

Regarding the Principal and Handling Fee Distribution in Monthly Repayment of Fubon Credit Card “Interest-free Cash Installment Plan”

1. Fubon Bank adopted the “Reducing Balance Method” to breakdown the principal and handling fee in the monthly repayment of Fubon Credit Card “Interest-free Cash Installment Plan”. This method allows the repayment proportion of handling fee higher during the beginning of the repayment while the repayment proportion of principal will be higher during the end of repayment.

2. Demonstration of the “Reducing Balance Method” :

a. Calculate the monthly installment amount:

$$\begin{aligned} \text{Monthly Installment amount} \\ = (\text{Loan Amount} \times \text{Monthly Average Handling Fee \%}) + \frac{\text{Loan Amount}}{\text{Tenor}} \end{aligned}$$

b. Calculate the proportion of the handling fee payment and principal payment in each installment by the following steps:

i. To derive an “Effective Rate” which is used to determine the handling fee proportion in each installment. The formula is as follow:

$$\text{Monthly Installment amount} = \frac{\text{Effective Rate} \times \text{Loan Amount}}{1 - (1 + \text{Effective Rate})^{-\text{Tenor}}}$$

ii. Calculate the handling fee payment proportion in each installment:

$$\text{Handling fee payment in each installment} = \text{Outstanding loan balance} \times \text{Effective Rate}$$

iii. Calculate the principal payment proportion in each installment:

$$\begin{aligned} \text{Principal payment in each installment} \\ = \text{Monthly Payment} - \text{Handling fee payment in each installment} \end{aligned}$$

3. Example:

Assuming loan amount of the customer is HK\$75,000 with monthly average handling fee % is 0.78% and tenor option is 36 months.

a. The monthly installment is:

$$(\text{HK\$75,000} \times 0.78\%) + \frac{\text{HK\$75,000}}{36} = \text{HK\$2,668.33}$$

b. Calculate the proportion of the handling fee payment and principal payment in each installment

i. Calculate Effective Rate:

$$\text{HK\$}2,668.33 = \frac{\text{Effective Rate} \times \text{HK\$}75,000}{1 - (1 + \text{Effective Rate})^{-36}}$$

Effective Rate=1.404109%

ii. The handling fee payment and principal payment can be calculated as follow:

	Handling Fee payment	Principal Payment
<b>First installment</b>	1.404109% X HK\$75,000 =HK\$1,053.08	HK\$2,668.33-HK\$1,053.08 =HK\$1,615.25
<b>Second installment</b>	1.404109% X HK\$73,384.75 =HK\$1,030.40	HK\$2,668.33-HK\$1,030.40 =HK\$1,637.93
<b>Third installment</b>	1.404109% X HK\$71,746.82 =HK\$1,007.40	HK\$2,668.33-HK\$1,007.40 =HK\$1,660.93
⋮		
<b>Last installment</b>	1.404109% X HK\$2,631.39 =HK\$36.95	HK\$2,668.33-HK\$36.95 =HK\$2,631.39

c. Repayment Table

Loan Amount :	HK\$75,000.00			
Monthly Average Handling Fee (%):	0.78%			
Tenor (Month) :	36 months			
Monthly installment Amount :	HK\$2,668.33			
No. of Installment	Monthly Installment Amount (HKD)	Monthly Handling Fee (HKD)	Principal (HKD)	Outstanding Balance (HKD)
1	\$2,668.33	\$1,053.08	\$1,615.25	\$73,384.75
2	\$2,668.33	\$1,030.40	\$1,637.93	\$71,746.82
3	\$2,668.33	\$1,007.40	\$1,660.93	\$70,085.89
4	\$2,668.33	\$984.08	\$1,684.25	\$68,401.64
5	\$2,668.33	\$960.43	\$1,707.90	\$66,693.74
6	\$2,668.33	\$936.45	\$1,731.88	\$64,961.86
7	\$2,668.33	\$912.14	\$1,756.20	\$63,205.66
8	\$2,668.33	\$887.48	\$1,780.86	\$61,424.80
9	\$2,668.33	\$862.47	\$1,805.86	\$59,618.94
10	\$2,668.33	\$837.12	\$1,831.22	\$57,787.72
11	\$2,668.33	\$811.40	\$1,856.93	\$55,930.79
12	\$2,668.33	\$785.33	\$1,883.00	\$54,047.79
13	\$2,668.33	\$758.89	\$1,909.44	\$52,138.34

14	\$2,668.33	\$732.08	\$1,936.25	\$50,202.09
15	\$2,668.33	\$704.89	\$1,963.44	\$48,238.65
16	\$2,668.33	\$677.32	\$1,991.01	\$46,247.64
17	\$2,668.33	\$649.37	\$2,018.97	\$44,228.67
18	\$2,668.33	\$621.02	\$2,047.31	\$42,181.36
19	\$2,668.33	\$592.27	\$2,076.06	\$40,105.30
20	\$2,668.33	\$563.12	\$2,105.21	\$38,000.09
21	\$2,668.33	\$533.56	\$2,134.77	\$35,865.32
22	\$2,668.33	\$503.59	\$2,164.75	\$33,700.57
23	\$2,668.33	\$473.19	\$2,195.14	\$31,505.43
24	\$2,668.33	\$442.37	\$2,225.96	\$29,279.47
25	\$2,668.33	\$411.12	\$2,257.22	\$27,022.25
26	\$2,668.33	\$379.42	\$2,288.91	\$24,733.34
27	\$2,668.33	\$347.28	\$2,321.05	\$22,412.29
28	\$2,668.33	\$314.69	\$2,353.64	\$20,058.65
29	\$2,668.33	\$281.65	\$2,386.69	\$17,671.96
30	\$2,668.33	\$248.13	\$2,420.20	\$15,251.76
31	\$2,668.33	\$214.15	\$2,454.18	\$12,797.58
32	\$2,668.33	\$179.69	\$2,488.64	\$10,308.94
33	\$2,668.33	\$144.75	\$2,523.58	\$7,785.35
34	\$2,668.33	\$109.31	\$2,559.02	\$5,226.34
35	\$2,668.33	\$73.38	\$2,594.95	\$2,631.39
36	\$2,668.33	\$36.95	\$2,631.39	\$0.00

Note: The above example is for reference only which may differ from actual situation.

**To borrow or not to borrow? Borrow only if you can repay!**