Chapter 2: Macroeconomic Data

Three Central Measures

Gross Domestic Product (GDP)

"GDP is the total market value of all final goods and services produced within a country in a given period of time" (usually quarterly or yearly)

How to Calculate GDP

Definition	$\sum_{goods} p_i q_i$ (i^{th} good)
Product Approach	∑(Market Value of Final Goods/Services)
Expenditure Approach	∑(Expenditure on Final Goods/Services)
Income Approach	∑(Factor Payments by Firms) = ∑(Factor Income)
Value Added Approach	∑(Value Added by Firms)

Included: final goods, change in inventories, imputed rent on owned real estate

Excluded: used goods, sales out of inventories, intermediate goods, underground econ.

NGDP = weight current-year quantities by current-year prices

RGDP = weight current-year quantities by base-year prices

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

$$Y = C + I + G + NX = C + I + G + (X - M) \quad \text{(national income accounting identity)}$$

Inflation Rate (π)

$$\text{CPI} = \frac{\text{Current Market Basket Expenditure}}{\text{Base Year Market Basket Expenditure}}$$

$$\pi \approx \%\Delta\text{CPI} \quad \text{or} \quad \pi \approx \%\Delta\text{GDP Deflator}$$

Sources of bias: substitution, introduction of new goods, unobserved changes in quality

Unemployment Rate (UR)

$$LF = E + U$$

$$UR = \frac{U}{LF}(100)$$

$$LFPR = \frac{LF}{\text{Adult Population}}(100)$$

Not in LF: student, household producer, retiree, discouraged worker, prisoner, self-employed

Circular Flow Diagram

Economic agents: firms and households

Two markets: goods market, factor market

National Income Accounting

GNP = GDP + NFP

NNP = GNP – Depreciation

NI = Employee Compensation + Proprietors' Income + Rental Income + Corporate Profits
+ Net Interest + Indirect Business Taxes

PI = NI – IBT – Corp. Profits – Social Insurance Contributions – Net Interest + Dividends
+ TR + Personal Interest Income

DPI = PI – Personal Tax/Nontax Payments

Questions

1) Does the base year matter when computing RGDP? Can you pick the wrong base year?
2) Where did the "GDP Deflator" get its name?
3) Define the terms "Laspeyres index" and "Paasche index". Provide examples.
4) Is it possible that %ΔCPI and %ΔGDP Deflator disagree? Why or why not?
5) How does the US Bureau of Labor Statistics define "unemployed"? Is this a good definition?
6) What were the main trends in US LFPR over the past fifty years? What factors caused this change?
7) Using the income approach, what is the largest share of US GDP?
8) Japan has an unemployment rate of 10%, with 90 million employed people. When the unemployment rate was calculated, the economy had 5 million discouraged workers. A new jobs program instituted by the government drives all of the discouraged workers into the labor force, and 80% of them find jobs. What happens to the unemployment rate? In your opinion, was the jobs program successful?
9) Complete the following table.

Trillons of $USD	2007, Q1
Y	
C	
Durable goods	1.1
Nondurable goods	2.8
Services	5.8
I	
Fixed investment	2.1
Nonresidential	1.4
Residential	0.7
Change in private inventories	-0.002
G	
Federal	0.95
State and local	1.7
NX	
Exports	1.6
Imports	2.6

10) Which of the following are counted in I: stock trade, issue of stock, purchase of a pre-existing asset.