, on the ground that it could not be allowed at that stage of arbitration. It is therefore peculiar that after such a dismissal of the ground for changing the formula, the Tribunal went ahead with accepting the claimed amount after holding the same to be the actual expenditure incurred by the Respondent/Claimant.

Aggrieved by the said order, the Petitioner approached the Hon'ble High Court of Delhi under Section 34 of the Indian Arbitration Law, subsequent to which the High Court set the impugned order aside under lack of grounds.

Mathematical calculations and construction arbitrations

Construction arbitrations involve extravagantly complicated mathematical calculations, undertaken to support the astronomical claims involved therein. To simplify such calculations, various courts worldwide have laid down a number of formulae to aid the Parties in calculating their overhead expenses and lost profits.

While it is not feasible to undertake a detailed study of all such formulae here, the most commonly used derivations include the Hudson, Emden and Eichley's formulae.

- **Hudson formula:** This is the oldest and the most commonly used derivation for calculation of overhead expenditures. In India, the Hudson formula has been subject to both praise and criticism for its various nuances – the criticism being that the formula seeks to calculate the costs on the basis of the head office overhead percentage from the contract itself.
- **Emden formula:** Within this derivation, the head office percentage is calculated by dividing the total of the overhead costs and the profit of the contractor's organisation with the total turnover. The underlying benefit of this formula has led to its wide acceptance in cases before the foreign courts.
- **Eichley's formula:** This formula primarily finds its application in cases where it is impossible to prove the loss of opportunity and thus the claim originates from the actual costs incurred.

The application of all such formulae is accepted or denied in line with the circumstances of each case as well as the argument made. However, in the majority of these cases, the Arbitrator is a creature of the contract and must therefore confine his decisions to the provision as such.

In fact, in the recent case of *Indian Oil Corporation v Shree Ganesh*

Petroleum Rajgurunagar,[2] the Hon'ble Supreme Court of India observed that:

> '*An Arbitral Tribunal being a creature of contract, is bound to act in terms of the contract under which it is constituted. An award can be said to be patently illegal where the Arbitral Tribunal has failed to act in terms of the contract or has ignored the specific terms of a contract.*'

Furthermore, in the landmark judgment of the Hon'ble Supreme Court of India in the case of *Associate Builders v Delhi Development Authority*,[3] it was held that an Award ignoring the terms of the contract cannot be considered to be in the public interest.

Contrary to this, in the case of *Satluj v Jaiprakash*, by accepting the claim, while dismissing the request to tweak the formula, the Arbitrator went beyond his power under the Indian Arbitration Law and decided the case in absolute contravention of acceptable practice.

Conclusion: A duty of care and the importance of the construction sector

'*In the context of construction contracts, where the amounts involved are usually astronomical, any laxity in evidentiary standards and the absence of adequate diligence on the part of an arbitral tribunal in closely scrutinizing financial claims advanced on the basis of mathematical derivations or adoption of novel formula, would cast serious aspersions on the arbitral process.*'[4]

In its judgment passed on 12 July 2023, the Hon'ble High Court of Delhi, while holding the award to 'not only be at variance with the pleaded case but also unreasoned and palpably absurd', held that 'arbitrators must exercise a duty of care in dealing with financial claims based on mathematical derivations in the context of complex construction contracts'.[5]

While the said observation has been upheld even by the Hon'ble Supreme Court of India in numerous cases, its vitality in terms of 'complex construction contracts' cannot be overemphasized. Moreover, where such construction contracts pertain to the projects undertaken at a national level, the outcome of upholding or rejecting such calculations may even have a substantial impact on the public exchequer.

It is pertinent to note that for developing countries like India, the entire economy of which is dependent on the revenue generated by and through the construction and infrastructure sector, these calculations have a much larger impact than the numbers demonstrate. Thus, the context in which the Arbitrators may be held responsible for upholding such complex mathematical derivations may only be effectively reiterated.

Notes

1 *Satluj Jal Vidyut Nigam v Jaiprakash Hyundai Consortium & Ors*, 2023/DHC/4692.
2 *Indian Oil Corporation v M/s Shree Ganesh Petroleum Rajgurunagar*, Civil Appeal No 837–838 of 2022, decided on 1 February 2022.
3 *Associate Builders v Delhi Development Authority* (2015) 3 SCC 49.
4 See n 1 at 35.
5 See n 1 at 34.

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The pros and cons of an engineering, procurement and construction (EPC) contracting approach

A checklist delivered at the International Bar Association Annual Conference in Paris, 31 October 2023

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Panel title: EPC on trial: Does fixed-price EPC deliver the results promised?
Panel chairs: Roberta Downey, *Vinson & Elkins*; Erin Miller Rankin, *Freshfields*
Panellists: Bill Barton, *Barton Legal*; Taoufik Lachheb, *LSquare Consulting*; Mike Stokes, *Ankura*; and Piergiorgio Zettera, *Studio Internazionale*.

This article provides an overview of criticisms of and endorsements for the use of EPC contracts. The International Construction Projects Committee (ICP) session at the 2023 IBA Annual Conference in Paris demonstrated that not only are these views subjective, but they may depend on personal experience, and perhaps the different approaches taken in each country.

While the form of contract is viewed as a standard, this is clearly a misconception. Its use and application depend on the experience of those drafting and applying its terms and conditions. The purpose of the session was to raise awareness of this issue, to show the benefits of early dialogue and collaboration, and perhaps above all to encourage better planning and preparation in the use of contracts of this type.

Pros	Cons
Near single point responsibility for the delivery of the working facility • Avoids coordination and integration issues; • Avoids a scope/services gap; • Clearer liability; and • Simplified administration due to fewer interfaces.	**Employer loss of control** • Design responsibility is passed to the EPC contractor, meaning less control transparency for the employer; • It is expensive to intervene/vary during the project; • Cannot remove all interfaces: ie, specialist trade contractors and consultants, manufacturers, contract administrator, operations and maintenance (O&M), government, permitting authorities, etc; and • Risk of blurring the lines of responsibility if the employer tries to intervene/implement its rights, such as reviewing and commenting on the design.
Faster delivery • An EPC contractor can be appointed and make a start before the design is complete. An overlap of critical stages results in faster delivery.	**Design and performance risk deferred** • Encourages premature start/early commitment; and • Lack of transparency for the employer as the design develops creates risk in out-turn performance, which can create a claims risk.
Encourages innovation • Closer collaboration between design specialist and specialist contractors maximises the opportunity for innovation and efficiencies.	**Stifles innovation** • EPC contractors want the lowest cost/tried-and-tested solution that complies with the contract. 'Why take any risks…?'; and • EPC contractors prefer to staff with the cheapest in-house resource rather than pay for outside specialists or expat premiums within its own resources.
Low cost/Price certainty • Interface, design, programme and buildability efficiencies drive lower costs; • Bankability – lenders are more comfortable with fixed price EPC, which is often the deciding factor for procurement if the project is to be financed; • Appropriate risk transfer to the best party to control risk, ie, the EPC contractor; and • Price obtained and fixed in competition.	**Expensive** • Employer pays a premium for EPC but still does not get price certainty: the fixed price is just the first downpayment because there are so many routes to additional costs (eg, change orders/variations, instructions, price escalation clauses, unforeseen ground conditions, etc); • Insufficient capacity and skills, especially for the mega projects, and lack of competition drives the price up; • Limited appetite for risk on fixed price lump sum basis means a reduced pool of contractors with the balance sheet able to support fixed price EPC; • The appointment of contractors who do not have the requisite skills drives price up or quality down; • Duplication in management resource between the employer and contractor team; • Some contractors are no longer willing to bid on fixed price lump sum basis, so there's a risk of not receiving sufficient tenders; • (Any) change becomes expensive and potentially divisive; • Contractors cannot control all the risks, which encourages claims; and • Increased risks of claims, less control over cost adjustment.
Protection of employer's investment • Payment by milestones, and only once the single milestone is completed and such completion as 'state of art' is certified; • Bonds guarantee the carrying out of the works correctly and the subsequent promised performance of the relevant infrastructure; and • 'Bankability' – lenders preferred procurement method so more likely the project can attract project financing.	**False security** • Milestones require understanding as to actual scope and nature of the work and for the milestone to be appropriate, measurable and relevant; • Bonds can be counterproductive because in instances where there is true concern as to the performance of the contractor and/or as to their solvency, the temptation for the employer is to call the bond and recover monies/reduce loss. This may in turn create more significant issues. It also raises the issue of the difference between on-demand and on-notice bonds; and • The world banks, etc, are only just beginning to take a proper interest in the projects they are lending against by the insistence on the use of dispute adjudication boards (DABs), review of payment terms and monitoring of projects. This raises the question as to how well informed the funders are, and the extent of expert advice they seek/take?

General observations regarding the historic adversarial position of parties

- There is a presumption of litigation;
- Little collaboration exists in the discussions and negotiations around contract formation;
- Parties' ignorance of process and procedure may encourage this approach, as it arguably enables this lack of knowledge/experience to be hidden/concealed;
- Little attempt by parties to plan joint workshops, which would arguably evidence a non-combative approach; and
- Major lenders/funders are only just starting to insist on the use of DABs and tiered dispute provisions.

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Defending claims relating to the use of artificial intelligence

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Introduction

From AI-powered hard hats[1] to humanoid labourers,[2] the potential for artificial intelligence (AI) to transform the construction industry seems vast. While most industry players have only just started exploring what AI has to offer, commentators such as the World Economic Forum[3] suggest that companies that fail to integrate AI into their businesses will suffer the consequences: a lack of competitiveness and, thus, profitability.

It therefore seems likely that the services provided by contractors and design professionals to employers will increasingly be carried out not just by humans, but also by AI-based systems, and that employers will increasingly seek AI-based solutions from their contractors and design professionals. Indeed, generative AI tools are already widely in use in many engineering settings, for example, for producing multiple alternative design options for specific components in accordance with pre-defined specifications and criteria.

However, as is often the case with novel technology, unforeseen issues with innovative AI-based systems and solutions seem likely to occur. And, as a consequence, disputes relating to AI are also likely. This then raises the question: what would a contractor or design professional need to do to successfully defend a claim arising out of its use of generative AI in a construction project?

In this article, we attempt to answer this question for two key types of claim where AI-related disputes could arise, namely: (1) an employer's claim against a design professional for breach of its obligation to use reasonable skill and care in producing its design; and (2) an employer's claim against a contractor for breach of its obligation to deliver a project fit for the employer's purpose.

Having considered these claims, we go on to provide some practical recommendations for parties using generative AI for, or integrating generative AI into, their construction project deliverables. In short, all parties wishing to employ AI to deliver construction projects,

or to provide AI-based solutions within the project deliverables, should take steps to generate documentation that records how such AI-based technology has been designed or used, and the steps the party has taken to make sure the technology has been designed or used appropriately.

We then consider other ways in which the use of AI on construction projects could affect claims or disputes between parties in the future, and their implications.

Reasonable skill and care

Imagine the following scenario: an employer (the 'Employer') hired an engineering firm (the 'Design Professional') to design the towers of a new offshore wind farm, with the contract between the parties providing that the Design Professional would carry out the design services with reasonable skill and care. The Design Professional then used a generative AI-powered tool to produce its design for the towers, and the towers were constructed and installed accordingly. However, after the wind farm has been operational for two years, cracks begin to appear in the towers.

In this scenario, the Employer may decide to bring a claim for damages against the Design Professional for breach of its obligation to exercise reasonable skill and care in producing its design for the towers. In defending itself against such a claim, the Design Professional may need to establish that its use of the generative AI-powered tool was not in breach of its obligation to act with reasonable skill and care. The question then is: what evidence does the Design Professional require to do this?

We suggest that the Design Professional may require evidence in some or all of the following categories:

1. Evidence regarding the suitability of the generative AI-powered tool for the project

The Design Professional may want to adduce evidence that it exercised reasonable skill and care in deciding that the generative AI-powered tool it used was suitable for the project in question. This might include evidence that before using the tool, the Design Professional:

- identified that the tool had been used for similar tasks on similar projects before, and that it had a track record of producing appropriate results for those projects (something that may be inherently difficult at the current stage of AI adoption, given the nascent state of many of these tools);
- verified that the tool had been trained on data that was appropriate for the project in question, perhaps including verifying that the data used to train the tool:
  - came from appropriate sources;
  - contained appropriate data points;
  - was free from obvious errors; and
- confirmed that the information the Design Professional intended to input into the tool was appropriate to use, on the basis of the tool's training and guidelines for use.

2. Evidence regarding the way in which the generative AI-powered tool was used during the project

The Design Professional may also want to adduce evidence that it exercised reasonable skill and care during its use of the generative AI-powered tool during the project. This might include evidence that the Design Professional:

- confirmed that the engineers who used the tool in question were appropriately experienced and/or trained to use it; and

What would a contractor or design professional need to do to successfully defend a claim arising out of its use of generative AI in a construction project?

- implemented appropriate human-led oversight processes[4] during use of the tool to increase the chances of the tool producing an appropriate design, for example:
  - that its engineers followed the oversight processes recommended by the designer of the generative AI-powered tool, whether within the Design Professional's organisation or outside it; and/or
  - that it developed and implemented its own human-led oversight processes specific to the project in question to identify and eradicate potential errors within the tool's output.

While case law has established that a professional is not, by default, acting unreasonably if another professional in the same field would not have acted in exactly the same way in the same scenario, industry

common or best practices can be good evidence of what is considered an exercise of reasonable skill and care. The Design Professional may therefore also want to adduce evidence – perhaps expert evidence – that its use of the generative AI-powered tool was in accordance with industry standards as to the use of AI, particularly generative AI-based systems, if and to the extent such standards exist.

3. Evidence regarding the way the Design Professional used the generative AI-powered tool's output(s)

The Design Professional may also want to adduce evidence that it used the output(s) from the generative AI-powered tool appropriately. For example, this might include evidence that the Design Professional:

- took steps to verify whether or not the design produced by the tool was adequately safe, for example by reference to appropriate engineering standards, and, if not, that it was revised either by humans or by the tool itself to resolve any issues identified; and/or
- if the tool produced multiple designs, interrogated each design adequately and chose which design to progress on an appropriate basis.

The party using an AI-based system in its delivery of a construction project should build up a bank of evidence that demonstrates it was appropriate to use the AI in question

The Design Professional may want to adduce evidence – again, perhaps expert evidence – that the output of the generative AI-powered tool accorded with other designs produced by other design professionals for similar projects.

Fitness for purpose

Imagine a related scenario: the Employer entered into a contract with a contractor (the 'Contractor'), pursuant to which the Contractor was under an express fitness for purpose obligation to provide the Employer with an operating system for the wind farm that maximised the amount of electricity generated.

The Contractor chose to provide an operating system that used an AI algorithm to monitor the turbines' performance and decide when to cease operations, for example: (i) to instigate scheduled maintenance outages with the aim of preventing unscheduled outages; and (ii) during unsafe windspeeds. However, after the wind farm has been operating for a year, the Employer becomes concerned that there have been unnecessary scheduled maintenance outages and that the turbines have ceased operations in windspeeds they could have safely operated in and that, accordingly, the amount of electricity the wind farm has generated is significantly less than ought to have been achieved.

In this scenario, the Employer may decide to bring a claim for damages against the Contractor, alleging that it is in breach of the fitness for purpose obligation to maximise electricity generation because more electricity would have been generated if the AI algorithm had taken a less risk-averse approach to both scheduled maintenance outages and windspeed.

In defending itself against this claim, the Contractor would, of course, need to establish that the AI-based operating system it provided to the Employer was fit for purpose in maximising electricity generation. Again, the question that arises is: what evidence would the Contractor require to do this?

Our assumption in the discussion about evidence that follows is that the Employer's purpose of maximising electricity generation is not defined by reference to precise outputs, against which it would be relatively straightforward to measure the operating system's performance. On this assumption, we consider that the following categories of evidence would be useful:

4. Evidence regarding how the decisions of the AI-based system accorded with the Employer's purpose

Ideally, the Contractor would want to be able to adduce evidence to explain:

- how the AI algorithm within the operating system made each of its decisions to instigate a maintenance outage and cease operations during high windspeeds; and
- how each such decision made by the system accorded with the Employer's purpose in the relevant scenario, that is, why the AI algorithm was correct to decide that less electricity overall would have been generated had the wind farm continued operations without maintenance and/or in high windspeeds. Relevant considerations in

the system's decision-making might include the assessment of risk of malfunction or damage in the absence of maintenance or shut down, leading to potentially greater outage time overall.

The power of generative AI systems derives from their ability to analyse enormous quantities of data and to apply 'learning' derived from the data to produce decisions or outputs. However, a criticism levelled at current systems is that they cannot explain the basis of their decisions. Therefore, evidence of how an AI algorithm made its decisions, referred to above, may be hard to produce on current state-of-the-art AI. As a second-best alternative, if the Contractor cannot explain the operation of the AI algorithm and the system to this extent, the Contractor would probably instead want to adduce evidence to explain:

- the training objectives the AI algorithm was set during its design and development;
- why these training objectives were appropriate objectives to achieve the Employer's purpose; that is, why they would achieve the Employer's purpose of maximising electricity generation while having to cease operations during maintenance outages and/or high windspeeds; and
- how the decisions the AI algorithm made during the wind farm's operation accorded with these training objectives.

The relevance or usefulness of such evidence may be limited if the contract stipulates precise outputs which the operating system has failed to achieve. However, on our assumption above, that is not the case. The evidence may be persuasive in support of a case that the operating system meets the purpose of maximising electricity generation.

5. Evidence regarding how the AI algorithm's decisions accorded with decisions of a non-AI-based operating system

The Contractor may also want to adduce evidence, if obtainable, that demonstrates that the decisions of its AI-based operating system were the same or superior to decisions an equivalent non-AI-based operating system would make. The Contractor might do this by comparing the Contractor's operating system with the operation of other available systems, with the support of expert evidence.

Practical implications

As is clear from the analysis above, to defend against potential claims relating to the use of AI in construction projects, the party using an AI-based system or providing an AI-based solution will want to have evidence that demonstrates why any perceived limitations in the AI did not reflect failures in its contractual duties.

To do this, the party using an AI-based system in its delivery of a construction project should build up a bank of evidence during the course of the project that demonstrates:

- it was appropriate for the party to use the AI in question;
- appropriate steps were taken to oversee its use;
- appropriate controls were in place to manage the risks associated with its use; and
- its outputs were appropriate, and appropriately verified.

Similarly, the party providing an AI-based solution as part of its project deliverables should build up a bank of evidence that explains, to the extent possible, how and why its solution meets its client's objectives.

These evidence banks could be generated in any number of ways. For example, regarding a party's procurement and use of an AI-based system, the party could set out the due diligence it carried out prior to its procurement and record each stage of its use of the system in the minutes, project review meetings or similar, or through the creation of a specific internal governance tool that creates an electronic paper trail. Regarding a party's development of an AI-based solution, the party could implement a monitoring and review procedure that records how the system was developed and tested from start to finish. Whatever form the evidence bank takes, the party in question should have at its disposal evidence that demonstrates a transparent and easily explainable process was followed.

Other potential areas of dispute

Of course, the question of how a party has used AI for or within a construction project will not only arise in the context of fitness for purpose and reasonable skill and care claims. There are numerous other categories of claims or disputes to which evidence of

a party's use of AI, or lack thereof, may be relevant. For example:

Duty to warn

As AI-based tools to monitor risks on construction sites develop in sophistication over time, they may become better than humans at predicting or identifying dangers. Accordingly, a professional consultant's implied or express contractual duty to warn its employer about dangers of which it is aware, or ought to be aware, may extend to warning its employer about those dangers which a market standard AI tool would have predicted, even if the professional consultant had not used any such tool. Put another way, AI-based risk-monitoring tools may broaden the scope of a professional consultant's actual or deemed knowledge of dangers on site.

It may be harder for a party to a construction contract to claim that the event or condition encountered was truly unforeseeable

By implication, this may broaden the grounds on which the professional consultant may be found to have breached its duty to warn and therefore makes it important for any professional consultant interacting with any AI-based tool to take care to understand what AI tools are available, how they work and what their limitations may be.

Cybersecurity and data security

As AI-based systems are increasingly used for, and integrated into, construction projects, malicious actors may be increasingly attracted to hacking into these systems in order to obtain valuable information as to how the project was constructed and/or is operated.

Construction companies may therefore see an increase in cyber and/or data security-related claims brought against them. If, for example, an AI-based system used on a construction project is hacked by a malicious actor, and a party, such as the employer or main contractor, suffers loss as a result through unavailability of certain services or loss of use of certain parts of the project, that party may seek to recover its losses from the party providing the AI-based system (or more likely, their insurers). The party suffering the loss may do this by bringing a contractual claim pursuant to express or implied terms within the contract between the parties relating to cyber and/or data security or the obligation to exercise reasonable skill and care in carrying out services, or potentially through a claim in negligence.

Moreover, national and international bodies are increasingly introducing legislation and other forms of law governing the use of AI-based systems within their jurisdictions. As a consequence, a party providing an AI-based system in breach of such laws may find itself facing statutory claims, as well as claims from its contractual counterparties for breach of the party's contractual obligation to comply with applicable law.

Parties using AI-based systems will therefore need to ensure that they implement strong cybersecurity and data security protections in order to mitigate against the risk of an increase in claims or disputes.

Unforeseeable events/unforeseeable ground conditions

A party's ability to obtain relief under the force majeure provisions of a construction contract for extreme weather events often relies on that party being able to prove that the event in question was unforeseeable. Similarly, a party's ability to obtain relief under the extension of time provisions of a construction contract for unexpectedly difficult ground conditions often relies on that party being able to prove that the ground conditions encountered were unforeseeable.

If AI-based systems improve the ability of construction industry players to predict the possibility of extreme weather events or ground conditions, it may be harder for a party to a construction contract to claim that the event or condition encountered was truly unforeseeable, and therefore to obtain the contractual relief they seek – particularly if it is known that they are using these tools to improve their tendering position.

It may be, therefore, that contractors and sub-contractors will want to 'price in' the risk in their tender bids and timetables, so that such provisions become increasingly hard to rely upon.

Conclusion

The potential for generative AI to benefit the construction industry is enormous. However, its adoption also gives rise to the potential for disputes. As we have suggested in this article, there are prudent steps to be taken in advance of disputes arising to protect a party's position when they do.

Notes

1 Construction Management, 'Costain and Winvic help develop AI hard hats' (15 October 2019) https://constructionmanagement.co.uk/costain-and-winvic-help-develop-ai-hard-hats accessed 16 February 2024.

2 AIST, 'Development of a Humanoid Robot Prototype, HRP-5P, Capable of Heavy Labor' (16 November 2018) www.aist.go.jp/aist_e/list/latest_research/2018/20181116/en20181116.html accessed 16 February 2024.

3 World Economic Forum, '4 ways AI is revolutionising the construction industry' (21 June 2023) http://www.weforum.org/agenda/2023/06/4-ways-ai-is-revolutionising-the-construction-industry accessed 23 January 2024.

4 In these early stages of AI adoption, we suggest a Design Professional who provides no or very minimal human-led oversight over the operation of an AI-based system is unlikely to meet the standard of exercising reasonable skill and care, although this may change if and to the extent that certain AI tools develop a track record of producing reliable results.

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Duty to warn in construction contracts

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Introduction[1]

The duty to warn (*obligation de conseil*,[2] *waarschuwingsplicht*, *prufungs- und hinweispflicht*, обязанность предупредить) is a relatively recent concept in European construction law. It dates back to the 1960s, when French courts began to impose such an obligation on contractors.[3] The Dutch Civil Code (DCC) first enshrined the duty in law in 2003.

Meanwhile, the Russian Civil Code (RCC) has included such an obligation since 1996 and has remained unchanged to date. In addition, a similar obligation was included in both the 1905 Draft Civil Code of the Russian Empire and the Soviet Civil Codes of 1922 and 1964.

A study of English, Dutch, French, German and Russian case law has shown that this is a highly relevant issue, but one that has not been widely researched. This subject is not often covered in monographs, and only a few pages are devoted to it in classic construction textbooks.

Grounds for the duty to warn and its general characteristics

England

English statutory law does not provide for a duty to warn. However, English law is characterised by the widespread use of standard forms of construction contracts, which generally include a duty to warn.

As for the case law, there are diametrically different decisions. In a number of cases, the same judge has held that the contract contains an implied duty on the contractor to exercise reasonable skill and care and, therefore, to warn the client of defects in the

design documents,[4] a position which has been criticised in doctrine.[5]

In other cases, the courts have pointed out that English law does not impose a general duty to warn on the contractor, except where damage to the property or health of third parties is involved.[6] Moreover, where the contract between the parties is detailed and specific, there can be no room for an implied duty; had the parties wished to do so, they would have included a clause to that effect in the contract.[7]

However, in *University of Glasgow v Whitfield* case, the court rejected the existence of a general duty to warn, stating that such a duty may arise where there is a special relationship and trust between the parties.[8]

The contractor's duty to warn the client of certain circumstances, as shown above, is linked to the duty to exercise reasonable skill and care in carrying out the work. In English law jurisdictions, this latter duty is implied and does not require express specification in the contract.[9]

In addition, a contractor's main duty in construction contracts has traditionally been understood as a duty to achieve a result. Therefore, the contractor's duty to warn the client may be based on the contractor's duty to achieve a result. The English doctrine notes that, in practice, there is little difference between the duty to exercise reasonable skill and care in carrying out the work and the duty to achieve a result.[10] Consequently, the duty to warn (which has never been regarded as a fundamental one)[11] is derived from the contractor's two fundamental duties.

There is still no consensus under English law as to the existence of an implied duty to warn

Thus, there is still no consensus under English law as to the existence of an implied duty to warn. There are a number of circumstances that militate against its recognition, in particular the absence of the principle of good faith. Although, as shown above, this duty derives from the duty of reasonable skill and care and the duty to achieve a result. There are a limited number of cases where the courts have concluded that an implied duty exists. The duty to warn is still not recognised as a principal duty in construction contracts. It should be added that the approach in other common law countries (Canada and the United States) is different.

The Netherlands

The duty to warn only appeared in the DCC in 2003, but even before that the courts recognised the existence of such a duty on the basis of the principle of good faith.[12]

Article 7:754 of the DCC states:

> 'the constructor must, not only at the moment on which he enters into the construction agreement but also during the performance of this agreement, warn the principal of any inadequacies in the construction or work that is assigned to him as far as these are known to him or reasonably should have been known to him. The same applies in case of defects or the unsuitability of things which are coming from the principal, including the land on which the principal lets others perform the work, as well as in case of errors or shortcomings in plans, drawings, designs, calculations, specifications, estimations or implementing regulations which are supplied by the principal.'

Germany

The German Civil Code (BGB) does not contain an explicit duty to warn. The parties are often guided by the rules of the VOB/B (*Vergabe- und Vertragsordnung für Bauleistungen*).[13] The duty to warn (both when entering into a contract and during the construction process itself) is provided for in s 3 para 3 and s 3 para 4 of the VOB/B.

The basis for the duty to warn is para 242 of the BGB, which states: 'The debtor is obliged to perform in good faith as required by the customs of the trade.'

However, the above provisions do not answer the question whether the courts can impose a duty to warn on the contractor in the absence of clear provisions in the contract. Some German case law considers such a duty to be subsidiary, based on the principle of good faith and the provisions of the VOB/B.[14] In one case, the court held that the only role of the VOB/B provisions is to define the duty to warn, which applies even in the absence of an express reference,

in accordance with the principle of good faith.[15] In another case, the court held that if the contractor failed to warn the client of its default, the latter could be held liable for the non-performance of its own works under the VOB/B provisions on contractual liability for breach of warranty (achievement of result).[16]

France

Following the 2016 reform, Article 1112-1 appeared in the French Civil Code (FCC), enshrining the duty to provide information[17] at the pre-contractual stage. However, the duty to warn[18] is not enshrined in the FCC, but is recognised in case law and doctrine. One view is that it emerged in the 1960s as a response to a decline in the number of professionals as clients and an increase in the number of professionals as contractors.[19] This conclusion is reflected in the case law. In some cases, courts have referred to the professionalism of the contractor as a justification for imposing a duty.[20] However, M Planiol notes that the contractor's duty to provide information was recognised as early as 1835.[21]

The Court of Cassation has repeatedly held that any construction professional (a designer, a contractor, etc) has a duty to warn the client before accepting the work.[22] The basis of this duty, as in all civil law jurisdictions, is the principle of good faith.[23] Article 1104 of the FCC enshrines the principle of good faith when negotiating, concluding and performing a contract.

The French doctrine also states that the duty to warn is ancillary to the main duty to carry out the works in accordance with the requirements resulting from the client's expectations.[24] Some authors consider that the duty to warn is part of the duty of cooperation between the parties.[25]

Russia

Russian law enshrines the duty to warn in the RCC, outlining the general range of circumstances as well as the consequences of warning/non-warning. However, there is little or no attempt to substantiate this duty in contemporary Russian doctrine. It is only possible to look at foreign experience, as well as historical background, and highlight the same classic grounds that are also reflected in Russian case law: the professionalism of the contractor,[26] good faith,[27] cooperation[28] and the contractor's obligation to achieve results.[29]

As an alternative to the theory of contractor professionalism, I propose the position that the contractor has a duty to warn by virtue of being the person closest to the construction process. Indeed, it is not unusual for the client to be a professional. Moreover, the duty to warn extends to the subcontractor, who is liable to the contractor (both parties are professionals).

Some authors also note that the contractor, as a professional, has had to make an effort to acquire expertise. However, if the acquisition of expertise leads to increased liability, this creates a disincentive for the contractor to acquire extra knowledge and skills.[30] Thus, it should not be a question of professionalism, but of a defined scope of responsibility. The contractor must carry out the work and becomes responsible or liable for the project (or part of the project).

Russian law enshrines the duty to warn in the RCC [...] However, there is little or no attempt to substantiate this duty in contemporary Russian doctrine

The justification for the duty to warn can also be found in the economic analysis of the law. When one party has obtained information relating to its relationship with a counterparty, the social cost of requiring that party to inform the other party will be lower than if the counterparty has to obtain the information itself. In addition, in some cases, warning will prevent future disputes between the parties.[31]

Scope of the duty to warn

England

The general rule is that a contractor is only obliged to warn of circumstances specified in the contract. However, the duty to warn is often not expressly stated in the contract. In *Goldswain v Beltec Ltd*, the court held that whether there was an implied duty to warn depended on the nature of the work to be

carried out and the terms of the contract.[32] The scope of the duty to warn also depends on whether the client has engaged another professional (eg, an engineer) to advise on the matter.[33]

The contractor's duty to warn the client only applies to defects that are obvious and ought to have been discovered. The contractor is generally not liable for errors in a design documentation.[34] The contractor does not have to actively search for defects.[35]

However, in *Batty v Metropolitan Property Realisations C of A*, the court imposed a duty on the contractor to verify the condition of the ground prior to construction (duty to verify) and subsequently to warn the client of any defects in the ground (duty to warn). The court reached this conclusion on the basis of the standard of a careful and professional contractor, even though the contract between the parties did not require the contractor to carry out such investigations.[36]

The contractor may also be required to warn the client, even if the client should have known about the problem.[37]

The Netherlands

What are the circumstances that the contractor must warn of? An indicative list of such circumstances can be found in Art 7:754 of the DCC, cited above. The UAV-GC 2005 only deals with obvious defects.[38]

The contractor is required to examine and verify the design documents only to the extent necessary to carry out his work. It is not required to review the design documentation (eg, re-check calculations, etc).[39] Furthermore, the mere fact that there is a considerable period of time between the preparation of the design documentation and the commencement of the works does not in itself constitute grounds for imposing an obligation on the contractor to re-examine the documentation.[40]

The contractor must take into account the competence and professionalism of the designer when examining the design documentation.[41]

In the Netherlands, the contractor must warn not only of defects of which it is aware, but also those which it should have known, given its level of professionalism in the circumstances.[42]

The Dutch courts had previously held that the contractor was not liable for failure to warn if the client had engaged a professional adviser who was responsible for a particular part of the work where the defect was found. However, in 1998 the Supreme Court of the Netherlands pointed out that the client's knowledge of the defect did not affect the contractor's duty to warn.[43]

The same applies to situations where the client hires a professional adviser. Practice since the decision of the Supreme Court of the Netherlands shows a lack of uniformity. Some decisions continue to maintain the prior position of excluding the contractor's liability in such cases, while others have changed their position in line with the Dutch Supreme Court decision.

In addition, a third group of cases has emerged in which the contractor's liability is limited in similar situations. In one case, for example, a professional adviser was hired by the client as a consultant, reducing the contractor's liability to 60 per cent.[44]

The last point to consider is the situation where the client is aware of the defect. In the Netherlands, the contractor can prove that the client was aware of the defect and thereby exonerate itself from liability or share the liability on the basis of Art 6:101 of the DCC ('*Own fault of the injured person*'). In addition, in some cases, the courts have attributed to the client the knowledge of the specialist appointed by the client.[45]

Germany

What circumstances must the contractor warn of? First of all, regardless of the application of the VOB/B provisions, the courts come to almost identical conclusions about the scope of circumstances of which the contractor is obliged to warn the client.[46] In the absence of statutory provisions, the courts take into account the contractor's knowledge, the terms of the contract (scope of obligations, purpose of the contract).[47]

The basic assumption in German law is that the contractor is prima facie liable for defects in the project documentation that led to defects in the construction

The basic assumption in German law is that the contractor is prima facie liable for defects in the project documentation that led to defects in the construction.[48] This means that it is up to the contractor to prove

that it did not breach its duty to warn. This solution is in line with the general logic of German construction law, which tends to place much of the burden and responsibility on the contractor.[49]

The contractor must verify the work of the designer and other specialists when it affects its own work.[50] It must also warn of any defects in the results of the latter's work that are visible at a glance.[51] In such a case, it is also obliged to verify the previous work.[52] In one case, the duty to verify is considered independent and precedes the duty to warn.[53]

Other jurisdictions do not stipulate the duty to verify as a separate obligation. However, it does not mean that a contractor in France or the Netherlands does not have to verify the project documentation, the client's instructions, etc. The emphasis on the obligation to verify is linked to the theorisation typical of the German legal culture.[54]

In one of the cases cited above, the court held that the contractor had no duty to warn the client of circumstances in which the failure of another person (eg, the designer, another contractor) would not affect its own work.[55]

However, there is also the opposite case law. In one case, for example, the work was carried out in two phases: first, one contractor cleaned and plastered the building, and then another contractor was to carry out the planned work. The second contractor's work was unrelated to that of the first, but the second contractor noticed that the plastering had been done incorrectly. The court concluded that the second contractor should have reported these circumstances, even though they did not affect the first contractor's work but had a negative effect on the client.[56] In another case, the court reached the same conclusion based on the principle of cooperation between the parties, since the contractor could not be isolated from the other parties and from the construction phases.[57]

The contractor may be exempt from the duty to warn if the client had knowledge of the defect. The burden of proof of the customer's knowledge lies with the contractor.[58]

As a general rule, the duty to warn does not depend on whether or not the client has appointed a separate specialist to supervise the construction (or a specific part of it) and whether or not the client has special knowledge. However, in exceptional cases, the specific knowledge and experience of the specialist appointed by the client may lead the court to exonerate the contractor from liability for failure to warn.[59]

The contractor should not be liable in cases where it is difficult to detect defects.[60] These are cases where it is unreasonable to expect the contractor to detect defects, for example, where they have not been detected by designers, etc (ie, persons who are more knowledgeable in the matter).

It should also be noted that the contractor is liable not only for defects of which it is actually aware, but also for those of which it should have been aware, in particular on the basis of the knowledge that may be expected of a professional acting in the contractor's field.[61]

France

What are the circumstances that the contractor must warn of? The range of such circumstances is wide and includes, for example: soil risk,[62] adequacy of the works,[63] defects in design documentation,[64] discrepancies between the cost of the works and the actual data in the estimate,[65] defects in the materials selected,[66] specific use of the works after construction,[67] errors of other parties involved in the construction,[68] regulatory and technical issues,[69] legal issues,[70] etc. Moreover, French law imposes a duty on the contractor to find out the purpose of the work.[71]

In one decision, the Court of Cassation stated that 'the duty to warn is imposed on the contractor before acceptance of the work and it is an obligation of result'.[72]

Unlike the English courts, the French courts have held that a duty of reasonable skill and care can give rise to a duty to obtain information and give advice.[73] As with all legal systems, the scope of the duty to warn depends on the terms of the contract.[74]

Article 29.2 of the *Cahier des Clauses Administratives Générales applicables aux marchés publics de travaux* (CCAG Travaux)[75] states that:

> 'If, during the performance of the contract, the client is required to provide the contractor with the documents necessary for the execution of the work, the contractor shall not be liable for the content of these documents. However, the contractor shall be obliged to check, before commencing the work, whether such documents contain

any errors, omissions or inconsistencies which would normally be apparent to a competent person. If he finds any, he shall immediately warn the project manager or the client in writing.'

The contractor's liability for failure to give notice may be limited in the following cases:

1. If the client has withheld information from the contractor;[76]
2. Where the client has already been informed by another person;
3. If the client uses the work for purposes other than those for which it is intended;[77]
4. If the client interferes with the construction process;[78] and
5. When the contractor cannot be held liable for obvious circumstances.[79]

The duty to warn in French law is rather onerous for the contractor (in comparison, for example, with English law) because of the wide range of circumstances and the need for a proactive stance on the part of the contractor.

Russia

Article 716 of the RCC sets out a non-exhaustive list of circumstances of which the contractor must warn the client: (i) the unsuitability or poor quality of the material, equipment, technical documentation provided by the client or the item transferred for processing (treatment); (ii) the possible adverse consequences for the client of its instructions on the manner of performance; and (iii) other circumstances beyond the control of the contractor which threaten the fitness or durability of the work performed or make it impossible to complete it in time.

Other circumstances, based on an analysis of case law, may include: incorrect definition of the scope of work by the client; poor quality of work previously carried out by another person and the result of which affects the contractor's work; lack of necessary data; lack of working drawings for work that cannot be carried out without a drawing; lack of a licence for the work to be licensed; suspension of work by order of an authority; the need for additional work;[80] natural and climatic conditions,[81] impracticality of the work;[82] and violation of legal requirements,[83] etc.

The following circumstances exempt the contractor from liability: (i) non-disclosure of some information by the client;[84] (ii) circumstances which are known[85] or could reasonably have been known[86] by the client; (iii) the existence of hidden defects in the materials supplied to the contractor.[87]

Also, in some cases the courts may reduce the contractor's liability where joint and several faults are involved.[88] However, the application of the fault of the client is inadmissible under the risk model of contractor liability; that is, without fault (more on this below).[89]

As for the relevant time period, Russian law is silent on when the contractor's duty to warn terminates: at the time of acceptance, at the end of the warranty period for the work, or at some other time. The answer can only be found by referring to the general provisions on obligations. In Russian law, the duty to warn is considered a kind of the duty to provide information.[90]

Article 307(3) of the Russian Civil Code provides that:

> 'when entering into, performing and *after terminating an obligation*, the parties shall act in good faith, taking into account the rights and legitimate interests of the other party, rendering each other the necessary assistance for the performance of the obligation and providing each other with the necessary information.' (Emphasis author's own.)

Thus, the RCC gives every reason to extend the duty to warn to the post-termination period. Such a situation may arise when it comes to correcting defects in the work performed.

The standard of knowledge and fault of the contractor

England, the Netherlands, Germany and France

The extent of the duty to warn depends on two factors: (i) an objective minimum standard of knowledge that can be imputed to any contractor, which extends to obvious defects that could not be overlooked by someone with a minimum degree of professionalism; and (ii) a subjective standard of knowledge, depending on the additional expertise of the contractor.[91] It should be noted, however, that the minimum standard of knowledge varies from jurisdiction to jurisdiction.

Russia

Russian statutory law does not address the question of the contractor's standard of knowledge. However, most other duties to provide information are modelled on the objective standard, although there are also rules that set a subjective standard.[92] A Arkhipova believes that the answer to the question posed depends on the level of professionalism of both the informing party and its counterparty.[93]

However, courts often impose liability on the basis of risk, based on the professionalism of the contractor, with little (or even no) consideration of fault.[94] This approach is rightly criticised because liability for performance is primarily a risk of non-payment, and professionalism cannot justify unlimited reliance and all errors must be identified.[95]

The justification for the duty to warn is similar in all countries. In the first place it is the principle of good faith

I believe that assigning a risk-based obligation to the contractor should not be the general rule. It is permissible, for example, in EPC contracts, because in this case most of the circumstances that could potentially prevent the work from being carried out are within the contractor's control. However, the duty to warn in EPC contracts should cover a limited set of circumstances that the contractor cannot and should not manage on its own.

Suspension of work

In contrast to other jurisdictions, Russian law strictly stipulates the need to suspend work after a warning in all circumstances. However, case law on this point is contradictory. Most courts follow a literal interpretation of Art 716 of the RCC (which enshrines the duty to suspend work).[96] However, much of the case law shows the opposite, interpreting the article *contra legem* and arguing that suspension is a right of the contractor and not an obligation.[97]

In some cases, there is a logical explanation, such as the discovery of circumstances that make it impossible to complete the work on time. In such a case, suspension may not be in the client's interest as it would further delay the completion of the work.[98]

Mandatory suspension raises a number of questions. For example, what should a contractor do with certain works that cannot be suspended immediately? It is also possible to imagine work that, if suspended, could not be continued at a later date but would have to be carried out from scratch (eg, pouring of the foundation).

On the one hand, if the contractor cannot reasonably anticipate the client's intention to terminate the contract, it should not suspend such work, as this would cause a disproportionate loss to the client. On the other hand, continuing the work may also cause the client to suffer a loss if it decides to terminate the contract. The contractor should then calculate the loss under the various scenarios and conclude accordingly whether to suspend the work.

In addition, the continuation of the work may put the contractor at risk of being refused payment for the work actually performed (increased in scope and type).[99]

Although a mandatory suspension gives the contractor certainty (it simply suspends work and this circumstance cannot then become grounds for liability because the suspension was caused either by force majeure or by the fault/delinquency of the client), it is hardly in the interest of the client in most cases (and it is in the client's interest that this rule exists). At the very least, it is worth considering excluding the mandatory suspension of work in the cases described above (existence of circumstances that make it impossible to complete the work on time or complex technological stages of work whose suspension is impossible/unreasonable).

The question then arises as to whether all stages of the work must be suspended or only those directly affected by the impeding circumstance. The case law on this point is also contradictory.[100] In my view, the second option is the correct one. In one case the court stated:

> 'The suspension of all work under the contract, not just those works in the course of which an obstacle was identified and those that followed, would not constitute good faith on the part of the contractor, who could and did carry out the work in question as long as it was possible to do so

> before receiving replies from the client. To do otherwise would not have been conducive to the efficient performance of the contract within a very short period of time after the grounds for the suspension had ceased to exist.'[101]

It can be argued that the client can withdraw from the contract on receipt of a warning and that continuing with other parts of the work would incur additional costs for the client. However, the presumption should be that the contract should remain in force and not be terminated, because the party's will to terminate the contract must be explicit.[102]

Consequently, the general rule should be that, upon discovery of a circumstance preventing the performance of the work, the contractor must continue to carry out those types of work which are capable of being performed, unless the contractor has reasonable grounds to assume that the client, upon discovery of a particular circumstance, wishes to terminate the contract.

Conclusion

The following conclusions can be drawn from this study.

1. Russia and the Netherlands are two examples where the duty to warn is enshrined in statutory law. In Germany and France, the duty to warn is recognised in court practice. In England, the courts are in most cases inclined not to recognise such a duty, except in cases of potential harm to property or the health of third parties.
2. The justification for the duty to warn is similar in all countries. In the first place it is the principle of good faith (except in common law countries). The professionalism of the contractor, the principle of cooperation and the duty to achieve results can also be highlighted. However, in my opinion, the closest justification is the contractor's closest proximity (among all participants) to the process of carrying out the work rather than its expertise.
3. All jurisdictions impose not only a duty to warn but also a duty to verify project information and existing work, although the duty to warn and duty to verify are articulated as separate duties only under German law.
4. The analysis of case law shows that all jurisdictions recognise the same circumstances of which the contractor must warn the client. However, a common feature in all jurisdictions (regardless of the statutory duty to warn) is a case-by-case approach to deciding whether or not a duty to warn exists.
5. There is a fundamental difference in how the duty to warn is affected by the professional adviser on the client's side. In most cases in Russia and Germany, it has no effect on the duty to warn, while in England, the opposite position is enshrined. In the Netherlands, court and arbitration practice is contradictory.
6. A feature of Russian law is the approach dominant in court practice which enshrines contractor liability under the risk model (without regard to fault) rather than the objective or subjective fault model.
7. Russian law stipulates a unique obligation to suspend work in all cases where circumstances preventing work performance are identified. I consider such a requirement to be unnecessary in some cases, for example, when there are circumstances that make it impossible to complete the work on time or complex technological phases of work the suspension of which is impossible/unreasonable.

Notes

1 This article was first published in Russian: G A Aleksandrov, 'Circumstances of which the contractor is obliged to warn the client' in *Problems of construction law* (Ed: N B Scherbakov, 2003), pp 20–62.

2 It is worth noting that in France, the emphasis is not only on giving information from the contractor to the client, but also on what the client should do in a given situation. However, this difference is purely linguistic, as in other countries, as will be seen below, the duty to warn sometimes includes a statement on how to solve the problem.

3 C E C Jansen, 'Towards a European Building Contract Law: Defects Liability: a Comparative Legal Analysis of English, German, French, Dutch and Belgian Law' (WEJ, Tjeenk Willink, 1998) p 283.

4 *Equitable Debenture Assets Corporation Ltd v William Moss Group Ltd* (1984) 1 Const LJ 131; *Victoria University of Manchester v Hugh Wilson and Lewis Womersley and Pochin (Contractors) Limited* (1984) CILL 126; (1985) Con LR 52; *Edward Lindenberg v Joe Canning and Others* (1993) 9 Const LJ 43; 62 BLR 147; 29 Con LR 71.

5 R Wilmot-Smith, *Construction Contracts: Law and Practice* (Oxford University Press, 2006), p 45.

6 *University of Glasgow v Whitfield* (1988) 42 BLR 66; *McQuade v Solchek Pty Ltd* (1988) 5 BCL 131; *Oxford University Press v John Stedman Design Group* (1990) 34 Con LR 1. This is a tort, not a contractual liability.

7 *University of Glasgow v Whitfield* (1988) 42 BLR 66.

8 *Ibid.*

9 *Cooper v Australian Electric Co Ltd* (1922) 25 WALR 66; *Greaves & Co (Contractors) Ltd v Baynham Meikle &*

Partners (1975) 1 WLR 1095; *Zorba Structural Steel Co Pty Ltd v Watco Pty Ltd* (1993) 115 FLR 205; *Henderson v Merrett Syndicates Ltd* (1995) 2 AC 145; *Astley v Austrust Ltd* (1999) 197 CLR 1.

10 J Bailey, *Construction Law*, (2nd ed, Informa Law from Routledge, 2016), p 209.

11 J Luzak, 'The implied duty of a service provider to warn about a risk of construction defects resulting from a contract with a third party, with emphasis on defects resulting from design failures: A case study on the precontractual and contractual duty to warn in English, German and Dutch law and in the Draft Common Frame of Reference' (Thesis, Universiteit van Amsterdam, 2011), p 33.

12 J Luzak 'Client satisfaction: incentive for service providers to warn their clients?' in *Gedrag en privaatrecht: over gedragspresumpties en gedragseffecten bij privaatrechtelijke leerstukken* (Eds: WH van Boom, I Giesen, AJ Verheij, 2008), p 90.

13 VOB/B rules are mandatory for contracts in the public sector. However, most construction contracts in the private sector are also concluded on the basis of VOB/B rules.

14 BGH, 18.01.1973, VII ZR 88/70, NJW 1973, 518 (hereinafter, unless otherwise stated, all references to German case law cit from: J Luzak, 'The implied duty of a service provider to warn about a risk of construction defects...' see n 10 above).

15 OLG Bremen, 15.02.2001, 5 U 69/00c, BauR 2001, 10.

16 OLG Karlsruhe, 28.10.2002, 7 U 87/02, BauR 2003, 10, p 638.

17 The duty to inform (*obligation d'information*) and the duty to advise (*obligation de conseil*) differ significantly. The duty to advise is more onerous for the contractor. The duty to inform is confined to the provision of information, whereas the duty to advise includes an assessment of the particular and, where appropriate, advice as to the contract, product or service (*A Dionisi-Peyrusse*, Droit civil Les obligations, Tome 2, CNFPT, 2008, p 88).

18 Although in France the term is '*devoir de conseil*' (literally 'the duty to advise') I will use the term 'the duty to warn' to keep the terminology unified, given that, as shown in the introduction, the terms do not differ in substance.

19 See n 2 above, p 302. It is worth noting that such a duty has emerged not only in contracting but also in other complex areas. Such a duty exists for suppliers, lawyers, notaries, etc. *F. Terré*, Droit civil. Les obligations, (12 ed, Dalloz, 2019), p 921–22.

20 CA Paris, 9 June 1999, AJDI 1999, 818.

21 M Planiol, *Course in French Civil Law. Part Two: Theory of Obligations*, translated from French by VY Gartman, (1911), p 740.

22 Cass 3e civ, 27 January 2012, no 08-18026.

23 See n 2 above, p 289–90.

24 M Faure-Abbad, *Droit de la construction*, (3rd ed, Gualino, 2016), p 51.

25 See n 2 above, p 290.

26 Ruling of the Commercial Court of the Ural District of 13 February 2023 no F09-9483/22 in case no A07-6650/2022; Ruling of the Commercial Court of the East Siberian District of 6 May 2019 no F02-1799/2019 in case no A33-9688/2017.

27 Ruling of the Plenum of the Supreme Court of Russia No 25 of 23 June 2015; Ruling of the Commercial Court of the Volga-Vyatka District no F01-3777/2022 of 8 February 2023 in case no A31-15196/2021; Ruling of the Commercial Court of the West Siberian District no F04-8210/2022 of 16 February 2023 in case no A45-31402/2021.

28 TE Abova, LV Andreeva, EB Anikina, *Commentary to the RCC*, (3rd ed, Yurite Izdat, 2006), part 2.

29 Ruling of the Volga-Vyatka District Commercial Court of 2 August 2022 no F01-3580/2022 in case no A79-7452/2019.

30 See n 11 above, p 26.

31 *Ibid.*

32 *Goldswain v Beltec Ltd* (2015) EWHC 556 TCC, 159 Con LR 46.

33 *Aurum Investments Ltd v Avonforce Ltd* (2000) 78 Con LR 114.

34 *EDAC v Moss* (1984)1 Const LJ 131; C Chern, *The law of construction disputes*, (3rd ed, Informa Law from Routledge, 2020), pp 96–97; S Furst and V Ramsey, *Keating on Construction Contracts*, (10th ed, Sweet & Maxwell UK, 2016), para 3-079.

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The law and economics doctrine and the alternative dispute resolution methods applied to construction agreements

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Introduction

The number of disputes involving long-term construction agreements in Brazil has steadily grown in recent years, impacting not only the parties, but also society at large. When parties need to resolve conflicts of this nature, besides resorting to the dispute resolution method sanctioned by the state – the judiciary – they can also seek mediation, dispute boards and, especially, arbitration. Although these private methods of resolving conflicts vary in their characteristics, they share one aspect: namely, the participation of a third party to render a decision or award, or communicate information about the conflict to the parties.

Simply put, arbitration can be understood as a private replica of the functioning of the judiciary. In other words, instead of submitting the dispute to the state justice system, where judges decide cases according to the applicable laws, the parties choose

one or more arbitrators as their private fact-trier(s), possibly based on procedural and substantive rules different to those that would be applied by the judiciary.

In the case of Brazil, arbitration only became widespread with the enactment of Law 9,307 of 23 September 1996, despite being present in the nation's legal system since the 19th century.[1] Adhesion to this practice has been consolidated primarily because arbitral awards no longer need to be recognised by a State court[2] and parties are allowed to choose this route through an arbitration clause or agreement.

In contrast, mediation and dispute boards are non-binding forms of resolving disputes, essentially replacing direct negotiation between the parties. Mediation is a process by which a neutral third party facilitates the negotiations between the disputing parties, seeking resolution of a conflict. Mediation is aimed at resolving the case by consensus rather than by a binding order.

The reliance on dispute boards was only recently regularised in Brazilian legislation, mainly by São Paulo Municipal Law 16,837/2018 and the new federal Law of Tenders (Law 14,133 of 1 April 2021).[3] The latter law was responsible for supplying nationwide normative treatment to the figure of dispute boards. Before this, they were only governed at the municipal level. Dispute boards, in summary, seek to resolve disputes in the corporate area, especially involving long-term contracts, such as those for civil construction. Therefore, dispute boards are a promising means of preventing and resolving conflicts involving infrastructure projects.

The referred boards generally consist of up to three independent and experienced experts, who periodically monitor the progress of the contract and work to resolve occasional conflicts that arise during their performance.[4]

These means of alternative dispute resolution have also been gaining traction in Brazil due to the similarity of their application across international jurisdictions. Indeed, these methods have been increasingly encouraged by the state courts, based on procedural legislation. In various areas, plaintiffs and defendants are obliged to first try an alternative dispute resolution method, before a lawsuit formally starts.

However, for situations in which an initial good faith attempt by a non-adversarial alternative method is not obligatory, various debates exist as to what leads parties to utilise alternative dispute resolution methods, and the respective advantages to the parties and wider society. In this regard, the economic approach to the law (also known as the doctrine of law and economics) gains relevance, as the parties will naturally consider the effects of the alternative dispute resolution method on the probable outcome of their conflict.

Therefore, considered here is a broad discussion on the application of economic analysis of the law in Brazil, identifying the conditions under which the parties are encouraged to use these alternative means.

Such analysis will not encompass all relevant aspects of the doctrine of law and economics, nor all the alternative dispute resolution means, but some relevant points deserve focus and will be considered in isolated form. This aims to shed light on the reliance on alternative dispute resolution by the parties in Brazil, in the context of long-duration contracts, such as civil construction agreements, as well as the criteria involved.

Economic analysis of the law and its application

The economic analysis of the law is a doctrine that advocates the need for approximation between the law and economics,[5] offering 'a mature theoretical instrument to help in the comprehension of social facts, and mainly, how social agents will respond to potential alterations in their structure of incentives'.[6] As stressed by the doctrine in question, economists are able to answer questions the law alone would likely be unable to resolve.[7]

The economic analysis of the law proposes a rereading of the legal framework based on instruments of economics; that is, a reinterpretation of the legal system in conformity with the assumptions of economics, such as incentives, rationality, maximisation of results and minimisation of costs, among others. According to Ejan Mackaay: 'Law and economics judge legal rules by their expected social effects, as opposed to their justice or fairness qualities. [...] Legal rules affect the costs and benefits of particular courses of action open to individuals and as a result may change the attractiveness of some actions in comparison with others [...] Individuals may adjust their behaviour in response to those signals.'[8]

Mota Pinto, in explaining the method used, defines the movement of the law and economics carefully, stating that it:

> 'seeks an imposition and solution of legal problems fundamentally based on the "efficiency of allocation" of resources, submitting these problems and solutions to an economic analysis of "well-being", according to the canons of the school of marginalism (the analysis of the marginal value of the behavioral options of agents under a constraint, and in general the comparison of costs and benefits of legislative solutions), complementing it with theoretical approaches such as the theory of games and the economy of information (152), specifically to analyze, on various points, the incentives resulting from the legal rules or the way these enable coordinated action.'[9]

Scholars of the law and economics had used the axioms and premises of both sciences to deepen their knowledge and support their conclusions

Although the author argues that the economic analysis of the law does not resolve the legal-normative problem presented in his work, he clarifies that this technique should 'have an auxiliary role (especially in legislative or judicial options where the ethical-material implications are of lesser importance) to clarify the relevance of the guiding reality.'[10]

In dealing with the theme, Paula Forgini[11] details some premises applicable to the formulation, interpretation and application of the rules of law, as established by the economic analysis of the law, namely: (i) no right is absolute, so that the application of any rule or principle requires the previous examination of the costs and benefits to all the parties involved in the contractual relationship; (ii) the legal system should enable the reduction of transaction costs, facilitating exchanges between economic agents; (iii) a function of the law is to increase the degree of certainty and foreseeability of the relations, with the consequence of reducing the risks assumed by the economic agents, and hence, the transaction costs; (iv) governmental intervention generates costs, so it should only be used when necessary to correct market failures; (v) legal rules should be considered as incentives and disincentives to the action of economic agents, such that the sanction is a type of price to be valued by the economic agent; and (vi) the law should be endowed with 'distributive neutrality', rather than permeated with values other than allocative efficiency.

Forgini also presents different ways that economic analysis can contribute to the law, namely by: (i) permitting the identification of the effects of a determined rule or decision, based on the cost-benefit analysis of legal policies; (ii) explaining the reason why determined rules are found in the legal system; and (iii) determining which rules should or should not be accepted by the system.[12]

Most scholars interested in the economic analysis of the law attribute its origin to Ronald Coase in his 1960 article, 'The Problems of Social Cost', in which he proposed a debate on the allocation of resources.[13] Indeed, that work marked a watershed in the doctrine of law and economics, but long before Coase's writings scholars of the law and economics had used the axioms and premises of both sciences to deepen their knowledge and support their conclusions.[14]

The topic of law and economics rose to another level in 1972, when Richard Posner, a judge and professor at the University of Chicago, published his book, *Economic Analysis of Law*, in which he established the pillars of economic analysis of the law by applying economic postulates from several fields of law, such as contractual rights and remedies, civil liability, criminal law and antitrust law.[15] According to Posner, the economic analysis of the law has heuristic, descriptive and normative aspects.[16]

One of the first opportunities when the economic analysis of the law was applied in the Brazilian justice system was the publication of Rachel Sztajn's 'Notas de Análise Econômica: Contratos e Responsabilidade Civil' in 2005.[17]

Among the Brazilian authors who have undertaken the economic analysis of the law are Mariana Pargendler and Bruno Salama, in their article 'Law and Economics in the Civil Law World: the Case of Brazilian Courts', in which they analyse decisions by Brazilian courts and conclude that, contrary to common sense, 'Brazilian judges habitually employ concepts borrowed from economics to forecast the likely consequences of events or rules when such a prediction is called for by relevant legal rules.'[18]

Pargendler and Salama begin the article by

explaining that their analysis takes into consideration situations in which judges have based their decisions on principles and lessons from economics as instruments to apply the law, although not making express reference to these principles. One of the cases mentioned is the debate over the constitutionality of the Maria da Penha Law (Law 11,340/2006), involving domestic violence.[19] As demonstrated in the article, the justices of the Supreme Court used typical economic reasoning, focused on the consequences of the different options available and on human behaviour in each specific situation and the related incentives, to conclude in favour of the constitutionality of the rule allowing the prosecution of violent spouses, even without a formal complaint by the victim.[20] After analysing various decisions rendered by the Supreme Court and the Superior Court of Justice (STJ, the highest court for non-constitutional matters), the authors conclude that Brazilian judges are increasingly receptive to economic principles and lessons.[21]

In the same line, Rachel Sztajn argues that it is a mistake 'to claim that economics seeks efficiencies while the law is tied to promotion of the issue of being/ought to be', and that the positions defended by the law and economics are far from being 'irreconcilable'.[22] According to Sztajn, the economic analysis of the law should not be feared by legal practitioners, but rather seen as a way to think about legal rules, while paying heed to rewards and punishments.[23]

Some authors argue against an economic analysis of the law in the Brazilian system, the majority of whom posit that this current thinking is incompatible with civil law. Among these authors is Paula Bandeira, who when equating the economic analysis of the law with the 'criterion of efficiency' – just one of the various elements of the law and economics doctrine – concludes that the economic analysis of the law 'despite being a relevant method for analysis employed by lawmakers or interpreters in certain situations, does not deplete the values composing the legal system thus not having the constitutional wherewithal to dictate the interpretive criteria for solution of concrete cases.'[24]

Calixto Salomão, in describing the modern theories applicable to corporate law, also mentions the economic analysis of the law and criticises one of its currents, that of the Chicago School, by equating the economic analysis of the law with the theory of efficiency.[25] According to him, both in common law and civil law, the attribution of efficiency as the only objective legal rule, without being contested based on 'valorative and distributive considerations' is hard to accept, making it necessary to 'restrict the economic analysis of the law to a purely analytic instrument, without attributing any valorative character to it'.[26]

Many of the critiques posed result from a miscomprehension of the purpose of the economic analysis of the law, which borrows a method of investigation from economics, consisting of the analysis of individual or collective decisions on the allocation of scarce resources.[27] This does not involve, as some think, an intrinsically capitalist and egotistical reasoning. According to Ivo Gico Jr, it is 'a big mistake to think that an individualistic method of analysis necessarily involves an individualistic system of values'.[28]

For this reason, as pointed out by Paula Forgioni, the economic analysis of the law should not be taken as an 'instrument seeking colonization of our system', much less 'a messianic solution' to the problems faced by the law.[29]

Economic assumptions applied by the economic analysis of the law

Various relevant economic concepts and assumptions are used in the economic analysis of the law. The exposition of economic concepts is not the objective of this work, so the below refers only to some of the main presuppositions that relate to the definition of the use of alternative means of resolving disputes, with the depth and expansion necessary to facilitate the exposition and comprehension of the central theme in question.

One of the basic assumptions of economic reasoning is that economic agents will always try to maximise their interests, by extracting the greatest utility from each commercial relationship. Ivo Gico Jr defines utility as the 'ranking' among the possible choices of the economic agent.[30] This rational choice of agent from among the available options, with the object to maximise utility, is among the basic assumptions of economics. According to economics, rational choice means knowing the marginal utility of a good or service by the agent, based on

knowledge of the advantages and costs of such good or service, with preference for that which provides the greatest utility.[31] Posner also deals with maximisation of the utility of the law, stating that 'the participants in the legal process indeed behave as if they were rational maximizers: criminals, contracting parties, automobile drivers, prosecutors, and others subject to legal constraints or involved in legal proceedings act in their relation to the legal system as intelligent (not omniscient) maximizers of their satisfactions'.[32]

In this line, the rationality of agents is far from an absolute presumption. As explained by Rachel Stajn and Decio Zylberstajn, the so-called 'New Instrumental Economics' 'rejects the neoclassical premise of hyper-rational choices and maximizing behavior, instead adopting the concept of limited rationality'.[33] Although the rationality of agents is a useful abstract assumption and a way to simplify the reality of the behaviour of economic agents, it is not always borne out empirically.[34]

This reality is better represented by the limited rationality of agents, recognised and studied in Behavioural Economics,[35] according to various factors,[36] among them (i) the finite cognitive capability of agents, who will always be subject to flawed reasoning; (ii) the limited willpower of agents, who can act against their long-run interests; and (iii) the limitation of 'selfish action', since agents often act not only according to their own interests, but also in favour of third parties' interests.

A mistake often made by critics regarding the theory of economic analysis of the law [is] the opposition between the ideas of efficiency and justice, as if these were irreconcilable criteria

Another relevant presupposition in this regard is efficiency, which can be defined in several ways. The oldest concept is connected with utilitarianism, with Jeremy Bentham as a leading exponent.[37] As described above, the principle of utilitarian has a major drawback: the utility is different for each agent, so this aspect cannot be compared among agents. It is impossible to verify whether a given situation is efficient by the utilitarian criterion, because there is no way to make comparisons.

At present, the best-known and most-utilised models by economists to define efficiency are those of Pareto and Kaldor-Hicks. Pareto efficiency, also known as allocative efficiency, is named after the political scientist, sociologist and economist Vilfredo Pareto, based on the idea that goods should be transferred from the agents who least value them to those who give the greatest value.[38] This implies identifying, in a determined context, the situation of an agent that can be improved, without the situation of the other being aggravated.[39]

However, Posner observed that Pareto efficiency is rarely found in the real world, in which the majority of economic transactions also produce effects on third parties.[40] Because of the difficulty of finding a Pareto-efficient situation, economists developed a new version of the theory, called Kaldor-Hicks efficiency. According to this line of thought, a transaction is efficient if it increases the gains of the agents, independently of a change in the distribution of wealth. In other words, a transaction can be efficient even if one of the agents is harmed.

Further regarding the question of efficiency, it is important to point out a mistake often made by critics regarding the theory of economic analysis of the law; namely, the opposition between the ideas of efficiency and justice, as if these were irreconcilable criteria. Various authors, both Brazilian and foreign, have rebutted this interpretation.

As clarified by Ivo Gico Jr, efficiency is a technical term used in the Pareto-efficient sense, which implies the absence of another allocation of resources that manages to improve the situation of one party and worsen that of another. According to Gico:

> 'a Pareto-efficient allocation will not necessarily be fair according to some normative criterion, but a Pareto-inefficient allocation will certainly be unjust, since someone can improve their situation without harming anybody. [Thus,] if the resources are scarce and the needs are potentially unlimited, all waste implies unsatisfied human needs, so any definition of justice should have the necessary, albeit not sufficient, condition of eliminating waste (ie, efficiency). While we don't necessarily know what is just, we know that inefficiency is always unjust. For this reason, I do not envision any conflict between efficiency and justice; much to the contrary, one is a condition for the existence of the other.'[41]

Klaus Mathis, who dedicated a book to the contraposition between the principles of efficiency and justice, entitled *Efficiency Instead of Justice?*, recognises that most economists believe the relationship between efficiency and justice to be conflictual, but advocates that justice and efficiency are interchangeable to a certain point.[42]

Posner is also among the authors who reject the idea that justice and efficiency are contrary concepts. Posner argues that one of the ways of achieving justice is precisely via efficiency. When one describes as unjust the act of condemning someone without a proper trial, of appropriating something belonging to another without fair return consideration, or of failing to find a negligent driver liable for the damages caused to the victim, this can be interpreted as a 'waste of resources'.[43]

The Brazilian legal system has various provisions that rely on the criterion of efficiency as a way to reach a fair solution to disputes. For example, there are provisions that make specific reference to efficiency, such as Arts 37[44] and 74, numeral II;[45] Art 126, sole paragraph;[46] and Art 144, ss 7 and 10,[47] of the Federal Constitution, and Arts 8[48] and 867[49] of the Civil Procedure Code.

It is not the intention of this work to delve into the debate around the concept of justice, much less advocate that the criterion of efficiency should be the only one considered in applying the law.[50] The intention is only to refute the fanciful dichotomy between justice and efficiency, which is nurtured by the same jurists who advocate that economics and law are immiscible.

Another concept of the economic analysis of the law relevant to this study is that of transaction costs. Put bluntly, transaction costs are those involved in making a deal, in its different stages. Hence, like in other contractual stages, the parties can incur costs in resorting to one of the methods of resolving conflicts. Such costs can be substantial, and of doubtful recovery, as detailed in the next section.[51]

Incentives for parties to resort to alternative dispute resolution means in long-term contracts

The advocates of alternative means of dispute resolution regularly claim that the use of those means reduces the transaction cost and leads to better outcomes than litigation, especially in long-term contracts, such as construction agreements.

In assessing the benefits and costs of these procedures, it is necessary to ask what the basis for comparison is. Normally, arbitration is compared with the judicial process, while mediation and dispute boards are compared with unfacilitated negotiation. The claims of the proponents are better understood by comparing judicial cases, arbitration, negotiation, mediation and dispute boards in various common dimensions, such as: if participation is voluntary or involuntary; the nature of the proceeding and degree of procedural formality; the role, if any, of a third party; to what extent the result is binding; whether the result should be reached by application of legal rules; and whether the process is public or private.[52]

Some specific aspects of these alternative means to resolve disputes against the backdrop of the Brazilian reality are analysed below.

The particularities of judicial and arbitral proceedings in Brazil

As mentioned, judicial proceedings are involuntary, in the sense that a magistrate appointed by the state has the power to coerce a defendant to participate in a lawsuit, and to suffer the consequences of a possibly negative judgment. The cases are highly structured, with formal rules that govern the production of evidence and the judgment itself – that is, what counts as evidence, the order in which evidence is produced and how the arguments are presented. The judge's decision must be based on legal principles and rules, and at the first instance, these decisions are binding on the parties, but are subject to a broad range of appeals and motions. Besides this, judicial proceedings per se are normally open to the public, instead of being confidential.

When one describes as unjust the act of condemning someone without a proper trial [...] this can be interpreted as a 'waste of resources'

In turn, arbitration also involves a neutral third party or parties (the arbitrator(s)), with responsibility for conducting the proceeding and making the necessary decisions to resolve the dispute. Contrary to a judge (a civil servant),

the arbitrator is typically a private person chosen by the parties. The persons chosen to arbitrate the conflict generally have specialised knowledge of the subject matter at hand, with legal training only being necessary if the parties so specify.

A dispute that would otherwise be examined by the judiciary becomes subject to arbitration only by concordance of the parties. In this sense, arbitration is based on a contractual arrangement, according to the terms of a specific arbitration clause in their contract or by a side agreement (an accord reached before or after a dispute arises). Thus, the parties can specify arbitration in advance of any conflict or only after one has arisen.

Binding arbitration, unlike judicial resolution, is voluntary, in the sense that someone can be obliged to employ or respond to arbitration only by an accord. However, when an arbitration clause exists, compliance is involuntary, in the sense that the judiciary will only be activated against a recalcitrant party, and will refuse to judge disputes that are within the scope of the arbitration clause or accord. In an arbitral proceeding, the procedural rules can be set by the parties in the clause or accord. The decision of the arbitrator(s) is binding and final.

In comparison with the judicial process in Brazil, the potential advantages and disadvantages of arbitration result from three fundamental differences. In the first place, the parties can choose the arbitrators based on their experience or expertise in the disputed subject matter, while a judge is typically a generalist, who knows the legal procedures but does not necessarily have experience on specific topics. As a consequence, in comparison with a judge, the decision of an arbitrator tends to be better informed. Hence, arbitration can have lower transaction costs and higher-quality results than judgment by a state court.[53]

A second set of possible advantages is related to the fact that an arbitral proceeding can progress more rapidly because of the comparatively greater informality.

The third critical difference involves the scope of judicial reexamination. Unlike the decisions of a trial court, which are subject to various appeals and motions, the arbitral award cannot be annulled by the judiciary by discussions of merit of the dispute. The binding nature and comparative finality of the arbitral award are obviously a two-sided advantage. On the one hand, a final resolution can be much faster and the appeals less frequent, because the scope of re-examination is very restricted. On the other hand, the losing party lacks the safeguards of ordinary judicial re-examination, which theoretically could improve the 'precision' of the resolution.

The particularities of negotiation, mediation and dispute boards in Brazil

As is the case in most countries, unlike judicial resolution and arbitration, negotiation does not require the participation of a neutral third party with decisive authority. Instead, the parties themselves have the responsibility to decide the terms of any resolution. Negotiation is voluntary, in the sense that the parties in conflict are not normally forced to negotiate with one another. The negotiation process is informal and without defined procedural rules or standards governing the presentation of evidence or arguments. Since the objective of negotiation is a mutually acceptable resolution, the parties can mould this resolution to meet their own needs and interests, and do not have an obligation to reach a resolution based on principles, much less one that is justified by a grounded opinion that applies formal legal rules.

In turn, in the cases of mediation and dispute boards, like in judicial and arbitral proceedings, this involves the participation of third parties. But at least in Brazil, unlike the intervention of a judge or arbitrator, there is no authority to impose a definitive resolution on the parties.

In the case of mediation, the mediator's goal is to facilitate the negotiation and help the parties to reach a mutually acceptable settlement of their conflict. Mediation is typically a voluntary process where the parties choose an outside person to act as a facilitator. It is private and confidential rather than open to the public.

Although the mediator is normally responsible for administering the process, there are no standard procedures or fixed rules. The process by which the mediator acts to facilitate the negotiation is often informal and unstructured. The practices of individual mediators can vary greatly. While most mediators mainly spend time working with both parties together, some prefer to

utilise private sessions with each party – something that is not possible in judicial and arbitral proceedings.

The practices of mediators also vary in other aspects. For example, some mediators evaluate the legal merits of the positions of each party and express a view of the probable result of a lawsuit or arbitration. Other mediators avoid this evaluation and see their role as only involving facilitation, trying to help the parties to generate creative options that meet their underlying interests. Many mediators act eclectically to help the parties understand the opportunities and risks of pursuing their claims and to identify options to create value, unlike a judicial court or arbitral tribunal.

As long as the resulting resolution is mutually acceptable to the parties, there will be no need to involve the application of formal legal rules or imitate the result a court or tribunal might impose. Normally, there is no re-examination process. If the parties are able to resolve their conflict by means of a written accord, this will be enforceable like any other contractual instrument.

One of the advantages indicated for mediation is the fact that a mediator can help the parties attain better settlements with lower transaction costs. In other words, the mediated accord can often be classified as having greater Pareto efficiency than the parties could achieve on their own. But some legal scholars have identified various barriers to Pareto-efficient negotiations when not assisted.[54] By identifying these barriers, it is possible to explore how a neutral mediator can help the parties to overcome their differences.[55]

The theory of law and economics applied to settlements between the parties to a dispute suggests that they may not reach that outcome due to divergent expectations about what will occur in a judicial or arbitral proceeding.[56] That problem can, in theory, be minimised with the help of a neutral third party, such as a mediator.[57] A mediator can facilitate the exchange of essential information and improve the communication between the parties, as well as improving their understanding of each other's claims and defences. Besides this, when the parties' perceptions lead to excessively optimistic evaluations by one or both parties, a respected neutral mediator can overcome this bias. Steven Shavell[58] questioned the motives by which two rational opponents would not do this on their own. However, the problem at issue is precisely the irrational behaviour of the parties, or the ways by which strategic interaction can sometimes inhibit the exchange of essential information.

With regard to dispute boards, notwithstanding some of the advantages mentioned above (such as lower cost and greater specialisation of the third parties forming the board), this means of resolving disputes in Brazil is still very restricted, unlike in other countries. This limitation on the use of dispute boards is mainly due to some legal disincentives that hamper their effectiveness. An example of this is the objective restriction in the city of São Paulo, the capital of the state of the same name. São Paulo has the largest GDP of all Brazilian states: according to Decree 60,067/2021, which regulates Municipal Law 16,837/2018, only infrastructure contracts worth R$200m (roughly $40m) or more can stipulate the adoption of dispute boards, even though their use can help prevent conflicts of various natures.

One of the advantages indicated for mediation is the fact that a mediator can help the parties attain better settlements with lower transaction costs.

Another limitation on the use of this mechanism is the fact that the board cannot issue definitive and unappealable decisions like an arbitral tribunal. Nevertheless, the parties can stipulate that decisions reached by the board have the effect of preliminary judicial injunctions, with binding effect until overturned by a subsequent judicial or arbitral ruling.

Therefore, although they can be an interesting mechanism for the resolution of disputes, especially in civil construction and infrastructure agreements, dispute boards still do not offer an increase of legal certainty in Brazil, since a party that is dissatisfied with a decision by the board can appeal to an arbitral tribunal or judicial court seeking to overturn that decision (and the typical behaviour of lawyers and litigants in Brazil functions as a notorious disincentive in practical cases).

In other words, the incentives of the parties in a conflict (or potential conflict) to agree to the choice of an alternative means of resolving disputes results from the

assumption that the referred means will enhance their wellbeing, by permitting a reduction of transaction costs to reach a settlement and/or opening a route to a result with better outcomes.

To define the increase in wellbeing of the parties, it is first necessary to identify the benchmark against which the alternative means of dispute resolution is evaluated. Steven Shavell[59] discusses the conditions under which the parties can have a greater interest in alternative dispute resolution mechanisms in comparison with a judicial decision. By describing these conditions and the private benefits of alternative dispute resolution mechanisms, the author makes a basic distinction between ex post alternative means (formalised after a conflict arises) and ex ante means (formalised before a conflict arises, normally in the contract negotiation stage).

Since the interests of the parties before the emergence of a conflict are typically not the same as those that arise afterward, the implications of the terms of the accord to resort to alternative dispute resolution during these two stages can be fundamentally different.

Besides this, the range of contingencies faced by the parties during each of the contractual steps can be different. Shavell demonstrates how the temporal distinctions and the cut-off point of the emergence of a conflict affect the range of benefits the parties can obtain when using alternative means of resolving disputes.

Indeed, by agreeing to resolve a possible conflict by an alternative dispute resolution mechanism before the emergence of a conflict, the parties can increase the contingencies and enjoy additional advantages that are not possible in post-conflict arrangements. The ex-ante agreements for alternative means of resolving disputes can motivate changes in pre-conflict behaviour, thus increasing the joint benefits to the parties in the interaction.

Reaching a consensus on an alternative means of resolving disputes in the contract negotiation stage can also positively affect the initial conduct of the parties – inducing them to comply with their contractual obligations and the substantive law, achieving more precise results or other characteristics. This is another source of mutual benefits. For example, when the arbitrators are more qualified than a judge to identify substandard performance, the ex-ante arrangement to resort to arbitration will induce the parties to satisfy the standard requirements. The greater precision in resolving a conflict by alternative means will create a stronger incentive to comply with the contractual obligations.

Besides these epistemic effects, the ex ante accord in respect of alternative dispute resolution mechanisms can positively affect the principal behaviour, by imposing future substantive rules that are better adapted than those employed by an arbitral tribunal.[60]

Ex ante accords can also: (i) positively guide the procedural behaviour of the parties, allowing them to make better informed decisions about the investment in gathering evidence and preserving information during interactions; (ii) permit the parties to overcome informational or strategic barriers, to achieve mutually beneficial post-conflict results, as described above; (iii) expand the zone of possible accords; and (iv) positively affect the incidence of conflicts, by inducing the parties to avoid conflicts.[61]

Naturally, the benefits mentioned above can only be enjoyed in the context of pre-existing relations between the parties, and even in these cases, the transaction costs can be high.

To summarise, a variety of ways exist by which alternative dispute resolution mechanisms lead to results that are less expensive and better for the parties.[62]

Conclusion

As canvassed above, resorting to the judiciary is just one of the possible ways to resolve conflicts. Many cases have been effectively resolved by alternative dispute resolution mechanisms, such as arbitration, mediation and dispute boards, especially regarding long-term contracts, such as civil construction and infrastructure agreements. These methods denote a series of other possible ways by which a third party (other than a state judge) can be involved in the resolution of conflicts.

Since alternative dispute resolution mechanisms help to overcome barriers to reach Pareto-efficient results, the effects of their inclusion as incentives to transact and the efficiency of the system to resolve conflicts certainly warrants further theoretical and empirical studies, both by legal practitioners and economists.

In closing, this brief analysis demonstrates the existence of clear incentives that can prompt parties increasingly to opt for dispute resolution methods other than the judiciary, especially when this choice occurs before the emergence of conflicts through ex ante accords.

Notes

1 As described by Rafael Francisco Alves, although the figure of the 'arbitral court' existed in the Brazilian legal system since the *Ordenações do Reino* ['Ordinances of the Kingdom'], dating to colonial times, and were contained in the majority of constitutions until reaching the Civil Code of 1916 and the Civil Procedure Code of 1973, the fact is that until 1996, the mechanism was practically not used in Brazil. This lack of tradition also had its reasons for being: before enactment of Law 9,307/96, there were various legal hurdles to the development of arbitration in Brazil. Among these obstacles, two stand out: the absence of efficacy of the arbitration clause and the need for judicial recognition of the arbitral award, which also meant double recognition of foreign arbitral awards (RF Alves, *A Inadmissibilidade das Medidas Antiarbitragem no Direito Brasileiro* (Atlas, 2009)).

2 Art 18, Law 9,307/96.

3 'Art. 151. In the contractual arrangements governed by this Law, alternative means can be utilized for prevention and resolution of disputes, notably conciliation, mediation, dispute resolution boards and arbitration. Sole paragraph. The provision of the main section of this article shall be applied to disputes related to disposable pecuniary rights, as well as questions related to the reestablishment of the economic-financial balance of contracts, the default of contractual obligations by either party and the calculation of indemnities.'

4 See the rules of the Brazil-Canada Center for Arbitration and Mediation, available at https://ccbc.org.br/cam-ccbc-centro-arbitragem-mediacao/resolucao-de-disputas/dispute-boards accessed 13 July 2023.

5 '*The renewal of legal studies and the growing conviction of the need for them to be completed with support from other human sciences, notably sociology, political science and economics, have induced new treatment of the traditional legal mechanisms that distinguish Private Law, among them the contract*', O Gomes, *Contratos* (26th ed, Editora Forense, 2008) p 3.

6 IT Gico Jr, 'Metodologia e Epistemologia da Análise Econômica do Direito', *Economic Analysis of Law Review*, 1(1) January-June, 2010, p 15: '[...] we need not only theoretical justifications to ascertain the abstract adequacy between the means and the ends, but also from theories higher than the mere intuition that helps us in judgments of diagnosis and prognosis. We need theories that permit, to some degree, a more accurate evaluation of the probable consequences of a decision or a public policy within the legal, political, social, economic and institutional context in which it will be implemented. In short, we need a theory about human behavior.'

7 R Cooter and T Ulen, *Law & Economics* (6th ed, Pearson Addison-Wesley series in economics, 2012), p 3: 'Lawmakers often ask, "How will a sanction affect behavior?" For example, if punitive damages are imposed upon the maker of a defective product, what will happen to the safety and price of the product in the future? Or will the amount of crime decrease if third-time offenders are automatically imprisoned? Lawyers answered such questions in 1960 in much the same way as they had 2,000 years earlier – by consulting intuition and any available facts. Economics provided a scientific theory to predict the effects of legal sanctions on behavior. To economists, sanctions look like prices, and presumably, people respond to these sanctions much as they respond to prices [...] Economics generally provides a behavioral theory to predict how people respond to laws. This theory surpasses intuition just as science surpasses common sense. The response of people is always relevant to making, revising, repealing, and interpreting laws.'

8 E Mackaay, *Law and Economics for Civil Law Systems* (Edward Elgar, 2013), p 6.

9 PM Pinto, *Interesse contratual negativo e interesse contratual positivo* (vol I, Coimbra Editora, 2008), p 45.

10 *Ibid* at p 47. Pinto also advocates that:

> 'the substitution of legal rationale by economic analysis necessarily involves decisive aspects, and also analysis of the measure of the damages (of the pre-contractual and contractual "remedies"). This will not be serious whenever the results reached are presented, and seen, as merely auxiliary – as conveying only an external perspective describing the problem, or (according to an assumed standard that is not juridical, but rather is based on efficiency or "maximization of wealth") to prescribe solutions. If this is not the case, i.e., if the economic analysis is intended, in a "normative" perspective, to substitute or override the Law as an autonomous discipline, we thus believe we will be faced with a serious methodological deviation, revealing a grave miscomprehension of the specific sense of the Law, when not even one anthropological option can be discussed, and if taken to the end, a cultural retrocession will occur. In the methodological plane, there would be a difference between the intention to materialize a practical and valorative rationale of the Law, and the application of the conclusions of a theoretical discipline or its applicative technique. With the intention of totally translating the legal values into economic categories, the legal rationale winds up being replaced by a technique whose success depends on a means–end relation, which has been previously fixed and leaves the jurist's activity to be prudential [...] In particular in the private law, that perspective may not be adequate, because it will not be confined, nor will it confine the parties, to a perspective of efficiency and "before protecting the use of private autonomy within the limits that are also intended to measure the extent to which the individual holder makes of contrary employment to market valuations". The civil law "is not a pure law of efficiency and also should not be". Also, in private law, the use of economic analysis as a decisive criterion for legal problems thus has as a consequence the loss of autonomy of the "juridical standpoint" that is particularly constitutive of this branch of the Law. [...] We thus reject the perspective of the

instrumentalism of the economic analysis, which leads not only to loss of criteria of the juridical-dogmatic theory of the distinction between the negative and positive interest, but also puts into play the very distinction. But we also reject other approaches (or "deviations"), which would remit, for example, to a consideration in psychological terms of the attitude of the parties with regard to the pre-contractual process, or to an alleged political-ideological meaning of the option for the interest in compliance or the interest in trust. But on the other hand, we cannot limit ourselves to a merely formalistic perspective – to a conceptual or positivist "formalism" that does not consider the values that can give sense to the problem involving the distinction' (pp 57–58).

11 PA Forgioni, 'Análise econômica do direito (AED): Paranóia ou mistificação?', *Revista de direito mercantil, industrial, econômico e financeiro* (Malheiros, July-Sept 2005), pp 246–47.
12 *Ibid*, pp 252–53.
13 RH Coase, 'The Problem of Social Cost', *The Journal of Law and Economics*, vol III, October 1960. As described by Klaus Mathis in *Efficiency Instead of Justice? Searching for the Philosophical Foundations of the Economic Analysis of Law* (Springer, 2009), p 51: 'Coase developed a theorem, now named after him, which would become one of the central tenets of economic analysis of law. The conclusion of the Coase theorem is that the world of law should be analysed in terms of its economic impacts so as to instill a dimension of economic efficiency into legal institutions.'
14 EG Pimenta, HARP Lana, 'Análise econômica do direito e sua relação com o direito civil brasileiro', *Revista da Faculdade de Direito UFMG*, n 57, July-Dec 2010, p 85. See also: J Bentham, *An Introduction to the Principles of Morals and Legislation* (Batoche Books, 2000).
15 RA Posner, *Economic Analysis of Law* (8th ed, Aspen Publishers, 2011). Regarding Posner, Ejan Mackaay stresses that 'from the very first edition of his treatise on the economic analysis of law, has put forth the thesis that all, or at least most, rules of the classical common law can be explained as efficient, and moreover that it is desirable for legal rules to be formulated so as to be efficient' (see n 8 above, p 15).
16 RA Posner, 'Law and Economics in Common-Law, Civil-Law, and Developing Nations', *Ratio Juris*, 1(17) March 2004, p 67: 'As a heuristic, it seeks to display underlying unities in legal doctrines and institutions; in its descriptive mode, it seeks to identify the economic logic and effects of doctrines and institutions and the economic causes of legal change; and in its normative aspect it advises judges and other policymakers on the most efficient methods of regulating conduct through law.'
17 R Sztajn, 'Notas de Análise Econômica: Contratos e Responsabilidade Civil', *Revista de Direito Mercantil Industrial e Econômico e Financeiro*, 11, 1998, pp 14 and 29:

> 'It is to be assumed, in the field of contract law, that the rules are designed to facilitate the exchange, including safeguards against default or market failings. For this reason, default, both negligent and intentional, must have greater penalties than involuntary behavior. The facility is clear of application of economic analysis to legal figures such as contracts and civil liability. [...] Based on examination of some of the rules of the Civil Code and the Bill for the Civil Code from the standpoint of allocative efficiency of appeals, it seems that the observations of Gilmore, Coleman, Calabresi and Melamed, among others, are also sensitive in Brazil. The economic analysis of the Law, applied together with the ethical and moral principles, can constitute an important instrument to build a fair and efficient legal system, aimed at the general well-being.'

18 M Pargendler, B Salama, 'Law and Economics in the Civil Law World: The Case of the Brazilian Courts', *Tulane Law Review*, 90, 2015–2016.
19 Federal Supreme Court, Direct Action for Constitutionality (ADC) 19, Reporting Justice Marco Aurélio, en banc decision, judged on 9 February 2012.
20 'The court's majority considered domestic violence victims' well-known reluctance to file representations against their spouses, as documented in sociological studies presented to the court, and concluded that the imposition of such a requirement would effectively "eliminate the protection" afforded to women under the constitution, rendering the statute particularly inept to accomplish its desired objective of curbing domestic violence. Tellingly, the disagreement expressed by Justice Cezar Peluso in his dissent hinged at least partially on the presumed concrete factual consequences of mandating or dispensing with the victim's representation – the type of inference typical of social sciences such as economics, but foreign to the deductive mode of legal reasoning that is said to characterize the civilian tradition. A behavioral theory – such as that offered by economics and other social sciences – about how actors respond to different rules and policies is therefore badly needed' (see n 18 above).
21 'A large body of literature documents the rejection of law and economics in the civil law world and offers an extensive list of possible reasons for this apparent incompatibility. [...] At least in Brazil, however, the assumed insulation of legal practice from economic reasoning is plainly mistaken [...] The cases described below, however, reveal that economic reasoning is no stranger to at least a part of Brazil's judiciary and that Brazilian judges are not nearly as hostile to economic reasoning as the prototype of a civil law judge would suggest. [...] The preceding analysis of Brazilian cases suggests that the conventional assumption that economic reasoning is absent from legal practice in the civil law world is flawed. Brazilian judges habitually employ concepts borrowed from economics to forecast the likely consequences of events or rules when such a prediction is called for by the relevant legal norms' (see n 18 above, pp 440–69).
22 R Sztajn, 'Law & Economics', *Direito e Economia: Análise Econômica do Direito e das Organizações* (Elsevier, 2005), p 79.
23 *Ibid* p 82.
24 PG Bandeira, 'O Contrato Incompleto e a Análise Econômica do Direito', *Revista Quaestio Iuris*, 4(8) 2015, p 43.
25 C Salomão Filho, *O novo direito societário: eficácia e sustentabilidade* (5th ed, Saraiva Educação, 2019), pp 42 –43.
26 *Ibid*, pp 43–44.
27 See n 6 above, p 16.
28 *Ibid*, pp 23–24.

29 See n 11 above, pp 246–42.
30 '[...] each individual attributes a utility to each possible choice and is able to rank these choices according to the resulting utilities. Every time choosing between two options, the individual will choose the one bringing the greatest utility, i.e., agents are rational maximizers of utility. Note that utility as used here is a technical term that means any satisfaction that the individual extracts from a given choice, not restricted to material questions, much less to monetary ones' (see n 6 above, pp 25–26).
31 CH Perri, *Aplicação da Teoria do Inadimplemento Eficiente aos Contratos Nacionais* (Doctroal thesis, Faculty Adviser Maria Helena Marques Braceiro Daneluzzi – Pontifícia Universidade Católica de São Paulo Law School, São Paulo, 2017, p 37.
32 RA Posner, 'The economic approach to Law' *Texas Law Review*, 53, 1975, p 763.
33 See n 22 above, p 2.
34 AM Porto, N Garoupa, *Curso de Análise Econômica do Direito* (2nd ed, Grupo GEN, 2021), p 146.
In the same sense: 'Traditional economic theory postulates an "economic man", who, in the course of being "economic" is also "rational". This man is assumed to have knowledge of the relevant aspects of his environment which, if not absolutely complete, is at least impressively clear and voluminous. He is assumed also to have a well-organized and stable system of preferences, and a skill in computation that enables him to calculate, for the alternative courses of action that are available to him, which of these will permit him to reach the highest attainable point on his preference scale. Recent developments in economics, and particularly in the theory of the business firm, have raised great doubts as to whether this schematized model of economic man provides a suitable foundation on which to erect a theory – whether it be a theory of how firms do behave, or of how they "should" rationally behave' (H Simon, 'A Behavioral Model of Rational Choice', *The Quarterly Journal of Economics* 1(69) 1955, p 99.
35 H Simon, *Administrative behavior: A Study of Decision Making Processes in Administrative Organization* (MacMillan, 1947).
36 CR Sunstein, C Jolss, RH Thaler, 'A Behavioral Approach to Law and Economics', *Stanford Law Review*, 50, 1998, pp 1476–79.
37 See Bentham, n 14 above.
38 See n 22 above, p 76.
39 HR Varian, *Microeconomia: uma abordagem moderna*, translated by Elfio Ricardo Dooninello and Regina Célia Simille de Macedo (8th ed, Elsevier, 2012), pp 15–16.
40 See Posner, n 15 above, p 154.
41 See n 6 above, pp 22–23 and 27.
42 'Efficiency and justice are by no means mutually exclusive; in fact, they stand in a complex interrelationship. Although this relationship is not without its strains, it is reasonable to conclude that the endeavour to realize both goals need not always be a competitive trade-off, and can in fact be undertaken cooperatively to large extent. The material crux of the positive correlation between efficiency and justice is the trivial point that it is only possible to distribute what is earned. If inefficiency reduces the domestic product, this also has repercussions for justice. [...] Thus efficiency is always one of the precepts of justice' (see Mathis, n 13 above, pp 203–4).
43 'The rules assigning property rights and determining liability, the procedures for resolving legal disputes, the constraints imposed on law enforcers, methods of computing damages and determining the availability of injunctive relief – these and other important elements of the legal system can best be understood as attempts, though rarely acknowledged as such, to promote an efficient allocation of resources' (see n 32 above, pp 764– 77).
44 'Art. 37. The direct and indirect public administration of any of the branches of the Union, States, Federal District and Municipalities shall obey the principles of legality, impersonality, morality, publicity and efficiency, and also the following [...].'
45 'Art. 74. The Legislative, Executive and Judicial branches shall maintain, in integrated form, a system for internal control with the Purpose of: [...] II – proving the legality and evaluating the results regarding the efficacy and efficiency of the budgetary, financial and pecuniary management of the bodies and entities of the federal public administration, as well as the application of public resources by private entities [...].'
46 'Art. 126. To resolve landholding conflicts, the Tribunal of Justice shall propose the creation of specialized courts with exclusive competence for agrarian questions. Sole paragraph. Whenever necessary for the efficient provision of jurisdictional satisfaction, the judge can be present at the place of the dispute.'
47 'Art. 144. Public safety is a duty of the State, a right and responsibility of all, and is exercised to preserve public order and the safety of persons and assets, through the following bodies: [...] §7. The law shall regulate the organization and functioning of the bodies responsible for public safety, so as to guarantee the efficiency of their activities. [...] §10. Road safety, exercised for preservation of public order and safety of persons and their assets on the public roads: I – consists of education, engineering and oversight of traffic, besides other activities set forth in law, to assure to citizens the right to efficient urban mobility [...].'
48 'Art. 8. In applying the legal order, the judge shall serve the social purposes and requirements of the common good, safeguarding and promoting the dignity of the human person and observing proportionality, reasonableness, publicity and efficiency.'
49 'Art. 867. The judge may order the attachment of the fruits and proceeds of chattels or real properties when considering this more efficient for receipt of the credit and less burdensome to the debtor.'
50 '[...] the criterion of efficiency [...] does not consist of the only value of the Brazilian legal system [...]. Although lawmakers and interpreters, in certain situations, resort to the criterion of efficiency, other constitutional values and principles, introduced in the open and mutable system at every historic moment, must be promoted by private initiative [...] *The Economic Analysis of the Law*, therefore, although being a relevant method for analysis employed by lawmakers or interpreters in determined situations, does not exhaust the complexity of values integrating the legal system, so that the constitutional legality does not have the power to dictate the interpretive criteria for solution of actual cases' (PG Bandeira, *Contrato Incompleto* (Atlas, 2015), pp 42–47).
51 'In order to carry out market transactions it is necessary to discover why it is that one wishes

to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on' (see n 13 above, p 15).

52 SB Goldberg, FEA Sander, N Rogers, *Dispute Resolution: Negotiation, Mediation and other Processes* (2nd ed, 1992).

53 'If the legal system does not provide an adequate degree of certainty and foreseeability, it will be harder to materialize economic transactions, because this materialization implies the exertion of a greater quantity of resources, thus increasing the risk' (see n 11 above, p 247).

54 K Arrow, RH Mnookin, L Ross, et al, *Barriers to Conflict Resolution* (The MIT Press, 1994).

55 RH Mnookin, 'Why negotiations fail: An exploration of barriers to the resolution of conflict', *The Ohio State Journal on Dispute Resolution*, 8(2) 1993, pp 235–49 https://kb.osu.edu/bitstream/handle/1811/79715/1/OSJDR_V8N2_235.pdf accessed 13 July 2023.

56 WM Landes, 'An Economic Analysis of the Courts', *Journal of Law and Economics*, 14, 1971, pp 61–107.

57 See n 54 above.

58 S Shavell, 'Alternative Dispute Resolution: An Economic Analysis', *The Journal of Legal Studies*, 1(24) 1995, pp 1–28 www.jstor.org/stable/724588 accessed 13 July 2023.

59 *Ibid.*

60 *Ibid.*

61 D Kapeliuk and A Klement, 'Changing the Litigation Game: An Ex Ante Perspective on Contractualized Procedures', *Texas Law Review*, 91(6) 2013, pp 1475-98.

62 Steven Shavell addresses the effects of adding procedural alternatives for resolution of disputes to options of the parties, using the standard model of judicial litigation (see n 58 above).

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Decision-making in International Construction Arbitration

By Haytham Besaiso

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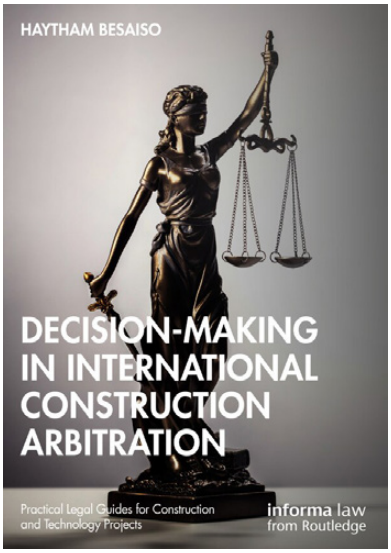

It is unusual to pick up a construction or arbitration textbook and read it from cover to cover. However, *Decision Making in International Construction Arbitration* is no usual textbook. Haytham Besaiso's fascinating and, in some cases, provocative review of how arbitral tribunals make their decisions is unique.

As Besaiso explains, the book enquires into how international arbitrators decide on the substance of construction disputes arising from international construction contracts. It aims to construct an arbitral decision-making conceptual framework that identifies the substantive norms that international arbitrators apply, assesses their effects on arbitrators' decisions on the merits of international construction claims, and explains the reasons for the determined effects.

He charts a course towards this framework by examining to what extent arbitrators use law as a substantive norm (including whether they are required to apply mandatory rules of foreign law), adopt commercial norms, adopt principles of fairness or use their background in making their decisions.

Besaiso uses two main sources of information for this task. First, he uses an analysis of published arbitration awards. This allows for a considered assessment of decision-making, albeit the confidential and private nature of the arbitration forum means that the extent of this resource is limited. Second, he uses information directly provided by arbitrators themselves obtained from a series of semi-structured interviews. Inciteful and often frank quotations from these arbitrators are used in the book to provide evidence to support the contentions made.

Besaiso's book is the first attempt (that at least I am aware of) to provide a structured analysis of some of the issues which have polarised construction arbitration for some time. These issues include the following.

The extent to which an arbitral tribunal should and actually does apply the law in its decision-making

Although it sounds somewhat heretical to a common lawyer, one view is that arbitrators do not have to follow the law in determining the parties' dispute but instead should follow business common sense. Besaiso says that both sides have formed the basis for their view of the parties' expectations, although he found no evidence to support this. The commercial side of the debate points to a significant gap between the 'real deal' and the 'paper deal', although as Besaiso points out, a failure to follow either the law or the contract is likely to lead to uncertain outcomes which is probably not what the parties had intended. It is reassuring to learn that all of the arbitrators that Besaiso interviewed said that they would apply the law strictly unless the parties have agreed not to do so. Besaiso also acknowledged that it is only in rare cases (approximately two per cent) that arbitrators are asked to decide as amicable *compositeur* or *ex aequo et bono*.

The extent to which there is an 'international construction law'

International construction law is the construction equivalent of *lex mercatoria*. Chapter 5 of the book examines international construction law in detail and identifies the extent to which this law is applied by arbitration tribunals. Besaiso concludes that international construction law is used for contract interpretation and can be used in some jurisdictions to fill in gaps in the law.

Although he acknowledges the existence of international construction law is 'deeply contested', he identifies ten possible principles of international construction law including:

1. *pacta sunt servanda* – agreements are to be kept;
2. contract variations are inherent in construction contracts and do not amount to a breach of contract; and
3. decisions regarding the programme and construction methodology reside with the contractor.

Although most would agree that these three principles are likely to be universally acceptable (subject to the express words of the specific contract in dispute), the list also includes 'the good faith principle' and common law implied terms, which it is said can have a similar effect and that notice provisions can be ignored as a procedural technicality when the employer is aware of the facts. These two in particular are likely to spark greater debate.

The extent to which tribunals follow the mandatory rules of foreign law

Chapter 7 features an interesting debate concerning whether, in situations where the parties have deliberately chosen a governing law for their contract which is different to the law of the jurisdiction where the construction site is situated, the tribunal should apply mandatory rules from that jurisdiction. For example, does party autonomy take precedence over a nation's tax rules or import/export controls? The answer, as in most things, depends upon the circumstances.

Conclusion

Experienced practitioners are likely to find some support for their long-held beliefs, such as that a substantial majority of cases are decided by reference to the facts rather than the law and that the same or similar results are likely notwithstanding the legal framework that has been provided.

The book also contains a number of useful reminders, including that arbitral tribunals are more interested in finality than accuracy. Tribunals do not want to be appealed or have their awards set aside. Second, tribunals generally do not consider enforcement or what might be required for enforcement in their awards. As one arbitrator put it, they want their award to be 'enforceable, not enforced'. It is for the parties to ensure that the arbitrators comply with any local rules to allow for enforcement in any particular jurisdiction.

As Besaiso points out, this book presents the first empirical account of decision-making in international construction arbitration. It provides the first comprehensive descriptive and explanatory framework for decision-making. However, it is true that the sample size for the questionnaire was small; only 28 arbitrators. This small sample size, and the fact that the number of arbitrations held each year is unknown, inevitably leads to the conclusion that Besaiso's findings cannot be considered representative of global construction arbitration decision making. However, what this book can and does achieve is to provide a framework for further research and analysis. This book provides the starting point for future assessment of decision making.

It is recommended reading for anyone interested in construction arbitration, from cover to cover.

Construction Law International

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