

Principles of Macroeconomics
Discussion Activity 3
May 6th, 7th, 8th, 9th

In the second half of the course, we are spending the bulk of the class developing our understanding of macroeconomic equilibrium. One of the more interesting aspects of this part of the course is getting a better understanding of where the economy is headed. Are we at the start of a recession? Will jobs become increasingly harder to obtain? Is the labor market healthy? In this activity, you will navigate to the activity website, learn about leading economic indicators, create your own indicator, and compare the predictions from your indicator to the rest of the class and a number of AI platforms.

Step 1: Navigate to the Activity Webpage at: <https://matthewdlang18.github.io/macroeconomics-course-website/activities/activity3/index.html> and learn about Leading Economic Indicators. Feel free to work in groups of 1 to 3.

Here you will see information on typical leading economic indicators. Read through each one and think critically about how the variable may predict future output (Y) and employment. Before moving on, decide which indicators you think will be the most accurate in forecasting future economic movements, and in particular recessions.

Step 2: Analyze the accuracy of typical leading indicators.

On the next page, historical information of the possible leading indicators is shown visually, along with recessions since 1976. You will notice that each indicator has a rule attached to it and the table associated with the indicator highlights how accurate that rule is. You will notice that rules for many leading indicators are triggered during recessions, and some indicators are poor predictors of recessions. After you examine the indicators, answer question 1 below before moving on to the next page.

Step 3: Create your own leading indicator

Create your own leading indicator on the next page by assigning weights to the different leading indicators. Create your initial index based on your answer to question 2, along with a rule that signals that a recession should take place in the next 24 months. Note that the indicators are transformed into Z-scores relative to their average values or benchmark values, depending on the variable. More information on the transformation is on the page, but in general, a Z-score of 0 means the variable is at the average/benchmark value.

The lead time analysis on the webpage will show you how your index and rule would have performed in predicting recessions since the 1970s. Refine your weights for each indicator until you are satisfied with your new personal Leading Indicator Index. Answer question 2 before moving on to the next page.

Step 4: Use your indicator to predict what will happen in the next 6, 12, and 24 months.

With your new Leading Indicator Index, it is time to predict how you believe the US economy (GDP and unemployment) will respond over the next 2 years. Answer question 3 below and input your predictions into the Google Sheet that your TA provides a QR code for.

Step 5: Compare the class results to AI

After everyone inputs their predictions to the Google Sheet, the TA will show the aggregated results of the class, alongside predictions from different AI platforms. Each AI platform was given the same data you used to create your index and asked to create their own and provide predictions about the economy. Examine the weights that the AI platforms applied to the indicators and compare them to your own before answering question 4 below.

Name:

1. After reviewing the typical leading indicators, why do you think some indicators are more accurate in predicting recessions than others? If you were tasked to predict when the next recession will start, what indicators would you want to use (and not use)?
2. What weights did you assign to each indicator in your personal Leading Indicator Index, and what specific rule did you create to signal a recession? Explain your reasoning for these choices.
3. According to your Leading Indicator Index, what specific GDP growth rate and unemployment rate do you predict for the US economy in the next 6, 12, and 24 months? How confident are you in your forecast? What other information would you like to have access to in helping you predict?
4. How did your indicator weights and economic predictions compare to those of the AI platforms? What might explain the differences or similarities you observed between human and AI forecasting approaches?