

ECOM90025 Advanced Data Analysis

Tutorial 4

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Introduction

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Seek help?

- Ed discussion board
- Consultations: refer to Canvas for details

House Price in Beijing

After the 2008 Beijing Olympic Games, the global financial crisis hit. China has launched a 4 trillion stimulus program. It was then observed that the housing price started to boom after 2009. Another round of '4 trillion' led the 2022 Chinese economy. Can we learn anything from the past? There are so many questions. In this tutorial, we try a few and see if any exciting results show.

Estimate the linear model $y = X\beta + \epsilon$ and explain.

↪ We are not going to show this. The idea is simple and most of the post-analysis is similar to what we are going to do in terms of LASSO

LASSO approach

Use the LASSO approach to estimate the benchmark model without Cid.

Consider the same questions and compare them to the previous OLS results.

- 1 Plot the time trend
- 2 Plot the monthly cycle
- 3 Is the followers a good indicator for house price?
- 4 Which district is more expensive?
- 5 What is the value of elevator intensity? Or is there any value in an elevator at all?
- 6 Do people want to live higher to see the view?

LASSO Cross-validation

Carry out 10-fold cross-validation of LASSO to find the optimal λ .

- 1 Visualize the results by using figures from the lecture.
- 2 What is the λ value that minimizes the OOS deviance? (time to read the manual again) And find the corresponding coefficients.
- 3 Because of the time limit, draw the year effects and compare to OLS and LASSO approach.

The end

Thanks for your attention!

