Modeling the Impact of Factors on Housing Prices

INTRODUCTION

Housing prices in Taiwan have surged in recent years, raising concerns about affordability and urban planning. This study analyzes property features to determine price driving effects. Also explores the proximity of Kaohsiung's Light Rail Transit system on housing prices, examining the impact of distance and identifying optimal ranges for property selection.

DATA & METHODOLOGY

This study uses property transaction data from the Real Estate Actual Price Registration System (MOI, Taiwan). The dataset includes house features, with transactions from 2017 to 2024 in Qianzhen District. By using Multiple Regression Analysis to examine the conduct the research.

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Coefficients of the linear terms:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)    3460152.8   287746.5  12.025  < 2e-16 ***
房             -893381.9    68170.5 -13.105  < 2e-16 ***
廳             -210774.1   109680.4  -1.922  0.05467 .
衛             1761215.5    75364.8  23.369  < 2e-16 ***
車位           4366606.1   174422.8  25.035  < 2e-16 ***
有無管理組織無 -289050.6   181305.5  -1.594  0.11091
屋齡           -109672.8     5571.5 -19.685  < 2e-16 ***
土地移轉面積     84131.2     1422.9  59.127  < 2e-16 ***
建物移轉面積     34512.7      554.3  62.261  < 2e-16 ***
lrtdis            -504.0      170.1  -2.963  0.00306 **
U1.lrtdis         -2306.5      403.0  -5.723       NA
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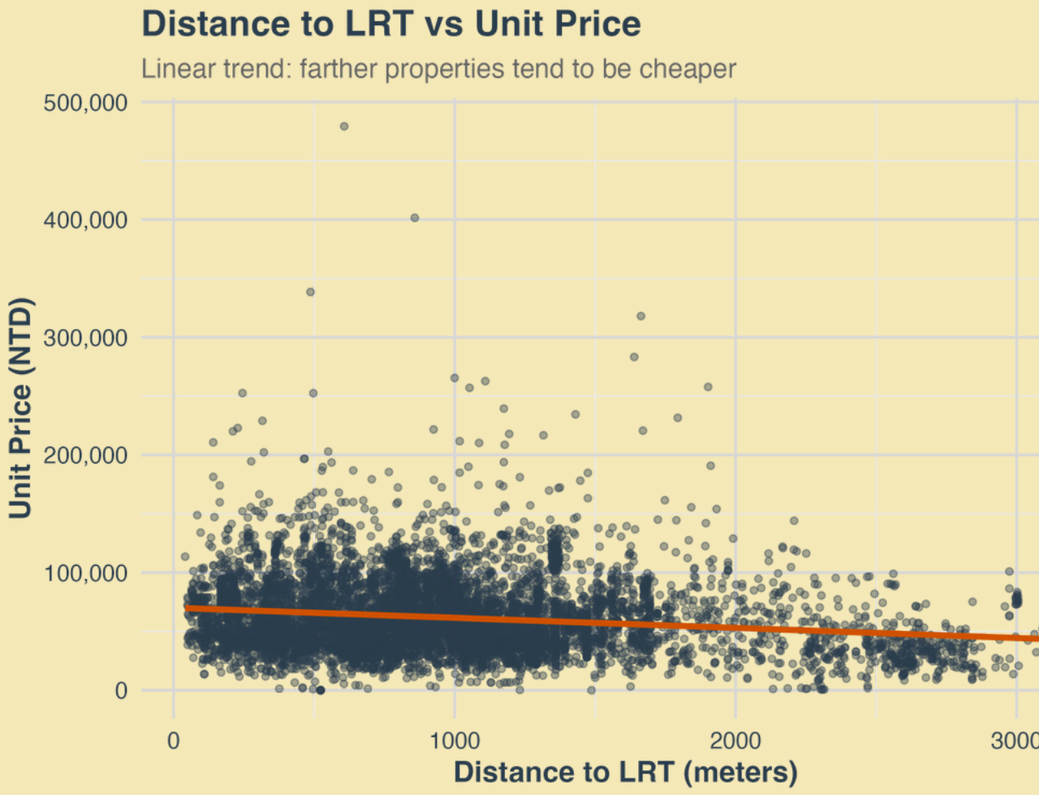
RESULTS

Among all variables, the distance to the LRT station (lrtdis) consistently shows a significant negative and nonlinear effect on housing unit prices. Other factors such as land area, building area, parking space, and number of bathrooms show positive associations, while more rooms and older buildings tend to lower the unit price.



CONCLUSION

To conclude, land and building size, parking space, and bathrooms positively impact housing prices, while more rooms and older buildings reduce value. Distance to the light rail station negatively affects prices, with a nonlinear pattern peaking around 1,518 meters.

June 2nd, 2025 | 10:00 a.m. - 14:00 p.m. | Siwei Hall, NCCU