



Name:

SID:

Session:

Week 6 Purchasing Home

Question

- Ho is earning HK\$30,000 per month and has a saving of total HK\$900,000. He is now thinking of getting his first home. There are two choices available to him: 1) to buy a flat at HK\$4.4M or 2) to rent a flat at HK\$12,000 per month.
- He has done some researches on the corresponding benefits and costs. Below is the information.

Renter's insurance	3000	Maintenance	4000
Security deposit	24000	Tax saving	20% of the interest payment
Property tax rate	1% of price of home	Closing costs (exclude stamp duty)	60000
Home insurance	5000	Stamp duty (refer to the lecture note)	

Question

- He expects that the value of the property will increase by 1% annually and he can get a rate of return of 4% on his investment.
- He has also searched for some mortgage plans and plans to take a 25 years loans.

	Bank A	Bank B
Prime rate	5%	5.50%
Spread	2.5%	3.2%
Cash reimbursement	1%	1%
Interest penalty	1% of the mortgage loan for within the 1st year	1% of the mortgage loan for within the 1st 2 years



1) What is the minimum down payment needed?

- Under the MIP, he can get almost 90% LTV, subject to a cap of \$3.6M
- Down payment needed = $\$4.4\text{M} - \$3.6\text{M} = \$800,000$



2) If he decides to live in his home for more than 5 years and both plans offer him the same loan amount, which mortgage plan is a better choice?

- As he will live for at least 5 years, the interest penalty period is not applicable.
- Interest rate is the only consideration
- Bank A: $5\% - 2.5\% = 2.5\%$
- Bank B: $5.5\% - 3.2\% = 2.3\%$
- Bank B's offer is more favourable

3) Work out an amortization table for the corresponding mortgage plan for the first 12 months.

Month	Beginning balance	Monthly payment	Interest part	Principal repayment	Ending balance
1	3600000	15790	6900	8890	3591110
2	3591110	15790	6883	8907	3582202.961
3	3582203	15790	6866	8924	3573278.85
4	3573279	15790	6849	8941	3564337.634
5	3564338	15790	6832	8958	3555379.281
6	3555379	15790	6814	8976	3546403.758
7	3546404	15790	6797	8993	3537411.032
8	3537411	15790	6780	9010	3528401.07
9	3528401	15790	6763	9027	3519373.839
10	3519374	15790	6745	9045	3510329.305
11	3510329	15790	6728	9062	3501267.436
12	3501267	15790	6711	9079	3492188.199

4) Work out a cost analysis for the “buy or rent” decision

Cost of renting

1. Annual rental costs	144000
2. Renter's insurance	3000
3. Opportunity cost of security deposit	960

Total cost of renting

147960

Cost of buying

1. Annual mortgage payments	189480	
2. Property taxes	44000	
3. Homeowner's insurance	5000	
4. Maintenance	4000	
5. Cost of interest on down payment and closing costs	44800	
6. Total costs		287280

Less:

7. Principal reduction in loan balance	107812	
8. Tax savings due to interest deductions	16337.6	
9. Total deductions		124149.6
10. Annual after tax cost of homeownership		163131.4
11. Estimated annual appreciation in value of home		44000

Total cost of buying

119131.4