

# *Fordham International Law Journal*

---

*Volume 41, Issue 4*

2018

*Article 3*

2017 FORDHAM INTERNATIONAL ARBITRATION & MEDIATION  
CONFERENCE ISSUE

---

## A Framework for Interest Awards in International Arbitration

M. Alexis Maniatis\*

Florin Dorobantu<sup>†</sup>

Fabricio Nunez<sup>‡</sup>

\*

†

‡

Copyright ©2018 by the authors. *Fordham International Law Journal* is produced by The Berkeley Electronic Press (bepress). <https://ir.lawnet.fordham.edu/ilj>

## ARTICLE

### A FRAMEWORK FOR INTEREST AWARDS IN INTERNATIONAL ARBITRATION

*M. Alexis Maniatis*, \* *Florin Dorobantu* \*\* and *Fabricio Nunez* \*\*\*

#### ABSTRACT

*Issues of pre-award and post-award interest are an important component of quantum awards that typically receive little attention. While there is a set of alternatives that are commonly advocated, there is not an agreement on a systematic approach for determining the correct interest rate. In this Article, we argue that economic principles can be used to develop a framework for guiding tribunals. This framework proposes economically appropriate alternatives based on the tribunal's interpretation of the contract, treaty, or law at issue.*

ABSTRACT.....	821
I. INTRODUCTION .....	822
II. A FRAMEWORK FOR DETERMINING INTEREST	
RATES .....	825
A. Prevailing Theories of Pre-Award Interest.....	826
B. Implementation of the Framework for Pre-Award Interest.....	829
1. Step # 1: Allocate Default Risk .....	830
2. Step # 2: Ensure that Interest Rate Matches Currency of the Award.....	832

---

\* Principal and President, The Brattle Group, Washington, DC. The Brattle Group is an economic consulting firm engaged in answering complex economic, regulatory, and financial questions for corporations, law firms, and governments around the world. The views and opinions expressed in this publication are strictly those of the authors and do not represent the views or opinions of The Brattle Group or any of its other employees.

\*\* Principal, The Brattle Group, New York, NY.

\*\*\* Senior Associate, The Brattle Group, Washington, DC.

3. Step # 3: Select Rate Based on Maturity Consistent with Relevant Risks .....	833
4. Step # 4: Address Claims of Additional Harm Caused by Delay in Payment .....	836
C. Post-Award Interest.....	839
III. CONCLUSION.....	840

### I. INTRODUCTION

Questions surrounding interest rates arise in most cases where damages are awarded. International arbitration tribunals typically calculate damages based on when the incident occurred, and then add “pre-award” and “post-award” interest. The interest rate applied can have a significant impact on damages, especially for pre-award interest, given the potential length of the arbitration process.<sup>1</sup> For example, if it takes five years for a claimant to secure an award, a 10% pre-award interest rate would raise a US\$100 million claim by 60% to US\$160 million,<sup>2</sup> and the interest would represent 37.5% of the total damages awarded.

This example is not just a hypothetical. In a recent case involving *Tenaris S.A.*, a company incorporated in Luxembourg, and the country of Venezuela, principal damages amounted to US\$87.3 million, and pre-award interest totaled US\$85.5 million, or close to 50% of the total damages awarded.<sup>3</sup> Similarly, in another case involving the export of tobacco products and the country of Mexico, principal damages totaled Mex\$9.5 million, and pre-award interest was Mex\$7.5 million, or 44% per cent of the total award.<sup>4</sup> Finally, in

---

1. LONDON COURT OF INTERNATIONAL ARBITRATION, *Costs and Duration: 2013-2016*, at 8, <https://www.international-arbitration-attorney.com/wp-content/uploads/2018/02/LCIA-Facts-and-Figures-Costs-and-Duration-2013-2016.pdf> [https://perma.cc/HP8S-KS3J] (archived May 8, 2018).

2. This figure assumes that interest is compounded annually. More frequent compounding would increase the interest amount even further.

3. *Tenaris S.A. v. Venez.*, ICSID Case No. ARB/11/26 (Jan. 29, 2016), <https://www.italaw.com/sites/default/files/case-documents/italaw7098.pdf> [https://perma.cc/F4V5-REPL] (archived May 8, 2018).

4. James Dow, *Interest*, in *THE GUIDE TO DAMAGES IN INTERNATIONAL ARBITRATION*, (John A. Trenor ed. 2016).

cases ARB/05/18 and ARB/07/15 pre-award interest actually exceeded the principal amount of damages to which it was applied.<sup>5</sup>

Despite their practical importance, interest rates are rarely a major focus of parties and tribunals when pleading and granting awards. While interest is important from an economic perspective, many tribunals give little consideration to this issue.<sup>6</sup> As a result, pre-award interest is an under-pleaded area, and there are significant differences in the approaches used by parties and tribunals.<sup>7</sup>

Recent research confirms these findings. A study by Professor James Dow from the London Business School<sup>8</sup> demonstrates that tribunals select a variety of interest rates for awards. This includes US Treasury bills and London Interbank Offered Rate (LIBOR), with and without a premium (also known as “spread”).<sup>9</sup>

The Dow study also shows that tribunals give diverse justifications for the choice of rates.<sup>10</sup> In some cases, it appears that respondents simply failed to challenge the specific claim for pre-award interest, so the tribunals adopted the claimants’ requests.<sup>11</sup> Some tribunals have justified the use of risk-free and interbank rates as appropriate to compensate claimants; in other cases, the awards refer to specific rates contained in the relevant treaties.<sup>12</sup>

---

5. *Kardassopoulos & Fuchs v. Republic of Geor.*, ICSID Case No. ARB/05/18 & ARB/07/15, Award (Mar. 3, 2010).

6. *An Unexpected Interest in Interest*, GLOB. ARB. REV. (May 12, 2015), <http://globalarbitrationreview.com/article/1034451/an-unexpected-interest-in-interest> [<https://perma.cc/QM2J-2LX3>] (archived May 8, 2018).

7. *Id.*

8. Professor Dow is also an academic advisor to The Brattle Group. BRATTLE GRP., *James Dow*, <http://www.brattle.com/experts/james-dow> [<https://perma.cc/29WG-T9W8>] (archived on Mar. 28, 2018).

9. See *An Unexpected Interest in Interest*, *supra* note 6. The study shows that in 23 of the 60 cases analyzed, pre-award interest was calculated on the market benchmark plus a premium such as, for example LIBOR plus 1% or US Treasury bills (T-bills) plus 2%. In 14 cases, Professor Dow found that the tribunal simply stated a rate (such as 4.5% or 9%). In the remaining 23 cases, pre-award interest was a base rate, but without any spread. The study also showed that the adders or spreads vary significantly across awards. For example, no spread was added in 5 of the 21 cases based on LIBOR, 2% was added in 9 cases, 4% in 4 cases and 1% in 2 cases. In one case the spread was based on “political risk.” *Id.*

10. *Id.*

11. *Id.*

12. *Id.*

PricewaterhouseCoopers (PwC) reached similar conclusions in a 2016 study.<sup>13</sup> In 60% of the awards analyzed, the tribunal did not explicitly address the reasons behind interest awarded, while the explanations for the other 40% were diverse.<sup>14</sup> They include the application of a contractual and/or statutory rate, or a desire to compensate the claimant by offering a rate commensurate with its borrowing costs, or by offering a reasonable return on investment.<sup>15</sup> The PwC study also notes that tribunals generally do not distinguish between pre- and post-award interest rates.<sup>16</sup> When the distinction is addressed explicitly, tribunals have expressed very different views.<sup>17</sup> In some cases, tribunals have taken the view that pre- and post-award interest should be calculated using the same methodology – while in other cases, tribunals have stated that pre- and post-award interest should be treated differently.<sup>18</sup>

Like Professor Dow, the authors of the PwC study found that tribunals appear to be aware of issues related to the money currency of the award.<sup>19</sup> This does not mean, however, that tribunals follow a unified approach.<sup>20</sup> The PwC study notes that some tribunals explicitly recognized that the interest rate should match the currency of the award, while others felt that this was not necessary.<sup>21</sup>

The two aforementioned studies suggest that the economics behind the choice of interest rate in awards are not well understood. In the next section of this Article, we will propose a principles-based, economic framework for choosing the appropriate pre- and post-award interest rates. This framework can be implemented by tribunals, parties, and experts.

---

13. See PRICEWATERHOUSECOOPERS, *Dispute Perspective: Tribunals' Conflicts on Interest* (2016), <https://www.pwc.co.uk/tax/assets/tribunals-conflicts-on-interest-new.pdf> [https://perma.cc/EUL2-YM7B] (archived May 8, 2018).

14. *See id.*

15. *See id.*

16. *See id.*

17. *See id.*

18. *See id.*

19. *See id.*

20. *See id.*

21. *See id.*

## II. A FRAMEWORK FOR DETERMINING INTEREST RATES

The framework we develop to select pre- and post-award interest rates reflects economic principles and provides fair compensation. By “fair compensation,” we refer to an interest rate that is market-based, that compensates for the risks that the tribunal chooses to recognize, and that preserves the Fair Market Value (FMV) of the award. Our proposed framework encompasses two fundamental concepts. First, the relevant valuation standard is FMV – the rate consistent with well-functioning markets for arm’s-length transactions between well informed parties. Second, the interest awarded should address two of the most basic concepts in finance: the time value of money and the risk of the cash flows at issue.<sup>22</sup> Our approach is consistent with and accomplishes other policy objectives at times cited in the relevant literature, including: 1) signaling the social obligation to honor contracts, 2) preventing unjust enrichment, and 3) avoiding incentives by either side to benefit by delaying payment.<sup>23</sup>

To motivate a company to extend a loan, the loan must generate a return at least as high as that available on a riskless asset – say a guaranteed bank deposit or a US Treasury bill. Such a rate compensates for the time value of money during the delay in receipt of payment – here, the delay from the date of valuation to the date of award. Interest rates must also provide compensation for bearing the risk of default by the debtor, and for the risk that interest rates will rise during the lending period above the level expected when the debt is issued.<sup>24</sup> Lenders would not willingly extend credit without such compensation, since short-term and risk-free alternatives would be superior. All of these factors should be considered in determining the appropriate pre- and post-award interest rate.

---

22. See RICHARD A. BREALEY, STEWART C. MYERS, & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* 21, 24 (10th ed. 2011); RIPINSKY & WILLIAMS, *supra* note 48, § 6.1.

23. See, e.g., Michael S. Knoll, *A Primer on Prejudgment Interest*, 75 TEX. L. REV. 293, 295-98 (1996). Punishing the wrongdoer is also sometimes listed as a policy objective. Our approach does not include a punitive element, but it does establish a market benchmark, in the sense that imposing a higher rate can be seen as including a punitive element.

24. This latter component, called interest rate risk, arises from variation in the two components of nominal interest rates: inflation and the real interest rate. Over the course of a long-term loan, both can be higher or lower than expectations held by market participants at loan inception. See also BREALEY ET AL., *supra* note 22, at 53-64 (10th ed. 2011) (providing an economic discussion of interest rates).

*A. Prevailing Theories of Pre-Award Interest*

Scholars and practitioners have proposed three main approaches to pre-award interest. Each approach implies a different rate. As we discuss below, the “forced loan theory” proposes the respondent’s cost of borrowing. A second theory advocates for a risk-free rate (the “risk-free rate theory”). A third strand of theories proposes some measure of the claimant’s cost of financing.<sup>25</sup>

The “forced” or “coerced” loan theory argues that the correct rate is the respondent’s borrowing rate, in effect treating the claimant as a “forced creditor” of the respondent.<sup>26</sup> The key argument under this theory is that compensation was due at the date of the breach. Since compensation was due, but not paid, at that date, the claimant bore the risk of the respondent’s default, just like other creditors who may have extended loans on a voluntary commercial basis at the date of the breach.<sup>27</sup> Under this approach, the respondent effectively owes a fixed amount as of the date of the breach, and the failure to pay immediate compensation is the equivalent of borrowing money from the claimant. The argument is that claimants deserve compensation commensurate with other unsecured lenders to the respondent, at the respondent’s unsecured borrowing rate.<sup>28</sup>

An alternative theory argues that courts and arbitration tribunals should apply the risk-free rate (the “risk-free rate” theory) since there is no risk of default at the time the award is issued.<sup>29</sup> The key contrast with the forced loan theory is that here proponents view the liability

25. See INGMAR MARBOE, *CALCULATION OF COMPENSATION AND DAMAGES IN INTERNATIONAL INVESTMENT LAW* § 6.B.1, Appendix 1, Appendix 2, Appendix 3, & Appendix 4 (2d ed. 2017) (listing interest rates for ICSID cases, NAFTA cases, Energy Charter cases, and ad hoc deliberations, respectively).

26. See Roy J. Epstein, *Prejudgment Interest Rates in Patent Cases: Don’t Compound an Error*, 24 (2) *IPL. Newsl.* (2006), at 9.

27. James M. Patell, Roman L. Weil & Mark A. Wolfson, *Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates*, 11 *J. LEGAL STUD.* 341, 343 (1982).

28. Jeffrey M. Colón & Michael S. Knoll, *Prejudgment Interest*, in *LITIGATION SERVICES HANDBOOK: THE ROLE OF THE FINANCIAL EXPERT* § 16.4 (Roman L. Weil et al., eds., 6th ed., 2017). See also Robert L. Losey, Michael Mass & Jingsan Li, *Prejudgment Interest: The Long and the Short of It*, 15 *J. FORENSIC ECON.* 59 (2002); Jeffrey M. Colón & Michael S. Knoll, *Prejudgment Interest in International Arbitration* (2007); Faculty Scholarship Paper 185, [http://scholarship.law.upenn.edu/faculty\\_scholarship/185](http://scholarship.law.upenn.edu/faculty_scholarship/185) [<https://perma.cc/manage/create?folder=4035-34625-40301-40679>] (archived May 8, 2018).

29. See Franklin M. Fisher & R. Craig Romaine, *Janis Joplin’s Yearbook and the Theory of Damages*, 5 *J. ACCT., AUDITING & FIN.* 145 (1990).

as arising at the moment of the award, at which time the respondent presumably is not in default on its general commercial obligations.<sup>30</sup> To the extent that claimant has been exposed to risks between the breach and award dates, the risk-free rate theory categorizes them as general litigation risks, rather than financial risks that arose at the date of breach.<sup>31</sup> Proponents of the theory have appealed to two aspects of the US legal system: the presumption of innocence prior to verdict, and the general rule that each side bears its own legal costs.<sup>32</sup> Under this theory, then, the risk that a respondent fails financially prior to an award is viewed as a litigation risk rather than a financial risk. For example:

The risk of the defendant's bankruptcy is not the only risk the plaintiff bears. It also bears the risk of losing the case . . . . [T]he risk that the defendant will go bankrupt during trial is properly associated with the risks of litigation, not with the violation itself. It is hard to see why that risk should be singled out as one for which the plaintiff is to be compensated. Accordingly, we retain the position that prejudgment interest should be awarded at the risk-free rate.<sup>33</sup>

Under this view, awarding any higher rate would constitute an abuse of hindsight, in effect compensating the claimant for an investment that was never undertaken. That is, given that the respondent is solvent at the time of the award and that it did not owe a debt to the claimant before then, the claimant should not be entitled to a premium for past default risk that it did not bear.<sup>34</sup> The theory is economically coherent, but if the tribunal viewed the debt as arising at the time of the breach itself, as opposed to the date of the award, the conclusions would be reversed.

Moreover, a tribunal could still endorse the forced loan theory while accepting the view of pre-award interest as part of the category of general legal expenses. Some jurisdictions differ markedly from the US system, and award litigation expenses to claimants who prevail. Claimants could argue that the forced loan theory accurately

---

30. *See, e.g., id.*

31. *See id.* at 147-148.

32. *Id.*

33. *Id.* at 147-48 (discussing the issue within the context of the US legal system).

34. *See id.* at 146.



reflects a cost that they bore in connection with the protracted nature of the dispute.

It is worth emphasizing that, while the forced loan theory uses the word “forced,” it does not include a punitive element in the pre-award interest rate. The forced loan theory implies a fair market rate, reflecting the FMV principle, i.e., the rate at which lenders would agree to lend to the respondent in arm’s-length commercial transactions. We are aware of one case in which the tribunal rejected the forced loan theory because it associated the word “forced” with a desire to punish the respondent, even though the tribunal viewed prejudgment interest as an instrument to compensate the claimant for the postponement of compensation that had become due many years in the past. The tribunal was also willing to compensate the claimant for litigation expenses, so there was no appeal to the notion that litigants should bear their own costs. The relevant legal framework called for a commercial rate, and the tribunal thought that responding to an image of a loan as “forced” would stray from the requirement to rely on normal commercial terms. However, the word “forced” was, in that case, just an unfortunate term for a principle that directly appealed to rates set in the market by willing lenders and the respondent.

We conclude that the same basic principle applies to both the forced loan and the risk-free rate theories. That is, that pre-award interest should reflect risk at the market rate. The difference between them lies in the tribunal’s approach to the prior risk of financial insolvency or default of the respondent.<sup>35</sup>

A separate strand of theories views pre-award interest as an issue related to the claimant’s cost of funds.<sup>36</sup> The argument is frequently made along the lines best illustrated with a simple hypothetical example: the claimant borrowed from a bank to finance the purchase price of an asset that was expropriated shortly afterwards. In the absence of the expropriation, the loan would have carried an interest rate commensurate with the risk of the underlying asset. If the

---

35. We note that there is no tension between the requirement in some treaties or contracts for the use of a “commercial” rate of interest and the use of a risk-free rate. The risk-free rate is itself a commercial rate for securities without default risk. It is set in free markets by commercial parties and investors transacting freely. In other words, it defines the commercial rate for lending and borrowing risk-free amounts.

36. MARBOE, *supra* note 26, § 6.B.1.

claimant did not repay the bank immediately upon expropriation, the loan would have continued to accrue interest until the receipt of compensation from the respondent. If the respondent's borrowing rate is lower than the interest rate on the underlying asset loan, then the argument is that either a risk-free rate or the forced loan theory would impose a loss upon the claimant, failing to cover the loan costs prior to the award.

A different, but related, argument is that claimants had to borrow to replace the lost funds in order to make profitable investments. Claimants, at times, argue that pre-award interest should cover the interest paid on incremental sums that they borrowed in the absence of prompt compensation from the respondent. The argument here is that the claimants would have borrowed less in the absence of the disputed conduct. A generalized form of the argument considers not just the loans undertaken by the claimant, but also the cost of raising equity funds, which together combine to form the claimant's overall cost of capital (or weighted average cost of capital—WACC). The argument is then that the principle of full compensation or full reparation requires the calculation of pre-award interest based on the claimant's cost of capital,<sup>37</sup> to put the claimant in the position it would have achieved absent the breach.<sup>38</sup>

We explain below why a uniform appeal to the claimant's cost of borrowing or its cost of capital is not consistent with economic principles. We also explain why the arguments advanced by proponents of this approach may reflect case-specific circumstances rather than general principles. Our view is that a tribunal could address such circumstances directly as a distinct element of damages, as opposed to indirectly through the pre-award interest rate.

#### *B. Implementation of the Framework for Pre-Award Interest*

Our framework consists of four steps, guided by the principle that matching risk to return should inform the specific choice of rate.

---

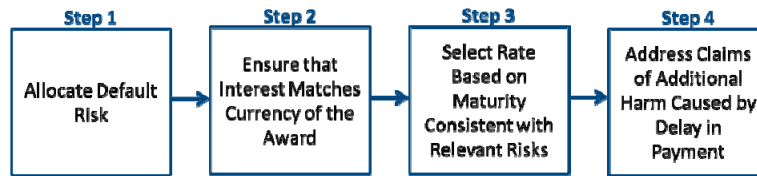
37. The principle of full compensation or full reparation is to “wipe out all the consequences of the illegal act” and it is usually referred to as the Chorzów Standard. *See Germ. v. Pol.*, PCIJ Case No. 17 (Sept. 13, 1928), [http://www.worldcourts.com/pcij/eng/decisions/1928.09.13\\_chorzow1.htm](http://www.worldcourts.com/pcij/eng/decisions/1928.09.13_chorzow1.htm) [<https://perma.cc/4WTJ-MGLJ>] (archived May 8, 2018).

38. *See, e.g.*, Manuel A. Abdala, Pablo D. López Zadicoff & Pablo T. Spiller, *Invalid Round Trips in Setting Pre-Judgment Interest in International Arbitration*, 5 *WORLD ARB. & MEDIATION REV.* 1 (2011).

Our approach follows the FMV standard in that the selected rate would be consistent with well-functioning markets for arm's-length transactions between well informed parties, subject to the risks that are deemed legally compensable.

Figure 1 summarizes the steps:

Figure 1: Steps to Determine Pre-Award Interest Rate



### 1. Step # 1: Allocate Default Risk

First, the tribunal decides if the risk of the respondent's default prior to an award is relevant and compensable to the claimant. If it is not, then the pre-award interest should be calculated at the risk-free rate. This would be consistent with the risk-free rate theory that there was no debt until the award was issued, at which point there is no chance of past default if the respondent is present and solvent. Here, then, the only compensation needed for the claimant is the time value of money between the date of valuation and the date of the award.

If the tribunal decides that the claimant deserves compensation for the risk of the respondent's default prior to an award, then pre-award interest should reflect the respondent's borrowing rate for liabilities of the same risk. Using the respondent's borrowing rate is consistent with the forced loan theory discussed above.<sup>39</sup> Proponents of this theory argue that while we cannot possibly know how the proceeds would have been invested if the plaintiff had received them earlier, we do not know how they were actually invested, because

---

39. It may seem counterintuitive that the claimant should be compensated for having borne the default risk - even though at the award date, it is known that the respondent is not insolvent. It is, however, no different from any lending arrangement in which the loan rate reflects borrower's default risk and the borrower pays that rate, even though it never defaults. The risk premium is the compensation necessary to induce the lender to loan in the first place. Without it, a willing transaction would not occur.

they were advanced to the defendant in the form of a forced loan.<sup>40</sup> Thus, to award less than the respondent's borrowing rate would fail to compensate the claimant for risks it was indeed forced to bear. Conversely, to award more would compensate a claimant for greater risks than it was forced to bear.

Awarding pre-award interest at the respondent's borrowing rate does not imply straying from a focus on the claimant and how it was affected by the delay.<sup>41</sup> If payment became due on the date of the breach, then the payment delay caused the claimant to bear the respondent's risk of default. Awarding interest at a rate commensurate with the risk provides fair market compensation for the effect on claimant's financial position. It also prevents unjust enrichment of the respondent, as commentators have noted,<sup>42</sup> but that is not its only economic result.

Using either the risk-free rate or the respondent's borrowing rate would be consistent with the principles of market-based rates of addressing the risks deemed legally compensable and preserving FMV across time. To illustrate, consider the following hypothetical. Suppose that a tribunal has ruled in favor of the claimant on the breach/valuation date, and granted it an award worth US\$100 on that date (i.e., assuming an instantaneous ruling from the tribunal). Suppose that the tribunal orders the respondent to offer two alternatives for payment: (1) immediately hand over a two-year US Treasury security with a face value (or principal amount) of US\$100 that pays a risk-free market rate of 3% per year<sup>43</sup> or (2) a promissory note issued by the respondent for the same US\$100 in principal amount with an interest rate of 5%, maturing in two years' time. Assume further that the higher rate of 5% is the market interest rate applicable on the respondent's other debt, and compensates for the chance that the respondent might default before maturity of the debt.

The FMV of either alternative on the valuation date is US\$100, and would represent full compensation if given at the date of breach,

---

40. See Knoll, *supra* note 24, at 310-11.

41. See MARBOE, *supra* note 26, ¶¶ 6.110-111.

42. *Id.* ¶ 6.111; see also Knoll, *supra* note 24, at 310-11 (explaining that in the generic commercial litigation context, the defendant's borrowing rate both compensates the plaintiff and prevents the unjust enrichment of the defendant).

43. For simplicity, we assume that this US Treasury security is trading at par (i.e., at its face value of US\$100), on the valuation date.

just as payment of US\$100 in cash would. To see this, consider that in principle, the claimant could sell the two-year US Treasury security to a third party for the US\$100 amount of the award. It could also sell the respondent's two-year promissory note for the same amount. Potential purchasers would value the note just like any other future payments owed by the respondent.

Of course, in practice tribunals do not rule instantaneously; it takes time to secure an award. Thus, in reality, the tribunal has to decide whether to compensate the claimant for the risk of default between the date of breach and the date of the award. If the tribunal decides that it should not, then the tribunal should award interest based on a risk-free rate, otherwise it is appropriate to apply the respondent's borrowing rate. In either case the selected rate compensates the claimant for the risks that the tribunal chooses to recognize. In this illustration, the 3% in the US Treasury<sup>44</sup> compensates solely for the time value of money, while the 5% in the promissory note compensates as well for the risk of the respondent's default.<sup>45</sup>

## 2. Step # 2: Ensure that Interest Rate Matches Currency of the Award

Tribunals should ensure that the interest rate matches the currency of the award. Interest rates reflect inflation and exchange rate expectations that are currency-specific. Therefore, the rate used should be based on market rates in the currency in which the award is denominated,<sup>46</sup> as it is not economically meaningful to apply rates quoted in one currency to amounts denominated in a different currency.<sup>47</sup>

---

44. Again, assuming the US government's risk of default is zero, the 3% compensates the claimant for the time value of money.

45. We abstracted in this example from issues related to interest rate risk, which are addressed in § II.B.2 of the framework.

46. Note that the award thus calculated can then be paid in any freely traded currency using the market exchange rate at the time of payment.

47. See Colón & Knoll, *Prejudgment Interest*, *supra* note 30, at 18-21 (providing a detailed discussion of currency conversion in the context of pre-award interest, as well as the need for matching the interest rate to the award currency). See also Dow, *supra* note 4 (noting that arbitration tribunals are generally aware of the issue and choose the currency of interest rates appropriately). See generally MARK KANTOR, VALUATION FOR ARBITRATION: COMPENSATION STANDARDS, VALUATION METHODS, AND EXPERT EVIDENCE § 9.2 (2008).

However, matching the interest rate currency with the award currency does not make the choice of the award currency itself irrelevant. An award calculated in US dollars that carries a US dollar interest would not, in general, result in the same amount at the time of payment as if it were calculated in, say, euros (carrying a euro interest rate) and then converted to US dollars. The choice of the award currency is important, but it is a separate question from pre-award interest.<sup>48</sup>

### 3. Step # 3: Select Rate Based on Maturity Consistent with Relevant Risks

The next step is for the tribunal to select the benchmark rate consistent with its allocation of risk,<sup>49</sup> while taking into account maturity and length of compensation. Markets generally require higher rates for lending or borrowing over a longer period of time. Again, reflecting a core principle of finance, higher rates for longer maturities compensate lenders or investors for bearing risks arising from the irreversible commitment of funds. For fixed-rate debt, lenders bear risks that include unexpected changes in inflation, real interest rates, and borrower's default risk.<sup>50</sup>

It may seem natural to set pre-award interest using long-term rates, reflecting the time elapsed between breach and award dates, in order to provide compensation for these risks. If the selected long-term rate is commensurate with market rates, such selection would compensate the claimant for these risks, but it would also force the claimant to bear them. Perhaps we could all agree that a five-year fixed interest rate at the time of the breach would prove too low and "out-of-market" by the end of the fifth year (assuming that it takes five years to receive an award) if either inflation or real interest rates increased shortly after the breach, or the respondent's solvency deteriorates. In other words, a fixed long-term rate is not consistent

---

48. See SERGEY RIPINSKY & KEVIN WILLIAMS, DAMAGES IN INTERNATIONAL INVESTMENT LAW § 10.1 (2008) (providing legal considerations regarding the choice of currency for awards in investment arbitration).

49. That is, the risk-free rate or respondent's borrowing rate.

50. Long-term rates can be higher than short-term rates also because investors expect short-term interest rates to rise over time. However, that alone cannot explain why long-term rates are much more frequently above short-term rates than below. See BREALEY ET AL., *supra* note 25, at 58.

with the risk-free rate approach, because long-term rates, even on instruments with no default risk, are not truly risk-free, due to interest rate risk exposure. Simply using the rate for a security at the time of the breach whose maturity matches the award date compensates the claimant based on market expectations and risk preferences at the time of the breach, but leaves that claimant exposed to potential gains or losses from changing circumstances.

An alternative view is that the tribunal should apply a series of rolling short-term rates to protect the claimant from the risks of fluctuations in inflation, real interest rates, and of changes in respondent's default risk that may have occurred after the date of breach,<sup>51</sup> if default risk is deemed compensable in Step 1. Exposure to interest rate risk is not inherently part of the forced nature of the loan. This is because if the claimant and the respondent negotiated an arm's-length loan at the date of the breach, claimant could avoid interest rate risk exposure by structuring the loan with a floating rate that tracks changes in short-term interest rates.<sup>52</sup>

The potential disadvantage of using rolling short-term rates is that it does not address the long-term commitment of funds. A claimant could in principle still claim that it deserves a premium to address the commitment of funds over an extended period of years. Rolling short-term rates forward over time offers certain types of protection, but it does not address illiquidity risk, which cannot be avoided if the claimant is unable to sell or borrow against an eventual award when it faces an unexpected need for cash. Such a premium, however, would be small because commercial entities not in financial distress, which are often the claimants in international arbitration cases, have access to financial markets that allow them to meet unexpected liquidity needs. As we discuss in Step 4 below, if special circumstances cause a claimant to suffer harm from being unable to access funds, such harm can be calculated and awarded separately as damages. A related, but distinct liquidity premium for long-term commitments can arise if short-term rates do not fully reflect the risk

---

51. Note that to eliminate exposure to changes in respondent's default risk, the premium for default risk should be time-varying. In practice, the credit default spread (CDS) market can provide timely information about changes in default risk. *See* Knoll, *supra* note 24, at 324-26 (proposing the alternative of a floating base rate plus a fixed default risk premium, which locks in the expected risk of respondent's default at the time of the breach).

52. *See id.*

of default on a long-term loan because of lack of liquidity as a borrower approaches insolvency and default.<sup>53</sup>

Applying a rolling short-term rate can result in either a higher or a lower cumulative interest amount, as opposed to applying the long-term rate over the same period.<sup>54</sup> Both approaches appeal to underlying principles and match risk and return, but it is clear that the claimant or respondent may prefer one or the other knowing in hindsight which approach is most advantageous. The appropriate answer depends on the risks that claimant is forced to bear and that the tribunal believes it should recognize. Rolling short-term rates can insulate the claimants from the risk of subsequent spikes in rates, but does not provide compensation for forgoing access to the funds for a long period. A tribunal can compensate the claimant for this lack of liquidity by adopting a fixed, long-term interest rate at the date of breach, but such an approach exposes the claimant to the risk of subsequent movements in interest rates, including changes in respondent's default risk under the forced loan theory.

If default risk is deemed compensable, a practical solution may involve using a rolling short-term risk-free rate, such as the Treasury bill rate for US dollars amounts and add a credit risk premium measured based on market instruments. These could include credit default swaps or bonds, with a longer maturity. This would, in effect, provide a premium that can compensate for illiquidity effects arising from the long-term nature of the commitment, while still protecting the claimant from risk of changes in interest rates and likelihood of default.

If the tribunal has determined that interest should be based on the respondent's borrowing rate, it should also consider whether

---

53. That is, in theory, as a borrower's solvency deteriorates, the rate at which it can borrow would increase, but in practice, lenders may simply be unwilling to lend at some point. A lender who lends on a rolling short-term basis is less exposed to this risk because it can simply not roll over the debt as the borrower's solvency deteriorates.

54. The long-term rate at the start of the loan reflects market expectation of the evolution of short-term interest rates over the course of the loan. This happens because for market participants to lend freely at the long-term rate, they should be indifferent between extending a loan at a fixed, long-term rate and extending a series of short-term loans. Therefore, if short-term rates rise above the levels expected at inception, a floating-rate loan would accumulate more interest than the fixed-rate loan, and vice versa if short-term rates fall below expected levels. However, because long-term rates incorporate a premium for bearing interest rate risk (as discussed above), *on average* awarding interest at long-term rates results in higher pre-award interest than applying short-term rates.



awards have favorable or unfavorable credit characteristics relative to the benchmark chosen. These differences are likely to be relatively small. Examples include differences in priority or costs of enforcement or collection.

#### 4. Step # 4: Address Claims of Additional Harm Caused by Delay in Payment

As a final step, tribunals should address any claims for additional damages suffered based on the claimant's cost of financing, be it the cost of debt, the cost of equity, or the cost of capital. The claimant may argue that the inability to access the award amount at the date of the breach: 1) has caused the claimant to raise financing at some cost that would not have been incurred if the funds had been made immediately available, or 2), has prevented the claimant from pursuing profitable investment opportunities, or 3) has prevented the claimant from repaying outstanding loans taken to finance the asset that was expropriated or impaired by respondent's breach. As *general* theories of pre-award interest, such arguments are inconsistent with economic principles of compensation. In specific circumstances, the arguments may be economically sensible and the tribunal can address the specific facts separately and make a decision based on evidence that links those facts to specific harm to the claimant.

The claim that the respondent's actions left the claimant without the cash necessary to fund attractive investments, so instead the claimant borrowed and paid a relatively high interest rate on loans, does not satisfy the basic principle of aligning risk and return. If the claimant had a higher borrowing cost than the respondent, and borrowed at that higher cost to finance its operations/investments, then the operations/investments must have had a higher risk than the amounts owed by the respondent. It does not mean that the claimant has paid too much in interest.

In other words, funds always have a cost. It is mistaken to argue that the prompt payment of compensation from the respondent would have deprived the claimant of the need to incur a cost of funds. If the respondent had harmed the claimant by US\$100, and had immediately reimbursed the claimant with a payment of US\$100 on the date of breach, then the US\$100 would still have had its own implicit cost of funds before the claimant redirected it to the alleged attractive investment. The cost of funds associated with the hypothetical

US\$100 cash compensation should have been the same as on any external loan that the claimant actually undertook.

A similar, related argument made by the claimants is that the respondent's actions prevented the claimant from obtaining a return on the investment, so that pre-award interest should be calculated at the project's cost of capital for the award to put the claimant in the position they would have achieved absent the breach.<sup>55</sup> The problem with this logic is readily apparent when considering the principle of aligning risk and return. The cost of capital represents the *expected rate* an investor earns in exchange for bearing the risk of earning more or less than a particular target, including the possibility of actually experiencing a loss. The cost of capital is by no means a *certain* return.<sup>56</sup> Awarding such a return is inappropriate if the alleged violation has itself deprived the claimant of the risk associated with an asset or business.<sup>57</sup>

Suppose that the respondent has expropriated an asset worth US\$100 on the valuation date, and that the cost of capital for that asset would have been 15%. Suppose that the pre-award interest covers one year so that a claim for the cost of capital would bring the value of the award to US\$115 in one year.<sup>58</sup> If the expropriation has deprived the claimant of the risk associated with the asset, then it would be inappropriate to award the claimant the 15% return, which includes compensation for risk not borne. If we know with certainty that the respondent would never default, then an investor would use a risk-free rate to estimate the fair market value of an award of US\$115 in one year. If the risk-free rate is only 4%, then the FMV of the award would be US\$110.60 as of the date of valuation.<sup>59</sup> Losing US\$100 in FMV, the claimant would in effect receive an award with an FMV that is US\$10.60 higher. One can conclude that awarding the cost of capital does not respect the principle of FMV in this case.

---

55. See, e.g., Abdala et al., *supra* note 40.

56. To illustrate this point, suppose that an investor makes such a risky investment multiple times. On average, the return would be the cost of capital, but in each individual case, the return could be higher than the average, sometimes it would be below the average, and in some instances the investor would actually experience a loss.

57. See, e.g., Aaron Dolgoff & Tiago Duarte-Silva, *Prejudgment Interest and the Fallacy of the Invalid Round Trip*, 10 World Arb. & Mediation Rev. 429 (2016).

58.  $\$100 \times 1.15 = \$115$ .

59.  $\$115/1.04 = \$110.6$ .

Commentators have noted a pernicious element to applying the cost of capital, in that high-risk assets would receive larger amounts of pre-award interest even if the breach prevented the claimant from incurring any further business risk in connection with the asset.<sup>60</sup> Applying the cost of capital indirectly re-inserts into the equation a risk of loss that the breach actually removed.<sup>61</sup> The same principle implies that it is inappropriate to award pre-award interest based on the expected return on other investments that the claimant has not made, such as the overall stock market: it would provide compensation for a risk that claimant has not borne.<sup>62</sup> An *ex-post* compensation standard explicitly rewards the claimant for the resolution of risk that the claimant did not actually bear after the date of breach, yet tribunals often hesitate to impose such a standard unless they make specific findings of a willful or flagrant violation.

Moreover, if the claimant had a lucrative investment opportunity, it should have been able to finance it at whatever market rate was appropriate for the risk of that investment. As long as the claimant had access to funding sources, which is the typical case for a commercial entity, the delay in receiving compensation should not have prevented it from undertaking attractive investments, and therefore should not have caused any harm. In special cases when the claimant could not access external financing, the claimant could bring evidence of specific investment opportunities that it would have pursued but for the lack of financing. If the tribunal found the evidence sufficient to support a claim for damages under the relevant legal standards, the tribunal could grant an award for the proven loss of opportunity.

The third argument for using the claimant's cost of funds – that the expropriation denied the claimant the funds to repay an outstanding loan taken to finance the asset that was expropriated or impaired by the respondent's breach – has its own problems. First, it assumes that the claimant cannot have repaid or refinanced the loan

---

60. See Dolgoff & Duarte-Silva, *supra* note 62, at 443.

61. See William B. Tye, Stephen H Kalos, & A. Lawrence Kolbe, *How to Value a Lost Opportunity: Defining and Measuring Damages from Market Foreclosure*, 17 Res. in L. & Econ. 83 (1995) (providing a discussion of related economic arguments).

62. See Thierry J. Sénéchal & John Y. Gotanda, *Interest as Damages*, 47 Colum J. Transnat'l L. 491 (2009) (describing a proposal to award an interest rate that includes the expected return on the overall stock market).

once the asset was lost. But if that is the case, then the claimant should be able to identify and measure the additional cost, demonstrate that it could not have been avoided through mitigation, and claim it directly as an additional element of damages. The associated costs would form part of the damages to which a tribunal should apply pre-award interest. Second, it assumes that the respondent's borrowing rate is lower than the interest rate on the underlying loan on the asset so that the respondent's borrowing rate would fail to cover the loan costs prior to the award.

In summary, arguments based on the claimant's cost of financing generally do not hold because the typical claimant has access to well-functioning financial markets.<sup>63</sup> It can therefore fund investment opportunities on FMV terms, neither foregoing potentially profitable investments nor paying above-market financing costs to fund them. However, some claimants may lack access to markets, or market frictions may make external funding more expensive than their own funds. Resulting losses may be compensable under such specific circumstances and the tribunal can evaluate the factual evidence and determine whether it meets the legal standard necessary to award damages. Such an inquiry is similar to that conducted to award other types of damages.

### C. *Post-Award Interest*

Post-award interest does not confront the question of the allocation of litigation risk. Once the award is established, the claimant is formally a creditor to the respondent and should receive a rate of interest commensurate with the post-award risks. The starting point should be the respondent's borrowing rate. The tribunal, however, should consider making the adjustments we outlined earlier to reflect substantive differences, if any, in the risk of default or the cost of enforcement of an award compared to those reflected in the respondent's benchmark borrowing rate. In doing so, the post-award interest preserves the FMV of the award over time and captures the risks of collection. It would also remove incentives for the respondent to delay payment and use the award debt as a source of cheap financing.

---

63. See Colón & Knoll, *Prejudgment Interest*, *supra* note 30, at 4-6 (providing a summary of economic arguments against rates based on claimant's cost of funds).

*III. CONCLUSION*

We propose a framework based on economic principles that tribunals and experts can apply to determine the correct rates for pre- and post- award interest. We propose that a generally applicable pre-award interest rate is either the risk-free rate or a rate that reflects the respondent's risk of default, with the choice depending on whether the tribunal establishes that liability begins at the date of the award or at the date of the breach respectively. In either alternative, the appropriate economic standard is fair market value and the appropriate rate should reflect the time value of money and the risks that the tribunal deems compensable. Post-award interest accrues after liability is established, and therefore only a rate that reflects respondent's risk of default is relevant. Where specific circumstances affect the claimant's financial position or the markets in which it can obtain financing, our framework suggests that the claimant should provide evidence of such additional harm. The tribunal can then evaluate that evidence as a separate head of damages. Our framework identifies economically principled choices and provides economic guidance for tribunals' interpretation of the economic aspects of the contract, treaty, or law at issue.