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# The Spreading of Interest under the Actuarial Method.

Frank A. St. Claire

# THE "SPREADING OF INTEREST" UNDER THE ACTUARIAL METHOD

## FRANK A. ST. CLAIRE*

### I. INTRODUCTION

The definition of usury has changed throughout the course of history.[1] Originally, in the Middle Ages, any compensation for the use of money was usury.[2] The term usury in today's parlance means the loaning of money at an interest rate in excess of that permitted by law.[3]

For a short time Texas abolished all legislation concerning usury.[4] Since 1876, however, the regulation of usury has been mandated by the Texas Constitution.[5] The current provision of the constitution provides in part:

> The Legislature shall have authority to classify loans and lenders, license and regulate lenders, define interest and fix maximum rates of interest; provided, however, in the absence of legislation fixing maximum rates of interest all contracts for a greater rate of interest than ten per centum (10%) per annum shall be deemed usurious; provided, further, that in contracts where no rate of interest is agreed upon, the rate shall not exceed six per centum (6%) per annum.[6]

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1. *See generally* S. HOMER, A HISTORY OF INTEREST RATES (1963); J. MURRAY, THE HISTORY OF USURY (1866); J. NOONAN, THE SCHOLASTIC ANALYSIS OF USURY (1957). *See also* TEX. CONST. art. XVI, § 11, comment (Vernon 1955).

2. A return on an investment in an enterprise was permitted but only if the lender agreed to share in the business losses of the enterprise in addition to bearing the risk of the borrower's failure to repay the loan. Pearce & Williams, *Punitive Past to Current Convenience—A Study of the Texas Law of Usury,* 22 Sw. L.J. 233, 233 (1968). For a discussion of equity participation loans, see Comment, *The Application of Texas Usury Laws to Equity Participation Agreements,* 48 TEXAS L. REV. 925 (1970).

3. *See* TEX. REV. CIV. STAT. ANN. art. 5069-1.01(d) (Vernon 1971).

4. "All usury laws are abolished in this State, and the Legislature is forbidden from making laws limiting the parties to contracts in the amount of interest they may agree upon for loans of money or other property . . . . " TEX. CONST. art. XII, § 44 (1869).

5. Because of ensuing credit abuses, regulation of usury was included in the Texas Constitution of 1876 in article XVI, § 11. TEX. CONST. art. XVI, § 11, comment (Vernon 1955).

6. TEX. CONST. art. XVI, § 11. The authority of the Texas Legislature to classify loans and lenders, to define interest and to fix maximum rates of interest was granted by amend-

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Unfortunately, neither the constitution nor the statutes provide guidance concerning what charges constitute interest. Prior to the enactment of Texas Revised Civil Statute article 5069-1.07(a),[7] the statutes also provided little guidance on the method to be employed in the calculation of interest.[8] Thus, the calculation of the actual rate of interest involved in a particular transaction has been left to the courts, and their case-by-case approach to the problem has often times led to apparently conflicting results.[9] One result of the courts'

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ment of article XVI, section 11 in 1960. For the applicable statutory provisions, see TEX. REV. CIV. STAT. ANN. art. 5069-1.02, .04 (Vernon 1971). H.B. 409, effective August 27, 1979, permits an interest rate on loans for one-to-four family dwelling units not greater than the lesser of twelve per cent or the rate "equivalent to the average per annum market yields rate adjusted to constant maturities on 10-year United States Treasury notes and bonds as published by the board of governors of the Federal Reserve System for the second calendar month preceding the month in which the lender becomes legally bound to make the loans plus an additional 2% per annum rounded off to the nearest quarter of 1% per annum." 1979 Tex. Sess. Law Serv., ch. 715, § 1, at 1766 (Vernon).

The six percent limitation contained in this section of the constitution and in article 5069-1.03, which is applicable to written contracts and to open accounts, has been subject to recent litigation. *See* Houston Sash & Door Co., Inc. v. Heaner, 577 S.W.2d 217 (Tex. 1979); Watson v. Cargill, Inc., 573 S.W.2d 35 (Tex. Civ. App.—Waco 1978, no writ). *See also* 1974 Opinion Letters from the Office of Consumer Credit Commissioner to members of the Texas Retail Merchants Association. In *Houston Sash & Door* the Texas Supreme Court emphasized that the six percent limitation was subject to the usury penalties of article 5069-1.06 rather than merely establishing a rate of interest in the absence of an agreement between the parties. While not a question expressly addressed by the court or apparently raised by either party, the court may have unintentionally indicated that spreading was inapplicable by its statement that "the interest charged (twelve percent) is in excess of double the amount allowed by Article 5069-1.03; *i.e.*, in excess of twice zero." Houston Sash & Door Co., Inc. v. Heaner, 577 S.W.2d 217 (Tex. 1979). The court has by implication foreclosed the possibility that in a situation in which the interest charged is one-half percent per month over the term of the account (both before and after January 1 of the following year) the interest collected during the period prior to January 1 could be attributed to the period after January 1 in determining whether the interest charged exceeds twice the amount permitted by law. *Id.* at 221. However, the result of the court's decision in *Houston Sash & Door* would have been the same even if the concept of spreading had been applied in this manner, since the interest charged during the period after January 1 was exactly twice the maximum permitted by law and *any* additional interest in the prior period would cause the total interest during the period in question to exceed twice the amount permitted over the entire period.

7. TEX. REV. CIV. STAT. ANN. art. 5069-1.07(a) (Vernon Supp. 1978-1979). This statute will at times be referred to in this article as "article 1.07(a)."

8. The only Texas statute providing for a means of calculation appears to be TEX. REV. CIV. STAT. ANN. art. 5069-14.05 (Vernon Supp. 1978-1979), which provides for the use, *inter alia*, of the actuarial method.

9. *Compare* Imperial Corp. of America v. Frenchmen's Creek Corp., 453 F.2d 1338 (5th Cir. 1972) *and* Nevels v. Harris, 129 Tex. 190, 102 S.W.2d 1046 (1937) *with* Commerce Trust

efforts to characterize as principal or interest certain fees charged by lenders at either the commencement or the early stages of a loan is the development of the doctrine that has come to be known as the "spreading of interest."[10] To date, the extent of the applicability of this judicially developed doctrine remains unclear.[11] A determination of the applicability of spreading would be useful in resolving problems of interest computation in at least four areas of current concern:

> (i)  *Variable Interest Rate Loans.* It is common for the interest rate for certain loans, such as construction loans, to be expressed as a certain number of "points"[12] in excess of the "prime lending rate."[13] Since prime lending rates often vary from month to month,[14] a prob-

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Co. v. Ramp, 135 Tex. 84, 138 S.W.2d 531 (1940) and Southwestern Inv. Co. v. Hockley County Seed & Delinting, Inc., 511 S.W.2d 724 (Tex. Civ. App.—Amarillo), *writ ref'd n.r.e. per curiam,* 516 S.W.2d 136 (Tex. 1974). See section II of this article for a discussion of these cases.

10. "Spreading" can best be defined as a method of allocating over the life of a loan (or a portion of the loan, in the event the loan maturity is accelerated or the loan is prepaid) charges that the parties themselves have called interest or that a court would deem interest regardless of the label given the charge by the parties. Actually, the term "spreading" is misleading since interest is not spread; instead a payment is characterized as a payment of either principal or interest (or both) and then treated accordingly by the courts. *See* Nevels v. Harris, 129 Tex. 190, 198, 102 S.W.2d 1046, 1050 (1937). The first usage of the term "spreading" in an appellate decision appears to have been in Imperial Corp. of America v. Frenchman's Creek, 190, 198, 102 S.W.2d 1046, 1050 (1937). See section II at page 759 *infra.*

11. *See* Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777 (Tex. 1977).

12. A "point" as the term is used in the lending community refers either to (i) an interest percentage rate of one percent per annum (for example, "two points over prime" would mean an interest rate two percent higher than the prime lending rate), or (ii) a sum of money equal to one percent of the loan face amount (for instance, in addition to interest payable under the loan agreement, a borrower may be required to pay a front-end fee in the amount of a certain number of points as an inducement to the lender to enter into the loan transaction).

13. There is no one "prime lending rate." Since each institution typically sets its own prime rate, the prime rate is the actual base rate at which the particular institution will lend money to its largest and most creditworthy corporate clients.

14. Recently the prime rates of various banks have varied from week to week as seen in the Wall Street Journal's recent reports:

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|---|---|
| October 13, 1978 | 10% |
| October 24, 1978 | 10¼% |
| November 7, 1978 | 10¾% |
| November 14, 1978 | 11% |
| November 27, 1978 | 11½% |
| December 21, 1978 | 11¾% |
| January 31, 1979 | 11½% |

lem arises in the calculation of the "average" interest rate on such a loan over its particular term.[15]

(ii) *"Prepaid Interest."* As a means of increasing the effective yield in excess of the stated rate of interest for a particular transaction, a lender will often require that interest be paid prior to its accrual.[16] The question arises concerning the treatment of this "prepaid interest."[17]

(iii) *"Front-End Fees and Points."* More common than the lender's requirement of "prepaid interest" is the requirement that the borrower pay a certain number of points as a fee for making the loan.[18] In Texas, fees paid by the borrower[19] are to be deducted from the face

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Wall Street J. at 1, col. 2 on date indicated.

15. For example, consider a three year loan at nine percent per annum during the first two years and twelve percent during the third year. What is the "average" rate of interest over the life of the loan?

16. *See* Commerce Trust Co. v. Ramp, 135 Tex. 84, 86-87, 138 S.W.2d 531, 532-33 (1940).

17. Is "prepaid interest" really interest? Interest must accrue or accumulate before it is due. Interest is defined actuarially in terms of an accumulation function. *See* S. KELLISON, THE THEORY OF INTEREST 10 (1970). The example of a one year loan of $100 with "interest" of $9 to be "prepaid" at the beginning of the loan is instructive. From an actuarial point of view, the term "prepaid interest" is technically incorrect. The $9 actually represents the "amount of discount," and thus a reduction of the loan amount. *Id.* at 10. The "amount of discount" should not be confused with the "rate of discount," which is the ratio of the amount of discount earned during a year compared to the amount owed at the end of a year. *Id.* at 10-14. In this example the rate of discount is nine percent. The rate of interest, $i$, and the rate of discount, $d$, of a given one-year transaction are related by the formula $i = d/(1-d)$. Here $d = .09$, so $i = .09/(1-.09) = .098901$ or 9.8901%. This may be verified by viewing the above example as a $91 loan bearing interest of 9.8901% payable at the end of the year. 9.8901% $\times$ $91.00 = $9.00. While a detailed discussion of the rate of discount is beyond the scope of this article, a more exhaustive treatment may be found in Kellison's work on the theory of interest. *Id.* at 10-25.

18. *See* Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1047-48 (1937).

19. The question of whether "points" paid by a seller of property to a lender lending purchase money to a purchaser constitute interest is currently being litigated in American Sav. & Loan Ass'n v. United States, Civil No. H-77-833 (S.D. Tex., filed May 31, 1977). On November 13, 1978, the court denied summary judgment for both parties stating at p. 4-5 of its order:

> [This] court believes that the primary purpose of the Texas usury laws in question is protection of the borrower from excessive loss or detriment (rather than a prohibition against lenders from receipt of excessive gain or benefit regardless of the source). Therefore, the court finds that where such a loan discount is truly — albeit indirectly — paid by a borrower, the Texas Supreme Court would find such payment to be interest, such as where the debtor is obligated to reimburse the one making the payment or where the purchase price of property is increased above the market value to reflect the contemplated payment of a loan discount by the seller to induce the making of a loan to the buyer.

*Id.* at 4-5 (Nov. 13, 1978) (order denying motions for summary judgment).

amount of the loan and the reduced amount is treated as the true principal.[20]

(iv) *Refund of Excess Interest Collected.* Each of the above practices presumes a specified loan term. In the event the loan term is shortened,[21] the lender may find himself in the awkward position of having collected excessive interest during the term of the loan and therefore he must determine how much of the interest should be refunded.[22]

Because of the strong penalties for usury[23] and the unclear treatment of spreading in past judicial decisions, many lenders began to lobby for legislative clarification of the spreading doctrine.[24] Although the 63d Legislature's response, Senate Bill 209,[25] was vetoed by Govenor Briscoe,[26] the 64th Legislature enacted a substantially

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20. Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937); *cf.* Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 782, 787 (Tex. 1977) (rule applies only in cash loan transaction).

21. For example, consider (i) a one-year loan in which the entire year's interest is prepaid, but the mortgagee forecloses on the security for the loan after three months because of a default by the mortgagor or (ii) a loan that provides upon default for the immediate acceleration of the due dates of all future amounts called for under the terms of the loan.

22. Many loan documents in current use provide that in the event interest in excess of that permitted by law is ever collected it will automatically be credited against the unpaid principal balance or refunded to the borrower. This clause has come to be known as a "savings clause." The purpose of the clause is to prevent the loan transaction from being construed as usurious. See text accompanying note 235 *infra.*

23. Prior to the effective date of H.B. 616, August 27, 1979, the penalty for charging usurious interest is "twice the amount of interest contracted for, charged or received" plus reasonable attorneys fees. TEX. REV. CIV. STAT. ANN. art. 5069-1.06(1) (Vernon 1971). Additionally, in the event that more than double the permitted rate is charged, all principal is forfeited and the lender is subject to conviction of a misdemeanor and a fine of $1,000. *Id.* art. 5069-1.06(2). After the effective date of H.B. 616, the penalty for charging usurious interest is reduced to three times the amount by which the interest charged, contracted for, or received exceeds the maximum interest permitted by law, but in no event shall the penalty be less than the smaller of (i) $2,000 or (ii) 20% of the principal. 1979 Tex. Sess. Law Serv., ch. 281, § 1, at 604 (Vernon). The bill will be effective regarding all claims of forfeiture made after the effective date but does not apply to claims in litigation on or before the effective date of the bill. *See id.* § 2, at 605.

24. See H.B. 1161, 61st Leg. (1969), which passed the House only to fail in the Senate, and the bills discussed in text.

25. The title of the Bill was "An Act amending Chapter 1, Title 79, Revised Civil Statutes of Texas 1925, as amended, by adding a new Article 1.042, providing a general rule for determination of the rate of interest on real estate loans secured by a lien and authorizing refund or credit of excess interest charges in the event of premature termination of loans and relating to real estate loans over $500,000 secured by a lien made by individuals; providing for prospective application only of this Act; and declaring an emergency." S.B. 209, 63d Leg. (1973).

26. Proclamation of the Governor of the State of Texas, June 16, 1973, which stated in part:

similar bill,[27] House Bill 351, which is now codified as article 5069-1.07.[28] Section (b) of this statute[29] increases from ten percent to the corporate rate[30] the maximum lawful contractual interest rate "on any loan in the principal amount of $500,000 or more, which is made for the purpose of interim financing for construction on real property or financing or refinancing of improved real property."[31] Section (a) of this statute, addresses the question of spreading, and provides:

> Were the bill in an area less critical to the financial life of the state, I would be constrained to a clarification by the courts over a period of years. Senate Bill No. 209, however, deals with a subject so vital both to lending institutions and to borrowers, that I believe it is wise to await a more carefully drawn codification.

While the veto privilege can be overridden by the legislature, the fact that this bill was passed at the end of the legislative session effectively precluded any attempt to override the veto. A brief discussion of the Governor's objection to the bill can be found in Wallenstein, *Property, Annual Survey of Texas Law,* 30 Sw. L.J. 28, 43 n.119 (1976). Interestingly enough, that portion of the bill relating to the spreading of interest introduced into the 63d Legislature was substantially the same as the present article 1.07(a), and it appears that the matter has now been left to the courts for clarification.

27. No substantive changes from the spreading language of Senate Bill 209 are to be found. The new bill provided for the creation of article 5069-1.07 instead of an article 5069-1.042.

28. Tex. Rev. Civ. Stat. Ann. art. 5069-1.07 (Vernon Supp. 1978-1979).

29. *Id.* art. 5069-1.07(b).

30. *See id.* art. 1302-2.09. This article permits loans to certain corporations in excess of $5,000 to bear an interest rate of one and one-half percent per month. No court has yet explicitly stated that a rate of one and one-half percent per month is equivalent to eighteen percent per annum.

31. *Id.* art. 5069-1.07(b). Section (b) of the statute will not be analyzed in this article. Any number of unresolved problems concerning the interpretation of this section of the statute do remain, however. For example, does the wording of the statute exclude a loan commitment in excess of $500,000 if the loan commitment provides that the first advance will be less than $500,000? Is that portion of the loan proceeds allocable to the acquisition of unimproved real property includable in the dollar limitation on a loan that is made for purposes of both acquisition and construction? Furthermore if that portion is not includable, is the entire loan amount "tainted" because a single loan has been made? Or, would a court subtract the acquisition cost, assume that the acquisition portion was not loaned at a rate greater than ten percent and then compute any excess interest on the remainder of the loan amount to see if it exceeds the corporate rate? What qualifies as "improved real property?" Does the language of the statute that refers to "refinancing" limit the amount or financing to an amount not greater than the existing indebtedness on the property or to an amount not greater than the original amount of the existing indebtedness? Does the phrase "other than non-profit corporations" exclude non-profit corporations from borrowing funds at a rate greater than ten percent per annum, or is the phrase merely a continuation of the definition of the rate of interest permissible (*i.e.,* the interest rate allowed for corporations that are not non-profit)? The latter interpretation is probably the most logical interpretation of the statute. Effective August 27, 1979, a number of problems will have been solved by the passage of S.B. 10, which lowers the $500,000 amount to $250,000 and provides that the statute is not applicable to liens on land intended to be used primarily for agricultural or ranching purposes. *See* 1979 Tex. Sess. Law Serv., ch. 305, § 1, at 704 (Vernon).

On any loan or agreement to loan secured or to be secured, in whole or in part, by a lien, mortgage, security interest, or other interest in or with respect to any interest in real property, determination of the rate of interest for the purpose of determining whether the loan is usurious under all applicable Texas laws shall be made by amortizing, prorating, allocating, and spreading, in equal parts during the period of the full stated term of the loan, all interest at any time contracted for, charged, or received from the borrower in connection with the loan. However, in the event the loan is paid in full by the borrower prior to the end of the full stated term of the loan and the interest received for the actual period of the existence of the loan exceeds the maximum lawful rate, the lender contracting for, charging, or receiving all such interest shall refund to the borrower the amount of the excess or shall credit the amount of excess against amounts owing under the loan and shall not be subject to any of the penalties provided by law for contracting for, charging, or receiving interest in excess of the maximum lawful rate.[32]

Unfortunately the above-quoted language of article 1.07(a) is subject to numerous inconsistent interpretations of doubtful constitutional validity. This article will first summarize the existing case law on the spreading of interest. It will then suggest, through analysis and comparison of possible interpretations of article 1.07(a), an interpretation that, if adopted by the courts, would render the statute constitutional.

## II. THE JUDICIAL DEVELOPMENT OF "SPREADING" PRIOR TO THE APPLICABILITY OF ARTICLE 5069-1.07

In order to analyze article 1.07(a) it is necessary to understand the history of the judicial treatment of spreading. However, an exhaustive analysis of judicial decisions on the question of the spreading of interest prior to the enactment of the statute will not be attempted since that analysis can be found elsewhere.[33] Accordingly,

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32. *Id.* art. 5069-1.07(a).

33. For an excellent analysis of the judicial development of the concept of spreading, see Comment, *Usury in Texas: Spreading Interest Over the Entire Period of the Loan,* 12 Hous. L. Rev. 159 (1974). Additional analysis can be found in Comment, *Usury Implications of Front-End Interest and Interest in Advance,* 29 Sw. L.J. 748 (1975). However, the author of this article is of the opinion that the economic justifications for a distinction between "interest-in-advance" and "front-end interest" presented in the latter student work are erroneous. The term "front-end interest" is used in the comment to refer to any fee paid by the borrower which would be deemed by a court to be a portion of the "cost" of the loan to the borrower or a portion of the "yield" to the lender. The term "front-end charge" would be more

only a synopsis of past judicial decisions is presented to provide the reader with a background against which the statute can be analyzed.

The earliest judicial expression of the concept of the spreading of interest by the Texas Supreme Court was in *Mills v. Johnston,*[34] in which the court stated:

> [T]he law in deciding whether a settlement involves usury or not, will look at the whole amount of interest reserved, as distinct from such commissions as are allowable and recoverable by law, and to the whole period of forebearance extended; and if the charges, properly imputable to interest, do not exceed the highest interest allowed by law, for the whole period of forebearance, then the settlement cannot be held to be usurious.[35]

Forty-two years later the concept of spreading was used, although naively and incorrectly, by the Texas Supreme Court in the case of *Galveston & Houston Investment Co. v. Grymes.*[36] Grymes had entered into a purchase and construction contract for a lot and a house at a price of $4,215.45. The contract provided that fifty-five percent interest ($2,318.45) was to be added to this amount and that this total sum ($6,533.90) would be paid by a series of 120 notes, one note payable each month, the first in the amount of $55.49 and the remaining 119 in the amount of $54.44.[37] Because the monthly payment amount of $54.44 had been computed by dividing the total sum of $6,533.90 by 120 months, the court interpreted the intention of the parties to be that each payment represented 1/120th of the total principal ($35.12) and 1/120th of the total interest ($19.32).

The court, after calculating the average term of each of the notes to be five years and fifteen days,[38] multiplied the original purchase

appropriate since the courts do not treat these fees as interest but rather as a reduction of principal. *See* Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937). The term "interest-in-advance" is used in the comment to refer to any amount characterized by the parties as interest or any amount paid after the commencement of the loan but prior to its accrual that the court would characterize as interest. This term is also somewhat misleading. Interest does not exist until it accrues or accumulates. See note 17 *supra.* The proper economic analysis of an amount of "interest" paid prior to accrual is to consider it a payment of principal and then base subsequent calculations on the reduced principal. See text accompanying note 217 *infra.*

34. 23 Tex. 309 (1859).
35. *Id.* at 330.
36. 94 Tex. 609, 63 S.W. 860 (1901).
37. Since $6,533.90 was not evenly divisible by 120 the remainder of $1.05 was simply added to the first note due. *Id.* at 609, 63 S.W. at 860.
38. The court apparently added the terms of all 120 notes to arrive at a total of 7,260 months, which, when divided by the total number of notes (120), yields 60.5 months, or 5 years and 15 days as the average term of a note. *See id.* at 610, 63 S.W. at 861.

price of $4,215.45 by ten percent (the maximum non-usurious interest rate) and by the average term of the notes (five years and fifteen days) to arrive at a figure of $2,125.38, which was deemed by the court to be the maximum interest that could be charged on $4,215.45 for a five-year-and-fifteen-day period. Since the interest charged was $2,318.45, or $193.17 more than that permitted by the calculations of the court, the contract was held to be usurious.[39]

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39. *Id.* at 610-11, 63 S.W. at 861-62. The court's reasoning was incorrect for two separate reasons:

(1)   Interest is traditionally treated as accruing and payable on an annual basis and, if not paid annually, is added to principal to be compounded during the following year (*i.e.*, compound interest). "Compound interest is used almost exclusively for financial transactions covering a period of one year or more and is often used for shorter term transactions as well." S. KELLISON, THE THEORY OF INTEREST 8 (1970). Amortized loans providing for monthly payments are based on a schedule that is compounded monthly. The court, however, applied simple interest (interest that is never compounded even if not paid annually) for a five-year-and-fifteen-day period to arrive at the total permissible interest. If the court had compounded interest at the rate of ten percent per annum over the same period, the interest would be calculated as follows:

| Year | Principal | 10% Interest | Total Next year's Principal |
|------|-----------|--------------|-----------------------------|
| 1 | $4,215.45 | $ 421.54 | $4,637.00 |
| 2 | 4,637.00 | 463.70 | 5,100.70 |
| 3 | 5,100.70 | 510.07 | 5,610.77 |
| 4 | 5,610.77 | 561.08 | 6,171.85 |
| 5 | 6,171.85 | 617.19 | 6,789.04 |
| (15 days) | 6,789.04 | 28.29 | |
| Total Interest | | $2,601.87 | |

The validity of compounding of interest annually or after the interest has become due and payable has been recognized by Texas courts. *See* Miner v. Paris Exchange Bank, 53 Tex. 559, 561 (1880); Mills v. Johnson, 23 Tex. 309, 330 (1859); Bundrick v. First Nat'l Bank, 570 S.W.2d 12, 15 (Tex. Civ. App.—Tyler 1978, writ ref'd n.r.e.); North Tex. Bldg. & Loan Ass'n v. Moore, 82 S.W.2d 397, 401 (Tex. Civ. App.—Fort Worth 1935, writ dism'd). Thus, had the court taken annual compounding of interest into effect, in all probability the loan would not have been held to be usurious.

(2)   Each payment should first be applied to accrued interest and then to a reduction of principal, as the lender in this case had contended. The court dismissed this contention on two grounds, stating that such an application would constitute a reformation of this contract (since the written agreement of the parties evidenced an intent to allocate the payments in a different manner) and, secondly, that even if such a method were adopted, the payments would be insufficient to amortize the loan. *See* Galveston & Houston Inv. Co. v. Grymes, 94 Tex. 609, 613-14, 63 S.W. 860, 861-62 (1901). The first contention is persuasively discredited in the dissenting opinion that is discussed in the text accompanying note 116 *infra.* The second contention is clearly erroneous since a $4,215.45 loan is amortizable in 120 consecutive monthly installments of $54.44 at an annual interest rate of 9.48% as can be verified by reference to amortization tables.

Another early Texas case, *Seymour Opera-House Co. v. Thurston,*[40] also recognized the validity of spreading:

> In order to determine whether more than twelve per cent. per annum interest had been exacted, you should compute the interest on the sum of money actually paid to the Seymour Opera-House Company from the time it was loaned up to the maturity of the bond sued on, and add to it the sum actually paid. You should then add to the $4,000 bond the note for $400, and all the coupon interest notes up to the maturity of said bond, and, if the sum of said $4,000 bond and said $400 note and said coupon notes exceeds the sum actually paid to said Seymour Opera-House Company and interest thereon at twelve per cent. per annum as aforesaid, then the transaction would be illegal and usurious . . . .[41]

The suggestion of the invalidity of spreading was first raised in the case of *Shropshire v. Commerce Farm Credit Co.*[42] The loan was structured to provide for twelve percent interest during the first five years and six percent interest during the last five years through a series of notes.[43] The court of civil appeals first calculated the maximum interest that could be charged on a $4,200 loan to be $420 per annum. Since $504 was paid at the end of the first year of the loan (twelve percent of $4,200), the court treated the excess amount paid, $84, as a payment of principal. The court then based its calculation of the maximum amount of interest that could be collected during the second year on the reduced principal amount of $4,116. The same procedure of reducing the principal by the amount of the payment in excess of the accrued interest was used in the third, fourth, and fifth years.[44] At the beginning of the sixth year the

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40. 45 S.W. 815 (Tex. Civ. App. 1898, writ ref'd).

41. *Id.* at 817.

42. 266 S.W. 612 (Tex. Civ. App.—Amarillo 1924), *rev'd,* 280 S.W. 181 (Tex. Comm'n App. 1926), *superseded,* 120 Tex. 400, 30 S.W.2d 282 (1930), *cert. denied,* 284 U.S. 675 (1931).

43. In this case the borrower executed a ten-year interest-only promissory note for $4,200 with yearly interest coupons of $252 each (six percent) and also five additional notes each in the amount of $252 maturing successively one each year for the first five loan years. In this manner, the lender attempted to "squeeze" excessive interest (twelve percent per annum) into the first five years.

44. These calculations discussed in the text can be summarized as follows:

| Year | Principal | Interest at 10% | Payment | Excess | Reduced Principal |
|------|-----------|-----------------|---------|--------|-------------------|
| 1 | $4,200.00 | $420.00 | $ 504.00 | $84.00 | $4,116.00 |
| 2 | 4,116.00 | 411.60 | 504.00 | 92.40 | 4,023.60 |
| 3 | 4,023.60 | 402.36 | 504.00 | 101.64 | 3,921.96 |

principal would be reduced to $3,687.17 and simple interest at the rate of ten percent per annum on this amount for the five remaining years would be approximately $1,843.55.[45] The court then added the $2,520 paid during the first five years of the loan (5 x $504), the $3,687.17 reduced principal balance and the $1,843.55 interest for the remaining five years to reach a sum of $8,050.72 as the maximum permissible sum payable by the borrower.[46] Since the total amount paid by the borrower was only $7,980 [$4,200 + (5 x $504) + (5 x $252)],[47] the court of civil appeals held the loan to be non-usurious.[48] The commission of appeals reversed the lower court on the ground that a contract is usurious if it requires the borrower to pay interest in excess of the maximum permitted by law for *any year of the term.*[49] The supreme court *vacated* the opinion of the commission of appeals and reversed the court of civil appeals holding that a loan containing an acceleration clause[50] that permitted more than ten percent interest per annum to be paid on the occurrence of a default by the borrower was usurious. The supreme court, however, failed to determine whether a contract would be usurious simply

| | | | | | |
|---|---|---|---|---|---|
| 4 | 3,921.96 | 392.20 | 504.00 | 111.80 | 3,810.16 |
| 5 | 3,810.16 | 381.01 | 504.00 | 122.99 | 3,687.17 |
| Totals | | | $2,520.00 | $512.83 | |

45. 5 x 10% x $3,687.17 = $1,843.55.

46. The total permissible amount of payments would be calculated as follows:

| | |
|---|---|
| Payments year 1-5; 5 x $504.00 = | $2,520.00 |
| Interest at 10% per annum years 6-10: = | 1,843.55 |
| Final Principal Payment = | 3,687.17 |
| Total Permissible Payments = | $8,050.72 |

47. The total of the actual payments would be calculated as follows:

| | | | |
|---|---|---|---|
| Payments years 1-5: | 5 x $504.00 | = | $2,520.00 |
| Payments years 6-10: | 5 x $252.00 | = | 1,260.00 |
| Repayment of Principal | | = | 4,200.00. |
| Total Actual Payments | | = | $7,980.00 |

48. Shropshire v. Commerce Farm Credit Co., 266 S.W. 612, 617, *rev'd,* 280 S.W. 181 (Tex. Comm'n App. 1926), *superseded,* 120 Tex. 400, 30 S.W.2d 282 (1930), *cert. denied,* 284 U.S. 675 (1931).

49. Shropshire v. Commerce Farm Credit Co., 280 S.W. 181, 182 (Tex. Comm'n App. 1926), *superseded,* 120 Tex. 400, 30 S.W.2d 282 (1930), *cert. denied,* 284 U.S. 675 (1931).

50. An acceleration clause is a clause allowing a lender to "accelerate" the maturity date of all future payments of a loan upon the borrower's default.

because excessive interest was charged during the early years of a loan.[51]

*Dallas Trust & Savings Bank v. Brashear*[52] did little to clarify matters. In a transaction similar to *Shropshire,* but without specific reference to the presence of an acceleration clause (the apparent basis for the *Shropshire* decision), the commission of appeals held this transaction to be usurious[53] stating that interest in excess of ten percent per annum was paid during the early part of the loan.[54] Subsequent decisions are divided on whether the basis of the *Brashear* decision hinged upon the presence of an acceleration clause that would have allowed the collection of interest in excess of ten percent per annum upon the occurrence of a default by the borrower or whether the basis of the decision hinged upon whether more than ten percent per annum interest was actually collected.[55]

Two years after *Brashear,* the commission of appeals in *Adleson v. B.F. Dittmar Co.*[56] extended the concept of spreading to front-end charges in a loan that was self-amortizing.[57] The borrower executed a promissory note for $6,000 to be paid in sixty monthly installments of principal and interest, each installment in the amount of $126. Based upon evidence presented the court found the interest rate to be 9.48% per annum.[58] As a condition of the loan, however, the borrower was required to pay to the lender's agent an alleged "commission" of $240. The court deducted this front-end charge of $240 from the stated loan amount to arrive at the true principal

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51. Shropshire v. Commerce Farm Credit Co., 120 Tex. 400, 412, 39 S.W.2d 11, 14 (on motion for rehearing), *cert. denied,* 284 U.S. 675 (1931). For an excellent and extensive discussion of this case, see Comment, *Usury in Texas: Spreading Interest Over the Entire Period of the Loan,* 12 Hous. L. Rev. 159, 163-67 (1974).

52. 65 S.W.2d 288 (Tex. Comm'n App. 1933, judgmt adopted).

53. *Id.* at 290.

54. *Id.* at 292.

55. *Compare* Lincoln Nat'l Life Ins. Co. v. Anderson, 124 Tex. 556, 560, 81 S.W.2d 1112, 1113 (1935) *and* Federal Mortgage Co. v. Hawkins, 95 S.W.2d 744, 748 (Tex. Civ. App.—Fort Worth 1936), *rev'd on other grounds,* 131 Tex. 56, 111 S.W.2d 1062 (1938) *with* Robertson v. Connecticut Gen. Life Ins. Co., 140 S.W.2d 936, 939 (Tex. Civ. App.—Waco 1940, no writ) *and* Travelers Ins. Co. v. Stiles, 110 S.W.2d 985, 992 (Tex. Civ. App.—Fort Worth 1937, writ dism'd).

56. 124 Tex. 564, 80 S.W.2d 939 (1935).

57. A self-amortizing loan consists of a series of equal payments (usually paid monthly) each of which is composed of accrued interest as of the date of payment plus a portion of the unpaid principal. The amount of the payments is sufficient so that at the end of the loan term the accrued interest and all of the principal have been repaid.

58. Adleson v. B.F. Dittmar Co., 124 Tex. 564, 566, 80 S.W.2d 939, 940 (1935). Sixty monthly payments of $125.95 amortize a $6,000 loan at an interest rate of 9.48% per annum.

"SPREADING OF INTEREST"

amount of the loan, $5,760.[59] The court then found the true rate of interest based upon a principal amount of $5,760 to be 11.268% per annum.[60]

In *Nevels v. Harris*[61] the Texas Supreme Court gave its sanction to the approach used in *Brashear*. The borrower had executed a note in the principal sum of $6,400 due in five years with interest payable annually in the amount of $512 (eight percent of the face amount of the note). Because the lender deducted $320 for making the loan, the court held that the true principal actually received by the borrower was $6,080.[62] The court then computed that the maximum lawful interest that could be collected on $6,080 at ten percent for five years was $3,040. This amount added to the repayment of principal of $6,080 would call for a total repayment of $9,120, the maximum that the borrower could legally repay. The court then compared this amount to the amount actually to be paid by the borrower, $8,960,[63] and concluded that the loan was not usurious.[64]

Three years after *Nevels*, however, in *Commerce Trust Co. v. Ramp*[65] the commission of appeals was confronted with essentially the same fact situation as *Shropshire*. *Ramp* involved a $50,000 loan for a term of ten years evidenced by one note at six and one-half percent interest per annum and four notes (one due each year for the first four years of the loan term) that in the aggregate represented an additional two and one-half percent interest per annum

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59. *Id.* at 566, 80 S.W.2d at 940.

60. *Id.* at 566, 80 S.W.2d at 940. Sixty monthly payments of $126.01 amortize a $5,760 loan at an interest rate of 11.268% per annum. This method of analysis was then followed in Eubanks v. Simpson, 90 S.W.2d 291, 291 (Tex. Civ. App.—Amarillo 1936, writ ref'd) ($1,500 loan with front-end charge of $70, repayable in 120 self-amortizing monthly installments of $18.75 held not usurious).

61. 129 Tex. 190, 102 S.W.2d 1046 (1937). See also Imperial Corp. of America v. Frenchman's Creek Corp., 453 F.2d 1338 (5th Cir. 1972), where the Fifth Circuit held that a $67,500 "commitment fee" was actually interest and should be deducted from the stated amount of principal to arrive at the true principal received.

62. Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937). The court in its reformulation of the loan as a loan for $6,080 characterized the $320 front-end charge as a reduction of principal rather than as additional interest. *But cf.* First State Bank v. Miller, 563 S.W.2d 572 (Tex. 1978). In *Miller* the supreme court erroneously treated a front-end charge as both a reduction of principal *and* interest. *Id.* at 575.

63. The $8,960 was composed of the $2,560 interest actually charged (5 x $512 per year) and the $6,400 repayment of the principal face amount. The $320 front-end charge was not an additional payment but merely a reduction of the amount advanced, but the amount was nevertheless repaid at the end of the loan term as part of the $6,400 repayment.

64. Nevels v. Harris, 129 Tex. 190, 197, 102 S.W.2d 1046, 1049 (1937).

65. 135 Tex. 84, 138 S.W.2d 531 (Tex. 1940).

for the term of the loan.[66] Without citing any authority for its conclusion, the commission held that when additional interest was "squeezed" into the early years of a loan thereby causing interest in excess of ten percent per annum to be collected during the early part of the loan, the loan was usurious.[67]

The holding of *Ramp* was apparently reaffirmed in *Southwestern Investment Co. v. Hockley County Seed & Delinting, Inc.,*[68] when the Amarillo Court of Civil Appeals held that a transaction is usurious if the payment of interest required is in excess of ten percent over any one year period. In response to a flood of amicus curiae briefs, the supreme court refused writ[69] with a per curiam "no reversible error" that expressly noted that the court was expressing no opinion on the question of the spreading of front-end charges over the life of a loan.[70]

In 1977 the Texas Supreme Court handed down its decision in *Tanner Development Co. v. Ferguson.*[71] In purchasing a tract of land, on November 8, 1973, Ferguson paid $6,000 down and executed a non-recourse "wrap-around"[72] note for $226,338.77 on which

66. The 6½% interest on the $50,000 note was broken down into ten interest coupons for $3,250 (6½% per annum) and the additional four promissory notes were in the amount of $3,125 each (4 x $3,125/10 years = 2-½%).

67. Commerce Trust Co. v. Ramp, 135 Tex. 84, 87, 138 S.W.2d 531, 533 (Tex. 1940).

68. 511 S.W.2d 724 (Tex. Civ. App.—Amarillo), *writ ref'd n.r.e. per curiam,* 516 S.W.2d 136 (Tex. 1974).

69. Southwestern Inv. Co. v. Hockley County Seed & Delinting, Inc., 516 S.W.2d 136 (Tex. 1974).

70. *Id.* at 137. One interpretation of the differing judicial treatments of spreading is based on the existence of a savings clause. In *Nevels,* in which spreading was allowed, the court distinguished *Shropshire* on the basis of the savings clause contained in the Nevels note. Nevels v. Harris, 129 Tex. 190, 197, 102 S.W.2d 1046, 1049 (1937). Both *Nevels* and *Shropshire* contained acceleration clauses but *Nevels* also contained a clause that specifically provided for cancellation of all unearned interest, if repayment were accelerated. In *Ramp,* however, the court of civil appeals had held that a review of the acceleration clause of the loan was unnecessary since the loan provided for interest in excess of ten percent being paid in any one year. Commerce Farm Credit Co. v. Ramp, 116 S.W.2d 1144, 1149 (Tex. Civ. App.—Amarillo 1938), *aff'd sub nom.,* Commerce Trust Co. v. Ramp, 135 Tex. 84, 138 S.W.2d 531 (1940). The commission failed to comment on the presence of an acceleration clause, holding the loan to be usurious because interest in excess of ten percent per annum was required by the loan during the first four years of the term of the loan. *Id.* at 87, 138 S.W.2d at 533. The Fifth Circuit in Imperial Corp. of America v. Frenchmen's Creek Corp., 453 F.2d 1338 (5th Cir. 1972), attempted to resolve this inconsistency in Texas case law on the basis of the existence of a savings clause, interpreting Texas law as permitting spreading in cases in which the documents contain a savings clause. *Id.* at 1344-45.

71. 561 S.W.2d 777 (Tex. 1977).

72. In a "wrap-around" mortgage the lender or seller issues a new mortgage to the purchaser of the property by advancing to the purchaser the difference between the principal

he immediately prepaid one year's interest in the amount of $21,506.43. Upon the purchaser's insistence,[73] the seller agreed to accept the prepaid interest in lieu of a larger down payment. The stipulated rate of interest was nine and one-half percent per annum to be paid quarterly in advance on the 20th day of January, April, July, and October of each calendar year beginning on January 20, 1974, and continuing through July 20, 1977, during which time payment on the principal was deferred. Additionally, the note provided that after July 20, 1977, no interest was to be paid until all prepaid interest was credited to the note, so that during the first year, the contract called for interest payments in excess of ten percent of the principal. The note contained a savings clause that provided that in the event of prepayment or the acceleration of maturity any interest in excess of the lawful rate would be considered as a payment of principal and so credited to the note.

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amount of the loan and the previously existing indebtedness on the property and assuming the responsibility for repayment of the previously existing indebtedness to the extent of payments received from the debt service on the "wrap-around" mortgage. Interest is charged on the full face amount of the "wrap-around" note and the "wrap-around" mortgagee in turn pays all interest on the previously existing indebtedness. Gunning, *The Wrap-Around Mortgage . . . Friend or U.F.O.?*, 2 REAL EST. REV. 35 (1972); *see* Galowitz, *How to Use Wraparound Financing*, 5 REAL EST. L.J. 107 (1976); Hershman, *Usury and a "New Look" in Real Estate Financing*, 4 REAL PROP., PROB. & TR. J. 315, 323-24 (1969); Note, *Wrap-Around Financing: A Technique for Skirting the Usury Laws?*, 1972 DUKE L.J. 785, 787. Interestingly, *Tanner* appears to be the first case involving a wrap-around mortgage in which a Texas court has been called upon to determine the true principal amount of the loan. While the supreme court indicated that in a seller-financed situation in which the purchaser receives the "full benefit" of the land the true principal is the face amount of the loan, the opinion indirectly indicates that if the wrap-around financing had been supplied by a third party lender, the loan would have been usurious since under *Nevels*, the true principal would be the actual amount advanced (*i.e.*, the difference between the face amount of the note and the unpaid balance of the underlying notes). Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 782, 786 (Tex. 1977). *See generally* Valachi, *Calculating True Yields on Wraparounds*, 6 REAL EST. REV. 92 (1977); Note, *Wrap Around Financing: A Technique for Skirting the Usury Laws?*, 1972 DUKE L.J. 785. It remains a question whether the same result would be reached under article 5069-1.07(b) if the actual amount advanced is $400,000 but a wrap-around note for $1,000,000 is executed upon the lender's agreement to satisfy the payment of the existing indebtedness in the unpaid principal amount of $600,000. It is arguable that from the borrower's perspective, he had in essence refinanced the property in an amount exceeding $500,000, and that whether the lender paid off the existing indebtedness at the time of consummation of the loan or merely continued making the debt service payments on the underlying indebtedness should be irrelevant to the borrower since the lender is now responsible for satisfaction of the underlying indebtedness. Unfortunately, the *Tanner* decision indicates that the statute may not eventually be interpreted in this manner.

73. The purchaser's investors wished to obtain immediate tax deductions for prepaid interest. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 780 (Tex. 1977).

The court of civil appeals,[74] after a lengthly analysis of Texas case law, cited *Nevels* as support for spreading and, in following the *Nevels* approach, deducted the prepaid interest from the total principal in order to arrive at the amount of money on which Tanner was due interest ($204,881.84). But in determining the interest payable over the term of the note, the court included the $21,506.93 prepayment that it had also deducted from the principal.[75] By misapplying the *Nevels* approach in this manner, the court concluded that the interest, even when spread over the five-year period, caused the contract to be usurious.

The supreme court reversed the court of civil appeals, holding that it was error to count the prepayment as both principal and interest. The supreme court treated the prepayment as interest rather than as a reduction of principal.[76] While apparently approving of *Nevels* to the point of overruling *Ramp* and *Hockley* to the extent that they were in conflict,[77] the court did not apply *Nevels* but

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74. Ferguson v. Tanner Dev. Co., 541 S.W.2d 483 (Tex. Civ. App.—Houston [1st Dist.] 1976), *rev'd*, 561 S.W.2d 777 (Tex. 1977).

75. *Id.* at 490-91. According to the terms of the loan, the court first calculated the total of all interest that was to be paid over the life of the loan and found this amount to be $106,520.46, which included the $21,506.93 "prepaid interest" paid on the closing of the transaction. The court then proceeded to treat this $21,506.93 also as a reduction of principal to arrive at a "true principal" of $204,881.84. Based upon this reduced principal, the court calculated that only $101,442.67 interest at ten percent could be collected over the life of the loan, and since more than this amount was contracted for, the loan was usurious. In reaching this conclusion, however, the court of civil appeals erroneously interpreted *Nevels*. In *Nevels*, although the front-end charge was deducted from the principal amount, the interest was not included in the total amount of interest in the first year. In *Nevels* the face amount of the loan was $6,400, from which $320 (the "front-end charge") was deducted to arrive at the sum of $6,080 as the amount actually loaned. The court determined that the maximum interest allowable on the $6,080 would be $3,040 for five years for a total of $9,120 as the maximum that could be repaid. The court then added the $2,560 interest actually charged to the $6,400 (this is composed of the true principal of $6,080 plus an additional interest charge of $320 which results from the repayment of the stated principal which was $320 greater than the actual principal advanced) to arrive at a total of $8,960. The $2,560 constituted the eight percent interest per annum ($512 interest for each five years) and did *not* include the $320 prepaid interest. If the $320 in *Nevels* had been included as interest, as the court of civil appeals tried to do in *Tanner*, the loan would have been usurious. The total amount paid by the borrower would have been $9,280—clearly exceeding the maximum amount allowable ($9,120) based on the $6,080 "actually loaned." The treatment of a front-end charge both as interest and as a reduction of principal has sometimes been referred to as the "double dip" theory. The Texas Supreme Court a year later used the "double dip" theory in First State Bank v. Miller, 563 S.W.2d 572, 575 (Tex. 1978). For an example in another jurisdiction of the use of this "double dip" theory, see Otis v. I. Eisner Co., 46 P.2d 235 (Cal. Ct. App. 1935).

76. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977).

77. "Insofar as the opinion in *Commerce Trust Co. v. Ramp, supra,* is in conflict with

rather distinguished *Tanner* from *Nevels* on the ground that *Tanner* involved the sale of real estate with a loan from the seller, while *Nevels* involved a loan of money.[78] The court justified this distinction by stating that since in a sale of land the debtor has the full use and benefit of the principal (the land) during the term of the loan, the true principal sum of the note was the stated face amount.[79]

With regard to spreading, the court, after holding article 1.07(a) to be inapplicable,[80] stated that interest in advance and front-end

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this opinion, it is overruled. Likewise, the conflicting holding of the Court of Civil Appeals in *Southwestern Investment Co. v. Hockley County Seed & Delinting, Inc., supra,* is disapproved." *Id.* at 787.

78. *Id.* at 787. This distinction seems to leave open the possibility for a seller to extract a higher yield from a loan at the expense of the purchaser than could a third party lender. Consideration of the following situation is instructive: S is willing to sell property for $1,000 cash or for $1,100 payable in the form of a one-year promissory note in the amount of $1,100 bearing interest at the rate of ten percent. Under this situation if P accepts the loan from S, P pays $1,210 ($1,100 principal plus $110 interest). If, however, financing is available at eleven percent per annum from a bank, then except for the application of the usury laws, P could buy the property from S for cash of $1,000 and only pay $1,110 to finance the purchase. It appears that the court would hold the latter transaction to be usurious and the former non-usurious. For this reason, the court's distinction is questionable if the purpose of the usury laws is to protect the borrower.

79. *Id.* at 787. The court of civil appeals had rejected this argument when raised by Tanner.

> We see no distinction. The note required compensation to be paid not for the use of money but for the forebearance or detention of money, that is, the balance of the purchase price due for the land sold to the trustee. When Tanner Development required that one year's advance interest be paid at the time of the closing of the transaction, the amount of money on which they are due interest must be reduced by the same amount to determine the amount of money that Tanner Development Company was permitting Ferguson to detain.

Ferguson v. Tanner Dev. Co., 541 S.W.2d 483, 491 (Tex. Civ. App.—Houston [1st Dist.] 1976), *rev'd,* 561 S.W.2d 777 (Tex. 1977).

80. Although the court did not apply article 1.07(a), the court implied that there was some question whether or not the statute could be applied retroactively: "In any event, under the points as presented in this appeal we are not required to determine whether Article 5069-1.07(a) should be considered, and we decide the case without regard to Article 5069-1.07(a)." Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 786 (Tex. 1977). In footnote 12 to its opinion the court commented on the failure of Tanner to assert the applicability of the new statute either on the grounds of its retroactivity or through its interpretation in *pari materia* with articles 5069-1.04 and 1.06. The footnote cited Annot., 4 A.L.R.2d 932, 944-48 (1949). The annotation refers to Ewell v. Daggs, 108 U.S. 143 (1883) as an exception to the general rule that statutes changing the interest rate will not be applied retroactively to validate agreements usurious when made. In *Ewell* the United States Supreme Court interpreted a Texas constitutional amendment repealing a statute providing a defense of usury: "the repeal of such laws, without a saving clause, operated retroactively so as to cut off the defence [*sic*] for the future, even in actions upon contracts previously made." *Id.* at 150. In Southwestern Inv. Co. v. Hockley County Seed & Delinting, Inc., 511 S.W.2d 724, 731 (Tex. Civ. App.—Amarillo), *writ ref'd n.r.e. per curiam,* 516 S.W.2d 136 (Tex. 1974), the appellate court

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interest should not be distinguished.[81] Relying on *Nevels*[82] the court emphasized that to impose the penalties for usury "solely upon proof that one year's interest payments exceeded the statutory limit, where over the effective period of the contract, [the total] interest payments were not in excess of the amount authorized by law"[83] would be manifestly unfair and unjust and beyond the obvious intent of the legislature in the enactment of article 5069-1.06[84] and by the 1967 legislative amendment to article 5069-1.06 which extended the usury penalties to interest "contracted for" during the entire term of a note. "[I]t seems only reasonable that [the legislature] intended for the contract to be tested for usury on the basis of the compensation charged for the entire term during which the borrower had the use, detention or forbearance of the principal debt."[85]

However, in the last paragraphs of the decision, the court appears to have limited its opinion to contracts

> wherein the stated rate of interest on the principal debt does not exceed 10% per annum and wherein all consideration (contracted for and judicially determined) for use, detention or forbearance of the principal debt is a sum no greater than such principal debt would produce at 10% per annum during the full time that the payor has use of the principal debt or the consideration (such as land) which is represented by the principal debt.[86]

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cited the general rule that the question whether a contract is usurious is to be determined as of the time of its inception. *See* Seymour Opera-House Co. v. Thurston, 45 S.W. 815, 817 (Tex. Civ. App. 1898, writ ref'd). While it might be argued, as *Tanner* suggests, that the new statute could be interpreted in *pari materia* with the other usury statutes, section 3 of the act adding article 1.07(a) provides: "This Act applies from and after its effective date prospectively and does not have any application to any right or duty, contract, obligation, cause of action, or claim of defense arising prior to its effective date." 1975 Tex. Gen. Laws, ch. 26, § 3, at 48. Since usury is judged as of the inception of a loan, if article 1.07(a) is ultimately interpreted not to apply to loans made prior to September 1, 1975, the new statute may not be effective to save usurious loans made prior to September 1, 1975, even though the loan is renewed subsequent to that date. The Texas courts have held that a renewal promissory note may be tainted with the usury of the original note. Skeen v. Slavik, 555 S.W.2d 516, 521 (Tex. Civ. App.—Dallas 1977, writ ref'd n.r.e.); Cherry v. Berg, 508 S.W.2d 869, 873 (Tex. Civ. App.—Corpus Christi 1974, no writ).

81. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 785 (Tex. 1977).
82. Nevels v. Harris, 129 Tex. 190, 102 S.W.2d 1046 (1937).
83. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977).
84. TEX. REV. CIV. STAT. ANN. art. 5069-1.06 (Vernon 1971).
85. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 786 (Tex. 1977).
86. *Id.* at 787. It is at least arguable that *Tanner* might permit fluctuating interest rates which at times exceed the maximum permitted rate to be "spread" over the entire term of

Because of this statement by the court, it is difficult to assess to what extent, if any, *Ramp* has been overruled.[87] The court's opinion on motion for rehearing[88] did little to clarify its holding. The court merely reiterated its distinction between cash loan transactions and real estate sales for the purposes of treating the "prepaid interest" as either a reduction of principal or as interest.[89]

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the loan. *See id.* at 784. See especially the favorable quote from Mills v. Johnston, 23 Tex. 308, 329-30 (1859):

> The law, in deciding whether a settlement involves usury or not, *will look at the whole amount of interest reserved . . . and to the whole period of the forbearance extended;* and if the charges, properly imputable to interest, do not exceed the highest interest allowed by law, *for the whole period of forbearance,* then the settlement cannot be held to be usurious."

*Id.* at 330 (emphasis supplied). This interpretation would require that the phrase "during the full time that the payor has the use of the principal debt or the consideration (such as land) which is represented by the principal debt," quoted in the text, modifies not only the immediately preceding clause, but also the clause "wherein the stated rate of interest on the principal debt does not exceed 10% per annum." *See* Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977).

87. *Ramp* involved one note with a stated rate of interest of 6½% and four additional notes of $3,125 bearing no interest until maturity which totaled an additional 2½% of the total loan amount and which matured on the first four anniversaries of the loan. It can be argued that the "stated rate of interest" in *Ramp* did not exceed ten percent per annum, in which case *Ramp* would fall outside the scope of the court's opinion. *See* Commerce Trust Co. v. Ramp, 135 Tex. 84, 87, 138 S.W.2d 531, 533 (Tex. 1940).

88. Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977) (on motion for rehearing).

> 89. Since this case involves no loan of money, and our opinion distinguishes the nature of the principal debt from a loan of money, we doubt the necessity of disclaiming it as a precedent for testing money loans from which interest or other front-end payments have been deducted by the lender or returned to the lender. To make this abundantly clear, however, we reiterate that in cash loan transactions from which the lender deducts interest, fees, commissions or other front-end charges, the amount of dollars actually received or retained by the borrower is held to be "true" principal. In such cases the amount of the stated principal is reduced accordingly in testing for usury. See *Nevels v. Harris,* 129 Tex. 190, 102 S.W.2d 1046 (1937), and our statement of this rule in our opinion of October 19, 1977.

*Id.* at 787. The court also disposed of Ferguson's argument that Tanner's notices of acceleration and demand constituted a "charging" of interest under article 5069-1.06. The court held that because Tanner's demand referred only to the principal "balance" rather than a specific sum or the full face amount of the note, he was not necessarily "charging" interest; that the letters could be construed "as referring to whatever balance was due on the principal after applying all payments and credits under the terms of the note." *Id.* at 789. Additionally, the note contained a savings provision; thus, any unearned interest payments would be credited on the principal in determining the "balance." The court in the motion for rehearing stressed that the loan involved no personal liability and the sole recourse of the seller was against the property. *Id.* at 788. The question arises whether the court would have reached a different conclusion if the loan had been one with personal liability. If so, would this distinction be applicable to a loan from a third party secured only by property?

The court's opinion is susceptible to various interpretations. Although the distinction the court makes between land sales and cash loan transactions is a novel one, it is important to note, as the court did, that the contract provisions for the prepaid interest were included solely at the insistence of the purchaser-borrower. The court may have grasped at this distinction in order to reach an equitable result on these particular facts.

Because article 1.07(a) did not apply to this loan contract,[90] the court's limitation of its opinion is not necessarily a limitation of the application of the statute, but rather represents the court's interpretation of existing case law arising prior to the application of the statute. Additionally, the impact of *Tanner* on loans arising prior to the enactment of article 1.07(a) is as yet uncertain because of its unique fact pattern.[91]

Finally, in *First State Bank v. Miller*[92] the Texas Supreme Court again approved *Nevels* but then proceeded to misapply its holding. In *Miller* the borrower signed a three year note for $70,000 bearing interest at the rate of ten percent per annum. Interest for the first two years ($14,000) was frozen in a non-interest-bearing account with the lender, however, resulting in the borrower receiving effectively only $56,000. The court then computed the maximum amount chargeable on $56,000 for three years to be $16,800, then compared this with the interest called for on the face of the note ($21,000) and held the contract to be usurious.[93] The court's error in applying *Nevels* was in treating the frozen interest as both a reduction of principal and as interest.[94] A correct application of the principles set

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90. *Id.* at 786.

91. The exact fact situation in *Tanner* has been rendered almost obsolete by the recent changes in tax laws, which have substantially eliminated the deductions for prepaid interest formerly available under the Internal Revenue Code of 1954. Provisions of the Tax Reform Act of 1976, now embodied in § 461(g) of the Internal Revenue Code, require a taxpayer using the cash basis method of accounting to capitalize prepaid interest and allow deduction of that interest only in the taxable years in which that interest "is properly allocable" as a charge for the use or forbearance of money. These provisions apply to prepayment of interest on or after January 1, 1976, except prepayments made before January 1, 1977, pursuant to a binding contract or written loan commitment in effect on September 16, 1976. *See* Aronsohn, *Real Estate Investments After the Tax Reform Act of 1976,* 4 J. REAL EST. TAX. 99 (1977).

92. 563 S.W.2d 572 (Tex. 1978).

93. *Id.* at 575.

94. This is the "double dip" theory referred to at note 75 *supra,* and a procedure the Texas Supreme Court specifically disapproved of in *Tanner:* "It is an obvious error in these calculations to count the $21,506.93 prepayment as both principal and interest." Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 782 (Tex. 1977).

forth in *Nevels* would be as follows: (1) the true principal amount of the loan was $56,000; (2) three years simple interest on $56,000 at ten percent equals $16,800; (3) the total permissible repayment of this loan would therefore be $72,800 ($56,000 + $16,800); (4) since the total repayments of the borrower equaled $77,000 ($70,000 representing the stated principal amount of the loan and $7,000 representing the stated amount of the interest for the third year) and this amount was greater than the maximum lawful amount of $72,800, the loan was usurious. The conclusion is the same even if the effect of compounding is included.[95]

## III.   ECONOMIC REALITY IN LOAN TRANSACTIONS

It is the contention of this author that any confusion created by the existing cases regarding the application of the concept of spreading of interest could be avoided by a case-by-case analysis of the economic reality of the loan transaction. Accordingly, in any analysis, the substance of a loan transaction should control over the form into which the transaction has been cast by the parties. Texas courts in past usury cases have evidenced a willingness to adopt such an analysis through disregard of the labels placed by the parties upon certain charges for the determination of whether those charges constitute interest or a reduction of principal. For example, the Texas Supreme Court has held that a "premium," statutorily mandated not to be interest, actually constituted interest.[96] The supreme court has also held that a "loan fee" paid by the borrower at the commencement of the loan should be treated as a reduction of principal and not interest.[97] A fee denominated an "origination fee" was deemed by a Houston court of civil appeals to be interest.[98] Similar examples involving "closing fees,"[99] "commitment fees,"[100] "broker-

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95. Interest at the rate of ten percent per annum compounded annually on $56,000 for three years would amount to $18,536 ([(1.1)³ x $56,000] − $56,000). The total permissible repayment with compounding would therefore be $74,536 ($18,536 interest plus the $56,000 true principal), still less than the $77,000 repayment the loan required the borrower to pay.

96. Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 908 (Tex. 1976). For a discussion of this case, see text accompanying note 129 *infra*.

97. Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937).

98. Terry v. Teachworth, 431 S.W.2d 918, 924 (Tex. Civ. App.—Houston [14th Dist.] 1968, writ ref'd n.r.e.).

99. Riverdrive Mall, Inc. v. Larwin Mortgage Investors, 515 S.W.2d 5, 8 (Tex. Civ. App.—San Antonio 1974, writ ref'd n.r.e.) ("closing fee" held to constitute interest).

100. Imperial Corp. of America v. Frenchman's Creek Corp., 453 F.2d 1338, 1343 (5th Cir. 1972) ("commitment fee" held to be interest rather than bona fide commitment fee). *See*

age fees,"[101] and "service charges"[102] can be found.

Since the calculation of interest is fundamental to any determination of usury, the adoption of a uniform method of calculation that provides certainty in the determination of the true rate of interest would be advantageous. Ideally, such a method should be based upon the substance of the loan transaction rather than its form. Article 1.07(a) presents the opportunity for the adoption of a method of calculation of interest that would yield certainty to each transaction and reflect the true economics of the transaction. Prior to the analysis of this proposed method of calculation, some of the present inconsistencies in the calculation of interest prior to the applicability of article 1.07(a) will be demonstrated by way of example.[103]

> *Example 1.* L loans $100 to D conditioned upon D's execution of a promissory note in the principal amount of $100 payable as follows: (i) At the commencement of the loan one interest "point" ($1.00), (ii) at the end of the first year, interest at the rate of 9.1% of the face amount ($9.10) and (iii) at the end of the second year, interest at the rate of 8.9% of the face amount ($8.90) together with repayment of the face amount of principal of $100 for a total of $108.90.[104]

Although one interest point when added to 9.1% interest produces 10.1% interest in the first year, the loan would not be usurious, since under *Nevels*[105] a court, rather than treat the point as interest, would consider it a repayment of principal and compute the interest based on the reduced principal, as illustrated in Example 2 (which is a restructuring of Example 1 similar to that which a court would perform).[106]

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*also* Laid Rite, Inc. v. Texas Indus., Inc., 512 S.W.2d 384, 388 (Tex. Civ. App.—Fort Worth 1974, no writ).

101. Morris v. Maglicco, 468 S.W.2d 517, 520 (Tex. Civ. App.—Houston [14th Dist.] 1971, writ ref'd n.r.e.) ("brokerage fee" held to be subterfuge); *cf.* Home Sav. Ass'n v. Crow, 514 S.W.2d 160, 167-68 (Tex. Civ. App.—Dallas 1974), *aff'd,* 522 S.W.2d 457 (Tex. 1975) ($25,000 bona fide brokerage fee).

102. Thrift Fin. Co. v. State, 351 S.W.2d 653, 654 (Tex. Civ. App.—Dallas 1961, writ ref'd n.r.e.) ("service charge" held to constitute interest).

103. Many examples will be used throughout this article. The reader is urged to work through each example in order to gain a firm understanding of the concepts involved.

104. The calculations are as follows:

| | | |
|---|---|---|
| Net Loan proceeds: | $100.00 — $1.00 | = $ 99.00 |
| Payments (Year 1): | .091 × $100.00 | = $  9.10 |
| Payment (Year 2): | (.089 × $100.00) + $100.00 | = $108.90 |

105. Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937).

106. Technically, the court would reason as follows: (1) The true amount of the loan in

*Example 2.* L loans $99 to D conditioned upon D's execution of a promissory note in the principal amount of $99 and payable as follows: At the end of the first year, interest at the rate of 9.19% ($9.10) and at the end of the second year, interest at the rate of ten percent together with repayment of the original $99 principal ($9.90 + $99.00 = $108.90).[107]

Since the interest rate during each year of the transaction is never greater than ten percent, this transaction is not usurious.

Unfortunately, substance-over-form analysis has not been used in every loan situation by the Texas courts, as is demonstrated by the next two examples.

*Example 3.* L loans $100 to D conditioned upon D's execution of a promissory note in the principal amount of $100 and payable as follows: At the end of the first year, fifteen percent interest ($15) is due and at the end of the second year, four percent interest ($4) is due together with the repayment of the original $100 principal.[108]

It appears that under prevailing case law (not considering article 1.07(a)) the loan would be usurious since the stated rate of interest would be in excess of ten percent per annum during the first year of the loan.[109]

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Example 1 was $99; (2) At ten percent interest, the highest legal rate, the interest on $99 for one year would be $9.90, and ten percent interest for the two-year period the loan was to run would amount to $19.80; (3) This sum added to the principal actually loaned, $99 would aggregate $118.90; (4) The sum $118.90 is the maximum amount L could have legally charged and unless the loan calls for the payment of more than the total amount, it is not usurious; (5) D paid $9.10 in first year, $8.90 in the second year, along with the $100 principal totaling $118 and therefore the loan is not usurious. *Id.* at 196, 102 S.W.2d at 1049; *see* Adleson v. B.F. Dittmar Co., 124 Tex. 564, 566, 80 S.W.2d 939, 940 (1935); Eubanks v. Simpson, 90 S.W.2d 291, 291 (Tex. Civ. App.—Amarillo 1936, writ ref'd).

107. The calculations are as follows:

| Net loan proceeds: | = | $ 99.00 | |
|---|---|---|---|
| | | **Actual** | **Permitted** |
| Payments (Year 1): .0919 × $99.00 | = | $ 9.10 | $ 9.90 |
| Payments (Year 2): (.10 × $99.00) + $99.00 | = | $108.90 | $108.90 |
| Total Payments | = | $118.00 | $118.80 |

108. The calculations are as follows:

| Net loan proceeds | = | $100.00 |
|---|---|---|
| Payments (Year 1): .15 × $100.00 | = | $ 15.00 |
| Payments (Year 2): (.04 × $100.00) + $100.00 | = | $104.00 |

109. *See* Commerce Trust Co. v. Ramp, 135 Tex. 84, 87, 138 S.W.2d 531, 533 (1940); Southwestern Inv. Co. v. Hockley County Seed & Delinting, Inc., 511 S.W.2d 724, 732 (Tex.

*Example 4.* L loans $100 to D conditioned upon D's execution of a promissory note in the principal amount of $100 and payable as follows: At the end of the first year, ten percent interest ($10) together with a principal reduction payment of $5 and at the end of the second year, interest on the remaining $95 principal at the rate of 9.47% ($9) together with the $95 remaining principal.[110]

This loan would *not* be usurious since the stated rate of interest is less than ten percent per annum during each year of the loan.

In both of these examples, L received from D $15 at the end of the first year and $104 at the end of the second year. Although the two loans are indistinguishable economically, the loan in Example 3 is usurious while the loan in Example 4 is not.

While the courts would restructure Example 1 into Example 2, no court has indicated a willingness to hold that a loan in the form of Example 3 is equivalent to a loan in the form of Example 4. Although at least one student commentary[111] has attempted to justify this inconsistency in treatment, in reality no logical, economic justification exists for a distinction between Examples 3 and 4. While in Examples 3 and 4 the form of the transaction controls, in Examples 1 and 2 the court looks beyond the form to the substance of the transaction.[112] From an economic analysis Examples 3 and 4 should be treated in the same manner as Examples 1 and 2.

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Civ. App.—Amarillo), *writ ref'd n.r.e. per curiam,* 516 S.W.2d 136 (Tex. 1974). Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977) appears to be inapplicable since the stated rate of interest during the first year is in excess of ten percent. *See id.* at 787. *But see* note 86 *supra.*

110. The calculations are as follows:

|  |  | Actual | Permitted |
|---|---|---|---|
| Net loan proceeds | = $100.00 |  |  |
| Payments (Year 1): (.10 × $100.00) + $5.00 | = | $ 15.00 | $ 10.00 |
| Payments (Year 2): (.947 × $95.00) + $95.00 | = | $104.00 | $110.00 |
| Total Payments |  | $119.00 | $120.00 |

111. Comment, *Usury Implications of Front-End Interest and Interest In Advance,* 29 Sw. L.J. 748 (1975). *But see* Comment, *Usury in Texas: Spreading Interest Over the Entire Period of the Loan,* 12 Hous. L. Rev. 159, 176 (1974).

112. One possible explanation of this difference in treatment may be that the level of sophistication of the courts in the 1930's regarding computation of interest may have been sufficient to analyze a loan involving a simple front-end fee, but not adequate to analyze an amortized loan with prepaid interest. The ability for individuals without an actuarial background to analyze the latter has only recently been facilitated by the availability of calculators and computers. Without these devices, resort must be made to complex actuarial computation functions and formulae.

Similar to the preceding two examples, the form of the next two examples would be deemed by the courts to control over the substance of the transactions.

> *Example 5.* L lends D $1,000 to be paid as follows: (i) interest only at the rate of 15.58% per annum during the first three years with payment of accrued interest at the end of each year; (ii) interest at the rate of 9.074% per annum during the fourth year payable together with a principal payment of $65.08 at the end of that year; (iii) principal payments of $155.82 at the end of each of years five through ten, the loan being without interest after the fourth year.[113]

This loan would be deemed by the courts to be usurious because more than ten percent interest per annum was collected in each of the first three years of the loan.[114]

> *Example 6.* D borrows $1,000 from L at nine percent interest, interest and principal to be amortized over a ten-year period with ten equal annual payments of $155.82.[115]

---

113. The loan can be summarized as follows:

| Year | Beginning Principal | Total Payment | Interest Payment | Principal Payment | End of Year Resulting Principal |
|---|---|---|---|---|---|
| 1 | $1,000.00 | $155.82 | $155.82 | — | $1,000.00 |
| 2 | 1,000.00 | 155.82 | 155.82 | — | 1,000.00 |
| 3 | 1,000.00 | 155.82 | 155.82 | — | 1,000.00 |
| 4 | 1,000.00 | 155.82 | 90.74 | 65.08 | 934.92 |
| 5 | 934.92 | 155.82 | — | 155.82 | 779.10 |
| 6 | 779.10 | 155.82 | — | 155.82 | 623.28 |
| 7 | 623.28 | 155.82 | — | 155.82 | 467.46 |
| 8 | 467.46 | 155.82 | — | 155.82 | 311.64 |
| 9 | 311.64 | 155.82 | — | 155.82 | 155.82 |
| 10 | 155.82 | 155.82 | — | 155.82 | 0.00 |

114. *See* Commerce Trust Co. v. Ramp, 135 Tex. 84, 87, 138 S.W.2d 531, 533 (1940); Southwestern Inv. Co. v. Hockley County Seed & Delinting, Inc., 511 S.W.2d 724, 732 (Tex. Civ. App.—Amarillo), *writ ref'd n.r.e. per curiam*, 516 S.W.2d 136 (Tex. 1974). Since no sale of land was involved, Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777 (Tex. 1977), would appear to be inapplicable.

115. This loan can be summarized as follows:

| Year | Beginning Principal | Total Payment | 9% Accrued Interest | Principal Payment | End of Year Resulting Principal |
|---|---|---|---|---|---|
| 1 | $1,000.00 | $155.82 | $90.00 | $ 65.82 | $934.18 |
| 2 | 934.18 | 155.82 | 84.08 | 71.74 | 862.44 |
| 3 | 862.44 | 155.82 | 77.62 | 78.20 | 784.24 |

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This loan would *not* be deemed usurious because at no time is more than ten percent interest per annum being charged. Although the cash flow from D to L in Example 6 is identical to that of Example 5, Example 5 above would be construed to be usurious under existing law. This comparison illustrates the illogic of construing a loan usurious merely because of the labels attached to the charges by the parties.

Ironically, the clearest judicial statement in Texas on the logical inconsistency in the diverse treatment of Examples 5 and 6 is found in the dissenting opinion of Chief Justice Gaines in the early case of *Galveston & Houston Investment Co. v. Grymes.*[116] In his dissent, the Chief Justice constructed two hypothetical examples. In the first example, A lends $1,000 to C,[117] which is to be repaid in equal monthly installments over a ten year period bearing interest at the highest lawful rate (ten percent per annum) to be paid in each installment on the then remaining unpaid principal. The amount of the monthly installment is then calculated in order to amortize this indebtedness over the ten year period and a promissory note is given for each installment.[118] In the second example, B loans $1,000 to C to be repaid in monthly installments exactly equal to the amount of the monthly installments in the first example, but the parties agree that each note (*i.e.*, each monthly payment) shall be applied to the payment of interest only to the extent of the proportion that the total interest bears to the total principal payable over the life of the loan.[119] Commenting on the majority's decision, the dissent states:

A and B each lend C the same sum of money and C gives each of them

| | | | | |
|---|---|---|---|---|
| 4 | 784.24 | 155.82 | 70.58 | 85.24 | 699.00 |
| 5 | 699.00 | 155.82 | 62.91 | 92.91 | 606.90 |
| 6 | 606.90 | 155.82 | 54.55 | 101.27 | 504.00 |
| 7 | 504.82 | 155.82 | 45.55 | 110.39 | 394.43 |
| 8 | 394.43 | 155.82 | 35.50 | 120.32 | 274.11 |
| 9 | 274.11 | 155.82 | 24.67 | 131.15 | 142.96 |
| 10 | 142.96 | 155.82 | 12.87 | 142.95 | 0.01 |

116. 94 Tex. 609, 63 S.W. 860 (1901).

117. The figure of $1,000 has been selected by the author for simplicity.

118. The amount of each note would be $13.22 as can be verified by reference to amortization tables or calculated in the manner set forth at note 156 *infra*.

119. The total interest payable on all of the notes would be $586.40 as can be calculated by the formula set forth at note 163 *infra*. Thus in the second example, the interest portion of each note would be $586.40/$1000.00 = 58.64%, regardless of the date the note was due, and the remaining 41.36% of each note would be attributable to a repayment of principal.

120 notes for precisely the same amount for the payment of the loan with interest. A's loan is lawful, B's is usurious. If interest is compensation for the use of money, can it be that this first contract is legal and the second illegal as to the interest, when the same sum of money is lent in each case and is contracted to be repaid in 120 installments each of the same amount? The law looks to the substance of contracts and not to their form, and this principle is frequently applied in dealing with contracts claimed to be usurious . . . . If the substance of the contract is to be looked to, I do not see how it can be held that the contract in the first case supposed is lawful, while that in the second is unlawful.[120]

Two more examples of the application of the concept of form over substance should be noted.

*Example 7.* D desires to purchase from L land valued at $100. L structures the loan whereby D gives L a promissory note for $100 at eight percent interest per annum due in three years and requires interest for three years to be prepaid at closing.

This loan would not be held usurious since it involves the sale of land.[121]

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120. Galveston & Houston Inv. Co. v. Grymes, 94 Tex. 609, 617, 63 S.W. 860, 865 (1901) (dissenting opinion). Situation B represents the fact situation in *Grymes* in which the loan amount was $4,215.45 and the total interest added on was $2,318.45. The total was divided into 120 notes maturing on successive months each in the amount of $54.44. The majority opinion reasoned as follows: the maximum interest permissible is computed by multiplying the maximum permissible interest rate, the original loan amount, and the average term of the notes.

Total term of the notes = $1 + 2 + \ldots + 120$ = 7,260 months

Average term of a note = 7,260/120 = 60.5 months

Maximum permissible interest = 60.5 x (10%/12) x $4,215.45 = $2,124.76, which is less than that collected ($2,318.45), thereby implying that the loan is usurious. The fallacy of this reasoning is set forth in note 39 *supra*, and can be verified in either of two ways:

(1) A loan in the amount of $4,215.45 is fully amortizable in ten years with monthly payments of $54.44 at an interest rate of 9.455%.

(2) A loan in the same amount at an interest rate of ten percent per annum (the maximum lawful rate) could be amortized in ten years with payments $55.71. Since each payment in *Grymes* ($54.44) was *less* than $55.71, the loan would be at an interest rate of less than ten percent.

121. *See* Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777, 787 (Tex. 1977). The calculations would be as follows:

| Stated Principal | = | $100.00 |
|---|---|---|
| True Principal | = | $100.00 |
| Maximum Permitted Interest | = | 30.00 |
| Total Permitted Repayment | = | $130.00 |

*Example 8.* D desires to purchase from L the same land valued at $100. This time, however, L is unwilling to finance the purchase, so D obtains a $100 loan from B bearing interest at the rate of eight percent due in three years with three years interest paid in advance.

This loan would be held to be usurious since the front-end interest would be deducted to arrive at the true principal.[122]

In both instances D receives the same property and pays exactly the same consideration. Viewed from D's position the two transactions are indistinguishable, yet under *Tanner* one form of the loan is non-usurious while under *Nevels* and *Miller* the other form is usurious. The apparent distinction drawn by *Tanner* is that the lender in that case was also the seller of the land. It is the contention of this author that who the lender is should be irrelevant, since usury should be determined by the effect of the transaction on the borrower.

The following example again illustrates the logical inconsistencies in existing case law prior to the applicability of article 1.07(a).

| | | |
|---|---|---|
| Actual Repayment of Principal | = | $100.00 |
| Actual Payment of Interest | = | 24.00 |
| Total Actual Repayment | = | $124.00 |

Since the Total Actual Repayment was less than the Total Permitted Repayment, the loan would not be deemed usurious.

122. *See* First State Bank v. Miller, 563 S.W.2d 572, 575 (Tex. 1978). The calculations would be as follows:

| | | |
|---|---|---|
| Stated Principal | = | $100.00 |
| Front-End Charge (8% × $100.00 × 3) | = | 24.00 |
| True Principal | = | 76.00 |
| Maximum Permitted Interest ($76.00 × 10% × 3) | = | 22.80 |
| Total Permitted Repayment | = | $ 98.80 |
| Actual Repayment of Principal | = | $100.00 |
| Actual Payment of Interest | = | 24.00 |
| Total Actual Repayment | = | $124.00 |

Since the Total Actual Repayment charged under the terms of the loan exceeds the Total Permitted Repayment, the loan would be deemed usurious. This calculation under *Miller* but not the result in this example is in conflict with *Nevels* since under *Nevels* the three years interest would not be "double dipped" by adding it as interest after deducting it from principal. Since the Actual Repayment of Principal calculated above exceeded the Total Permitted Repayment, the loan would also be usurious under *Nevels*. It is possible that a court could at some future date distinguish Example 8 from *Miller* by expanding the holding of Tanner Dev. Co. v. Ferguson, 561 S.W.2d 777 (Tex. 1977), to treat third party purchase money lenders in the same manner as sellers who provide financing to prospective purchasers.

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*Example 9.* D executes a promissory note in the original principal amount of $50,000 and bearing interest on the outstanding unpaid principal, payable annually at the rate of ten percent per annum during the first nine years of the loan and at the rate of 5.64% during the tenth year. Interest is to be paid annually. Additionally, principal payments in the amounts of $1,375.00, $1,512.50, $1,663.75, and $1,830.12 are to be made at the end of the first, second, third, and fourth years, respectively. Finally, additional principal advances to D in the amounts of $1,111.86, $1,223.05, $1,345.35, $1,479.89, and $1,627.88 are to be made by L at the end of the fifth, sixth, seventh, eighth, and ninth years, respectively. All remaining unpaid principal and accrued interest is due and payable at the end of the tenth year.[123]

Under Texas law this loan would not be usurious, since interest never exceeds ten percent in any year. This example is merely a recharacterization of Example 24, *infra,* which was held to be usurious.[124]

From the foregoing examples it should be obvious that under existing law prior to the applicability of article 1.07(a) the form in which a transaction is cast may very likely determine whether a transaction is deemed usurious. Logic dictates that if the cost of a loan to a borrower remains the same, the determination whether the loan is or is not usurious should not vary simply because of the labels placed upon the transaction by the parties. After a consideration of the constitutional aspects of article 1.07(a) and methods other than the actuarial method, section VI of this article will discuss the actuarial method, a procedure for the calculation of interest

123. The loan can be summarized as follows:

| Year | Beginning Principal | Accrued Interest | Principal Payment | Principal Advance | Year End Resulting Principal |
|---|---|---|---|---|---|
| 1 | $50,000.00 | $5,000.00 | $1,375.00 | $ — | $48,625.00 |
| 2 | 48,625.00 | 4,862.50 | 1,512.50 | — | 47,112.50 |
| 3 | 47,112.50 | 4,711.25 | 1,663.75 | — | 45,448.75 |
| 4 | 45,448.75 | 4,544.88 | 1,830.12 | — | 43,618.63 |
| 5 | 43,618.63 | 4,361.86 | — | 1,111.86 | 44,730.49 |
| 6 | 44,730.49 | 4,473.05 | — | 1,223.05 | 45,953.54 |
| 7 | 45,953.54 | 4,595.35 | — | 1,345.35 | 47,298.89 |
| 8 | 47,298.89 | 4,729.89 | — | 1,479.89 | 48,778.78 |
| 9 | 48,778.78 | 4,877.88 | — | 1,627.88 | 50,406.66 |
| 10 | 50,406.66 | 2,843.34 | 50,406.66 | — | 0.00 |

124. *See* Commerce Trust Co. v. Ramp, 135 Tex. 84, 87, 138 S.W.2d 531, 533 (1940).

that reflects the economic reality of the transaction, thereby producing consistent results in the determination of usury.

## IV. A CONSTITUTIONAL PERSPECTIVE OF ARTICLE 1.07(a)

Any acceptable interpretation of article 1.07(a)[125] must be one that renders the statute constitutional. The authority of the legislature for the enactment of any usury legislation including article 1.07(a) is controlled by the following language in the Texas Constitution:

> *The Legislature shall have authority to classify loans and lenders, license and regulate lenders, define interest and fix maximum rates of interest;* provided, however, in the absence of legislation *fixing maximum rates of interest* all contracts for a greater rate of interest than ten per centum (10%) per annum shall be deemed usurious . . . .[126]

In 1963, in apparent reliance on the above constitutional provision, the Texas Legislature enacted the Texas Savings and Loan Act.[127] Section 5.07 of the statute provided:

> [A]ssociations may charge premiums for making such loans . . . . The expenses, fees, and charges authorized herein shall be in addition to interest authorized by law, and shall not be deemed to be a part of the interest collected or agreed to be paid on such loans within the meaning of any law of this State which limits the rate of interest which may be exacted in any transaction.[128]

In the recent decision of *Gonzales County Savings & Loan Ass'n v. Freeman,*[129] a portion of this statute was held invalid because of its failure to fix a maximum rate of interest while allowing a class of lenders to charge potentially unlimited interest. The borrower in *Freeman* had executed a $38,400 promissory note due one year from the date of execution and bearing interest at the rate of nine percent per annum. In addition, however, the borrower was charged a "loan fee" of two percent of the loan amount ($768) at the time of the closing of the loan.[130] The borrower subsequently defaulted on the

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125. See text accompanying note 32 *supra,* for the text of article 1.07(a).

126. *See* TEX. CONST. art. XVI, § 11 (emphasis added).

127. 1963 Tex. Gen. Laws, ch. 113, § 1, at 269 (codified as TEX. REV. CIV. STAT. ANN. art. 852a (Vernon 1964)).

128. TEX. REV. CIV. STAT. ANN. art. 852a, § 5.07 (Vernon 1964).

129. 534 S.W.2d 903 (Tex. 1976).

130. *Id.* at 905.

first semi-annual interest payment and filed suit alleging that the two percent "loan fee" constituted interest, thereby causing the interest charged on the loan to exceed ten percent per annum.[131] The lender on the other hand contended that the "loan fee" constituted a "premium" authorized under section 5.07.[132] The court, after stating that the courts must look "beyond the form of the transaction to its substance in determining the existence or nonexistence of usury,"[133] held that section 5.07 "does not purport to define interest and cannot be regarded as an attempt by the Legislature to fix maximum rates of interest."[134] Rather the legislature had attempted to *exclude* from the court's consideration charges that would otherwise be construed as interest[135] under article 5069-1.01(a).[136] For this reason the Texas Supreme Court held unconstitutional the portion of section 5.07 that allowed savings and loan associations to avoid the application of the usury laws through the mere characterization of front-end fees as "premiums" that would in the absence of the statute be deemed by a court to constitute interest.[137]

Similarly in *State v. Community Finance & Thrift Corp.*,[138] the Austin Court of Civil Appeals held unconstitutional[139] article 1524a-

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131. *Id.* at 905.

132. *See* Tex. Rev. Civ. Stat. Ann. art. 852a, § 5.07 (Vernon 1964).

133. Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 905 (Tex. 1976).

134. *Id.* at 908.

135. *Id.* at 907.

136. Tex. Rev. Civ. Stat. Ann. art. 5069-1.01(a) (Vernon 1971). "Interest" is defined as "the compensation allowed by law for the use or forbearance or detention of money . . . ." *Id.*

137. Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 908 (Tex. 1976). Under the logic of *Gonzales*, it is probable that article 5069-1.09, which allows certain federally insured loans to bear interest or to be discounted as permitted under certain federal statutes, will ultimately be held to be unconstitutional. The statute fails to place any definite limitation on the maximum interest rate other than that which is allowed under the various federal programs, thereby sanctioning a constitutionally impermissible delegation of the requirement of the legislature to fix a maximum rate of interest. *See* Tex. Rev. Civ. Stat. Ann. art. 5069-1.09 (Vernon Supp. 1978-1979); *cf. id.* art. 5069-1.08. Article 5069-1.08 permits interest charges not exceeding one and one-half percent per month by a broker or dealer registered under the Federal Securities and Exchange Act of 1934. Since the one and one-half percent per month limit constitutes an effective ceiling on the maximum interest rate permitted, the statute should pass constitutional muster. See also H.B. 409, discussed at note 6 *supra*, providing that if the alternative floating rate of interest provided is held unconstitutional, the provision will be stated to read that interest "may be charged at the rate of 12% per annum." *See* 1979 Tex. Sess. Law Serv., ch. 715, § 3, at 1766 (Vernon).

138. 334 S.W.2d 559 (Tex. Civ. App.—Austin 1960), *writ ref'd n.r.e. per curiam*, 161 Tex. 619, 343 S.W.2d 232 (1961).

139. *Id.* at 568.

1.[140] Under this complicated statutory scheme a lender could require, as a condition to obtaining the loan, that the borrower purchase an "investment certificate" from the lender, pledge that certificate as security for the loan and make periodic payments on the certificate during the term of the loan. The court held those periodic payments to be payments on the notes for purposes of usury determination.[141] Although the constitution at that time did not allow the legislature to fix a maximum rate of interest greater than ten percent,[142] the constitution was so amended[143] while this case was on appeal to the supreme court. The Texas Supreme Court rejected the argument that under the new amendment the statutory scheme was constitutional, stating that the statute did "not purport to define interest and in our opinion cannot be regarded as an attempt by the Legislature to fix maximum rates of interest."[144] Particularly instructive is the following language from the court's decision:

> Petitioners' argument assumes that without establishing any ceiling on interest the Legislature may legalize a subterfuge which enables lenders to charge varying rates in excess of ten percent per annum, but this is not so. The constitutional amendment provides that in the absence of legislation fixing maximum rates of interest all contracts for a greater rate than ten percent per annum shall be deemed usurious.[145]

Any interpretation of article 1.07(a) that allows a lender, through a

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140. 1951 Tex. Gen. Laws, ch. 472, §§ 1-6, at 832-34 (repealed 1963).

141. State v. Community Fin. & Thrift Corp., 334 S.W.2d 559, 568 (Tex. Civ. App.—Austin 1960), *writ ref'd n.r.e. per curiam*, 161 Tex. 619, 343 S.W.2d 232 (1961).

142. *See* TEX. CONST. art. XVI, § 11 (1891). Prior to the amendment of this provision in 1960, section 11 provided:

All contracts for a greater rate of interest than ten per centum per annum, shall be deemed usurious, and the first Legislature after this amendment is adopted, shall provide appropriate pains and penalties to prevent the same; but when no rate of interest is agreed upon, the rate shall not exceed six per centum per annum.

*Id.*

143. TEX. CONST. art. XVI, § 11. The italicized language was added:

*The Legislature shall have authority to classify loans and lenders, license and regulate lenders, define interest and fix maximum rates of interest;* provided, however, in the absence of legislation fixing maximum rates of interest all contracts for a greater rate of interest than ten per centum (10%) per annum shall be deemed usurious; provided, further, that in contracts where no rate of interest is agreed upon, the rate shall not exceed six per centum (6%) per annum.

*Id.* (emphasis added).

144. Community Fin. & Thrift Corp. v. State, 161 Tex. 619, 621, 343 S.W.2d 232, 233 (1961).

145. *Id.* at 622, 343 S.W.2d at 234.

camouflage of the true transaction, to charge interest in excess of ten percent per annum should be rejected since that interpretation would render the statute unconstitutional.

The portion of article 1.07(a) concerning spreading that requires interpretation for a determination of the constitutionality[146] of the statute is as follows:

> Determination of the rate of interest for the purpose of determining whether the loan is usurious . . . shall be made by amortizing, pro-rating, allocating, and spreading, in equal parts during the period of the full stated term of the loan, all interest at any time contracted for, charged, or received from the borrower in connection with the loan.[147]

Because the statute fails to define the meaning of the phrase "amortizing, prorating, allocating, and spreading, in equal parts during the period of the full stated term of the loan, all interest," various interpretations of this language produce decidedly different results.[148] Unfortunately some of these terms are inconsistent with

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146. While the determination of the constitutionality of article 1.07(a) is a threshhold issue, the statute presents several other unresolved problems in interpretation [See text accompanying note 32 *supra*, for the text of article 1.07(a)]:

(i) The types of loans to which the statute may apply appear to be many since the article purports to cover loans secured or to be secured by a "lien, mortgage, security interest, or other interest in or with respect to any interest in real property." Arguably, the article would be applicable to a loan secured by a partnership interest in a real estate syndication or a loan secured by the pledge of a promissory note that itself is secured by a lien on real property.

(ii) The statute's restriction to real estate transactions leaves unclear whether the statute preempts the application of the judicially developed concept of spreading to transactions not involving real estate or whether it merely represents a codification of spreading in this one particular area.

(iii) The mandatory refund provision of the statute appears to apply only upon full voluntary prepayment by the borrower. The manner of application of the statute remains unclear in the event of the acceleration of the maturity of the loan by the lender upon default by the borrower.

(iv) The new statute provides for prospective application on and after its effective date. Since usury is judged at the inception of the loan, the new statute may be inapplicable to a usurious loan consummated prior to September 1, 1975, even though renewed subsequent to that date. *See* Cherry v. Berg, 508 S.W.2d 869, 873 (Tex. Civ. App.—Corpus Christi 1974, no writ).

(v) A loan commitment may constitute the inception of a loan within the language of the article referring to "contracting for" interest.

(vi) The statute is unclear whether loans payable "on demand," or payable on a date certain "unless demand is sooner made," fall within the statute and, if so, how they would be treated.

147. Tex. Rev. Civ. Stat. Ann. art. 5069-1.07(a) (Vernon Supp. 1978-1979).

148. See sections V and VI *infra*.

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one another, thus causing ambiguity in the interpretation of the statute.[149]

The question of multiple interpretations of the statute, however, can largely be resolved by an elimination of those methods that allow a lender to circumvent the usury laws through a disguised form of the transaction. These methods as well as the actuarial method are disussed in the following sections of this article. It is the contention of the author that of these possible methods only the actuarial method prevents the possibility of evasion of the usury laws.

## V.   METHODS OF INTERPRETATION OF ARTICLE 1.07(a) OTHER THAN THE ACTUARIAL METHOD

To date five interpretations of article 1.07(a) embodying varying methods of interest calculation have been suggested. Four of these methods will be discussed in this section, and will be referred to as (i) the Averaging of Interest Rates Technique, (ii) the Averaging of Interest Amounts Technique, (iii) the Hypothetical Amortization Technique, and (iv) the Total Interest Declining Balance Technique. The fifth, the Actuarial Method, will be discussed in section VI of this article since it embodies a basic concept of financial analysis that is ignored by the first four methods. This basic concept is that the "present value"[150] of a payment depends upon the time the payment is made. Each of the first four methods ignores to some extent the actual timing of the payments in a loan transaction.[151] Since the method of spreading adopted by the Texas Supreme Court in *Nevels*[152] for characterizing front-end fees is a special case of the application of this present value concept,[153] the adoption of any of the first four interpretations, which are based on a different concept,

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149. The term "amortize" is used typically in connection with the amortization of a loan, which entails a gradual reduction of the unpaid principal, usually by equal monthly payments that are composed of a portion of the principal and of the unpaid accrued interest. Over the term of the loan the principal portion of each payment increases, reflecting the decreasing amount of interest accrued on the unpaid principal balance since the last payment. If the additional terms "allocate . . . in equal parts" are construed to mean equal *amounts* of interest, this would conflict with the concept of amortization that assumes a uniform *rate* of interest over the term of the loan. Similar problems are presented by the term "prorate."

150. See text accompanying note 191 *infra*.

151. See text following note 152 *infra*.

152. Nevels v. Harris, 129 Tex. 190, 102 S.W.2d 1046 (1937).

153. See text accompanying note 191 *infra*.

requires the rejection of the *Nevels* approach.[154] Each of these four methods will now be discussed in detail.

## A. Averaging of Interest Rates Technique (the "Rates Technique")

One literal interpretation of article 1.07(a), advocated by at least one Texas attorney who frequently represents lenders, averages the interest rates over the life of the loan by totaling the interest rates (including front-end "points") over the term of the loan and dividing this sum by the number of years of the loan. Example 10 illustrates this technique as applied to an amortized loan:

> *Example 10.* L loans $50,000 to D to be amortized over thirty years in equal monthly installments of principal and interest, interest accruing at the rate of nine percent per annum. As a condition of making the loan L requires D to pay thirty points at the commencement of the loan.

The calculations for this loan under the Rates Method would be as follows:

| Years | Interest Calculation | Total Interest |
|-------|----------------------|----------------|
| 1     | 9% + 30%             | 39%            |
| 2-30  | 9% × 29              | 261%           |
|       |                      | 300%           |

$$\text{Average Rate} = \frac{\text{Total Interest}}{\text{Total number of years}} = \frac{300\%}{30 \text{ years}} = 10\% \text{ per annum}$$

Thus under this method a lender could extract thirty points at the front-end of the loan and still not render the loan usurious, although, under existing cast law the loan would clearly be usurious.[155] The required monthly payments for a $50,000 loan

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154. For example, in the paper presented by Small and Lasiter in November 1978, to the Texas Savings and Loan League entitled *Mortgage Interest Rates, Loan Origination and Refund Calculations,* the authors argue for a distinction between the "judicial test" of *Nevels* and the "statutory test" of article 1.07(a). For a further explanation, see a memorandum in support of S.B. 246, which would amend article 1.07(a), entitled ".The Case for a Uniform Method of Testing Real Estate Credit Transactions for Usury and a Limit on the Amount of Front-End Loan as Provided by Senate Bill 246." dated February 2, 1979. Senate Bill 246 is discussed at note 182 *infra.*

155. *See* Eubanks v. Simpson, 90 S.W.2d 291, 291 (Tex. Civ. App.—Amarillo 1936, writ ref'd) ($70 front-end fee deducted from principal in determining interest rate on a $1,500 loan payable in 120 monthly installments of $18.75).

amortized over a thirty-year period at nine percent is $402.31.[156] Previous judicial decisions indicate that a court would deem the actual principal advanced in Example 10 to be only $35,000.[157] Montly payments of $402.31 per month on this reduced principal amortized over thirty years yields an interest rate of 13.55%.[158]

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156. This amount can be obtained from amortization tables or derived from actuarial concepts as follows:

$$i = \frac{.09}{12} = .0075$$

$$n = 30 \times 12 = 360$$

$$v^n = \frac{1}{(1+i)^n} = \frac{1}{(1.0075)^{360}} = .067886$$

$$a_n = \frac{1-v^n}{i} \quad \frac{.932114}{.0075} = 124.281867$$

$$PMT = \frac{PV}{a_n} = \frac{50,000}{124.281867} = 402.31$$

Combining the above,

$$PMT = PV \times \frac{1}{1-(1+i)^{-n}}$$

Where,

$i$ = the monthly nominal interest rate (.09/12)

$v$ = the discount factor

$a_n$ = an annuity-immediate

PMT = the monthly debt service

PV = the principal amount of the loan

$n$ = the number of payments

157. *See* Eubanks v. Simpson, 90 S.W.2d 291, 291 (Tex. Civ. App.—Amarillo 1936, writ ref'd). $50,000 − (30% × $50,000) = $35,000.

158. This interest rate may be determined from an amortization table or by reiteration of the following equation selecting successively closer values of $i$ at each iteration:

$$\frac{i}{1-(1+i)^{-n}} = \frac{PMT}{PV}$$

$$= \frac{402.31}{35,000.00}$$

$$= .0114945714$$

where PMT = the amount of the monthly payment

PV = the true amount advanced

$i$ = the monthly interest rate

and $n$ = the number of months of the loan

Thus it then becomes necessary to solve the equation through trial and error or reiterative approximations (or with the aid of a computer or programmable calculator) to find a value i that satisfies the equation,

The following example demonstrates the structuring of a nona-mortized loan that would give an unscrupulous lender an unlimited yield under the Rates Method:

> *Example 11.* L loans $50,000 to D, interest payable annually at the rate of five percent per annum ($2,500) for twenty years at which time the original principal amount is to be repaid. As a condition of making the loan L requires D to pay ninety-five points at the beginning of the loan.

The calculations for Example 11 under the Rates Technique would be as follows:

| Years | Interest Calculation | Total Interest |
|-------|---------------------|----------------|
| 1 | 95% + 5% | 100% |
| 2-20 | 5% × 19 | 95% |
| | | 195% |

$$\text{Average Rate} = \frac{195\%}{20 \text{ years}} = 9.75\% \text{ per annum}$$

In this example under the analysis of *Nevels*[159] the borrower would receive a true principal of $2,500,[160] pay $2,500 interest each year for twenty years and at the end of the twentieth year pay back the original $50,000 of stated principal. Since the borrower is paying $2,500 interest each year; he is in effect paying 100% interest per annum of the amount actually advanced. Additionally at the end of the twentieth year he must pay $52,500,[161] which results in an interest rate of 2000%[162] of the amount actually advanced during the

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$$\frac{i}{1 - (1 + i)^{-360}} = .0114945714$$

In this example the approximate value of $i$ that satisfies this equation is .011293, which is the monthly rate of interest. The nominal annual rate of interest is, therefore, 12 x .011293 = 13.5516%

159. *See* Nevels v. Harris, 129 Tex. 190, 196, 102 S.W.2d 1046, 1049 (1937).

160. *See id.* at 196, 102 S.W.2d at 1049. $50,000 − (95% × $50,000) = $2,500.

161. Under the terms of the loan the original stated principal ($50,000) plus one year's interest on that amount at five percent ($2,500) must be repaid. When viewed as a repayment of the true principal of $2,500, the remaining $50,000 must therefore be considered interest.

162.                     $\dfrac{\$50,000}{2,500} = 2,000$ percent.

last year of the loan.[163]

### B.   Averaging of Interest Amounts Technique (the "Amounts Technique")

A method that yields the same result for an unamortized loan as the Rates Technique is one which will be referred to as the Amounts Technique. Under this method the total amount of interest contracted for over the full term of the loan (including any front-end charges) is calculated and then divided by the original stated principal amount.

| Example 11 would be computed as follows: | | | |
|---|---|---|---|
| Front-end Charges (95% × $50,000.00) | = | | $47,500.00 |
| Total Interest (20 × 5% × $50,000.00 | = | | 50,000.00 |
| Total Interest Including Front-End | = | | 97,500.00 |
| Term of the Loan | = | ÷ | 20 years |
| Average Annual Interest | = | | $ 4,875.00 |
| Stated Loan Amount | = | ÷ | $50,000.00 |
| Average Interest Rate | = | | 9.75% |

Thus for an unamortized loan, the result is the same under the Amounts Technique as under the Rates Technique. This result follows because in an unamortized loan (*i.e.*, a loan in which the monthly payments cover only the interest due), the unpaid principal remains constant, and the ratio between the average amount of interest paid in a year and the principal amount is equal to the average interest rate.

Strict application of the Amounts Technique to an amortized loan produces an even greater understatement of the yield of the loan (*i.e.*, the interest rate) than the Rates Technique as is shown by

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163. Under *Nevels*, the computation would be as follows:

| True Principal | = | $   2,500.00 |
|---|---|---|
| Maximum Permitted Interest | | |
| (20 x 10% x $2,500.00) | = | 500.00 |
| Maximum Permitted Repayment | = | $   3,000.00 |
| Stated Principal | = | $ 50,000.00 |
| Total Actual Interest Paid | = | $ 50,000.00 |
| Total Actual Repayment | = | $100,000.00 |

Therefore, the loan would be usurious since the Total Actual Repayment is greatly in excess of the Maximum Permitted Repayment.

application of the Amounts Technique to the loan described in Example 10:

| | | |
|---|---|---|
| Front-End Charges (30% × $50,000.00) | = | $15,000.00 |
| Total Interest over the life of loan[164] | = | $104,648.80 |
| Total Interest | = | 119,648.80 |
| Term of Loan | = ÷ | 30 years |
| Average Interest | = | $ 3,988.29 |
| Amount of Loan | = ÷ | 50,000.00 |
| Average Rate | = | 7.97658% |

The reason for this increased distortion of the effective rate of interest is that the Amounts Technique fails to take into account that the entire principal is not outstanding during the full term of the loan, but rather bases its determination of an interest rate on the assumption that the borrower has had the use of the entire principal over the full term of the loan. It is possible, however, to modify the Amounts Technique for amortized loans to yield a result that is compatible with the Rates Technique. Under this modification, which will be referred to as the "Modified Amounts Technique," the outstanding unpaid principal balance during each period of the loan is added and then this sum is divided by the number of periods in the term of the loan. This average unpaid principal is then used in the calculations instead of the full stated amount of principal. In actuality this Modified Amounts Technique is merely a complicated method of arriving at a result identical to that yielded by the Rates Technique.[165]

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164. This can be calculated either by adding up the interest portion of each payment from an amortization schedule or calculated by the following equation:

$$TI = (n \times PMT) - PV$$

| Where | TI | = | total interest |
|---|---|---|---|
| | n | = | number of monthly payments |
| | PMT | = | amount of monthly payments |
| | PV | = | amount of loan |
| Thus, | TI | = | (360 x 429.58) — 50,000.00 = $104,648.80 |

165. The average unpaid principal is derived from the actual unpaid principal balances upon which interest is computed. Thus interest in the average principal balance concept is the actual interest rate.

Fluctuating or differing interest rates produce similar examples. Unfortunately, since each of the above methods ignores basic principles of finance in failing to consider the timing of the payments,[166] it is possible to structure an unlimited return-on-capital ("yield") to the lender and an unlimited effective interest rate to the borrower. This is demonstrated by the following Table A, which indicates the maximum permissible front-end charges for self-amortizing loans of various periods and interest rates when calculated under either the Rates Technique or the Modified Amounts Technique:[167]

## TABLE A

### MAXIMUM PERMISSIBLE
### FRONT-END CHARGES UNDER RATES
### TECHNIQUE AND MODIFIED AMOUNTS TECHNIQUE
(Percent of Loan Amount)

| Interest Rate (%) | YEARS | | | | | | |
|---|---|---|---|---|---|---|---|
|  | 1 | 5 | 10 | 20 | 30 | 50 | 100 |
| 9.999 | .001 | .005 | .010 | .020 | .030 | .050 | .100 |
| 9.990 | .010 | .050 | .100 | .200 | .300 | .500 | 1.000 |
| 9.900 | .100 | .500 | 1.000 | 2.000 | 3.000 | 5.000 | 10.000 |
| 9.750 | .250 | 1.250 | 2.500 | 5.000 | 7.500 | 12.500 | 25.000 |
| 9.500 | .500 | 2.500 | 5.000 | 10.000 | 15.000 | 25.000 | 50.000 |
| 9.250 | .750 | 3.750 | 7.500 | 15.000 | 22.500 | 37.500 | 75.000 |
| 9.000 | 1.000 | 5.000 | 10.000 | 20.000 | 30.000 | 50.000 | 100.000 |
| 8.000 | 2.000 | 10.000 | 20.000 | 40.000 | 60.000 | 100.000 | 200.000 |
| 7.000 | 3.000 | 15.000 | 30.000 | 60.000 | 90.000 | 150.000 | 300.000 |
| 6.000 | 4.000 | 20.000 | 40.000 | 80.000 | 120.000 | 200.000 | 400.000 |
| 5.000 | 5.000 | 25.000 | 50.000 | 100.000 | 150.000 | 250.000 | 500.000 |
| 4.000 | 6.000 | 30.000 | 60.000 | 120.000 | 180.000 | 300.000 | 600.000 |
| 3.000 | 7.000 | 35.000 | 70.000 | 140.000 | 210.000 | 350.000 | 700.000 |
| 2.000 | 8.000 | 40.000 | 80.000 | 160.000 | 240.000 | 400.000 | 800.000 |
| 1.000 | 9.000 | 45.000 | 90.000 | 180.000 | 270.000 | 450.000 | 900.000 |
| .100 | 9.900 | 49.500 | 99.000 | 198.000 | 297.000 | 495.000 | 990.000 |
| .010 | 9.990 | 49.950 | 99.900 | 199.800 | 299.700 | 499.500 | 999.000 |
| .001 | 9.999 | 49.995 | 99.990 | 199.980 | 299.970 | 499.950 | 999.900 |

The remaining two methods are concerned with application of article 1.07(a) to amortized loans.

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166. See text accompanying note 191 *infra.*

167. The maximum permissible front-end charges are even greater if the Amounts Technique is used.

## C.   The Hypothetical Amortization Technique (the "Amortization Technique")

One interpretation of the application of article 1.07(a) to amortized loans involves the construction of a hypothetical or artificial amortization schedule different from that chosen by the parties to the transaction. In any amortized loan four factors are involved: (1) the amount of the loan, (2) the interest rate of the loan, (3) the term of the loan required to self-amortize the loan, and (4) the amount of the monthly payment. Selection of the interest rate, and any two of the remaining three factors is sufficient to define an amortization schedule and to allow the calculation of the fourth factor.[168] It is also a simple matter to compute the total interest that is to be paid under any given amortization schedule as a function of the amount of the loan, the monthly payment, and the term of the loan.[169]

It is therefore possible to construct a hypothetical amortization schedule from any proposed loan substituting an interest rate of ten percent (the usury limit) for that stated in the loan. From this hypothetical amortization schedule it is then possible to calculate the total interest that would be payable over its term.[170] This hypothetical schedule would be the maximum amount that could be collected on a self-amortizing loan of a given amount and term. Under the Amortization Technique the *difference* between the total permissible interest under the hypothetical amortization schedule and the total interest under the actual amortization schedule is advocated to be the available interest or front-end charge that could be charged to the borrower.

---

168.

$$
\begin{array}{rcl}
\text{If} \quad PV & = & \text{the amount of the loan} \\
n & = & \text{the number of payment periods} \\
PMT & = & \text{the payment per period} \\
i & = & \text{the interest rate per period}
\end{array}
$$

$$
\text{Then} \quad PV = PMT \times \frac{1 - (1 + i)^{-n}}{i}
$$

$$
PMT = PV \times \frac{i}{1 - (1 + i)^{-n}}
$$

$$
n = \frac{-\ln\left[1 - \frac{i \times PV}{PMT}\right]}{\ln(1 + i)}
$$

169. See note 164 *supra.*

170. See note 164 *supra.*

The rules for application of this method can be summarized as follows:

(1)   The total interest to be collected over the life of the loan is calculated (the "Total Interest").

(2)   The total interest to be collected over the life of a self-amortizing loan in the same original principal amount bearing an interest rate of ten percent is then calculated (the "Maximum Interest").

(3)   The Total Interest is then subtracted from the Maximum Interest to arrive at the amount of a maximum front-end charge (the "Front-End Charge"). Any front-end charge exceeding this amount would render the loan usurious. The front-end charge can be divided by the original stated loan amount to arrive at the maximum number of front-end points chargeable. Thus, if this number of "points" is exceeded, the loan would be usurious.

An example may help clarify this novel method:

*Example 12.* L loans $50,000 to D to be amortized over thirty years in equal monthly installments of principal and interest, interest accruing at the rate of 9.75% per annum on the unpaid principal balance.

The amount of each installment would be $429.58.[171] Total interest over the life of the loan would be $104,648.80 (the "Total interest").[172] The total amount of interest for a loan of $50,000 amortized over a thirty-year period at ten percent per annum would be $107,964.40 (the "Maximum Interest").[173]

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171. Using the formula for PMT set forth at note 156 *supra:*

$$i = .0975/12 = .008125$$
$$PMT = \$50,000.00 \times \frac{.008125}{1 - (1.008125)^{-360}}$$
$$= \$429.58$$

172. Using the formula for TI set forth at note 164 *supra:*

$$TI = (360 \times 429.58) - \$50,000.00$$
$$= \$104,648.80$$

173.

$$i = .01/12 = .0008333$$
$$PMT = \$50,000.00 \times \frac{.0008333}{1 - (1.0008333)^{-360}}$$
$$= \$438.79$$
$$TI = (360 \times 438.79) - \$50,000.00$$
$$= \$107,964.40$$

See notes 164 and 168 *supra.*

| | |
|---|---|
| Maximum Interest | $107,964.40 |
| Total Interest | — 104,648.80 |
| Front-End Charge | 3,315.60 |
| Loan Amount | ÷ 50,000.00 |
| Maximum Permitted Points | 6.6312% |

Under existing case law,[174] however, a front-end charge of even five points would be usurious under the following analysis. The required monthly payments for a $50,000 loan amortized over a thirty-year period at 9.75% is $429.58.[175] The actual principal advanced is only $47,500.[176] Monthly payments of $429.58 on this reduced principal amortized over a thirty-year period yield an interest rate of 10.30%[177] Despite the ingenuity of this approach, the same basic failing is present in this technique as those previously described—failure to consider the timing of the front-end charge—as is demonstrated by the following example.

> *Example 13.* L loans $50,000 to D at the stated rate of six percent per annum on the unpaid principal balance to be amortized over thirty years in equal monthly installments of principal and interest. What is the maximum front-end charge permissible under the Amortization Method?

The calculation would be as follows:

| | |
|---|---|
| Maximum Interest | $107,964.40 |
| Total Interest[178] | — 57,920.80 |
| Front-End Charge | $ 50,043.60 |
| Loan Amount | ÷ 50,000.00 |
| Maximum Permitted Points | 100.0872% |

Thus at a six percent interest rate this method would allow the lender to collect at the time of the "loan" of $50,000 a front-end

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174. *See* Eubanks v. Simpson, 90 S.W.2d 291, 291 (Tex. Civ. App.—Amarillo 1936, writ ref'd).

175. For the method of calculation, see note 171 *supra*.

176. $50,000.00 − (5% × $50,000) = $47,500.

177. This can be verified by resort to amortization schedules.

178.

$$\text{PMT} = \$50,000.00 \times \frac{.005}{1 - (1.005)^{-360}} = \$299.78$$

$$\text{TI} = (360 \times \$299.78) - \$50,000.00 = \$57,920.80$$

See notes 164 and 168 *supra*.

charge of $50,043.60. Further, the borrower would be required to make payments of $299.78[179] per month for thirty years. Thus, use of this method of calculation for the purposes of article 1.07(a) would allow the possibility of unlimited interest rates and would therefore render the statute unconstitutional.[180] The maximum permitted front-end charges that would be permitted under this method are summarized below in Table B.

### TABLE B

**MAXIMUM PERMISSIBLE FRONT-END CHARGES UNDER AMORTIZATION TECHNIQUE**
**(Percent of Loan Amount)**

| Interest Rate (%) | 1 | 5 | 10 | Years 20 | 30 | 50 | 100 |
|---|---|---|---|---|---|---|---|
| 9.999 | .001 | .003 | .007 | .016 | .027 | .049 | .100 |
| 9.990 | .006 | .030 | .066 | .159 | .266 | .486 | 1.000 |
| 9.900 | .056 | .295 | .664 | 1.588 | 2.657 | 4.859 | 9.996 |
| 9.750 | .139 | .737 | 1.657 | 3.961 | 6.630 | 12.137 | 24.988 |
| 9.250 | .418 | 2.203 | 4.942 | 11.797 | 19.763 | 36.301 | 74.955 |
| 9.000 | .557 | 2.932 | 6.570 | 15.671 | 26.262 | 48.322 | 99.932 |
| 8.000 | 1.113 | 5.824 | 12.988 | 30.860 | 51.771 | 95.899 | 199.772 |
| 7.000 | 1.667 | 8.675 | 19.251 | 45.533 | 76.417 | 142.450 | 299.395 |
| 6.000 | 2.219 | 11.485 | 25.356 | 59.662 | 100.088 | 187.620 | 398.534 |
| 5.000 | 2.770 | 14.255 | 31.302 | 73.216 | 122.670 | 230.980 | 496.620 |
| 4.000 | 3.319 | 16.983 | 37.087 | 86.170 | 144.056 | 272.039 | 592.534 |
| 3.000 | 3.867 | 19.670 | 42.708 | 98.502 | 164.148 | 310.277 | 684.267 |
| 2.000 | 4.412 | 22.316 | 48.165 | 110.193 | 182.863 | 345.189 | 768.683 |
| 1.000 | 4.957 | 24.920 | 53.456 | 121.231 | 200.136 | 376.348 | 841.811 |
| .100 | 5.446 | 27.229 | 58.077 | 130.598 | 214.415 | 400.939 | 894.961 |
| .010 | 5.500 | 27.463 | 58.537 | 131.511 | 215.781 | 403.219 | 899.552 |
| .001 | 5.546 | 27.526 | 58.622 | 131.642 | 215.957 | 403.485 | 900.004 |

*D.   The Total Interest Declining Balance Technique (the "Declining Balance Technique")*

This method, recently presented at a meeting of the Texas Savings and Loan League,[181] and a form of which is being introduced as a proposed amendment to article 1.07(a),[182] carries the sophistica-

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179. See note 178 *supra*.

180. *See* Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 908 (Tex. 1976).

181. The Texas Savings and Loan League is a trade association of savings and loan associations located in Texas.

182. On January 23, 1979, Senate Bill No. 246 was submitted to the Economic Develop-

ment Committee of the Senate, and was passed by the Senate on March 27, 1979, but failed to come out of committee in the House. An identical bill, House Bill 615, introduced by Representative McFarland was submitted to the Financial Institutions Committee of the House and on February 27, 1979, was referred to a subcommittee. Section 1 of the Senate Bill would have amended article 1.07(a) to read as follows:

> (a)  No loan or agreement or loan secured or to be secured, in whole or in part, by a lien, mortgage, security interest, or other interest in or with respect to any interest in real property, shall be considered usurious under the laws of this State if:
>
>> (i)  the total amount of interest whenever paid and to be paid by the obligor thereon does not exceed the sum of the amounts determined by applying the maximum lawful rate of interest for such a loan to the full periodic balances due under the schedule of payments provided in the loan contract assuming that all periodic payments of principal and interest required by the loan contract are timely made and
>>
>> (ii)  the aggregate interest paid by the obligor or retained out of the proceeds of the loan by the lender at the time the loan was made did not exceed ten percent (10%) of the full stated original principal amount of the obligation.
>
> However, in the event the loan is either paid in full by the obligor or the obligation, for any reason, becomes payable in full prior to the end of the full stated term of the loan and the interest paid by the obligor to the date of such prepayment or early maturity exceeds the sum of the amounts determined by applying the maximum lawful rate of interest for such a loan to the full periodic principal balances due under the loan contract to the date of prepayment or early maturity the holder of the obligation shall refund to the obligor the amount of the excess or shall credit the amount of the excess against amounts owing under the loan contract and shall not be subject to any of the penalties provided by law for contracting for, charging, or receiving interest in excess of the maximum lawful rate.

Subsection (i) of the proposed amendment would have been a codification of the Declining Balance Technique. Subsection (ii) is obviously an attempted response to the criticism that the Declining Balance Technique by itself places no ceiling on what front-end fee can be extracted from the borrower through creative structuring the transaction by the lender. See text accompanying note 187 *infra*. Unfortunately the proposed amendment, if constitutional, would have permitted evasion of the usury laws as can be shown by the following examples:

> *Example A.* L loans $50,000 to D to be payable as follows: (i) ten front-end points ($5,000) at the time loan is made, (ii) 99.5% interest ($49,750) payable at the end of the first year, (iii) no interest during years 2 through 11, and (iv) repayment of principal at the end of the eleventh year.

Again, since no more than ten front-end points were charged at the time of the making of the loan, the loan complies with the requirements of subsection (ii). Application of the test set forth in subsection (i) would yield the following:

| | | |
|---|---|---|
| Front-End Charge | = | $ 5,000.00 |
| Interest Year 1 | = | 49,750.00 |
| Interest Years 2-11 | = | 0.00 |
| Total Interest Paid | = | $54,750.00 |

Permitted Interest = $50,000.00 x 10% x 11 = $55,000.00

In reality D received only $45,000 at closing and at the end of the first year repaid $49,750. At the maximum lawful rate, a $45,000 loan would permit the lender to collect $4,500 interest at the end of the first year. Subtracting this from $49,750 yields $45,250 of which only $45,000

can be attributable to repayment of principal. Thus L has been repaid the full amount advanced to D, received repayment of this amount plus interest in excess of ten percent at the end of the first year of the loan and is still entitled to receive a $50,000 payment at the end of the eleventh year *even though he has been repaid in full with interest in excess of ten percent of the amount actually advanced at the end of the first year.* Thus the lender's yield is at all times during this loan in excess of ten percent, and is actually a 23.749% yield over the entire loan term.

> *Example B.* L loans to D $50,000 to be payable as follows (i) ten "points" payable at the time the loan is made, (ii) 100% interest ($50,000) payable at the end of the first, second, and third years, (iii) ninety percent interest ($45,000) payable at the end of the fourth year and (iv) no interest thereafter until the end of the fortieth year at which time the full stated principal amount would be due.

This example complies with the requirement of subsection (ii) that no more than ten "front-end" points be collected at the time of the making of the loan. Furthermore, since this loan is an interest-only loan, the application of subsection (i) would permit the collection of ten percent per annum ($5,000) on the full principal each year thus yielding a total permissible interest charge of $200,000 over the life of the loan. The interest actually collected is computed as follows:

| | | |
|---|---|---|
| Front-End points | = | $ 5,000.00 |
| Interest Year 1 | = | 50,000.00 |
| Interest Year 2 | =. | 50,000.00 |
| Interest Year 3 | = | 50,000.00 |
| Interest Year 4 | = | 45,000.00 |
| Interest Year 5-40 | = | 0.00 |
| Total Actual Interest | = | $200,000.00 |

Thus, since the Total Actual Interest is equal to the maximum permitted by subsection (i), the loan would presumably not be usurious. If, however, the yield to L or the cost to D is examined, the true rate of interest is found to be 104.033% and therefore the loan should be found to be usurious.

These extreme examples have been chosen for purposes of illustration. The important point is that it is possible for a loan to be structured under this proposed amendment to evade the usury laws.

If article 1.07(a) is to be amended in order to remove the possibility of construction of the statute as unconstitutional, this author contends that the following amendment, which is based upon a somewhat more detailed and elaborate version prepared by James H. Wallenstein in 1977, would be an appropriate amendment:

> (a) Except as may be provided to the contrary in other Chapters of this Title, on any loan or agreement to loan secured or to be secured, in whole or in part, by a lien, mortgage, security interest, or other interest in or with respect to any interest in real property, calculation of the rate of interest for the purpose of determining whether the loan is usurious under all applicable Texas laws shall be made by amortizing in accordance with the "actuarial method" (as defined in this section) all payments of principal or interest at any time contracted for, charged, or received in connection with the loan. If the interest rate on a loan, which is not usurious under its express provisions when calculated pursuant to the "actuarial method", exceeds the maximum lawful rate because the loan either is paid in full or is matured prior to the end of the full stated term of the loan, or in the case of a demand obligation because demand is made by the lender, and at a time when the interest contracted for, charged or received to the

tion of the Amortization Technnique even one step further. Under this method:[183]

(1) The total interest that would be collected over the life of the loan is calculated (the "Total Interest").[184]

(2) An amortization schedule of the loan is computed at the given interest rate and for the stated term. The amount of principal that, according to the schedule would remain unpaid at the beginning of each month, is multiplied by the monthly equivalent of the maximum lawful interest rate[185] to find the maximum interest chargeable in each month. The result of all of the multiplications are then added to arrive at the maximum permissible interest (the "Maximum Interest") that can be collected under this method.

(3) The Total Interest is then subtracted from the Maximum Interest to arrive at a maximum front-end charge (the "Front-End Charge").

(4) The Front-End Charge is then divided by the original stated loan amount to arrive at the maximum number of front-end points chargeable. As in the case of the Amortization Technique, if this number of front-end points is exceeded the loan will be usurious.

The following example should clarify how this method is applied:

*Example 14.* L loans $500,000 to D to be amortized over one year in twelve equal monthly installments of principal and interest, interest accruing at the rate of six percent per annum. What is the maximum number of permissible front-end points?

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date of such payment, maturity, or demand exceeds the maximum lawful rate, the lender contracting for, charging, or receiving all such interest shall not be subject to any of the penalties provided by law for contracting for, charging, or receiving interest in excess of the maximum lawful rate but shall be obligated either to refund to the borrower the amount of the excess or to credit the amount of the excess against amounts owing under the loan and shall not be subject to any of the penalties provided by law for contracting for, charging, or receiving interest in excess of the maximum lawful rate. The term "actuarial method" as used in this section, means the method of allocating payments made on a debt between the principal balance and accrued interest pursuant to which a payment (whether it is so characterized by the parties to the transaction) is applied first to the entirety of the accrued interest and any remainder is subtracted from, or any deficiency is added to, the unpaid principal balance. This amendment would remove many of the ambiguities of interpretation present in article 1.07(a) and would remove any doubt about its constitutionality.

183. The following analysis is based upon a paper presented in November 1978, at the Texas Savings and Loan League by Clint Small, attorney-at-law, and David Lasiter, accounting doctoral candidate, and subsequent telephone conversations with Mr. Lasiter. The author of this article wishes to thank Mr. Lasiter for the courtesy of explaining the mathematical derivation of this method.

184. See note 164 *supra* for the formula.

185. Usually for ease of calculation, a nominal rate is used instead of an effective rate. For a discussion of these concepts, see note 205 *infra*.

## The calculations would be as follows:[186]

| PMT | Beginning Balance | Scheduled Interest | Reduction of Principal | Resulting Balance | 10% Interest on Beginning Balance |
|---|---|---|---|---|---|
| 1 | $500,000.00 | $ 2,500.00 | $ 40,533.21 | $459,466.79 | $ 4,166.65 |
| 2 | 459,466.79 | 2,297.33 | 40,735.88 | 418,730.91 | 3,828.87 |
| 3 | 418,730.91 | 2,093.65 | 40,939.56 | 377,791.35 | 3,489.41 |
| 4 | 377,791.35 | 1,888.96 | 41,444.25 | 336,647.10 | 3,148.25 |
| 5 | 336,647.10 | 1,683.24 | 41,349.97 | 295,297.13 | 2,805.38 |
| 6 | 295,297.13 | 1,476.49 | 41,556.72 | 253,740.41 | 2,460.80 |
| 7 | 253,740.41 | 1,268.70 | 41,764.51 | 211,975.90 | 2,114.49 |
| 8 | 211,975.90 | 1,059.88 | 41,973.33 | 170,002.57 | 1,766.46 |
| 9 | 170,002.57 | 850.01 | 42,183.20 | 127,819.37 | 1,416.68 |
| 10 | 127,819.37 | 639.10 | 42,394.11 | 85,425.26 | 1,065.16 |
| 11 | 85,825.26 | 427.13 | 42,606.08 | 42,819.18 | 711.87 |
| 12 | 42,819.18 | 214.09 | 42,818.12 | —0— | 356.83 |
| Total Interest | | $16,398.52 | | | $27,330.85 |

| | | | |
|---|---|---|---|
| Maximum Interest | = | | $ 27,330.85 |
| Total Interest | = | | 16,389.52 |
| Front-End Charge | = | | 10,932.33 |
| Loan Amount | = | ÷ | $500,000.00 |
| Maximum Permitted Points | = | | 2.18646% |

186. The calculations presented in the text are for purposes of demonstrating the concept of the Declining Balance Technique. There is, however, a simpler method of calculating the maximum front-end charge permissible under this method.

Let   B   =   the average unpaid principal period
     TI   =   the total interest
      $i$   =   the interest rate per period
      $n$   =   the number of periods
     PMT   =   the payment per period
     PV   =   the original loan amount

From note 164 *supra*,
      TI   =   $(n \times PMT) - PV$

And by definition the number of periods multiplied by the average balance by the interest per period will also equal the total interest.
      TI   =   $(n \times B) \times i$

Combining these two formulae yields
$$B = \frac{PMT - (PV/n)}{i}$$

In Example 14,
$$B = \frac{43,033.21 - (500,000/12)}{(.06/12)}$$
$$= \$273,308.80$$

Now the total interest at ten percent on the balances computed directly:
      TI   =   $(n \times B) \times i$
        =   $(12 \times \$273,308.80) \times (.1/12)$
        =   $27,330.88$

Unfortunately, the same flaw present in the Amortization Technique is also present in the Declining Balance Technique, as is demonstrated by the following example:

> *Example 15.* L loans $50,000 to D to be amortized over a thirty year period in equal monthly installments of principal and interest, interest accruing at the rate of eight percent per annum. What is the maximum number of permissible front-end points?

The calculations[187] for this example are as follows:

| | | |
|---|---|---|
| Maximum Interest | = | $102,590.85 |
| Total Interest | = | 82,076.80 |
| Front-End Charge | = | $ 20,514.05 |
| Loan Amount | = | ÷ 50,000.00 |
| Maximum Permitted Points | = | 41.0281% |

The reduced principal of $29,477.00 if amortized over thirty years in monthly payments of $366.88 per month would yield an interest rate of 14.75% per anum, in which event the loan should be usurious.[188] Even more extreme examples of front-end charges permissible for various loans under this method are summarized under Table C.

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187.

$$i = .08/12 = .00667$$

$$PMT = PV \times \frac{1}{1 - (1 + i)^{-n}}$$

$$= \$50,000.00 \times \frac{.00667}{1 - (1.00667)^{-360}}$$

$$= \$366.88$$

$$TI = (n \times PMT) - PV$$
$$= (360 \times \$366.88) - \$50,000.00$$
$$= \$82,076.80$$

$$B = \frac{PMT - (PV/n)}{i}$$

$$= \frac{366.88 - (50,000.00/360)}{.00667}$$

$$= \$35,196.95$$

Maximum Interest $(i = .1/12)$

$$TI = (n \times B) \times i$$
$$= (360 \times \$34,196.95) \times (.1/12)$$
$$= \$102,590.85$$

188. *See* Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 907-08 (Tex. 1976).

## TABLE C

### MAXIMUM PERMISSIBLE FRONT-END CHARGES UNDER DECLINING BALANCE TECHNIQUE
#### (Percent of Loan Amount)

| Interest Rate (%) | 1 | 5 | 10 | Years 20 | 30 | 50 | 100 |
|---|---|---|---|---|---|---|---|
| 9.999 | .003 | .003 | .006 | .013 | .022 | .040 | .090 |
| 9.990 | .005 | .027 | .059 | .132 | .216 | .403 | .900 |
| 9.900 | .054 | .274 | .585 | 1.313 | 2.154 | 4.026 | 9.072 |
| 9.750 | .136 | .685 | 1.459 | 3.273 | 5.367 | 10.033 | 22.403 |
| 9.500 | .271 | 1.368 | 2.909 | 6.511 | 10.669 | 19.957 | 44.594 |
| 9.250 | .407 | 2.048 | 4.348 | 9.713 | 15.904 | 29.773 | ·66.917 |
| 9.000 | .542 | 2.726 | 5.778 | 12.881 | 21.074 | 39.459 | 88.414 |
| 8.000 | 1.082 | 5.411 | 11.396 | 25.185 | 41.040 | 76.899 | 174.693 |
| 7.000 | 1.621 | 8.055 | 16.853 | 36.886 | 59.789 | 111.859 | 257.155 |
| 6.000 | 2.158 | 10.658 | 22.146 | 47.960 | 77.224 | 143.905 | 334.407 |
| 5.000 | 2.693 | 13.220 | 27.274 | 58.386 | 93.254 | 172.479 | 403.524 |
| 4.000 | 3.227 | 15.740 | 32.236 | 68.150 | 107.800 | 197.128 | 461.379 |
| 3.000 | 3.760 | 18.218 | 37.031 | 77.238 | 120.816 | 217.429 | 503.499 |
| 2.000 | 4.290 | 20.655 | 41.659 | 85.649 | 132.249 | 233.098 | 525.489 |
| 1.000 | ·4.820 | 23.050 | 46.118 | 93.373 | 142.109· | 244.037 | 524.151 |
| .100 | 5.363 | 25.183 | 49.995 | 99.744 | 149.659 | 294.982 | 503.679 |
| .010 | 5.412 | 25.395 | 50.378 | 100.356 | 150.350 | 250.396 | 500.755 |
| .001 | 5.418 | 25.426 | 50.435 | 100.457 | 150.479 | 250.530 | 500.660 |

Each of the four methods discussed allows the creation of a loan that results in a potentially unlimited effective interest rate just as the "premiums" under article 852a[189] provided the opportunity for unlimited additional interest charges which were held unconstitutional in *Gonzales*.[190] For these reasons an alternative constitutional method of calculation is necessary. The author is of the opinion that the actuarial method discussed in the next section fulfills this need.

## VI. THE ACTUARIAL METHOD

Analysis of the economic reality of a loan transaction provides one fundamental tool for usury determination. One further concept, missing from the methods discussed in section V, must be introduced into any usury analysis in order to meaningfully calculate a rate of interest in a given transaction. This concept is that the value

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189. TEX. REV. CIV. STAT. ANN. art. 852a (Vernon 1964).
190. Gonzales County Sav. & Loan Ass'n v. Freeman, 534 S.W.2d 903, 908 (Tex. 1976).

of money is dependent on the time of its receipt.[191] A dollar received today is not necessarily worth a dollar received a year from today since the dollar received today is available for reinvestment a year earlier than the dollar received a year hence. In financial analysis the value today of a series of future payments is called the *"present value"* of the payments. Conversely the value of a current payment at a future date is called *"future value"* of the payment.

In order to calculate the future value ("FV") of the current investment at the end of an investment period, the current or present value ("PV") of the interest is multiplied by a quantity equal to one plus the interest rate ("$i$") that the investment is earning per investment period. This relationship can be represented by the following equation:

$$PV \times (1+i) = FV$$

For multiple periods, the equation becomes:

$$PV \times (1+i)^n = FV$$

when $n$ is the number of periods[192] during which interest is compounded.

From this equation it is possible to arrive at an expression for the present value of a future payment:[193]

$$PV = FV \times \frac{1}{(1+i)}^n = FV \times \frac{1}{(1+i)^n} = \frac{FV}{(1+i)^n}$$

191. The discussion in the text following this footnote is by necessity an extremely brief introduction to the theory of compound interest. For additional commentary, see J. WESTON & E. BRIGHAM, MANAGERIAL FINANCE 144-68 (3d ed. 1969); W. JEAN, THE ANALYTICAL THEORY OF FINANCE 8-13 (1970); for a rigorous and extensive analysis, see S. KELLISON, THE THEORY OF INTEREST 1-27 (1970).

192. When the period is equal to a year, $i$ is the effective rate of interest. For periods shorter than a year the rate of $i\%$ per period is called the *nominal* rate of interest that is compounded $x$ times per year. Thus "six percent per year compounded quarterly" means a rate of ¼ x 6% = 1.5% compounded four times per year. The six percent rate is called the *nominal* interest rate. This can be contrasted to the equivalent effective rate of interest which is $(1.015)^4 - i = 6.136\%$ per annum. See J. KEMENY, A. SCHLEIFER, JR., J. SNELL & G. THOMPSON, FINITE MATHEMATICS WITH BUSINESS APPLICATIONS 330-31 (1962).

193. See J. MAO, QUANTITATIVE ANALYSIS OF FINANCIAL DECISIONS 183-84 (1969).

The present value of a series of future payments is simply the sum of the present values of the individual future payments.[194] For simplicity, the quantity $\frac{1}{(1+1)}$ is sometimes referred to as the discount rate ("*d*").[195]

These concepts form the fundamental theory underlying the actuarial method, which this author contends is the most effective means of realizing the economic reality of any loan transaction. The "actuarial method" and a variation of it sometimes referred to as the "United States Rule"[196] are procedures in which any series of payments and advances on a loan may be broken down into a principal component and an interest component. The United States Supreme Court in *Story v. Livingston*[197] stated the United States Rule as follows:

> The correct rule in general is, that the creditor shall calculate interest whenever a payment is made. To this interest the payment is first to be applied; and if it exceed the interest due, the balance is to be applied to diminish the principal. If the payment fall short of the interest, the balance of interest is not to be added to the principal so as to produce interest.[198]

A definition[199] of the actuarial method is found in the federal truth-in-lending regulations[200] in which it is defined as:

> [The] method under which payments made on a debt are allocated between the amount of the finance charge and the amount financed,

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194. *Id.* at 184.

195. *See* S. KELLISON, THE THEORY OF INTEREST 10 (1970). For a brief discussion of the discount rate, see note 17 *supra*.

196. Regulation Z used in Federal Truth-in-Lending also refers to the "United States Rule." *See* 12 C.F.R. § 226.5(b)(2) (1978). Additionally, as explained below, the "actuarial method" employed in Federal Truth-in-Lending is in actuality a variation from the strict actuarial method. See note 199 *infra*. Unless otherwise changed by context, the term "actuarial method" shall mean the procedure set forth in the text accompanying notes 219-227 *infra*.

197. 38 U.S. (13 Pet.) 359 (1839).

198. *Id.* at 371. The United States Rule and its application in other jurisdictions was discussed in Community Sav. & Loan Ass'n v. Fisher, 409 S.W.2d 546, 551 (Tex. 1966). The United States Rule does not allow accrued but unpaid interest to be compounded.

199. Under Regulation Z the term "accumulated finance charge" is substituted for "interest" and the term "amount financed" is substituted for principal. The only difference between the actuarial approach applied in truth-in-lending and the true "actuarial method" is the use of the concept of a "unit period" in truth-in-lending, which deviates from a pure actuarial method but which is necessary in order to make the actuarial method functional for a disclosure purpose.

200. 12 C.F.R. § 226 (1978).

*o*

so that each payment is applied first to the accumulated finance charge and any remainder is subtracted from, or any deficinecy is added to, the unpaid balance of the amount financed.[201]

The widespread applicability of the federal truth-in-lending disclosure requirements[202] as well as the actuarial method's obvious compatibility with existing federal credit disclosure requirements, highlights the desirability of the use of this method of calculation for determination of usury. Additionally, most lending institutions would be able to ascertain quickly whether a loan is usurious based upon existing federal truth-in-lending tables.[203] The operative language of the version of the actuarial method employed in supplement I to regulation Z is as follows:

*Section 226.5—Supplement—General rule and equations for determining the annual percentage rate pursuant to paragraph (b) of § 226.5*

(a)  *General rule—other credit.* The annual percentage rate shall be that nominal annual percentage rate determined by multiplying the unit-period rate by the number of unit-periods in a year and shall be computed so that it may be disclosed with an accuracy at least to the nearest quarter of 1 percent. The unit-period rate shall be determined as that percentage rate which will yield a sum equal to the amount of the finance charge when it is applied in accordance with the actuarial method under which payments made on a debt are allocated between the amount of the finance charge and the amount financed, so that each payment is applied first to the accumulated finance charge and any remainder is subtracted from, or any deficiency is added to, the unpaid balance of the amount financed.

(b)  *Unit-period.* For the purposes of determining the unit-period, all calendar months may be considered as equal periods and the following shall be applicable:

(1)  The term of the transaction commences on the date of its consummation, except that if the finance charge begins to accrue on any other date, the term of the transaction shall be considered as beginning on the date the finance charge begins to accrue and ending on the date the last payment is due.

(2)  Periods are the intervals of time between advances or between payments and include the interval of time between the date the fi-

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201. 34 Fed. Reg. 2017 (1969) [incorporated by reference in 12 C.F.R. § 226.5 (1978)].

202. *See* Landers, *The Scope of Coverage of the Truth in Lending Act,* 1976 A.B.F. Res. J. 565, 565-66.

203. *See* 1 & 2 Board of Governors of the Federal Reserve System, Truth in Lending Regulation Z Annual Percentage Rate Tables.

nance charge begins to accrue and the date of the first advance thereafter or the date of the first payment thereafter, as applicable.

(3) A common period shall be any period which occurs more than once in a transaction.

(4) The unit-period shall be that common period, not to exceed one year, which occurs most frequently in the transaction; except that

(i) If two or more common periods occur with equal frequency, the smaller of such common periods shall be the unit-period; or

(ii) If there is no common period in the transaction, the unit-period shall be that period which is the average of all periods rounded to the nearest whole standard intervals of time, the lower shall be the unit-period. For the purpose of this subparagraph, a standard interval of time shall be a day, week, biweek, semimonth, month, or a multiple of a month up to, but not to exceed 1 year.

(5) The unit-period in a single advance single payment transaction shall be the term of the transaction, but not to exceed one year.[204]

The above method for arriving at a nominal annual percentage rate[205] encompasses several concepts: unit period, unit period rate,

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204. 12 C.F.R. § 226.5 (1978).

205. The use of a nominal rate of interest instead of an effective rate of interest is quite common. For example amortized loan schedules are based upon interest rates that are compounded monthly. Similarly federal truth-in-lending has incorporated nominal rates of interest into its disclosure requirements. The main reason for the popularity of this method of computation is probably the ease of computation as well as the need for simplicity in disclosure of interest rates. The use of nominal rates of interest generally results in a lower stated rate of interest than the equivalent effective rate of interest. Because of this understatement of the effective rate of interest, it can be argued that the use of nominal rates allows lenders to collect interest in excess of the amount that they could collect based upon an effective rate of interest. It can also be argued that the ten percent per annum ceiling contained in section 11 of article XVI of the Texas Constitution should be read as an effective rate of interest. If that interpretation is adopted, then existing loans amortized on a monthly basis based on a nominal interest rate higher than 9.569% would exceed a ten percent effective rate and therefore be usurious. This 9.569% rate is based on the assumption that *no* points or other judicially construed interest charges are paid by the borrower at closing. If any points are paid by the borrower this nominal rate would be even lower based on the reduced principal computation of *Nevels*.

Several reasons for interpreting the constitutional ceiling as a nominal rate of interest do exist:

(1) Probably the strongest argument in favor of this interpretation is based upon the long standing practice of the use of nominal rates in interest computations. An analogy can be drawn between this practice and the practice of the deduction of "interest in advance" from short term loans. In Shropshire v. Commerce Farm Credit Co., 120 Tex. 400, 412, 30 S.W.2d 282, 286 (1930) and in Bothwell v. Farmers' & Merchants' State

and accumulated finance charge.[206] The application of these concepts is demonstrated in the following examples.

> *Example 16.* L lends $100 to D on June 1, 1977, payable on June 1, 1978, together with interest accrued in the amount of $10. This can be represented graphically on a time line[207] as follows:

| Advances | $100 | |
|---|---|---|
| Time | 0 months | 12 months |
| Payments | | $110 |

Upon re-examination of the language of regulation Z, supplement I, subsection (b), a unit-period of one year will be found. The interest or accumulated finance charge ("AFC") is $10. The first and

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Bank & Trust Co., 120 Tex. 1, 6, 30 S.W.2d 289, 291 (1930), the Texas Supreme Court, after acknowledging that allowing a lender to deduct interest in advance at the highest lawful rate for loans of a term of a year or less logically results in usury, held that the practice was too firmly established in Texas to depart from and, therefore, the court would continue not to consider the practice to result in usury. *Accord,* Southern States Mortgage Co. v. Lykes, 85 S.W.2d 780, 783 (Tex. Civ. App.—Amarillo 1935, writ ref'd) (dictum); Webb v. Pahde, 43 S.W. 19, 20 (Tex. Civ. App. 1897, no writ); Tucker v. Coffin, 26 S.W. 323, 324 (Tex. Civ. App. 1894, no writ). It can be demonstrated that the effective rate of interest for a one year loan with ten percent interest deducted in advance is actually 11.1%. *See* Comment, *Usury Implications of Front-End Interest and Interest in Advance,* 29 Sw. L.J. 748, 751 n.25 (1975). The maximum effective rate that can be obtained from a ten percent nominal rate per annum is 10.5171% per annum. See note 222 *infra.* Because of this maximum it can be argued that use of the nominal rates does effectively preserve a ceiling on interest rates.

(2) One obvious practical effect of not interpreting the constitutional ceiling to be a ten percent nominal rate is the result that a great many existing loans (*i.e.,* those based on a nominal rate of interest greater than 9.569%) would then be usurious. This result would be particularly inequitable for lenders who had relied on this long standing practice of computation. For example, a thirty-year self-amortizing $50,000 loan payable in monthly installments of $429.58 per month based on a 9.75% per annum nominal interest rate requires the borrower to pay total interest of $104,647.79 over the life of the loan. Since the penalty for usury at the time this article was prepared was forfeiture of twice the interest contracted for, the lender would forfeit $209,295.58 on such a loan.

(3) Nominal interest rates are used in federal truth-in-lending and are a widely used system for existing consumer transactions. Additionally the use of the actuarial method, which uses a nominal rate of interest, has already found legislative acceptance in TEX. REV. CIV. STAT. ANN. art. 5069-14.05 (Vernon Supp. 1978-1979).

(4) Finally, nominal rates of interest provide an easy method of computation whereas the computation of effective rates of interest for periods shorter than a year require the use of somewhat involved calculations. See note 222 *infra.*

206. Accumulated finance charge can be thought of as accrued interest.

207. A "time line" shows a series of transactions over a period of time, normally with advances indicated above the time line and payments shown below the time line.
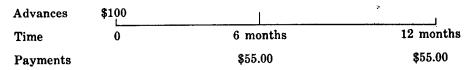
only payment is first applied to the AFC leaving $100, which reduces the outstanding principal to zero. Based on the formulas derived earlier, this would be represented as the following equation:[208]

$$100 = \frac{110}{(1+i)}$$

when $i$ is the unit-period rate ("UPR"). The application of simple algebra yields a value of $i$ equal to 0.1 or ten percent. The number of unit-periods in this example is one so that the nominal annual percentage rate ("NAPR") equals one times the UPR, which is ten percent per annum.

> *Example 17.* L again lends D $100 but this time D must pay back $55 after six months and then another $55 at the end of the second six months.

This can be represented on a time line as follows:

| Advances | $100 | | |
|---|---|---|---|
| Time | 0 | 6 months | 12 months |
| Payments | | $55.00 | $55.00 |

Unit Period:     6 months

This transaction can be represented by the following formula:

$$100 = \frac{55}{(1+i)} + \frac{55}{(1+i)^2}$$

Solution of the equation reveals $i = .06597$, or 6.597%, which is the UPR. The number of unit-periods is two so that the NAPR equals 2 x 6.597% = 13.194%. In Example 16, D had the use of the entire loan proceeds ($100) over the full loan term, whereas in this example, D was required to repay a substantial portion of the loan ($55) after the expiration of one-half of the loan term. Therefore, D had the use of less money during the latter half of the loan term although his cost for the use of the money over the loan term ($10) was the same in both examples. The higher interest in this example reflects the fact that D had the use of less than the full amount of the loan proceeds over the entire term of the loan.

Example 17 can be examined in the context of the definition of the actuarial method under which each payment is applied first to

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208. A detailed discussion and understanding of the general equation is not necessary for the general reader. A more technical discussion of the general equation along with the general equation for the true actuarial method can be found at note 216 *infra.*

the accumulated finance charge and any remainder is subtracted from the unpaid balance of the amount financed. First, since the NAPR is 13.194%, the AFC at the end six months would be $6.60.

| | |
|---|---:|
| First Payment | 55.00 |
| AFC for 6 months | —6.60 |
| Reduction of Principal | 48.40 |
| | |
| Principal | 100.00 |
| Reduction of Principal | —48.40 |
| Remaining Principal | 51.60 |
| × UPR | ×.06597 |
| AFC | 3.40 |
| | |
| Second Payment | 55.00 |
| AFC for second 6 months | —3.40 |
| Reduction of Principal | 51.60 |
| | |
| Principal | 51.60 |
| Reduction of Principal | —51.60 |
| Remaining Principal | 0.00 |

*Example 18.* L loans $100 to D payable $5 after six months and $110 at the end of the year.

The equation:

$$100 = \frac{5}{(1+i)} + \frac{110}{(1+i)^2}$$

Yields $i =$    .07411
NAPR  =  14.822%

If D had paid *nothing* until the end of the year and then paid $115, the interest rate would be fifteen percent, a higher interest rate than if D had made an earlier payment. To understand this phenomenon, one must simply recall that *each payment* (or advance) triggers a conversion of the accrued but unpaid interest into principal, resulting in a compounding of the interest during the next computation period.[209] This result can be best understood by an examination of the application of the definition of the actuarial method to Example 18.

| | |
|---|---:|
| AFC at 6 months | $7.41 |
| Payment | —5.00 |
| Deficiency of payment over AFC | $2.41 |

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209. See note 205 *supra,* and note 222 *infra,* for a discussion of nominal rates of interest.

Since the next-to-last clause of subsection (a) of supplement I states that the "deficiency [is] added to . . . the unpaid balance of the amount financed," the $2.41 is *added* to the unpaid principal.

| | |
|---|---|
| Unpaid Principal | $102.41 |
| AFC | +7.59 |
| Second Payment | $110.00 |

*Example 19.* The same loan as Example 18 but with payments of $10 after six months and $105 at the end of the year:

$$100 \;=\; \frac{10}{(1+i)} \;+\; \frac{105}{(1+i)^2}$$

Yields $i$ = .07592
NAPR = 15.184%

In Example 18 the first payment was insufficient to cover the accumulated finance charge. As a result the unpaid principal balance increased after the application of the first payment. In Example 19 the payment was in excess of the accumulated finance charge, which resulted in the unpaid principal balance decreasing after the application of the first payment.[210] Because the unpaid principal balance for the remainder of the loan term in this example is less than that in Example 18, the average principal balance available to D is less. Since the UPR is roughly equivalent to the ratio between the accumulated finance charge and the average outstanding principal balance, when the average outstanding principal balance is decreased but the AFC remains fixed, the interest rate increases.

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210. Since the NAPR is 15.184%, the AFC at the end of six months would be $6.60.

| | | |
|---|---|---|
| First Payment | = | $ 10.00 |
| AFC for 6 months | = | 7.59 |
| Reduction of Principal | = | 2.41 |
| Principal | = | 100.00 |
| Reduction of Principal | = | 2.41 |
| Remaining Principal | = | 97.59 |
| x UPR | = | x.07592 |
| AFC | = | 7.41 |
| Second Payment | = | 105.00 |
| AFC for second 6 months | = | 7.41 |
| Reduction of Principal | = | 97.59 |
| Principal | = | 97.59 |
| Reduction of Principal | = | 97.59 |
| Remaining Principal | = | 0.00 |

*Example 20.* L loans D $100 at eleven percent interest during the first year and nine percent during the second year with interest payable yearly and with maturity date at the end of the second loan year.
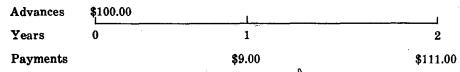
The time line would be as follows:

| Advances | $100.00 | | |
|---|---|---|---|
| Years | 0 | 1 | 2 |
| Payments | | $11.00 | $109.00 |

The equation:

$$100 = \frac{11}{(1+i)} + \frac{109}{(1+i)^2}$$

Solution of the equation yields $i$=NAPR=10.048%. This is the expected result since the lender charged a rate of interest greater than ten percent during the early portion of the loan.

*Example 21.* L loan D $100 at nine percent interest during the first year and eleven percent interest during the second year with interest payable yearly and with a maturity date at the end of the second loan year.
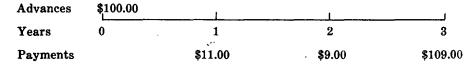
| Advances | $100.00 | | |
|---|---|---|---|
| Years | 0 | 1 | 2 |
| Payments | | $9.00 | $111.00 |

The equation:

$$100 = \frac{9}{(1+i)} + \frac{111}{(1+i)^2}$$

This formula yields $i$=NAPR=9.953%. As one would expect Example 21 yielded an interest rate lower than ten percent because of the lower interest paid in the first year.

*Example 22.* L loans D $100 at eleven percent interest during the first year, and nine percent interest during the second and third years, with interest payable yearly and with a maturity date at the end of the third loan year. The time line would be as follows:

| Advances | $100.00 | | | |
|---|---|---|---|---|
| Years | 0 | 1 | 2 | 3 |
| Payments | | $11.00 | $9.00 | $109.00 |

The equation would be:[211]

$$100 = \frac{11}{(1+i)} + \frac{9}{(1+i)^2} + \frac{119}{(1+i)^3}$$

The equation when solved for $i$ yields $i = 9.729\%$, which is equal to the NAPR. Thus, merely because more than ten percent interest was collected during the early portion of the loan would not in itself render an average interest rate greater than ten percent over the life of the loan under the actuarial method.

The examples thus far discussed have involved payments occurring at the end of each unit-period. But a loan involving irregular payments and advances would, under the truth-in-lending approach, require the selection of a unit-period.[212] If there are more than four irregular payments, the equation for such a loan becomes difficult or impossible to solve algebraically.[213] In that instance resort must be made to published tables and estimation work sheets,[214] or to computers or programmable calculators. As previously stated truth-in-lending is a *disclosure* statute and is concerned with the calculation of a rate to be disclosed. For purposes of usury determination, however, it is not necessary to calculate an actual rate of interest or a unit-period.[215] All that must be determined is *whether the actual rate is greater than the specified lawful*

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211. Each additional unit period increases the degree of the equation. Here the equation is an equation of degree three corresponding to three time periods.

212. The reason for the necessity of a unit period is that unless a uniform period is used, no definite annual nominal percentage rate can be calculated. Nominal interest rates only have meaning because of the period upon which it is based. Thus a ten percent nominal interest rate based upon a three month compounding is not equivalent to a ten percent nominal interest rate based upon a monthly compounding. See note 205 *supra*, and the table at note 222 *infra*.

213. It has been proven that a general equation of degree five or higher is incapable of solution algebraically. I. HERSTEIN, TOPICS IN ALGEBRA 214 (1964). For approximation of the solutions to these equations resort must be made either to tables or to computer analysis; however, several hand-held programmable calculators have the capacity to compute the interest rate to any reasonably desired accuracy. For a simplified method of solving equations of degree three or four, see S. NEUMARK, SOLUTION OF CUBIC & QUARTIC EQUATIONS (1965).

214. 1 & 2 BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, TRUTH IN LENDING REGULATION Z ANNUAL PERCENTAGE RATE TABLES.

215. The unit period is used as an approximating device that often does not correspond to the actual dates of all the payments or advances.

*rate.* This greatly simplifies the calculations required[216] since solution of the general equation is not necessary. Instead one need only calculate whether the total amount the borrower is required to pay to the lender is less than the total amount that the lender could have charged if the loan had been structured so that each payment was made with interest at the highest permissible rate. In the event the amount paid is actually less than the amount that could have been charged, the loan is not usurious. This concept is illustrated by Example 23.

> *Example 23.* In State Y the usury rate is thirteen percent and in State Z the usury rate is fourteen percent. L lends D \$100. D must pay back \$55 after six months and then another \$55 at the end of the second six months.

In order to determine whether the loan in this example (which is identical to the loan in Example 17) is usurious, the actuarial method is applied by using the maximum lawful rate of interest to determine whether D pays back more or less than the maximum amount permitted by law.

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216. If one wishes to determine the exact rate of interest of a loan the general equation of supplement I must be used. The general equation of supplement I is as follows:

$$\frac{U_1}{(1+i)^{g_1}} + \frac{U_2}{(1+i)^{g_2}} + \cdots + \frac{U_m}{(1+i)^{g_m}} = \frac{P_1}{(1+i)^{t_1}} + \frac{P_2}{(1+i)^{t_2}} + \cdots + \frac{P_n}{(1+i)^{t_n}}$$

$U_k$ = The amount of credit advanced directly or indirectly at the end of the $k$th period.

$g_k$ = The number of unit-periods from the date of consummation of the date the finance charge begins to accrue, as applicable, to the $k$th advance.

$m$ = The number of advances to be made by the creditor.

$P_j$ = The amount of the payment to be made at the end of the $j$th period.

$t_j$ = The number of unit-periods from the date the finance charge begins to accrue to the $j$th payment.

$n$ = The number of payments.

$w$ = The number of unit-periods in a year.

$i$ = The percentage rate of finance charge per unit-period.

$R$ = The nominal annual percentage rate expressed as a decimal number which shall be converted into a percentage rate by moving the decimal point two places to the right.

$R$ = $wi$.

| | STATE Y | STATE Z |
|---|---|---|
| Loan Amount | 100.00 | 100.00 |
| Maximum Lawful Interest Rate | 13% | 14% |
| Unit Period | 6 months | 6 months |
| Unit Period Interest Rate (UPR) | .065 | .070 |
| First Payment | 55.00 | 55.00 |
| Interest ("AFC") for 6 months | —6.50 | —7.00 |
| Reduction of Principal | 48.50 | 48.00 |
| Principal | 100.00 | 100.00 |
| Reduction of Principal | —48.50 | —48.00 |
| Remaining Principal | 51.50 | 52.00 |
| × Interest rate (UPR) for 6 months | ×.065 | × .07 |
| Interest second 6 months | 3.35 | 3.64 |
| Second Payment | 55.00 | 55.00 |
| Interest (AFC) for second 6 month period | —3.35 | —3.64 |
| Reduction of Principal | 51.65 | 51.36 |
| Remaining Principal | 51.50 | 52.00 |
| Reduction of Principal | —51.65 | —51.36 |
| Remaining Principal | — .15 | .64 |

The negative balance shown under the calculations for state Y implies that D *would* pay back more than the maximum permitted by law in State Y (13%) and, therefore, the loan is usurious in State Y. The calculations for State Z result in a positive balance of remaining principal implying that D would *not* pay back more than the maximum permitted by law in State Z (14%) and, therefore, the loan is *not* usurious in State Z. These conclusions are consistent with the earlier calculations in Example 17 in which the actual rate of interest was determined to be 13.194%.

In other words, use of the actuarial approach does away with the necessity of misleading concepts such as "prepaid interest" and "front-end interest." Instead any payment that a court or the parties would characterize as either interest or as principal payment would be analyzed in terms of the economic reality of the transaction as follows: (i) any excess interest over the maximum legal rate charged in a particular period would be treated as if it were a payment on the principal of the loan at that time thereby decreasing the outstanding principal balance; (ii) any excess uncharged interest (the difference between the amount of interest paid and the amount which could have been charged at the maximum legal rate) in a particular period would be treated as an increase of the principal of the loan; and (iii) the court should then determine under this method whether in the last computation period of the loan the inter-

est charged exceeds the maximum amount permitted in which event the loan should be held to be usurious.

> *Example 24.* D borrows $50,000 and in return executes a $50,000 ten-year promissory note at six and one-half percent with interest only payable yearly until maturity, and four promissory notes each in the amount of $3,125 bearing no interest and maturing at the end of the first, second, third, and fourth years, respectively. This transaction can be represented on the time line as follows:

| Advances | $50,000 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Years | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | 3250 | 3250 | 3250 | 3250 | 3250 | 3250 | 3250 | 3250 | 3250 | 3250 |
| | | 3125 | 3125 | 3125 | 3125 | — | — | — | — | — | 50000 |
| Payments | | 6375 | 6375 | 6375 | 6375 | 3250 | 3250 | 3250 | 3250 | 3250 | 53250 |

Under the actuarial method a determination whether the interest paid exceeded the maximum legal rate (ten percent) is made as follows:

| Year | Accrued Interest | Payment | | | Calculation of Reduced Principal |
|---|---|---|---|---|---|
| 0 | | | | | 50,000.00 |
| 1 | 5,000.00 | — | 6,375.00 | = | —1,375.00 |
| | | | | | 48,625.00 |
| 2 | 4,862.50 | — | 6,375.00 | = | —1,512.50 |
| | | | | | 47,112.50 |
| 3 | 4,711.25 | — | 6,375.00 | = | —1,663.75 |
| | | | | | 45,448.75 |
| 4 | 4,544.88 | — | 6,375.00 | = | —1,830.12 |
| | | | | | 43,618.63 |
| 5 | 4,361.86 | — | 3,250.00 | = | 1,111.86 |
| | | | | | 44,730.49 |
| 6 | 4,473.05 | — | 3,250.00 | = | 1,223.05 |
| | | | | | 45,953.54 |
| 7 | 4,595.35 | — | 3,250.00 | = | 1,345.35 |
| | | | | | 47,298.89 |
| 8 | 4,729.89 | — | 3,250.00 | = | 1,479.89 |
| | | | | | 48,778.78 |
| 9 | 4,877.88 | — | 3,250.00 | = | 1,627.88 |
| | | | | | 50,406.66 |
| 10 | 5,040.67 | — | 53,250.00 | = | —48,209.34 |
| | Remaining Principal | | | | 2,197.22 (therefore non-usurious) |

The facts given for Example 24 are identical to the facts of *Commerce Trust Co. v. Ramp.*[217] The court in *Ramp* held the transaction to be usurious. If calculated under the actuarial method, the loan would not be usurious since the amount collected by the lender was less than could have been collected had the lender charged at each payment the maximum amount of interest permitted by law.[218] A quick comparison of Example 24 to Example 9 will illustrate the illogic of construing this loan usurious merely because of the labels attached to the charges by the parties.

The rules for applying the actuarial method in order to determine whether any loan is usurious or not can be summarized as follows:

**Rule 1.** Each payment (or advance as the case may be) is considered on a step-by-step basis chronologically commencing with the initial advance.[219]
**Rule 2.** Interest that has accrued on the initial or remaining principal since the previous calculation (*i.e.*, the last payment or advance)[220] is calculated[221] at the maximum lawful interest rate.[222]
**Rule 3.** Each payment is first applied to the interest calculated under *Rule 2.*

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217. 135 Tex. 84, 138 S.W.2d 531 (1940).

218. The reader may wish to verify for himself that the cash flow in Example 24 is identical to the cash flow in Example 9. This is demonstrated by the following time line for Example 9:

The time line for that transaction would be as follows:

Advances

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Advances | 50,000.00 | | | | | 1,111.86 | 1,223.05 | 1,345.35 | 1,479.89 | 1,627.88 | |
| Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Interest Payment | | 5,000.00 | 4,862.50 | 4,711.25 | 4,544.88 | 4,361.86 | 4,473.05 | 4,595.35 | 4,729.89 | 4,877.88 | 2,843.34 |
| Principal Payment | | 1,375.00 | 1,512.50 | 1,663.75 | 1,880.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50,406.66 |
| Total Payment (net of advances) | | 6,375.00 | 6,375.00 | 6,375.00 | 6,375.00 | 3,250.00 | 3,250.00 | 3,250.00 | 3,250.00 | 3,250.00 | 53,250.00 |

Example 9 was not usurious. The only way in which the two transactions can be distinguished is by the form of the transaction — not by any difference in the amount of money actually paid or received.

219. The commencement date of the loan is the initial advance.

220. See calculations in Example 16 at page 808 *supra*.

221. In this manner the maximum permissible interest that the lender could collect is calculated for each step.

222. As discussed previously at note 205 *supra*, it is anticipated that nominal rates of interest would be used for periods of less than a year. The set of rules set forth in the text allow one to compute a nominal ten percent interest rate for each period of the transaction and allow one to evaluate whether the actual payments exceed that permitted by a nominal rate of ten percent for each period of the loan. There is, however, nothing to preclude the calculation of an effective rate of interest for each period of the calculation instead of a

**Rule 4.** If the payment exceeds the interest calculated in *Rule 2*, the excess is is deducted from the unpaid principal of the loan.[223]
**Rule 5.** If the payment is less than the interest calculated in *Rule 2*, the "deficiency" (*i.e.*, the excess of the interest calculated in *Rule 2* over the payment) is added to the unpaid principal.[224]

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nominal rate. Values of the equivalent effective interest rates for certain nominal interest rates for periods of various durations are shown below:  ·

### Effective Interest Rate

| Nominal Interest Rate | Semi-Annually | Quarterly | Monthly | Weekly | Daily | Continuously |
|---|---|---|---|---|---|---|
| 1% | 1.003 | 1.004 | 1.005 | 1.005 | 1.005 | 1.005 |
| 2% | 2.010 | 2.015 | 2.018 | 2.020 | 2.020 | 2.020 |
| 3% | 3.023 | 3.034 | 3.042 | 3.045 | 3.045 | 3.045 |
| 4% | 4.040 | 4.060 | 4.074 | 4.079 | 4.081 | 4.081 |
| 5% | 5.063 | 5.095 | 5.116 | 5.124 | 5.127 | 5.127 |
| 6% | 6.090 | 6.136 | 6.168 | 6.180 | 6.183 | 6.184 |
| 7% | 7.123 | 7.186 | 7.229 | 7.246 | 7.250 | 7.251 |
| 8% | 8.160 | 8.243 | 8.300 | 8.322 | 8.328 | 8.329 |
| 9% | 9.202 | 9.308 | 9.381 | 9.409 | 9.416 | 9.417 |
| 10% | 10.250 | 10.381 | 10.471 | 10.506 | 10.516 | 10.517 |

The values in the foregoing table were obtained from the relationship:

$$I_{eff} = [1 + (\frac{I \; nom}{n})] - 1$$

**Where**

$$I_{eff} = \text{effective rate of interest}$$

$$I_{nom} = \text{nominal rate of interest}$$

$$n = \text{number of periods per year (which is not restricted to integral values of } n)$$

The continuous rate is computed from the equation

$$I_{eff} = e^{I \, nom} - 1$$

See J. WESTON & E. BRIGHAM, MANAGERIAL FINANCE 154-56, 161-64 (3d ed. 1969) for a derivation of these formulae. For a rigorous mathematical treatment of this subject, see R. ALLEN, MATHEMATICAL ANALYSIS FOR ECONOMISTS 228-37, 401-05 (1950). Because of the additional required calculations involved in the use of effective rates of interest and because of the reasons set forth at note 205 *supra*, it seems prudent to be content with nominal rates of interest.

223. See calculations in Example 16 at page 808 *supra*. In this way the front-end reduction of principal approach of *Nevels* is embodied in the actuarial method and is, in fact, extended through application of the concept to all payments rather than merely the initial front-end payment.

224. See Example 11 at page 789 *supra*. This conversion of the accrued but unpaid interest into principal then results in a compounding of interest during the next computation period.

**Rule 6.** At each advance of additional principal, the interest calculated under *Rule 2* plus the amount of the advance are added to the principal remaining from the previous calculation.[225]

**Rule 7.** After all of the payments and advances have been treated according to the foregoing rules, the resulting principal balance is tested to determine whether the loan is usurious.

(a) If the principal balance is *positive,* the loan requires the payment of less interest than the maximum permitted by law so the loan is *not* usurious.[226]

(b) If the principal balance is *negative,* the loan requires the payment of more interest than the maximum permitted by law so the loan *is* usurious.[227] Examples 17 and 24 illustrate the application of these Rules.

The foregoing analysis may also be used to determine the maximum front-end charge for an amortized loan under the actuarial method:

(1) Compute the present value[228] of all payments based on the given interest rate (the "Actual Present Value").

(2) Compute the present value of all payments based on the maximum lawful interest rate (the "Minimum Present Value").

(3) Compute the difference between the Actual Present Value and the Minimum Present Value by the stated loan amount to find the Maximum Front-End Charge.

(4) Divide the Maximum Front-End Charge by the loan amount to find the Maximum Front-End Points.

The maximum front-end charges permissible for a self-amortizing loan under the actuarial method are summarized in Table D below:

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225. This conversion of the accrued but unpaid interest into principal results in a compounding of interest during the next computation period.

226. See State Z computation in Example 23 at page 814 *supra.*

227. See State Y computation in Example 23 at page 814 *supra.*

228. For a discussion of present value, see text accompanying note 191 *supra.*

TABLE D

MAXIMUM PERMISSIBLE FRONT-END
CHARGES UNDER THE ACTUARIAL METHOD
(Percent of Loan Amount)

| Interest Rate (%) | Years | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 5 | 10 | 20 | 30 | 50 | 100 |
| 9.999 | .005 | .023 | .012 | .069 | .084 | .097 | .010 |
| 9.990 | .053 | .231 | .419 | .686 | .841 | .965 | 1.000 |
| 9.750 | .132 | .578 | 1.045 | 1.710 | 2.099 | 2.411 | 2.499 |
| 9.500 | .264 | 1.154 | 2.083 | 3.408 | 4.184 | 4.814 | 4.997 |
| 9.250 | .396 | 1.728 | 3.117 | 5.094 | 6.255 | 7.210 | 7.495 |
| 9.000 | .528 | 2.300 | 4.143 | 6.766 | 8.313 | 9.598 | 9.993 |
| 8.000 | 1.055 | 4.568 | 8.190 | 13.324 | 16.387 | 19.048 | 19.976 |
| 7.000 | 1.580 | 6.805 | 12.139 | 19.660 | 24.188 | 28.294 | 29.938 |
| 6.000 | 2.104 | 9.009 | 15.989 | 25.760 | 31.681 | 37.266 | 39.852 |
| 5.000 | 2.626 | 11.182 | 19.739 | 31.612 | 38.829 | 45.878 | 49.660 |
| 4.000 | 3.146 | 13.322 | 23.387 | 37.206 | 45.598 | 54.034 | 59.251 |
| 3.000 | 3.665 | 15.430 | 26.931 | 42.530 | 51.958 | 61.628 | 68.423 |
| 2.000 | 4.182 | 17.505 | 30.372 | 47.578 | 57.882 | 68.563 | 76.865 |
| 1.000 | 4.698 | 19.548 | 33.709 | 52.344 | 63.349 | 74.752 | 84.177 |
| .100 | 5.162 | 21.359 | 36.623 | 56.388 | 67.869 | 79.636 | 89.492 |
| .010 | 5.213 | 21.543 | 36.913 | 56.782 | 68.301 | 80.089 | 89.951 |
| .001 | 5.257 | 21.592 | 36.967 | 56.839 | 68.357 | 80.142 | 90.000 |

It is the contention of the author that the use of the actuarial method as the method of calculation of interest under article 1.07(a) would have the following advantages:

1. *Certainty of calculation.* In any loan transaction no matter how irregular the payment intervals, the actuarial method provides a means of consistently determining whether or not the loan is usurious.

2. *Constitutionality of article 1.07(a).* The actuarial method would provide a means of preserving the constitutionality of the statute by preventing unlimited effective interest rates to be charged to borrowers.[229]

3. *Compatability with existing federal and state laws.* The actuarial method has already been adopted as a method of calculation under federal truth-in-lending and under article 5069-14.05 of the Texas Revised Civil Statutes.[230] This method has also been adopted by the Uniform Consumer Credit Code[231] and the Uniform Land

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229. See Table D *supra.*
230. TEX. REV. CIV. STAT. ANN. art. 5069-14.05 (Vernon Supp. 1978-1979).
231. UNIFORM CONSUMER CREDIT CODE § 1.301(1).

Transactions Act,[232] neither of which has yet been enacted in Texas. At least one state has adopted the actuarial method for interest computations.[233]

4. *Scientific and financial basis.* The actuarial method is grounded upon well-established basic principles of actuarial science lending support to its adoption. It is also consistent with the principles of determining yield that are accepted and used in the lending and borrowing communities.

5. *Ease of calculation of refund upon premature termination of loan.* Because of early case law regarding acceleration clauses[234] most loan documents commonly contain a "savings clause"[235] to protect the lender in the event that the term of the loan is shortened by reason of prepayment or foreclosure. In the absence of a savings clause, the shortened term of the loan may cause the loan to be deemed usurious because of a lender's collection of excessive interest.[236] In the event of premature termination of the loan, calculation of the amount of refund of "unearned interest" to avoid usury is extremely simple under the actuarial method. Since each payment and advance is treated sequentially, the amount of the maximum accrued interest that can be collected at termination is known as well as the unpaid principal balance of the loan. Any collection in excess of this amount would be usurious. For example, the maximum payment that can be collected from the borrower after any particular payment is the amount of the reduced principal.

6. *Consistency with legislative history of article 1.07(a).* There is much in the legislative history of article 1.07(a) that indicates the purpose of article 1.07(a) was to codify *Nevels v. Harris.*[237] In *Tanner Development Co. v. Ferguson*[238] the supreme court noted the presence of legislative history and suggested that by enacting article 1.07(a), "the legislature merely codified the existing law as applied in the *Nevels* line of cases."[239] One proponent of the legislation

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232. UNIFORM LAND TRANSACTIONS ACT § 3-401.

233. MISS. CODE ANN. § 75-17-1 (Supp. 1978).

234. *See* Shropshire v. Commerce Farm Credit Co., 280 S.W. 181, 182 (Tex. Comm'n App. 1926), *superseded,* 120 Tex. 400, 30 S.W.2d 282 (1930), *cert. denied,* 284 U.S. 675 (1931).

235. A savings clause is a clause providing that any interest in excess of that permitted by law shall be deemed a payment of principal. It will not, however, "save" a transaction that is usurious on its face.

236. Shropshire v. Commerce Farm Credit Co., 280 S.W. 181, 182 (Tex. Comm'n App. 1926), *superseded,* 120 Tex. 400, 30 S.W.2d 282 (1930), *cert. denied,* 284 U.S. 675 (1931).

237. 129 Tex. 190, 102 S.W.2d 1046 (1937).

238. 561 S.W.2d 777 (Tex. 1977).

239. *Id.* at 786. A discussion of the legislative history of article 1.07(a) can be found at

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stated in Senate Committee: "[W]hat we are doing by the interest amortization in the first provision is just codifying what the existing law is."[240] Further, the Bill Analysis attached in the House stated that article 1.07(a) "would limit interest rates to a maximum of 10%."[241] Additionally, in his veto of an earlier bill[242] similar to article 1.07(a), Governor Briscoe stated that "it codifies in part the rule in *Nevels v. Harris*, 129 Tex. 190, 102 S.W.2d 1046 (1937) and the ensuing decision of the United States Court of Appeals for the Fifth Circuit in *Imperial Corp. v. Frenchmen's Creek Corp.*, et al, 453 Fed. 2d 1338 (1972)."[243]

## VII. CONCLUSION

Undoubtedly, article 5069-1.07(a) presents an opportunity to eliminate some of the uncertainties that now cloud the law of usury regarding the computation of interest. Such a goal can only be achieved if the courts interpret article 1.07(a) as merely providing a means of computation. The most scientific and consistent method of computation that could be applied to the statute is the actuarial method. Judicial adoption of the actuarial method would provide a simple procedure to verify whether or not a loan is usurious, regardless of the labels placed on payments and advances by the parties.

The recognition by Texas courts of the substance over form doctrine should be embodied in the interpretation and application of article 1.07(a). Not only does the actuarial method provide a consistent and effective means of applying the substance over form doctrine, thus recognizing the economic reality of a loan transaction, but it also resolves the ambiguities in article 1.07(a) and the question of the constitutionality of the statute.

Although the algebraic process may at first seem overwhelming and inhibitive, a closer evaluation reveals that one simple procedure based on the principles of the actuarial method can be followed in every transaction. The certainty and simplicity of application for

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Comment, *Usury Implications of Front-End Interest and Interest in Advance*, 29 Sw. L.J. 748, 749, 763-64 (1975).

240. Minutes of the Economic Development Committee of the Senate, 64th Leg., at 7 (March 10, 1975). The quote was cited by the supreme court in Tanner Development Co. v. Ferguson, 561 S.W.2d 777, 786 n.13 (Tex. 1977).

241. "What the Bill Purposes to Do," H. B. 351, 64th Leg. (Second Official House Printing, Feb. 19, 1975).

242. S. B. 209, 63d Leg. (1973).

243. Proclamation of the Governor of the State of Texas, June 16, 1973.

purposes of usury determination that the actuarial method would provide should be seriously weighed by any court called upon to interpret article 1.07(a).