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# Simple Interest Isn't Simple After All – Part 2

**THOUGHT LEADERSHIP**

## The Complications of “Simple Interest” – Part 2

In [Part 1 of this Thought Leadership series on simple interest](#), Carleton discussed how simple interest transactions have complicated previously held beliefs about consumer credit computations. While periodic interest calculations may closely align and appear identical to actuarial method APR computations, simple interest calculations do not always follow suit.

By measuring actual days elapsed and not simply counting a month as 1/12 of a year, simple interest added a layer of complexity to what was previously considered “easy” math. Part 1 addressed the first myth that: “If there are no fees included in the finance charge, the interest rate and APR are the same.”

**Part 2** addresses another complication brought about by the use of simple interest—the fact that there can be multiple “right” payments.

Simple interest’s biggest impact can be seen when prospective interest charges accrue on the actual calendar days elapsed between scheduled payment dates. This is a departure from the historical “periodic” interest charges that accompanied precomputed transactions. For the purpose of interest accrual, periodic interest considers all months equal and interest accrues at 1/12 the stated annual interest rate. Periodic interest does not recognize that months have differing numbers of days.

Why is that important? Because merely looking at the stated interest rate leaves a skewed picture. The rate is merely one component of the process. The application of the rate to accrue interest is often the overlooked key parameter. Simply put, this is the reason we see such confusion in the credit industry when the contract interest rate and Truth in Lending Act (“TILA”) annual percentage rate (“APR”) are not the same value.

### Key Considerations Regarding Simple Interest

- 1) There are different methods of accrual calendars and the month in which the loan originates
- 2) When accounting for a maximum charge on a loan, loan data must be evaluated when using applicable parameters identified in statutes

## Urban Myth #2

**There is only one “right” payment for a set of data.**

With simple interest, a set of data could potentially have a dozen different amortizing payments depending on the month in which it was originated. The amount of interest calculated on using a daily accrual method is dependent upon the month of origination and the number of days of interest which accrue early in the transaction. For that reason, the exact same set of data will accrue less interest on a deal beginning in February (28 days) than one that begins in March (31 days). If there are more days accruing interest at the beginning of a loan when the balances are at their highest, the entire profile of prospective interest accrual changes. So too does the comparison between the applied interest rate and the APR when utilizing a periodic calendar vs. a daily accrual calendar.

Carleton has seen at least 13 different payment accrual calendars, all utilizing different combinations of time counting, including for example: periodic or daily accrual, counting 365 days a year or 366 days a year on leap year, or counting whole months and days. Based on these different methods of accrual calendars and the month in which the loan originates, there can be varying effects on the applicable amortizing payment and interest calculations.

## Urban Myth #3

***A State’s maximum rate provision is simply a nominal rate comparison. The method of charge accrual is irrelevant.***

So how do regulators view the industry shift towards simple interest? Many jurisdictions’ statutes written in the 1970’s and 1980’s state that for the purposes of computing the maximum finance/credit service charge “the differences in the lengths of months are disregarded.” That would imply that a periodic calendar is to be used when determining if there is an overcharge. The key point here is that a majority of state statutes regulate the dollar charge contracted for by the creditor. So, the application of the published maximum rate becomes a crucial data point.

Even when a statute employs language that makes the maximum rate synonymous with the TILA Appendix J APR value, Appendix J allows a compliant APR to be computed by both the actuarial and U.S. Rule methods. Often the methods return identical results but just as often they provide distinct APR values. So, which one is “right”?

This notion can be illustrated when the consequences of applying a daily interest rate of 18% results in a TILA APR of 18.03% (which uses the periodic calendar). That means that if the differences in the lengths of months are disregarded, the effective interest rate is 18.03%. But when a daily calendar is used, the effective interest rate is 18%. Using the effective interest rate of 18.03% technically results in a violation of the maximum charge provisions in the statute. This violation is a result of a daily calendar used to accrue interest charges and another mandated to assess the result. If an actuarial method APR is disclosed, the APR box itself may be evidence of an overcharge.

Of course, a creditor can compute and disclose an APR by the United States Rule method and employ daily charge accrual. In that situation, the interest method and APR method are identical resulting in an APR which will match the interest rate.

One practical consideration that needs to be made by disclosing parties is that nearly every examiner in the United States carries a free download of the OCC's APRWIN Software Program on their laptop. APRWIN is a credible tool but it only computes by the actuarial method APR and cannot validate a U.S. Rule value. A creditor needs to be able to strongly justify and prove their APR disclosures at every examination—it's a fact that most don't have the proper tools to do so.

One final operational effect of the movement from the precomputed environment is the difficulty of porting a TILA APR into a servicing system to accrue actual interest earnings and service the loan. One of the main features of a precomputed contract is that the consumer is agreeing to repay a total of payments and that is synonymous with the rate found in the APR. When the APR and contract interest rate were interchangeable—during the era of precomputed contracts—the practice of porting an APR into the service system was widespread. Now when utilizing daily simple interest the resulting APR for an 18% contract interest rate may be anywhere from 17.97% to 18.04%.

Thus, when accounting for a maximum charge on a loan, the loan data must be evaluated when using the applicable parameters identified in the statute.

## Keeping it Simple: Resources for Compliance

Carleton's products and services are synonymous with consumer credit calculation compliance since 1969. Priority is given to maintain its position as the industry's leading authority with respect to loan calculation accuracy.

Carleton clients receive compliance support from Carleton's Compliance team in three critical areas: constant monitoring for change in regulations through state and federal databases, continual testing and implementation of new quality control methods to ensure software

calculation accuracy, and litigation support providing back up in any client legal support needs, including:

- State & Federal Law Database - Carleton's Compliance Department maintains a regulatory library and constantly monitors changes in state and federal regulations related to loan calculations. Carleton is also able to remain on the forefront of breaking legislative developments through a myriad of subscription services related to lending, professional legal relationships, active participation on law committees of national lending associations, and the compliance departments of many of the major lenders who are clients of Carleton.
- Verification of Calculations - Our Compliance Department is involved in designing programs to test the accuracy of all Carleton calculations and ensures that an updated quality control program is in place to support the changes in regulatory compliance for all state and federal regulations.
- Litigation Support - As part of Carleton's maintenance and customer support, the Compliance Department is available as a resource to assist clients in providing the basis of the computations and validation of the calculation accuracy in the event a state or federal examination results in a requirement to defend or explain our company's loan computations.

Carleton, Inc. also provides a range of Compliance Support Services, including:

- TILA Reimbursement & Adjustment Calculations
- Recasting of loans
- Creating amortization Schedules to "prove" a lending transaction
- Examination support through providing dollar and cent illustrations
- Analysis of client's internal system calculation requirements



Carleton, Inc. is the leading provider of compliant lending and leasing calculation software and dynamic document generation software serving the banking, credit union, and auto lending industry. Founded on compliance expertise at a federal and state level in 1969, the company's client list has grown to include most of the major lenders, credit insurance companies, and loan origination software providers in the United States.