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Buying within your means

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A much better indicator of housing affordability is the ratio of 'house price' to 'lifetime income'.

For a 30-year-old earning $5,520 a month with savings of $118,900, affordable homes would be an HDB executive flat or lower, using a cut-off ratio of about 30%.

IN THE rush to secure a home amid escalating property prices, first-time homebuyers, especially young adults, may inadvertently commit themselves to properties beyond their means.

Since mortgage payments and other home bills take priority over other basic necessities, rising mortgage rates may push some homebuyers to suffer a housing-induced fall in their standards of living. It is important, thus, to take a long-term perspective on housing affordability.

Affordability is usually measured by the ratio of monthly mortgage payment to current monthly household income. In the United States, if this ratio is less than 30 per cent it is assumed that the property is affordable. In Singapore, a cut-off ratio of 40 per cent is one of the criteria banks use to decide on home loans.

However, this is not a good measure of affordability for two reasons. First, by extending the amortisation period, monthly mortgage payment can be reduced. This can give the impression that affordability has improved, although the total interest burden has gone up. Second, the measure essentially focuses on short-run housing affordability by using current income instead of an estimate of permanent income. Undue reliance on short-run housing affordability measurements was one of the triggers in the US sub-prime mortgage crisis.

A much better indicator of housing affordability is the ratio of house price to lifetime income – house price being the discounted present value of future mortgage payments. Lifetime income can also be worked out as a discounted present value of the future income stream, using the same mortgage rate.

(For example, if the annual interest rate is 5 per cent, the discounted present value of $105 one will receive next year is $100. Alternatively, if one saves $100 today at the 5 per cent interest rate, one will receive $105 next year.)

Under some conditions, the two ratios – mortgage payment to permanent income, and house price to lifetime income – are the same. We can thus use a cut-off ratio like 30 per cent to define an affordability limit. We have not worked out an optimal cut-off value for Singapore yet.

Homebuyers know the prices of the houses they want and the transaction costs involved. What they need is an estimate of their lifetime income – that is, their accumulated savings plus the discounted present value (DPV) of their earnings, over their remaining working life.

Using survey data collected by the Department of Statistics, we can decipher predicted income profiles by birth cohorts for different income groups over the working ages of 20-64. We now have data only for three income levels: lower (25th), middle (50th) and upper (75th) percentiles.

Since our focus is on young homebuyers, the accompanying table presents estimates of the DPV of household income for households headed by 30-year-olds. By adding their own accumulated savings to the income figures, young homebuyers can obtain an estimate of their lifetime income. They can then divide the price (including the transaction cost) of the home they are buying by their estimated lifetime income to see what percentage of their lifetime income will be consumed by the property.

The rest of the table provides illustrative computations of housing affordability for the three income group references. Accumulated savings (including interest earnings) were estimated from household expenditure survey data, and transaction costs were estimated using current rates on stamp duties and other fees and charges. Property taxes and costs of home insurance and maintenance were not included.

Some general observations that emerge from this table are worth highlighting:

- First, when the mortgage rate goes up, homebuyers have to spend a higher percentage of their lifetime income on housing, and affordability goes down.
- Second, given that current mortgage rates are above 5 per cent, and if we use the 30 per cent cut-off rule, HDB resale flats of four rooms and above are not that affordable for low-income groups.
- Third, at current mortgage rates, HDB resale flats are well within the affordable range for middle- and upper-income groups.
- Fourth, private properties are obviously for high-income groups. Still, even for those in the 75th income percentile, private residential properties at median prices are not within the affordable range at current mortgage rates.

HOUSING AFFORDABILITY

Income percentile	Reference monthly income level ($)	Savings over age 20-29 (A) ($)	Mortgage rate	Income over age 30-64 DPV (B) ($)	Lifetime income (A) + (B) ($)	Median house price (including approximate transaction cost): HDB 1-room $198,700	HDB 2-room $224,000	HDB 3-room $291,000	HDB 4-room $376,300	HDB 5-room $448,700	HDB Executive $535,900	Private Apartment $1,080,898	Private Condo $1,480,919	Private Landed $3,390,178
						Property price as a per cent of lifetime income								
Lower 25th	2,505	46,000	3%	1,053,322	1,099,322	18.1	20.4	26.5	34.2	40.8	48.7	98.3	134.7	308.4
			5%	790,923	836,923	23.7	26.8	34.8	45	53.6	64	129.2	176.9	405.1
			7%	614,019	660,019	30.1	33.9	44.1	57	68	81.2	163.8	224.4	513.6
Middle 50th	5,520	118,900	3%	2,406,938	2,525,838	7.9	8.9	11.5	14.9	17.8	21.2	42.8	58.6	134.2
			5%	1,806,806	1,925,706	10.3	11.6	15.1	19.5	23.3	27.8	56.1	76.9	176
			7%	1,404,183	1,523,083	13	14.7	19.1	24.7	29.5	35.2	71	97.2	222.6
Upper 75th	8,652	203,600	3%	4,342,208	4,545,808	4.4	4.9	6.4	8.3	9.9	11.8	23.8	32.6	74.6
			5%	3,177,379	3,380,979	5.9	6.6	8.6	11.1	13.3	15.9	32	43.8	100.3
			7%	2,415,676	2,619,276	7.6	8.6	11.1	14.4	17.1	20.5	41.3	56.5	129.4

Note: Monthly income refers to median household income including Central Provident Fund. DPV is discounted present value of the estimated future income stream. Property prices (resale price for HDB housing) are for the second quarter of 2010.

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