

Make the most of your money: 'Hacking' Housing Prices

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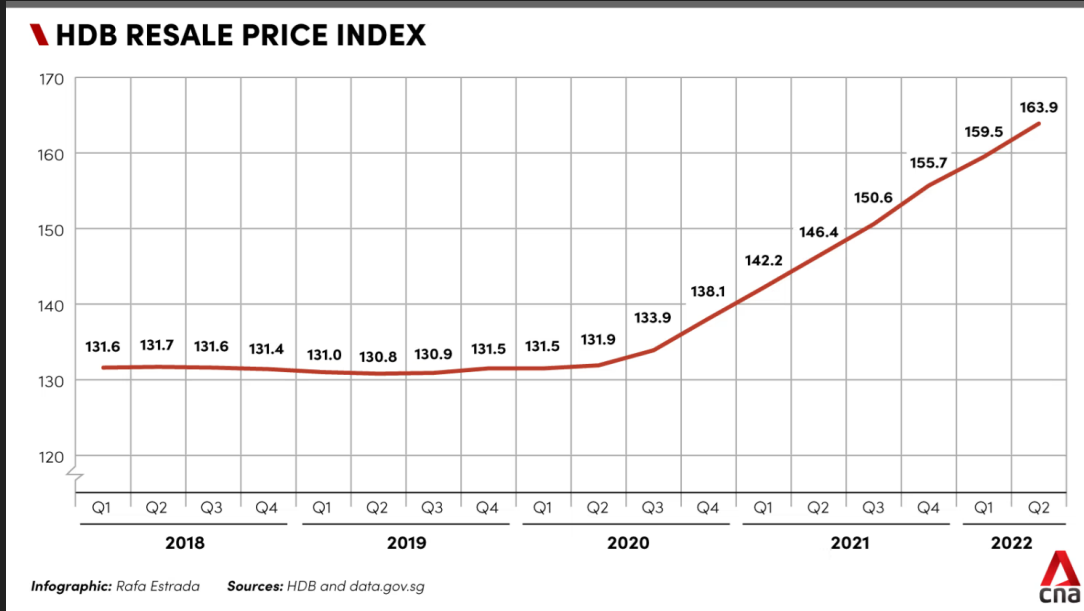




01

Introduction & Workflow

Increasing trend of resale prices



● Resale prices increased 2.8% quarterly on average since 2020

Source: CNA and HDB

Drivers for resale flats demand

Lesser
waiting
time

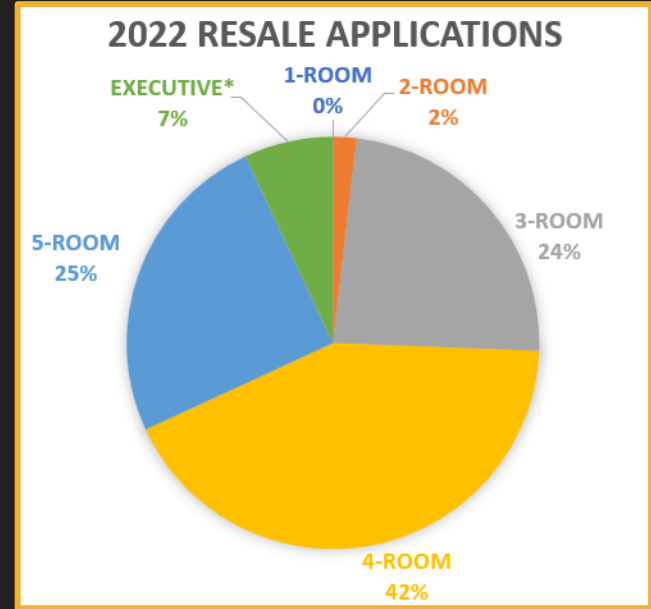
More
spacious

Closer to
parents
home

Increased
CPF grant
for families
buying 4 or
5 Room
flats

Lesser
renovation
cost

More
amenities



Source: HDB

Problem statement

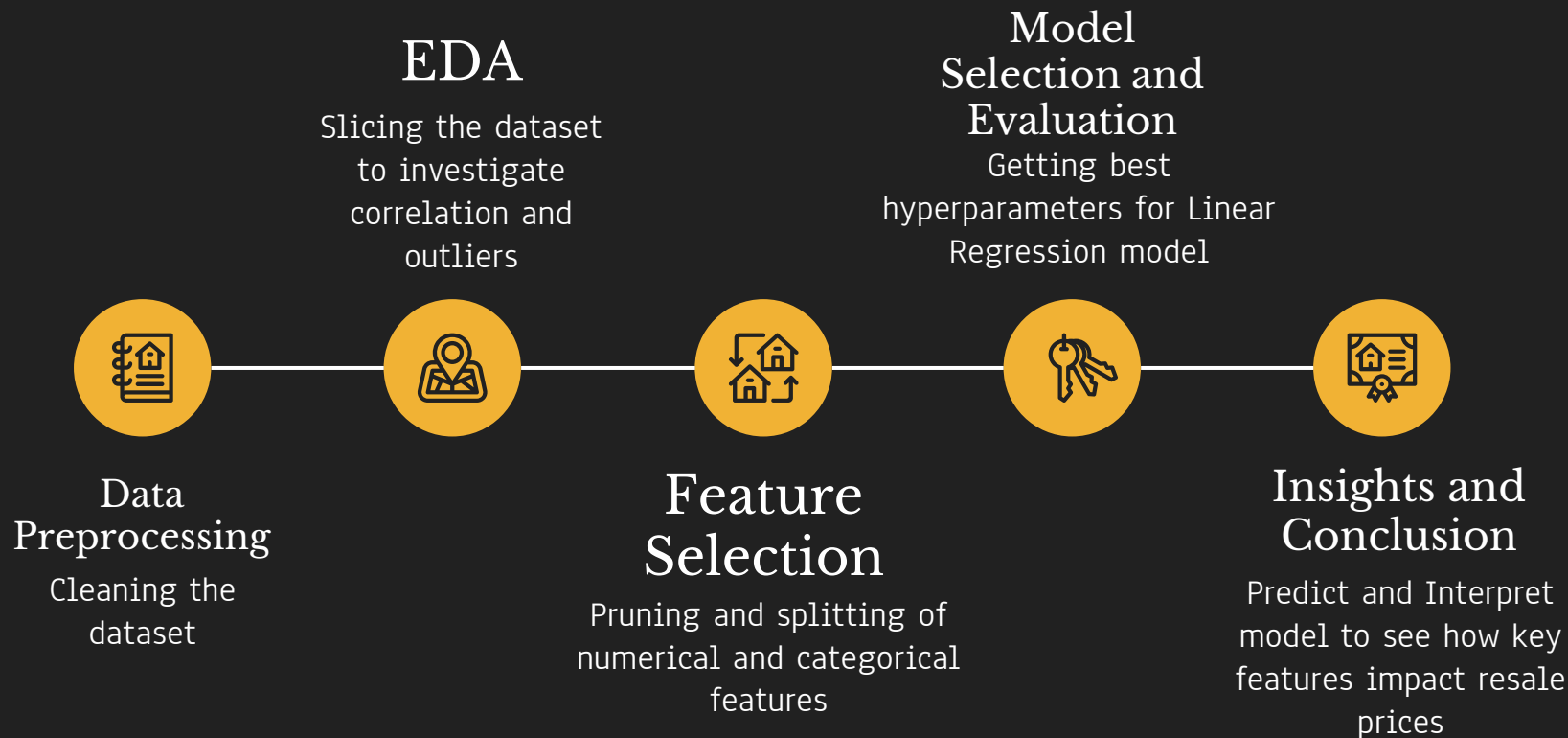
Analyse key features impacting Singapore HDB resale prices to help buyers estimate budget, and help sellers gauge flat's value to see if the prices quoted are reasonable.



Our scope

	Objective	Limitations	Assumption
Prospective Buyer	Predict budget for buying a flat of choice	Different buyer's needs may not be catered in a generalised model	Model is robust enough to keep buyer specific or macroeconomic variables within the error margin
Property owner	Estimate property value	Economic and infrastructure changes with time is not included	

Our workflow

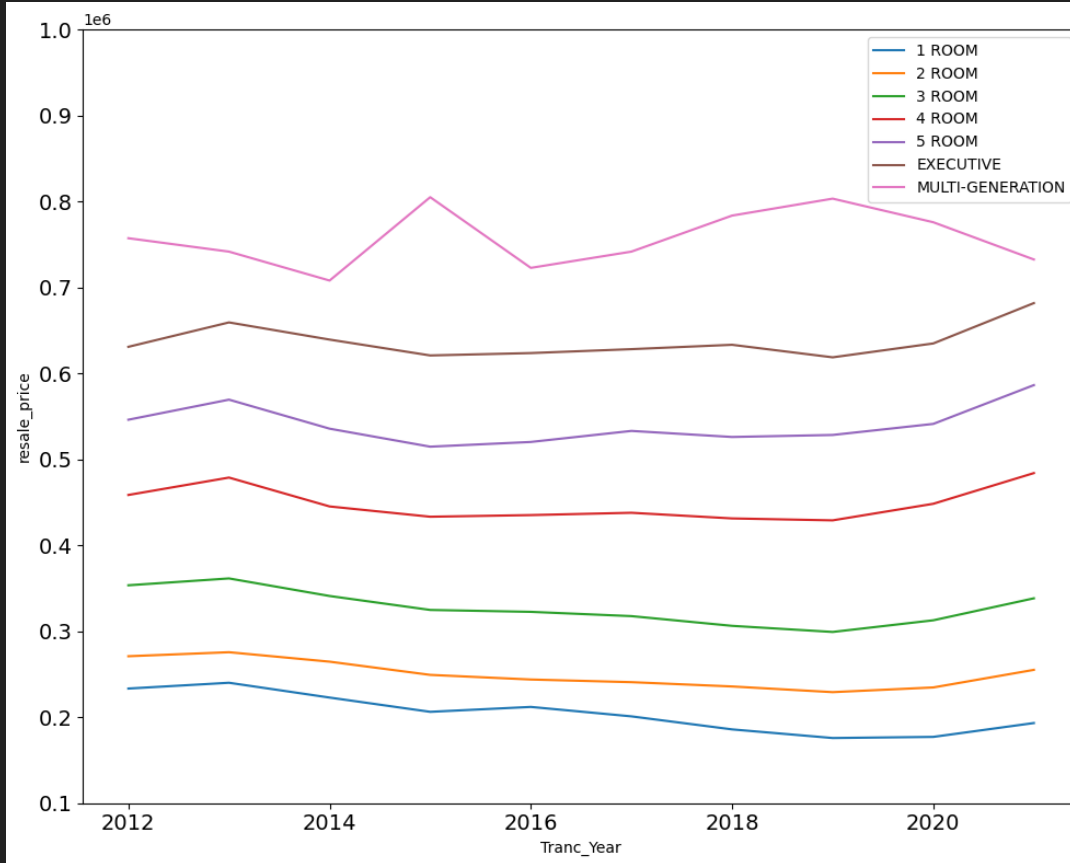




02

Analysis

Average Resale Price Yearly Basis



● Price ↑ as Room ↑

● Constant for Bigger Rooms 2013 onwards

● Slight Decrease for Smaller Rooms 2013 onwards

"HELL FREEZES OVER!!

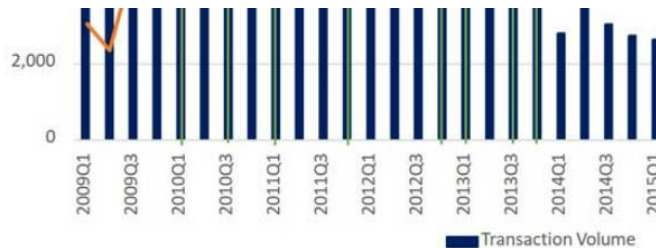
History of Cooling Measures



Jun 2013

MAS's new debt servicing framework stipulates the minimum standards of how financial institutions calculate the Total Debt Servicing Ratio (TDSR) and plugs loopholes that existed previously.

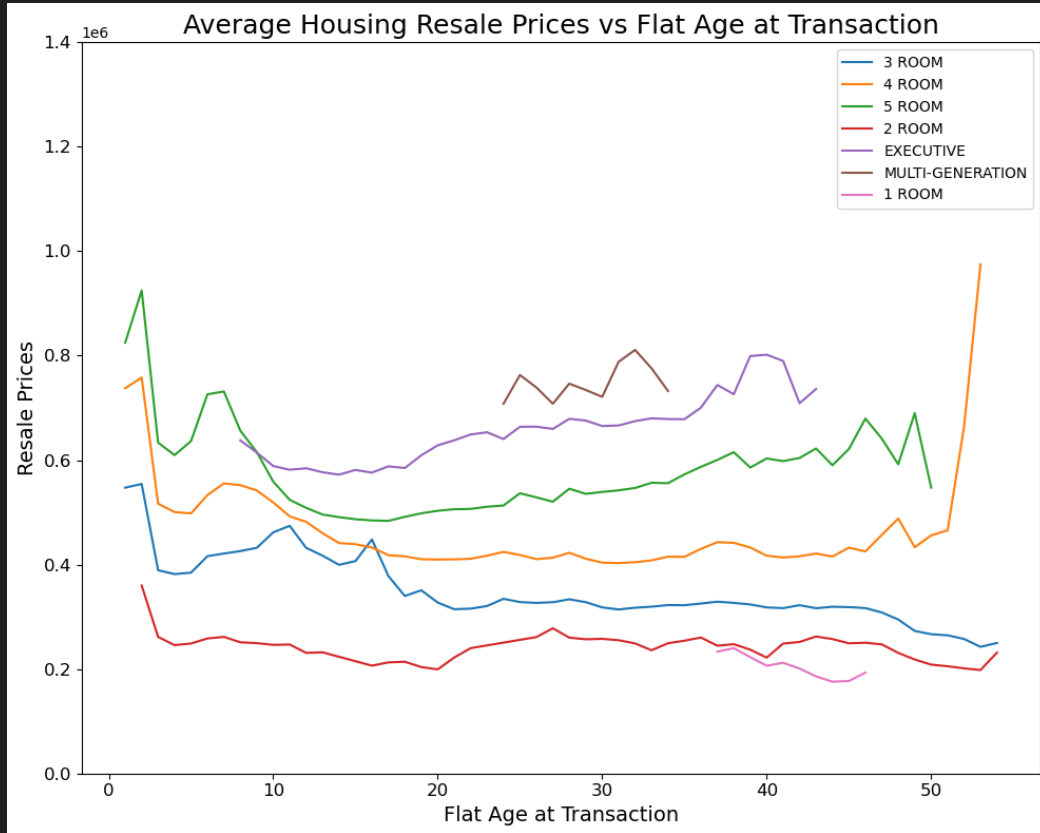
Total debt servicing ratio (TDSR) refers to the portion of a borrower's gross monthly income that goes towards repaying the monthly debt obligations, including the loan being applied for. A borrower's TDSR should be less than or equal to 55%.



Source: URA, Huttons Research

- Reduction in the Debt Servicing Ratio to 30%.
- PRs who own a HDB flat are disallowed from subletting their whole flat.
- PRs who own a HDB flat must sell their flat within six months of purchasing a private residential property.

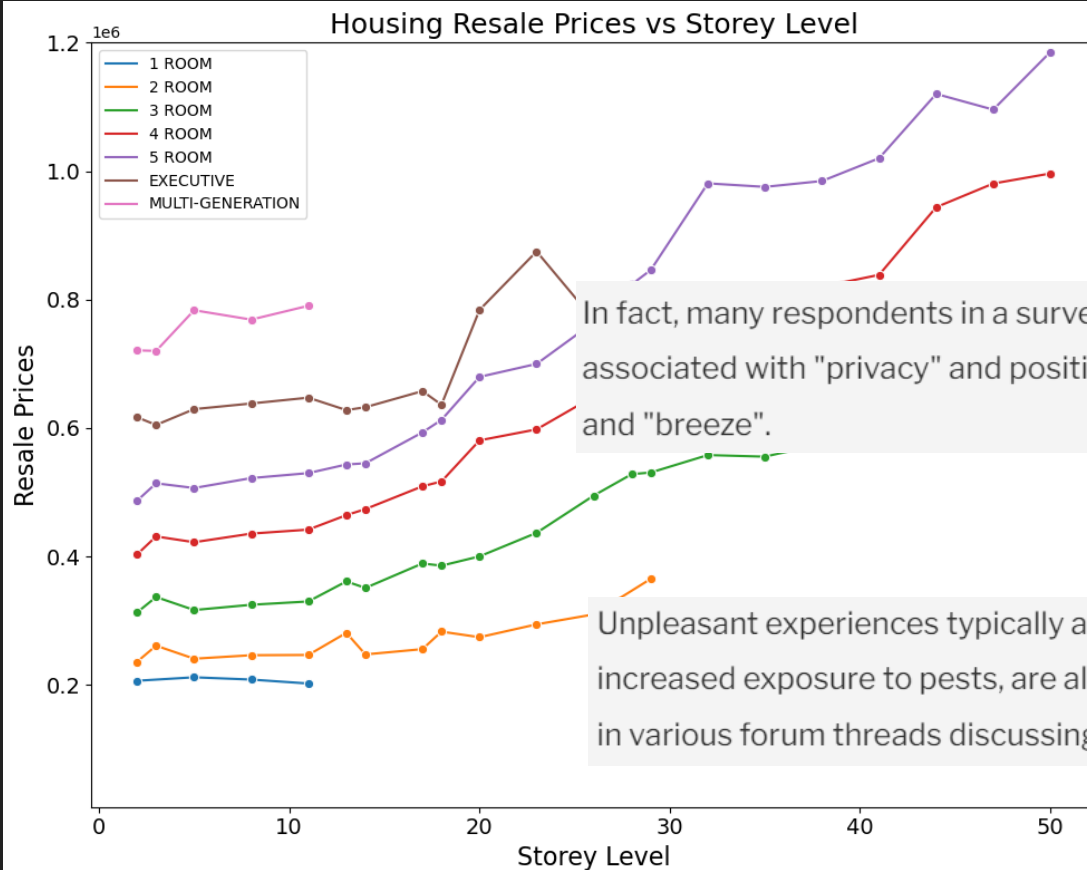
HDB Age



● Price \uparrow as Age \downarrow

● MOP Effect

To Infinity & Beyond!!

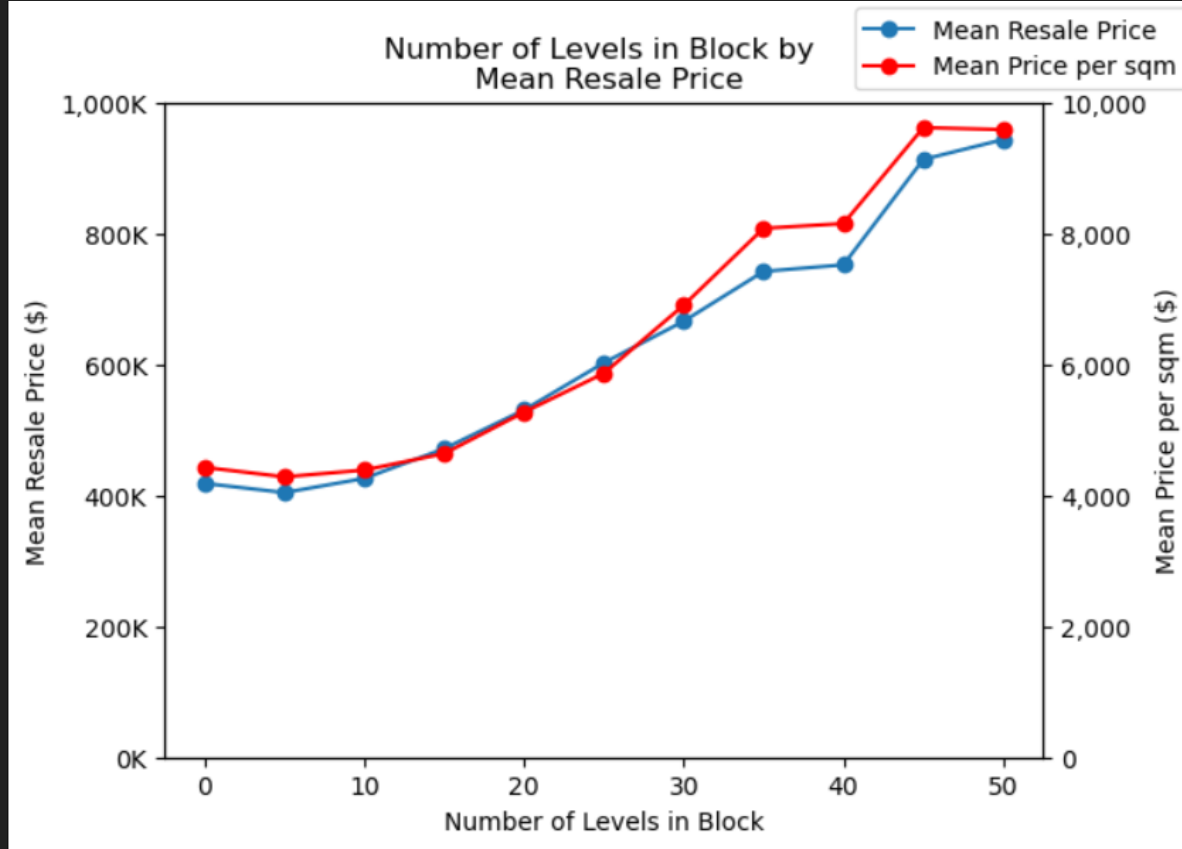


In fact, many respondents in a survey cited how higher floors are also generally associated with "privacy" and positive environmental attributes like "cleaner air" and "breeze".

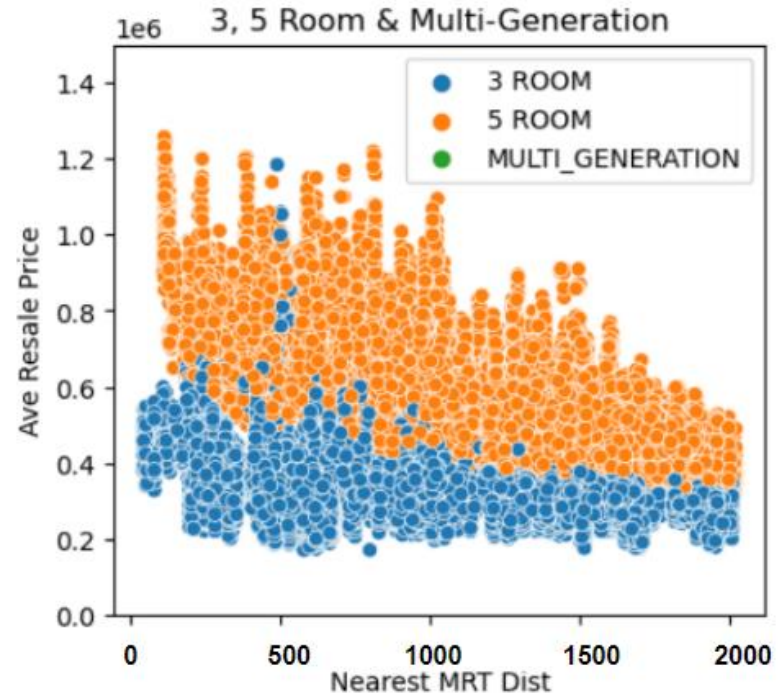
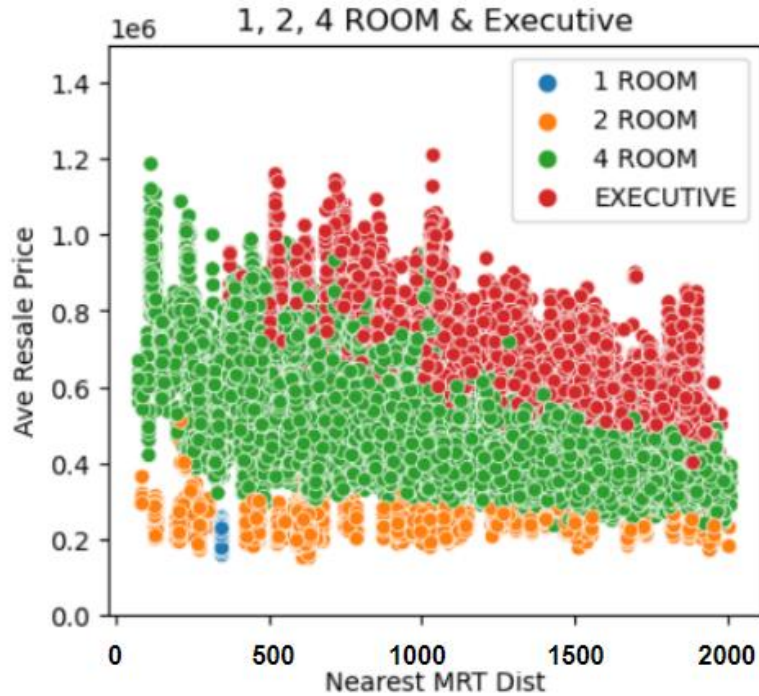
Unpleasant experiences typically associated with lower floors, such as noise or increased exposure to pests, are also well-publicised, with anxieties often seen in various forum threads discussing what it's like to live on a low floor.

● Price ↑ as Floor ↑

Max Floor Level



MRT Nearest Distance



03

Analysis Part 2



The larger the house, the more expensive it is.

flats are getting
smaller

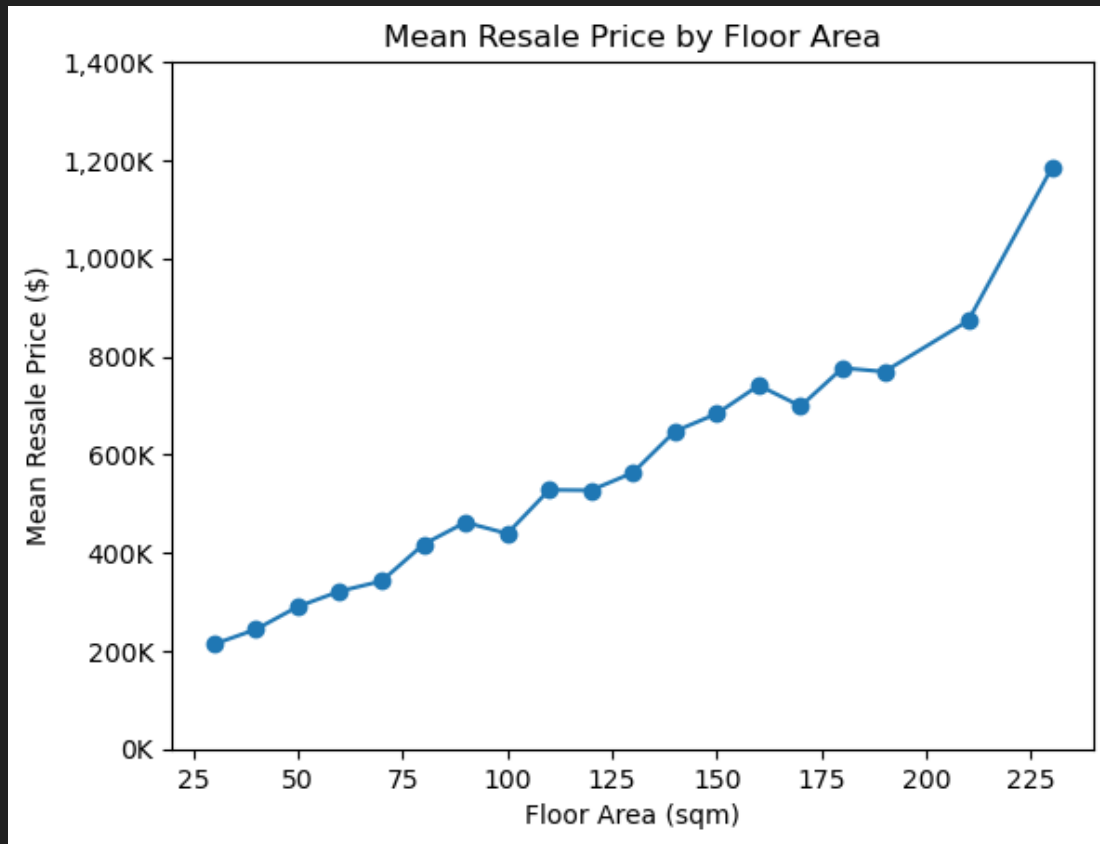
"Honey, I shrunk the
kids!"

endless
demand...

...stagnant supply

always
expensive?

"I got 99 problems and
this lease ain't one(?)"



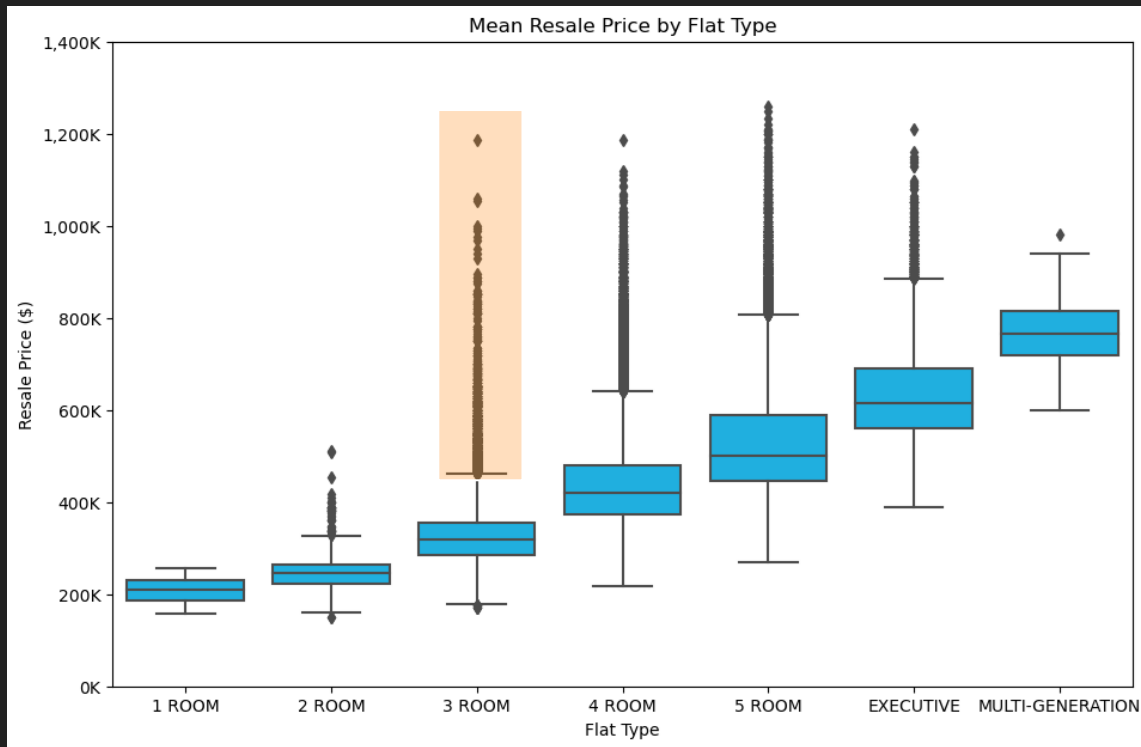
The more rooms, the more expensive.

“it’s just math”

`n_rooms = n_rooms - 1`
(...?)

5-rooms: the
black sheep

`n_rooms = n_rooms - 2`
(?!)



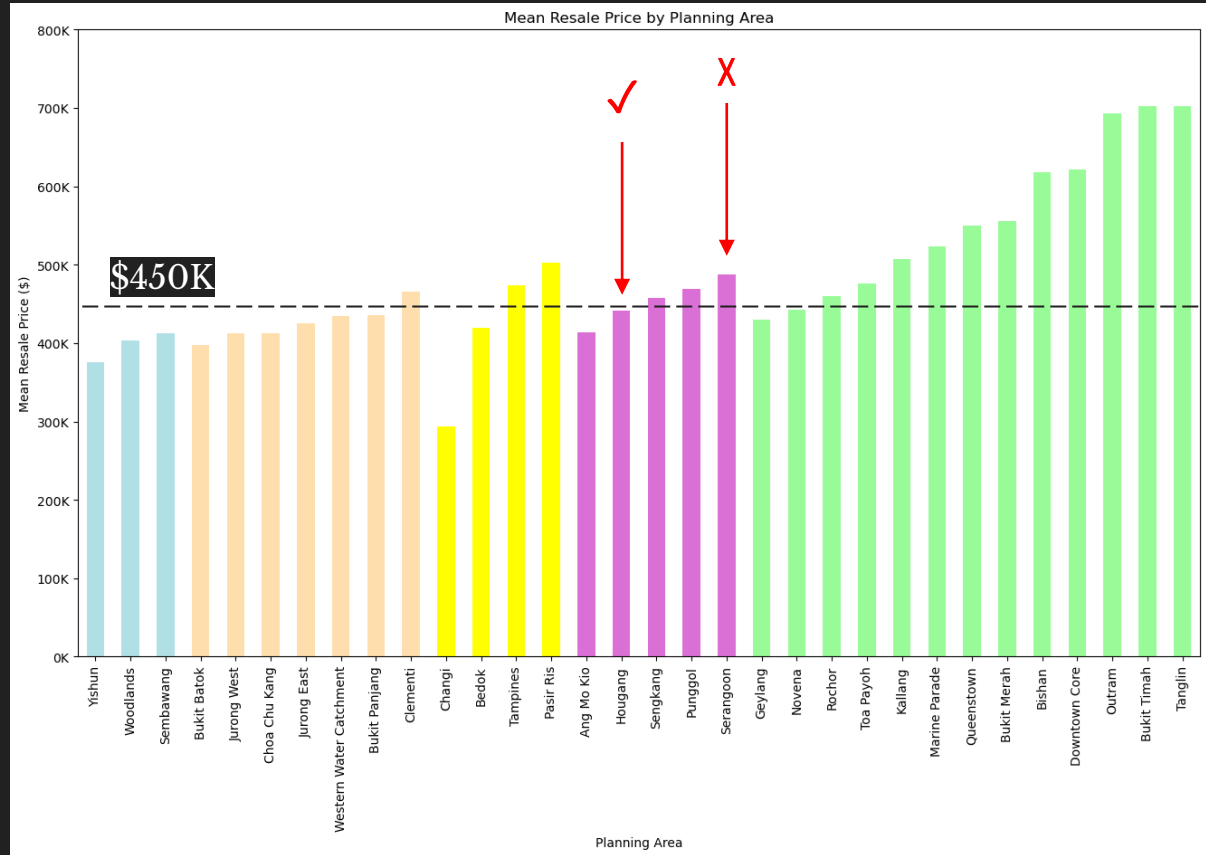
Price differs by location.

connectivity

Health is wealth?
Time is wealth.

compromise

...is the key to a
healthy wallet



Price differs by flat model.

\$1M flat?

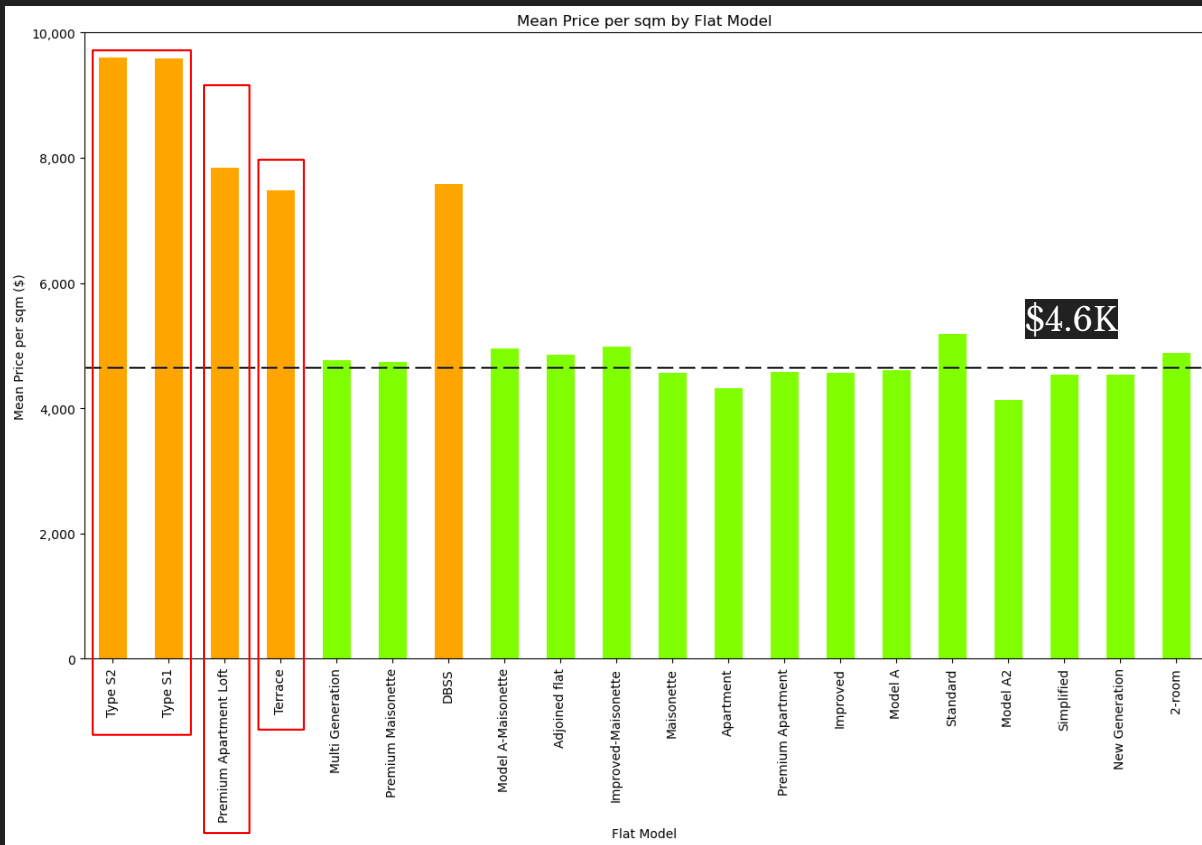
Try \$1M dollar *estate*!

the new
maisonette

While stocks las-
Sold out!

landed flat (?)

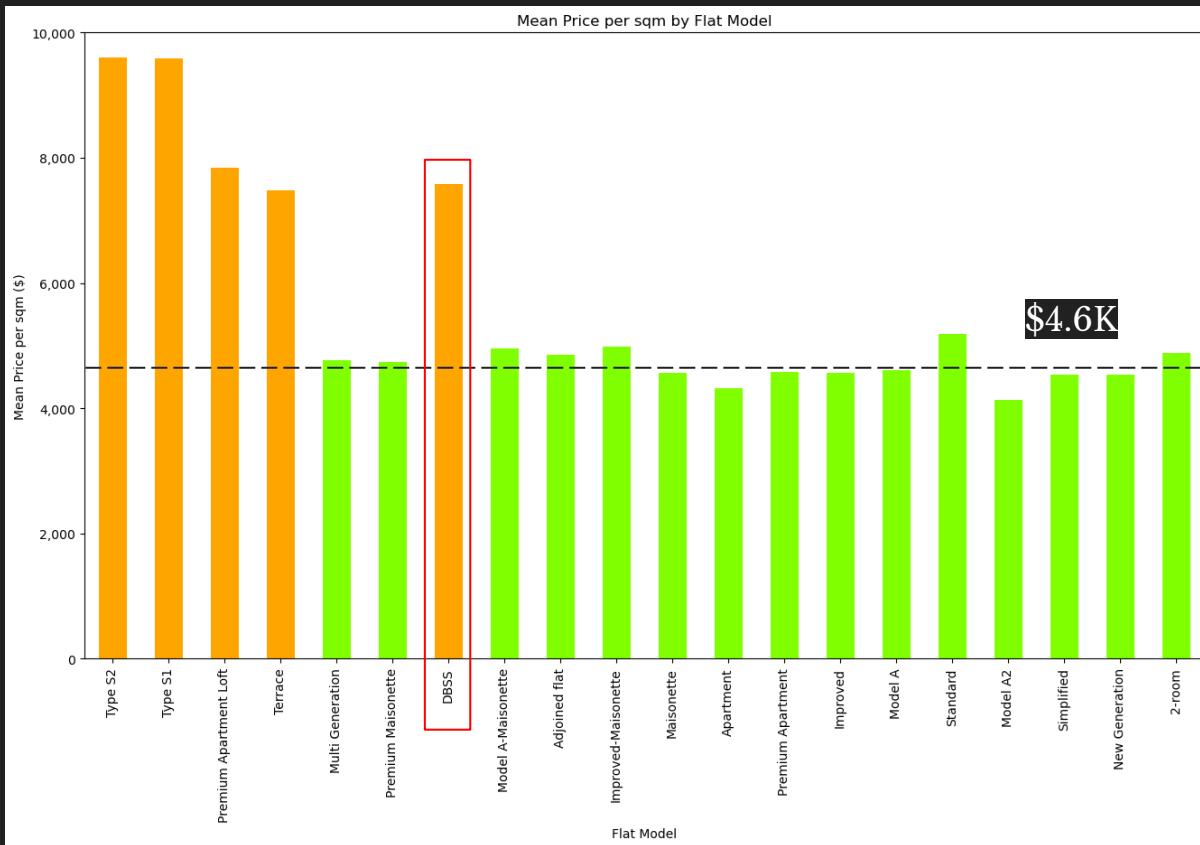
Yours for 99 55 years.



Price differs by flat model.

DBSS

✓ 5 rooms - 1 = 4 rooms

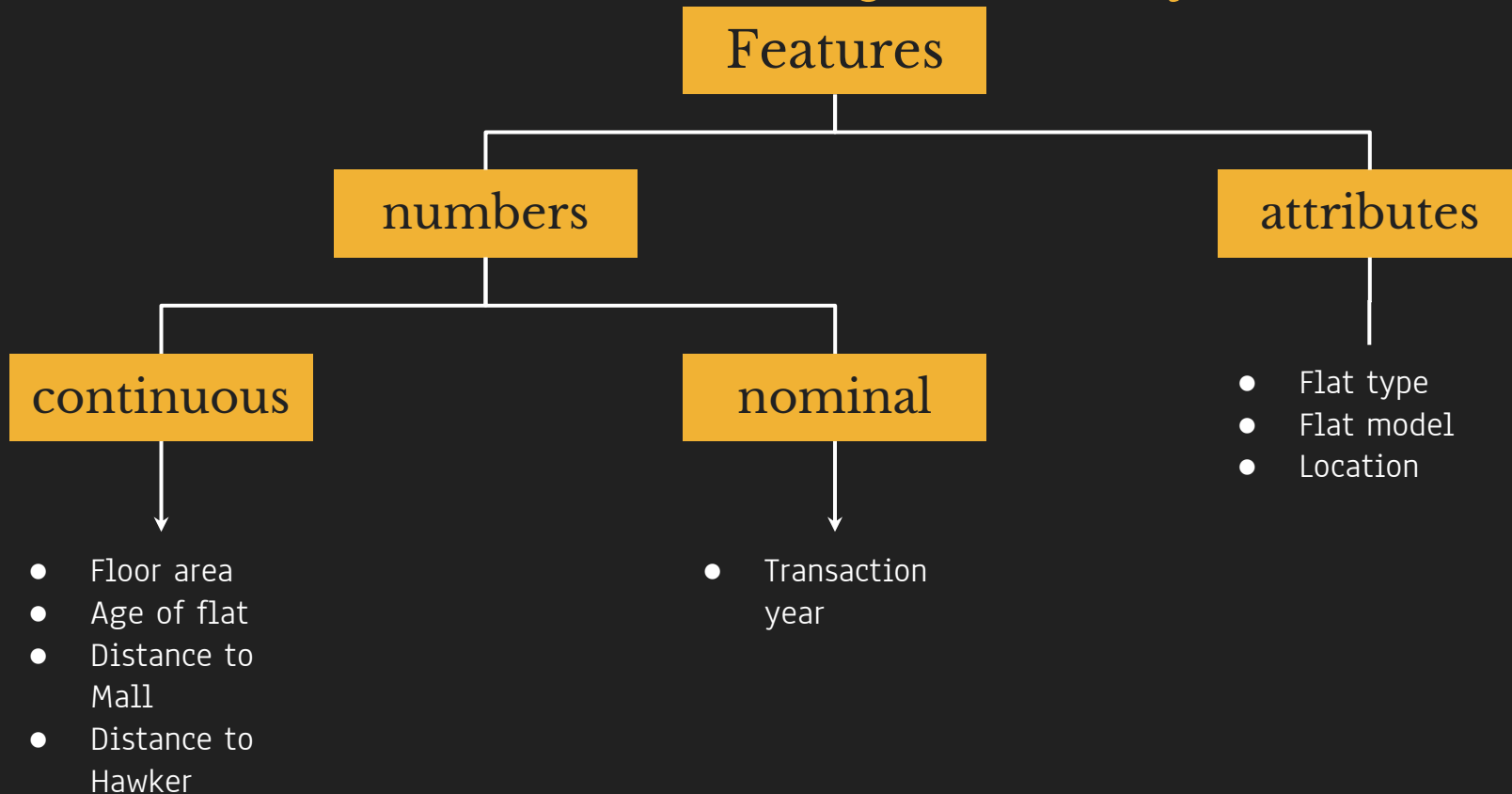




04

Features, Model & Recommendations

Some features we just analysed



Our model is built using Linear Regression

$$resale\ price = \sum_i^N Coeff_i \times Feature_i + intercept$$

Resale price: The reason **you** are here!

Coeff_i: How this feature affects the resale price

Feature_i : How this feature affect the resale price

Intercept: Likely price of flat when all Feature_i is 0





\$ 47,106.28

RMSE, or how much the predicted price can vary from actual price on average.



If we predict your flat resale price
to be: **\$600,000**

Actual resale price is likely to be
somewhere between:

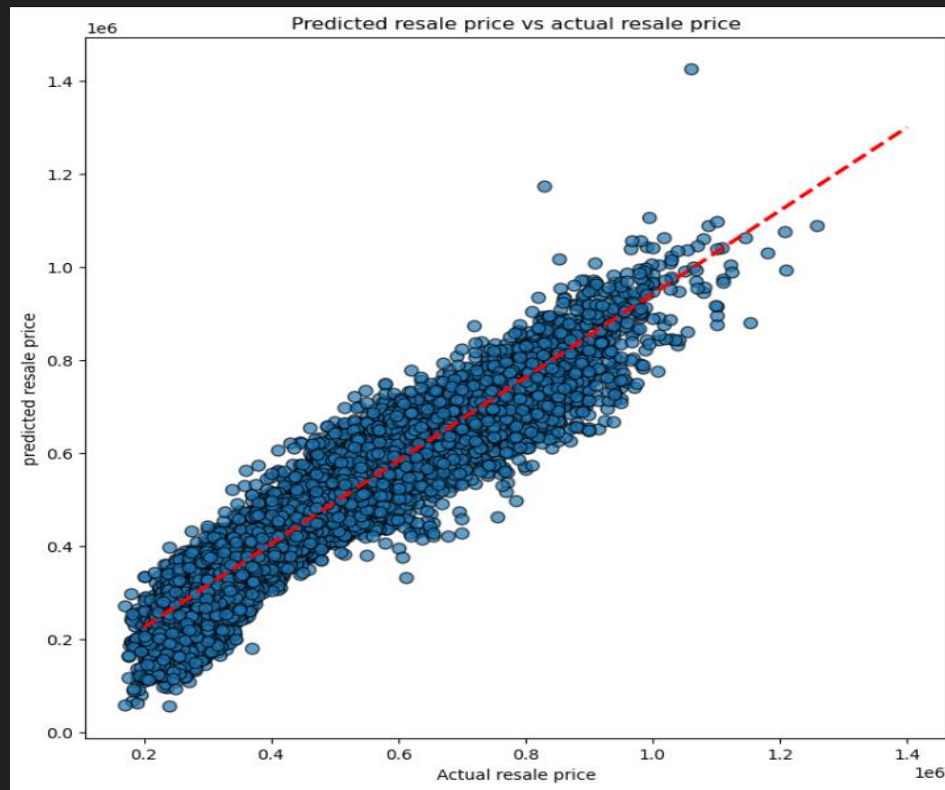
\$647,106
to
\$552,894

89.12% of the variation in the housing prices can be explained

R Squared:

0.8912

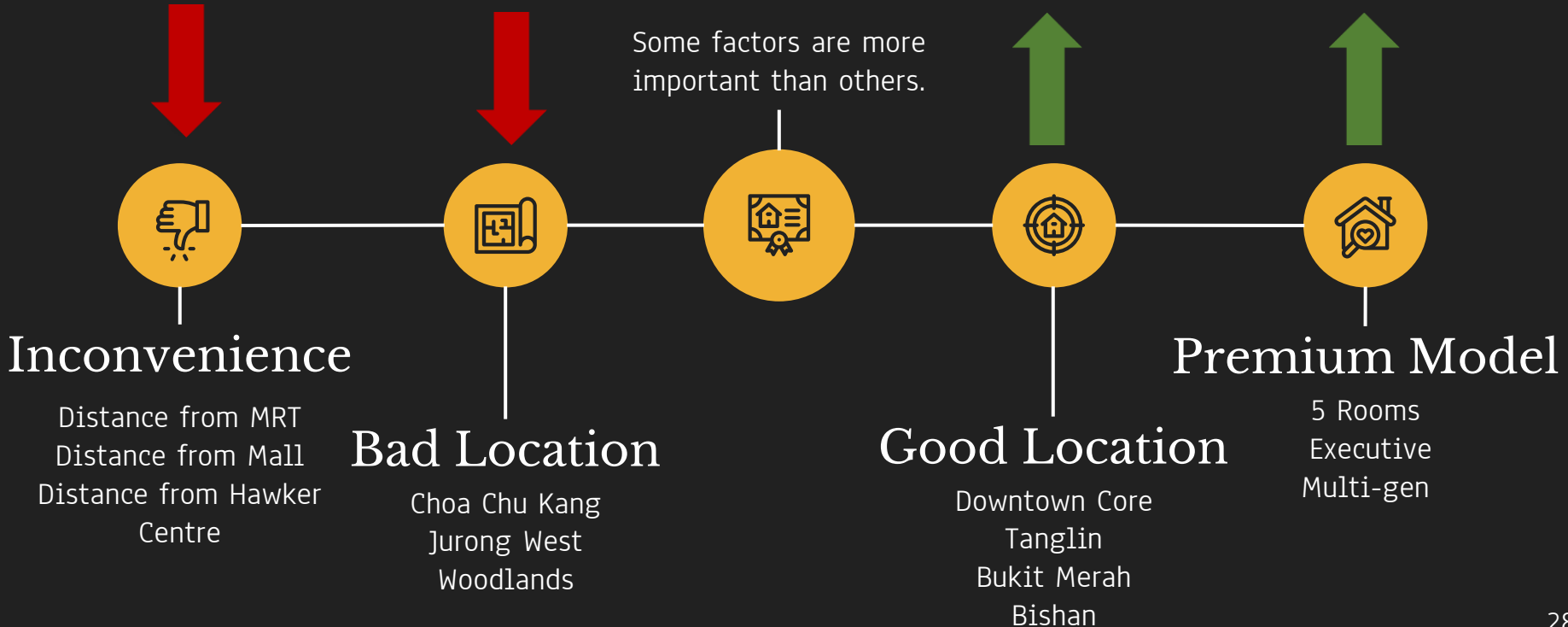
model is able to account for 89.12% of the differences between the actual resale prices of the flats



Some important factors affecting price

Housing price depends on a range of factors.

Some factors are more important than others.



Secret Tips just for you



Look Around

Always check the price of nearby flats



Look Ahead

Watchout for upcoming developments



Furnishing

Renovation in the house can be a bargain chip



Property Experts

Like us!

Thank you!



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