

FEDERAL RESERVE BANK
OF NEW YORK

[Circular No. 6664]
[December 28, 1970]

REGULATION Q

Amendments and Interpretation on Payment and
Computation of Interest

To All Member Banks, and Others Concerned,
in the Second Federal Reserve District:

Enclosed is a copy of amendments, effective January 1, 1971, to Regulation Q, "Interest on Deposits," of the Board of Governors of the Federal Reserve System. The amendments authorize the use of a 360-day basis in computing simple daily interest for a deposit with any maturity and permit the advertisement of the percentage yield resulting from the use of that basis. In addition, printed below is the text of a related interpretation of Regulation Q by the Board of Governors, indicating that a member bank may use the 360-day basis in compounding interest daily or continuously on time and savings deposits.

An earlier version of the amendments was submitted by the Board of Governors for public comment in October; the text of that version was sent to you in our Circular No. 6620, dated October 19, 1970.

Additional copies of this circular and its enclosure will be furnished upon request.

ALFRED HAYES,
President.

[Reg. Q]

PART 217 — INTEREST ON DEPOSITS

Payment and Computation of Interest

§ 217.151 *Payment and computation of interest on
time and savings deposits.*

The Board has expressed the following views relating to the payment and computation of interest on deposits.

(a) The maximum rate of simple interest that a member bank may pay on a deposit is established by § 217.7 of Regulation Q. In January 1970, the Board established certain rates on deposits with a maturity of "one year or more." To qualify for a rate that may be paid on such a deposit, the deposit must not mature before one full year — 365 or 366 days as the case may be — from the date of deposit.¹

(b) The formula for the computation of simple interest is $A = P (1 + RT)$ where A is the final amount, P is the amount on which interest is com-

puted, R is the annual rate of simple interest and T is the time period. Effective January 1, 1971, § 217.3(e) of Regulation Q was amended to authorize the use of 360 or 365 (or 366 in a leap year) as the denominator of a fraction in which the numerator is the actual number of days the deposit earns interest. For example, a bank would be permitted to consider the time factor on a 295-day deposit as $\frac{295}{365}$ or $\frac{295}{360}$. On a 360-day deposit, the fraction could be $\frac{360}{365}$ or $\frac{360}{360}$; it could not be $\frac{365}{360}$. Additionally, § 217.3(e) authorizes in the numerator of the time fraction the use of 30 days (or multiples thereof) for deposits of one month (or corresponding multiples thereof). For example, on a deposit made February 1 for one month, the time fraction could be stated as $\frac{30}{360}$ or $\frac{30}{365}$, or $\frac{28}{360}$ or $\frac{28}{365}$.

¹ In the area of consumer time deposits (deposits in denominations of less than \$100,000), under § 217.7 in effect in December 1970, a member bank may pay 5 per cent interest on a deposit that matures 3 months from the date of deposit. If the date of deposit is in February, such deposit will mature in 89 days. The Board regards this *de minimis* departure from the 90-day interval required for payment of interest at 5 per cent (12 CFR 217.144) as justified on the grounds of mathematical simplicity.

(OVER)

(c) Section 217.3(a) provides that the effects of compounding may be disregarded in determining whether a member bank is paying interest in excess of the rates established in §217.7. The formula for continuous compounding is $A = Pe^{RT}$ where A is the final amount, P is the amount on which interest is compounded, e is the base for Napierian or natural logarithms, R is the annual rate of simple interest, and T is the time period. T may be expressed as a fraction in which the numerator is the actual number of days the funds earn interest and the denominator may be either 360, 365, or, in the case of a leap year, 366. As is permitted in simple interest calculations, a bank may consider each month as having 30 days.

(d) The formula for other than continuous compounding is $A = P (1 + R/M)^N$ where A is the final amount, P is the amount on which interest is compounded, R is the annual rate of simple interest, M is the number of compounding periods in a year, and N is the actual number of periods for which interest is compounded. When compounding interest quarterly, $M = 4$; compounding monthly, $M = 12$; and compounding daily, $M = 360, 365, \text{ or } 366$. For example, a bank may compound 5 per cent interest daily on a \$10,000 deposit for 91 days in accordance with either of the following:

$$A = \$10,000 (1 + .05/360)^{91} \text{ or } \$10,127.18; \text{ or}$$

$$A = \$10,000 (1 + .05/365)^{91} \text{ or } \$10,125.43.$$

(Interprets and applies 12 U.S.C. 371b and 461.)

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

INTEREST ON DEPOSITS

AMENDMENTS TO REGULATION Q

1. Effective January 1, 1971, § 217.3(e) is amended to read as follows:

SECTION 217.3—INTEREST ON TIME
AND SAVINGS DEPOSITS

* * *

(e) **Computation of interest.** In the computation of simple daily interest, the time factor should be expressed as a fraction in which the actual number of days the funds earn interest is the numerator, and the denominator is either 360, 365, or, in a leap year, 366. However, when a deposit matures in one month (or multiples thereof), the bank may use 30 days in the numerator (or corresponding multiples thereof).

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2. Effective January 1, 1971, § 217.6(b) is amended to read as follows:

SECTION 217.6—ADVERTISING OF
INTEREST ON DEPOSITS

* * *

(b) **Percentage yields based on one year.** Where a percentage yield achieved by compounding interest during one year is advertised, the annual rate of simple interest shall be stated with equal prominence, together with a reference to the basis of compounding. No member bank shall advertise a percentage yield based on the effect of grace periods permitted in § 217.3(d).

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