Chapter 20

Measuring GDP and Economic Growth

Gross Domestic Product

- **GDP** or **Gross domestic product** is the market value of all the final goods and services produced within a country in a given time period.
- A **final good** (or service) is an item that is bought by its final user during a specified time period.
- An **intermediate good** (or service) is an item that is produced by one firm, bought by another firm, and used as a component of a final good or service.
- Study Figure 20.1 on p. 469 of your textbook. This figure shows the circular flow of expenditure and income and gives the following information:
- The economy consists of:
    - Firms
    - Households
    - Governments
    - Rest of world
- Aggregate economic markets are:
    - Goods markets (goods and services)
    - Factor markets (productive resources)

- Define the following:
    - ***Y*** Income
    - ***C*** **Consumption expenditure**
    - ***I*** **Investment**
    - ***G*** **Government expenditure**
    - ***X*** **Exports, M Imports**
    - ***NX*** **Net exports = X – M**
- Let's summarize what the circular flow diagram tells us.
- Households:
    - Sell factor services to firms and receive incomes = *Y*
    - Spend *C* on goods and services
- Governments:
    - Spend *G* on goods and services
- The Rest of the World:
    - Spend *NX* on goods and services
- Firms:
    - Buy the services of factors of production from households and pay incomes *Y*
    - Produce goods and services, which they sell to households, *C*, governments, *G*, other firms (and themselves), *I*, and the rest of the world, *NX*.
    - ***Y = C + I + G + NX***

Measuring Canada's GDP

- Statistics Canada measures Canada's GDP in two ways:
    - Expenditure approach
    - Income approach
- Expenditure approach
    - ***Y = C + I + G + NX***
- Table 20.1 on p. 471 shows Canada's GDP using the expenditure approach in 2011.
- Income approach:
    - Sums incomes paid by firms to households.
    - Wages, salaries, and supplementary labour income + Other factor incomes = Net domestic income at factor cost
    - Net domestic income at factor cost + Indirect taxes – Subsidies = Net domestic income at market prices
    - Net domestic income at market prices + depreciation = GDP (income approach)
    - GDP (income approach) + statistical discrepancy = GDP (expenditure approach)
- Table 20.2 on p. 472 shows Canada's GDP using the income approach in 2011.

Nominal GDP and Real GDP

- Because GDP in 2012 was greater than in 2011, we know that one or two things must have happened during 2012:
    - We produced more goods and services in 2012 than in 2011
    - We paid higher prices for our goods and services in 2012 than we paid in 2011
- Economists at Statistics Canada split GDP into two parts.
- One part tells us the change in production, and the other part tells us the change in prices.
- **Real GDP** is the value of final goods and services produced in a given year when valued at constant prices.
- By comparing the value of the goods and services produced at constant prices, we can measure the change in the volume of production.
- **Nominal GDP** is the value of the final goods and services produced in a given year valued at the prices that prevailed in that same year.
- Study the example on p. 473 to learn how to calculate nominal GDP and real GDP.

The Uses and Limitations of Real GDP

- **Potential GDP** is the maximum level of real GDP that can be produced while avoiding shortages of labour, capital, land, and entrepreneurial ability that would bring rising inflation.
- Real GDP fluctuates around potential GDP and the rate of long-term economic growth is measured by the growth rate of potential GDP.

- The growth rate of output per person sagged from the mid-1970s to the mid-1990s in a phenomenon called the productivity growth slowdown.
- A **business cycle** is the periodic but irregular up-and-down movement in economic activity.
- It is measured by fluctuations of real GDP around potential GDP.
- Every business cycle has two turning points:
    - Peak
    - Trough
- And every business cycle has two phases:
    - Recession
    - Expansion
- A **recession** is a period during which real GDP decreases—the growth rate of real GDP is negative—for at least two successive quarters.
- An **expansion** is a period during which real GDP increases.
- A **peak** is an upper turning point where an expansion ends and a recession begins.
- A **trough** is a lower turning point where a recession ends and an expansion begins.
- A slowdown in the growth rate of real GDP but with the growth rate *not* becoming negative for two quarters is called a growth recession.
- We use the Lucas wedge to calculate how costly growth slowdowns and lost output are over the business cycle.
- The **Lucas wedge** is the accumulated loss of output that results from a slowdown in the growth rate of real GDP per person.
- We compare the standard of living over time by calculating real GDP per person in different years.
- Some of the factors that influence the standard of living and that are not part of GDP are:
    - Household production
    - Underground economic activity
    - Health and life expectancy
    - Leisure time
    - Environment quality
    - Political freedom and social justice
- Two special problems arise in making international comparisons of economic welfare.
- First, the real GDP of one country must be converted into the same currency units as the real GDP of the other country.
- Second, the same prices must be used to value the goods and services in the countries being compared.
- An example of a problem with international comparisons occurs when we look at the economy of China.
- According to the official statistics of the International Monetary Fund and the World Bank, Chinas is a poor developing country.

- If we use data based on purchasing power parity prices (we value all the goods and services produced in China at the prices prevailing in Canada), then China's real GDP is more than 6 times the official view.
- Some scholars think that even the official numbers are too big, so there is much uncertainty about China's real GDP.
- Regardless of the inaccuracies in real GDP measurement, the growth rate of real GDP gives a good indication of the phases of the business cycle.

Mathematical Note: Chained-Dollar Real GDP

Study the mathematical note on pp. 484-485. It describes the method used by Statistics Canada to calculate chained-dollar real GDP and is an alternate calculation to the one you discovered on p.473.