

FEDERAL RESERVE BANK OF DALLAS

DALLAS, TEXAS 75222

Circular No. 79-13
January 22, 1979

REGULATION Z—TRUTH-IN-LENDING

Calculation and Disclosure of Annual Percentage Rate

TO ALL MEMBER BANKS, OTHER CREDITORS,
AND OTHERS CONCERNED IN THE
ELEVENTH FEDERAL RESERVE DISTRICT:

The Board of Governors of the Federal Reserve System has invited public comment on a wide range of questions bearing on disclosure to borrowers of the annual percentage rate (APR) required by the Truth-in-Lending law and its implementing Regulation Z.

The APR expresses the cost to the consumer of borrowing money and paying for purchases on credit.

The Board requested comment by March 5, 1979. After the comments have been analyzed, the Board will decide whether to publish for comment specific proposals for revision of the APR disclosure requirements of Regulation Z, Board interpretations, Supplement I to the Regulation, and Volume I of the Board's Annual Percentage Rate tables. The Board's objectives are greater uniformity in methods used to calculate the APR and increased simplicity in its determination, to enhance the ability of consumers to shop for credit.

The Board noted that present rules permit numerous variations in methods for computing the APR and said that these variations result in a lack of uniformity that deprives consumers of a standard measure for comparing the cost of credit from different lenders. The lack of uniformity arises, the Board said, primarily from the ways in which Regulation Z deals with two issues: (1) the degree of precision required in calculating and disclosing the annual percentage rate, and (2) the treatment of irregularities in payment amounts and periods.

Comments should be sent to the Secretary, Board of Governors of the Federal Reserve System, Washington, D. C. 20551, and should refer to Docket No. R-0195. Questions on Annual Percentage Rate calculation or other matters covered by Regulation Z should be directed to our Consumer Affairs Unit, Ext. 6171.

The Board's notice is enclosed.

Sincerely yours,

Robert H. Boykin

First Vice President

Enclosure

Banks and others are encouraged to use the following incoming WATS numbers in contacting this Bank: 1-800-492-4403 (intrastate) and 1-800-527-4970 (interstate). For calls placed locally, please use 651 plus the extension referred to above.

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FEDERAL RESERVE SYSTEM

[12 CFR Part 226]

[Reg. Z; Docket No. R-0195]

TRUTH IN LENDING

**Calculation and Disclosure of Annual
Percentage Rates**

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Proposed revisions to Regulation Z regarding methods of calculating and disclosing annual percentage rates.

SUMMARY: This notice solicits comment on the requirements of Regulation Z with regard to the degree of precision and treatment of payment schedule variations in the calculation and disclosure of the annual percentage rate. The Board is reviewing the existing provisions in order to ascertain what changes, if any, may be necessary to provide greater uniformity and simplicity in the determination of this credit term. This publication describes certain problems, together with possible alternative solutions, and invites comment on these and other aspects of the annual percentage rate provisions. Specific regulatory changes resulting from this review will be proposed for comment at a later time.

DATE: Comments must be received on or before March 5, 1979.

ADDRESS: Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

FOR FURTHER INFORMATION CONTACT:

Dolores S. Smith, Section Chief, Division of Consumer Affairs, Board of Governors of the Federal Reserve System, Washington, D.C. 20551 (202-452-2412).

SUPPLEMENTARY INFORMATION: The Truth in Lending Act requires the Board to prescribe rules for determining and disclosing the annual percent-

age rate, as a measure of the cost of credit for consumer credit transactions. The present rules permit numerous variations in the computation methods. These variations result in a lack of uniformity which deprives consumers of a standard measure for comparing credit sources. Additionally, these variations cause uncertainty for creditors and difficulties in enforcement.

The Board believes that the present lack of uniformity arises primarily from the ways in which Regulation Z deals with two issues: (1) the degree of precision required in calculating and disclosing the annual percentage rate and (2) the treatment of irregularities in payment amounts and periods. The first issue relates both to the number of decimal places employed in computation and disclosure and to the limitation of disclosure options to either an exact or a rounded rate. The second issue involves the manner in which the creditor either takes specific account of variations in the payment schedule or, to the extent permitted, ignores those variations in computing the annual percentage rate.

Resolution of these issues may require a wide range of regulatory actions, including amendment or revocation of various provisions of the regulation, revocation and substitution of Board interpretations, and revisions of Supplement I and Volume I of the Board's Annual Percentage Rate Tables. In considering such extensive changes, the Board wishes to encourage a thorough public discussion which will address the likely impact of those changes and the extent to which commenters perceive the need for any changes at all. This notice describes specific problems which the Board has identified in the present annual percentage rate provisions and sets forth possible methods of resolving those problems. The options presented for each issue may not be mutually exclusive, nor do they constitute the only remedies which the Board might consider. After analysis of the comments received on this matter, the Board will determine which courses of action, if any, merit further consideration, and will propose for comment specific regulatory language to implement those changes.

The Board believes that all of the options discussed below could be implemented on the basis of its rulemaking authority under §§ 105 and 107 of the Truth in Lending Act, but welcomes comment on this matter as well.

I. TOLERANCE

The annual percentage rate for any credit transaction may be disclosed, under the existing rules, as an exact figure or rounded to the nearest one-quarter per cent. A number of meth-

ods for determining annual percentage rates are authorized by the current provisions of Regulation Z and various Board and staff interpretations. However, creditors disclosing a rate between these "Correct" rates could find themselves in violation of the regulation. For example, using one authorized computation procedure, a creditor might obtain an annual percentage rate of 9.13 per cent. Using another permitted calculation technique for the same transaction, the creditor might determine the annual percentage rate to be 9.20 per cent. Disclosure of either of these rates or a rounded rate of 9.25 per cent would be permissible but a creditor disclosing 9.23 per cent would be in violation of the regulation if 9.23 per cent was not determined by a specifically sanctioned computation method.

Another shortcoming of the rounding option is that the degree of protection afforded creditors is not uniform, since the margin of error diminishes as the true annual percentage rate approaches the quarter per cent. For example, an annual percentage rate of 9.12 per cent may be rounded down .12 percentage points to 9.00 per cent, while a 9.01 annual percentage rate may be rounded down only .01 percentage points.

Finally, where the exact annual percentage rate lies extremely close to the midpoint of the one-quarter per cent range, determining whether to round up or down to the nearest quarter of one per cent becomes an almost impossible task. For example, where the true annual percentage rate is near 9.125 per cent, an error of less than one thousandth of one per cent could result in an understatement at 9.00 per cent or an overstatement at 9.25 per cent.

In order to facilitate compliance and eliminate the inequities associated with the current rounding option, the Board is considering replacing this provision with a rule providing a tolerance for minor variations in rate computation methods and insignificant errors in disclosed annual percentage rates. In view of the complexities involved in establishing a workable rule, the Board requests comment on the following questions:

1. Should the tolerance be the same for overstatements and understatements, or should a greater tolerance be permitted for overstatements?

One argument for allowing a greater tolerance for overstatements is evidence indicating the existence of certain technical difficulties involving the production and use of rate charts and tables. These difficulties tend to produce substantial overstatements.

2. How much tolerance should be allowed? Should the tolerance prescribed be stated as a fixed amount

(e.g., within one eighth of a percentage point from the true rate) or as a variable amount (e.g., as a percentage of the true rate)?

3. Should the same tolerance be prescribed for both closed end and open end credit transactions?

4. Should distinctions be made on the basis of length of maturity, credit amount, or other such factors? For example, should the same tolerance prescribed for a credit transaction of \$1,000 maturing in one year also be applicable to a \$50,000 credit extension with a maturity of thirty years?

5. Should distinctions be made between rates produced by charts and tables and those generated by potentially more accurate devices, such as computers and calculators?

6. How should the occasional slight differences between rates produced by the United States Rule and those produced by the actuarial method be accounted for in prescribing a tolerance?

Since application of the United States Rule sometimes produces a higher rate than the actuarial method for a given amount of finance charge, one alternative might be to measure the degree of overstatement allowed from the rate produced by the former method and determine the degree of permissible understatement based on the latter method.

7. Should the tolerance prescribed apply uniformly to all computation methods or should different treatment continue to be provided, as in the following cases:

(a) Charts and tables applicable to specific ranges or brackets of balances under § 226.5(c)(2)(iv) and

(b) The single add-on rate transaction method under Board Interpretation § 226.502.

8. Is the constant ratio method of rate computation authorized under § 226.5(e) still needed, or could this provision be deleted?

9. Should use of Volume I of the Board's Annual Percentage Rate Tables be restricted to transactions for which the annual percentage rate produced falls within the tolerance to be prescribed?

10. Are there other factors that the Board should consider in establishing a rule allowing a tolerance in annual percentage rate computations?

II. NUMBER OF DECIMAL PLACES

Presently, neither the Act nor the regulation provides definitive rules regarding the degree of precision required at various stages in the annual percentage rate computations or for disclosure purposes. Although such guidelines are contained implicitly in Supplement I to Regulation Z and in various Public Information Letters, the absence of specific requirements is

a source of confusion in both open end and closed end credit.

The number of decimal places to which calculations are carried throughout the rate computation process drastically affects the accuracy of the disclosed annual percentage rate. Certain practices, including truncation or rounding of "significant" digits at interim steps in the calculation process, frequently result in significant distortions in the disclosed annual percentage rate. To eliminate this problem, the Board is considering adoption of a rule requiring disclosed annual percentage rates for all credit transactions to be rounded to two decimal places. In arriving at such rates, calculator and computer programs would be expected to carry all available digits throughout the calculations, rounding only the final result to two decimal places. Similarly, charts and tables would be required to provide listed factors that permit a determination of the annual percentage rate rounded to two decimals.

In open end credit, periodic rates used to compute the finance charge are also required to be disclosed. In this regard, the Board is considering adopting a rule requiring disclosure of the exact periodic rate applied.

III. IGNORING IRREGULARITIES

Regulation Z currently contains three "minor irregularities" provisions: § 226.5(d) and Board Interpretations §§ 226.503 and 226.505. These sections permit creditors to disregard certain variations in payment amounts and payment periods for purposes of determining the annual percentage rate, the amount of the finance charge, or both. That is, where the first payment period differs from the subsequent periods by no more than a specified number of days or where any one payment differs from the other payments by no more than a specified per cent, creditors have been permitted to ignore such variations, treating the odd period or amount as though it were regular.

Use of the minor irregularities provisions necessarily creates distortion in the annual percentage rate and the finance charge disclosed insofar as they allow that which is irregular to be treated as regular. Although the provisions were designed to minimize the distortion by limiting their applicability to differences within certain specified ranges, the variations produced can be considerable. This distortion is proportionately greater in short term transactions. For example, using the minor irregularities option, a variation of 10 days in the length of the first period in a transaction payable monthly will cause the annual percentage rate for a six month transaction to vary by approximately 10 per cent of

the true rate; a one year transaction, approximately 5 per cent of the true rate; a two year transaction, approximately 2½ per cent of the true rate; a five year transaction, approximately 1 per cent of the true rate; and a thirty year transaction, approximately ½ per cent of the true rate.

The variability is increased by the fact that creditors are free to take advantage of the provisions when it is to their benefit to do so (e.g., treating short periods as regular) and to disregard them when it is advantageous to take specific account of irregularities (e.g., a long period). The variability is further increased by the fact that, for a given transaction, a lender has the option of using the minor irregularities provisions for both the annual percentage rate and the finance charge, for one and not the other, or for neither one.

The variation in rates and charges thus obtained under the current minor irregularities rules creates several problems. First, it impairs comparability of what are intended to be the two most important items of credit information to consumers, thus hampering credit shopping. It also considerably complicates administrative enforcement, in that examiners attempting to verify disclosed information must perform numerous calculations to see whether any one of several permissible approaches might yield the disclosed annual percentage rate or finance charge. Finally, due to their fairly technical nature, these provisions are often misunderstood.

In light of these considerations, the Board would like to receive public comment on the following options:

Option 1. Eliminate the current minor irregularities provisions altogether.

One argument in favor of this option, aside from those noted above with regard to the variety of results permitted, is that the need for these provisions has been greatly reduced as the sophistication and availability of tools capable of producing exact rates and charges have increased. The need for the protection offered by these provisions would be further reduced if certain other options suggested in this proposal are adopted. For example, if a uniform method of dealing with irregular periods is specified (see Section IV below), the task of accounting for the most common irregularity would be simplified. Allowance of a specified tolerance in the annual percentage rate accuracy requirement (see Section I above) could also minimize the need for the current minor irregularities provisions. If, for instance, there are irregularities which are truly so minor that ignoring them results in an annual percentage rate close enough to the true rate to fall within

the specified tolerance, a creditor could continue to ignore those irregularities without violating the regulation.

An argument against Option 1 is that the minor irregularities provisions appear to be widely relied upon by creditors. Their elimination would put a greater burden on creditors to take specific account of payment schedule irregularities, even in those cases where the irregularities are caused by a desire to accommodate customer preferences (e.g., scheduling the first payment to coincide with a payday).

Option 2 Revise the minor irregularities provisions to permit only *overstatements* of the annual percentage rate and finance charge.

Within this option, several further choices could be made, for example:

(a) Should the provisions apply to both periods and payment amounts or just to periods? Under the latter, for example, the extra days in the period from the transaction date to the first payment could be ignored, but any variation in payment amount would have to be reflected.

(b) Should the provisions apply to both the annual percentage rate and the finance charge or to just one, for example, the annual percentage rate (so that irregularities could be disregarded for rate computation purposes, but the exact dollar amount of finance charge would have to be disclosed)? If applicable to both the annual percentage rate and the finance charge, should the creditor be required, for a given transaction, to use the minor irregularities provisions for both annual percentage rate and finance charge if it chooses to use it for either one?

(c) Should the "degree" of irregularity be limited in some way as in the current provisions (e.g., for a transaction payable monthly, allow a period of not more than 50 days to be treated as if it were regular)?

Since one of the problems with the current provisions is the variety of rates and charges they permit to be disclosed, this option would have the advantage of decreasing the number of permissible disclosures. In addition, customers would never be told that the rate or charge was lower than it actually was. Moreover, since creditors would be making disclosures that might put them at a competitive disadvantage (because they would be disclosing an annual percentage rate or finance charge higher than that actually imposed), use of the provision would be discouraged in competitive markets.

A major argument against this option is that such a provision would continue to allow inaccurate statements of the annual percentage rate

and finance charge, thus impeding comparison shopping.

Option 3 Leave the substance of the current minor irregularities provisions unchanged, making only editorial revisions.

The provisions presently appear in three separate places in the regulation and Board interpretations. At a minimum, the rules could be restated more clearly in a single location.

Option 4 Adopt a new provision to allow slight payment schedule variations arising from particular practices to be disregarded in determining and disclosing the annual percentage rate, finance charge and schedule of payments.

There are a number of very slight payment schedule irregularities which arise from valid (even necessary) business practices, and which affect, however negligibly, the amount of certain required disclosures. One such irregularity is the difference between the final payment and all other payments in a simple interest loan, which difference results from the rounding of payment amounts to whole cents. This slight irregularity in the payment schedule is unavoidable, since creditors cannot collect fractions of pennies. Under the current regulation, however, a technical violation could result unless the precise amount of that final payment were computed and disclosed, and the finance charge adjusted accordingly.

Another example arises in certain transactions in which interest is paid on the outstanding balance and payments are made by payroll deduction. Although paydays may be scheduled, for example, on the 15th and the last day of the month, the employer may have a policy of advancing the payday if one of those dates falls on a Saturday, Sunday or holiday. The payment schedule would have occasional slight variations due to this practice as well as to the fact that the last day of the month varies. Under the current regulation, the creditor could not assume a uniform semi-monthly payment schedule, but would have to take account of the advanced payment dates.

The impact of such slight variations on the annual percentage rate may be small enough to allow such variations to be disregarded without causing the rate to fall outside the annual percentage rate tolerances discussed in Section I above. However, there are other non-rate disclosures, e.g., finance charge and total of payments, that are also affected by these variations. Option 4 would permit such variations to be ignored for disclosure purposes.

The Board would like public comment on whether such a provision would be appropriate and, if so, whether there are other similar practices resulting in slight payment

schedule variations which should properly be included in the provision.

IV. ACCOUNTING FOR IRREGULARITIES

An irregularity occurs when an interval between advances or payments in a transaction is shorter or longer than the unit-period for that transaction. A unit-period is that time interval between advances or payments which occurs most frequently in the transaction. In the most common case, an odd first period is created when a transaction is consummated on a date which does not fall exactly one unit-period prior to the first payment or advance date. In cases where the minor irregularities provisions do not apply, or where the creditor chooses to account for these irregularities, the creditor must determine the number of days in the odd period and relate that number to a regular period.

Since no single method has ever been specified for making this calculation, creditors use a variety of methods. Among the methods commonly used by creditors to determine the length of an odd period are counting the actual number of days, counting on the basis of an assumed 30-day month and counting months and days in the period. The possible variations thus produced are further compounded by the creditor's choice of options in determining the fractional value of the odd days, which may be related either to 30 (assuming a standard month of 30 days) or to 365/12 (dividing the number of days per year by the number of months). These seemingly minor differences in accounting for odd days may produce significant variations in the resulting annual percentage rates.

The Board is considering the revision of Supplement I to specify a uniform method for determining the number of odd days and relating that number to a regular unit-period. In transactions involving a unit-period of a month, one suggested method is first to determine the number of whole months in the odd period by working back from the calendar date of an advance or payment to the corresponding calendar date in the previous month, and then to count forward the exact number of days from the beginning of the odd period to the first calendar date corresponding to the date of the payment or advance, as applicable. For example, in a transaction consummated on January 5 with the first monthly payment due on February 23, the creditor would count back from February 23 to January 23 as one full unit-period, and then count forward from January 5 through January 23, thus determining that there are 18 odd days in the first period. If this approach were adopted, Supplement I would also specify uniform rules for

transactions involving other unit-periods.

Although this issue might assume greater importance if the minor irregularities provisions discussed above were revoked, it should be emphasized that retention of those provisions would not eliminate this issue. Odd periods must continue to be accounted for in those transactions in which the minor irregularities option is not chosen, or in which the number of odd days is beyond the ranges now permitted to be ignored.

V. RELIANCE ON CHARTS AND TABLES

Under § 226.5(c)(3), an annual percentage rate or finance charge error that results from an error in the chart or table used by the creditor does not constitute a violation of Regulation Z, subject to certain conditions. Two issues have arisen regarding this provision. First, calculators and computer software are now used extensively for computation purposes, in substitution for charts and tables. However, as written, § 226.5(c)(3) appears to be available solely to users of charts and tables. Second, the Board's statutory authority for implementing this section, which protects creditors against civil liability under § 130 of the Truth in Lending Act, has been questioned.

The Board is considering the following alternative courses of action to resolve these issues:

Option 1 Rescind § 226.5(c)(3), making creditors using any computation tool equally liable for finance charge and annual percentage rate errors, without regard to the source of those errors.

Advances over the past ten years in calculator technology and chart production may warrant elimination of § 226.5(c)(3). This option would also accommodate, in the simplest and most direct fashion, the concerns expressed regarding both the unequal availability of the protection afforded by the present rule and the Board's authority to promulgate it.

Option 2 Amend § 226.5(c)(3) to extend its protection to any creditor using faulty software or a faulty calculator acquired or produced in good faith.

If this option is pursued, the Board may consider conditioning the availability of this protection on certain requirements, such as the maintenance of procedures reasonably adapted to detect or avoid errors and the adjustment of customers' accounts to correct such errors.

To aid in the consideration of these matters by the Board, interested persons are invited to submit relevant data, views, comments or arguments. Any such material should be submitted in writing to the Secretary, Board of Governors of the Federal Reserve

System, Washington, D.C. 20551, to be received no later than March 5, 1979, and should include the docket number R-0195. The material submitted will be made available for public inspection and copying, except as provided in § 261.6(a) of the Board's Rules Regarding Availability of Information (12 C.F.R. 261.6(a)).

By order of the Board of Governors, December 22, 1978.

THEODORE E. ALLISON,
Secretary of the Board.

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