SPI4 - APR Estimation Tool

Microfinance Transparency: "The true price of a loan includes not only interest but other charges required by the lender as well as other techniques that influence the amount of money the client actually has and the amount of time the client has use of that money. Because of these multiple factors, as well as differences in interest calculation methods, comparing the pricing of different loan products can be very challenging. The Annual Percentage Rate (APR) is used to express the true price as a standard measure that allows for the comparison of credit charges among different loan products. The purpose of the APR is to convert the array of charges made for a loan into a simple, declining balance interest rate that would have an equivalent cost."

SPI4 (see Organization Information sheet) provides users with a simple and MFT compliant tool to estimate the APR of an institution's product.

Based on the information provided by the user for a sample of products (up to 6 products), the **APR Estimation Tool** automatically generates an average APR for each product.

Loan Products Analysis	Product 1	Product 2	Product 3	Product 4	Product 5	Product 6
Name of the product						
Purpose						
% of active borrowers						
% of gross loan portfolio						
Methodology						
Currency (in international currency code)						
Loan amount (min)						
Loan amount (most frequent)						
Loan amount (max)						
Term & Repay Frequency in number of periods (min)						
Term & Repay Frequency in number of periods (most frequent)						
Term & Repay Frequency in number of periods (max)						
Frequency of installments						
Grace or Prepay (in number of installments)						
Security Deposit (%) [Upfront]						
Interest rate method						
Nominal Annual Interest Rate						
Up-front fee(s) in % of the loan amount						
Fee (%) [Ongoing]						
Insurance fees in % of the loan amount						

Any additional flat fee (in amount)						
Average APR of the product	n/a	n/a	n/a	n/a	n/a	n/a

How to use the APR Estimation Tool?

*Let's take the example of a **Product A**, with the following characteristics:*

- Agricultural loan
- Represents 21% of active borrowers, and 12% of the institution's loan portfolio
- Available in USD
- Ranges from USD 1000 to USD 5000, with most clients borrowing USD 3000
- Individual loan
- From 12 months to 36 months, with most clients repaying their loans in 24 months
- Monthly repayment
- 1 month grace period
- 2% compulsory savings up-front
- 2% monthly nominal rate, declining
- Up-front fees: cost of transaction for processing the loan = 1% of the loan amount
- Additional fees (ongoing): 2% of the loan amount
- Life insurance fees: 1% of the loan amount
- Flat fee: USD 1 for the loan contract

Name of the product: Enter the name of each product here. Differentiate products having at least 2 different characteristics among the following: purpose, methodology, currency, minimum-maximum amount, term, frequency on installments, grace period, nominal interest rate, fees.

In the example here the user will enter "Product A" in this cell.

Purpose: Indicate the purpose of the loan.

The purpose can be for housing, water supply and sanitation, agriculture, education, microenterprise, SME, productive needs, social needs and life events (such as weddings, funerals,...), consumption, emergencies, etc.

In the example of Product A, the user will enter "Agriculture" in this cell.

% of active borrowers: Enter the percentage of active borrowers using each product. The total percentage (for Product 1 + Product 2 + Product 3 + …) must represent **more than 80% of your borrowers**.

In the example of Product A, the user will enter 21% in this cell

% of gross loan portfolio: Enter the percentage of the gross loan portfolio represented by each product.

In the example of Product A, the user will indicate 12% in this cell.

Methodology: Select in the list the loan methodology used for this product.

In the example of Product A, the user will select "Individual" in the list.

Currency (in international currency code): Please enter the currency used for each product using the 3-digit international currency code (e.g.: USD, EUR, KHR, PEN, TJS, etc.).

In the example of Product A, the user will indicate "USD" in this cell.

Loan amount (min) (*)[1]: Enter the minimum amount for each product, using the currency selected above.

In the example of Product A, the user will enter "1000" in this cell.

Loan amount (most frequent) (*): Enter the most frequent amount of the loan product, using the currency selected above.

In the example of Product A, the user will enter "3000" in this cell.

Loan amount (max) (*): Enter the maximum amount of the loan product, in the currency selected above.

In the example of Product A, the user will enter "5000" in this cell.

Term and Repay frequency in number of periods (min) (*): Enter the minimum number of installment periods until the loan is entirely repaid.

In the example of Product A, the user will enter "12" (months) in this cell.

Term and Repay frequency in number of periods (most frequent) (*): Enter the most frequent number of installment periods until the loan is entirely repaid.

In the example of Product A, the user will enter "24" (months) in this cell.

Term and Repay frequency in number of periods (max) (*): Enter the maximum number of installment periods until the loan is entirely repaid.

In the example of Product A, the user will enter "36" (months) in this cell.

Frequency of installment (*): Select the frequency of the repayments in the list (from "daily" to "annually").

In the example of Product A, the user will choose "Monthly" in the list.

[1] Sections with a (*) are considered as crucial for the APR calculation. All sections with a (*) then need to be filled-in by the user.

Please note that repayments other than monthly repayment may be too complex for the SPI4 tool to calculate the APR. <u>In that case, please see next steps below</u>.

Grace or Prepay (in number of installments): Enter any grace period for repayment of capital.

In the example of Product A, the user will indicate "1".

Please note that grace period of more than one period will be too complex for the SPI4 tool to calculate the APR. <u>In that case, please see next steps below</u>.

Security Deposit (Upfront): Enter up-front compulsory savings as a percentage of the loan amount. Compulsory savings apply to savings required by the institution, as a condition for the client to access loan.

In the example of Product A, the user will indicate 2% in this cell.

Interest rate method (*): Select in the list the interest rate methodology used by the institution for each product:

- <u>Flat</u>: Interest is charged on the full original loan amount throughout the loan term, rather than on the money that the borrower actually has in her hands
- <u>Declining</u>: Interest charged on the outstanding loan balance i.e. the balance of money that remains in the borrower's hands as the loan is repaid during the loan term. As the borrower repays installments, the remaining loan balance declines over time. Interest is then charged only on the loan amount that the borrower still holds. The idea is that the borrower is only paying interest on the actual money he or she has in hand at any given time.
  (Source: MFTransparency)

In the example of Product A, the user will select "Declining".

Nominal Annual Interest rate (*): Indicate the nominal rate for 12 months. Please note that some products quoted as MONTHLY figures are really only for FOUR WEEKS figures. In this case, <u>multiply these by 13 instead of 12.</u>

In the example of Product A, the user will indicate 24% in this cell.

Up-front fee(s) in % of the loan amount: Enter the fees that are required up-front.

In the example of Product A, the user will indicate "1%".

Any additional fees in % of the loan amount: Enter any additional ongoing fees here, in percentage of the loan amount.

In the example of Product A the user will indicate "2%".

Insurance fees in % of the loan amount: Enter here the insurance fees linked to the product, in percentage of the loan amount. The most common insurance products are:

- **Credit life insurance**, i.e. compulsory insurance issued to cover the life of a borrower for an outstanding loan. If the debtor dies prior to repayment of the debt, the policy will pay off the balance of the amount outstanding.
- **Agriculture insurance**: compulsory coverage for crops in the event of loss or damage and coverage for domestic animals loss raised for home use or for profit, especially on a farm.

In the example of Product A, the user will indicate "1%"

Any additional flat fee (in amount): Enter here any additional flat fee that is not already covered in the cells above (in the currency selected previously).

In the example of Product A, the user will indicate “1” (USD).

Average APR of the product: This cell will provide an estimation of the Average APR of the product, based on the information provided above, provided that the products filled in cover more than 80% of your borrowers (if this is not the case, please replicate these above steps for as many products as necessary). This is automatically generated.

The automatic calculation is generated based on an average of 3 samples, determined according to the loan amount and repayment frequency (minimum, most frequent and maximum). By calculating an average of various possible combinations for the product, this methodology provides an accurate estimation of the APR charged by the institution. This average APR is reported on the SPI4 Social Dashboard.

Specific cases

<u>Case n°1</u>: The message **Crucial Element missing** appears below the table

Interest rate (annualized)	24,0%
Up-front fee(s) in % of the loan amount	1,0%
Any additional fees in % of the loan amount	2,0%
Insurance fees in % of the loan amount	1,0%
Any additional flat fee (in amount)	1
Average APR of the product	29%

Crucial element missing

What happened? The calculation of the APR cannot be done for this product as essential information (indicated with a **(*)** above) is missing.

The cells where information is missing appear in pink in the table, in order for you to identify them. Please complete the table accordingly.

<u>Case n°2</u>: The message **Too complex** appears below the table

Up-front fee(s) in % of the loan amount	**1,0%**
Any additional fees in % of the loan amount	**2,0%**
Insurance fees in % of the loan amount	**1,0%**
Any additional flat fee (in amount)	1
Average APR of the product	29%

Too complex

What happened? The characteristics for this product are too complex for the APR estimation module to analyze.

The characteristics that are not compatible with this methodology appear in **red** in the table.

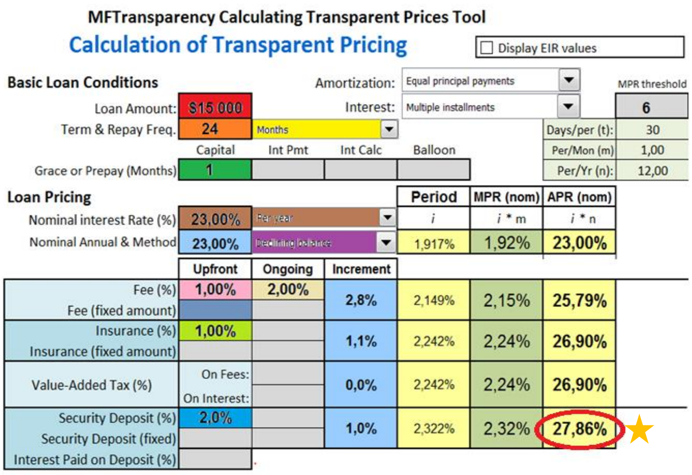
Next steps:

1. Download the MFT Calculation Tool (here)
2. Go to the sheet named “Pricing – Advanced”
3. Using the MFTransparency tool, calculate the APR for **each of the 3 samples**.

a. Start by reporting in the MFTransparency tool the required information for each sample, following the color code below:

SPI4 APR Estimation Tool

Loan Products Analysis	Product 1
Name of the product	Agricultural loan
Purpose	Agriculture
% of active borrowers	21%
% of gross loan portfolio	12%
Methodology	Invidivdual
Currency (in international currency code)	TJS
Loan amount (min)	10 000
Loan amount (most frequent)	15 000
Loan amount (max)	20 000
Term & Repay Frequency in number of periods	12
Term & Repay Frequency in number of periods (most frequent)	24
Term & Repay Frequency in number of periods	36
Frequency of instalment	Monthly
Grace or Prepay (in number of instalments)	1
Security Deposit (%) [Upfront]	2%
Interest rate method	Declining
Nominal Annual Interest Rate	23,0%
Up-front fee(s) in % of the loan amount	1,0%
Fee (%) [Ongoing]	2,0%
Insurance fees in % of the loan amount	1,0%
Any additional flat fee (in amount)	
Average APR of the product	29%



APR estimations	
Sample 1	
Loan Amount	3 000
Loan Maturity	24
Estimated APR	**27,6%**
APR (from MFT Pricing Calculator)	27,9%
Difference (% of real APR)	-1,1%
Sample 2	
Loan Amount	3 000
Loan Maturity	12
Estimated APR	**29,4%**
APR (from MFT Pricing Calculator)	29,8%
Difference (% of real APR)	-1,4%
Sample 3	
Loan Amount	3 000
Loan Maturity	36
Estimated APR	**27,7%**
APR (from MFT Pricing Calculator)	30,2%
Difference (% of real APR)	-8,9%

Sample 1

Sample 2

Sample 3

b. **For each of the 3 samples of the "Too complex" product**, you need to report the APR calculated by the MFTransparency tool (circled in red above) in the orange cells of the SPI4 tool

Each sample refers to a specific loan maturity (min, most frequent, and max)

The average APR now appear in the first table (see below)

Interest rate method	**Declining**
Interest rate (annualized)	**24,0%**
Up-front fee(s) in % of the loan amount	1,0%
Any additional fees in % of the loan amount	2,0%
Insurance fees in % of the loan amount	1,0%
Any additional flat fee (in amount)	1
Average APR of the product	29%

c. Replicate these steps for as many products as necessary to cover 80% of the institution's borrowers (in the example below, 3 products were sufficient).

Loan Products Analysis	Product 1	Product 2	Product 3	Product 4
Name of the product	Product 1	Product 2	Product 3	Product 4
Purpose	Agriculture	Housing	Sanitation	Education
% of active borrowers	21%	24%	17%	18%
% of gross loan portfolio	12%	14%	12%	13%
Methodology	Invididual	Invididual	Invididual	Invididual
Currency (in international currency code)	USD	USD	USD	USD