SUMMARY

This study looks into the dynamics of private housing prices in Singapore from the first quarter of 1985 to the fourth quarter of 1995. Cointegration Modelling is carried out to determine if there is a long-term equilibrium contemporaneous relationship between private housing prices in Singapore (RPPI) and real Gross Domestic Product (GDP), Prime Lending Rate (PLR) and Private Housing Starts (PST).

The test of stationarity of the variables through the use of the autocorrelation function and the unit root tests (i.e. Augmented Dickey-Fuller test) shows that real GDP, PLR and PST are all stationary after differencing once and are integrated of order one. The procedure proposed by Dickey and Pantula (1987) is also carried out to test if more than one unit root is suspected. This is a necessary condition before the cointegration analysis is carried out.

The cointegration analysis is carried out using the Engle-Granger method and the Johansen method. An appropriate lag length of two quarters is determined for the Vector Autoregressive (VAR) model under the Johansen method for the cointegration test.

An error correction mechanism concerning the changes in private housing prices under the Engle-Granger method shows that real GDP, PST and movement of previous private housing prices all significantly influence movements in the
private housing price. The PLR however fails to show any significant negative influence on price. The error correction term in the Engle-Granger model shows that about 13% of the previous deviations between actual and desired long-run private housing prices is corrected in each quarter.

The more advanced methodology for cointegration analysis, the Johansen method is carried out to determine the number of cointegrating vectors and the associated variables in the cointegrating vector for changes in the RPPI. Both the Maximal and Trace Test show that there is only one cointegrating vector explaining the cointegrating relationship among RPPI, real GDP, PLR and PST.

Lastly, the Vector Autoregressive Error Correction Mechanism (VECM) under the Johansen methodology is used to make short-term forecasts of changes in private housing prices. The results of the estimated VECM model show that changes in private housing prices are significantly explained by real GDP, changes in prices of private housing one quarter back, the price level of private housing two quarters' back, and the PLR. The forecasted price changes represent the price changes in private housing that move in line with the overall growth of the economy, after incorporating the error correction mechanism for short-term movements in prices.