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Awarding Interest in International Arbitration

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INTRODUCTION

The popularity of arbitration as a mechanism for settling disputes between transnational contracting parties has led to standardization in many areas of arbitration law and procedure. One important aspect of the arbitral process, however, the practice of awarding compensatory interest, has been left behind in the march toward uniformity. To date, arbitral tribunals have failed to adopt a rational and uniform approach for evaluating interest claims. Consequently, resolving interest claims is often an expensive and time-consuming process, fraught with uncertainty, which typically results in inconsistent arbitral awards. This result is particularly problematic in the international arbitral arena: such claims often involve millions of dollars, and because a lengthy period may elapse between the origin of the dispute and the final award, whether an arbitrator awards interest may be as significant, from a monetary standpoint, as the principal claim itself.

The problems associated with the awarding of interest stem from the overly complex and sometimes arbitrary methods that arbitrators have used to evaluate interest claims. An arbitrator considering a claim for compensatory interest typically addresses three issues: (1) the debtor’s liability to pay interest, (2) the period of time over which interest accrues, and (3) the rate of interest. In resolving these issues, the arbitrator ordinarily looks first to the parties’ agreement. If it contains a provision explicitly addressing these questions, resolving the interest claim is a simple matter; interest is awarded in accordance with the agreement. All too often, however, the agreement fails to address some or all of the issues concerning the payment of interest, or is ambiguous as to how the interest claim should

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The present article specifically addresses issues concerning the awarding in international commercial arbitrations of compensatory or preaward interest, which is interest as part of an award, as opposed to moratory interest, which is interest on an award.


4 See, e.g., AMERICAN BELL, 12 Iran-U.S. Cl. Trib. Rep. at 229 (awarding, in addition to damages of $15 million, interest at a rate of 10% for seven years); Telecommunications Co. of Iran v. United States, 23 Iran-U.S. Cl. Trib. Rep. 320, 337 (1989) (awarding, in addition to damages of $1.2 million, 10% interest for approximately 10 years).

5 See, e.g., KCA Drilling Ltd. v. Sonatrach, International Chamber of Commerce [ICC] No. 5651 (awarding $25 million in damages and $26 million in interest, summarised in pertinent part in David J. Branson & Richard E. Wallace, Jr., Awarding Interest in International Commercial Arbitration: Establishing a Uniform Approach, 28 Va. J. Int’l L. 919, 929 (1988); AMINOil, 21 ILM at 1042 (awarding $83 million in damages and $96 million in interest). If, for example, simple interest accumulates at a rate of 10% per annum, the amount owed will double in 7.3 years. By contrast, if interest on the amount owed is compounded, it will double in 7.3 years.

be decided. In these situations, the arbitrator's task is formidable. Many arbitrators have dealt with the awarding of interest by selecting, through a choice-of-law analysis, the law of a particular country and then applying that law.\textsuperscript{7} By contrast, other arbitrators have discarded the choice-of-law approach in favor of general principles of international law.\textsuperscript{8} Still other arbitrators have awarded interest based upon what they, independently, considered fair and reasonable under the circumstances.\textsuperscript{9} In light of these approaches, it is not surprising that interest awards have varied greatly. Moreover, there has been little agreement among arbitral tribunals on the circumstances warranting the payment of interest,\textsuperscript{10} and the rates at which interest has been awarded have ranged from 3 to 20 percent.\textsuperscript{11}

This article examines the practice of awarding compensatory interest in international commercial arbitration. Part I reviews the circumstances under which interest may be awarded under the laws of various countries in Europe, Asia, North and South America, and the Middle East. It finds a clear consensus that it is appropriate to award interest and that interest ordinarily accrues from the date of default, but no such unanimity regarding the rate at which interest should be awarded. Part II examines how these laws have been applied, misapplied or not applied by arbitral tribunals and rejects as inadequate the various approaches used by arbitrators in awarding interest. Finally, part III attempts to bring much-needed uniformity to the area by proposing a new model for resolving interest claims. The model rests on the rebuttable presumptions that (1) if the contract contains a provision concerning the payment of interest or designates a law to be applied to the dispute, the interest claim should be resolved in accordance with that clause; and (2) if the contract is silent or ambiguous on how the claim should be decided, interest should be awarded from the date of default, should accrue at the same rate as that of a commonly used savings vehicle in the country of the currency in which payment is to be made, and should be compounded quarterly. This model enables parties to predict the precise amount of interest that will be awarded. It also simplifies the arbitrator's task in resolving interest claims and reduces the overall cost of the arbitration process.

I. OVERVIEW OF THE PRACTICE

Interest is a sum paid or payable as compensation for the temporary withholding of money.\textsuperscript{12} Interest dates to Roman law, where it was a sum "due from a debtor who delayed or defaulted in repayment of a loan. The measure of the [amount] due for the default or delay was . . . the difference between the [claimant's] current position and what it would have been had the loan been timely and fully repaid."\textsuperscript{13} Today, interest is a standard form of compensation for the loss of the use of money.\textsuperscript{14} Ordinarily, it is

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\textsuperscript{4} Compare Grove-Skanska v. Lockheed Aircraft Int'l AC, Award No. 3903 (ICC 1981), summarised in pertinent part in Branson & Wallace, supra note 5, at 983 (refusing to apply New York statutes regarding interest even though the parties explicitly stated that New York law would govern all contract disputes) with Final Award No. 5946 (ICC 1990), reprinted in 16 Y.B. COM. ARB. 97 (1991) (holding that the parties' disputes concerning interest would be resolved under the New York statutes as provided in the agreement).

\textsuperscript{5} See McCollough & Co. v. Ministry of Post, Tel. & Tel., 11 Iran-U.S. Cl. Trib. Rep. 3, 28 n.21 (1986) (citing cases); 3 Marjorie M. Whiteman, DAMAGES IN INTERNATIONAL LAW 1924, 1975–86 (1953) (discussing cases); Jackson H.Ralston, THE LAW AND PROCEDURE OF INTERNATIONAL TRIBUNALS 130 (1926) (discussing cases).


\textsuperscript{8} See Dan B. Dobbs, HANDBOOK ON THE LAW OF REMEDIES §3.3, at 164 (1973); Charles McCormick, DAMAGES §50, at 205 (1935).
recoverable without proof of actual loss; damages are presumed because the delay in payment deprives the claimant of the ability to invest the sum owed.\textsuperscript{15} The rationale for this practice was articulated by the United States Supreme Court in 1896:

It is a dictate of natural justice, and the law of every civilized country, that a man is bound in equity, not only to perform his engagements, but also to repair all the damages that accrue naturally from their breach. . . . Every one who contracts to pay money on a certain day knows that, if he fails to fulfill his contract, he must pay the established rate of interest as damages for his non-performance. Hence it may correctly be said that such is the implied contract of the parties.\textsuperscript{16}

Most countries, either by statute or judicial decision, provide for the awarding of compensatory interest when a debtor has defaulted on a money payment. A few countries have laws that prohibit the payment of interest, primarily because it is inconsistent with their religious beliefs. Even in some of these countries, however, exceptions allow interest in certain commercial transactions.

Europe

The practice of awarding interest as an element of damages is well established among the countries in Europe.\textsuperscript{17} The authority to award interest, however, depends on whether the country follows a civil law or a common law system.

**Civil law system.** In civil law countries, such as France, Switzerland, Germany and Italy, an arbitrator has the obligation, not merely the discretion, to award interest when the claim involves the payment of a certain sum of money and the claimant has taken the proper steps to place the debtor in default.\textsuperscript{18}

In many civil law countries, a debtor does not default simply by failing to perform its obligations by the date specified in the contract. For a claimant to receive interest, the debtor must be given some notice of default.\textsuperscript{19} Otherwise, the debtor is free to assume that either the claimant is suffering no injury as a result of the delay or the claimant has implicitly given permission for the debtor to delay performance.\textsuperscript{20}

\textsuperscript{15} See McCollough, 11 Iran-U.S. Cl. Trib. Rep. at 29. However, for interest to accrue, the amount in dispute generally must be liquidated or capable of being ascertained through computation of the data presented. See Whiteman, supra note 11, at 1991–92; McCormick, supra note 14, §§54, at 213–16.

\textsuperscript{16} Spalding v. Mason, 161 U.S. 575, 596 (1896) (quoting Curtis v. Innerarity, 47 U.S. (6 How.) 146, 154 (1848)). In some cases, the award of interest has been justified on the grounds that the claimant was forced "to borrow money to finance its current expenses on wages, operating and administrative costs or [to] use its own cash and incur an opportunity cost." Award of January 30, 1984, reprinted in 10 Y.B. COM. ARB. 39, 41 (1985). Another explanation for allowing interest is that "the running of interest from the date of injury offers an inducement to the [debtor] to make prompt settlement of legitimate claims or to comply speedily with any award." Louis B. Sohn & Richard R. Baxter, CONVENTION ON THE INTERNATIONAL RESPONSIBILITY OF STATES FOR INJURIES TO ALIENS, DRAFT NO. 12 WITH EXPLICATORY NOTES, §83(I) Explanatory Note, at 242 (1961).


\textsuperscript{19} In France, for example, a claimant places a debtor in default by issuing a formal demand for payment, or mise en demeure. See John C. Reitz, The Mysteries of the Mise en Demeure, 63 Tul. L. Rev. 85, 87–89, 111–18 (1988).

The ways of placing the debtor in default vary widely from country to country. The commencement of a legal action is almost always sufficient to place a debtor in default. In addition, a claimant can usually place a debtor in default by making a demand for performance. This demand must state, in quantitative and qualitative terms, exactly what is being demanded of the debtor.

In France a claimant may make the demand in commercial disputes by letter, by telegram, or even verbally under certain circumstances. Similarly, in Italy and Switzerland a claimant may satisfy the notice-of-default requirement by sending a letter simply stating that payment, together with interest, is due. Generally, however, a claimant may not place the debtor in default merely by sending the debtor an invoice.

Various exceptions attach to the requirement that the claimant place the debtor in default as a prerequisite to receiving interest. The most widely recognized exception enables a claimant to recover interest without taking any action when the contract expresses an agreement between the parties that the debtor will automatically be in default if the obligation is not performed by a certain date. In addition, a demand for payment is generally unnecessary when the debtor’s unwillingness to perform has been made clear to the creditor.

In civil law countries, interest ordinarily runs from the date of default. The rate at which interest accrues, as well as the circumstances in which that rate applies, varies and is usually set by statute. In Germany, for example, the rate is 4 percent; in Switzerland and Italy, 5 percent. By contrast, the legal rate in France is set by the legislature each year and equals the discount rate of the Bank of France on December 15 of the preceding year.

The statutory rate will ordinarily not apply if the parties have previously agreed to a different rate of interest. That rate, however, is subject to the public policy against usurious interest. In addition, even when the parties have not stipulated an interest rate in the contract itself, if the claimant can prove damage because of the delay, the

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22 See BGB Art. 284 (Ger.); OR Art. 102 (Switz.).
24 See Maurice S. Amos & Frederick Walton, Introduction to French Law 183 (E. F. Lawson et al. eds., 3rd ed. 1967). Compare Award in Case No. 2637, 2 Y.B. COM. ARB. at 155 (allowing interest from the date of a “formally worded registered letter”) with Final Award No. 6531 (ICC 1991), reprinted in 17 Y.B. COM. ARB. 221, 224 (1992) (ruling that the delivery of an invoice requesting payment for goods delivered was not sufficient to meet themise en demeure requirement).
25 See C.C. Art. 1219 (Italy); Final Award No. 6230 (ICC 1990), reprinted in 17 Y.B. COM. ARB. 164, 176 (1992).
26 See, e.g., Final Award No. 6531, 17 Y.B. COM. ARB. at 224; Final Award No. 4629, 18 Y.B. COM. ARB. at 33.
27 See Amos & Walton, supra note 24, at 184.
28 See C.Civ. Art. 1139 (Fr.); see also Planud, supra note 20, at 102.
31 See BGB Art. 288 (Ger.).
32 See OR Art. 104 (Switz.); C.C. Art. 1284 (Italy).
33 If on June 15, however, the discount rate of the Bank of France differs by at least three percentage points from the December rate, the June 15 rate will remain in effect for the last six months of the year. Law No. 75-619 of July 11, 1975, Art. 2, reprinted in French Law: Constitution and Selective Legislation (George A. Bermann, Henry P. de Vries & Nina M. Galston eds., 1992).
34 See OR Art. 104 (Switz.); BGB Art. 288 (Ger.); C.C. Art. 1284 (Italy). However, in Switzerland, if the parties have agreed to a rate of interest lower than the statutory rate, the statutory rate still applies. See OR Art. 104. This interest is awarded regardless of the injury suffered by the claimant. See Bucher, supra note 23, at 115.
35 See Amos & Walton, supra note 24, at 184.
claimant may recover more than the statutory rate.\textsuperscript{36} In such cases, the claimant has usually borrowed funds because of the delay in payment and, as a result, is allowed to recover up to the full amount of its loss.\textsuperscript{37} Even where the claimant cannot prove damage because of the delay, the claimant may be able to obtain interest at a rate higher than the statutory rate by showing that, had the money owed been invested, a greater amount of interest would have been earned.\textsuperscript{38}

Common law system. The laws of England best illustrate the awarding of interest under a common law system. Of all the major industrialized countries, England gives the arbitrator the most freedom to decide whether to award interest and to determine the applicable rate.\textsuperscript{39} The power of an arbitrator to award interest derives from the Arbitration Act of 1950.\textsuperscript{40} Section 19A of the Act provides for broad discretion in awarding interest, stating that the arbitrator "may, if he thinks fit, award simple interest."\textsuperscript{41} Interest is customarily awarded under the Act whenever a claimant has been deprived of the use of money or assets, unless the parties have expressly agreed otherwise.\textsuperscript{42}

The Arbitration Act also gives an arbitrator discretion to determine the period over which interest should accrue. The only limitation is that the arbitrator must act "judicially," and not "arbitrarily."\textsuperscript{43} Generally, interest accrues from the time payment was due and should have been made.\textsuperscript{44}

Unless the parties agree otherwise, the arbitrator is free to determine the rate at which interest accrues.\textsuperscript{45} Interest is typically awarded at the prevailing "commercial rate."\textsuperscript{46} This rate is based on evidence submitted by the parties or, in some cases, on the rate that a claimant of like characteristics would have had to pay to borrow money during the period in question.\textsuperscript{47}

North and South America

Countries in North and South America generally authorize the awarding of interest to compensate a party for the loss of the use of money. For example, the commercial codes of Mexico, Panama and Brazil contain provisions directing that interest be paid when the debtor is in default on the payment of a money debt.\textsuperscript{48} Similarly, all of the Canadian provinces except Newfoundland have enacted legislation allowing the awarding of interest.\textsuperscript{49} And despite this lack of a statute, the courts of Newfoundland have

\textsuperscript{36} See BGB Art. 286(1) (Ger.); C.C. Art. 1294 (Italy); C. CIV. Art. 1153 (Fr.).
\textsuperscript{37} See Final Award Nos. 3099 and 3100 (ICC 1979), reprinted in 7 Y.B. COM. ARB. 87, 92–94 (1982).
\textsuperscript{38} See OR Art. 104 (Switz.); see also Final Award No. 6527 (ICC 1991), reprinted in 18 Y.B. COM. ARB. 44, 53 (1993).
\textsuperscript{41} Id.
\textsuperscript{43} See Hunter & Triebel, \textit{supra} note 50, at 11.
\textsuperscript{44} See Panchaud v. Pagnan, 1974 Lloyd's Rep. 395, 409.
\textsuperscript{45} See Arbitration Act, \textit{supra} note 40, §19A.
\textsuperscript{46} See Harvey McGregor, \textit{McGregor on Damages} §476, at 347 (14th ed. 1980).
\textsuperscript{47} See Hunter & Triebel, \textit{supra} note 30, at 11–12.
awarded interest in cases where there has been either an express or an implied agreement between the parties to pay interest upon default.50

Unlike most other countries, the United States has no federal statute governing the payment of compensatory interest.51 Individual states, however, have enacted laws providing for the payment of interest.52 For example, in New York a party has a statutory claim for interest when the action is for "breach of performance of a contract, or . . . depriving or otherwise interfering with title to, or possession or enjoyment of, property."53

With respect to the period for which interest is awarded, the practice in some jurisdictions in Canada and the United States is for interest in contract actions to run from the date of breach.54 By contrast, in other Canadian provinces and American states, as well as in Brazil and Panama, interest does not accrue until the debtor has received some form of notice of default.55 A few Canadian provinces and American states give the tribunal the discretion to determine the period for which interest accrues.56

The interest rate, which is typically set by statute, also varies among and within North and South American countries. In Brazil, unless otherwise agreed by the parties, interest is payable at the rate of 6 percent per annum.57 In Panama interest on commercial debts may not exceed 7 percent and interest on civil obligations may not exceed 9 percent.58 In Canada one province awards interest at a rate determined by the Registrar of the Supreme Court;59 others give the tribunal discretion to determine an appropriate rate;60 and still others award interest at the rate the claimant would have paid had it obtained a loan from a lending institution for the amount owed.61

In the United States, many states have statutes that set a fixed rate of interest. These statutory interest rates typically range from 6 to 12 percent.62 In the absence of a federal compensatory interest law, some federal courts have awarded such interest at the relevant fifty-two-week United States Treasury bill rate, which is essentially the same approach that district judges must use in awarding postjudgment interest under federal law.63

52 For a discussion of the awarding of interest in the United States, see Anthony E. Rothschild, Comment, Prejudgment Interest: Survey and Suggestion, 77 NW. U.L. REV. 192, 193 n.6 (1982); Comment, Prejudgment Interest: An Element of Damages Not to be Overlooked, 8 CUMB. L. REV. 521 (1977).
56 See R.S.A., ch. J–1, §15 (1980); Rothschild, supra note 52, at 204.
57 C.C. Art. 1063 (Braz.); see also Cod.Com. Art. 362 (Mex.).
61 This is the general rule for the courts in the western provinces, Prince Edward Island and Nova Scotia.
62 Pitch, supra note 50, at 210, 213. One commentator believes that the New Brunswick courts would also follow this practice. Id. at 213.
63 See, e.g., ALASKA STAT. §45.45.010 (1994) (10.5% interest); D.C. CODE ANN. §28-3802 (1991) (6% interest); IND. CODE ANN. §24-4.6-1-101 (West 1995) (8% interest); MASS. GEN. LAWS ANN. ch. 231, §6B (West 1995) (12% interest); N.Y. CIV. PRAC. L. & R. §5004 (9% interest) (McKinney 1992 & Supp. 1999).
64 See Blanton v. Anzalone, 813 F.2d 1574 (9th Cir. 1987); Dependahl v. Falstaff Brewing Co., 655 F.2d 1208 (8th Cir.), cert. denied, 454 U.S. 968 (1981).
Other federal courts, in setting interest rates, have looked to relevant state statutes or relied on principles of reasonableness and fairness.\textsuperscript{64}

\textbf{Asia}

Like their European and North and South American counterparts, Asian countries, such as China, Taiwan, India, Japan and the Republic of Korea, generally allow interest to be paid when a debtor defaults on a money payment.\textsuperscript{65} A default can occur if there is a set date for performance and the debtor fails to perform by that date. Even when no time is fixed for performance, a default can occur if the claimant notifies the debtor that the obligation is due and the debtor still does not perform.\textsuperscript{66}

The rate at which interest accrues is normally set by statute in Korea, Taiwan and Japan. The Republic of Korea and Taiwan have established a statutory rate of interest of 5 percent.\textsuperscript{67} In Japan the legal rate of interest is 5 percent, except in commercial contracts where it is 6 percent.\textsuperscript{68} As in many other countries, these statutory interest rates will not apply if the parties have contractually agreed to a different rate.\textsuperscript{69} In India, however, there is no statutorily prescribed interest rate. Instead, the tribunal is simply directed to award a reasonable rate of interest, unless the parties have agreed to a particular rate.\textsuperscript{70} Similarly, in China a tribunal will ordinarily award interest at the contractually agreed rate.\textsuperscript{71} In the absence of such an agreement between the parties, however, it is unclear what rate of interest would apply. Neither the Foreign Economic Law, which governs contracts between economic organizations of the People's Republic of China and foreign parties, nor the Civil Code of China prescribes a rate of interest to be paid in the event of a default or sets forth a procedure to calculate such interest.

While parties may agree to a particular rate of interest, in both Japan and Taiwan the agreed-upon rate is not enforceable if it exceeds a statutory ceiling.\textsuperscript{72} In Taiwan the contract interest rate may not exceed 20 percent.\textsuperscript{73} In Japan the agreed rate may not


\textsuperscript{67} See KOREAN CIV. C. Art. 379; ROC CIV. C. Art. 203.

\textsuperscript{68} See 3 DOING BUSINESS IN JAPAN 118 (Zenitaro Kitagawa ed., 1992).

\textsuperscript{69} Id.

\textsuperscript{70} However, the rate of interest set by a tribunal may not exceed the maximum rates issued to banking companies by the Reserve Bank of India. See Interest Act, supra note 65.

\textsuperscript{71} PRC Foreign Econ. Law, Art. 23; PRC CIV. C. Art. 112.

\textsuperscript{72} DOING BUSINESS IN JAPAN, supra note 68, at 118; see ROC CIV. C. Art. 205.

\textsuperscript{73} See ROC CIV. C. Art. 205. Any amount over 20% would be considered usurious and, therefore, would be prohibited.
exceed the maximum rate established by the Interest Rate Restriction Act. Both countries, however, permit the awarding of compound interest in certain circumstances. In Japan compound interest is allowed in cases where the interest has been due for over a year. Compound interest is permitted in Taiwan only when the contract contains a provision for the payment of such interest and the amount has been in arrears for over one year.

Islamic Countries

Several countries do not allow interest as part of an arbitral award. Most of these countries are in the Middle East and Africa, and have legal systems based on Shari'a (Islamic law). The Shari'a is based on the teachings of the Koran, Islam's holy book, which expressly prohibits the taking of interest, or riba. The rationale for prohibiting the payment of interest is threefold:

1. Interest or usury reinforces the tendency for wealth to accumulate in the hands of a few, and thereby diminishes man's concern for his fellow man.

2. Islam does not allow gain from financial activity unless the beneficiary is also subject to the risk of potential loss; the legal guarantee of at least nominal interest would be viewed as guaranteed gain.

3. Islam regards the accumulation of wealth through interest as selfish compared with accumulation through hard work and personal activity.

Some Islamic countries, such as Egypt, have moved away from Shari'a toward more Western-style legal systems. In these countries, either the payment of interest is expressly permitted in certain circumstances or a similar fee is allowed as a "service" or as "adminis-

See Doing Business in Japan, supra note 68, at 118. The maximum allowable interest rate varies according to the amount of money involved. Id.

See Minpi Art. 405 (Japan); ROC CIV. C. Art. 207.

See Minpio Art. 405 (Japan).

See ROC CIV. C. Art. 207.

See Samir Saleh, The Recognition and Enforcement of Foreign Arbitral Awards in the States of the Arab Middle East, in Contemporary Problems in International Arbitration 540, 548-49 (Julian D. M. Lew ed., 1987) (noting that the prohibition of interest is strictly enforced in Saudi Arabia, Qatar, Oman and North Yemen) [hereinafter Contemporary Problems].


See Mohsin S. Khan, Islamic Interest-Free Banking: A Theoretical Analysis, 53 INT'L MONETARY FUND STAFF PAPERS 5 (1986); Talib Siraj Abdul-Shahid, Interest, Usury and the Islamic Development Bank: Alternative, Non-Interest Financing, 16 LAW & POL'Y INT'L BUS. 1095, 1100 (1984). Riba has been defined as an "unlawful gain derived from the quantitative inequality of the counter-values in any transaction purporting to effect the exchange of two or more species which belong to the same genus and are governed by the same efficient cause." Nabil A. Saleh, Unlawful Gain and Legitimate Profit in Islamic Law 16 (2d ed. 1992).

Abdus-Shahid, supra note 80, at 1102-03 (quoting Ingo Karsten, Islam and Financial Mediation, 29 INT'L MONETARY FUND STAFF PAPERS 108, 111 (1982)).


There appears to be no consensus among Muslim scholars on the scope of the prohibition on the payment of interest. Some scholars argue that only usury is strictly prohibited and, therefore, that not all interest is forbidden. See Letterman, supra note 79, at 48. The traditional view is that all interest is forbidden by the Koran. See Abdus-Shahid, supra note 80, at 1102; [Ayatollah] Ruhollah Khomenei, Tawzih Al-Masail (A Clarification of Questions) 298-99 (n.d.) (on file with author).
tractive" costs. Other countries, such as Iran, have adopted fundamentalist Islamic law, which strictly adheres to the Shari'a principles, including the prohibition against the taking of interest. Even in Iran, however, there is a limited exception to this prohibition.

Countries with Western-style legal systems. The laws concerning the awarding of interest in Egypt typify those of Islamic countries that have adopted Western-style legal systems. In Egypt awards of interest are governed by Article 226 of the Civil Code, which provides that, "[w]hen the object of an obligation is the payment of a sum of money of which the amount is known at the time when the claim is made, the debtor shall be bound, in case of delay in payment, to pay the claimant, as damages for the delay, interest . . . ."

The Code also provides that interest begins to run from the date the claim is filed, unless the parties agree otherwise or commercial usage fixes another date. Interest accrues at a rate of 4 percent in civil matters, 5 percent in commercial matters, or as agreed upon by the parties. A rate set by the parties may not exceed 7 percent and the total sum of accrued interest may not amount to more than the principal of the debt. In addition, the Code expressly forbids the awarding of compound interest. However, arbitrators are permitted to award supplemental damages in certain circumstances, such as where the claimant proves that the actual damages exceed the interest awarded because the debtor acted in bad faith.

Islamic law countries. The laws of the Islamic Republic of Iran serve as a good illustration of a Shari'a-based legal system. Whether the payment of interest is allowed is an extremely complex issue, which can best be understood by examining Iranian law both before and after the 1979 Islamic Revolution.

Prior to the revolution in Iran, its legal system was based on a Western-style codified system and, as in many other countries, interest was permitted. Under the prerevolutionary Civil Code, interest was awarded if required by law, specified in the contract, or understood by virtue of custom and usage to be included in the contract without specific reference thereto. Similarly, the Civil Procedure Act of Iran provided the courts with the authority to award interest on a judgment, debt or other claim. Specifically, Article 720 of the Civil Procedure Act stated that if there was a contractual agreement between the parties concerning the payment of damages for delay in payment, damages would be calculated either as of the date set forth in the agreement or, if no such date had been set forth, from the date of the contract. In the absence of an express agreement, damages for delay in payment could be awarded only if the other party was given notice as set forth in the Act. Otherwise, interest would be calculated from the date of the filing of the lawsuit.

The revolution restored the primacy of Islamic law in Iran. Under the 1979 Constitution of the Islamic Republic of Iran, all laws and regulations were required to be based on Islamic rules. Consequently, laws and regulations contrary to or inconsistent with Islamic principles were deemed void and unenforceable.
The Iranian Constitution provides that the charging of interest is forbidden under Islamic law and it requires the Iranian Government to "seize and return to its rightful owner wealth derived from interest." All provisions in the prerevolutionary Civil Code and Civil Procedure Act concerning interest were determined to be invalid by the religious jurists of the Guardian Council, who are responsible for implementing the constitutional principle that all laws be based on Islamic standards.

The High Judicial Council of the Islamic Republic of Iran also has ordered the courts not to issue judgments based on prerevolutionary laws that did not conform to Islamic principles. As a result, postrevolutionary Iranian courts have denied claims for the payment of interest on the ground that it is contrary to the Shari'a.

Iranian law, however, allows an important exception to the strict prohibition on interest: interest is not prohibited in connection with transactions between Iranian nationals and foreigners whose laws permit the payment of interest. This exception arose out of correspondence between the Prime Minister of the Islamic Republic and the Guardian Council, in which the Prime Minister raised the following question:

Whether the right of collection of interest and damages for delay in payment by the Iranian Government, institutions and companies from foreign governments, institutions and companies [when it has been] provided for in the contracts signed [with them] or [has been] created or [will] be created based on the said contracts—where according to research and finding of the Iranian party, the foreign parties and authorities, based on their principles of faith, do not consider receipt of these funds as being prohibited but consider them as legal and legitimate—would be against the rules and principles of the holy religion of Islam or principles of the Constitution.

The Guardian Council stated in reply:

Receiving interest and damages for delay in payment from foreign governments, institutions, companies and persons, who, according to their own principles of faith, do not consider [interest] as being prohibited, is permitted under religious [Islamic] standards; therefore claiming [and] receiving such funds is not against the Constitution, and Principles 43 and 49 of the Constitution do not apply to this instance.

It is unclear whether Iranian courts would limit the applicability of the Guardian Council's opinion to the situation specified by the Prime Minister (i.e., where interest has been sought by Iranian parties and its payment has been provided for in, or may be inferred from, the contract), or whether they would give it broad application to allow for interest to be paid to, or received from, a foreigner when the foreign party's law does not consider the awarding of interest to be prohibited. In any event, the Guardian

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*see also* Int'l. Iran Times, Aug. 27, 1982, at 1 (stating that laws considered to be contrary to the Shari'a had been repealed by Order of Ayatollah Khomeini and Circular of High Judicial Council) (on file with author).

*93* Const. Principles 43, 49 (Iran).


*95* See High Judicial Council, supra note 92; Int’l. Iran Times, supra note 92.

*96* See Chastaf-Sharaf v. Tolo-Eghbal, Chamber 39, Civil Court 1, reprinted in Official Gazette, No. 12,981, Sept. 26, 1989; Bank Keshavarzi Iran v. Birjandi, Chamber 4, Civil Court 1, reprinted in id., No. 12,958, Aug. 29, 1989.


*98* Id.

*99* Iran has routinely claimed interest in claims and counterclaims that it has filed with the Iran-U.S. Claims Tribunal. See John A. Westberg, International Transactions and Claims Involving Government Parties: Case Law of the Iran–United States Claims Tribunal 254 n.4 (1991). In addition, the Tribunal has awarded interest in contract claims brought by foreign parties against Iran. Id. at 253–64.
Council’s opinion carves out a significant exception to the general prohibition on interest under the Shari’a.

* * * *

Several principles can be drawn from the above laws. First, the prevailing practice permits an award of interest as compensation for the use or detention of money. Even some countries whose religious beliefs generally prohibit the payment of interest have allowed it in certain commercial transactions. Indeed, the practice has become so widespread that it can be said that the liability to pay interest as part of an award of damages in contract and debt claims is an accepted international legal principle. 100

Second, with respect to the period for which interest is allowed, the laws of most countries provide that interest starts to accrue from the date of default. Exactly what constitutes a “default,” however, varies from jurisdiction to jurisdiction. The consensus appears to be that, if the agreement provides that a breach of contract will occur if the debtor fails to fulfill its obligations by a certain time and the debtor does not perform by that date, then interest will automatically start to accrue. If the contract does not specify such a date, the prevailing view is that interest begins to accrue only after the claimant provides the debtor with a demand for performance.

Third, with respect to the rate at which interest accrues, the laws of most countries provide for payment at the rate set forth in the parties’ agreement. When the contract does not specify the rate, statutory provisions usually apply. Unfortunately, these statutory interest rates tend to be lower than market rates and often remain unchanged for years. Further, they vary significantly from country to country, ranging from 4 to 16 percent. 101

II. APPROACHES TO THE PROCESS OF AWARDING INTEREST

While the laws of most countries permit the payment of interest, the practice reveals no consensus on the method of awarding interest in international arbitration cases. An arbitrator evaluating an interest claim will ordinarily turn first to the agreement for guidance. In the event that the agreement contains a provision addressing the payment of interest or specifying the law that should govern the matter, the arbitrator usually resolves the interest claim accordingly. However, agreements often fail to deal with the payment of interest; they often contain no choice-of-law clause; and when they do, the provision is often ambiguous with respect to the applicable law, substantive or procedural, relating to the awarding of interest. In such circumstances, the arbitrator has a number of options. The arbitrator can select a law to resolve the interest claim by applying one of numerous choice-of-law rules. Alternatively, the arbitrator can decide the issue in accordance with general principles of international law or on the basis of fairness and reasonableness. As illustrated below, these differing approaches are sometimes difficult to apply and typically result in inconsistent or arbitrary awards.

The Agreement as the Primary Source of Authority for Interest

Arbitral tribunals will ordinarily enforce contractual provisions that address the payment of interest or that designate a national law to be applied to claims for interest. 102 This practice promotes the goals of party autonomy, respect for the intent

100 See Lillich, supra note 2, at 55.
101 Compare BGB Art. 288 (Ger.) (4% interest) with Finland Interest Act of 1982, supra note 17 (16% interest); see also text at and notes 17–85 supra.
of the parties, and predictability and certainty concerning the legal rights of the contracting parties. ¹⁰³

Nevertheless, the existence of such a contractual stipulation does not guarantee that the interest claim will be resolved in accordance with it. In Grove-Skanska v. Lockheed Aircraft International AG, for example, the contract stipulated that the laws of the state of New York should govern both the substantive and the procedural aspects of the agreement. ¹⁰⁴ The arbitrators, however, ruled that provisions of the New York Civil Practice Laws and Rules then prescribing a rate of interest in breach-of-contract actions of 6 percent per annum were inapplicable because these laws in their view pertained only to court actions, not international arbitrations. ¹⁰⁵ Relying instead on general principles of international law, the arbitrators held that the claimant was entitled to "a realistic rate of interest" on the amounts owed. ¹⁰⁶

Similarly, in CMI International, Inc. v. Ministry of Roads and Transportation, a case involving a breach-of-contract claim brought by an American contractor against Iran, Chamber Two of the Iran–United States Claims Tribunal chose to disregard a contract provision designating the laws of Idaho as governing disputes between the parties. ¹⁰⁷ The Tribunal explained that it was not bound to apply Idaho law because the Iran-US. Claims Settlement Declaration states that "all cases [shall be decided] on the basis of respect for law, applying such choice of law rules and principles of commercial and international law as the Tribunal determines to be applicable, taking into account relevant usages of the trade, contract provisions and changed circumstances." ¹⁰⁸ In ruling on the contractor's damage claim, which included a claim for compensatory interest, the Tribunal instead applied "general principles of law," based upon its "search... for justice and equity." ¹⁰⁹

In light of the foregoing, even parties who address the interest issue in their agreement or whose contract specifically designates the law to be applied to the interest claim cannot rest entirely assured that an arbitral tribunal will resolve all issues concerning the awarding of interest in accordance with the contractual provision. ¹¹⁰ The alternatives to specific contractual provisions, however, engender even less certainty.

Using Choice-of-Law Rules to Select a National Law

The method most commonly used to resolve interest claims when the contract is silent or ambiguous on the subject is for the arbitrator to select and apply a pertinent national substantive or procedural law. Unfortunately, in international arbitral proceedings, the process of ascertaining a national law to be applied to the interest claim is particularly complex. First, the arbitrator must decide on a choice-of-law rule that will in turn make possible the selection of a national law to be applied to the interest claim. The arbitrator's selection can be governed by the choice-of-law rules of (1) the seat of arbitration, (2) the arbitrator's home country, (3) the country where the award will be enforced, (4) all

¹⁰⁴ Grove-Skanska, supra note 10, at 953–57.
¹⁰⁵ Id. at 954–56.
¹⁰⁶ The arbitrators declined to award a specific rate of interest and instead gave the parties the opportunity to agree on the appropriate rate. Id. at 956–57.
¹⁰⁸ Id. at 267 (quoting Art. 5 of the Declaration).
¹⁰⁹ Id. at 268; see John R. Crook, Applicable Law in International Arbitration: The Iran-U.S. Claims Tribunal Experience, 83 AJIL 278, 287 n.38 (1989) (noting that the Tribunal's decision in CMI was not unique).
¹¹⁰ Furthermore, even if the parties specifically set forth in the contract the law or laws to be applied to substantive and procedural issues, that clause may not provide the arbitrator with sufficient guidance on the proper law to be applied to the interest claim because it may be unclear whether individual interest issues are governed by substantive or procedural laws. See text at notes 113–19 infra.
states having a connection with the parties’ dispute, (5) an international treaty, or (6) an international arbitral institution. Because there currently appears to be no consensus as to which of the above rules an arbitrator should apply in any given case, it is virtually impossible to specify which national law will be applied to resolve issues relating to the payment of interest.\textsuperscript{112}

Further complications arise when choosing a law to be applied to an interest claim. There is a lack of unanimity concerning whether procedural or substantive law governs the questions whether an arbitral tribunal has the authority to award interest, and, if so, how it determines the period over which that interest accrues and the rate of interest.\textsuperscript{113} Many countries regard the awarding of interest as substantive,\textsuperscript{114} while others deem rules concerning interest as procedural.\textsuperscript{115} And, in some countries, certain aspects of the awarding of interest are viewed as substantive, and others as procedural. In England, for example, liability to pay interest is considered substantive, but the period for which interest accrues and the rate of interest are deemed procedural.\textsuperscript{116}

Determining whether a particular law on the payment of interest is substantive or procedural can be an important step in the choice-of-law analysis because it may govern which law the arbitrator applies to resolve the claim. In many instances, the arbitrator will apply the procedural rules of the seat of the arbitration and select the substantive rules for the merits of the dispute by using one of the above approaches. Yet the very characterization of interest rules as substantive or procedural can lead to further chaos and confusion. Assume, for example, that an arbitration takes place in England and, under the choice-of-law analysis, the procedural law is English and the substantive law to be applied is German. As noted, English law considers the liability to pay interest as substantive and the period for which interest accrues and the rate of interest as procedural. By contrast, German law considers all three—the liability, period and rate—as substantive.\textsuperscript{117} Thus, in the hypothetical situation, German law will dictate only the right to receive interest, whereas the period and rate will be determined by English law, even though both are considered substantive under German law.\textsuperscript{118}

Suppose, instead, that in the hypothetical the arbitration takes place in Germany. Because the seat of the arbitration is now in Germany, that country's procedural law is applied. If English substantive law is applied, however, the arbitrator will probably classify all the interest rules as substantive and, thus, English law alone will be applied to resolve


\textsuperscript{114} Some commentators consider the liability to pay interest substantive and the rate of interest procedural. See Branson & Wallace, supra note 5, at 942. Another suggests that both issues should be considered as exclusively substantive. See Wetter, supra note 2, at 22. And another writes that "[t]he interplay between differing national laws dealing with interest, as well as national characterizations of interest rules, can be metaphysical in their complexity." See BORN, supra note 112, at 620–21.

\textsuperscript{115} Wetter, supra note 2, at 22.

\textsuperscript{116} WESTBERG, supra note 99, at 253.

\textsuperscript{117} Hunter & Triebel, supra note 30, at 19.

\textsuperscript{118} Id. at 13.
the interest claim.\textsuperscript{119} As a result, in neither case will the arbitrator apply German laws to determine the period for which interest accrues and the rate of interest.

In view of the above, it is not surprising that resolving interest claims by reference to a particular national law under a choice-of-law analysis has led to inconsistent and sometimes arbitrary awards. For example, in Final Award in Case No. 5460 of 1987, the arbitrator applied the choice-of-law rules of England, as it was the seat of arbitration.\textsuperscript{120} The arbitrator initially determined that these rules indicated that the merits of the dispute were to be decided under the law of the nation where the contract was to be performed—in this case, South Africa.\textsuperscript{121} The arbitrator then ruled, however, that under English private international law, unless the parties provided evidence to the contrary, it must be presumed that no conflict existed between South African and English law. Because the parties offered no evidence on South African law, the arbitrator held that English law would govern both substantive and procedural issues.\textsuperscript{122} But in awarding interest, the arbitrator, in total disregard of the above choice-of-law analysis, selected an 11 percent rate because this rate was customarily awarded by Austrian courts, where the award was apparently to be enforced.\textsuperscript{123}

Another perplexing result occurred in Award No. 2930.\textsuperscript{124} In that case, the arbitrators thoroughly examined the choice-of-law rules of the three countries involved (Switzerland, France and Yugoslavia), as well as several international treaties and conventions, before determining that Yugoslav law would govern the dispute.\textsuperscript{125} But when it came to awarding interest, the arbitrators ruled that it would accrue at the Swiss statutory rate of 5 percent because the agreement required payment in Swiss francs.\textsuperscript{126}

In short, using choice-of-law rules to select a national law to resolve an interest claim can often be a difficult process that leads to arbitrary and unpredictable results.

\textit{Applying General Principles of International Law}

Arbitrators can avoid some of the problems associated with selecting a national law to resolve an interest claim by awarding interest on the basis of general principles of international law.\textsuperscript{127} These principles consist of universally recognized rules that derive from national laws.\textsuperscript{128} The arbitral tribunal’s decision in \textit{Sapphire International Petroleum}

\textsuperscript{119} \textit{Id.} at 19. It should be noted that there would be a different result under the United States case of Marie v. Garrison, 13 Abb. N. Cas. 210 (N.Y. Super. Ct. 1883). There, the plaintiff brought an action for breach of an oral agreement for the sale of land and the defendant asserted that the transaction was invalid because it violated the statute of frauds. The court determined that Missouri law governed the merits of the dispute and New York law applied to procedural matters. Because the New York statute of frauds was considered substantive, the court ruled that it was inapplicable. Similarly, because Missouri deemed its statute of frauds procedural, it also could not be applied to the dispute. In the end, although the statute of frauds in either state would have nullified the oral agreement, since neither was applicable, the agreement was deemed valid. Applying the court’s ruling in Marie to the hypothetical above, the arbitrator would award interest, but neither English nor German law would control the arbitrator’s decision as to the period for which interest would be awarded or the rate at which such interest should accrue, even though both countries have statutes addressing these issues.

\textsuperscript{120} Final Award in Case No. 5460 of 1987, \textit{reprinted} in 15 Y.B. COM. ARB. 104, 106 (1988).

\textsuperscript{121} Ifd.

\textsuperscript{122} Id.

\textsuperscript{123} \textit{Id.} at 109.

\textsuperscript{124} Award No. 2930 (ICC 1982), \textit{reprinted} in 9 Y.B. COM. ARB. 105 (1984).

\textsuperscript{125} \textit{Id.} at 105-07.

\textsuperscript{126} \textit{Id.} at 108.


Ltd. v. National Iranian Oil Co. illustrates the use of general principles of international law as a comprehensive legal order.  

In Sapphire, the contract did not contain a choice-of-law clause. It provided, however, that Iranian law should not be applied to the merits of any dispute between the parties. In view of both the absence of a choice-of-law clause and the provision that Iranian law was not to govern the dispute, the arbitrators concluded that the parties had intended to have all contract claims resolved under general principles of international law. Applying these principles, the arbitrators awarded $2.6 million in damages for breach of contract. With respect to the payment of interest, the arbitrators ruled that the award "accrued interest at the usual rate of 5 percent per annum, from the date of the first step taken in the arbitration procedure."  

While using general principles of international law to resolve the dispute avoids having to grapple with the sometimes-difficult process of selecting and applying a national law, it too can be problematic. The lack of systematic reporting of arbitral decisions and of any consistency among the decisions of various arbitral tribunals can lead to arbitrary and unpredictable awards of interest. Further, it is often unclear whether a position followed by several arbitral tribunals is an internationally accepted legal principle or whether its adoption by a few tribunals is simply happenstance.  

Relying on Principles of Fairness and Reasonableness  

Some arbitral tribunals have declined to select a particular law to be applied to the interest claim, and instead based all or part of an award of interest on principles of reasonableness and fairness. This was the approach adopted by Chamber Three of the Iran-U.S. Claims Tribunal in McCollough & Co. v. Ministry of Post, Telegraph and Telephone.  

In McCollough, Chamber Three surveyed the practice of awarding interest in international arbitrations, which, it determined, revealed the following two principles: (1) interest ordinarily "is allocated on the amounts awarded as damages in order to compensate for the delay with which the payment to the successful party is made[; and (2)] interest must be reasonable." The Tribunal subsequently decided that awards of interest should be based on the principles of reasonableness and fairness, taking into account surrounding circumstances including:  

(i) any pertinent contractual stipulations (which, when they exist, are usually followed for the determination of the rates); (ii) the rules and principles of the law applicable to the contract; (iii) the nature of the facts generating the damage; (iv)
the nature or level of the compensation awarded, particularly if it extends to the
lost profit or includes a profit in the costs to be reimbursed; (v) the knowledge that
the defaulting party could have had of the financial consequences of its default for
the other party; (vi) the rates in effect on the markets concerned; and (vii) the
rates of inflation.138

This approach, the tribunal explained, provides an arbitrator with the flexibility needed
to compensate the nonbreaching party adequately in all cases.139

The "fairness" principle espoused in McCollough allows the arbitrator to tailor the
interest award to fit the circumstances of each particular case. Its disadvantage, however,
is that individual arbitrators' perceptions of what is "fair" has the potential to vary
significantly from case to case.140

* * * *

The various methods used by arbitral tribunals in awarding interest have led to inconsis-
tent and arbitrary awards. In similar cases, arbitrators have reached different conclusions
with respect to whether interest would be due for nonperformance.141 In addition, there
has been no consensus as to the time from which interest is calculated. Arbitrators have
awarded compensatory interest from, inter alia, the date of breach,142 the date when the
debtor received notification of default,143 and the date that the request for arbitration
was filed.144 Rates at which interest accrues also have varied from 3 to 20 percent.145
Furthermore, while most tribunals have awarded only simple interest,146 in some cases,
compound interest has been awarded.147

This diverse practice has created several problems. First, it has accorded different
treatment to similar parties, which undermines the legitimacy of the arbitral process.148
Second, because parties are unable to predict with any degree of certainty the outcome
of an award of interest, it has made settlement more difficult.149 Third, it has resulted
in inefficiency and increased expenses because both "the parties and arbitrators spend
considerable resources litigating and resolving interest issues in each case."150

III. A MODEL APPROACH FOR AWARDING INTEREST

The current practice of awarding interest in international commercial arbitration is
riddled with inconsistencies. A uniform approach is needed that both would be easy to
use and would balance the need for predictability and consistency at the macrolevel of

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138 Id. at 29–30.
139 Id. at 31. Applying this approach, the Tribunal awarded the claimant interest at a rate of 10%. Id. at 34.
141 See cases cited supra note 10.
142 See, e.g., Final Award (ICSID Jan. 6, 1988), reprinted in 14 Y.B. COM. ARB. 82, 90 (1989); Agip Co. v. Popular
Republic of Congo, 21 ILM 728, 739 (1982); Arbitral Award of July 23, 1981, reprinted in 8 Y.B. COM. ARB. 89,
94 (1983).
143 See, e.g., Award Nos. 2977, 2978 and 3033 (ICC 1978), reprinted in 6 Y.B. COM. ARB. 133, 139 (1981);
Libyan American Oil Co. [LIAMCO] v. Government of the Libyan Arab Republic (1977), 20 ILM 1, 82–
83 (1981).
144 See, e.g., Final Award No. 6283 (ICC 1990), reprinted in 17 Y.B. COM. ARB. 178, 185 (1992); Asian Agric.
145 See authorities cited supra note 11.
146 McCollough, 11 Iran-U.S. Cl. Trib. Rep. at 28.
147 See, e.g., Renusagar Power Co. v. General Elec. Co., Award No. 19 (High Court Bombay, Oct. 12, 1989),
148 See BORN, supra note 112, at 5–8 (discussing neutrality and predictability as essential aspects of arbitration);
see also J. Gillis Wetter, The Internationalization of International Arbritration: Looking Ahead to the Next Ten Years, 11
Arb. Int'l 117, 122 (1995) (noting that the process of determining whether interest rules are governed by
substantive or procedural laws has at times led to serious mistakes).
149 Branson & Wallace, supra note 5, at 921.
150 Id. at 919.
arbitration with the need for flexibility to account for the attributes of each case at the microlevel of arbitration. A simple two-step approach for resolving interest claims would accomplish these goals. In the first step, the arbitrator would determine whether the parties expressly included in their contract a provision concerning the payment of interest or specifying the law applicable to the merits of the case. If they did either one, the arbitrator should resolve all issues relating to interest in accordance with the parties’ specification. If the contract is silent on the payment of interest, fails to designate the law to be applied to the merits of the dispute, or is ambiguous on the matter, then the arbitrator should proceed to step two. In this step, the arbitrator would resolve the interest claim on the basis of the following presumptions: (1) the debtor is liable for the payment of interest; (2) interest runs from the date of default; and (3) interest accrues at a rate corresponding to that of a commonly used savings vehicle in the country of the currency in which payment is to be made and it is compounded quarterly.

This model is designed to be used by arbitrators in resolving compensatory interest claims. The same result could be achieved by inserting into the Model Law on International Commercial Arbitration of the United Nations Commission on International Trade Law (UNCITRAL) the following provision:

The parties are free to agree on the payment of compensatory interest or the rules of law applicable to a claim for such interest. Failing any such designation by the parties, the arbitral tribunal shall presume that any award of monetary damages shall include interest from the date of default to the date when the award is paid in full. The date of default shall be presumed to be the date on which the parties agreed in writing that the debtor would be in breach if its contractual obligations were not fulfilled. If the parties failed to designate such a date in writing, the date of default shall be presumed to be the date the debtor receives notice of default or the date of the filing of the request for arbitration, whichever occurs first. The arbitral tribunal shall presume that interest accrues at a rate corresponding to that of a savings vehicle commonly used in the country of the currency in which payment is to be made and that it is to be compounded quarterly.

When the Agreement Addresses the Payment of Interest

The model recognizes that the agreement between the parties is the primary source for resolving issues concerning the payment of interest. Thus, if the contract provides for the payment of interest or the applicable law, the arbitrator should resolve the interest claim in accordance with the agreement. This has been the general practice of arbitral tribunals. Further, it is consistent with the rules of most international arbitral institutions.

Using the agreement as the primary authority for resolving an interest claim gives effect to the intent of the parties and furthers one of the fundamental characteristics of international commercial arbitration—the parties’ freedom to agree upon the rules that will govern the resolution of their dispute. It also encourages parties to predetermine the consequences of a breach of the agreement and facilitates settlements by enabling the parties to forecast accurately the amount of interest that an arbitrator would award. Further, if arbitration should be necessary, it eliminates the need to engage in the often

152 See Final Award No. 6162 (ICC 1990), reprinted in 17 Y.B. COM. ARB. 153, 162 (1992); Final Award No. 5485 (ICC 1987), reprinted in 14 Y.B. COM. ARB. 156, 158 (1989); see also cases cited supra note 102.
154 See Croff, supra note 111, at 629; Danilowicz, supra note 111, at 236–37.
lengthy and complex process of determining which national law should be applied to the interest claim and thereby reduces the cost of the proceedings.

While the arbitrator should strive to give the agreement of the parties the greatest possible effect, such deference should not be absolute. Nor could it be. It is well settled, for example, that an arbitrator is not bound by the parties’ agreement where there exists a compelling reason to disregard the contractual provision. This exception, however, is narrowly limited to those situations where upholding the provision of the parties would violate some fundamental public policy, be clearly against the parties’ true intentions, or manifest extreme prejudice or injustice to one party.

When the Contract Fails to Provide for Interest

The majority of the problems with respect to the awarding of interest arise not because the arbitrator disregards an applicable provision of the contract, but because the contract is silent on the payment of interest and the law to be applied to the merits of the dispute, or is ambiguous about resolving the interest claim. In such situations, the model resolves the claim by presuming that interest should be awarded from the date of default, should accrue at an accepted and commonly used savings rate, and should be compounded quarterly.

Presuming the debtor’s liability for the payment of interest. The model provides that, unless the parties have otherwise agreed, the arbitral tribunal shall presume that any award of monetary damages shall include interest. This presumption is based on the general principle that interest is an element of damages, awarded to ensure that an injured party is fully compensated for the loss of the use of money ‘‘during that period within which the payment thereof continued to be withheld.’’

Holding a debtor liable for interest as part of a damages award accords with the general practice of international arbitral tribunals and with the laws of most countries. In addition, the payment of compensatory interest in transnational commercial disputes has become so universally accepted that it may be viewed as a proper custom and trade usage of international commerce. As a general principle of international law, it is arguable that the liability to pay interest as an element of damages may be deemed incorporated into the parties’ agreement by implication, applied where governing law is difficult to determine, or taken into account when evaluating an interest claim. Indeed, the ICC Rules, the UNCITRAL Arbitration Rules, and the AAA International Arbitration Rules expressly provide that arbitrators must consider custom and trade usage in determining the award. Accordingly, there is an adequate legal basis for the arbitrators to presume that a party is entitled to interest as an element of damages when the parties’ agreement fails to address the issue or is ambiguous on how the interest claim is to be resolved.

156 See Partial Award No. 3267 (ICC 1979), reprinted in 7 Y.B. COM. ARB. 96, 105 (1982).
157 See R.J. Reynolds Tobacco Co. v. Iran, 7 Iran-U.S. Cl. Trib. Rep. 181, 192 (1984); WHITEMAN, supra note 11, at 1981, 1990. Cf. BORN, supra note 112, at 121 (discussing limitations on the enforceability of choice-of-law agreements). In such situations, the arbitrator may resolve the interest claim in accordance with step two of the model or, if an award of interest is inappropriate (e.g., because it violates public policy), the arbitrator can simply deny the claim for interest.
160 See Lillich, supra note 2, at 55.
161 See Andreas F. Lowenfeld, Lex Mercatoria: An Arbitrator’s View, 6 ARB. INT’L 133, 145 (1990); CRAIG, PARKER & PAULSSON, supra note 111, at 615–19.
162 See ICC Rules, supra note 158, Art. 13(5); UNCITRAL Arbitration Rules, supra note 158, Art. 31(3); AAA International Rules, supra note 158, Art. 29(2); accord UNCITRAL Model Law on International Commercial Arbitration, 24 ILM 1302 (1985), Art. 28(4).
The model recognizes that it may not be appropriate to award interest in every case. Arbitrators should be able to disregard the presumption of interest where a compelling reason exists. For example, an arbitrator would not be bound to award interest if it would result in a manifest injustice, be otherwise unconscionable or violate public policy. In addition, the presumption of interest would not apply if the debtor offered sufficient proof of laches, bad faith, duress or fraud on the part of the claimant. These are well-recognized exceptions to the general rule requiring interest as part of a damages award, and the model gives an arbitrator the flexibility to take these and other circumstances into account in evaluating an interest claim.

**Awarding interest from the date of default.** With respect to the time from which interest begins to accrue, the model presumes that it will be awarded from the date of default. Like the presumption that an award of damages shall include interest, presuming that interest runs from the time of default is based on the goal of placing the claimant in the position it would have occupied had the breach not occurred, by compensating the claimant for its loss of the use of the money.

Precisely what constitutes a "default" has in the past been a matter of controversy. Some arbitrators have held that a default occurs on the date the contract is breached or the property is taken. This view is based on the rationale that the loss begins at the moment the deprivation occurs, and that if the claimant is to be fully compensated for its loss, interest must be awarded from that point in time. By contrast, other arbitrators have held that a default occurs only after the debtor has been given notice that a claim exists or a demand for payment has been made. The purpose of a notice requirement is to hold a party liable only for a delay in performance when liability is known. Without notice of liability, and therefore a chance to respond, the debtor may assume that the claimant either is suffering no injury or has impliedly permitted the debtor to delay performance.

The model presumes that the date of default shall be the date on which the parties have agreed in writing that the debtor will be deemed to be in breach, without any further action on the part of the claimant, if the debtor has not fulfilled its contractual obligations. If the parties have failed to designate such a date in writing, the arbitrator shall presume that the default occurred on (1) the date the debtor received notice of default, or (2) the date of the filing of the request for arbitration, whichever occurred first. This approach is consistent with most municipal laws on the payment of interest. It adequately compensates the claimant where the liability to pay interest is explicit; and

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162 See Whiteman, supra note 11, at 1981, 1990 (discussing cases).
163 See Christine D. Gray, Judicial Remedies in International Law 30 (1987) (discussing circumstances where it would not be appropriate to award interest). Cf. Malkin v. Wright, 407 N.Y.S.2d 36, 38 (1978) (stating that in a bifurcated trial, interest is to be calculated only from the judgment awarding damages and not from the date of the verdict assessing liability because the plaintiff's interlocutory appeal delayed the assessment of damages); National Bank of Can. v. Artex Indus. Inc., 627 F.Supp. 610, 616 (S.D.N.Y. 1986) (denying prejudgment interest because the plaintiff's error necessitated litigation and it would be unfair to charge the defendant for the lost interest).
164 It is generally accepted that interest accrues up to the date of payment. See, e.g., Final Award No. 6527 (ICC 1991), reprinted in 18 Y.B. COM. ARB. 44, 53 (1993); Final Award No. 6281 (ICC 1989), reprinted in 15 Y.B. COM. ARB. 96, 100–01 (1990).
165 See Antoine Biloue & Marine Drive Complex Ltd. v. Ghana Investments Centre & Government of Ghana (Awards of 1989 and 1990), reprinted in 19 Y.B. COM. ARB. 11, 31 (1994); see also Lillich, supra note 2, at 55.
169 See supra note 20.
170 See supra text at notes 18–101.
where the date from which interest begins to accrue is not clearly set forth in the parties' agreement, it provides the debtor with an opportunity to resolve the matter promptly. In addition, it encourages the claimant to be diligent in resolving contract claims.

Like the presumption in favor of the payment of interest, the presumption that interest begins to run from the date of default is not absolute. If there is compelling cause, the arbitrator has the power to select a different date. For example, if there is a date in the agreement that defines when default occurs, but there is sufficient evidence that the claimant waived the default or extended the time for performance, the model allows the arbitrator to disregard the presumption and choose a different date to account for these special circumstances. Similarly, the arbitrator can alter the period for which interest accrues to preserve the parties' true intentions, protect against extreme prejudice or injustice, or abstain from violating public policy.

Determining the interest rate. The model advocates that arbitral tribunals adopt a uniform methodology for determining the rate of interest. It proposes that the arbitrator, in awarding interest, should presume that it accrues at a savings rate, or deposit rate, that is commonly used in the country of the currency in which payment is to be made, and that such interest should be compounded quarterly. The savings vehicle could be, for example, a certificate of deposit, money market account or commercial savings account. It should be accessible to the average entity in the claimant's position, and generally availed of by similarly situated entities. This limitation on the type of savings vehicle will serve the need for consistency and predictability, while eliminating the use of rates that would involve more risk or less liquidity than normally encountered by prudent investors.171

A variable or floating deposit rate has several significant advantages over other commonly used interest rates. First, allowing interest to accrue in all cases at a deposit rate commonly used in the country of the currency in which payment is to be made will bring much-needed uniformity to the practice. Statutory interest rates range from 4 to 16 percent and, as a result, their application often leads to inconsistent awards.172 Further, determining which statutory rate applies in any given case can be an extremely difficult and somewhat arbitrary process. Using the uniform methodology prescribed by the model will simplify the process and produce equitable, consistent and predictable results.173

Second, a commercial rate is more likely to compensate a claimant fully for the loss of the use of money than fixed statutory rates. A floating deposit rate has the advantage of adjusting in accordance with prevailing market conditions. As noted in part I, the purpose of awarding interest is to restore the claimant to its preinjury condition by compensating it for the opportunities lost by not being able to earn a return on the sum owed by the debtor. Awarding the claimant interest at a rate below what could have been earned by investing the funds owed in an established commercial investment obviously fails to achieve this goal.174 However, if the interest rate exceeds the prevailing market interest rate during the relevant period, the debtor will be "unduly punished,"

172 See supra note 101.
173 One arbitral tribunal has argued against using a uniform approach to awarding interest, viewing it as too rigid to compensate the claimant adequately in every case. See McCollough & Co. v. Ministry of Post, Tel. & Tel., 11 Iran-U.S. Cl. Trib. Rep. 3, 28–31 (1986). As explained above, the model, through its use of rebuttable presumptions, gives the arbitrator the flexibility needed to reach a fair and just result in each case without sacrificing the advantages of a uniform approach.
174 See Branson & Wallace, supra note 5, at 949 (citing cases). In fact, it could encourage the debtor to delay resolution of the dispute. If the rate at which interest accrues is below the prevailing market rate, the debtor in essence can use the claimant's money for less than the debtor would have to pay if it had borrowed the sum in question from an established lending institution. In this situation, there is little motivation for the debtor to resolve the dispute in a timely manner. See id.
while the claimant will receive a "windfall." The deposit rate avoids these problems because, unlike statutory rates, which are rarely amended to keep pace with fluctuations in the market, the rate adjusts periodically and therefore "reflects the economic realities of our times."

Another advantage that the model's interest rate has over fixed statutory rates is that it largely accounts for devaluation of currency. Devaluation is often a product of inflation. Commercial rates, such as the deposit rate advocated in the model, account for inflation by adjusting to economic conditions; the effects of inflation are already factored in the rate itself. Consequently, in many cases arbitrators will no longer need to engage in the difficult and complex process of supplementing a statutory rate of interest to reflect inflation so as to compensate the claimant adequately for its loss. Nor will it be necessary to make additional calculations for the devaluation of currency. Thus, not only is the use of the model's methodology for determining a rate of interest a more accurate way of compensating a party, but it simplifies the awarding of interest.

Some tribunals and commentators have argued that a borrowing rate, such as the London Interbank Offered Rate (LIBOR), would better compensate a claimant for the deprivation of capital because many companies today finance their transactions. The problem with using a borrowing rate in all cases is that the claimant may be overly compensated for the loss if it does not have to rely on third-party financing to operate. An additional problem was perceptively noted by the Tribunal in Sylvania:

[B]orrowing rates vary depending on the credit rating of each particular party, not all of whom are able to borrow at the prime rate, and some of whose credit standings may change during the relevant period. . . . [Therefore], basing a general interest rate in all Awards on the prime rate would often not be realistic.

On the basis of this reasoning, the Tribunal concluded that "[u]niformity can be accomplished by basing interest in Awards on the rate of return on certificates of deposit, which are available to all investors at substantially the same rates."

There are, of course, circumstances where an investment rate may not be the appropriate interest rate. By establishing only a presumption that interest will accrue at a deposit rate, the model enables the arbitrator to use a different interest rate to accommodate those situations. If faced with a compelling reason, the arbitrator can disregard the

175 See id.
177 Lillich, supra note 2, at 57.
178 Wetter, supra note 2, at 22–23.
179 Southern Pac. Properties Ltd. v. Egypt (ICSID 1992), reprinted in 19 Y.B. COM. ARB. 51, 87 (1994). Of course, inflation is not the only factor that affects the value of currency. The use of a floating rate in the country of the currency of payment will largely account for devaluation of that currency, if the devaluation is driven by natural market conditions, namely inflation. DAVID R. KAMERSCHEN, MONEY AND BANKING 592–97 (9th ed. 1988). The interest rate alone, however, cannot account for the artificial valuation of a currency driven by nonmarket forces, such as governmental monetary and fiscal policies.
180 At the same time, in many cases parties would not need to assert a separate claim for devaluation caused by inflation.
181 Wetter, supra note 2, at 23.
182 See Final Award No. 4629 (ICC 1989), reprinted in 18 Y.B. COM. ARB. 11, 30 (1993); Branson & Wallace, supra note 5, at 945.
183 To illustrate this point, assume a debtor defaults on a $5 million payment to claimant. Assume further that claimant can invest at the 90-day Eurodollar deposit rate and borrow money at LIBOR plus 3%. If claimant would not have to borrow additional money owing to the deprivation of capital caused by debtor, then claimant's actual loss is the 90-day Eurodollar deposit rate (i.e., a savings rate). If the presumed rate was the borrowing rate, rather than the savings rate, claimant would be overcompensated for its loss, and debtor would essentially be forced to pay a penalty, which would be contrary to general principles of contract law, equity and fairness.
185 Id.
presumed deposit rate in favor of a different rate. A compelling reason might exist, for example, where the debtor’s actions force the claimant to borrow funds to continue operations.\footnote{See, e.g., Award Nos. 3099 and 3100 (ICC 1979), \textit{reprinted} in 7 Y.B. COMM. ARB. 87, 93–94 (1982).} In this situation, the arbitrator would not be bound to apply a savings rate because it would not fully compensate the claimant for the loss. The model would enable the arbitrator to award interest instead at the claimant’s borrowing rate, which would place the claimant in the position that it would have been in absent the breach.

It should also be noted that applying a single floating market rate of interest such as LIBOR or the ninety-day Eurodollar deposit rate in all cases will not achieve the goal of compensating a claimant for its loss. Such a rate may not account for the effects of inflation in a particular country or the devaluation of a specific currency. Furthermore, an international commercial rate may not accurately reflect what the individual claimant could have earned by investing the funds owed. In some cases, for example, the interest that a party could earn by investing in a local ninety-day certificate of deposit could exceed the ninety-day Eurodollar deposit rate. Thus, using a single floating market rate may not adequately compensate the claimant in some cases and may provide a windfall in others. The model avoids this problem by advocating the use of a commercial rate in the country of the currency in which payment is to be made.\footnote{For cases where arbitrators have awarded interest at the prevailing rate in the country of the currency in which payment is to be made, see Final Award No. 6527 (ICC 1991), \textit{reprinted} in 18 Y.B. COMM. ARB. 44, 53 (1995); Award No. 2930 (ICC 1982), \textit{reprinted} in 9 Y.B. COMM. ARB. 105, 109 (1984).}

Finally, the model achieves the goal of fully compensating the claimant for the loss of the use of money owed by providing for interest to be compounded quarterly.\footnote{Alternatively, an arbitrator could choose to award interest at a rate that is compounded daily or yearly. Daily compounding requires the arbitrator and the parties to engage in cumbersome calculations, especially if interest accrues over a significant time. Yearly compounding, while easy to compute, arguably may not adequately compensate the claimant because most readily available and commonly used investment vehicles are compounded on a more frequent basis. In addition, yearly compounding may not be as responsive to fluctuations in the financial market from the devaluation of currency or inflation as rates that are compounded daily or quarterly. Calculating quarterly compound interest is not unduly burdensome, see Appendix (illustrating the calculation of compound interest), and it accurately reflects what the claimant would have earned if the money had been timely repaid and invested in a generally accepted commercial investment vehicle.} In the modern world of international commerce, almost all financing and investment vehicles involve compound, as opposed to simple, interest.\footnote{See Decision of Oct. 21, 1988, High Court of Bombay, \textit{reprinted} in 15 Y.B. COMM. ARB. 465, 488 (1990); Wetter, \textit{supra} note 2, at 22; Mann, \textit{supra} note 39, at 44.} If the claimant could have received compound interest merely by placing its money in a readily available and commonly used investment vehicle, it is neither logical nor equitable to award the claimant only simple interest. By awarding compound interest, therefore, the model avoids leaving the claimant in a much worse position than it would have been in had the money owed been timely paid.\footnote{See Decision of Oct. 21, 1988, 15 Y.B. COMM. ARB. at 488. The difference between awards of compound or simple interest could be significant. For example, $5 million invested for five years at 10% simple interest will yield approximately $7.5 million, while compounding the interest quarterly will yield approximately $8.2 million, or a difference of approximately $700,000.}

\textit{Application of the Model Approach}

Adopting the model set forth in this article would further the goals of arbitration to provide parties with a private, fair, efficient dispute-resolution forum that produces equitable and consistent interest awards. It would also provide arbitrators with a simple, straightforward and efficient approach for evaluating interest claims, which would reduce the costs of the arbitral proceedings. In addition, it would result in awards that fully compensate the claimant for the loss of the use of money while not penalizing the debtor. Moreover, it would add predictability to the arbitral process and consequently
facilitate settlements. Parties would be able to determine with a reasonable degree of certainty the outcome of a claim that could have significant monetary implications.

One other point needs to be addressed: replacing the current system with a uniform method for awarding interest will not create any barriers that would prevent the award from being recognized and enforced by the state parties to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the New York Convention). 191 Under the New York Convention, arbitral awards rendered in signatory countries are enforceable in all other signatory countries, subject to a narrow list of defenses, the most relevant of which is that an award need not be recognized and enforced if it "would be contrary to the public policy of that country." 192 In general, domestic courts have rejected claims that an award of interest is not enforceable on public policy grounds simply because the award was made under foreign law, the rate of interest exceeded municipal rates, or compound interest was awarded even though local law prohibits the payment of such interest. 193 A country adhering to Shari'a may refuse to enforce an award of interest because it violates the country's fundamental public policy against the payment of interest. 194 But this result would occur regardless of whether the arbitrators used the model or one of the current approaches to awarding interest. Furthermore, the model specifically gives the arbitrator the flexibility to refuse to award interest if it would violate a relevant country's public policy.

CONCLUSION

In a world where substantial monetary claims are being decided more and more often by international arbitral tribunals, it is important to have uniformity and predictability concerning the payment of interest. Unfortunately, there is no consensus on the method of awarding interest in international arbitrations. In resolving an interest claim, arbitrators have looked to the agreement for guidance, selected a national law to govern the issue, relied on general principles of international law, or simply based decisions on what was considered fair and reasonable under the circumstances. These approaches, at times, not only have been difficult to apply, but also have resulted in radically different treatment for similarly situated parties.

The current problems associated with the awarding of interest could be resolved by adopting the proposed model, which presumes that if the parties' agreement contains a provision concerning the payment of interest or designates a law to be applied to the dispute, the interest claim should be resolved in accordance with that clause. If the agreement is silent or ambiguous on the issue, the model states that interest should be awarded from the date of default, should accrue at an accepted and commonly used savings rate, and should be compounded quarterly. The model, grounded in both generally accepted legal principles and international finance, would provide arbitrators with a clear, simple and uniform set of guidelines to follow in evaluating interest claims, while

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192 New York Convention supra note 191, Art. V.


maintaining the flexibility needed to account for the individual attributes of any given case. It not only would bring much-needed consistency and predictability to arbitral awards of interest, but also would ultimately result in a more equitable and efficient system for resolving disputes between transnational contracting parties.

APPENDIX

Compound interest is calculated through the use of the following formula:

\[ FV = PV (1 + i)^n \]

**FV** is the future value of the total award, including interest. \( PV \) is the present value of the award (i.e., not including interest). \( i \) is the interest rate per compounding period. \( n \) is the number of compounding periods.

The model approach uses only one compounding period since the rate is adjusted quarterly. Thus, to calculate the amount of the total award, including interest, for a 90-day period, the present value of the award is multiplied by 1 plus \( \frac{i}{4} \), of the annual interest rate.

The following table illustrates the calculation of compound interest under the model approach for a $5 million award, over a period of 5 years, with the interest rate commencing at 6% and adjusting every 90 days thereafter to reflect the current rate. (Arbitrarily selected interest rates have been used for illustrative purposes.)

**Table 1**

<table>
<thead>
<tr>
<th>Period</th>
<th>Amount Owed</th>
<th>Annual Interest Rate</th>
<th>Quarterly Interest Rate</th>
<th>FV Interest Factor (1 + Quarterly Interest Rate)</th>
<th>Total Award Including Interest For 90 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day of Default</td>
<td>$5,000,000.00</td>
<td>6.00%</td>
<td>1.50%</td>
<td>1.0150</td>
<td>$5,071,875.00</td>
</tr>
<tr>
<td>90 days</td>
<td>$5,071,875.00</td>
<td>5.75%</td>
<td>1.44%</td>
<td>1.0144</td>
<td>$5,141,613.28</td>
</tr>
<tr>
<td>180 days</td>
<td>$5,141,613.28</td>
<td>5.50%</td>
<td>1.38%</td>
<td>1.0138</td>
<td>$5,212,310.46</td>
</tr>
<tr>
<td>270 days</td>
<td>$5,212,310.46</td>
<td>5.50%</td>
<td>1.38%</td>
<td>1.0138</td>
<td>$5,285,934.35</td>
</tr>
<tr>
<td>1 year</td>
<td>$5,285,934.35</td>
<td>5.65%</td>
<td>1.41%</td>
<td>1.0141</td>
<td>$5,361,258.91</td>
</tr>
<tr>
<td>1 yr 90 days</td>
<td>$5,361,258.91</td>
<td>5.70%</td>
<td>1.43%</td>
<td>1.0143</td>
<td>$5,439,667.33</td>
</tr>
<tr>
<td>1 yr 180 days</td>
<td>$5,439,667.33</td>
<td>5.85%</td>
<td>1.46%</td>
<td>1.0146</td>
<td>$5,521,262.34</td>
</tr>
<tr>
<td>1 yr 270 days</td>
<td>$5,521,262.34</td>
<td>6.00%</td>
<td>1.50%</td>
<td>1.0150</td>
<td>$5,607,552.06</td>
</tr>
<tr>
<td>2 years</td>
<td>$5,607,552.06</td>
<td>6.25%</td>
<td>1.56%</td>
<td>1.0156</td>
<td>$5,695,149.75</td>
</tr>
<tr>
<td>2 yrs 90 days</td>
<td>$5,695,149.75</td>
<td>6.25%</td>
<td>1.56%</td>
<td>1.0156</td>
<td>$5,787,695.93</td>
</tr>
<tr>
<td>2 yrs 180 days</td>
<td>$5,787,695.93</td>
<td>6.50%</td>
<td>1.63%</td>
<td>1.0163</td>
<td>$5,878,128.68</td>
</tr>
<tr>
<td>2 yrs 270 days</td>
<td>$5,878,128.68</td>
<td>6.25%</td>
<td>1.56%</td>
<td>1.0156</td>
<td>$5,977,322.10</td>
</tr>
<tr>
<td>3 years</td>
<td>$5,977,322.10</td>
<td>6.75%</td>
<td>1.69%</td>
<td>1.0169</td>
<td>$6,081,925.24</td>
</tr>
<tr>
<td>3 yrs 90 days</td>
<td>$6,081,925.24</td>
<td>7.00%</td>
<td>1.75%</td>
<td>1.0175</td>
<td>$6,188,358.93</td>
</tr>
<tr>
<td>3 yrs 180 days</td>
<td>$6,188,358.93</td>
<td>7.00%</td>
<td>1.75%</td>
<td>1.0175</td>
<td>$6,296,655.21</td>
</tr>
<tr>
<td>3 yrs 270 days</td>
<td>$6,296,655.21</td>
<td>7.00%</td>
<td>1.75%</td>
<td>1.0175</td>
<td>$6,410,782.09</td>
</tr>
<tr>
<td>4 years</td>
<td>$6,410,782.09</td>
<td>7.25%</td>
<td>1.81%</td>
<td>1.0181</td>
<td>$6,522,970.77</td>
</tr>
<tr>
<td>4 yrs 90 days</td>
<td>$6,522,970.77</td>
<td>7.00%</td>
<td>1.75%</td>
<td>1.0175</td>
<td>$6,628,969.05</td>
</tr>
<tr>
<td>4 yrs 180 days</td>
<td>$6,628,969.05</td>
<td>6.50%</td>
<td>1.63%</td>
<td>1.0163</td>
<td>$6,734,203.93</td>
</tr>
<tr>
<td>4 yrs 270 days</td>
<td>$6,734,203.93</td>
<td>6.35%</td>
<td>1.59%</td>
<td>1.0159</td>
<td>$6,839,425.87</td>
</tr>
<tr>
<td>5 years</td>
<td>$6,839,425.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Award Including Interest ................................................................. $6,839,425.87
Total Amount of Interest Awarded ................................................................. $1,839,425.87