THE GUIDE TO TELECOMS ARBITRATIONS

Editors
Wesley Pydiamah

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Publisher's Note

Global Arbitration Review is delighted to publish *The Guide to Telecoms Arbitrations*.

For newcomers, GAR is the online home for the international arbitration specialists everywhere. We tell them all they need to know about everything that matters in their chosen niche.

GAR is perhaps best known for our daily news. But we also have a growing range of other output, including our technical library (our Guides series); our retrospective annual regional reviews; our GAR Live events; workflow tools such as our Arbitrator Research Tool (ART), which maps the connections of 30,000-plus names, and Primary Sources, which connects you to the original texts of decisions and judgments from GAR's unique archive; and (coming soon) our new GAR online Academy where newcomers can learn advocacy and other IA ringcraft at the foot of various masters. Please visit www.globalarbitrationreview.com if you are interested in finding out more.

As the unofficial 'official journal' of international arbitration, we occasionally become aware of gaps in the literature before others. This guide to telecoms arbitrations is a prime example. Few industries seek the counsel of arbitration specialists so regularly. And yet there has been no definitive book for either counsel or client on some of the practicalities of those disputes – until now.

On this occasion, however, the joy of accomplishment is tempered with pretty serious embarrassment. GAR has been writing about telecoms disputes since our inception in 2006. In fact, if I had to pick one industry that regularly produces large shareholder disputes, it would be telecoms. We should have thought of this one long ago.

Still, better late than never. And the timing may in fact be apposite. As editor Wesley Pydiamah notes in his introduction, demand for international arbitration from telecoms clients is only likely to increase as the industry goes through a series of technology releases and system upgrades.

As with most of our other sector-specific guides, this is not a complete toolbox (the exception here is our guide to IP arbitration); rather, it assumes a certain knowledge of the process on the part of the reader and jumps you straight to the practical points that are current and pertinent for telecoms.

We trust you will find it a useful addition to your library. If so, you may be interested the other books in the GAR Guides series. They cover energy, construction, IP disputes, mining, M&A, challenging and enforcing awards, investor-state arbitration and the use of evidence in the same practical way. We also have a book on advocacy in arbitration and one on how to become better at thinking about damages – as well as a handy citation manual (*Universal Citation in International Arbitration* (*UCIA*)).

We're delighted to have worked with so many leading names in creating *The Guide to Telecoms Arbitrations*. My thanks to all of them. And last, special thanks to Wesley Pydmiamah for spotting not only the gap in the literature but also in GAR's own foresight, and for his elan in developing the vision. And as always to my Law Business Research colleagues in production for creating such a polished work.

David Samuels
July 2022

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Introduction

Wesley Pydiamah[1]

The idea of this guide, *The Guide to Telecoms Arbitrations,* came about during the covid-19 pandemic. With the world entering a new paradigm of lockdowns and working from home policies, the need for enhanced telecommunication services has never been so acute. This is undoubtedly true of mobile and data services, both of which are core services offered by any telecoms operator, and demand for these services is unlikely to slow down. Coupled with the advent of new technologies such as 5G, the telecoms sector is undergoing radical changes and is expected to revolutionise ways in which we live, work and interact in society. It has already impacted arbitration usages, with the ever-increasing reliance on technology for legal research, document management and virtual hearings.

Predictably, a rise in arbitrations could result from this new paradigm and the changing landscape. As telecoms operators embark on their development spree, states will also want to regulate the sector to preserve their essential interests. Frictions between telecoms operators and foreign governments are inevitable in light of the massive investments involved in existing and new roll-out projects. Both domestic and international legal frameworks will naturally evolve to keep track of developments in the sector.

This guide is not intended to be a comprehensive toolbox for any kind of arbitration that arises in the telecoms sector. But since we must start somewhere, this first edition will cover both general and specific themes that will hopefully bring more insight to the arbitration community.

It may sound trite, but is arbitration really the preferred option to resolve telecoms disputes? The first port of call is to see what the end users of arbitration think. The guide therefore starts with an in-house perspective from Paul Werné,

1 Wesley Pydiamah is a partner at Eversheds Sutherland.

the former general counsel at one of the most prominent telecoms operators.[2] A chapter on the suitability of arbitration to new technologies by Nasser Ali Khasawneh, Maria Mazzawi and Ricardo Christie of Eversheds Sutherland LLP then follows.[3]

However, even when arbitration is preferred, the nature of the telecoms sector and its far-reaching and overlapping effects on a whole range of matters may give rise to issues of arbitrability, which may become important and relevant in the context of enforcement of arbitral awards.[4] This is addressed in a chapter by Emily Hay of Hanotiau & van den Berg.

When it comes to commercial arbitration in the telecoms sector, it is fair to say that this has been primarily driven by M&A disputes that can arise in a variety of scenarios.[5] While the governing law to these arbitrations will be subject to what the parties agreed to in their contract, a chapter by Will Hooker, Rosalind Axbey, Rachel Ong and James Newton of Pallas Partners LLP also looks at whether there is a different approach under common law as compared to civil law. Equally important are the valuation approaches most predominantly used in commercial arbitrations to assess damages, and this is explored by Kai F Schumacher and Christoph Wilmsmeier of AlixPartners.[6]

As for oil, gas and other natural resources, spectrum is the new scarce resource, one may say. Most of the telecoms infrastructure in use, such as towers, can be found on land. However, undersea cables have proliferated in recent times, which is not without posing difficulties when it comes to disputed maritime zones, as Michael J Stepek of Winston & Strawn LLP explains.[7] Further, the terrestrial nature of that infrastructure is by no means the end of the story. The satellite industry has now emerged as a direct competitor to telecoms operators, and this is likely to entail a rise of satellite disputes that may be subject to arbitration.[8] This is covered in detail by Laura Yvonne Zielinski, president of the Space Arbitration Association.

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2 See Chapter 1, 'An In-House Perspective on Telecoms Arbitrations'.
3 See Chapter 2, 'Arbitration and the Advent of New Technologies'.
4 See Chapter 3, 'Issues of Arbitrability in Telecoms Arbitrations'.
5 See Chapter 4, 'M&A Arbitrations in the Telecoms Sector'.
6 See Chapter 5, 'Valuation Approaches in Telecoms Arbitrations: Commercial Arbitrations'.
7 See Chapter 6, 'Claims in Disputed Maritime Areas: Resolving International Disputes Arising from Activities Relating to Submarine Cables in Disputed Maritime Areas'.
8 See Chapter 7, 'The Rise of Satellite Arbitrations'.

Part II of the guide is devoted to investment treaty arbitration in the telecoms sector. There is self-evidently a tension between the state's sovereign right to regulate and the protection of the investor's rights. The chapters in this part of the guide, authored by Reza Mohtashami QC, Leilah Bruton and Farouk El-Hosseny at Three Crowns LLP, and Babatunde Fagbohunlu and Inyene Robert of Aluko & Oyebode respectively, revisit the jurisprudence of the right to regulate and its limits[9] and also look more closely at the obligations of the investor and how these obligations have been revamped in more recent investment treaties.[10]

There are then two chapters that focus on recent developments. The Huawei saga has brought a new light to the defence of necessity,[11] as explored by David Hunt and Ben Love at Boies Schiller Flexner (UK) LLP, whereas armed conflict and civil unrest in different parts of the world have posed further challenges to the sector, as Michael Darowski and Romilly Holland of McDermott Will & Emery set out.[12] The final chapter, by Lucrezio Figurelli and Richard Caldwell of Brattle, deals with issues of compensation and the approach taken by investment treaty tribunals in recent cases.[13]

The final part of the guide gives a geographical perspective to telecoms arbitrations, with an overview of telecoms arbitrations in Africa by Magda Cocco, Tiago Bessa, Carla Gonçalves Borges, Marília Frias and Catarina Carvalho Cunha, and Bernardo Kahn at Vieira de Almeida,[14] and an overview of Latin America by Eduardo Silva Romero, José Manuel García Represa and Catalina Echeverri Gallego of Dechert LLP.[15] Other regions will be covered in the online edition.

This guide brings together leading arbitration practitioners who have a wealth of experience in telecoms arbitrations. It is hoped that, by focusing on a sector that will be impacting the world of arbitration in the coming years, this guide will be helpful for the arbitration community.

9 See Chapter 8, 'Standards of Protection: The State's Sovereign Right to Regulate and its Limits'.

10 See Chapter 9, 'Standards of Protection and the Obligations of the Investor'.

11 See Chapter 10, 'Is the People's Good the Highest Law? The Concept of Necessity in Investor-State Protections'.

12 See Chapter 11, 'Civil Unrest and Investor–State Claims in the Telecommunications Sector'.

13 See Chapter 12, 'Valuation Approaches: Investment Treaty Arbitrations'.

14 See Chapter 13, 'A Look at the Future: the Growth of Telecoms Arbitrations in Africa'.

15 See Chapter 14, 'Telecommunications Arbitration in Latin America'.

I would like to warmly thank all the persons who have made this project a reality, starting, of course, with the contributors and the teams that have assisted them. I also express gratitude to the team at Global Arbitration Review including David Samuels, Mahnaz Arta, Hannah Higgins, Jack Levy and Georgia Goldberg.

Wesley Pydiamah
July 2022

Part II

Investment Treaty Arbitration

CHAPTER 12

Valuation Approaches: Investment Treaty Arbitrations

Lucrezio Figurelli and Richard Caldwell[1]

There are several industry characteristics that expose the telecoms sector to investor-state disputes. Telecoms networks routinely require large investments for development and upgrades, with investors expecting to earn future profits through many years of operation. Telecoms investments have attracted significant amounts of foreign capital over the past decades. At the same time, the development of telecoms networks is a matter of strategic national interest, similar to energy, prompting heavy regulation of these markets. Investors often must obtain several layers of authorisations and licences to operate a network, and regulators have sometimes imposed additional restrictions on ownership and control by foreign investors. Furthermore, wireless spectrum and many telecoms networks have witnessed large and unexpected revenue growth, which has increased the incentives for states to seek to extract more value from these assets.

It is therefore not surprising that the number of investment treaty arbitrations in the telecoms sector has continued to rise in recent years, leading several practitioners to view spectrum – the scarce resource necessary to provide wireless telecoms services – as 'the new oil' and to foresee a further increase in disputes for the next several years.[2]

In this chapter, we first review the investment treaty arbitrations initiated by telecoms operators since the 1990s, which we have identified through the ICSID database and the United Nations Conference on Trade and Development

1 Lucrezio Figurelli is a senior associate and Richard Caldwell is a principal at Brattle.

2 Romilly Holland, 'Is Spectrum the New Oil: Trends in Investor-State Disputes in the Telecommunications Sector', Dispute Resolution International (October 2018).

(UNCTAD) Investment Dispute Settlement Navigator. We then analyse instances in which damages were awarded and discuss the relevance and use of the discounted cash flows (DCF) method in these cases. We then discuss specific issues that emerge when valuing telecommunications assets in the context of treaty arbitrations, including how to account for regulatory, country and business risk and how to value spectrum under an alternative market approach.

Overview of the surveyed disputes

Overall, we have identified at least 64 telecoms-related disputes between private investors and host states arising under bilateral investment treaties over the period 1996–2021, 13 of which were initiated only in the past two years.[3] In most telecoms-related disputes, investors claim that the host state has deliberately taken unreasonable measures to deprive them of the investment's value, resulting in direct or indirect expropriation without full and proper compensation, or in a breach of the host state's obligation to fair and equitable treatment.

Most of the disputes involved mobile telecoms networks (46 out of 64), while the others concerned fixed broadband and cable (15) and satellite terrestrial networks (3). The marked concentration of disputes in the mobile sector is not surprising. The initial development of 2G networks and the later upgrade to 3G and 4G technologies has attracted numerous foreign investors, requiring risky up-front investments in tangible and intangible assets.

On the other hand, governments have regulated the sector with the goal of favouring the development of modern mobile networks with state-of-the-art technology, relying on competitive auctions to allocate radio spectrum and imposing stringent conditions on concessions and licences in terms of duration, technology and roll-out requirements. In contrast, fixed telecommunications have often been characterised by the presence of a dominant, formerly state-owned incumbent, a limited degree of network overbuild and a relatively more mature technology.

The surveyed disputes can be classified into four main categories, ones that depend on whether the dispute involved (1) a licence or concession dispute, (2) the levy of taxes and licence fees, (3) criminal investigations and political interference

3 In this chapter, we only consider investment treaty arbitrations initiated by telecoms operators, loosely defined as operators offering a combination of wired or wireless telecommunications services. To identify the relevant arbitrations, we have used the ICSID database and the UNCTAD Investment Dispute Settlement Navigator.

or (4) restrictions to foreign ownership and control – or a combination of the above. All these issues often involved changes to the regulation, which potentially affected the value and profitability of the foreign investment.

Twenty-seven of the 64 telecoms-related disputes involved the early termination, revocation or denied renewal of a licence or concession to operate. Most of these disputes involved mobile telecoms networks and concerned wireless spectrum licences for 2G, 3G and 4G technology. For example, in *Khaitan Holdings v. India* (2013),[4] the Mauritius-based company Khaitan Holdings (Mauritius) Ltd, a 27 per cent minority shareholder in Loop Telecom, filed an arbitration against the Indian government after the Indian Supreme Court had cancelled Loop Telecom's 21 2G licences in February 2012.

In *Orange v. Jordan* (2015),[5] the French telecoms company Orange filed a claim against Jordan for discriminatory practices in the renewal of the 15-year 2G licence of its local subsidiary, the formerly state-owned Jordan Telecommunications Company (JTC). Orange alleged that the regulator had required JTC to buy 'a much broader and more expensive licence than was required when it first entered the market and imposed an arbitrary renewal fee, as part of an opaque licensing procedure'.[6]

Ten other telecoms-related disputes involved the levy of additional taxes, fines or licence fees that the investor did not foresee, which were allegedly adopted by the host state to reclaim some of the profits made by the foreign investor or to drive the investor out of business intentionally.

A prominent example is Vodafone's 'retrospective taxation case' against India (2014).[7] In 2007, Vodafone had bought a 67 per cent stake in Hutchison Whampoa Essar (HEL) for US$11 billion. In September 2007, the Indian government demanded about US$1.1 billion in capital gains and withholding tax from Vodafone, arguing that the company should have deducted the tax before making the payment for the purchase. After a five-year judicial battle, the Indian Supreme Court ruled in favour of Vodafone in 2012, arguing that the company did not have to pay any taxes for the stake purchase. But after the Supreme Court's decision, the Indian parliament passed an amendment to the Finance Act, giving the Income Tax Department the power to retrospectively tax the deal.

4 *Khaitan Holdings Mauritius Limited v. India* (PCA Case No. 2018-50).

5 *Orange SA v. Hashemite Kingdom of Jordan* (ICSID Case No. ARB/15/10).

6 See 'Jordan instructs counsel in telecoms claim', *Global Arbitration Review* (06 May 2015).

7 *Vodafone International Holdings BV v. India* (I) (PCA Case No. 2016-35).

In 2014, Vodafone filed an arbitral claim against India over US$2.6 billion in tax liabilities. In 2018, the bilateral investment treaty (BIT) tribunal ruled in favour of Vodafone, inviting India to stop efforts to recover these taxes from Vodafone.

In *Orascom v. Algeria* (2012),[8] the Luxembourgian company Orascom filed a claim against the state of Algeria, alleging that the tax reassessment policies pursued by the Algerian government had forced the sale of their Algerian subsidiary OTA in 2011. Orascom alleged that Algeria had imposed unreasonable restrictions on dividend transfers between Orascom and OTA, enforced an injunction freezing OTA's bank accounts and imposed a customs blockade that prevented OTA from conducting itd day-to-day operations. In 2017, the case was declined over jurisdiction.

Nine more telecoms-related disputes involved criminal investigations that were allegedly politically-driven or otherwise involved forms of political interferences enacted by the host state to expropriate or sabotage the investor's business. In *Abanto v. Venezuela* (2018),[9] the Peruvian entrepreneur Dick Fernando Abanto Ishivata launched a claim against Venezuela over the seizure of his telecoms company Omnivisión, operating in Venezuela through the brand name Movilmax. Mr Ishivata alleged that the government had unlawfully seized the company, using the excuse of a court order that gave them the power to intervene in the properties owned by an associate of Mr Ishivata who had been indicted in previous criminal proceedings.[10]

Meanwhile, in *Astro v. India* (2016),[11] the UK and Mauritian affiliates of the Malaysian satellite TV group Astro filed a claim against India following a criminal investigation into their investment in Sun Direct, an Indian satellite TV company partially owned by a sibling of the former Indian telecoms minister Dayanidhi Maran. The Indian authorities alleged that Astro's investments in Sun Direct were kickbacks to the Maran family. The case settled in 2018.

Finally, eight telecoms-related disputes involved restrictions on foreign ownership and control, which were allegedly implemented by the host state as a means to expropriate the investor in violation of its treaty obligations. In *Euro*

8 *Orascom TMT Investments S.à r.l. v. People's Democratic Republic of Algeria* (ICSID Case No. RB/12/35).

9 *Dick Fernando Abanto Ishivata v. Bolivarian Republic of Venezuela* (ICSID Case No. ARB(AF)/18/6).

10 See 'Peruvian telecoms investor brings claim against Venezuela', *Global Arbitration Review* (07 November 2018).

11 *Astro and South Asian Entertainment v. India*, UNCITRAL.

Telecom v. Bolivia (2007),[12] Euro Telecom – a Dutch subsidiary of Telecom Italia – filed an arbitral claim against the Republic of Bolivia after the Bolivian government nationalised the largest telecommunications company, Entel, in which Euro Telecom had a 50 per cent stake. Euro Telecom argued that this amounted to expropriation of its assets without proper compensation under the Netherlands-Bolivia BIT.

Recently, in *Huawei Technologies v. Sweden* (2022),[13] Huawei filed a claim against Sweden after the Swedish Post and Telecoms Agency (PTS) explicitly prohibited telecoms network operators in the country from collaborating with Huawei to install new frequency bands to upgrade Sweden's 5G network, and asserted that Huawei's 3G and 4G equipment currently in use should be phased out by no later than January 2025.

Damages awarded

Of these 64 disputes reviewed, five were decided in favour of the investor, 19 were settled, 10 were decided in favour of the state, three were discontinued and 20 are still pending. Tribunals declined jurisdiction in seven cases. Of the five cases decided in favour of the investor, damages were awarded in four.[14]

In *France Telecom v. Lebanon* (2002),[15] the tribunal found that Lebanon's termination of its contract with France Telecom to operate a mobile network was a breach of fair and equitable treatment. France Telecom had initially sought US$956 million in compensation. The tribunal awarded US$266 million in damages, but the award has not been made public.

In *Rumeli and Telsim v. Kazakhstan* (2005),[16] the tribunal found that Kazakhstan had breached its obligation to accord telecoms companies Rumeli and Telsim fair and equitable treatment and that it had expropriated Rumeli and Telsim's investment. Claimants had initially sought US$458 million in damages. The tribunal awarded US$125 million.

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12 *E.T.I. Euro Telecom International N.V. v. Plurinational State of Bolivia (I)* (ICSID Case No. ARB/07/28).

13 *Huawei Technologies Co, Ltd v. Kingdom of Sweden* (ICSID Case No. ARB/22/2).

14 In the fifth, the tribunal concluded that Vodafone did not have to pay close to US$3 billion in back taxes.

15 *France Telecom v. Lebanon*, UNCITRAL.

16 *Rumeli Telekom AS and Telsim Mobil Telekomunikasyon Hizmetleri AS v. Republic of Kazakhstan* (ICSID Case No. ARB/05/16).

In *Deutsche Telekom v. India* (2013)[17] and *CC/Devas v. India* (2012),[18] two parallel BIT claims against India involving the annulment of a 2005 agreement between Antrix and Devas for the lease of satellite spectrum, the respective tribunals found the Indian government responsible for indirect expropriation and violation of fair and equitable treatment. In May 2020, Deutsche Telekom (DT) was awarded US$93.30 million, plus interest, against an initial claim of US$270 million. In October of the same year, CC/Devas was awarded US$111 million, plus interest, against an initial claim of US$580 million.

Also relevant is *Dunkeld v. Belize* (2010).[19] The subject of this dispute was related to a compulsory acquisition order by the Belizean government of the shares in Belize Telemedia (Telemedia) held by the British firm Dunkeld International Investment Limited (Dunkeld). The parties agreed to a partial settlement in September 2015, leaving it to the tribunal to determine the quantum. The tribunal issued the award in June 2016, quantifying damages at US$96.9 million against an initial claim of US$298.7 million.

Regarding the valuation method, discounted cash flow (DCF) analysis was used in all cases for which information is publicly available, typically in combination with alternative supporting methods.[20] The primary use of DCF is not surprising. The valuation task in investor-state arbitration is not unique and corresponds closely to the valuation task in commercial arbitration. Therefore, the appropriate valuation methodology is not determined by the legal forum but by the assets or rights under consideration. Nevertheless, particular issues emerge when valuing telecommunications assets in the context of treaty arbitrations.

In what follows, we first discuss the relevance and common use of the DCF approach in the valuation of telecoms assets in treaty arbitrations; we then discuss several particular issues, including how to account for regulatory, country and business risk and how to value spectrum under an alternative market approach.

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17 *Deutsche Telekom AG v. The Republic of India* (PCA Case No. 2014-10).

18 *CC/Devas (Mauritius) Ltd, Devas Employees Mauritius Private Limited and Telcom Devas Mauritius Limited v. Republic of India* (PCA Case No. 2013-09).

19 *Dunkeld International Investment Ltd v. The Government of Belize (I)* (PCA Case No. 2010-13, UNCITRAL).

20 While the DCF approach was considered in all cases for which information is publicly available, a variety of other asset-based and market-based approaches were used, generally in support or as an alternative to the DCF calculation. These approaches included the liquidation value approach, the investment cost approach, the investment cost plus approach, the sunk cost approach and the market value approach.

Relevance and use of the DCF approach

Most investment treaty arbitrations in the telecoms sector have involved the valuation of a telecoms network or licence, in some cases before the business had started operations. In general, the value of telecoms assets, including radio spectrum, ultimately depends on the expected cash flow generation. DCF analysis is thus the natural valuation approach. However, modelling expected cash flows requires careful consideration of the likely evolution of demand, technology and regulation, as well as the related risks.

Investor due diligences typically involve the valuation of telecoms assets using detailed bottom-up DCF models, which factor in a granular network model and reasonable assumptions about the evolution of demand, regulation and tariffs. BIT tribunals, however, have accepted the use of these models with caution.

In *Rumeli and Telsim v. Kazakhstan* (2005), the tribunal adopted the DCF valuation by the claimants' expert as its starting point to determine the fair market value of the expropriated investments in Kazakhstan's telecommunications company Kar-Tel. However, the business was at 'a relatively immature stage of development' at the time of the expropriation, 'with no established and stable track record of past income from which to predict future income'.[21] The tribunal discussed the reliability of the DCF method in the absence of adequate historical data and considered the adoption of the liquidation value approach as a possible alternative since the business could 'not be treated as a going concern under the World Bank Guidelines'.[22] Nevertheless, the tribunal ultimately decided that the DCF method was the only suitable method to ascribe a value to Kar-Tel's licence to operate a mobile communication network, which 'is directly linked to its potential to produce income'.[23]

In the settled *Dunkeld v. Belize* (2010), the parties agreed that the standard of damages would be the fair market value of the expropriated investment as estimated using the DCF method and asked the tribunal to opine on this value. Both the claimant's and respondent's experts carried out respective DCF valuations of Telemedia, arriving at significantly different estimates. The claimant's expert used a detailed bottom-up model of expected cash flows over a 15-year period. The respondent's expert instead used a simplified top-down model of expected cash flows, largely based on the cash flow predictions of Telemedia's business plan. The tribunal ultimately considered that the projections underpinning the

21 Award, dated 29 July 2008, Para. 811.

22 ibid.

23 ibid.

claimant expert's bottom-up valuation model were speculative, increasing 'the degree of uncertainty in the claimant's calculations beyond what the Tribunal considers reasonable'.[24] Accordingly, the tribunal preferred the respondent's top-down model as the starting point for its own conclusions.

Surprisingly, the tribunal in *Deutsche Telekom v. India* (2013) rejected the use of the DCF method, even though it was advanced by DT's expert. DT's experts prepared a DCF valuation based on the most recent iteration of DT's business plan for Devas, the 'Darwin model', which had been prepared in the ordinary course of business.[25] The Darwin Model was a detailed bottom-up model that DT had initially prepared as it was considering buying a stake in Devas. The Darwin model was developed jointly by engineers and finance professionals, including personnel with experience deploying terrestrial networks and developing business plans for similar projects for DT. The tribunal nevertheless disagreed with the DCF approach because Devas' business had not yet started to generate cash flows as of the relevant valuation date. Furthermore, Devas lacked the licence required for the terrestrial re-use of the spectrum, creating uncertainty about the potential issuance and licence fee. Based on its untested cost estimates and lack of a profitable track record, the tribunal ruled that using the DCF methodology in the case was inappropriate.[26]

As an alternative to DCF, DT had also proposed an 'Investment Plus' method, which took DT's March 2008 cash payment for its investment in Devas as a starting point, and adjusted it to factor in DT's in-kind contribution to the fair market value of Devas and the progress of the firm between 2008 and the valuation date. The tribunal also disregarded this method as it was not considered to be grounded in economic theory.[27] In the end, the tribunal decided that quantifying damages based on the recovery of sunk costs was the most appropriate method.

In contrast, the DCF approach was approved by the tribunal in the parallel case *CC/Devas v. India* (2012). Devas' experts in this case used the same 'Darwin model' used by DT's expert as a starting point but applied an established three-step venture capital method developed by Yale School of Management Professor Andrew Metrick, 'specifically tailored to measuring the value of young companies in Devas'.[28] The three-step DCF method first calculated the value that Devas would have had as a mature company using 'the same discount rate as would

24 Award, dated 28 June 2016.

25 Award, dated 27 May 2020, Para. 171.

26 Award, dated 27 May 2020, Para. 203.

27 ibid.

28 Award, dated 13 October 2020, Para. 427.

apply to a mature Indian telecommunications company'.[29] It then accounted for the risk of failure by applying a pre-revenue adjustment that 'reduces the cash flows to reflect the chance the company would not make it to maturity'.[30] It finally discounted that value back to the valuation date using the venture company's cost of capital.[31]

Devas' experts further applied three risk adjustments to the cash flows to account for diversifiable regulatory risks, including the payment of a terrestrial re-use fee 'on the basis of the highest internationally observable fee', the imposition of a very costly build-out requirement and the elimination of all cash flows after the 24-year contract period to account conservatively for renegotiation risk. Diversifiable country risk was accounted for by relying on Indian data. The tribunal accepted the DCF method proposed by the claimants' experts, making only minor adjustments to certain specific parameters.

Accounting for regulatory risk

One of the key issues in investment treaty arbitrations is the treatment of regulatory risk. Foreign investors in telecoms assets must consider potential changes to regulations that may affect the value of their investments. Governments regulate telecoms markets based on strategic national interests and try to allocate resources optimally. National interest also involves the revenues that states may extract from licence and concession fees. Spectrum licences and concessions are generally assigned for a specific duration and purpose. States may impose restrictions on use and ancillary obligations such as roll-out requirements that affect the value of investments. Governments may change and adapt existing regulations for legitimate national interests, for example, by introducing new rules to ensure a level playing field among market participants or repurposing spectrum bands for use by a different technology.

Together, all these issues have implications not only on what constitutes fair and equitable treatment or full reparation but also on the appropriate but-for world and modelling assumptions underlying the valuation of the assets and the quantification of damages. For example, we can imagine one but-for scenario that simply removes the relevant bad acts as inconsistent with the treaty and another

29 Award, dated 13 October 2020, Para. 428.
30 Award, dated 13 October 2020, Para. 429.
31 Award, dated 13 October 2020, Para. 430.

that removes the bad acts and then speculates about other acts that the host state could have adopted and remained compliant with treaty obligations. The choice between possible but-for scenarios will necessarily depend on the applicable law.

For example, in the *Devas v. India* case, a relevant point of dispute between the parties was whether the Indian government would have granted a licence for terrestrial reuse of the satellite spectrum and what fee it would have charged. After signing its agreement with Antrix, Devas was in a 'box-out' position, meaning that there could have been no other competing application for operation in the spectrum allocated to it.[32] The respondents' experts and witnesses contended that India would not have granted such a terrestrial re-use licence, and if it did, India would have charged a (value-destroying) terrestrial re-use fee commensurate with auction prices. The claimants' experts noted instead that, by 2009, India had already granted all necessary licences to develop experimental trials on terrestrial re-use and that 'no rational government would have lent its own time and resources to a trial programme if (as it now claims) the system was never going to be and, indeed, could not be, approved.'[33] Importantly, given Devas' box-out position, no other operator could have used the spectrum allocated to it. Therefore, failing to provide a licence for terrestrial re-use at a reasonable price would have left the spectrum underused, which would be unacceptable from a public policy perspective. The tribunal ultimately accepted the claimant's view that Devas and the Indian government would have arrived at a mutually satisfactory fee level and determined that 'reference to the highest fee registered in the world outside India' would be reasonable for establishing the damages suffered by Devas.[34]

Accounting for country risk

Another relevant issue for valuation in investment treaty arbitrations is how to account for country risk. Country risk refers to the adverse political and economic factors that are specific to the host country, which may reduce the future cash flows of an investment. These factors may include the relative stability of economic and social conditions, characteristics of a country's institutions and unlawful political conduct that violates a state's treaty obligations. There is no doubt that investors consider these types of risks in their investment decisions. The relevant economic question is thus how to account for country risk in a DCF valuation.

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32 *CC/Devas v. India*, Award dated 13 October 2020, Para. 384.

33 *CC/Devas v. India*, Award dated 13 October 2020, Para. 384, citing Claimants' Reply on Quantum Para. 104.

34 *CC/Devas v. India*, Award dated 13 October 2020, Para. 386.

Valuing an asset through the DCF method involves (1) calculating a stream of expected cash flows and (2) discounting them to the valuation date to account for risk and the time value of money. Here, expected cash flows are 'risk-adjusted' cash flows, which should reflect the best prediction of future cash flows at the valuation date. Therefore, expected cash flows should account for country risk. In evaluating an investment in a telecoms asset, one should identify country risks relevant to the project's cash flows and adjust the cash flows accordingly.

A more difficult question is whether country risk should also be accounted for in the discount rate. Finance theory suggests that only non-diversifiable risk should be accounted for in the discount rate. This does not mean that diversifiable risk does not affect the value of an investment – diversifiable risk does affect projected cash flows, but it does not increase the cost of capital. Therefore, whether one should account for country risk in the discount rate depends, in principle, on whether country risk is systematic or not.

Valuation experts, however, disagree on the extent to which country risk is diversifiable or not. While evidence in the academic literature suggests that most country risk is diversifiable, several practitioners argue that investors are not sufficiently diversified across countries. They contend that it may be difficult to diversify away country risk because it tends to be highly correlated across countries. Importantly, adjusting the discount rate for country risk is more practical because adjusting the cash flows is often difficult in practice.

Damages and valuation experts often apply a country risk premium equal to the sovereign spread. The sovereign spread measures the difference between the yield to maturity on government bonds issued by the host country of the investment and the yield to maturity of government bonds in a highly rated country that is considered risk-free, typically the US or Germany. An alternative approach estimates the risk-free rate directly on the yields of the host country's government bonds, therefore including the risk of default of the host country in the risk-free rate. The latter approach was accepted by the tribunal in *Devas v. India* (2012), where the tribunal concluded that the rate on a 30-year Indian government bond 'must be considered as including both the risk-free nominal rate and the country-risk premium for India'.[35]

But the application of the sovereign spread to the discount rate may provide a poor approximation of the effect of country risk on an asset's value. While country risk and sovereign risk are related, they are clearly not the same. For example, the

35 *CC/Devas v. India*, Award dated 13 October 2020, Para. 579.

government may default on its debt, leaving an exporting business unaffected. Conversely, issues of social unrest may adversely affect a telecoms company's operations but not the government's ability to pay its debts.

To overcome the limitations of the sovereign spread approach, some practitioners have suggested an alternative method. This alternative relies on the methodology developed by Bekaert et al. (2016)[36] to estimate the fraction of the sovereign spread that is attributable to what the authors call 'political risk' – that is, the relevant country risk to which assets are exposed. The approach consists of breaking down the sovereign spread into several components to isolate the fraction attributable to political risk. – the political risk spread. The political risk spread may then be turned into a political risk probability, which can be used to adjust the asset's cash flows. The advantage of using this method is that it correctly adjusts the cash flows rather than modifying the discount rate, which is in line with evidence that suggests that political risk is largely diversifiable. The method also avoids double-counting risks or including risks that are not relevant to the valuation of the asset in question. The approach thus provides a technically superior alternative to the sovereign spread method.

Business risk and network modelling

DCF analysis of telecommunications assets is largely based on traditional methods. However, the need to develop a coherent technical model that factors in the risks associated with long-lived capital assets and continual technological progress – and the inherent risk in demand take-up – impose a degree of complexity that is not common in other industries.

As previously mentioned, investors commonly rely on detailed bottom-up models to value telecoms assets in the context of investor due diligence. These models often become the starting point for the quantification of damages by experts. However, the mechanical update of these models to the valuation date is not always feasible due to intervening changes to market conditions, which invalidate some of the model's underlying assumptions. In these instances, the damages experts will need to update or adjust the model to best reflect the impact of such developments.

Model adjustments may involve 'simple' economic parameters such as inflation, growth rates and costs. But they could also involve highly technical issues, such as the cell site configuration of the network – affecting both the throughput

36 Geert Bekaert, Campbell R Harvey, Christian T Lundblad and Stephan Siegel, 'Political risk and international valuation', *Journal of Corporate Finance*, 37 (2016), p. 5.

capacity of an individual site and the capital expenditures required for each cell – or the mandated quality of the network. The latter is reflected in a network model in parameters such as the over-subscription ratio, which represents the ratio between the maximum hypothetical demand of users divided by the maximum network capacity. Such changes will dramatically affect the required capital expenditures, which could potentially warrant further adjustments to pricing and ultimately demand take-up.

Spectrum valuation

A final issue to consider relates to the relevant approach to valuing spectrum and spectrum licences. As explained above, many investment treaty disputes involved the early termination, revocation or denied renewal of a spectrum licence. Furthermore, as more and more 2G and 3G licences assigned over a decade ago are about to expire, it is highly likely that additional disputes will arise in the next few years.

While the value of spectrum ultimately depends on the incremental cash flows that the spectrum asset may be expected to generate, the broad availability of public auction data permits the valuation of spectrum based on a market approach by considering the value implied by the winning bids for comparable spectrum auctions. The market approach values the rights to use spectrum instead of the business that they are used in and represents the most practical approach to valuing spectrum when comparable transactions are available.

However, to properly infer the value of spectrum from comparable spectrum auctions, one should consider whether differences in the licence terms and the spectrum propagation properties require further adjustments. For example, licences may differ because of duration or roll-out obligations imposed by the regulator. Also, different spectrum bands have different propagation properties, which may imply different needs in terms of network coverage and capacity cells. In general, carriers can achieve the same level of coverage using different bands, but the costs of deployment will be different. Such differences demand careful analysis and tractable adjustments to the relevant comparable value where necessary.

Conclusion

An increasing number of investment treaty arbitrations have involved foreign investments in telecommunications, particularly in the mobile sector. Claimants in these arbitrations have generally complained that the host state has deliberately taken unreasonable measures to deprive the investor of the value of its investment, resulting in direct or indirect expropriation without full and proper

compensation or in a breach of the host state's obligation to fair and equitable treatment. Claims generally involved disputes over a licence or concession, the levy of taxes and licence fees, criminal investigations or political interference, and foreign ownership and control restrictions. Telecoms-related investor treaty arbitrations are likely to increase over the next few years as more and more spectrum licences expire.

Damages have been awarded in a number of cases, generally based on DCF estimates. BIT tribunals, however, have accepted the use of detailed bottom-up DCF models with caution, particularly in the case of immature businesses. Nevertheless, even in these cases, tribunals have tended to prefer the DCF method over alternatives, such as the net book or liquidation value methods.

Common issues of dispute between parties involve the ways to account for regulatory, country and business risks. Regulatory and country risk should be carefully accounted for in the expected cash flows and the determination of the appropriate but-for world, absent the host state's unlawful conduct. Country risk can differ from the commonly used sovereign spread approach and requires careful consideration. Accounting for business risk in a coherent technical model that factors in the risks associated with long-lived capital assets and continual technological progress further imposes a degree of complexity that is not common in other industries.

Finally, the market approach represents the most practical approach to valuing spectrum when comparable transactions are available. However, a number of adjustments to the comparable value may be warranted to account for differences in the licence terms and spectrum bands.

APPENDIX 1

About the Authors

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Lucrezio Figurelli is a senior associate at Brattle, with expertise in regulatory proceedings, antitrust investigations and international arbitrations. His practice focuses on the economic analysis of telecommunications, technology and media markets. He has consulted on behalf of operators, regulators and industry associations on a wide range of issues, including regulation and tariffs, cost of capital, valuation, mergers and spectrum auctions. Figurelli has authored expert reports in proceedings at the US FCC, the European Commission, the CMA, the FCO and European national regulatory agencies such as Ofcom, ACM, AGCM, AGCOM, ARERA and ART. He has also supported expert testimony in numerous international arbitration proceedings (ICC, ICSID, PCA, SCC, LCIA). Prior to joining Brattle, Figurelli completed his PhD in economics at Boston College, where he also taught courses in microeconomics, macroeconomics and econometrics.

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Richard Caldwell is a principal in the London office of Brattle and has been with the firm for just over 20 years. Richard is an economics and financial expert, with experience valuing businesses and financial instruments across a range of industries, from electricity to banking to telecoms, and in a range of settings. He routinely provides economic and financial advice concerning corporate finance and valuation, the pricing of securities and derivatives, and assessments of regulatory issues.

Richard has advised the European Commission and national regulators on financial issues, and testified before the UK Competition Appeals Tribunal on the level of returns for telecom companies. He has also testified on damages and financial issues in close to 50 international arbitrations, before tribunals set up

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Few clients seek arbitration counsel as often as those in telecoms, or have such high stakes disputes when they do. And yet, to date, there has been no definitive book for either counsel or client on this fascinating genre of work.

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