QUICK AND PRACTICAL RESPONSES TO THE COVID-19 CRISIS.

PREPARING STRESS-TESTING AND SCENARIOS

WITH MICROVISION

The COVID-19 pandemic has various negative implications for an MFI's operations. Clients that cannot repay their loans on time and moreover withdraw their deposits, could lead to major liquidity problems for an MFI. In addition, loan losses will reduce equity and may result in the institution's bankruptcy.

Having a business continuity plan (BCP) in place that takes into account different scenarios and stress-testing would be a practical way to help management tackle the crisis and build institutional immunity but would also help investors, who need to receive confirmation of an institution's preparedness and response to this crisis. A business continuity plan that can be drawn up using quickly prepared scenarios, including those that could arise in a crisis, could allow management to better understand the impact of the crisis on the institution. Such a plan would allow management to anticipate issues, so that measures could be put in place and appropriate risk-mitigation decisions taken (e.g. acceptable leverage could be determined, crucial human resources identified and safeguarded, liquidity managed).

This document explains how the Microvision tool can be used by MFIs to develop different scenarios and stress-testing, which are important elements of any business continuity plan.

This document is divided into 4 parts:

A. Introduction to Microvision

B. Adjusting business plan projections

C. Preparing a business continuity plan with scenarios and stress-testing

D. Building scenarios in Microvision

A. INTRODUCTION TO MICROVISION

Less than one year ago Microfact – an initiative of **ADA** (Luxembourg) and **BRS** (Belgium) launched **Microvision**, a new tool for making financial and social projections. Within a short period of time, Microvision has proven to be a great tool that has allowed hundreds of MFIs to make simplified but valuable projections over a 5-year period for their business plans. Moreover, Microvision has made it possible to simulate the impact of multiple variables on the overall activity of the MFI and create 3 different scenarios.

Other characteristics of Microvision are:

- Simple, user-friendly and fast
- Free to use with online support
- Automatic upload of historical data from the MFI Factsheet
- Provides simplified projections and allows scenarios to be made rapidly
- Multi-language function (English, French and Spanish)
- A built-in manual
- It caters to the expectations of the microfinance industry for a simplified projection tool

- For more info and a free download of **Microvision_v16.1**: http://www.microfact.org/microfinance-tools/

Users are also encouraged to download and read the free Microvision manual, as it provides comprehensive explanations about the tool and teaches users the following six steps when drawing up projections:

! Caution ! If you are using Microvision for the first time, please check our tips first on page 19 of this document. Microvision generates annual projections for 5 years or less. Quarterly or monthly projections are not possible. Other tools are available for MFIs with these needs.

B. Adjusting business plan projections

In this section some practical examples are given of how to address the most common operational challenges MFIs are confronted with, due to the Covid-19 pandemic. Please bear in mind that this is not an exhaustive list of all possible variables. Examples given are illustrated by means of:

- a screenshot, so that you can easily adapt your own Microvision projections
- typical risk-mitigation decisions and measures that could be taken: these are intended as a guidance for your own decisions.

1. Shrinking loan portfolio

Screenshot: Go to the **Loan Portfolio** sheet to **reduce the loan size, adapt the number of borrowers and borrowers' retention rate.** The first screenshot shows the original projections:

	2018	2019	2020	2021	2022	2023
LOAN PRODUCT NUMBER 1: MICRO BUSINESS						
Average loan size for:						
First cycle	700	727	756	785	816	848
Second cycle	1,000	1,039	1,080	1,122	1,165	1,211
Third cycle	1,250	1,299	1,349	1,402	1,457	1,514
Fourth cycle	1,500	1,559	1,619	1,682	1,748	1,816
Fifth cycle	1,500	1,750	1,818	1,889	1,963	2,039
Sixth and future cycles	1,500	2,000	2,078	2,159	2,243	2,331
Loan repayment						
Loan term (months)	9	9	9	9	9	9
Borrower activity						
Borrowers annualized retention rate	52%	65%	75%	75%	75%	75%
Nr of loans disbursed		17,775	22,150	27,150	30,325	30,525
Nr of loans maturing		15,075	18,650	23,150	28,325	30,525
Nr of borrowers (target)	**10,800**	**13,500**	**17,000**	**21,000**	**23,000**	**23,000**
Nr of borrowers (calculated)		*13,500*	*17,000*	*21,000*	*23,000*	*23,000*
Portfolio activity						
Total loan disbursements		18,539,014	26,173,901	34,950,174	43,465,570	48,569,945
Total loan repayments		15,340,388	22,245,070	30,826,663	39,522,880	46,005,784
Less write-off		214,382	312,340	429,226	542,997	626,604
Gross Outstanding Portfolio	**5,400,000**	**8,384,412**	**12,000,904**	**15,695,189**	**19,094,882**	**21,032,439**

In this case, 2020 is the second year of the projections and the impact of the crisis begins early in that year. Therefore, you can enter figures that anticipate the reduced supply of credit that you will provide. Loan sizes may be capped for a year and then begin to gradually rise again. Client retention likely will not improve as much as originally planned. The increase in number of active borrowers will slow down in 2020 and 2021 but will still reach the same target in 2023.

	2018	2019	2020	2021	2022	2023
LOAN PRODUCT NUMBER 1: MICRO BUSINESS						
Average loan size for:						
First cycle	700	727	727	756	785	816
Second cycle	1,000	1,039	1,039	1,080	1,122	1,165
Third cycle	1,250	1,299	1,299	1,349	1,402	1,457
Fourth cycle	1,500	1,559	1,559	1,619	1,682	1,748
Fifth cycle	1,500	1,750	1,559	1,767	1,835	1,907
Sixth and future cycles	1,500	2,000	1,559	1,927	2,002	2,080
Loan repayment						
Loan term (months)	9	9	9	9	9	9
Borrower activity						
Borrowers annualized retention rate	52%	65%	70%	70%	75%	75%
Nr of loans disbursed		17,775	18,400	22,150	26,575	29,775
Nr of loans maturing		15,075	17,900	19,150	23,575	26,775
Nr of borrowers (target)	**10,800**	**13,500**	**14,000**	**17,000**	**20,000**	**23,000**
Nr of borrowers (calculated)		*13,500*	*14,000*	*17,000*	*20,000*	*23,000*
Portfolio activity						
Total loan disbursements		18,539,014	21,168,118	27,155,663	35,041,866	41,499,440
Total loan repayments		15,340,388	19,891,878	24,258,447	30,899,563	38,218,149
Less write-off		214,382	273,001	334,924	426,188	527,531
Gross Outstanding Portfolio	**5,400,000**	**8,384,412**	**9,387,651**	**11,949,943**	**15,666,059**	**18,419,819**

After entering your new figures, look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

! Caution ! Microvision projects on an annual basis, meaning that the change between the beginning and end-of-year figures is projected linearly. You should be aware of the impact of this on figures you enter:

- If a crisis starts to impact your institution near the beginning of the year, then you would change the end-of-year target figures and the linear projections will be reasonably close to the actual situation. Growth in the early months would be slightly higher in reality than in what Microvision projects, but Microvision will only slightly understate the actual figures
- If the crisis starts in the middle of the year, you will have more months where projections understate what really occurred, and Microvision will understate actual figures by a bit more
- If the crisis starts toward the end of the year you would adjust your end-of-year figures lower by a certain amount, but generally a modest amount since the impact is only on a few months of the year. This would be projected linearly over the entire year, meaning that Microvision projections would be slightly lower than what actually happened in the earlier months of the year. The understatement could potentially be significant, but if you are projecting only modest downturns in the figures because the crisis only has a few months to impact the institution, then the understatement will only be moderate
- In the following year, if you expect the crisis to be prolonged, the projection figures in that year will be more accurate. If you do anticipate something like 6 months of depressed activity and then 6 months of significantly accelerated activity, then Microvision will slightly overestimate projections in the inverse of the ways just described
- Be aware that if you use the **Seasonality** sheet to try to influence the monthly patterns for lending and savings activity in the year the crisis begins, that seasonality will apply to all five years of activity, which is almost certainly not what will happen in reality.

Risk-mitigation decisions and measures to implement:

- Reassure your clients and communicate clearly to avoid losing them (via text messaging or mass-media communication, via the launch of a new product (bridging loan...)
- Check if your clients have any urgent financial needs that the MFI could address (loan rescheduling, revolving fund, bridge loan…)
- Take measures to manage crucial human resources, including loan officers (e.g. take measures to prevent the transmission of the disease, grant administrative leave, adapt the portfolio per loan officer, provide extra pay)
- Check the consequences on your institution’s liquidity: less inflow and /or more outflow,
- Start communication and negotiations with the financial partners
- Communicate with other stakeholders: supervisors, auditors…

- Adapt your strategy to safeguard business continuity (focus on less risky activities, decrease the number of credits, work on digital solutions…)

2. Deteriorating loan portfolio quality

Screenshot: Go to the bottom section of the **Loan Portfolio** sheet to **adapt the variables corresponding to portfolio quality: PAR1, PAR30, write-off and Loan Loss Reserve ratio.** Further below, Microvision will calculate automatically your new loan loss provisions, the total write-off's and loan loss reserves:

		2019	2020	2021	2022	2023	2024	5 Yr Total
	PORTFOLIO QUALITY							
P21	**PAR >1 day**							
	Weighted average	9.2%	8.8%	8.5%	8.4%	8.5%	8.5%	
	Loan product number 1: Micro business	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	
	Loan product number 2: Home impr	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
P22	**PAR > 30 days**							
	Weighted average	8.3%	7.8%	7.4%	7.3%	7.3%	7.3%	
	Loan product number 1: Micro business	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	
	Loan product number 2: Home impr	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
P23	**Loan write-off ratio**							
	Weighted average	3.1%	3.0%	2.9%	2.8%	2.8%	2.9%	
	Loan product number 1: Micro business	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	
	Loan product number 2: Home impr	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
	Cross-check from MFI Factsheet	3.1%	OK					
P24	**Loan loss reserve ratio**							
	Weighted average	4.6%	4.4%	4.3%	4.2%	4.2%	4.3%	
	Loan product number 1: Micro business	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	
	Loan product number 2: Home impr	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
	Cross-check from MFI Factsheet	4.6%	OK					
	Provision, Write-off, and Reserve							
P25	**Loan loss provisioning expenses during this year**	226,127	442,193	669,499	809,101	892,838	869,627	3,683,258
P26	**Written-off loans**	150,330	277,547	434,630	584,724	708,248	772,958	2,778,107
P27	**Loan loss reserves for this loan product (on balance sheet)**	250,000	414,645	649,515	873,892	1,058,482	1,155,152	
	Cross-check from MFI Factsheet	250,000	OK					

Identification Sheet | MFI Factsheet | Loan Products | Loan Portfolio | Income | Savings | Staff | Other C

Look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

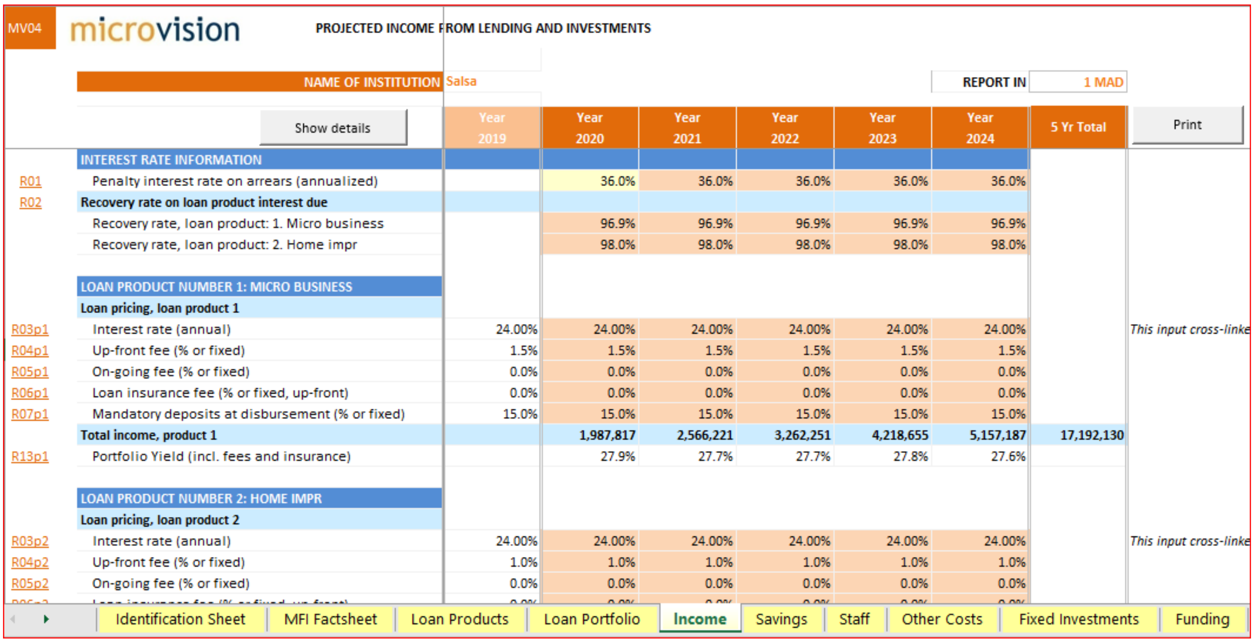
Risk-mitigation decisions and measures to implement:

- Analyze the origin of the deteriorating portfolio quality (specific sectors/sub-sectors impacted by the crisis, lack of follow-up and contact with the clients, bankruptcy of the clients)
- Check if temporary liquidity problems of the clients can be solved or mitigated by loan rescheduling or other forms of financial support (bridge loans, temporary overdrafts …). By doing so viable businesses will be safeguarded
- Find digital solutions to facilitate repayment given the social distancing requirements, and stay in touch with clients (SMS-banking, opening e-wallets)
- Motivate your loan officers so that they concentrate on portfolio quality for the clients which continue to operate (food stores, pharmacies, etc.) and keep contact with the clients impacted by the crises to propose them some concrete solutions that will support them

- Take measures to manage crucial human resources, including loan officers (e.g. take measures to prevent the transmission of the disease, grant administrative leave, adapt the portfolio per loan officer, provide extra pay)
- Check the consequences on your institution's liquidity
- Check if loan portfolio deterioration does not breach investment covenants. If so, communicate this to your financial partners
- Adapt your strategy to safeguard business continuity (focus on less risky activities, decrease the number of credits and/or the average loan size, work on digital solutions…).

3. Lower interest income

Screenshot: Go to the top section of the **Income** sheet to **adapt the recovery rate of your loan products**. For the moment a default formula in this cell calculates it as (1 minus the write-off ratio).



MV04 microvision PROJECTED INCOME FROM LENDING AND INVESTMENTS

NAME OF INSTITUTION Salsa — REPORT IN 1 MAD

	Show details	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	5 Yr Total	Print
	INTEREST RATE INFORMATION								
R01	Penalty interest rate on arrears (annualized)		36.0%	36.0%	36.0%	36.0%	36.0%		
R02	**Recovery rate on loan product interest due**								
	Recovery rate, loan product: 1. Micro business		96.9%	96.9%	96.9%	96.9%	96.9%		
	Recovery rate, loan product: 2. Home impr		98.0%	98.0%	98.0%	98.0%	98.0%		
	LOAN PRODUCT NUMBER 1: MICRO BUSINESS								
	Loan pricing, loan product 1								
R03p1	Interest rate (annual)	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%		*This input cross-linke*
R04p1	Up-front fee (% or fixed)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%		
R05p1	On-going fee (% or fixed)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
R06p1	Loan insurance fee (% or fixed, up-front)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
R07p1	Mandatory deposits at disbursement (% or fixed)	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%		
	Total income, product 1		1,987,817	2,566,221	3,262,251	4,218,655	5,157,187	17,192,130	
R13p1	Portfolio Yield (incl. fees and insurance)		27.9%	27.7%	27.7%	27.8%	27.6%		
	LOAN PRODUCT NUMBER 2: HOME IMPR								
	Loan pricing, loan product 2								
R03p2	Interest rate (annual)	24.00%	24.00%	24.00%	24.00%	24.00%	24.00%		*This input cross-linke*
R04p2	Up-front fee (% or fixed)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%		
R05p2	On-going fee (% or fixed)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		

Look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

Risk-mitigation decisions and measures to implement:

- Analyze the origin of the problems encountered in collecting interest (lack of contact with the clients, no repayment solution due to the social distancing requirement, clients' business impacted by the crisis, prior defaulting clients)
- Check if your clients are open to a loan restructuring/rescheduling proposal or other form of financial support that would safeguard their business (e.g. (i) Grace period for principal, interest being charged and paid, (ii) Grace period for principal, interest being charged but not

paid (capitalization, deferral of payment), (iii) Grace period for principal, no interest being charged and thus not paid. Each of these proposals can be implemented with or without changes to the final maturity of the loan)

- Analyze the impact of putting a penalty interest on hold (it could be perceived as 'not done' under these circumstances and / or clients are not able to pay anyway)
- Find digital solutions to facilitate repayment given the social distancing requirements and stay in touch with clients (SMS-banking, opening e-wallets)
- Motivate your loan officers so that they concentrate on collecting interest payments from the clients which continue to operate (food stores, pharmacies, etc.) and keep contact with the clients impacted by the crises to propose them some concrete solutions that will support them
- Check the consequences on your institution's liquidity.

4. Withdrawal of savings

Screenshot: Go to the **Savings** sheet and **adapt the depositor growth rate and average balance per depositor.** You can also decrease your financial obligations by paying a lower **interest rate per deposit product** that you offer.

MV06 microvision PROJECTED SAVINGS PRODUCT ACTIVITY

NAME OF INSTITUTION Salsa | REPORT IN 1 MAD

E01 Nr of voluntary savings products: 2 | Show Seasonality sheet

			Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	5 Yr Total
E02		**NR OF DEPOSITORS**							
		Growth rate (% or absolute)							
	1	Voluntary savings			1,000	4,000	7,000	7,000	
	2	Term deposits			200	1,000	1,800	1,800	
		Nr of depositors							
	1	Voluntary savings		0	1,000	5,000	12,000	19,000	
	2	Term deposits		0	200	1,200	3,000	4,800	
		Nr of voluntary depositors	0	0	1,200	6,200	15,000	23,800	
		Cross-check from MFI Factsheet	0	OK					
		Nr of mandatory depositors	10,800	13,500	17,000	21,000	23,000	23,000	
		Total number of depositors	**10,800**	13,500	18,200	27,200	38,000	46,800	
E03		Mandatory depositors as % of borrowers		96%	92%	89%	88%	88%	
E04		**AVERAGE BALANCE PER DEPOSITOR**							
		Weighted average, voluntary deposits	0	0	333	369	389	405	
	1	Voluntary savings	0		200	208	216	224	
	2	Term deposits	0	0	1,000	1,039	1,080	1,122	
		Mandatory deposits	121	154	177	194	216	240	
E05		**PROJECTION OF DEPOSITS**							
		Total voluntary deposits	9	0	400,000	2,285,800	5,829,413	9,645,952	

Identification Sheet | MFI Factsheet | Loan Products | Loan Portfolio | Income | **Savings** | Staff | Other Costs | Fixed Investments

Look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

Risk-mitigation decisions and measures to implement:

- Reassure and communicate clearly with your clients about the availability of their savings to avoid a run on the MFI
- Check if the withdrawal of savings is related to any urgent financial needs that the MFI could address (loan rescheduling, revolving fund, bridge loan…)
- Check the consequences on your institution’s liquidity of less inflow, more outflow due to:
    - Increased need for liquidity for (urgent) expenses
    - Less confidence in the MFI
    - Changes in the term structure of funding: current account, savings account, term deposits
    - Decreasing the interest rate may not be possible in order to avoid a loss of confidence by the clients. On the contrary, an increase in interest rates may be required to stabilize funding
- Start communication and negotiations with the financial partners.

5. Reevaluate operational costs

Screenshot: To revise all your operational costs, check all the positions on the **Staff and Other Costs** sheets. Don’t be too ‘optimistic’ in revising operational costs. Sufficient resources will be required to cope with the crisis: follow-up of the external environment, evaluating the impact on the MFI, designing and implementing mitigating actions, administrative burden of rescheduling loans, communication with clients and staff …

MV08 **microvision** ROJECTED STAFFING LEVELS AND EXPENSES

NAME OF INSTITUTION Salsa | REPORT IN 1 MAD

Show details

			Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024
M01		**PROJECTION OF NUMBER OF BRANCHES**						
		Nr of active borrowers	10,800	14,000	18,500	23,500	26,000	26,000
		Nr of branches	5	6	7	8	8	8
		Nr borrowers per branch office	*2,160*	*2,333*	*2,643*	*2,938*	*3,250*	*3,250*
M02		**NR OF LOAN OFFICERS**						
		Nr of loan officers	36.0	46.7	61.7	78.3	86.7	86.7
		Average caseload (borrowers / Loan officer)	300	300	300	300	300	300
M03		Caseload adjustment factor			0.0%	0.0%	0.0%	0.0%
		Calculated nr of borrowers/Loan officer	300	300	300	300	300	300
		Nr of loan officers after efficiency improvement	36.0	46.7	61.7	78.3	86.7	86.7
		Loan officers as % of total staff	*57%*	*63%*	*62%*	*66%*	*68%*	*68%*
		Loan officers per branch office	*7.2*	*7.8*	*8.8*	*9.8*	*10.8*	*10.8*
M04		**STAFF REQUIREMENTS**						
		Nr of management staff	16.0	17.0	19.0	20.0	20.0	20.0
		Total mgmt staff from the MFI Factsheet, Row C42	16.0	OK				
	1	Management team (CEO, COO, CFO)	3.0	3.0	3.0	3.0	3.0	3.0
	2	2nd level mgmt (HRM, etc., including ICT)	3.0	3.0	3.0	3.0	3.0	3.0
	3	Accountants and internal auditor	2.0	2.0	3.0	3.0	3.0	3.0
	4	Branch manager	5.0	6.0	7.0	8.0	8.0	8.0
	5	Other management staff	3.0	3.0	3.0	3.0	3.0	3.0

Identification Sheet | MFI Factsheet | Loan Products | Loan Portfolio | Income | Savings | Other Costs

Look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

Risk-mitigation decisions and measures to implement:

- Rigorous cost-control: all expenses should be scrutinized
- Check how to manage your human resources more effectively (granting administrative leave, adjusting the portfolio per loan officer, reducing pay…)
- Consider delaying or scrapping projects and/or investments. Concentrate on your core business
- Analyze whether working on digital solutions would allow you to save money. You need to find a balance between a possibility of generating revenue and the investment to be made as well as the level of digital security which needs to be ensured.

6. Reevaluate existing debt funding sources

Screenshot: Go to the **Funding** sheet and **revise all your current funding sources and their costs.** If you manage to attract new sources, add them on this sheet.

		DEBT FUNDING							
U09		Loan balance at the start of the year		3,915,766	6,015,766	9,615,766	10,215,766	10,315,766	
U10		Disbursement of loans from investors							
	1	Investor 1			3,000,000				
	2	Investor 2					1,500,000		
	3	Investor 3		3,000,000		2,000,000			
	4	Investor 4			2,000,000				
		Total new borrowing		3,000,000	5,000,000	2,000,000	1,500,000	0	
U11		Repayment of loan capital							
	1	Investor 1		500,000	500,000	500,000	500,000	500,000	2,500,000
	2	Investor 2		400,000	400,000	400,000	400,000	315,766	1,915,766
	3	Investor 3			500,000	500,000	500,000	500,000	2,000,000
	4	Investor 4							0
		Total repayment		900,000	1,400,000	1,400,000	1,400,000	1,315,766	6,415,766
U12		Loan balance							
	1	Investor 1	2,000,000	1,500,000	4,000,000	3,500,000	3,000,000	2,500,000	
	2	Investor 2	1,915,766	1,515,766	1,115,766	715,766	1,815,766	1,500,000	
	3	Investor 3		3,000,000	2,500,000	4,000,000	3,500,000	3,000,000	
	4	Investor 4		0	2,000,000	2,000,000	2,000,000	2,000,000	

Identification Sheet | MFI Factsheet | Loan Products | Loan Portfolio | Income | Savings | Staff | Other Costs | Fixed Investments | Funding

Look at the output sheets to see the consequences of the changes on your financial statements and KPIs: **Projected MFI Factsheet, Performance Indicators, Projected Cash Flow and Graphs.**

Risk-mitigation decisions and measures to implement:

- Start communication and negotiations with the financial partners (about debt restructuring, negotiating covenants, other key messages). Show them a clear action plan and the results of your stress testing process
- Negotiate possible technical assistance (TA) with your financial partners to help you adapt to the stressed environment: optimize asset-and-liability management, including restructuring the loan portfolio, adapting procedures and products, including the creation of new digital solutions
- Look for new funding opportunities (special government funds, international social investors, possible donations…)
- Communicate with your shareholders about whether a capital increase is possible. This would reassure partners and clients (applies specially for cooperative banks, or deposit-taking institutions).

7. Address deteriorating liquidity and capital adequacy

Screenshot: Go to the top section of the **Funding** sheet to **check the current closing balance of your liquidity.** The details of the current closing balance are available in the **Proj Cash flow** sheet**.** If you have a negative balance, you'll need to:

- reduce expenses, and/or
- postpone your investments
- raise more income from your loan products, and/or
- access more financing, either in equity investments or debt financing.

By enabling the checkbox on Line U01, Microvision will propose you an automatic credit line which will allow you to maintain a sufficient amount of cash at the end of the fiscal year.

microfact
STRENGTHENING MICROFINANCE AND MICROINSURANCE

MV11 microvision ɔJECTED FUNDING SOURCES AND AMOUNTS

NAME OF INSTITUTION Salsa | REPORT IN 1 MAD

U01 Nr of investors/lenders 4 | ☑ Use automatic credit line to keep cash positive

		Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	5 Yr Total
U02	PROJECTED CASH FLOW							
	Closing Balance Liquidities (excl. Auto Credit Line)	846,059	1,443,763	709,226	-1,357,501	-29,293	406,628	
	Closing Balance Liquidities (Incl. Auto Credit Line)	846,059	1,443,763	709,226	309,892	274,729	193,254	
U03	AUTOMATIC CREDIT LINE TO CLOSE THE FUNDING GAP							
	Change in auto credit line		0	0	1,667,393	304,022	-213,374	
	Balance of auto credit line		0	0	1,667,393	1,971,415	1,758,041	
	Interest rate charged on auto credit line		14.0%	14.0%	14.0%	14.0%	14.0%	
	Interest paid on auto credit line			0	0	233,435	275,998	
	Net Income (before donations), before interest payment on auto-line-of-credit							

Print

Look at the output Performance Indicators sheet to see the impact of the changes on the variables you have adapted.

	FINANCIAL STRUCTURE								
	Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
D30	**Earning capacity of assets**								
D31	Gross loan portfolio / Total assets	63.0%	62.2%	56.4%	74.0%	83.6%	90.3%	86.1%	81.0%
D32	Non-earning assets / Total assets	14.7%	24.1%	23.2%	11.3%	8.4%	(0.4%)	(1.1%)	(0.3%)
H02	Non-earning liquid assets / Total liquid assets	57.9%	18.6%	56.7%	1.9%	1.8%	(6.2%)	(5.2%)	(3.2%)
D34	**Solvency**								
H03	Capital adequacy (= Equity / Assets)	60.3%	24.6%	24.6%	93.7%	111.5%	193.3%	130.6%	101.9%
D35	Capital adequacy (= Equity / Liabilities)	151.7%	32.7%	32.6%	23.9%	18.7%	20.6%	23.1%	26.0%
D36	Leverage (= Liabilities / Equity)	65.9%	306.0%	306.5%	419.2%	534.6%	486.5%	432.6%	384.2%
D37	Working capital	84.9%	56.1%	46.5%	28.6%	20.8%	20.3%	23.7%	28.0%
D38	**Liability composition**								
D39	Total client deposits / Total liabilities	55.6%	29.6%	18.1%	20.3%	22.3%	33.6%	45.9%	57.2%
D40	Borrowed funds / Total liabilities	31.9%	43.0%	54.3%	59.0%	62.9%	53.9%	43.9%	33.9%
D41	Gross loan portfolio / Total client deposits	285.6%	278.5%	414.0%	450.6%	444.4%	323.8%	230.8%	178.6%
D42	Donated equity / Total equity	43.3%	43.2%	65.0%	62.9%	53.5%	39.3%	28.2%	22.2%
	EFFICIENCY & PRODUCTIVITY								
	Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
D43	Portfolio yield	27.8%	23.8%	23.3%	30.6%	30.1%	29.5%	29.3%	29.1%
H04	Yield on gross portfolio after adjustment for inflation	23.0%	20.6%	19.4%	26.7%	26.2%	25.6%	25.4%	25.2%

... Income | Savings | Staff | Other Costs | Fixed Investments | Funding | Strategy | Proj MFI Factsheet | **Performance Indicators**

Risk-mitigation decisions and measures to implement:

- Analyze the origin of the deterioration in liquidity (excessively high operational costs, shrinking portfolio, withdrawal of savings, portfolio quality).
- Set up a separate department for distressed loans (follow-up, recovery…) so that the other people in the organisation can concentrate on the portfolio which is still performing
- Start communication with the regulator and your financial partners, inform them about your situation and ask for assistance
- Adapt your strategy to safeguard business continuity (focus on less risky activities, decrease the number of credits, work on digital solutions…).

C. Preparing a business continuity plan with scenarios and stress-testing

Stress testing makes it possible to examine how potential shocks from adverse market conditions could undermine an institution's P&L, liquidity and – most importantly – capital position. In other words, a stress test is used to analyze the resilience of an institution in the event of a crisis. Essentially, it provides a quick answer to the question: do we have the right term structures of assets and liabilities and enough capital to overcome a crisis without breaching regulatory requirements with regards to liquidity and capital?

By using Microvision for your stress testing process, you can demonstrate how the capital position will change over time, given various adverse changes and establish a capital position that meets minimum regulatory thresholds.

The stress testing is done by creating "what if…" scenarios, where the main risks you may be confronted with are identified[1]. This procedure will allow you to quantify the potential impact of a business-disrupting crisis.

Scenarios that are part of your stress-testing process should reflect a variety of potential effects, at the micro- and macroeconomic levels.

For example, you can simulate what would happen if your institution faces:

- A deterioration in revenues (by losing clients, clients not renewing loans, credit activities ceasing)
- A deterioration of PAR, leading to an increase in loan impairment reserves
- A massive withdrawal of savings.

For the sake of simplicity, you can reuse Microvision's User Sheet to register all your stress-testing results of the multiple variables. On top of any current projection you have from before the crisis, you can build 3 scenarios. You can do this by taking into account the above-mentioned assumptions and see what impact they will have on the financial statements and KPIs of your institution.

MV18 microvision User Sheet

This is an unprotected sheet. You may format it and change its contents as you would do with any normal Excel worksheet.

NAME OF INSTITUTION Salsa

Stress test multiple variables

	Current projection	Scenario 1	Scenario 2	Scenario 3
Financial performance				
Gross Loan Portfolio				
Loan officers productivity				
Nr of borrowers				
Savings				
Desposit size				
ROE				
ROA				
OSS				
GLP/Assets				
Portfolio yield				
OPEX				
Social performance				
Nr of branches				
Nr of clients reached				
Avg loan size				
Clients retention rate				
Staff retention rate				
% of female clients				
% of rural clients				

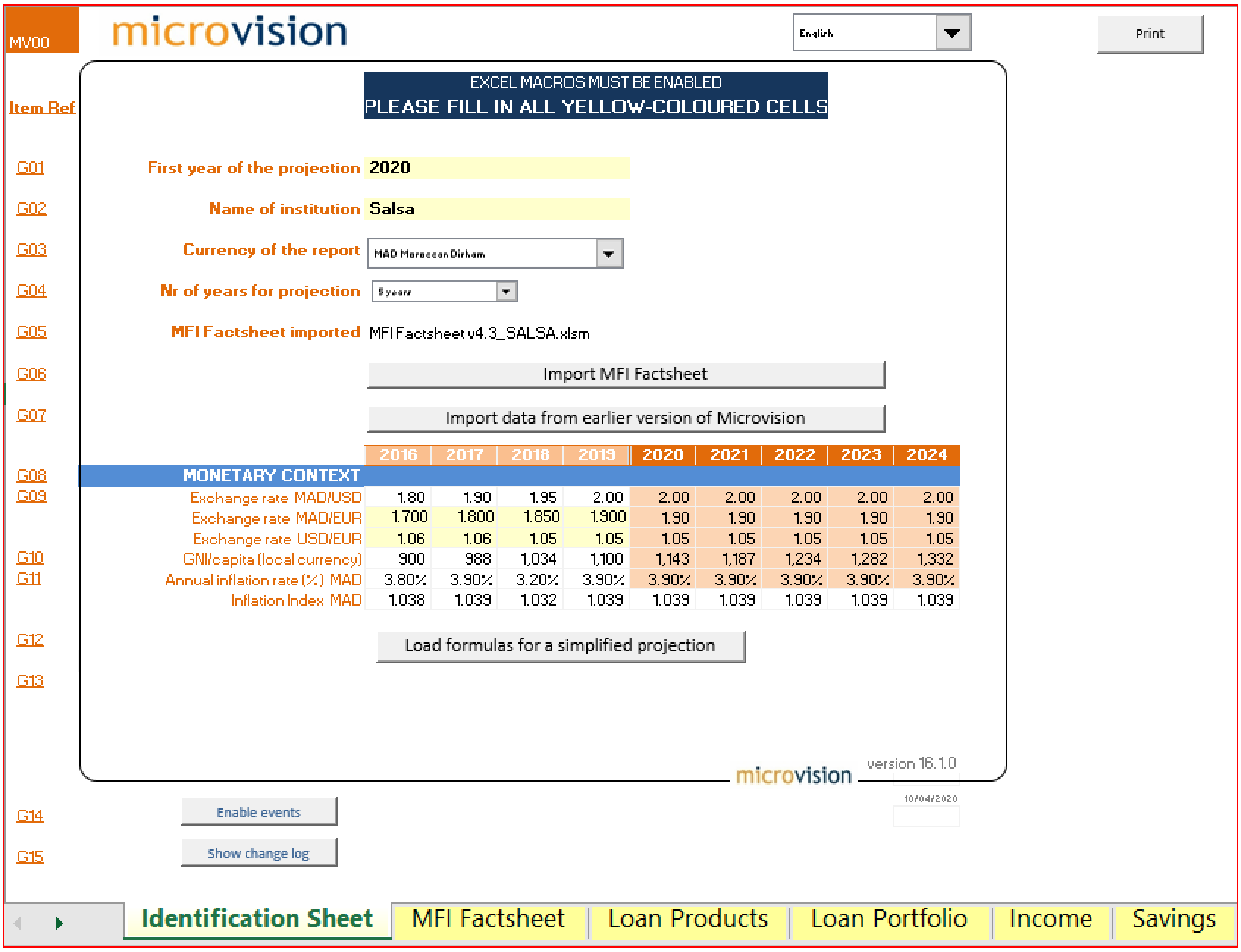
... Savings | Staff | Other Costs | Fixed Investments | Funding | Strategy | Proj MFI Factsheet | Performance Indicators | Proj Cash Flow | Graphs | Input | User Sheet | Manual

Besides enabling you to simulate any adverse operational consequences of the crisis, Microvision also enables you to simulate the impact in the changes of the monetary variables:

[1] More information about scenario analysis can be found in the Guidance note: Business continuity, prepared by ADA and freely downloadable from the ADA website

- Depreciation of the local currency
- Increased inflation

Screenshot: Go to the monetary context section of the **Identification Sheet** to **adapt the corresponding variables:**


MV00 microvision English Print

Item Ref

EXCEL MACROS MUST BE ENABLED
PLEASE FILL IN ALL YELLOW-COLOURED CELLS

G01 First year of the projection 2020
G02 Name of institution Salsa
G03 Currency of the report MAD Moroccan Dirham
G04 Nr of years for projection 5 years
G05 MFI Factsheet imported MFI Factsheet v4.3_SALSA.xlsm
G06 Import MFI Factsheet
G07 Import data from earlier version of Microvision
G08
G09

MONETARY CONTEXT	2016	2017	2018	2019	2020	2021	2022	2023	2024
Exchange rate MAD/USD	1.80	1.90	1.95	2.00	2.00	2.00	2.00	2.00	2.00
Exchange rate MAD/EUR	1.700	1.800	1.850	1.900	1.90	1.90	1.90	1.90	1.90
Exchange rate USD/EUR	1.06	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05
GNI/capita (local currency)	900	988	1,034	1,100	1,143	1,187	1,234	1,282	1,332
Annual inflation rate (%) MAD	3.80%	3.90%	3.20%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Inflation Index MAD	1.038	1.039	1.032	1.039	1.039	1.039	1.039	1.039	1.039

G10
G11
G12 Load formulas for a simplified projection
G13

microvision version 16.1.0
10/04/2020

G14 Enable events
G15 Show change log

Identification Sheet | MFI Factsheet | Loan Products | Loan Portfolio | Income | Savings

D. Building scenarios in Microvision

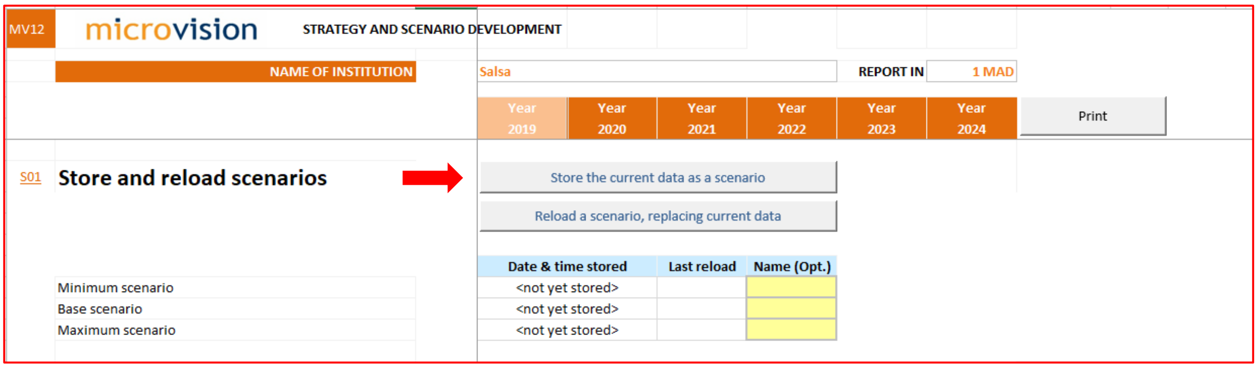
By making various stress tests for your institution, you will understand which variables impact your projections most severely. You will probably also notice that some variables do not play any role. As your tests progress, you will focus on particular assumptions and adapt the sensitivity of your hypotheses. You need to obtain scenarios with different degrees of severity, which will help you to anticipate the effects of the crisis in the most relevant way.

Importantly, Microvision enables you to develop up to 3 different scenarios, all in a single Excel file. These scenarios will be stored in the tool and you will be able to recall each of them at any time, in order to make the required changes.
On the **Graphs** sheet you will be able to compare different KPIs of your scenarios, so that you can subsequently communicate these results and strategies to your shareholders, board members, regulators and other stakeholders.

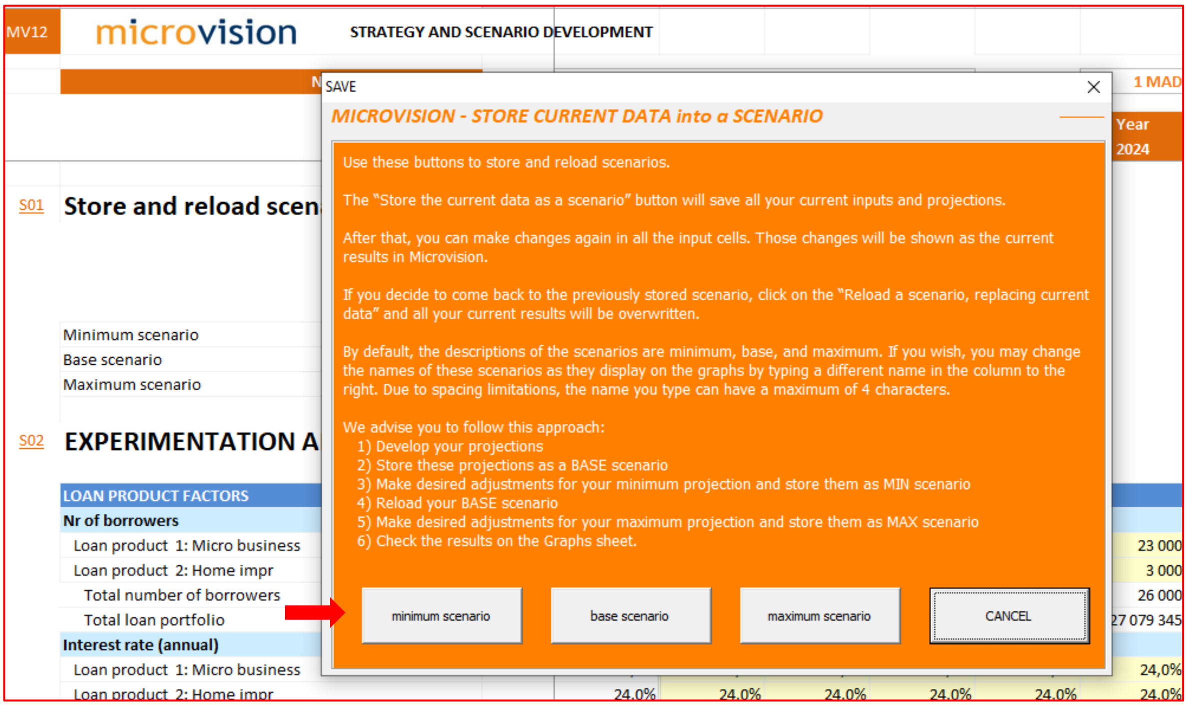
The following section will guide you step by step through the process of developing your scenarios.

1. Store your scenario

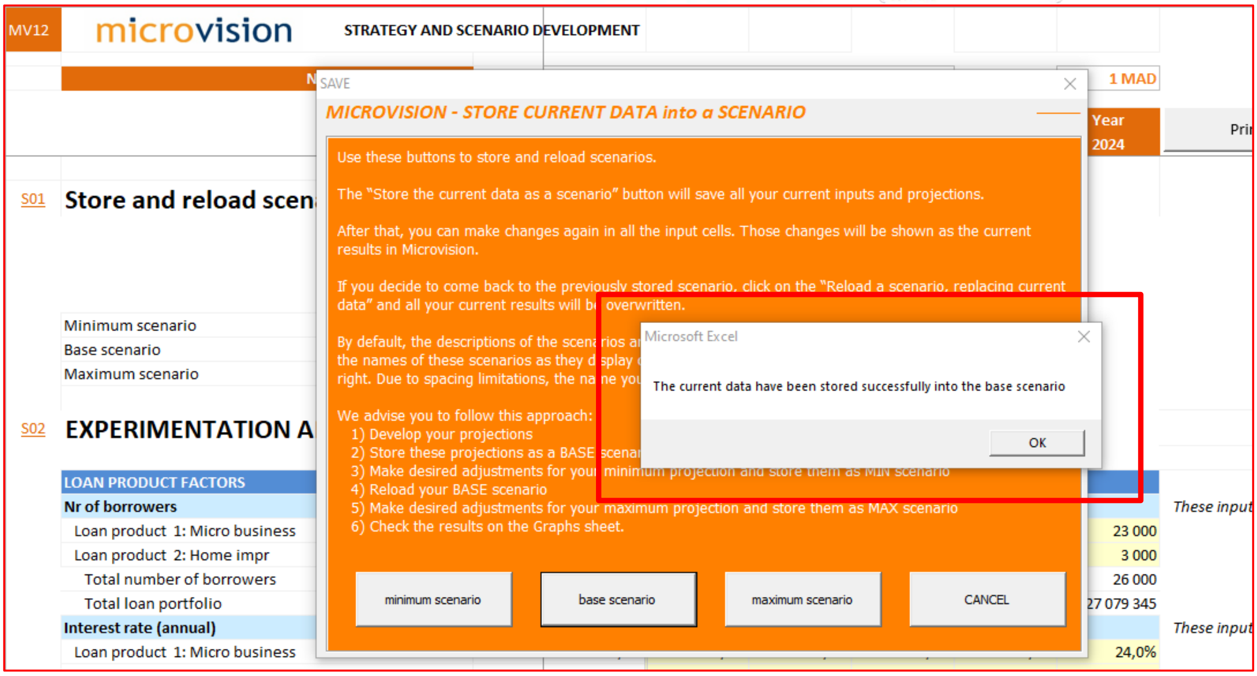
Once you have entered all of your assumptions and are satisfied with the resulting projections, you can save your first scenario.
Screenshot: On the **Strategy** sheet**, click on "Store the current data as scenario"**:



Screenshot: **A pop-up window will appear** asking you under which name you want to save your scenario. It is up to you to select the name of your first scenario (minimum, base or maximum scenario). Just press the button of your choice.



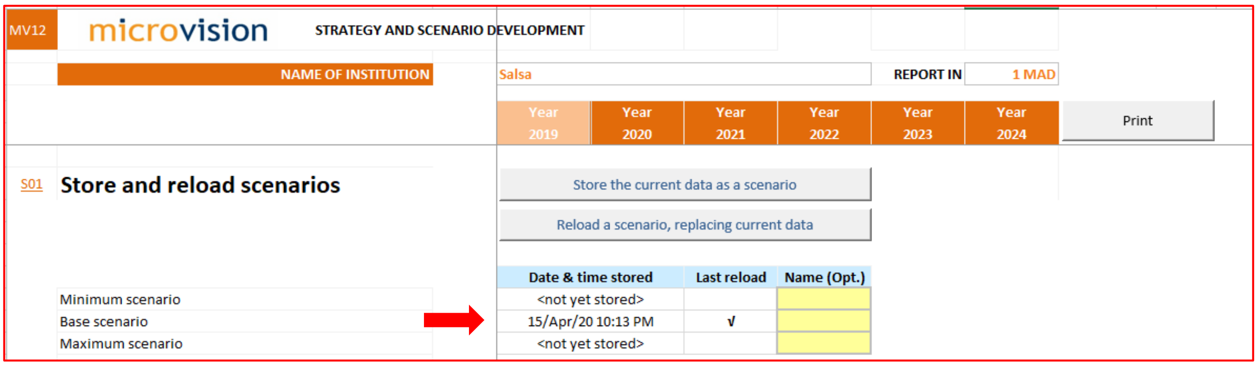
Screenshot: Storing a scenario takes only a few seconds and is concluded with the following **pop-up window:**



Once a scenario has been stored, you will see the date and time this was done. A tick next to it will indicate which scenario is currently displayed in the tool.

! Caution ! Be careful when saving your scenarios and choose a correct name to avoid any overwrite.

Tip: Rename your scenario to remember its main characteristics (for example, S1, S2, test). Remember that this name can only be 4 characters long.



After this, you can develop a second scenario, based on the assumptions of another stress test. Adapt your current data and once you are satisfied with the projections, store your new scenario in exactly the same way as described above. The table with a list of the scenarios will show you now that two scenarios have been stored and a small tick will indicate which scenario is currently displayed in the tool.

MV12 microvision STRATEGY AND SCENARIO DEVELOPMENT

NAME OF INSTITUTION	Salsa				REPORT IN	1 MAD
	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024

Print

S01 **Store and reload scenarios**

Store the current data as a scenario

Reload a scenario, replacing current data

	Date & time stored	Last reload	Name (Opt.)
Minimum scenario	<not yet stored>		
Base scenario	15/Apr/20 10:13 PM		
Maximum scenario	15/Apr/20 10:15 PM	√	

Repeat the operation if you want to end up with three scenarios.

Tip: A set of useful key variables at the bottom of the **Strategy** sheet is available. By changing one or more of them, you can quickly adapt your projections/scenario over 5 years. Changing one of those variables on the Strategy sheet has the same effect as changing that variable on one of the input sheets. They are interconnected so that any changes made on one sheet, will automatically update the other.

MV12 microvision STRATEGY AND SCENARIO DEVELOPMENT

NAME OF INSTITUTION: Salsa — REPORT IN: 1 MAD

S02 **EXPERIMENTATION AND SCENARIO DEVELOPMENT**

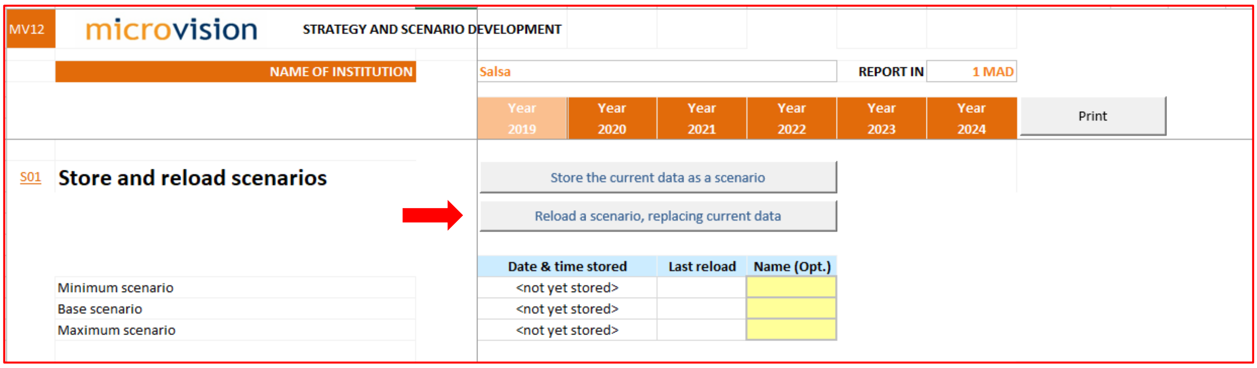
	Year 2019	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024
LOAN PRODUCT FACTORS						
Nr of borrowers						
Loan product 1: Micro business	10 800	13 500	17 000	21 000	23 000	23 000
Loan product 2: Home impr	0	500	1 500	2 500	3 000	3 000
Total number of borrowers	10 800	14 000	18 500	23 500	26 000	26 000
Total loan portfolio	5 400 000	9 353 838	15 168 609	20 614 111	24 910 174	27 079 345
Interest rate (annual)						
Loan product 1: Micro business	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%
Loan product 2: Home impr	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%
SAVINGS PRODUCT FACTORS						
Growth rate in number of depositors						
Voluntary savings			1000	4000	7000	7000
Term deposits			200	1000	1800	1800
Nr of depositors						
Voluntary savings	0	0	1 000	5 000	12 000	19 000
Term deposits	0	0	200	1 200	3 000	4 800
Deposits used for lending						
Total deposits	1 304 500	2 075 933	3 413 375	6 367 180	10 792 117	15 157 882
% deposits invested (See also SAVINGS, Item ref. E14)	50,0%	50,0%	50,0%	50,0%	50,0%	50,0%
OPERATING COSTS						
Loan officers						
Efficiency improvement			0,0%	0,0%	0,0%	0,0%
Nr of Loan officers after efficiency improvement	36	47	62	78	87	87
Other operational cost factors						

Additionally, **some key performance indicators** appear at the end of the **Strategy** sheet to allow comparison and quick verification. This allows you to refine your projections either by working on the **Strategy** sheet (with the limited variables) or by moving around to the other input sheets and adapting the variables.

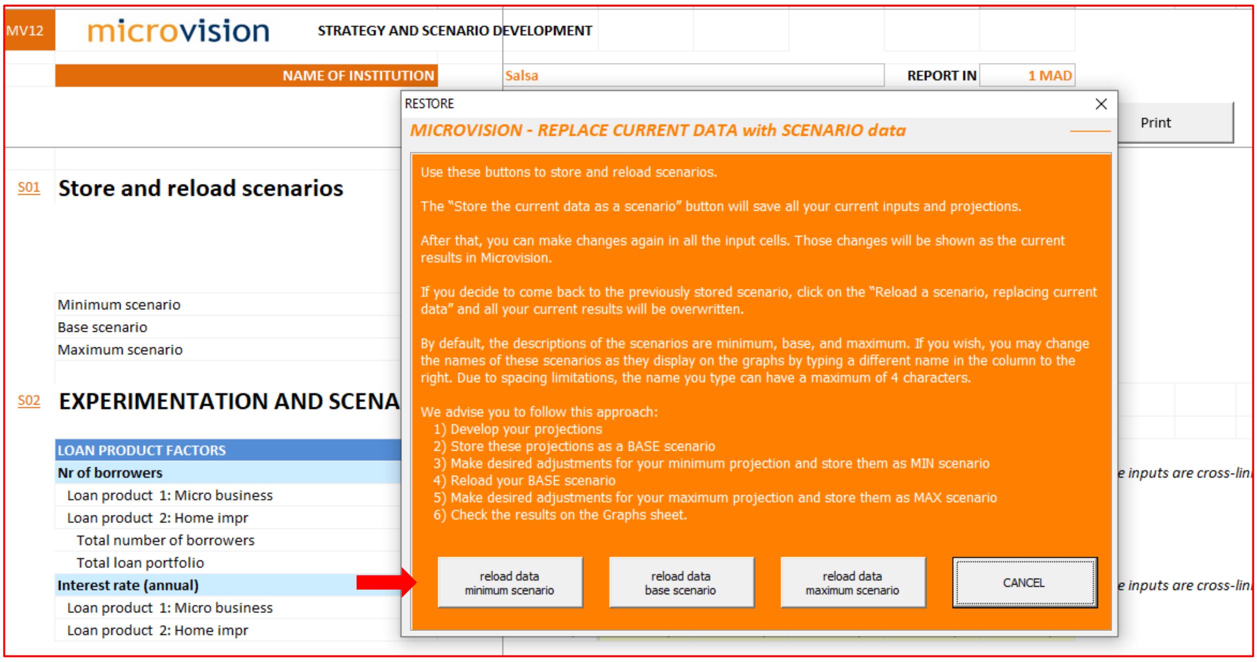
KEY PERFORMANCE INDICATORS						
Operating expense ratio (OPEX)	21,2%	16,8%	13,2%	11,0%	9,9%	9,4%
Operational Self-Sufficiency (OSS)	76,9%	92,4%	105,6%	119,4%	126,2%	126,4%
Financial Self-Sufficiency (FSS)	72,9%	89,8%	102,7%	115,6%	121,5%	120,8%
Return on Assets (ROA), excluding donations	(4,2%)	(1,5%)	1,1%	3,8%	5,0%	4,7%
Return on Equity (ROE), excluding donations	(17,2%)	(7,1%)	6,6%	23,3%	27,6%	23,9%
Liquidity (red = funding gap)	846 058	217 520	309 671	1 357 501	1 463 251	1 055 354

2. Reload your scenarios

If you wish to display data of a previously created scenario (for example, to adapt the assumptions, analyze once again the results or simply print some results), **click on "Reload a scenario, replacing current data"**, at the top of the **Strategy** sheet.



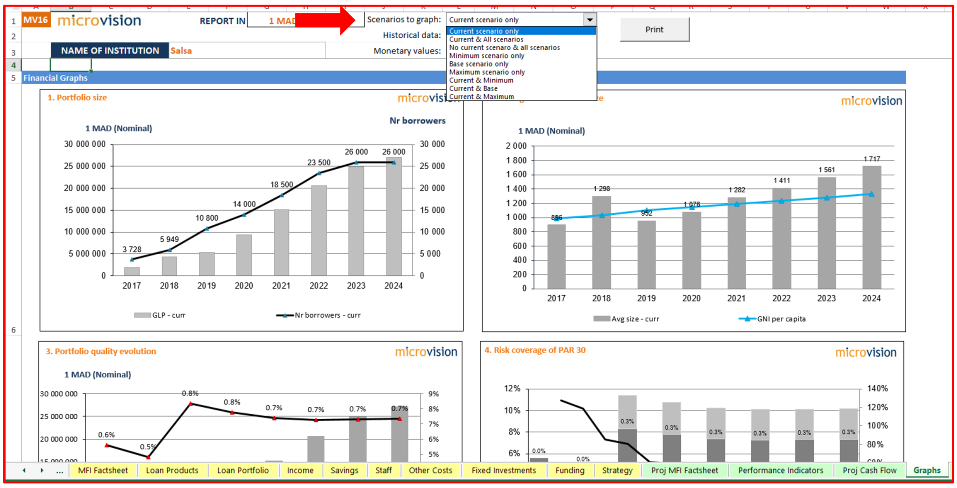
A pop-up window will appear asking you which scenario to reload. Make your choice by clicking on the corresponding button:



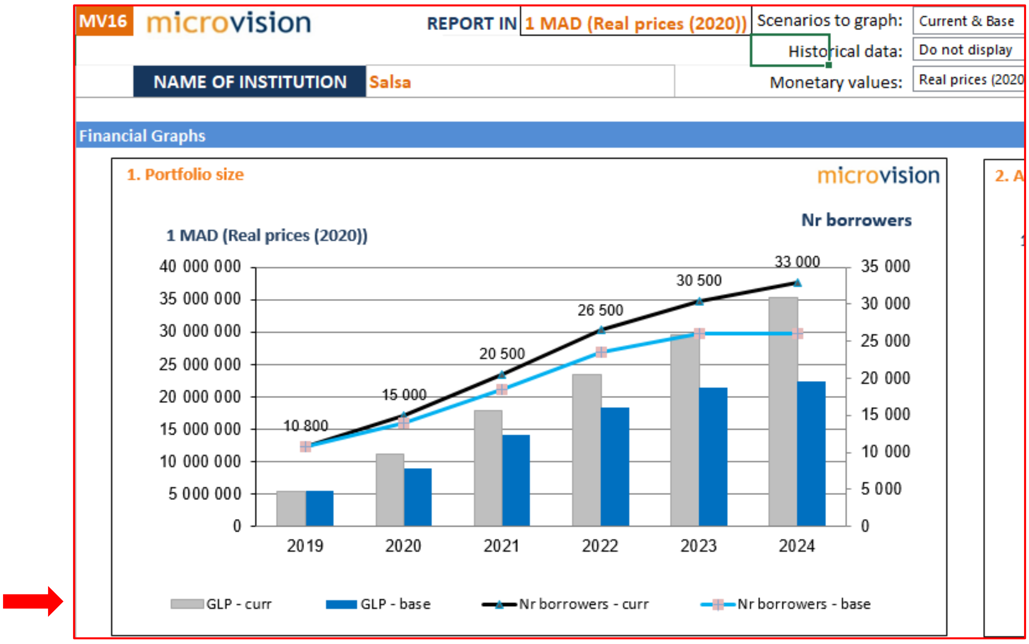
The process will take a few seconds. You will see that in the scenario table the sign will appear next to the scenario you decided to reload. Rework your data and save this scenario again.

3. Compare your scenarios

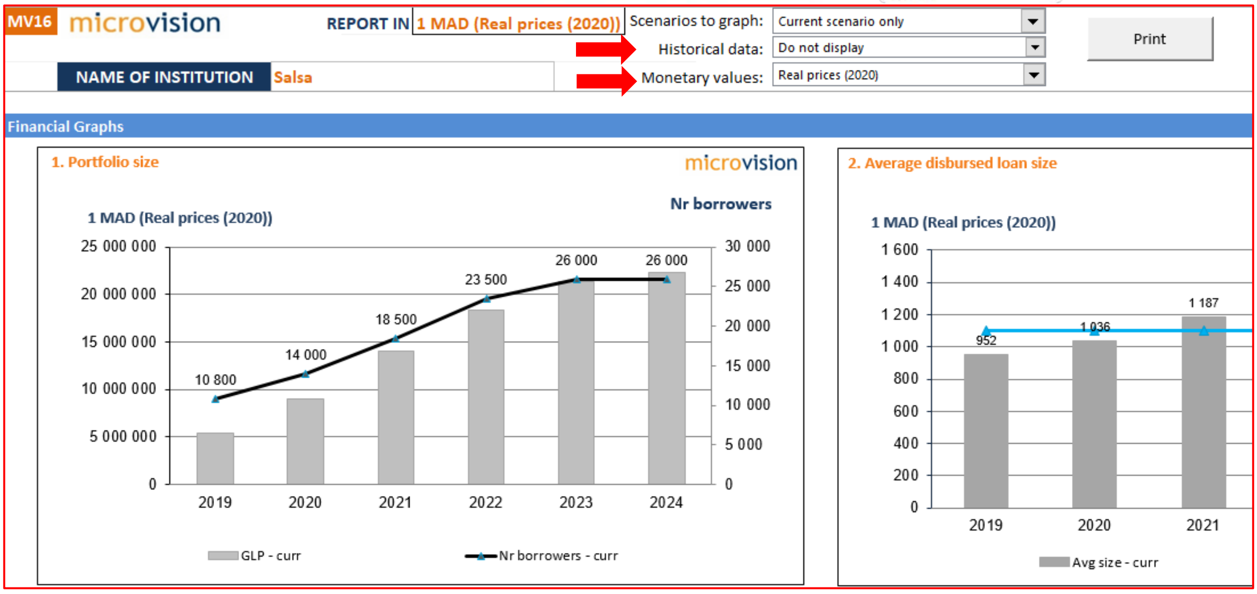
On the **Graphs** sheet, you can easily compare your different **scenarios. Just choose the desired option from the drop-down list: “Scenario to Graph”.** You can display up to three scenarios on every graph. You will also see the numbers of the current scenario, which correspond to the data which is currently displayed. The current scenario can correspond to one of your stored scenarios (that you have recently reloaded) or to a scenario that you have modified and that you have not stored yet.



Screenshot: On the graph below you can see a comparison between two scenarios: the base and the current one. The black line indicates the evolution of the number of borrowers in the current scenario, whereas the blue line shows the evolution of the number of borrowers in the base scenario. You can also see a difference in the loan portfolio size.



At the top of the **Graphs** sheet, you will also find some other useful buttons:



You can adapt the graphs by:

- displaying only the last historical year and all projected years (this will increase the readability of the graphs)
- displaying values updated for inflation.

Tip: You can **easily print** all your graphs and other output sheets (also to a PDF file), so you can communicate your strategies and scenarios to the stakeholders you want. **Click on the "Print" button** on the right side of every Microvision sheet. A PDF document will automatically be generated, so you can save it or print it.

⚠ TIPS:

If you have created your projections and scenarios before the crisis (included in your business plan):

1. Make a copy of the Microvision file containing your projections / scenarios
2. Take this copy and rename it (for instance: Microvision_BCP)
3. Recall the scenario you would like to adapt, so that it becomes your current scenario
4. Work on your new projections, according to the assumptions that will allow you to address the challenges caused by the Covid-19 crisis
5. When you are satisfied with your new projections, save the scenario as your minimum, base or maximum scenario
6. Develop a second scenario with other assumptions and save it
7. Customize your scenarios by renaming them
8. Look at the Graphs sheet to compare different scenarios and check your KPIs.

If you are using Microvision for the first time:

1. Import the MFI Factsheet or fill in your historical data manually in the sheet labelled "MFI Factsheet"
2. Set up your loan products on the Loan Products sheet. You can decide to change the "as is characteristics" of the products to correspond to new ones, developed to address the crisis, e.g. introduce a grace period, launch new product, etc.
3. Start working on your projections according to your assumptions

4. Save your scenario as your minimum, base or maximum scenario
5. Develop a second scenario with other assumptions (e.g. even more negative ones) and save it
6. Develop a third critical scenario and save it
7. Customize your scenarios by renaming them. Look at the Graphs sheet to compare your different scenarios and check KPIs.

Conclusions

Institutions best placed to deal with the Covid-19 crisis are those that have a sound understanding of the risks existing in the current environment and that are able to manage them appropriately, while maintaining the confidence of investors and other stakeholders. The projections and scenarios created using Microvision can thus make an essential and valuable contribution to an MFI's Business Continuity Plan for tackling the current crisis.

Optimists among us believe that the pandemic will be over in the near future. Others think it will take more time to recover from this crisis. But all of us are convinced that sooner or later better days will return – for the microfinance sector as well. Even in better times, do not forget that Microvision can also be used to create positive or "best case" scenarios, with an optimistic set of assumptions.

Other useful resources:

- ADA guidelines of good practices for the continuity of microfinance institutions
- Focus note of CGAP: "Asset and Liability Management for Deposit-Taking Microfinance Institutions"
- Adjusting Microfin for the Cashflow Impact of COVID-19
- How to Build a Corporate Immune System in Response to COVID-19‑ EaSI Technical Assistance Webinar

Useful platforms

- Covid-19 Resource Hub of FinDev Gateway
- ADA's website, a space exclusively dedicated to the management of the Covid-19 crisis
- faivLive Webinar on Covid and Microfinance
- Forum for the financial inclusion sector to discuss responses to COVID-19

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