This chapter introduces you to:
- the issues macroeconomists study
- the tools macroeconomists use
- some important concepts in macroeconomic analysis.
1. The macroeconomy affects society’s well-being. Social problems like homelessness, domestic violence, crime, and poverty are linked to the economy. For example...

2. The macroeconomy affects your well-being. In most years, wage growth falls when unemployment is rising.

3. The macroeconomy affects politics. Unemployment & inflation in election years:

<table>
<thead>
<tr>
<th>Year</th>
<th>U Rate</th>
<th>Inflation Rate</th>
<th>Election Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>7.7%</td>
<td>5.8%</td>
<td>Carter (D)</td>
</tr>
<tr>
<td>1980</td>
<td>7.1%</td>
<td>13.5%</td>
<td>Reagan (R)</td>
</tr>
<tr>
<td>1984</td>
<td>7.5%</td>
<td>4.3%</td>
<td>Reagan (R)</td>
</tr>
<tr>
<td>1988</td>
<td>5.5%</td>
<td>4.1%</td>
<td>Bush I (R)</td>
</tr>
<tr>
<td>1992</td>
<td>7.5%</td>
<td>3.0%</td>
<td>Clinton (D)</td>
</tr>
<tr>
<td>1996</td>
<td>5.4%</td>
<td>3.3%</td>
<td>Clinton (D)</td>
</tr>
<tr>
<td>2000</td>
<td>4.0%</td>
<td>3.4%</td>
<td>Bush II (R)</td>
</tr>
<tr>
<td>2004</td>
<td>5.5%</td>
<td>3.3%</td>
<td>Bush II (R)</td>
</tr>
</tbody>
</table>

How Economists Think

Economic Models
- are simplified versions of a more complex reality
- irrelevant details are stripped away
- are used to
  - show relationships between variables
  - explain the economy’s behavior
  - devise policies to improve economic performance

Theory as Model Building: Supply & demand for new cars

shows how various events affect price and quantity of cars
assumes the market is competitive: each buyer and seller is too small to affect the market price

Variables:
- $Q_d$ = quantity of cars that buyers demand
- $Q_s$ = quantity that producers supply
- $P$ = price of new cars
- $Y$ = aggregate income
- $P_s$ = price of steel (an input)
The demand for cars

- Demand equation: \( Q^d = D(P, Y) \)
- Shows that the quantity of cars consumers demand is related:
  - to the price of cars \( P \) and
  - aggregate income \( Y \)

Digression: Functional notation

General functional notation shows only that the variables are related.
- \( Q^d = D(P, Y) \)
A specific functional form shows the quantitative relationship.
- Example:
  \[ D(P, Y) = 60 - 10P + 2Y \]

The market for cars: Demand

- Demand equation:
  \[ Q^d = D(P, Y) \]
- The demand curve shows the relationship between quantity demanded and price, other things equal.

The market for cars: Supply

- Supply equation:
  \[ Q^s = S(P) \]
- The supply curve shows the relationship between quantity supplied and price, other things equal.

The market for cars: Equilibrium

- Equilibrium price
- Equilibrium quantity

The effects of an increase in income

- Demand equation:
  \[ Q^d = D(P, Y) \]
- An increase in income increases the quantity of cars consumers demand at each price...
- ...which increases the equilibrium price and quantity.
An increase in \( P \) reduces the quantity of cars producers supply at each price... which increases the market price and reduces the quantity.

### Classroom Example

- Write down demand and supply equations for wireless phones; include two exogenous variables in each equation.
- Draw a supply-demand graph for wireless phones.
- Use your graph to show how a change in one of your exogenous variables affects the model’s endogenous variables.

### Endogenous vs. Exogenous Variables

The values of endogenous variables are determined in the model. The values of exogenous variables are determined outside the model: the model takes their values & behavior as given.

In the model of supply & demand for cars,

endogenous: \( P, Q^d, Q^s \)

exogenous: \( Y, P^e \)

### A Multitude of Models

No one model can address all the issues we care about.

- e.g., our supply-demand model of the car market...
  - can tell us how a fall in aggregate income affects price and quantity of cars.
  - cannot tell us why aggregate income falls.

### Prices: Flexible vs. Sticky

Market clearing: An assumption that prices are flexible, adjust to equate supply and demand.

In the short run, many prices are sticky – adjust sluggishly in response to changes in supply or demand. For example,

- many labor contracts fix the nominal wage for a year or longer
- many magazine publishers change prices only once every 3-4 years
Prices: Flexible vs. Sticky
- The economy’s behavior depends partly on whether prices are sticky or flexible:
  - If prices are sticky, then demand won’t always equal supply. This helps explain:
    - unemployment (excess supply of labor)
    - why firms cannot always sell all the goods they produce
  - Long run: prices flexible, markets clear, economy behaves very differently

Outline of this Course
- Introduction to Macroeconomic Data & Analysis (Ch. 1-2)
  - How macroeconomists think and how we measure key macroeconomic variables.
- Classical and Growth Theory (Ch. 2-8)
  - How the economy works in the long run, when prices are flexible.
  - The standard of living and its growth rate over the very long run.

Chapter Summary
- Macroeconomics is the study of the economy as a whole, including:
  - growth in incomes,
  - changes in the overall level of prices,
  - the unemployment rate.
- Macroeconomists attempt to explain the economy and to devise policies to improve its performance.

Microeconomic Thinking & Macroeconomic Models
- Microeconomics is the study of how individual households and firms make decisions.
  - Households maximize utility.
  - Firms maximize profit.
- Modern macroeconomic theory is typically based on microfoundations of macroeconomic behavior.
  - Sometimes these microfoundations are implicit, other times they are explicit in the models used.

Outline of this Course
- Business Cycle Theory (Romer, Ch. 1-3; Ch. 13)
  - How the economy works in the short run, when prices are sticky.
  - Policy debates (Ch. 14 & 19)
  - Should the government try to smooth business cycle fluctuations?
  - Which macro models are "best"?
- Microeconomic foundations (Ch. 16)
  - Insights from looking at the behavior of consumers, from a microeconomic perspective.

Chapter Summary
- Economists use different models to examine different issues.
- Models with flexible prices describe the economy in the long run; models with sticky prices describe the economy in the short run.
- Macroeconomic events and performance arise from many microeconomic transactions, so macroeconomics uses many of the tools of microeconomics.