Memorandum for the Subsidised Housing Committee of the Hong Kong Housing Authority

Initial Ideas on Price Setting and for Calculating the Premium Payable under the New Home Ownership Scheme

PURPOSE

This paper sets out some initial ideas on the setting of price and for calculating the premium payable for the flats sold under the New Home Ownership Scheme (HOS) for Members' discussion.

BACKGROUND

2. On 12 October 2011, the Chief Executive announced in his 2011/12 Policy Address a new policy for the resumption of the HOS, in response to the aspirations of low and middle-income families to buy their own homes. The Housing Authority (HA) will be responsible for producing the New HOS flats and for working out the implementation details, including the allocation ratio between green form and non-green form applicants, income and asset criteria for non-green form applicants, price benchmarks based on affordability and premium payment arrangements.

SETTING OF PRICE

2011/12 Policy Address

3. It was announced in the 2011/12 Policy Address that the New HOS will be targeted at families with a monthly household income under $30,000, and mainly first-time home buyers. The prices of New HOS flats will be set with reference to the mortgage repayment ability of eligible households. For example, the price of a New HOS flat with a saleable area (SA) of 400 to 500 square feet will roughly be set in the range of $1.5 million to $2 million to make it affordable to a family with a monthly income of $20,000 to $30,000.

Existing Formula for Price Setting

4. For the traditional HOS, starting from 1982 [Note 1], the flat prices have been determined by applying a discount rate to the market value of flats. The discount rate related to the affordability of the households within the HOS income limit. To determine affordability, there were two guiding principles – (a) eligible households could afford the flats with a mortgage-to-income ratio of not more than 40%; and (b) at least 50% of the flats for sale should be "affordable" as defined in (a) after applying a discount rate to the market value of flats. In 1991, the HA agreed that, under normal circumstances, the HOS flats should be sold at 30% discount with respect to the market value, but a higher discount rate could be offered if the affordability test as mentioned in (b) above could not be satisfied [Note 2]. The 30% discount guideline was reaffirmed in 2006 for the sale of surplus HOS flats.

5. In Phase 6 of sale of surplus HOS flats in 2010, when affordability of eligible households was checked against the prices of the flats on offer applying the 30% discount rate, 99% of the flats were found to be "affordable" by the eligible households, on the assumption that the downpayment was 10% and the mortgage loan was 90% of the flat price for those eligible households. Therefore a discount rate of 30% was adopted for the pricing of flats for sale in Phase 6.

New Formula for Price Setting

6. According to the 2011/12 Policy Address, the pricing of the New HOS will be unpegged from market price and based on target applicants' affordability. In other words, unlike the traditional HOS, the yardstick is 100% of the flats on sale (rather than at least 50%) would be priced at a level affordable to the target group.

7. We will have to revise the existing formula in order to meet the new yardstick in paragraph 6. As regards the other assumptions used in the formula, we are inclined to adopt the same assumptions for downpayment and mortgage payment as applied to the sale of surplus HOS flats in Phase 6, i.e.,

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Note 1 Before Phase 3B (i.e. before February 1982), the sale prices of HOS flats were fixed at cost (including land, construction and development costs). In other words, the HA set the sale prices of the HOS flats on a cost-recovery basis. Since Phase 3B, selling prices of HOS flats have been tied to the prevailing market value and affordability of the applicants, without any reference to cost.

Note 2 The HA offered bigger discounts for HOS flats sold in the 1990s in order to meet the guiding principles in paragraph 4.

10% of the flat price as downpayment, and flat owners to pay the remaining 90% of the flat price (i.e. the mortgage) for 20 years at the prevailing interest rate.

8. Members will note that affordability is measured against the determined income limit for eligible households. As set out in paragraph 3, the New HOS will be targeted at families with a monthly household income under $30,000. In the light of the parameters as set out in the 2011/12 Policy Address and Members' views, we will work out some proposals on price setting for Members' consideration in due course.

PREMIUM PAYMENT

2011/12 Policy Address

9. The direction as set out in the 2011/12 Policy Address is that within the first five years from the date of purchase, owners may only sell their flats to green form applicants or the HA. After five years, owners may sell their flats on the open market after paying a premium to the HA. When calculating the premium to be paid, the HA may take the subsidised portion of a unit's purchase price as a loan to the owner, the amount of which will not be adjusted even if the market value of the unit increases in future, and require the owner to repay this loan to the HA before selling the unit on the open market.

10. The 2011/12 Policy Address also mentions the guiding principle that when working out the details of the premium arrangements, the HA should ensure that the new arrangements are fair to existing HOS flat owners. As the arrangements will involve subsidising home ownership with public money, they should also be acceptable to the community as a whole.

Existing Methodology in Calculating Premium

11. The traditional HOS flats were sold at a discounted price and are subject to alienation restrictions. For HOS flats before Phase 3B (the sale prices of which were set on a cost-recovery basis), the owners are free to dispose of their flats on the open market after the expiry of the resale restriction period and no premium payment is required. Since Phase 3B in 1982 (when the selling prices have been tied to the prevailing market value and affordability of the applicants), owners must pay a premium for removal of the restrictions before they can sell, let or assign the flats on the open market.

12. The existing methodology for calculating the premium payable for a HOS flat is set out in the Schedule of the Housing Ordinance (Cap. 283) as follows -

$$\text{Premium} = \text{Prevailing market value} \times \text{Discount rate}$$

where,

$$\text{Discount rate} = \frac{\text{Initial market value} - \text{Purchase price}}{\text{Initial market value}} \times 100\%$$

13. The initial market value and purchase price are stated in the assignment of the flat from the HA to a purchaser. For example, for a flat with the initial market value at $1,600,000 and the purchase price at $960,000 i.e. a discount rate of 40%, the premium payment would be $800,000 if the prevailing market value is assessed at $2,000,000.

Possible Options on Premium Payment for the New HOS

14. One of the key features of the New HOS is the objective to facilitate upward mobility of the flat owners, i.e. to enable them to trade up and shift to the private residential market. The idea is to unpeg the premium payable on a New HOS flat from its market value. Therefore, we need to devise a new formula for calculating the premium payable under the New HOS.

15. The concept as set out in the Policy Address is to take the subsidised portion of a unit's purchase price as a loan to the flat owner under the New HOS. For Members' background information, we have set out at **Annex A** information on existing loan and financial assistance schemes offered by the Government and public bodies.

16. For Members' discussion, and drawing reference to the existing loan and financial assistance schemes offered by the Government and public bodies, we have set out five variations on the two basic approaches, i.e. "loan only" and "loan plus interest":

Option 1. "**Loan only**": the premium payable is the absolute amount of the "loan" with no interest required (i.e. the difference between the initial market value at the time of purchase and the "affordable" purchase price is treated as a "loan").

Option 2. "**Loan plus interest at "no gain, no loss" (NGNL) rate each year**[Note 3]": the premium payable is the "loan" plus interest which is compounded yearly, where the floating interest rate is the NGNL rate of each particular year.

Option 3. "**Loan plus interest at NGNL rate each year, plus 1.5% risk-adjusted factor**": the premium payable is the amount corresponding to the "loan" plus interest together with a risk-adjusted factor which is 1.5% of the "loan". The floating interest rate is the NGNL rate of each particular year and is compounded yearly, while an addition of 1.5% of the original amount of the "loan" would be charged as a risk-adjusted factor at the time of payment of premium. The risk-adjusted factor used in this assessment is set at 1.5% of the "loan" for illustration purpose only[Note 4].

Option 4. **"Loan plus interest at NGNL rate fixed at the year of purchase"**: the premium payable is the amount corresponding to "loan" plus interest which is compounded yearly, and where the interest rate is fixed at the NGNL rate of the year of purchase.

Option 5. **"Loan plus interest at 2%"**: the premium payable is the amount corresponding to "loan" plus interest, where the interest rate is fixed at 2%. The interest rate under this Option is set at 2% for illustration purpose only[Note 5].

Financial Implications to the HA

17. To gauge the financial impact of the possible options on premium payment under the New HOS in comparison to the existing methodology, we have conducted an assessment based on a sample of HOS flats sold by the HA in previous years. We have randomly selected ten HOS flats (five of SA of 40 m^2 and five of 50 m^2) in each of the three districts of Urban, Extended

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Note 3 The principle of NGNL is that the loans are provided on the basis that the loan provider is not seeking to make a profit out of the loans, nor incur a loss.

Note 4 Reference has been drawn to the Non-means-tested Loan Scheme administered by the Student Financial Assistance Agency (SFAA), where the risk-adjusted factor is set at 1.5% of the loan amount (see also Annex A).

Note 5 Reference has been drawn to the Sandwich Class Housing Loan Scheme and the Home Starter Loan Scheme administered by the Hong Kong Housing Society (HKHS) (see also Annex A).

Urban and New Territories, sold in 1985, 1990, 1995 and 2000 respectively [Note 6]. The premium payable for these selected flats under the possible options and the existing methodology were assessed. A total of 120 flats were selected. Details are set out at **Annex B**.

18. The results of the assessment are summarized in **Annex C**. Details of comparisons of the existing methodology and the possible options for calculating the premium payable under the New HOS are at **Annex D**. Our general observations at this stage are –

(a) there is a fundamental difference between the concept of calculating the premium payable under the existing methodology and the possible options. The premium payable under the existing methodology hinges on the prevailing market value at the time of premium payment and to some extent will be affected by market volatility. On the other hand, the possible options are based on the "loan" concept, and thus from the point of view of flat owners, the premium payable under these options is more predictable as compared to the existing methodology.

(b) the premium payable by all selected flat owners will be less under the "loan only" approach (Option 1) when compared with that under the existing methodology, save for five cases. As regards the "loan plus interest" approach (Options 2 to 5), except for Option 4, generally more selected flat owners will be paying less premium than that under the existing methodology.

(c) comparing the options using a fixed interest rate to a floating rate (Options 4 and 5 vs. Options 2 and 3), we can see that a floating rate option appears to have an averaging effect over the years on the premium amount. The premium amount for the selected flat

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Note 6 Under the Housing Ordinance, HOS flats sold are subject to a five-year resale restriction. During the first five years of the first assignment from the HA, if the HOS flat owners want to sell their flats, they are required to offer to sell the flats to the HA. Using this resale restriction, we have picked flats sold in 1985, 1990, 1995 and 2000 for this assessment, where the five-year restriction period would have lapsed as at December 2011. No HOS flats were sold from 2003 to 2006. For flats sold in or after 2007, they would still have been subject to the five-year resale restriction as at December 2011. Although the HA has decided in 2006 to decline all buyback offers in respect of Surplus HOS flats sold from 2007 onwards, as stated in paragraph 9, we intend to apply a five-year resale restriction to the New HOS.

owners under Option 4 hinges on the interest rate of a particular year, while the interest rate is fixed at 2% under Option 5, and thus these options would not be able to reflect the changing economic circumstances; and

(d) for Option 4 involving a fixed NGNL rate at the year of purchase, there is a chance that the NGNL rate would be different at the time when the flat owner makes the premium payment. If the NGNL rate is lower at the year of making premium payment, we anticipate that the HA will face tremendous pressure from flat owners to be allowed to adopt the lower rate instead.

19. It should be noted that out of a total of about 324 000 existing HOS flats, the premium of 255 000 flats has not been paid. Our assessment involved only 120 selected HOS flats of flat sizes SA 40 m^2 and 50 m^2 sold in four specific years, and represented only a snapshot. We should thus be mindful that the results only provide rough indications under the various premium payment scenarios [Note 7].

Legal Implications

20. The Schedule of the Housing Ordinance stipulates the resale restrictions, including the methodology of calculating the premium payable, for the traditional HOS. To ensure that the flat owners of the New HOS will comply with the resale restrictions under the scheme, there may be a need to consider amending the Housing Ordinance to include the resale restrictions which are different from the existing ones.

DISCUSSION BY THE STRATEGIC PLANNING COMMITTEE

21. The Strategic Planning Committee (SPC) deliberated on 12 January 2012 the initial ideas on price setting and premium calculation under the New HOS as set out in this paper. By and large, SPC Members supported the concept of "loan plus interest" as the basis for premium calculation, since the premium payable on this basis would be more predictable as compared to the existing methodology from the point of view of the flat owners. SPC Members also generally favoured a floating interest at NGNL rates over the duration of the loan (i.e. the premium payable is the loan

Note 7 The assessment does not cover flats of sizes other than SA 40 m^2 and 50 m^2, as well as flats sold in years other than 1985, 1990, 1995 and 2000.

amount plus interest to be compounded yearly), as they regarded this formula simple, easy to explain and understand, and hence more acceptable to the community.

FOR MEMBERS' DISCUSSION

22. Members are invited to deliberate on the initial ideas on price setting and premium calculation under the New HOS as set out in paragraphs 7 and 16 respectively.

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Existing Loan and Financial Assistance Schemes offered by the Government and Public Bodies

Under the existing loan and financial assistance schemes of the Government and public bodies, there are different arrangements for charging interest on loans.

No interest charged

2. There are some loan schemes and financial assistance schemes offered by the Government and public bodies that do not charge interest, including the HA's previous Home Purchase Loan Scheme and the Home Assistance Loan Scheme. The HKHS/Urban Renewal Authority also offer interest-free loans to eligible persons carrying out common areas repair and home renovation under their joint "Integrated Building Maintenance Assistance Scheme".

Interest charged on a "no gain, no loss" principle

3. As regards those loan schemes where an interest is charged, there are different arrangements on the interest rate. Some Government loan schemes are drawn up according to the NGNL principle, i.e. the Government is not seeking to make a profit out of the loans, nor to incur a loss. They include the Non-means-tested Loan Scheme for eligible students of Government-funded tertiary institutions and the Open University of Hong Kong; the Comprehensive Building Safety Improvement Loan Scheme; the Slope Improvement Loan Scheme for Private Schools; and the bridging loan to the Employees Compensation Assistance Fund Board.

4. Under the Non-means-tested Loan Scheme administered by the SFAA for eligible persons to further their studies, the interest rate adopted is the NGNL interest rate [Note 8] which is a floating rate, and the interest is chargeable from the time when the loan is drawn down and throughout the repayment period until the loan is fully settled. In addition to the NGNL interest, a risk-adjusted factor, amounting to 1.5% of the loan amount, is also added under the Non-means-tested Loan Scheme to cover the Government's risk in disbursing the unsecured loans [Note 9].

Interest charged at other rates

5. Other than the NGNL interest rate, some Government loan and financial assistance schemes offered by the Government and public bodies employ different interest rates. For example, the Agriculture, Fisheries and Conservation Department offers one of its Fisheries Development Loan Fund at an interest rate fixed at 2.5% per annum. The HKHS administered the Sandwich Class Housing Loan Scheme under which the interest rate was set at 2% per annum, while the Home Starter Loan Scheme charged 2% per annum interest on households with income equal to or less than $25,000 and singletons, and 3.5% per annum on households with income between $25,001 and $50,000.

Note 8 The Financial Services and Treasury Bureau (FSTB) publishes the NGNL interest rate every month. The NGNL interest rate as at December 2011 was 1.7%. The NGNL interest rate is set by reference to the market, at a fixed percentage ("X") below the average of the best lending rates (BLRs) of the note-issuing banks. As the BLRs incorporated a profit element for the banks, it is considered reasonable to discount the BLRs by "X" to conform with the "no gain, no loss" principle. The value of "X" has been set based on the average differential between the BLRs and the 12-month Hong Kong Dollar Inter-Bank Offered Rates (HIBOR) over a 10-year reference period and is reviewed by the FSTB every two years. Since 1 June 2011, the value for "X" has been set at 3.409%.

Note 9 The Education Bureau (EDB) is consulting the public on a review of the Non-means-tested Loan Scheme. EDB proposes 10 measures to ease the repayment burden of student loan borrowers, reduce excessive borrowing of loan borrowers, ensure the quality of courses eligible for application of non-means-tested loans, and tackle the student loan default problem more effectively. One of the proposed measures is to lower the repayment interest by reducing the risk-adjusted factor to zero, subject to a review in three years' time.

Methodology of the Assessment

Selection of Flats

- Ten HOS flats (five of SA of about 40 m^2 and five of about 50 m^2) in each of the three districts of Urban, Extended Urban and New Territories, sold in 1985, 1990, 1995 and 2000 respectively, were randomly selected.

- The size of the SA 40 m^2 flats was in the range of SA 37 – 43 m^2, and the size of the SA 50 m^2 flats was in the range of SA 47 – 53 m^2.

Assessment

- The premium payable, as at 19 December 2011, under the existing methodology and the five possible options listed was assessed.

Parameters

- To assess the premium payable under the existing methodology and the five possible options, the following parameters were used –

    1. the initial market value of each flat at the time of purchase;
    2. the purchase price of each flat;
    3. the discount of each flat;
    4. the market value of each flat as at 19 December 2011; and
    5. the NGNL rate set by the FSTB or a fixed interest rate at 2%.

- The initial market value and the purchase price of each flat are contained in the HA's record.

- The discount of each flat was worked out based on the initial market value and the purchase price in the HA's record.

- The market value of each flat as at 19 December 2011 was calculated using online valuation tool.

- The amount of the "loan" was obtained from the difference between the initial market value and the purchase price of each flat.

- Premium payable under the existing methodology was calculated by applying the discount rate to the prevailing market value of the flats as at 19 December 2011, and premium payable under the possible loan plus interest options by applying the relevant NGNL rates or the 2% interest rate to the amount of the "loan".

Number of Samples

- A total of 120 samples were used in this assessment (i.e. 5 flats × 2 sizes × 3 districts × 4 years).

Charging of Interest

- For the possible options involving interest (i.e. Options 2 to 5), the interest should be charged starting at the month of purchase and compounded yearly to the month (inclusive) of payment of premium.

- Since the selected flats were purchased at different times of a year, to ensure that the calculation of the premium payable under different options is conducted on a comparable basis, for the purpose of this assessment -
  - the interest is compounded starting at the year after the year of purchase; and
  - for Option 4 involving a fixed NGNL interest, the rate was taken from the year following the year of purchase.

Results

- We analyzed the results of the assessment by comparing *premium payable* under the existing methodology and each of the five possible options, for flats of the same size sold in the same year, through -

  1. the average premium per case; and
  2. the range of premium.

Example

- An illustration of the assessment is set out below –

Step 1. Calculate the premium payable for each of the selected flats under the existing methodology and each of the five possible options (taking an HOS flat of about 40 m^2 in the Extended Urban District sold in 2000 as an example) -

- Our record shows that, for the flat in this example –
  - the initial market value at the time of purchase in 2000 was $1.43 million;
  - the unit was purchased at $0.76 million, and
  - hence the subsidised portion was $0.67 million while the discount was 47%.
- Based on online valuation tool, the current market value of the flat as at 19 December 2011 was $2.13 million.
- In this case, the premium payable as at 19 December 2011 is –
  - $1.00 million under the existing methodology;
  - $0.67 million under Option 1 “Loan only” ;
  - $0.98 million under Option 2 “Loan plus interest at NGNL rate each year” ;
  - $0.99 million under Option 3 “Loan plus interest at NGNL rate each year, plus 1.5% risk factor”, obtained after adding 1.5% of the loan ($0.01 million) to the amount of $0.98 million as calculated in Option 2;
  - $1.22 million under Option 4 “Loan plus interest at NGNL rate fixed at the year of purchase”; and
  - $0.84 million under Option 5 “Loan plus interest at 2%”.

Step 2. For each of the four years under assessment, analyze the average premium per case for flats of 40 m^2 and 50 m^2 SA respectively under the existing methodology and each of the five possible options –

- The <u>average premium per case</u> for flats of the same size sold in the same year under a particular option is obtained using the following formula –

$$\text{Average premium per case} = \frac{\text{Sum of the premium amounts of all flats of that size under a particular option}}{\text{the number of flats of that size}}$$

- The lowest and highest premium amount payable amongst all flats of the same size sold in the same year under a particular option were taken as the <u>range of premium</u>.

Premium Payable under the Existing Methodology and the Possible Options for the New HOS

Average Premium per Case

Average Premium per case* *[$ million]*	**1985**		**1990**		**1995**		**2000**	
Flat Size (SA)	40 m^2	50 m^2	40 m^2	50 m^2	40 m^2	50 m^2	40 m^2	50 m^2
Existing methodology	**0.51**	**0.63**	**0.64**	**0.73**	**0.99**	**1.24**	**1.20**	**1.25**
Option 1 "Loan only"	**0.06**	**0.07**	**0.18**	**0.21**	**0.69**	**0.88**	**0.69**	**0.87**
Compared with existing methodology	*-0.44*	*-0.56*	*-0.46*	*-0.52*	*-0.30*	*-0.36*	*-0.51*	*-0.39*
Option 2 "Loan plus interest at NGNL rate of each year" Note 10	**0.24**	**0.26**	**0.49**	**0.56**	**1.37**	**1.76**	**1.00**	**1.26**
Compared with existing methodology	*-0.27*	*-0.37*	*-0.15*	*-0.16*	*+0.39*	*+0.51*	*-0.19*	*+0.01*
Option 3 "Loan plus interest at NGNL rate of each year, plus 1.5% risk-adjusted factor" Note 10	**0.24**	**0.26**	**0.49**	**0.57**	**1.38**	**1.77**	**1.01**	**1.28**
Compared with existing methodology	*-0.27*	*-0.37*	*-0.15*	*-0.16*	*+0.40*	*+0.53*	*-0.18*	*+0.03*
Option 4 " Loan plus interest at NGNL rate fixed at the year of purchase" Note 10	**0.25**	**0.26**	**0.95**	**1.08**	**1.68**	**2.16**	**1.25**	**1.57**
Compared with existing methodology	*-0.26*	*-0.37*	*+0.30*	*+0.36*	*+0.70*	*+0.91*	*+0.05*	*+0.32*
Option 5 "Loan plus interest at 2%" Note 10	**0.11**	**0.11**	**0.28**	**0.32**	**0.94**	**1.21**	**0.86**	**1.08**
Compared with existing methodology	*-0.40*	*-0.52*	*-0.37*	*-0.41*	*-0.04*	*-0.04*	*-0.34*	*-0.17*

* Figures in the row of "Compared with existing methodology" denote the difference between the average premium per case under the existing methodology and the respective options. A negative number shows that the average premium per case under the respective options is lower than that under the existing methodology. Figures may not add up due to rounding.

Note 10 For Options 2 to 5, the interest was calculated starting at the year following the year of purchase up to December 2011. Since the sale of the flats from the HA to the owners could have been completed in different months of a year, the interest was calculated starting at the year after the year of purchase to ensure that the comparison of premium payable under different options is made for the same period of time. As the calculation of interest started at the year following the year of purchase, for Option 4, the NGNL interest rates used in the calculations of premium payable for the flats sold in 1985, 1990, 1995 and the 2000 were those in 1986 (5.3%) , 1991 (8.2%), 1996 (5.8%) and 2001 (5.5%) respectively. The yearly NGNL interest rates used in this assessment were provided by the Economic Analysis and Business Facilitation Unit of the Financial Secretary's Office, calculated by taking the average of the monthly rates of the year provided by the FSTB.

Range of Premium

Range of Premium *[$ million]*	**1985**		**1990**		**1995**		**2000**	
Flat Size (SA)	40 m^2	50 m^2	40 m^2	50 m^2	40 m^2	50 m^2	40 m^2	50 m^2
Existing methodology	0.36 to 0.61	0.38 to 0.83	0.40 to 0.75	0.50 to 1.05	0.73 to 1.22	1.01 to 1.44	0.76 to 1.71	0.81 to 2.02
Option 1 "Loan only"	0.04 to 0.09	0.04 to 0.09	0.14 to 0.23	0.17 to 0.33	0.57 to 0.84	0.77 to 1.04	0.49 to 0.87	0.53 to 1.04
Option 2 "Loan plus interest at NGNL rate of each year"	0.16 to 0.32	0.16 to 0.33	0.37 to 0.63	0.46 to 0.91	1.14 to 1.67	1.54 to 2.07	0.71 to 1.27	0.77 to 1.52
Option 3 "Loan plus interest at NGNL rate of each year, plus 1.5% risk-adjusted factor"	0.16 to 0.33	0.17 to 0.33	0.38 to 0.64	0.46 to 0.91	1.15 to 1.68	1.55 to 2.09	0.72 to 1.29	0.78 to 1.53
Option 4 " Loan plus interest at NGNL rate fixed at the year of purchase"	0.16 to 0.33	0.17 to 0.33	0.72 to 1.22	0.88 to 1.74	1.40 to 2.05	1.89 to 2.54	0.89 to 1.58	0.96 to 1.88
Option 5 "Loan plus interest at 2%"	0.07 to 0.14	0.07 to 0.15	0.21 to 0.36	0.26 to 0.51	0.78 to 1.15	1.05 to 1.42	0.61 to 1.09	0.66 to 1.29

Comparison of the Existing Methodology and the Possible Options for Calculating the Premium Payable under the New HOS

Existing methodology vs. the "loan only" approach (Option 1)

- For all but five cases (which were all selected flats sold in 2000 in Extended Urban district), the premium payable under Option 1 was less than that under the existing methodology.

- For the five cases paying more premium under Option 1 than the existing methodology, the current market value (i.e. as at 19 December 2011) of the flats was lower than the initial market value of the flats at the time of purchase (i.e. the market value of the flats had dropped over the years), thereby making the "loan" larger than the premium payable under the existing methodology.

Existing methodology vs "loan plus interest at NGNL rate each year" (Option 2) and "loan plus interest at NGNL rate of each year, plus 1.5% risk-adjusted factor" (Option 3)

- More than two thirds of all selected flats owners would pay less under Options 2 and 3 than the existing methodology.

- However, all of the selected flat owners of 1995 and about 20% of the selected flat owners of 2000 would have to pay more under Options 2 and 3 than the existing methodology, mainly because the market value of these flats was high at the time of purchase.

Existing methodology vs "loan plus interest at NGNL rate fixed at the year of purchase" (Option 4)

- About two-thirds of all selected flat owners would be paying more premium under Option 4 than the existing methodology. In particular, all of the selected flat owners of 1990 and 1995 and about two-thirds of the selected flat owners of 2000 would pay more.

- However, none of the selected flat owners of 1985 would pay more under Option 4 than the existing methodology. It was noteworthy that the discount rates for the 1985 flats were lower than the other flats (21 – 24% for the 1985 flats vs. 30 – 47% for the 1990, 1995 and 2000 flats), making the premium payable under the existing methodology lower than Option 4 for the flats of 1985.

Existing methodology vs "loan plus interest at 2%" (Option 5)

- As compared to the existing methodology, most (about 90% overall) of the selected flat owners pay less under Option 5, probably due to the low interest rate of 2% under Option 5.

"Loan only" (Option 1) vs "loan plus interest at NGNL rate each year" (Option 2)

- All owners would have to pay more premium under Option 2 when compared to Option 1, simply because an interest was charged on the "loan" under Option 2.

"Loan plus interest at NGNL rate each year" (Option 2) vs "loan plus interest at NGNL rate each year, plus 1.5% risk-adjusted factor" (Option 3)

- The difference in premium payable under Option 2 and Option 3 was small, since the amount of 1.5% of the "loan" was small as compared to the amount of the loan with the interest charged.

"Loan plus interest at NGNL rate each year" (Option 2) vs "loan plus interest at NGNL rate fixed at the year of purchase" (Option 4)

- For all of the selected flats, the premium payable under Option 4 was higher than that under Option 2.

- The level of premium to be paid for flats in a particular year under Option 4 hinged on the level of interest rate of the year of purchase. Option 2 which employed the NGNL rate each year seemed to have averaged out the different rates over the years and resulted in a lower level of premium payable than under Option 4.

"Loan plus interest at NGNL rate fixed at the year of purchase" (Option 4) vs "loan plus interest at 2%" (Option 5)

- All of the selected owners would pay more premium under Option 4, when compared to Option 5, since the interest rate under Option 5 was set at a low level of 2%.