

Currency fluctuations



Lucy Njeri Githaiga

Electronic goods

 **Kenya**

Lucy sells electronic goods. With the loan, she will purchase an assortment of electronic items. She has been in the business for the past two years.

Lucy Njeri Githaiga - Business ID 2781

Lucy lives in Nairobi, Kenya, and applies for a loan of the equivalent of 792 € in local currency in order to purchase more electronics goods for her business. The amount borrowed has to be repaid in 12 months.

Mette (a Danish investor) is interested in financing Lucy and makes a bid of 100 € at an interest rate of 12%.

Two possible and opposite options will greatly affect Lucy and Mette. Let us examine them.

Option 1: Mette takes the currency risk.

Repayment plan (in currency (Kenya Shillings) of the loan contract)

#	Date	Principle	Interest	Monthly total	Outstanding balance	Exchange rate
1	30.08.2008	5,774.03	1,271.80	7,045.83	79,257.97	96.00
2	30.09.2008	5,870.61	1,175.22	7,045.83	64,387.36	
3	30.10.2008	5,968.81	1,077.02	7,045.83	58,418.55	
4	30.11.2008	6,068.65	977.18	7,045.83	52,349.90	

Lucy signs a contract with the local provider to repay for the next 12 months 7045.83 KSH per month calculated on the exchange rate at time of disbursement of the loan which was 96.00 KSH per Euro.

Therefore Lucy will know the exact amount of money she has to repay every month and she can budget a fixed amount of money to be allocated to loan repayment.

Actual loan repayments (in currency (Kenya Shillings) of the loan contract)

#	Date	Principle	Interest	Monthly total	Outstanding balance	Exchange rate
1	30.08.2008	5,774.03	1,271.80	7,045.83	79,257.97	96.00
2	30.09.2008	5,870.61	1,175.22	7,045.83	64,387.36	100.00

First repayment

Lucy pays her first installment and Mette's part is 729.57 KSH in principal and 76.98 KSH in interest. After having paid withholding tax, Mette's interest will be 65.44 KSH.

At this point, the exchange rate fluctuated to 94.00 KSH per Euro. Therefore Mette will be credited 7.76 € in principal and 0.70 € in interest for a total of 8.46 €.

Currency fluctuations

The currency gain for Mette (after paying withholding taxes) will be therefore:
 $[(729.57+65.44) / 94] * [1 - (94 / 96)] = 0.18 \text{ €}$ using the following formula:

$[\text{Repayment amount in local currency} / \text{exchange rate as of repayment date}] * [1 - (\text{exchange rate as of repayment date} / \text{Exchange rate as of disbursement date})]$

Second repayment

Lucy pays her second installment of 7050.00 KSH and Mette will receive the same amount in KSH as before.

The exchange rate is now 100.00 KSH per Euro following a depreciation of the Kenyan shilling. Mette will now be credited of 7.29 € in principal and 0.65 € in interest for a total of 7.94 €.

The currency loss for Mette (after paying withholding taxes) will be:
 $[(729.57+65.44) / 100] * [1 - (100/96)] = -0.33 \text{ €}$

As an aggregated, Mette will lose 0.15 € as a result of currency fluctuation after the two repayments.

Option 2: Lucy takes the currency risk

Lucy in this case is signing a contract to repay the equivalent in KSH of 73.39 € every month for 12 months calculated at the initial exchange rate of 96 KSH per Euro.

For the first installment (KSH/EUR=94) Lucy would pay 6898.66 KSH saving 51.44 KSH. For the second installment (KSH/EUR=100) Lucy would pay 7339 KSH or 289 KSH more she would be by having a repayment plan in local currency.

As an aggregate, by bearing the currency risk, Lucy would lose 237.56 KSH and more importantly she would not know how much exactly she would have to pay every month, adding uncertainty to her business.

#	Date	Principle	Interest	Monthly total	Outstanding balance	Exchange rate
1	30.08.2008	60.15	13.25	73.39	731.85	1.00
2	30.09.2008	61.15	12.24	73.39	670.70	
3	30.10.2008	62.18	11.22	73.39	608.53	
4	30.11.2008	63.22	10.18	73.39	545.31	
5	30.12.2008	64.27	9.12	73.39	481.04	
6	30.01.2008	65.35	8.05	73.39	415.69	
7	28.02.2008	66.44	6.95	73.39	349.25	
8	30.03.2008	67.55	5.84	73.39	281.70	
9	30.04.2008	68.68	4.71	73.39	213.02	
10	30.05.2008	69.83	3.56	73.39	143.19	
11	30.06.2008	71.00	2.40	73.39	72.19	
12	30.07.2008	72.19	1.21	73.39	0.00	