



*Life Annuity Factor at normal retirement age is the Present Value at normal retirement age of an annuity which pays \$1 annually for the lifetime of the Retiree.

**The Discount factor from normal retirement age to current age reflects the probability of survival (in service) to normal retirement age and also discounts for interest.

Consider an employee currently age 40 with 15 years to go to Normal Retirement Age, earning an annual salary of \$100,000.

$$\text{Value (Current)} = \frac{1 \times 100,000 \times 12 \times (1.08)^{54-40}}{600} = \$5875$$

Value of Retirement Benefit accrued this year

$$= \$5,875 \times 8.105 \times 0.65$$

$$= \$3,095$$

This calculation was actually done with a "blend" of ages and service.

3. Life Assurance Benefits

(a) Plans valued

- Basic Life
- Supplemental Life
- Retiree Life
- Pension Death Benefits

(b) Basic and Supplemental Life

Annual rate of HK\$2.65/HK\$1,000 coverage (see Annex E)

(c) Retiree Life

Annual rate of HK\$50/HK\$1,000 coverage discounted actuarially to a present value basis (see Annex E)

(d) Pension Death Benefits

Determined actuarially

4. Long Term Disability

(a) Plans Valued

Insured
Pension Disability Benefits

(b) Provisions Valued

Amount of Benefit (% of pay)
Length of benefit

(c) Insured

Annual rate of HK\$2.04/HK\$1,000 insured amount (see Annex E)

(d) Pension Disability Benefits

Determined actuarially

5. Medical Benefits

(a) Provisions Valued

Employee coverage
Dependents coverage
Retiree coverage
Dependents of retiree
Hospital room and board amount and length
Other hospital expenses amount
Physicians visits in hospital amount
Surgery amount
Diagnostic tests covered
Physicians office visits covered
Major medical deductible and coinsurance
Maternity covered

(b) Benefit Values - determined from an actuarial model based on rates for standard plans (see Annex E)

(c) Example

Civil Service Hospital Usage Assumptions

First Class	9%
Second Class	20%
Third Class	71%

Insurance Rates

First Class	\$6720
Second Class	\$3168
Third Class	\$ 316
(see Annex E)	

$$\text{Value} = \frac{9}{100} \times 6720 + \frac{20}{100} \times 3168 + \frac{71}{100} \times 316$$

$$= \$1463$$

6. Dental Insurance

(a) Approach

If information provided, valued based on average employer expenditure per employee.

If above information not provided, valued based on actuarial model based on rates for standard plans (see Annex E).

(b) Employer Expenditure Approach - total company expenditure divided by the number of employees eligible.

(c) Actuarial model approach - Provisions Valued

- Employee coverage
- Dependents coverage
- Retiree coverage
- Dependents of retirees coverage
- Prevention coverage amounts
- Repair coverage amounts
- Restoration coverage amounts

Subsidized Loan Calculation Example

1. Assumptions

Amount of Loan = \$1,000,000
 Term of Loan N = 15 years
 Market Rate of Interest I1 = 10%
 Subsidized Interest Rate I2 = 5%

2. Loan Payment at Market Rate

$$\frac{1,000,000}{\text{AN1}} = \frac{1,000,000}{7.60607951} = \$131,474$$

3. Loan Payment at Subsidized Rate

$$\frac{1,000,000}{\text{AN2}} = \frac{1,000,000}{10,37965804} = \$96,342$$

4. Annual Subsidy

$$\$131,471 - \$96,342 = \$35,129$$

Civil Servants Personal Loan Calculation

(1) For Staff on Salaries of \$4,000 per month or more

- Loan 2 months salary or \$8,000 whichever is less
- Repayment period 20 months
- Interest rate 0%
- Retail rate of borrowing 9%
- Monthly rate of repayment \$433.3 with principal and interest
- Actual rate of repayment \$400 per month principal only
- Savings per annum $33.2 \times 12 = \$399.6$ or \$400 to the nearest whole number

(2) For Staff on Salaries below \$4000 per month

- Example \$3,500 per month salary
- Loan 2 months salary or \$7,000 whichever is greater
- Interest rate 0%
- Retail rate of borrowing 9%
- Monthly rate of repayment \$378.0 with principal and interest
- Actual rate of repayment \$350 per month
- Savings per annum $28 \times 12 = 336$

Transport Subsidies
Base for Calculations

Transport from Home to Place of Work

- (a) actual figure where available (for example hire of coach)
- (b) average cost of public transport subsidy provided to employees

Use of Public Transport In Employee and Family

- (a) actual figure where available
- (b) assessed value on the following basis
 - (i) standard family of 2 adults and 2 school children
 - (ii) school children pay 1/2 fare
 - (iii) every member of the family may use the bus everyday for one return journey
 - (iv) average round trip \$3.00 per adult, \$1.50 per child

Total Cost $2 \times 365 \times 3 + 2 \times 365 \times 1.50 = \$3,285$ per annum