Chapter 4
Aggregate Demand and Aggregate Supply

Macro Issues:
▲ How do we measure a nation’s performance?
By the value of aggregate output produced by the economy in a given year or by its GDP.

Formal Definition of GDP:
GDP stands for Gross Domestic Product. It represents the total value, measured in current prices, of all final goods and services, produced in the economy during a given year.

What is the Business Cycle?
Alternating periods of growth and decline in an economy’s output.

Stages of the Business Cycle?
♦ Recession
♦ Trough
♦ Recovery
♦ Prosperity
♦ Peak or Boom
♦ Downturn
Recession:
A phase in the business cycle in which the decline in the economy’s GDP persists for at least a half-year. A recession is marked by relatively high unemployment.

Depression:
A relatively long and deep recession is described as a depression.

Prosperity:
A phase in the business cycle marked by relatively high level of real GDP, near full employment and inflation.

What is Inflation?
An increase in the price level

Basic Macro Questions:
△ Can we harness the disturbing swings in our business cycle?
This implies, can we moderate the inflationary pressures on the economy when it is on the upswing of the business cycle, pressing upon full employment? Can we moderate the inevitable unemployment that occurs when the economy after reaching its peak, begins its slide into recession?
△ Can we learn how to engineer an attractive rate of economic growth?

GDP:
GDP or Gross Domestic Product is the total value, measured in current prices, of all final goods and services, produced in the economy, during a given year.

Example:

What is a Final Good?
A good that is not itself used to produce other goods.

= 100 bushels
Direct Consumption = 80 Bushels
20 Bushels
= 2000 pies
What does “produced in the economy” mean?

It is produced domestically or within the geographic boundary of the country.

What does “measured in current market prices” mean?

valued at a price that existed in the year in which the good was made.

What is Nominal GDP?

GDP measured in terms of current market prices - it is not adjusted for inflation

1997

\[ 100 \text{ bushels} \times 2 = 200 \]

2000

\[ 100 \text{ bushels} \times 4 = 400 \]

What is Real GDP?

GDP adjusted for changes in the price level

Price Indexes:

The Consumer Price Index (CPI):

Base Year: Let's assume 1980 is our base year
CPI in the Base Year is = 100

Price of Consumer Basket in Base Year, \( P_0 = 300 \)

Price of the Consumer Basket in 1999, \( P_{99} = 450 \)
CPI for 1999 = \( \frac{P_{99}}{P_{90}} \times 100 = \frac{450}{300} \times 100 = 150 \)

Suppose the Nominal GDP in 1999 was 800 billion $. What is the real GDP in 1980 prices?

Real GDP = \( \frac{\text{Nominal GDP}}{\text{CPI}} \times 100 = \frac{800}{150} \times 100 = 533.33 \) billion $

\[ \text{GDP Deflator:} \]
Like the CPI it is also a price index. However the composition of the items in the consumption basket is different.

Instead of only including consumption items, the basket now also includes farm goods, producer goods, crude materials, services, capital equipment and export goods. The basket here is known as Market Basket.

\[ \text{From Nominal GDP to Real GDP} \]
\[ \text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100 \]

\[ \text{Converting Nominal GDP to Real GDP} \]
Base Year 1992

<table>
<thead>
<tr>
<th>Year</th>
<th>Nominal GDP</th>
<th>GDP Deflator</th>
<th>Real GDP</th>
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</thead>
<tbody>
<tr>
<td>1990</td>
<td>5743.6</td>
<td>93.60</td>
<td>6136.3</td>
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<td>1991</td>
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<td>1992</td>
<td>6244.4</td>
<td>100.00</td>
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<td>1993</td>
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<td>1994</td>
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<td>1995</td>
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<td>107.76</td>
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<td>1996</td>
<td>7635.8</td>
<td>110.21</td>
<td>6928.4</td>
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</table>

\[ \text{GDP Growth Rate:} \]
It is the percentage change in GDP

\[ \text{GDP Growth Rate} \]
Real GDP Growth Rate = \( \frac{145.2}{6244.4} \times 100 = 2.33 \)
Aggregate Demand and Supply Model

Aggregate Supply: It is the total quantity of goods and services that firms in the economy are willing to supply at varying price levels.

Aggregate Demand

It is the total quantity of goods and services demanded by households, firms, foreigners and government at varying price levels.

What factors explain Aggregate Demand?
- Real wealth affect
- Interest rate effect
- International trade effect

What factors cause a shift in Aggregate Demand? A change in ...
- government spending
- taxes
- income abroad
- expectations
What factors cause a shift in Aggregate Supply? A change in ...
- resource availability
- wages
- interest rates
- rents
**Demand-Pull Inflation**

Inflation caused primarily by an increase in aggregate demand

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**Cost-Push Inflation: The OPEC Legacy**

In October 1973, the price of Arabian light crude oil was $2.10 per barrel. By Nov 74, OPEC had cut oil production substantially and raised the price to $10.46. By Jan 79, the price had drifted upward to $13.34 and by April 1980, OPEC had raised the price to $28 and by Jan 1982 to $34.

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**Stagflation:**

A period of stagnating real GDP, inflation and relatively high levels of unemployment.
Economic Policy Options:

Graph showing the relationship between price level and real GDP with various demand and supply curves.