Business Cycle & Economic Indicators

Understanding the past
Seeing the future!
#1: What is the ideal range for the GDP growth rate, that allows for job creation without too much inflation?

**2-5%**
Historically every economy moves through cycles
• The U.S. enters a recession every 7-10 years
  – 2 consecutive quarters of negative GDP is considered a recession
  – Recessions typically last 16 months
Economic Indicators

• Monthly or quarterly

• Helpful in “predicting” future economic trends
Leading Indicators

Tends to improve (or deteriorate)
BEFORE the Economy does

Examples: Stock Market
Price of Oil

Lagging Indicators

Tends to improve (or deteriorate)
AFTER the Economy does

Examples: Unemployment Rate
GDP Growth Rate
Inflation

-- a general increase in prices in an economy
Inflation Rate—Calculated using the Consumer Price Index (CPI)

CPI = prices of 80,000 goods from 30,000+ stores collected monthly, added together, and averaged.

They are weighted this way:
- Housing: 41.4%
- Food/Beverage: 17.4%
- Transportation: 17.0%
- Medical Care: 6.9%
- Other: 6.9%
- Apparel: 6.0%
- Entertainment: 4.4%.

http://en.wikipedia.org/wiki/Price_index
December 2009 CPI: 215.95

December 2008 CPI: 210.23

Inflation rate calculated over the last year:
215.95 - 210.23 = 5.72

5.72 / 215.95 = 0.0264

0.0264 X 100 = 2.64% inflation

- Economists’ Preferred Range of inflation: 1-2%

- Worst inflation ever: +14.4% (1947)

- Worst deflation ever: -10.3% (1932)
“Billions of marks were being printed to finance costs under Weimar government. By late 1923, 300 paper mills were working top speed and 150 printing companies had 2000 presses going day and night turning out currency.”

### Wholesale Price Index in Germany

<table>
<thead>
<tr>
<th>Date</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1914</td>
<td>100.0</td>
</tr>
<tr>
<td>January 1919</td>
<td>200.6</td>
</tr>
<tr>
<td>July 1919</td>
<td>300.4</td>
</tr>
<tr>
<td>January 1920</td>
<td>1,200.6</td>
</tr>
<tr>
<td>January 1921</td>
<td>1,400.4</td>
</tr>
<tr>
<td>July 1921</td>
<td>2,400.3</td>
</tr>
<tr>
<td>January 1922</td>
<td>3,600.7</td>
</tr>
<tr>
<td>July 1922</td>
<td>10,000.6</td>
</tr>
<tr>
<td>January 1923</td>
<td>278,500.0</td>
</tr>
<tr>
<td>July 1923</td>
<td>19,400,000.0</td>
</tr>
<tr>
<td>November 1923</td>
<td>72,600,000,000,000.0</td>
</tr>
</tbody>
</table>
Zimbabwe

Highest monthly inflation rate November 2008: 5,473%

Annualized inflation rate: 89.7 sextillion percent 89,700,000,000,000,000,000,000%
#2: Economists and policy makers strive to keep the inflation rate within what range?

1-2%
Unemployment Report

+169,000 New Jobs
(FORECAST HAD BEEN 175,000)
152,000 PRIVATE EMPLOYERS
17,000 GOVT JOBS

Unemployment falls: 7.4% → 7.3%

Downward revisions:
July 162,000 to 104,000
June 16,000 fewer

866,000 out of work people
Have given up looking

Fed plans
Working or looking for work 63.2%
35-year low
Candy Bar Exercise
Candy Simulation Analysis

1. Was this inflation? Briefly explain why it is or is not inflation.

2. Why did the price of the candy rise?

3. How could the price be kept stable?
Size of Labor Force Keeps Falling

Current = 63.5%
Review

#3: What is “full” employment?

When the unemployment rate is between 4 and 5%.
#5: What happens when the unemployment rate falls below 4 percent?

There is upward pressure on inflation.
#7: Who is the head of the Federal Reserve?

Ben Bernanke
#1: In its most basic sense, what is inflation?

A general rise in prices.
Historically every economy moves through cycles.
#1: What does CPI stand for and what does it measure?

Consumer Price Index

Inflation
#1: Economists and policy makers strive to keep the inflation rate within what range?

1-2%
#2: What is the ideal range for the GDP growth rate, that allows for job creation without too much inflation?

2-5%
#3: How many jobs need to be created in the U.S. economy each month to keep up with population growth?

Between 130,000 and 150,000 per month
Federal Reserve Structure

<table>
<thead>
<tr>
<th>Federal Reserve (Washington, D.C.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Governors</td>
</tr>
<tr>
<td>(7 members)</td>
</tr>
<tr>
<td>Ben Bernanke</td>
</tr>
<tr>
<td>Chairman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12 District Federal Reserve Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
</tr>
<tr>
<td>San Francisco</td>
</tr>
<tr>
<td>New York</td>
</tr>
<tr>
<td>Atlanta</td>
</tr>
<tr>
<td>Chicago</td>
</tr>
<tr>
<td>Dallas, etc.</td>
</tr>
</tbody>
</table>

Federal Funds Rate = Interest rate that the 12 District banks charge each other on overnight loans

<table>
<thead>
<tr>
<th>Member Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>All national banks</td>
</tr>
<tr>
<td>Some state banks</td>
</tr>
</tbody>
</table>
Unemployment Rate
--the percentage of people in the total labor force who are actively seeking jobs, but cannot find them

Example: $\frac{7.5 \text{ million seeking jobs}}{148 \text{ million in labor force}} = 5.1\%$ unemployment rate

• Lowest ever: 1.2\% (1944)
• Highest ever: 24.9\% (1933)

• “Full” Employment—4 to 5 percent unemployment

• Inflationary Pressure—unemployment below 4%
Housing Starts—
The number of residential building construction projects begun during a specific period

<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
<th>Year</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>1,848,000</td>
<td>2009</td>
<td>576,000</td>
</tr>
<tr>
<td>2004</td>
<td>1,956,000</td>
<td>2010</td>
<td>604,000</td>
</tr>
<tr>
<td>2005</td>
<td>2,068,000</td>
<td>2011</td>
<td>612,000</td>
</tr>
<tr>
<td>2006</td>
<td>1,801,000</td>
<td>2012</td>
<td>741,000</td>
</tr>
<tr>
<td>2007</td>
<td>1,355,000</td>
<td>2013</td>
<td>896,000</td>
</tr>
<tr>
<td>2008</td>
<td>906,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gross Domestic Product (GDP) Growth Rate

- Slowest ever: -13.0% (1932)
- Fastest ever: +18.5% (1942)
- Historical average: +2.5%-3.0%

Recent GDP Growth Rates:

- 1Q 2009: -6.7%
- 2Q 2009: -0.7%
- 3Q 2009: +1.7%
- 4Q 2009: +3.8%
- 1Q 2010: +3.9%
- 2Q 2010: +3.8%
- 3Q 2010: +2.5%
- 4Q 2010: +2.3%
- 1Q 2011: +0.4%
- 2Q 2011: +1.0%
- 3Q 2011: +1.8%
- 4Q 2011: +2.8%
- 1Q 2012: +2.0%
- 2Q 2012: +1.7%
- 3Q 2012: +3.1%
- 4Q 2012: +1.7%
- 1Q 2013: +1.1%
- 2Q 2013: +2.5%
- 3Q 2013: +4.1%
- 4Q 2013: +1.7%
Job Growth

The gross number of jobs created in the American economy in the previous month

The economy needs to create between 130,000-150,000 new jobs per month to keep up with new people entering the labor force

What is an interest rate?

• The price that must be paid for the privilege of using someone else’s money

Example:
You take out a car loan of $20,000 at a 5% interest rate. Each year until you pay off the loan you will pay a fee of 5% of the amount of money you still have to pay back. The first year you will pay $20,000 \times 0.05 = $1000 interest.

Example:
You deposit $1,000 in a savings account that pays 3% interest. Each year that you keep the money in the account, the bank will pay you 3% of the amount of your bank balance. In the first year the bank will pay you $1,000 \times 0.03 = $30 interest.
# Federal Reserve Structure

## Federal Reserve (Washington, D.C.)

<table>
<thead>
<tr>
<th>Board of Governors (7 members)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben Bernanke Chairman</td>
</tr>
</tbody>
</table>

## 12 District Federal Reserve Banks

- Boston
- San Francisco
- New York
- Atlanta
- Chicago
- Dallas, etc.

## Member Banks

- SF Fed Building — Market Street
Historic rate cut

The Federal Reserve cut its key interest rate to a range of zero to 0.25 percent, an all-time low.

Federal funds rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>'01</td>
<td>7%</td>
</tr>
<tr>
<td>'02</td>
<td></td>
</tr>
<tr>
<td>'03</td>
<td></td>
</tr>
<tr>
<td>'04</td>
<td></td>
</tr>
<tr>
<td>'05</td>
<td></td>
</tr>
<tr>
<td>'06</td>
<td></td>
</tr>
<tr>
<td>'07</td>
<td></td>
</tr>
<tr>
<td>'08</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Federal Reserve
Ben Bernanke Action Figure!!

Now YOU can drop money out of a helicopter!!

Warning: cannot really prevent a severe recession
Okay, so now it’s time to do some Indicators Research. . .
Bubble Demonstration
Business Cycle

- 1990’s Technology Boom
- Housing Bubble
- 2000
- 2001
- 2007
- Great Recession
- 2008-09
- 2012
- ?
The History of Market Bubbles

1996-2000

2002-2007
Speculative Bubbles

1996 - 2000

USA 2002 - 2007

Holland 1634 - 1637
House of Cards

Caused by

Credit Bubble

Led to