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THE LAWREVIEWS

PRINCIPLES OF DAMAGES FOR VIOLATIONS OTHER THAN EXPROPRIATION

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I INTRODUCTION

In another chapter of this book, ‘Compensation for Expropriation’, Konstantin Christie, Esra Ogut and Rodica Turtoi discuss the issue of compensation for expropriation from a legal perspective. This chapter is complementary in both subject matter and approach. We proceed from the perspective of economists who do not claim to make legal judgments, and we address the assessment of damages in treaty violations other than expropriation.²

We focus on four key questions that, in our experience, arise in most disputes that require the assessment of damages, albeit with differing weights depending on specific circumstances:³

- a* What are the fundamental standards for assessing damages?
- b* What is the date at which damages should be assessed (the date of assessment)?
- c* How should estimates of losses incurred at dates before or after the date of assessment be brought forwards or backwards to the date of assessment?
- d* What interest should be applied to bring the damages estimate forwards from the date of assessment to the date of the award?

This chapter will address each of the four questions in turn. Our discussion is certainly not exhaustive. In any specific matter a quantum expert will need to undertake further inquiry, guided where necessary by instruction on relevant matters of fact and law, to identify and correctly apply the relevant principles.

i Standards for assessing damages

The choice of standard for assessing damages is a question of law. To our understanding and in our experience, the relevant standard for assessing damages arising from investment treaty violations is usually that of ‘full reparation’. In the frequently cited *Chorzow* case, the Permanent Court of International Justice stated that ‘reparation must, as far as possible, wipe out all consequences of the illegal act and reestablish the situation which would, in all probability have existed if that act had not been committed.’⁴

The full reparation standard gives rise to a number of questions. One issue is the application of the requirement to compensate for ‘all consequences’, which can give rise to

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2 We only address issues of financial damages (as opposed to, for example, restitution in kind).

3 As a general matter, these questions are equally relevant to both expropriation and other investment treaty violations (and indeed to damages in commercial disputes).

4 Case concerning the Factory at Chorzow (Merits), PCIJ, Series A, No. 17, 1928, p. 47.

debate as to the level of certainty required before a tribunal will find it appropriate to include certain heads of damages. Here, expert evidence may be relevant to help the tribunal assess the level of certainty, although the question of what level of uncertainty or 'remoteness' disqualifies a claimed consequence from meriting compensation is, again, one of law.

A second issue arises from what 'the situation which would, in all probability have existed if that act had not been committed' refers to. It begs the question of what date should be considered in making this determination. Is it to restore the situation that would have existed at the date of the treaty violation (the date of violation), at the date of award or at some other point in time?

From the perspective of financial damages, full reparation requires awarding the damaged party with a sum of money that leaves them in the same financial position as if there had been no violation. To estimate the damages required to effect full reparation, quantum experts generally adopt a methodology that, as a first step, maps out two scenarios:

- a* The 'actual' scenario, which represents the circumstances since the violation occurred. The actual scenario often extends beyond the time at which the expert is performing his or her analysis, and may therefore require forecasting of future events.
- b* The 'but-for' or 'counterfactual' scenario, which represents what would have happened in the absence of the violation. The but-for scenario also often extends into the future, and may therefore require both 'back-casting' and forecasting of what past and future outcomes would have been. In some circumstances, there may be significant uncertainty as to what those outcomes would have been, and experts address that uncertainty in various ways that we do not discuss in this chapter.

Thus, we may informally define damages as the sum of money that would make the investor indifferent between the actual scenario (defined to include receipt of that sum of money at the relevant date, the choice of date being an issue that we discuss in subsection ii) and the but-for scenario.⁵ In other words, damages be defined as the sum of money that would place the investor in the same financial position in the actual scenario as it would have held in the but-for scenario.

Having carried out this first step, a number of different approaches are possible, including:

- a* estimating the value of the investor's assets as at the date of assessment in both the but-for and the actual scenarios. Damages as at the date of assessment are then given by the difference between these two numbers. For example, if the investor has an asset that would have been worth US\$200 million absent the violation, but instead is worth US\$150 million at that date, *prima facie*, the damages are US\$50 million;⁶ or
- b* estimating the difference between the cash flows that the investor would have enjoyed in the two scenarios, and value that difference to estimate damages (using the method of discounted cash flows (DCF)).⁷ For example, if the violation deprived the investor of

5 The definition leaves open the question of whether it is the specific investor, or a hypothetical 'typical' investor, who should be considered.

6 We do not touch on additional considerations that might give a different answer (notably the issue of mitigation).

7 In brief, DCF methodology entails forecasting cash flows over time, discounting so as to bring them all to a single date (usually, the chosen date of assessment, as discussed later in this chapter), and then summing. Discounting is performed through the use of a 'discount rate'. For example, if the annual discount rate is 5 per cent then US\$1 million to be received a year from now has a 'present value' of US\$1 million divided

annual cash flows of US\$10 million for five years, damages are the value as at the date of assessment of the five years of annual US\$10 million cash flows (the expert applies financial techniques to estimate a figure for this value).

These two approaches do not differ in terms of what is being measured. In both cases, the expert estimates damages as the difference between (1) the financial position in which the investor is actually in; and (2) the financial position that the investor would have been in but for the actions against which damages are claimed. However, from a practical and technical perspective they have some important differences. In particular, the second approach has the advantage that a person does not have to assess the value of the investor's asset in the two scenarios, only the value of the difference in cash flows. Any elements of the cash flows that are the same across both scenarios are irrelevant and can be ignored.

In some cases, this is a great convenience. For example, in recent years, there have been many disputes arising from investments in renewable generation in various EU Member States. The 'typical' picture is that an investor builds renewable generation assets (e.g., solar PV or wind energy generation) under a mechanism whereby it would obtain revenue over many years from 'support payments' from the public authorities, as well as from the sale of electricity. At some point, the authorities lower the level of those support payments, and investors claim that those changes are in violation of applicable treaty obligations. To assess damages in this case following the first approach, the assets would have to be valued, and their value at a particular date might depend on a number of uncertain factors such as the expected future level of costs, the expected future level of market prices for electricity and the expected technical life of the plant. However, the impact of the alleged violation is much more certain: it involves the removal of a certain stream of support payments, whose level and longevity was clear.⁸

This is one important difference between estimating damages in the context of expropriation relative to other violations. In cases of expropriation, the investor's interest in the expropriated asset is typically valued, rather than comparing but-for and actual scenarios, and the option of looking only at the difference in cash flows therefore does not exist (formally, it might be said that it exists because cash flows can be compared in the but-for scenario with cash flows of zero in the actual scenario, but in practice that amounts to saying that the asset is only valued in the but-for scenario).

To value an asset under the first approach, experts typically rely on some combination of the DCF methodology and (depending on the availability of appropriate comparators) certain benchmarking techniques. For example, a company can be valued at a given date by finding a group of comparable companies and estimating the average ratio of enterprise value to earnings before tax, interest, depreciation and amortisation (EBITDA) for those companies. That 'multiple', applied to the company's EBITDA, gives an estimate of its enterprise value. Only the DCF approach is discussed in this chapter.

by 1.05 (i.e., approximately US\$952,000); whereas US\$1 million received a year ago has a present value of US\$1 million multiplied by 1.05 (i.e., US\$1.05 million). The DCF methodology is explained in detail in any corporate finance textbook (e.g., *Principles of Corporate Finance* (13th Edition) Richard A. Brealey, Stewart C. Myers, Franklin Allen, McGraw Hill).

⁸ The total level of support payments would typically depend on annual plant output, and is therefore not 100 per cent certain. In our experience, however, reliable forecasts exist.

ii Date of assessment

The standard of full reparation requires compensation so as to ‘reestablish the situation which would, in all probability have existed if that act had not been committed’, but does not identify the date at which the situation should be re-established (i.e., the date of assessment).

We consider two possible approaches to the choice of date:

- a The ‘*ex post*’ approach: estimate the sum of money ‘US\$X’ such that if the investor is given that sum on the date of the award, it will be in the same financial position as it would have been had the violation not occurred. The date of assessment is therefore the date of the award. Under the *ex post* approach, information available as at the date of award is used, not information that only becomes available later.⁹
- b The ‘*ex ante*’ approach: estimate the sum of money ‘US\$Y’ such that if the investor had been given US\$Y at the time the treaty violation occurred, it would have been in the same financial position as if the violation had not occurred. The date of assessment is therefore the date of violation, and therefore information available as at the date of violation is used, and no further. That sum of money is brought forward to the date of the award (as discussed later in this chapter).

Although the question posed by *ex ante* versus *ex post* may sound theoretical, it can be of the greatest practical importance. In the *Yukos* dispute, the tribunal set the date of the treaty violation at 19 December 2004, and estimated damages at that date of US\$22 billion, compared with a figure of US\$67 billion at the date of award (i.e., 30 June 2014).¹⁰ The choice of date of assessment therefore made a difference (before interest) of approximately US\$45 billion.¹¹ The main driver of the difference was that oil prices as at December 2004 were much lower than in June 2014 (and that the oil price would increase so much after December 2004 was not known as at that date).

We consider the choice between the *ex ante* and *ex post* approaches to be fundamentally a question of law.^{12,13} However, understanding the economic consequences of each approach may be relevant to the choice.

First, the *ex ante* approach can in some circumstances provide damages even if with the benefit of hindsight the violation did not lead to actual harm. Thus, suppose that an investor is deprived of the ability to make an investment that at the date of violation was expected to be very profitable. For example, the investment was in oil and gas production at a time when prices were forecasted to remain high for many years. Suppose subsequently the oil price fell

9 At least that is the theory: in practice, the latest date that is practical is used, since it is not possible to finalise calculations on the day the award is given.

10 PCA Case No. AA 227 *Yukos Universal Ltd (Isle of Man) v. Russian Federation*, Final Award, 18 July 2014, paras 1819 and 1825.

11 *ibid.*, 1763–1769. The tribunal in that dispute determined that whichever date gave the higher value award should be used.

12 It is not uncommon for investment treaties to specify a standard for compensation in the case of expropriation. For example, Article 13(1) of the Energy Charter Treaty stipulates that ‘[s]uch compensation shall amount to the fair market value of the Investment expropriated at the time immediately before the Expropriation or impending Expropriation became known in such a way as to affect the value of the Investment’.

13 Some economists have, however, opined on the subject. An example is the article of Franklin M. Fisher and R. Craig Romaine, ‘Janis Joplin’s Yearbook and the Theory of Damages’, *Journal of Accounting, Auditing and Finance* (1990).

and remained low, such that the investment would have turned out to be loss-making (the profits from sales would not have been sufficient to cover the original expense of developing the field).

More generally, the *ex ante* approach can give rise to damages that are very different from what was actually incurred. Consider a variant of the example above, where the expected value of the investment at the date of violation was US\$500 million, but owing to the fall in oil prices it turned out with hindsight to be worth just US\$100 million. Under the *ex ante* approach, the investor will receive damages of US\$500 million (plus interest), a figure that is considerably higher than what is required to leave them in the same position, as at the date of award, as if the violation had never happened.

However, the *ex post* approach can also give rise to outcomes that may appear unintuitive. Suppose that an investor was going to engage in oil and gas exploration in two separate areas, but that it was improperly deprived of those opportunities for two different reasons, each of which was a separate violation of an applicable investment treaty. Suppose that another company instead undertook exploration in the first area, spent US\$200 million but found nothing; and in the second area, where it found reserves, undertook production, and made a profit of US\$200 million. If the investor could establish that the deprivation of the opportunity with regard to the second area was a treaty violation, it could receive damages of US\$200 million, even though the combined effect of both violations was to leave the investor no better or worse off.¹⁴

iii Estimating damages as at the date of assessment

Damages can be determined on the basis of the additional cash flows that would have accrued to the investor absent the treaty violation. Under the *ex ante* approach, these additional flows necessarily occur in the future (i.e., on or after the date of assessment) because under this approach the date at which the violation occurred is used as the date of assessment, and all consequences of the violation must therefore arise at or after that date. These consequences are future losses.¹⁵

To determine the value of future losses as at the date of assessment, one cannot simply focus on the nominal value of these additional cash flows as they would accrue to the investor at the relevant times. For example, if the investor would have had an additional US\$10 million in cash flows two years after the date of assessment, one cannot affirm that the investor's damages as at the date of assessment in respect of these additional cash flows equals US\$10 million. The principle of full reparation requires one to find a sum of money as at the date of assessment that is equivalent, from an investor's perspective, to receiving those cash flows at their actual dates.

Holding all else equal, future cash flows are generally worth less than cash at the present time (owing to the 'time value of money'). In addition, future cash flows are often uncertain

14 This relates to the point in Fisher and Romaine, *ibid.*, that it is not possible to seek negative damages. That is, the first of the two violations in this example saved the investor US\$200 million, the second one cost it US\$200 million: the investor can seek damages of US\$200 million for the second violation, but the state cannot seek an award of negative damages (i.e., it cannot ask to be awarded US\$200 million) in relation to the first violation. This is less likely to be an issue with the *ex ante* approach, since a state is unlikely to engage in a treaty violation that creates positive value, as of the date of violation, for an investor.

15 Here, the 'future' is relative to the date of assessment; and also the consequences may include both losses and gains, so that the stream of 'losses' over time may be a mix of positive and negative amounts.

and, therefore, holding all else equal, are worth less than risk-free cash flows. Therefore, future cash flows must be discounted to account for both the passage of time and any additional risk associated with these cash flows.

Applying the DCF methodology under either the *ex ante* or the *ex post* approaches, therefore, generally requires the application of a discount rate to future cash flows. However, under the *ex post* approach the date of assessment is later than the date of violation, typically by some years, and the losses suffered therefore occur in the past as well as in the future. Regarding past or 'historical' losses, it is clear that had the investor had the money corresponding to these additional cash flows at the time, it could have made certain use of this money that would have likely generated additional cash flows. Examples of this include: using the money to reduce its existing debt or avoid raising future debt, investing the money in its own business or alternative projects, or simply holding the money in interest-bearing deposits. In describing the but-for scenario, what those uses would have been must be stated.

In our view, the required approach is conceptually clear: the most realistic possible assessment must be attempted of what would have happened as of the date of assessment but for the violation (in essence, this follows from the meaning of date of assessment).¹⁶ However, that leaves potentially challenging practical questions as to how to estimate what the resulting cash flows would have been. Regarding the latter, though it is often easy to determine the correct return on this money assuming that it is held in interest-bearing deposits (or even that the investor uses it to reduce or avoid debt), it is not so straightforward to do so if it is considered that the investor might have used the money to invest in alternative projects (and for some reason was not able to raise money to do so from other sources). The same issue can arise in the context of pre-award interest, and we discuss it in more detail under that rubric.

Determining the discount rate

The DCF methodology determines the value of future additional cash flows as of the date of assessment based on the principles discussed above. DCF is very widely used in practice, and is often viewed as the 'gold standard' for valuation (in the absence of direct market evidence). Typically, the most material question that arises during arbitration proceedings – which gives rise to the highest number of discussions among experts (apart from estimating the cash flows themselves) – is not related to the use of DCF in itself but to what is the correct discount rate to apply to the specific streams of cash flows in question.

Future cash flows should be discounted for two reasons. First, to compensate purely for the passage of time (ignoring any risks associated with future cash flows); economic theory and evidence indicate that there is a material cost to waiting to receive money, even absent any associated risks.¹⁷ Second, to compensate investors for the risk associated with these cash flows; economic theory and evidence also indicate that there is a material cost to bearing risk: human beings are naturally 'risk averse' and require larger rewards to invest in a more risky venture.

A key point in this regard, that unfortunately is frequently misunderstood (by quantum experts as well as lawyers), is that it is the riskiness of the incremental cash flows that must be assessed. This can be very different from the riskiness of the investor's other assets. For

16 Albeit, there may be some discussion as to issues such as whether the behaviour of a typical investor or the actual investor is assumed.

17 Because *inter alia* human beings may die while waiting and because they tend to become wealthier as time goes by, and the marginal value of money, and consumption falls as one becomes wealthier.

example, suppose that an investor invests in a certain business, whose costs and revenues are uncertain and potentially risky. Suppose, however, that one part of those future revenues comprises 'support payments' from a public authority, and that those payments are very certain, until the government changes policy so as to abolish those payments (the example of support payments for investments in renewable generation comes to mind, depending on the specific circumstances of the case). If the government's actions are found to be a violation of an investment treaty that merits compensation, the compensation will be for the loss of the (previously) certain cash flows arising from the support payments, and the discount rate will be appropriate to that stream of income, which may, for example, be comparable in its level of risk to the payments a person would receive as a holder of government bonds. This discount rate can be significantly lower than the discount rate that would be applied to the cash flows of the whole asset (the project's 'cost of capital'). In the example of renewable generation, the latter rate may reflect risks related to construction and the future market price of electricity, etc., that are simply irrelevant to the cash flows that have been lost as a result of the alleged violation.

The discount rate, therefore, can be viewed as the sum of two components: a 'risk-free rate' plus a 'risk premium'. With respect to the first component, experts usually agree on the use of a risk-free rate determined by the yield on highly secure government bonds, such as US or German bonds (since it is considered that the probability of default on these bonds is negligible in this context).¹⁸

Greater disagreement usually arises when experts try to determine the second component. As a starting point, experts usually rely on the capital asset pricing model (CAPM), a fundamental 'workhorse' of finance theory.¹⁹ The CAPM posits that investors hold a wide portfolio of assets, and the risk associated with any individual investment may therefore be hedged through diversification. However, some risks apply to many different assets and are therefore not removed through diversification. The CAPM seeks to use market data to measure the extent to which the relevant asset or cash flows is subject to these non-diversifiable risks, and estimate the appropriate return to reward investors for bearing them.

Beyond the CAPM, factors such as the location of the investment or the currency in which additional cash flows would accrue to the investor are commonly considered by experts (usually referred to as country risk and currency risk premium). The intuition behind this is that investments placed in a country with, for example, an unstable political environment are worth less, holding all else equal, than investments in a stable economy. Similarly, investments that pay off in currencies from unstable environments are worth less than, for example, investments that pay off in dollars or euros.

18 We do not touch here on the issue of 'real versus nominal' returns, and the risks associated with inflation (in our experience, this is rarely a major issue in practice), or on various complexities around estimating the appropriate risk-free rate in practice.

19 The CAPM is described in any corporate finance textbook (e.g., Brealey, Myers & Allen, *op cit*).

II PRE-AWARD INTEREST

Finally, once a tribunal finds in the favour of the investor, the respondent owes the investor a certain amount in the size of the damages award. The respondent owes the investor this amount from the date of assessment until the moment when the investor is finally compensated, namely the moment when the respondent pays the investor the full amount of the damages award.

It is conventional to distinguish between (1) interest to cover the period between the date of assessment and the date of award (pre-award interest); and (2) interest to cover the period between the date of award and the date when any damages are actually paid (post-award interest). Our comments here focus on pre-award interest, although most of what is said will apply equally to post-award interest.

Pre-award interest only arises if the date of award is later than the date of assessment. Under the *ex post* approach, therefore, there is in principle no issue of determining pre-award interest.²⁰ However, this distinction is a formal one since under the *ex post* approach the issue of historical damages must be dealt with— here, our discussion will focus on the *ex ante* approach.

Different pre-award interest rates can have a very significant impact on damages awards. As an example, suppose that damages as at the date of assessment are US\$100 million, and the date of the award is 10 years later. Adding on pre-award interest at 3 per cent per annum would give an award of US\$134 million, while at 6 per cent per annum the figure would be US\$179 million and at 9 per cent it would be US\$237 million (in the last case the interest would be greater than the pre-interest damages).

From a legal perspective, a number of factors may determine or influence the choice of a pre-award interest rate. For the specific case of investment treaty arbitration, different bilateral investment treaties (BITs) give rise to different principles for the determination of pre-award interest rates. For example, the BIT between the Netherlands and Egypt defines just compensation as including ‘interest at a normal commercial rate until the date of payment’ (without further specification of the meaning of a ‘normal’ commercial rate).²¹ The BIT between Georgia and Kazakhstan specifies that compensation for expropriation should include ‘interest at the London Inter-Bank Offered Rate (LIBOR)’.²²

From an economic perspective, however, the appropriate choice of interest rate follows from the requirement for full reparation. Again, different interpretations are possible (and the choice between them is a matter of law). One of those is the following. In the case of the *ex ante* approach, to be in the same financial position, the investor must in fact be indifferent between the but-for scenario and the actual scenario, where it understands that as at the date of award it will receive US\$Y plus pre-award interest determined according to a specified methodology.

The question therefore arises of what that methodology should be. One approach is to consider what the investor would have done with the US\$Y, had it been given that money as of the date of assessment, and then to identify the equivalent interest rate to be applied to the US\$Y.

20 In practice, there will necessarily be some time lapse between the date of assessment and the date of award, and some amount of pre-award interest is therefore required.

21 See <https://investmentpolicyhub.unctad.org/Download/TreatyFile/1094>.

22 See <https://investmentpolicyhub.unctad.org/Download/TreatyFile/4988>.

Different options can be considered for the investor's hypothetical alternative use:

- a* If the investor had debt (or was going to incur debt after the date of assessment), it could have used some or all of these sums to reduce existing debt, or avoid falling into new debt. In that case, the pre-award interest relating to these funds corresponds to the rate on the debt that the investor could or would have avoided – most likely, its most expensive debt (or if where the investor was going to incur debt after the date of assessment, the rate at which it would be able to secure this new financing).
- b* If the investor did not have (and would not have incurred) debt, the investor would have either kept the money in interest-bearing deposits at the commercial deposit rates in place at the time, or it would have found an alternative use for the money, such as investing it in alternative projects.
- c* With respect to alternative uses, the investor could either have invested the money in its own business or into any alternative investment.

A second approach is to consider that the damages award amount represents a loan from the investor to the respondent (the 'coerced loan theory'). In that case, the pre-award interest rate applied would correspond to the respondent's borrowing rate, which is usually determined by several factors (the respondent's credit risk or location, or the currency of the damages award). In sum, in this case the pre-award interest should reflect not only the time value of money, but also the default risk of the respondent.

Correctly estimating the pre-award interest rate can be more or less complex depending on which of the approaches above is used. Determining the investor's or respondent's borrowing rate is often simpler than identifying potential alternative investments for the investor (and the corresponding rates of return).

The 'correct' approach among the ones listed above is likely a matter of law, and may also depend on the level of proof an investor is able to provide to the arbitral tribunal. However, if a principle based upon the investor's alternative use of the damages amount is applied, the investor would have chosen the alternative use that would have maximised its financial position and, if employing the money for a new investment, would have made the investor better off than reducing its debt.

The issue with the above is that it is often difficult to assess what this alternative investment may have been, or what rate of return the investor would have obtained from it. Moreover, for both new investments or investments in the investor's own business, the rate of return usually demanded by the investor reflects, *inter alia*, the investor's expectations regarding the risk associated with this investment: in simple words and as explained above, the more risky an investment is perceived to be, the higher the rate of return the investor would require. However, when being deprived of the money for a certain period (and compensated for it afterward), the future risk associated with this presumed investment is fully removed, since the investor did not actually have the opportunity to invest in this opportunity. Therefore, it would no longer make sense to compensate the investor for this risk.

The key subtlety is to identify not only the expected return from what the investor would have done, but also the level of risk it would have incurred. An investor would normally accept a lower rate of interest on the US\$Y, if it is given for certain, than the expected return on a risky investment. Identifying the specific risk associated with the investment that has been removed (and the corresponding reduction in the required rate of return) is often a very complex task.

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Ruxandra Ciupagea is a vice president at Compass Lexecon based in Madrid and London. Ruxandra works on litigation and international arbitration matters, focusing on pricing, valuation and damages assessments in energy and infrastructure markets. She has extensive experience in the fields of natural gas and liquefied natural gas, electric power, renewable energy and regulated infrastructure. Ms Ciupagea's roles in international arbitration matters have included drafting expert reports, analysing data and developing models, as well as the preparation of expert witnesses for hearings.

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Boaz has provided expert witness testimony in approximately 50 international arbitrations, in the context of both commercial and investment treaty disputes. *Who's Who Legal 2017* notes that 'Boaz Moselle draws praise for his "exceptional genius" and prowess in gas-pricing disputes', and that 'one client describes him as "the best expert I have ever seen under cross-examination, and possibly the brightest I have seen in my whole career"'.

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