

Factors Affecting Public Housing Prices

Aim

This report proposes factors influencing public housing prices in Singapore using a Random Forest model and strategies for curbing public housing price inflation.

(A) Background

2. Based on information from The Straits Times on 24 January 2025, the prices of public housing have risen in recent years¹. A predictive machine learning model is used to investigate the reasons behind this increase.

I. Data Assumptions

3. The file labelled 'approval date' follows the old naming convention while the current file is named 'registration date'.

4. All categorical columns in the datasets contain the correct categories except for issues related to formatting inconsistencies.

(B) Findings and Recommendations

5. Based on the feature importance from the trained Random Forest model, the top three factors contributing to the resale price are: year (37.85%), followed by floor area sqm (35.49%) and flat type (10.33%).

	Feature	Importance
1	year	0.378499
7	floor_area_sqm	0.354946
3	flat_type	0.103340
2	town	0.059535
6	storey_range	0.025852
5	street_name	0.023096
9	remaining_lease	0.020319
4	block	0.015257
8	flat_model	0.011243
0	month	0.007913

¹ Source: <https://www.straitstimes.com/singapore/housing/hdb-resale-prices-up-9-7-in-2024-more-units-sold>

I. Year

6. The factor of the year is often influenced by economic forces such as recession, which are beyond our control.

II. Flat Type

7. As reported by the Straits Times on 11 March 2024, Singapore's fertility rate is 0.97². This suggests a near 1-to-1 ratio of children per family, indicating that families in Singapore are getting smaller. To address the rising housing prices, the government could focus on building smaller flat types like 3-room and 4-room than larger flat types like 5-room.

III. Floor Area SQM

8. Extending the strategy of building more 3-room and 4-room flats, the government could also adjust the floor area (in sqm) of these flats. One approach could be to take the average floor area of recent 3-room and 4-room flats, as older housing tends to have larger floor areas. Another approach would be to reduce the floor area (in sqm) of larger flat types like 5-room and Executive.

For Consideration

9. Above is for consideration please.

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² Source: <https://www.straitstimes.com/singapore/politics/singapore-s-total-fertility-rate-hits-record-low-in-2023-falls-below-1-for-first-time>