

According to RA Law “On Consumer Loans” as of June 17, 2008, the bank calculates the actual (effective) interest of the loan as follows:

The formula of calculation:

$$A = \sum_{n=1}^N \frac{K_n}{\left(1 + i\right)^{\frac{D_n}{365}}}$$

Wherein:

$i$  – is the annual interest rate and total expenditure of lending, expressed in annual loan interest, including all interests and other payments, which the customer is obliged to pay for obtaining loan as well as during the validity process.

$A$  – the principal amount granted to the borrower.

$n$  – is the next-in-turn number of loan repayment (principal amount, interests and/or other amounts to be paid, including the fee charged for providing the loan). Repayment of the principal amount, interests and/or other payments of the same day is considered as single payment.

$N$  - is the final number of loan repayment (principal amount, interests and/or other amounts to be paid, including the fee charged for providing the loan), after which customer liabilities under loan agreement are counted as fulfilled and completed.

$K_n$  – is the  $n$ -next-in-turn amount of payment (principal amount, interest amounts, etc) installed by the borrower at the moment of receiving the loan or during its validity period.

$D_n$  – is the number indicating the number of days passed from the day of loan receipt till the next day of loan repayment,  $n$ -repayment day inclusively.

**Model:**

Let’s suppose that you have obtained a “Converse” loan in the amount of AMD 1,000,000.00 for 2 year maturity period, at annual 22% interest rate.

For calculation of the actual interest rate some data are required: loan service costs and monthly loan payments.

Commissions charge for loan disbursement is AMD 5,000.00, whereas monthly repayment amount is AMD 51,878,15.

$$1,000,000 = \frac{5,000}{(1+i)^{0/365}} + \frac{51,878,15}{(1+i)^{31/365}} + \frac{51,878,15}{(1+i)^{61/365}} + \dots + \frac{51,878,15}{(1+i)^{730/365}}$$

As a result we get the following actual interest rate:

$i = 25.66\%$  per annum