Principles of Macroeconomics
Discussion Activity 1 in Week 2 Sessions
April 1st, 2nd, 3rd, 4th

In the first week of class, we reviewed the supply and demand model by exploring the housing market.

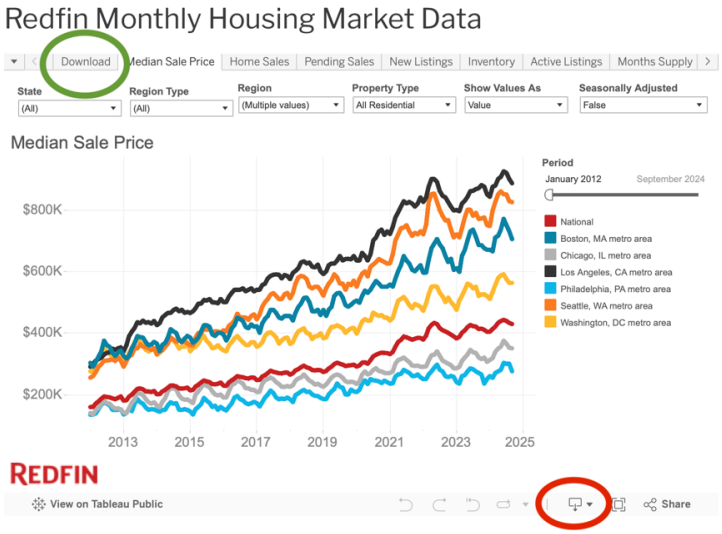
The price of homes is at (or near) all-time highs and a frequently asked question these days is whether the housing market is currently in a healthy, or unhealthy, state.

The goal of this activity is for you and your group (of 2 to 3) to identify whether the housing market in an area of the country is healthy or not.

To do this, you are going to gather recent data on housing metrics in a state (no overlap in states between groups). ***Your TA will show a QR code that links to a Google Sheet. To claim your state, input a Group Name by your state. First come, first served.***

After choosing a state, navigate to the Redfin Data Center: https://www.redfin.com/news/data-center/

Below the first panel of weekly graphs, you will see the "Redfin Monthly Housing Market Data" with the monthly median sales price since 2012 for the entire United States, as well as six large metro areas.



Keep the National data (red line), remove the other metro areas, and add your state. To remove the metro areas, click on the "Region Type" tab, and uncheck "All" and then click "National" and "State". To isolate you state, click on the "Region" tab, a list of states will come up. Check the appropriate one and hit apply.

Get familiar with what the data is showing by clicking on the different tabs of data such as "Home Sales", "New Listings", etc. and the comparison between the nation and your state will show up.

Download the data. First, uncheck "National" under region. Click on the "Download" tab (green circle on the image above) and the raw data will show up. Click the download button (red circle), then **"Crosstab"** button, and choose Excel. A download option will come up. Click on it and save it to a folder that you can track down.

Navigate to the course website, Activity 1, and upload your data at: https://matthewdlang18.github.io/macroeconomics-course-website/activities/activity1/index.html to help you complete part 1. Do not change the column names.

Part 1 Instructions

To assess the health of the housing market your group will assign a weight and a value to each of the metrics below.

Median Sale Price: the middle value of all home sale prices for a given period. Half of the homes sold were priced above this value, and half were below. This often provides a more accurate measure of home prices than average sale prices, as it is less affected by extremely high or low prices. A balanced market has 3-5% growth in prices per year.

Months' Supply (Months of Inventory): Number of months it would take to sell all the homes on the market, given the current pace of sales. It is calculated by dividing the total number of homes for sale (inventory) by the number of homes sold per month. A balanced market has 4-6 months of supply.

Days on Market: The average number of days a home is listed for sale before it goes under contract (sold). In a balanced market, homes usually sell within 30 – 60 days.

Sale-to-List: A measure of how close the sale price is to the asking price set by the seller. Specifically the (Sale Price/List Price) x 100. A sale-to-list price ratio between 98% to 102% is consistent with a balanced market.

Weighting Each Metric

In assigning a *weight* to each metric, discuss with your group about how important each category is to the overall housing market. The weights must add up to 100.

Here are two extreme examples regarding weights:

If you think all the metrics are equally important when assessing the health of the housing market, then the weights of each category would be 20, because there are five categories and 5 x 25 = 100.

If you only think a single metric is important when assessing the health of the housing market, then the weight for that category would be 100.

Valuing Each Metric

To *value* each metric, think about whether the long-term trend and current value is beneficial for buyers or sellers.

If you believe the metric shows signs of benefiting buyers, assign a value less than 50. A value of 1 is depicting a market where homes are practically given away, and even then, homes sales are minimal. Presumably sellers want to sell since homes are listed for sale and prices are being cut.

If you believe the metric is suggesting that sellers have an advantage, assign a value greater than 50. A value of 100 depicts a market where few homes are on the market since they are being bought up before they even get a chance to list. Those that do list are on the market for a very short amount of time. Prices are rising unsustainably.

Fill in Part 1 of the handout with your weights, values, and a brief justification.
One member of your group should fill in the values on the Google Sheet.

Part 2 Instructions

We want to get feedback on your assessment of the housing market in your state. To do this, we will utilize AI tools. For this activity, I suggest going to ChatGPT (https://chatgpt.com), Perplexity (https://www.perplexity.ai), Mistral (https://mistral.ai), Claude (https://claude.ai/, Claude Pro may be needed). Also, remember where you saved your downloaded data from Redfin.

Next, we will ask AI to assess the health of the housing market. Navigate to the AI platform, paste the message below into the message bar and replace [your state] with the appropriate state.

Examine this data and assess the health of the [your state] housing market. Fill out the table where 1 is a market where nothing is selling because there are literally no buyers and 100 is an overheated market, where homes are sold before they even hit the market, and it is hard to find a house to purchase. Give me your final total weighted value and rovide a justification for your response.

Housing Metric Weight Value Weighted Value (Weight/100 x Value)

Median Sale Price
Months' Supply
Days on Market
Sale-to-List
Total

Must Sum to 100

The response will ask you for the data if you don't attach it in the original message. Note that ChatGPT (non-Plus version) is limited in the amount of analysis it will do. So don't waste messages!

Fill in Part 2 of the handout.
One member of your group should fill in the values on the Google Sheet.

***Name:*_____ *Perm #:*_____ *State:*_____**

***Name:*_____ *Perm #:*_____ *State:*_____**

***Name:*_____ *Perm #:*_____ *State:*_____**

Part 1

After getting better acquainted with the metrics, examine the Redfin data and fill out the table below:

Housing Metric	Weight	Value	Weighted Value (Weight/100 x Value)	Justification
Median Sale Price				
Months' Supply				
Days on Market				
Sale-to-List				
Total	Must Sum to 100			

Final weighted value: _____

The housing market in the state of _____ is a _____ buyers/sellers/balanced market.

Part 2

AI value: _____

The housing market in the state of _____according to AI is _____.

Your value of the housing market in state _____ is above/below/equal to AI's value.

On the back of your handout, spend 1 to 3 sentences answering the following questions and be ready to share your answers with your classmates.

1. Given that housing market trends can vary significantly by region, what additional regional data would have helped your group better understand the specific dynamics of your state's housing market?

2. How did the AI's process for evaluating the housing market data differ from your group's approach? Did the AI's response alter how you thought about your housing market?

3. How much do you believe the framing of the prompt given to the AI influences the output? Do you think the AI would generate a different assessment if the prompt was worded differently, emphasizing different priorities?

4. Could an over-reliance on AI-generated assessments lead to unintended consequences, such as exacerbating existing inequalities in the housing market or reducing the role of human expertise?

5. How do you feel about using AI in your education more generally, and for this exercise in particular? Are there aspects of AI integration that you find beneficial or concerning?