

**From:** "Alfred F \"Bob\" Blair, Jr" <afblair@internet8.net> on 06/28/2008 08:10:04 AM

**Subject:** Regulation AA

Jun 28, 2008

Federal Reserve Board Email comments

Dear Email comments,

No Truth In Lending

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June 28, 2008

Response to AAPR's request for improvement in Legislation on Credit Cards.

The "Truth in Lending Act" passed in 1968 did not incorporate the mathematically-true annual percentage rate, because the true

calculation used compounding (sometime fraction compounding), which was not readily available. The result on expression of the APR on credit cards uses a Nominal (simple interest) method ... which can far from the truth. The Truth in Lending Act should be changed to the mathematically-true (EFFECTIVE) APR from the untrue (NOMINAL) APR, merely by changing the word in act from "multiplied by" to "compounded for".

Reading the conditions on the back of a credit card statement, the interest (if any) is compounded daily, yet the APR is expressed as the multiplied (Nominal) APR. Because a new daily balance is the results of the sum of the daily compoundings and Compounded interest has been charged for the month ... there is DOUBLE COMPOUNDING, which can amount to a mathematically-true APR of 80% as per the attached spreadsheet.

Credit Card Interest - NOMINAL & EFFECTIVE APR on a Balance of \$1

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Last Rev: 5-21-08

" Methods of Calculations:

Nominal APR: The rate for a payment period multiplied by the number of payment periods in a year.

Effective APR: The rate for a payment period compounded for the number of payment payments in a year. "

Calculation of the Maximum Percentage Rate which, would accrue if there were a balance on the first day of the billing period.

Beginning Date on Credit Card Statement

B Stated on  
Billing 3/18/2008

Ending Date on Credit Card Statement

E Stated on  
Billing 4/18/2008

Nominal APR, shown on the Credit Card's Statement

NAPR Stated on

Billing 29.990%

Days in the Year forward, after 2-29-2008, before 2-27-2011

Y

365

Daily Periodic Rate, the nominal daily interest rate method (sometimes stated))

i

NAPR/Y 0.082164%

Days in a Monthly Payment Period (Maximum probably 31)

d

E-B

31

Total of Daily Compounded Balances with formulas:

$((H8+1)^{(H9+1)} - (H8+1))/H$

T  $((i+1)^{(d+1)} - (i+1))/i$  31.4109038703

Average Daily Balance [Monthly] of Compounded Balances for

"d" days:  $H10/H9 =$

A

T/d

1.0132549636

Monthly Interest Rate using Daily Periodic Rate

m

NAPR\*d/Y 2.5470958904%

Total Finance Charge [Monthly] Multiply the Average Daily Balance by the Daily Periodic Rate, then multiply by the number of days in the billing period

T

$A*i*d$  2.5808575536%

Final Nominal APR, if the New Balance in not carried forward

FNAPR

$T*D/d$  30.387516357%

Mathematically-True, Effective

FEAPR

APR

$((1+T)^{(D/d)} - 1)$  34.988588616%

The Truth in Lending Law allows an accuracy variance of 1/8 (.125%) of a percent from the accurate Nominal APR on Credit Cards, Closed End Loan.

Amount of 1/8 of a percent difference in the stated NAPR the Modified NAPR

$(FNAPR - NAPR)/.125%$  3

Amount of 1/8 of a percent difference in the stated NAPR and EAPR

$(FEAPR - NAPR)/.125%$  40

Perform a month's daily compounding day by day for a check of "T" at H10

Day # Balance at the beginning of the day Interest for the day

Balance

at the end of the day If the increase in the original balance (C53) is carried over to the next billing cycle (which is likely), then the calculations changes

d L L\*i L+(L\*i)

1 1.0000000000 0.0008216438 1.0008216438 Final NAPR

$(H13+C53)*(H7/H9)$  60.750085496%

2 1.0008216438 0.0008223189 1.0016439628 Amount of

1/8% incorrect

$(FNAPR - NAPR)/.125%$  246

3 1.0016439628 0.0008229946 1.0024669574

4 1.0024669574 0.0008236708 1.0032906282 Final

EAPR  $(1+(H13+C53))^{(H7/H9)} - 1$  80.822844914%

5	1.0032906282	0.0008243476	1.0041149757	Amount of
1/8% incorrect (FEAPR-NAPR)/.125%		407		
6	1.0041149757	0.0008250249	1.0049400006	
7	1.0049400006	0.0008257028	1.0057657033	
8	1.0057657033	0.0008263812	1.0065920845	
9	1.0065920845	0.0008270602	1.0074191447	
10	1.0074191447	0.0008277397	1.0082468845	
11	1.0082468845	0.0008284198	1.0090753043	
12	1.0090753043	0.0008291005	1.0099044048	
13	1.0099044048	0.0008297817	1.0107341865	
14	1.0107341865	0.0008304635	1.0115646500	
15	1.0115646500	0.0008311459	1.0123957959	
16	1.0123957959	0.0008318288	1.0132276247	
17	1.0132276247	0.0008325122	1.0140601369	
18	1.0140601369	0.0008331963	1.0148933332	
19	1.0148933332	0.0008338809	1.0157272140	
20	1.0157272140	0.0008345660	1.0165617800	
21	1.0165617800	0.0008352517	1.0173970317	
22	1.0173970317	0.0008359380	1.0182329697	
23	1.0182329697	0.0008366248	1.0190695946	
24	1.0190695946	0.0008373123	1.0199069068	
25	1.0199069068	0.0008380002	1.0207449070	
26	1.0207449070	0.0008386888	1.0215835958	
27	1.0215835958	0.0008393779	1.0224229737	
28	1.0224229737	0.0008400675	1.0232630412	
29	1.0232630412	0.0008407578	1.0241037990	
30	1.0241037990	0.0008414486	1.0249452475	If this
balance is carried to the next month,				
31	1.0249452475	0.0008421399	1.0257873875	then
use the calculation above				
TOTALS		0.0257873875	31.4109038703	
Checks O.K. with result of formula at H10				

Sincerely,

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