How index methodology works

METHOD	DESCRIPTION	PROS	CONS
Stratification method	• Properties are sorted by key attributes. The median or mean price of each basket is weighted based on its transacted value in relation to the overall market i.e. Used by URA, Hong Kong's Rating and Valuation Department	• Method is reproducible and easy to explain • It factors in the change in mix of housing units • Price indices can be constructed for different types of dwellings and locations	• Cannot deal adequately with depreciation of housing units unless they are sorted by age • More sorting by attributes will increase homogeneity but also reduce the number of observations for each basket and lead to less reliable estimates
Repeat Sales	• Comparison of prices for properties transacted more than once i.e. Used by US S&P's/Case-Shiller, Australia's Residex, UK Land Registry	• Quality of units tracked is kept constant, so any movement measured is only due to prices	• Biased towards price movements of more frequently-transacted properties • Does not account for quality changes such as home renovations or depreciation • Wasteful of data as single sales data are discarded • Index has to be re-estimated when new time periods are added
Hedonic Regression	• Uses an algorithm formula to account for different property characteristics i.e. Used by SRX, NUS	• It adjusts for both sample mix changes and quality changes of the individual properties • Price indices can be constructed for different types of dwellings and locations if there is proper stratification • It is the most efficient use of all available data	• Multicollinearity of variables • Arbitrary deleting of outliers may lead to biased estimates • Different sets of property characteristics may be needed for different market segments • Extensive data of all property characteristics is required
Appraisal/ value assessment	• Uses "assessed" values e.g. valuations for taxation purposes or from specially commissioned surveys by property valuers i.e. Used by IPD (MSCI Inc)	• Tolerant of small number of observations • All single and repeat sales data are utilised • No index-revision problem	• Cannot deal adequately with quality changes to individual houses (same as repeat sales) • Relies on expert judgment