

SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE (APR)) ON CONSUMER CREDIT

1. Introduction

This directive on the Publication of the Effective Interest Rate (or Annual Percentage Rate (APR)) on Consumer Credit is aimed at enhancing transparency in the local credit market and providing the public with adequate information on the costs of consumer credit.

It is issued pursuant to article 12, paragraph 1, of the State Ordinance on the Supervision of the Credit System (AB 1998, no. 16) (SOSCS).

2. Definitions

For the purpose of this directive, the following definitions shall apply:

- *Effective interest rate or APR*: reflects the total cost of the credit to the consumer, expressed as a percentage on an annual basis of the total amount of credit, taking into consideration the amortization of loans balances through periodic payments and additional costs charged to the consumer.
- *Nominal interest rate*: reflects the stated rate of interest, ignoring compounding interest or other factors.
- *Consumer credit*: comprises credit extended to individuals for personal or household use (e.g. personal loans and car loans).
- *Total cost of the credit to the consumer*: comprises of all the costs (fees) related to the credit and included in the credit agreement, such as interest charges, commission, fees, taxes and any other directly related costs which, in accordance with the credit agreement, are required to be paid by the consumer, regardless whether these costs concern services delivered by third parties; insurance premiums must be included in case the insurance is compulsory to obtain the credit on the terms and conditions marketed.
- *Relevant Party*: means the licensed credit institution or the (legal) person with an exemption pursuant to article 48 of the SOSCS to extend consumer credit to the public (together hereafter referred to as “the relevant parties”).
- *Advertisement*: Any form of communication intended to persuade an audience (viewers, readers or listeners) to purchase or take some action upon products, services or ideas.

3. Disclosure of Effective Interest Rate or APR

When a relevant party offers consumer credit products to the public, for example through advertising, whereby a direct or indirect reference is made to any pricing element of this type of credit, then the relevant party must adhere to the following:

1. Disclose the “effective interest rate” or APR, in the same format as the nominal interest rate.

**SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE
EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE
(APR)) ON CONSUMER CREDIT**

2. It is strictly forbidden to publish other types of interest rates, for example the add-on interest rate.
3. Insofar applicable, disclose the insurance contracts and security that need to be established in order for a person to become eligible for this type of credit.
4. Insofar applicable, disclose the penalty interest or fees applicable in case of early repayment of the loan.

If the advertisement refers to an interest rate which will be offered for a limited period or an interest rate with a variable component that will differ for a limited period from normal rates, then the financial institution must also provide the following information:

1. The specific time frame in which the offered interest rates will be applicable.
2. The effective interest rate or APR applicable upon expiration of the aforementioned specific time frame.
3. In case of a grace period, the weighted average effective interest rate or APR during the entire term of the loan.

Furthermore, both the effective interest rate or APR and the nominal interest rate must be disclosed in applicable advertisements or credit agreements in the same format.

4. Calculation of Effective Interest Rate or APR

The effective interest rate or APR must be calculated according to the method outlined in the appendix to this directive.

This directive enters into force as of **July 1, 2019**.

**SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE
EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE
(APR)) ON CONSUMER CREDIT**

APPENDIX

Method to calculate the effective interest rate or APR

The calculation of the effective interest rate or APR must be done systematically in accordance with the method set out in this appendix.

The method and assumptions applied for the calculation of the APR are based on the directives 2008/48/EC and 2011/90/EU on consumer credit agreements issued by the European Commission, which apply the following main equation for the calculation of the APR:

$$\sum_{k=1}^m c_k (1 + x)^{-t_k} = \sum_{l=1}^{m'} D_l (1 + x)^{-s_l}$$

This equation establishes the total present value of drawdowns on the left side, while on the right side, the total present value of repayments and payments of charges is presented. The elements within the equation represent the following:

- X : the APR,
- m : the number of the last drawdown,
- k : the number of a drawdown, thus $1 \leq k \leq m$,
- C_k : the amount of drawdown k,
- t_k : the interval, expressed in years and fractions of a year, between the date of the first drawdown and the date of each subsequent drawdown, thus $t_1 = 0$,
- m' : the number of the last repayment or payment of charges,
- l : the number of a repayment or payment of charges,
- D_l : the amount of a repayment or payment of charges,
- s_l : the interval, expressed in years and fractions of a year, between the date of the first drawdown and the date of each repayment or payment of charges.

Main assumptions

The calculation of the APR is based on the following main assumptions:

- The loan will run its full term and the credit agreement is to remain valid for the period agreed between the relevant party and the consumer.
- The relevant party and the consumer will fulfill their obligations under the terms and by the dates specified in the credit agreement.
- The APR and other charges will remain fixed in relation to the initial level of the loan amount and this will remain applicable during the term of the loan.
- Loan-related fees, either financed by the relevant party or paid by the consumer, must be included in the APR calculation.

**SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE
EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE
(APR)) ON CONSUMER CREDIT**

Assumptions for overdrafts and credit cards (in accordance with Directive 2011/90/EU)

- In the case of an overdraft facility, the total amount of credit shall be deemed to be drawn down in full and for the whole duration of the credit agreement. If the duration of the overdraft facility is not known, the annual percentage rate of charge shall be calculated on the assumption that the duration of the credit is 3 months.
- In the case of an open-end credit agreement, other than an overdraft facility, such as a credit card, it shall be assumed that:
 - the credit is provided for a period of 1 year starting from the date of the initial drawdown, and that the final payment made by the consumer clears the balance of capital, interest and other charges, if any;
 - the capital is repaid by the consumer in equal monthly payments, commencing 1 month after the date of the initial drawdown. However, in cases where the capital must be repaid only in full, in a single payment, within each payment period, successive drawdowns and repayments of the entire capital by the consumer shall be assumed to occur over the period of 1 year. Interest and other charges shall be applied in accordance with those drawdowns and repayments of capital and as provided for in the credit agreement.

For the purposes of this point, an open-end credit agreement is a credit agreement without fixed duration and includes credits which must be repaid in full within or after a period but, once repaid, become available to be drawn down again.

Reference is made to the aforementioned directives 2008/48/EC and 2011/90/EU for additional assumptions not mentioned under this directive, but may be applicable for a particular credit product and/or credit situation.

Examples

The calculation of the APR¹ is illustrated with the examples below.

<i>Client</i>	<i>Example A</i>	<i>Example B</i>	<i>Example C</i>
Loan amount (Afl.)	10,000	10,000	10,000
Annual nominal interest rate	10%	10%	10%
Number of years	3	3	3
Number of (monthly) payments	36	36	36
One-time administrative costs	Afl. 0,-	Afl. 750,- (financed)	Afl. 750,- (paid by consumer)

The effective interest rate or APR can be calculated as follows²:

¹ Rounding differences may occur.

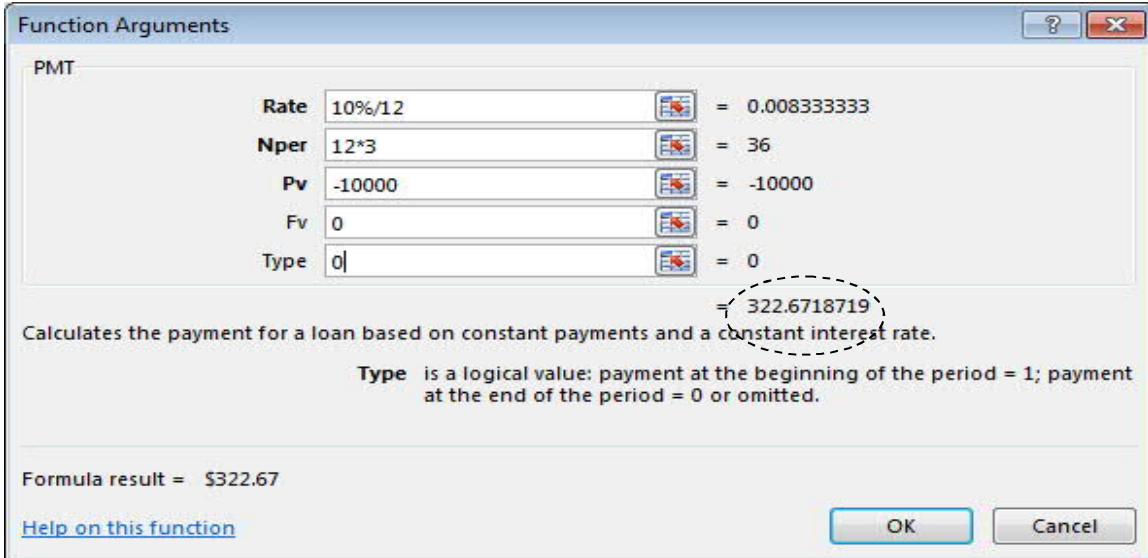
² Whereby possible, the MS Excel functions PMT and EFFECT are applied for the calculation of the monthly annuity payment and the APR.

**SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE
EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE
(APR)) ON CONSUMER CREDIT**

Example A: Loan excluding any additional fees

Step 1: Calculation of the monthly annuity payment

The monthly annuity payment for example A can be calculated with the MS Excel PMT function as follows:



A monthly annuity payment amount of Afl. 322.67 is calculated for example A.

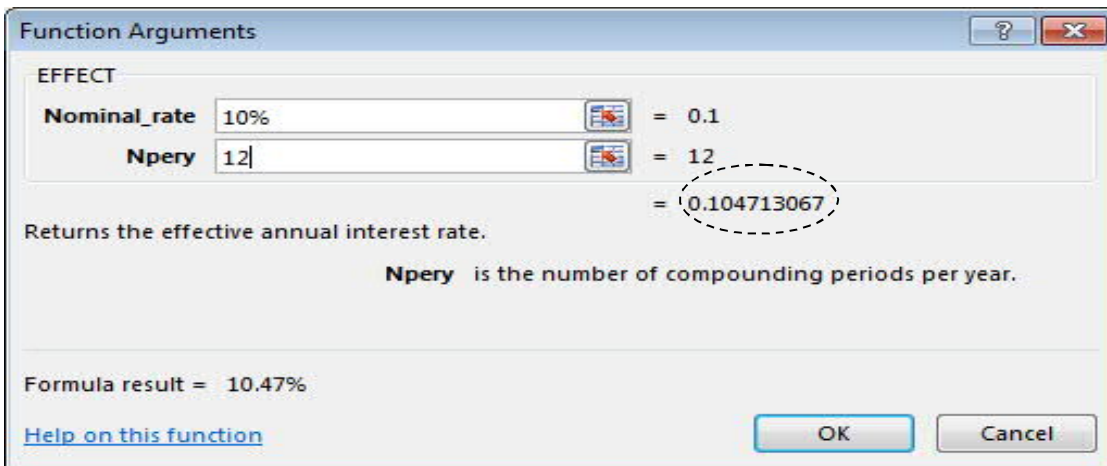
Step 2: Calculation of the APR

For example A, the APR (10.47%) is calculated through the following equation:

$$10,000 = 322.67 \frac{1 - \frac{1}{(1 + X)^{36/12}}}{(1 + X)^{1/12} - 1}$$

$$X = 10.47\%$$

There are no additional costs applicable in example A. In such case, the MS Excel EFFECT function can alternatively be used for the calculation of the APR as follows:



SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE (APR)) ON CONSUMER CREDIT

The MS Excel EFFECT function calculates the APR at 10.47%.

Total repayment costs and total cost of the credit are calculated as follows:

- Total repayment costs: $322.67 \times 36 = \text{Afl. } 11,616.19$
- Total cost of the credit: $(322.67 \times 36) - 10,000 = \text{Afl. } 1,616.19$

Example B: Loan including additional fees (fees financed by the relevant party)

Step 1: Calculation of the monthly annuity payment

Example B includes additional costs in the form of a one-time administrative fee that is financed at the closing of the loan and that is amortized according to the corresponding repayment schedule. The monthly annuity payment for example B is calculated with the MS Excel PMT function as follows:

The screenshot shows the 'Function Arguments' dialog box for the PMT function. The arguments are: Rate: 10%/12 (result: 0.008333333), Nper: 12*3 (result: 36), Pv: -10750 (result: -10750), Fv: 0 (result: 0), and Type: 0 (result: 0). The calculated result is 346.8722623. A dashed circle highlights the result value. Below the arguments, there is a description: 'Calculates the payment for a loan based on constant payments and a constant interest rate.' and a note: 'Type is a logical value: payment at the beginning of the period = 1; payment at the end of the period = 0 or omitted.' The dialog box also includes a 'Formula result =' field, a 'Help on this function' link, and 'OK' and 'Cancel' buttons.

A monthly annuity payment amount of Afl. 346.87 is calculated for example B.

Step 2: Calculation of the APR

For example B, as financed costs are applicable, the APR (16.13%) is calculated through the following equation:

$$10,000 = 346.87 \frac{1 - \frac{1}{(1 + X)^{36/12}}}{(1 + X)^{1/12} - 1}$$
$$X = 16.13\%$$

Alternatively, the APR for example B can be calculated in MS Excel by using the RATE function with the following formula:

$$= (1 + \text{RATE}(36, 346.87, -10750 + 750))^{12} - 1 = 16.13\%$$

**SUPERVISORY DIRECTIVE ON THE PUBLICATION OF THE
EFFECTIVE INTEREST RATE (OR ANNUAL PERCENTAGE RATE
(APR)) ON CONSUMER CREDIT**

Total repayment costs and total cost of the credit are calculated as follows:

- Total repayment: $346.87 \times 36 = \text{Afl. } 12,487.40$
- Total cost of the credit: $(346.87 \times 36) - 10,000 = \text{Afl. } 2,487.40$

Example C: Loan including additional fees (fees paid by the consumer upfront)

Example C includes additional costs in the form of a one-time administrative fee that is not financed by the relevant party and will be paid by the consumer at the closing of the loan.

Step 1: Calculation of the monthly annuity payment

The calculation of the monthly annuity payment for example C is identical to that of example A as the additional fees are not financed by the relevant party. The monthly annuity payment is Afl. 322.67.

Step 2: Calculation of the APR

In this case, the APR (16.59%) is calculated through the following equation:

$$10,000 = 750 + 322.67 \frac{1 - \frac{1}{(1 + X)^{36/12}}}{(1 + X)^{1/12} - 1}$$
$$X = 16.59\%$$

Alternatively, the APR for example C can be calculated in MS Excel by using the RATE function with the following formula:

$$= (1 + \text{RATE}(36, 322.67 - 10,000 + 750))^{12} - 1 = 16.59\%$$

Total repayment costs and total cost of the credit are calculated as follows:

- Total repayment: $(322.67 \times 36) + 750 = \text{Afl. } 12,366.19$
- Total cost of the credit: $(322.67 \times 36) + 750 - 10,000 = \text{Afl. } 2,366.19$