PROJECT PLAN: FEDERAL HOME LOAN BANK

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ABSTRACT

High level description and objective of your semester project here. When you find yourself in an elevator with a potential employer, what do you tell them?

This analysis seeks to better the effect of seasonality on housing prices at various geographic levels like county and metropolitan statistical area.

1 INTRODUCTION

More detailed and overall description of your project, relevancy, and final goals.

This project seeks to further explore the impact of seasonality on housing prices and determine the sensitivity of results from Doerner and Lin (2022). Seasonality is known to have a significant effect on housing prices. Using the gap between a seasonally-adjusted housing-price index and a non-seasonally adjusted housing-price index, this project examines what factors are important in explaining the gap.

2 BASELINE OR INITIAL ANALYSIS

Think about how to first understand the data.

Step 1. Combine the data from the Federal Home Loan Bank public-use data spanning the years 2009 - 2021.
Step 2. Replicate the analysis in Doerner and Lin (2022) comparing the seasonally-adjusted housing-price index with the non-seasonally-adjusted housing-price index.

3 FINAL ANALYSIS

Think about what the final analysis will entail in terms of code, visualizations, statistical models, and communication.

Step 1. Explore the sensitivity of the results in Doerner and Lin (2022). For instance, are there essentially different markets within a geographic area that behave differently. Perhaps counties behave differently within an MSA or different house-price brackets behave differently within an MSA.

Step 2. Rank the order of states by impact of seasonality within each Federal Home Loan Bank district. Analyze how seasonality is impacted by diversity of region and the impact this has on the ranking order.

4 Final Goals & Evaluation

Detail the deliverable that will make a final project successful for the community partner.

A slide deck and technical report that details how the analysis was conducted. These should also address any findings the analysis produced. The deliverable should also include the code that created the dataset and conducted the statistical analysis and predictive modeling (preferably in RStudio or Stata).

5 Related Work

Please cite research papers, reports, blog posts, projects, and other works you have consulted or plan to consult later. Please provide a sentence or two description that conveys the sources relevance to your project. You should have at least 5 sources.

Doerner, William and Wenzhen Lin. Applying Seasonal Adjustments to Housing Markets. Federal Housing Finance Agency Working Paper Series. November 2022.

6 Data & Technical Requirements

Provide expected technical requirements and relevant datasets so the course staff can best support your project needs. What software libraries do you plan to use? What datasets are you using or need access to? Anything else we (the course staff) should know?

The data is collected by the Federal Home Loan Bank. The data is stored in text files and can be read by generic file-reading processing commands in Stata, R, and other statistical software packages. Data dictionaries accompany each wave of the survey and should be used to understand the fields included in the data.

The data dictionary is provided separately by the community partner and is in a file called $AMA\_PUDB\_definitions$.