Introduction and Definition

This model is a tool specifically designed to make financial projections of housing microfinance loans for a five year period. The logic of the model is based on the program Microfin, a well known tool which is used to make financial projections for a microfinance institution as a whole. This tool, as opposed to Microfin, focuses on the financial and operational structure of an individual product and not on an institution.

User Instructions

In the electronic Excel sheets you will find spaces highlighted in yellow or orange which are the only spaces where data can be inputted to design your product for your organization. The remaining un-highlighted spaces cannot be modified and automatically calculate information based on pre-established formulas.

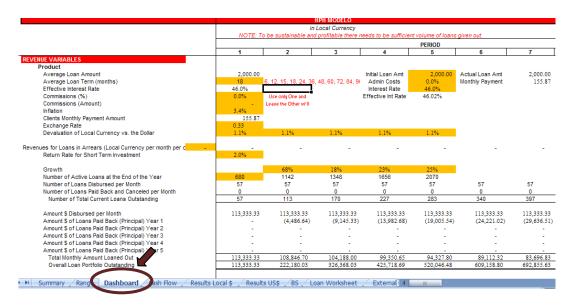Before filling out the model you must have the following information gathered or calculated:

- Administrative Cost per Loan Disbursed: For example the sum of electricity, water, internet, administrative costs for the loan placement and loan collection, legal expenses for structuring the loan guarantees and any costs incurred in loan collection, etc.
- Equipment Cost per Loan Disbursed: For example the sum of the costs of computers, printers, photocopiers, general office equipment, etc.
- Transportation and per Diem Cost per Loan Disbursed: For example cost of bus fare, taxis, etc.
- Marketing Cost per Loan Disbursed: For example the sum of the costs for the promotion of a loan, propaganda, brochures, etc.
- Personal Cost per Loan Disbursed: For example the sum of salaries of personnel including 13th month salary, indemnity, etc.
- Monthly Individual Salary Amounts and Maximum Number of Loans that an individual can handle per year for the following positions: Project Supervisor, Financial Manager, Accountant, Driver, Engineer in Charge of Technical Assistance in Construction, Portfolio Manager or Administrative Assistant and Loan Officer or Analyst.
- Working Capital Cost which is the interest rate charged for external funds received from others. In the case that numerous loans are received at different rates an average rate should be calculated.
- Percentage (%) of loan portfolio in arrears > 30 days or % reserved on average for arrears as an institution.

I. Dashboard y Cash Flow

These are the electronic sheets which are used to introduce the information which the model uses to make the financial projections.

A. DASHBOARD
The sheet labeled "Dashboard" displays the revenue and expense variables of the product being developed.

B. CASH FLOW

The sheet labeled "Cash Flow" displays the information for cash flow or working capital needed to be able to satisfy the loan disbursement volume inputted into the model and the associated costs of these loans. The external funds required need to be inputted manually for the product for a period of five years.

HPH MODEL
in local currency

CASH FLOW	MONTH					
	1	2	3	4	5	6
+ INCREASES						
External Funds Received from HPH and Others	1,000,000.00	-	-	-	-	-
Loan Repayments made by Clients	-	8,832.86	17,665.72	26,498.58	35,331.43	44,16
Commissions Revenue	-	-	-	-	-	-
Revenue from Loans in Arrears	-	-	-	-	-	-
Revenues from Short Term Investments	-	1,457.44	1,264.80	1,086.04	921.20	77
+ INCREASES	1,000,000.00	10,290.29	18,930.52	27,584.62	36,252.63	44,93
Computer Equipment	(583.33)	(583.33)	(583.33)	(583.33)	(583.33)	(58
ATC	(833.33)	(833.33)	(833.33)	(833.33)	(833.33)	(83
Personnel						
Project Supervisor	(700.00)	(700.00)	(700.00)	(700.00)	(700.00)	(70
Administrative Assistant	(300.00)	(300.00)	(300.00)	(300.00)	(300.00)	(30
Analyst	(1,700.00)	(1,700.00)	(1,700.00)	(1,700.00)	(1,700.00)	(3,40
Receptionist	-	-	-	-	-	
ATC Engineer	(1,700.00)	(1,700.00)	(1,700.00)	(1,700.00)	(1,700.00)	(1,70
X	-	-	-	-	-	
- DECREASES	(125,538.66)	(125,869.22)	(126,186.69)	(126,490.57)	(126,780.34)	(128,75
DIFFERENCE	874,461.34	(115,578.93)	(107,256.17)	(98,905.95)	(90,527.71)	(83,82
CUMULATIVE	874,461.34	758,882.41	651,626.24	552,720.29	462,192.58	378,3

RESULTS	YEAR				
	1	2	3	4	5
INCREASES	1,990,647.52	2,157,650.90	2,851,052.14	3,652,939.62	3,930,27
DECREASES	(1,540,437.36)	(2,278,575.39)	(2,759,902.53)	(3,487,311.48)	(4,461,42
DIFFERENCE	450,210.16	(120,924.49)	91,149.61	165,628.14	(531,14
CUMULATIVE	450,210.16	329,285.67	420,435.28	586,063.42	54,92

▶ ▶| Summary / Range / Dashboard / **Cash Flow** / Results Local $ / Results US$ / BS / Loan Worksheet / External ◀ ▶

2. Steps followed to be able to use the model

2.1 Expense Variables

In the electronic sheet "DASHBOARD" it is advised to first start in putting the expense variables (administrative, costs that vary per year, personnel, taxes of the product, loan portfolio loss and the terms of the external funds received from others).

There are many levels of cost analysis. For this step, we can calculate the costs at their most basic level as the total cost of an institution per loan disbursed or up to the most complex level using ABC costing.

HPH MODELO
in Local Currency
NOTE: To be sustainable and profitable there needs to be sufficient volume of loans given out.

	PERIOD						
	1	2	3	4	5	6	7
Monthly Interest Paid	7,083.33	7,083.33	7,083.33	7,083.33	7,083.33	7,083.33	7,083.33

Administrative Costs	Cost per Loan Disbursed						Cost as a % of Loan Amount
Administrative Costs (Rent, Electricity, Water, Internet, ect.)	57.15	59.11	61.14	63.23	65.40		2.9%
Equipment Costs	14.78	15.29	15.81	16.36	16.92		0.7%
Transportation and Per Diem Costs	27.05	27.97	28.93	29.93	30.95		1.4%
Marketing Costs	0.61	0.63	0.65	0.68	0.70		0.0%
X	-	-	-	-	-		0.0%
Other Costs	1.39	1.44	1.49	1.54	1.59		0.1%
(Note: The descriptions above can be changed or adapted for your needs)						Total	17.0%

Cost that Vary Per Year	Amount per Year						
Motorcycle	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00		
Computer Equipment	7,000.00	7,000.00	7,000.00	7,000.00	7,000.00		
ATC	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00		1.8%
(Note: The descriptions above can be changed or adapted for your needs)							

Personnel	Time	Monthly Salary	Net Salary	Capacity	Assets	Fiduciary	Mortgage
Project Supervisor	20%	3,500.00	700.00	-	-	-	-
Administrative Assistant	20%	1,500.00	300.00	3000	3000	-	-
Analyst	100%	1,700.00	1,700.00	300	300	-	-
Receptionist	0%	700.00	-	3000	3000	-	-
ATC Engineer	100%	1,700.00	1,700.00	1000	1000	-	-
X	0%	-	-	2000	2000	-	-
Type of Guarantee (Assets = 1, Fiduciary = 2, y Mortgage = 3)	1						
(Note: The descriptions above can be changed or adapted for your ne	*Amount*						

i. **Administrative costs** (red arrow)

Begin inputting the administrative costs. These costs are calculated per loan disbursed, which are calculated by taking the financial results from the last fiscal year and grouping the expenses into the necessary classifications and dividing these costs by the loans disbursed during this same fiscal period.

ii. **Costs that Vary per Year** (green arrow)

In order to determine the volume and period for these costs you need to first input in the revenue variables the estimated volume of loans expected to be disbursed over the five year period in order to determine what assets or specific services (like technical assistance in construction) will be needed and in what period they will need to be available for the product.

iii. **Personnel** (orange arrow)

The monthly salary of the individuals that are required to disburse and manage the loan product is required along with the amount of time that each individual is going to dedicate to this product. In addition, the maximum number of loans that an individual can handle per year needs to be inputted. Based on the loan volume inputted for the product and the loan capacity the personnel can attend to, the model automatically determines the number of individuals needed for each position.

iv. **Loan Portfolio Loss** (blue arrow)

This is the average loan loss provision for the portfolio which is calculated based on the historic arrears > 30 days information of the institution (closest representative information for this type of product) or the loan loss % noted in the market for this type of product.

v. **External Funding from HPH or Others** (purple arrow)

You need to calculate the funds required to be able to offer this product (working capital) and their terms. This is determined by studying historic and current information of actual terms obtained for financing or terms available in the market.

	HPH MODELO					
	in Local Currency					
	NOTE: To be sustainable and profitable there needs to be sufficient volume of loans given out.					
				PERIOD		
	1	2	3	4	5	6
EXPENSE VARIABLES						
Product						
Loan Portfolio Loss						
Loan Loss Reserve (arrears > 30 days)	3.5%					
Loan Loss Amount Per Month	-	(330.56)	(648.03)	(951.91)	(1,241.68)	(1,51
External Funds Received from HPH or Other	First	Second	Third	Fourth	Fifth	
Interest Rate	8.5%	8.5%	8.5%	8.5%	8.5%	
Loan Repayment Timeframe (1, 2, 3, 4, 5, 6, 7 or 10 yrs)	5	5	5	5	5	1, 2, 3, 4, 5, 6,
Loan Repayment Frequency (1, 2, 3, 4 or 12 per yr)	1	1	1	1	1	1, 2, 3, 4 or 12
Grace Period (0, 6 or 12 months)	12	12	12	12	12	0, 6 or 12 mon
New Funds (FIRST YOU HAVE TO FILL OUT THE CASH FLOW SHEET)	1,000,000.00	-	-	-	-	-
Amount of Principal Repaid for 1st Loan	-	-	-	-	-	-
Amount of Principal Repaid for 2nd Loan	-	-	-	-	-	-
Amount of Principal Repaid for 3rd Loan	-	-	-	-	-	-
Amount of Principal Repaid for 4th Loan	-	-	-	-	-	-
Amount of Principal Repaid for 5th Loan	-	-	-	-	-	-
Amount of Interest Repaid for 1st Loan	-	-	-	-	-	-
Amount of Interest Repaid for 2nd Loan	-	-	-	-	-	-
Amount of Interest Repaid for 3rd Loan	-	-	-	-	-	-
Amount of Interest Repaid for 4th Loan	-	-	-	-	-	-
Amount of Interest Repaid for 5th Loan	-	-	-	-	-	-
Total Amount Repaid	-	-	-	-	-	
Total Amount of Remaining Principal Owed	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,00
Monthly Interest Paid	7,083.33	7,083.33	7,083.33	7,083.33	7,083.33	7,08

vi. **Taxes (**yellow arrow**)**

Calculate the tax rate % paid over net income based on historical information.

(Note: The descriptions above can be changed or adapted for your ne|	Amount						
Project Supervisor		1	1	1	1	1	1	1
Administrative Assistant		1	1	1	1	1	1	1
Analyst		1	1	1	1	1	2	2
Receptionist		1	1	1	1	1	1	1
ATC Engineer		1	1	1	1	1	1	1
X		1	1	1	1	1	1	1
Taxes		0.00%						

Once the expense variables have been inputted it will not be possible to see the quantity of personnel required to manage this product until all the revenue variables have been inputted (specifically volume).

3. Revenue Variables
The revenue variables need to be completed inputting in the orange highlighted spaces the loan product terms and the macroeconomic variables of the country.

The return rate for short term investments corresponds to the rate of return that can be earned investing the unused capital that is being held by the institution in a short term investment vehicles such as a CD in the interim until the money is disbursed out in loans. The idea is to make sure that a return is made on all cash that is not yet being disbursed in loans.

		HPH MODELO						
		in Local Currency						
		NOTE: To be sustainable and profitable there needs to be sufficient volume of loans given out.						
					PERIOD			
		1	2	3	4	5	6	7
REVENUE VARIABLES								
Product								
Average Loan Amount		2,000.00			Initial Loan Amt	2,000.00	Actual Loan Amt	2,000.00
Average Loan Term (months)		18	6, 12, 15, 18, 24, 36, 48, 60, 72, 84, 9(		Admin Costs	0.0%	Monthly Payment	155.87
Effective Interest Rate		46.0%			Interest Rate	46.0%		
Commissions (%)		0.0%	Use only One and		Effective Int Rate	46.02%		
Commissions (Amount)		-	Leave the Other w/ 0					
Inflation		3.4%						
Clients Monthly Payment Amount		155.87						
Exchange Rate		0.33						
Devaluation of Local Currency vs. the Dollar		1.1%	1.1%	1.1%	1.1%	1.1%		
Revenues for Loans in Arrears (Local Currency per month per c	-	-	-	-	-	-	-	-
Return Rate for Short Term Investment		2.0%						
Growth			68%	18%	23%	25%		
Number of Active Loans at the End of the Year		680	1142	1348	1656	2070		
Number of Loans Disbursed per Month		57	57	57	57	57	57	57
Number of Loans Paid Back and Canceled per Month		0	0	0	0	0	0	0
Number of Total Current Loans Outstanding		57	113	170	227	283	340	397
Amount $ Disbursed per Month		113,333.33	113,333.33	113,333.33	113,333.33	113,333.33	113,333.33	113,333.33
Amount $ of Loans Paid Back (Principal) Year 1		-	(4,486.64)	(9,145.33)	(13,982.68)	(19,005.54)	(24,221.02)	(29,636.51)
Amount $ of Loans Paid Back (Principal) Year 2		-	-	-	-	-	-	-
Amount $ of Loans Paid Back (Principal) Year 3		-	-	-	-	-	-	-
Amount $ of Loans Paid Back (Principal) Year 4		-	-	-	-	-	-	-
Amount $ of Loans Paid Back (Principal) Year 5		-	-	-	-	-	-	-
Total Monthly Amount Loaned Out		113,333.33	108,846.70	104,188.00	99,350.65	94,327.80	89,112.32	83,696.83
Overall Loan Portfolio Outstanding		113,333.33	222,180.03	326,368.03	425,718.69	520,046.48	609,158.80	692,855.63

The term "growth" corresponds to the volume of credits that are expected to be disbursed during the first year and then the growth rate % of the credits for the subsequent 4 years.

❑ The volume of credits needs to be determined based on the market studies and the expected demand of the product as well as the amount of external funds available from external sources to fund this product (available working capital).
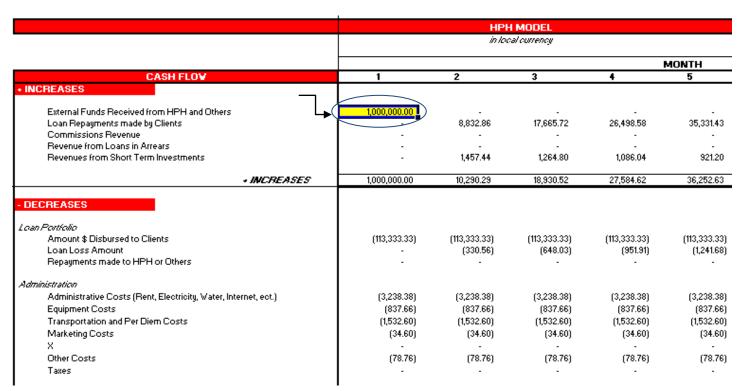
Note remember after this step to input the costs that vary per year.

4. Cash Flow Variables

You must calculate the necessary cash flow or external funding to satisfy the loan disbursements, their related costs and the repayment of these external funds. In the expense variables the loan terms for these external funds have already been inputted now we are just trying to calculate the amount required to meet these funding needs.

	HPH MODEL				
	in local currency				
					MONTH
CASH FLOW	1	2	3	4	5
• INCREASES					
External Funds Received from HPH and Others	1,000,000.00	-	-	-	-
Loan Repayments made by Clients	-	8,832.86	17,665.72	26,498.58	35,331.43
Commissions Revenue	-	-	-	-	-
Revenue from Loans in Arrears	-	-	-	-	-
Revenues from Short Term Investments	-	1,457.44	1,264.80	1,086.04	921.20
• INCREASES	1,000,000.00	10,290.29	18,930.52	27,584.62	36,252.63
- DECREASES					
Loan Portfolio					
Amount $ Disbursed to Clients	(113,333.33)	(113,333.33)	(113,333.33)	(113,333.33)	(113,333.33)
Loan Loss Amount	-	(330.56)	(648.03)	(951.91)	(1,241.68)
Repayments made to HPH or Others	-	-	-	-	-
Administration					
Administrative Costs (Rent, Electricity, Water, Internet, ect.)	(3,238.38)	(3,238.38)	(3,238.38)	(3,238.38)	(3,238.38)
Equipment Costs	(837.66)	(837.66)	(837.66)	(837.66)	(837.66)
Transportation and Per Diem Costs	(1,532.60)	(1,532.60)	(1,532.60)	(1,532.60)	(1,532.60)
Marketing Costs	(34.60)	(34.60)	(34.60)	(34.60)	(34.60)
X	-	-	-	-	-
Other Costs	(78.76)	(78.76)	(78.76)	(78.76)	(78.76)
Taxes	-	-	-	-	-

The sheet "Cash Flow" has a space per year (month 1, 12, 24, 36 y 48) where you must input the necessary working capital needed for that year (as shown in month 1 above). In order to determine the amount of funding needed, you must make sure the cumulative cash flow at the end of each year (line 49) is greater than zero such that the funds cover the loans disbursed plus their associated costs and repayments made on external funding.

5. Analysis of the Model

The model then permits you to analyze if the product developed is profitable and at what point in time it has reached break even and becomes profitable. In the sheets "*Results Local $*" y "*Results US$*", a summary of the revenues, expenses, net income and cumulative income per year is noted showing the profitability per year and the year in which the product reaches break even. In addition, looking at the cumulative amount per month one can determine the month in which the product starts to become profitable. With this information one can develop a product that is sustainable. This same information is presented in an executive summary format in the sheet labeled "summary".

	YEAR				
	1	2	3	4	5
REVENUES	84,040.01	196,256.33	244,768.92	307,229.55	396,895.25
EXPENSES	(89,041.81)	(133,125.90)	(158,593.88)	(186,001.98)	(224,477.24)
TAXES	-	-	-	-	-
NET INCOME	(5,001.80)	63,130.42	86,175.04	121,227.57	172,418.01
CUMULATIVE	(5,001.80)	58,128.63	144,303.67	265,531.24	437,949.26

6. Summary

SUMMARY - PRODUCT DETAILS (LOCAL CURRENCY)						
Loan Terms						
Average Loan Amount	2,000					
Average Loan Term (months)	18					
Effective Interest Rate	46%					
Clients Monthly Payment Amount	156					
Loan Volume	Yr 1	Yr 2	Yr 2	Yr 4	Yr 5	Total
Number of Active Loans at the End of the Year	680	1142	1348	1656	2070	
Number of Loans Disbursed per Year	680	802	947	1183	1479	5091
Estimated Costs as a % of Loan Amount						
Loan Loss Reserve (arrears > 30 days)	3.5%					
Administrative Costs as a % of Loan Amount	5.0%					
Costs that Vary Per Year as a % of Loan Amount	1.8%					
Personal Costs as a % of Loan Amount	5.0%					
Costs of External Financing	8.5%					
Total Costs as a % of Loan Amount	23.9%					
Terms and Amounts of External Financing						
	Loan Repayment Timeframe	Interest Rate	Grace Period			
Terms of External Financing	5	8.5%	12			
	Yr 1	Yr 2	Yr 2	Yr 4	Yr 5	Total
Amount of Financing Required (Local Currency)	1,000,000	400,000	300,000	400,000	600,000	2,700,000
Amount of Financing Required (Dollars)	332,226	131,391	97,432	128,443	190,491	879,983

This sheet "summary" presents an executive summary of the product. In one table all the indicators and variables of the product are shown in order to facilitate the analysis of the product and for decision making purposes. In addition, a summary of the financial results are presented in local currency and in US dollars along with graphs of the cumulative net income in both currencies where we can see the year and month in which the product becomes break even.

7. Conclusion

With this we conclude the explanation of the Habitat for Humanity LAC model for financial projections for microfinance housing products. We hope that it has been useful and will allow you to realize in an easy and efficient way the projections for your own products. If you have any concerns or comments please send an email to yabarca@habitat.org or contact Yansi Abarca Amador at (506) 2296-8120 ext. 4028.