

## Macroeconomics

### → What is Macroeconomics?

It is the examination of an economy on the aggregate, and not just pertaining to a particular market or industry, but all markets, and industry. It typically focuses on

- a. unemployment in,
- b. business cycles (fluctuations in the economy),
- c. growth of and
- d. inflation in

an economy.

### → A brief on the evolution of Macroeconomics?

Modern day macroeconomics is borne out of two essential schools of thought, one being the **Classical Economics**, and the other **Keynesian Economics**. In brief,

1. **Classical Economics** (Adam Smith) believes that an economy should be left to its own devices, free of any government intervention. This is because in their conception of the economy, any intervention will not affect the economy.
2. **Keynesian Economics** (John Maynard Keynes) on the other hand believes that the government has in its arsenal tools that can effectively alter equilibrium and consequently avert any ill effects of a depression, or shocks that cause the economy to attain a less than desirable equilibrium (normative economics?). The branch of thought was borne out of the inadequacy of Classical Economics in “delivering” the industrializing western economies during the Great Depression of the 1930s.

Contemporary Macroeconomics has evolved out of this schools of thought, which you will only cover in subsequent courses.

### How do we approach the study?

The methodology was principally laid out in our earlier study of Basic Microeconomics. We will augment those tools further. There is however an additional note on framework. We will be using either the concepts pertinent to short run and/or long run depending on the phenomenon we are concerned with.

The rationale for this is that the variables that affect the above 4 phenomenon of interest may be very different. We will be talking about each in turn, and the ideas will firm up subsequently.

- a. Unemployment refers to the phenomenon of the existence of individuals in the active labor force who would love to be employed but are unable to. Because the reasons are pertinent in both the short and long run, we will be using both framework.
- b. Business Cycle refers to the fluctuations in the economy across time. However the variables and shocks that affect the economy, determining the point the economy operates in, occurs in the short run, we will use the short run framework.

- c. Growth of an economy as a whole is a long run concept, since we can view and conceptualize growth with reference to the realization of previous production and income levels.
- d. Inflation refers to the growth in prices in general. Like unemployment it requires both short and long run concepts.

→ **How do we measure an economy's output or level of activity?**

1. **Gross Domestic Product (GDP)** is the total market value of all final goods and services produced in an economy in a one year period. (**Why are we concerned with only final goods and services?**) This is typically what economists are concerned with. This concept is concerned with economy activity within a country's boundary, regardless of whether the individuals or firms are in fact foreign nationals.
2. **Gross National Product (GNP)** is the value of aggregate final output of citizens and business of an economy in a one year period. This measure addresses the possible problem of outward flow of income by foreign businesses, and citizens.

However, we also know that prices of products are not static across time, that is the first generation IPODS if still under production are worth less compared to the latest models. This covers two ideas, the prices change with time, and the product qualities or quantities changes with time. This then means that the incomes generated by similar products are different than before. If we ignore this idea, and use current prices as values in calculating national income, what we are calculating is a **Nominal** value. Strictly speaking, we would not be able to compare national income between two periods then. To allow us to do so, economist calculate based on prices that prevail at a base period. Necessarily, the base period must change across decades, or even shorter period of time depending on whether we are more concerned with more recent periods. We then refer to GDP and GNP value at a base year as Real GDP, and Real GNP.

3. **Per Capita Real Output** is the real value of output divided by the total size of the population. This is important since if economic growth is slower than population growth, it may mean that eventually there may be insufficient resources to sustain the economy's growth.

We are now ready to examine the four issues enumerated earlier.

→ **What is Growth precisely?**

- When economic activity as measured by the measures above rises across periods, we refer to it as Economic Growth.
- The average Canadian real GDP growth rate per year over the last 130 years is about 4%.
- Experiences in growth rates vary across time and borders:
  - Growth rates have been higher between 1950 and 2000 than it has been between 1820 and 1950.

- Growth rates higher in North America between 1820 and 1950 compared with the rest of the world, but between 1950 and 2000 growth rates in real GDP was higher in Japan and Western Europe largely due to post world war II reconstruction.
- Why do we care about economic growth? High growth implies more goods and jobs to be shared by the constituents of an economy. Slow growth may imply the devising social assistance policies aimed at assistance, or redistribution of income.

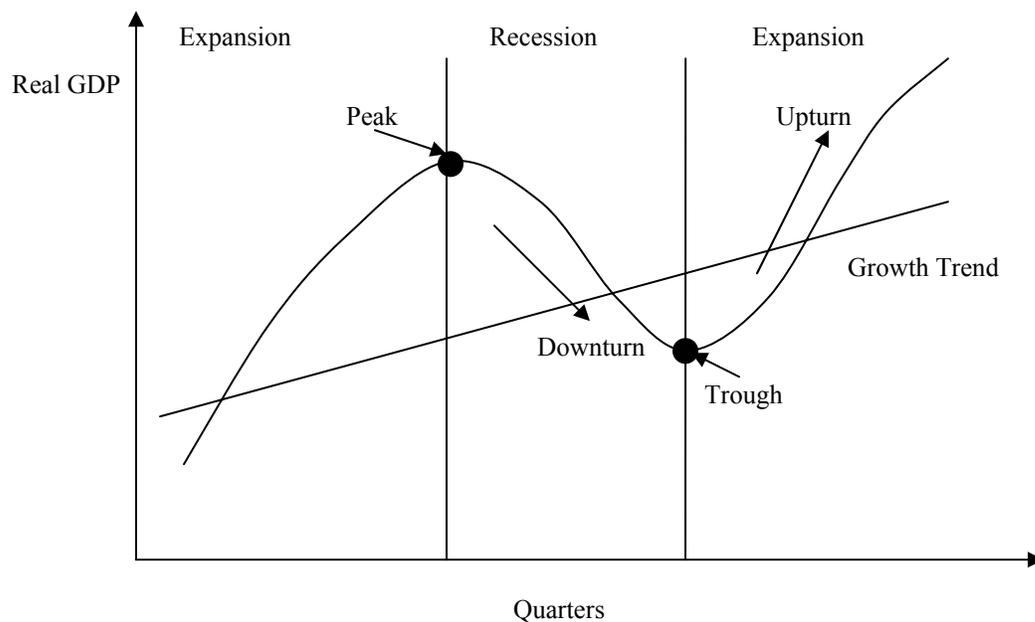
→ **What is meant by Business Cycles?**

A business cycle is the upward and downward movement of economic activity as measured by the measures mentioned. Although the trend over the past century has been upward, real GDP and per capita real output need not be growing all the time. In fact, there may be a decline.

There four phases to a business cycle:

1. The Peak: The highest point of a cycle.
2. The Downturn: The fall in economic activity from a peak.
3. The Trough: The lowest point of a cycle.
4. The Upturn: The rise in economic activity from a trough.

These phases are represented diagrammatically below and as in your text on page 140.



When an economy experiences prolonged periods of increase in economic activity lasting more than 2 consecutive quarters of a year, we say that it is experiencing an expansionary phase. While a prolonged duration of decrease in economic activity lasting more than 2 consecutive quarters of a year are termed as a recessionary period or phase.

→ **Why are agents concerned with business cycles, and prediction of its arrival?**

1. Consumers: Savings patterns may change in view of an impending expansionary or recessionary phase. Similarly, consumption choices may change. Consider the

- following, if you know the economy is in a recession, would more consumers be consuming durable goods such as houses, home furnishing and appliances, renovations, etc?
2. Producers: If a firm knows that the economy, as well as the economy of its trading partners will be or are in an expansionary phase, what should their production decision and inventory decision be like, increase or decrease? Do you think Banks would be more willing to lend if they believe the economy is working beyond its capacity?
  3. Government: If a government knows that the economy will be or is in a recessionary phase, and that output and jobs would be harder to come by, would they make plans to raise social programs, and provide assistance to firms particularly those pertinent to the national interest?

This then provides us with useful hints about where the indicators or where the pulse of the economy lie. Economists use the behavior above to develop indicators about when a recession is about to occur. We term these signs as **Leading Indicators**. They include:

1. Average workweek for production workers in manufacturing.
2. Housing Starts.
3. Money Supply (M1), divided by price index.
4. New Orders for Durable Goods,
5. Retail Trade in Furniture and Home Appliances.
6. Durable Goods Sales excluding 5.
7. Ratio of Shipments to Inventories of Finished Products.
8. Toronto Stock Exchange Stock Price Index, as well as other pertinent Stock Price Index of relevant Trading Partners.
9. Employment in Business and Personal Service Sectors.

Can you rationalize why the above are used as indicators? This is not a rhetorical question.

→ **How is Unemployment related to Growth and Business Cycles?**

The idea is as follows, when an economy is in an expansionary phase, individuals are not short on employment opportunities. However, during a recession this is not true. (In truth, unemployment as a phenomenon is largely due to industrialization and specialization. Consequently, unemployment became a social problem society at large represented by the government must solve when it is above some threshold. But what is this threshold, and how is it determined?) This leads to the next question, how do we measure unemployment?

1. **Unemployment Rate (UR)**: Percentage of people in the economy who are willing and able to work but who are not working. Specifically, we define the Total Labor Force (**L**) as Individuals in an economy that is willing and able to work. Canada defines people as employed if they work at a paid job, inclusive of part-time jobs (there is some controversy over including part-time workers in the employed since if these individuals would have preferred full-time work, they are **underemployed**. By including them in the employed group, we have inadvertently understated the unemployment problem). While the unemployed (**U**) excludes

**discouraged workers** defined as individuals who do not look for a job because they feel they do not have a chance of finding one.

$$UR = \frac{U}{L} \times 100$$

However, there are various types to unemployment, each of which gives us a hint of what is truly causing unemployment.

2. **Cyclical Unemployment:** Unemployment due to fluctuations in economic activity.
3. **Structural Unemployment:** Unemployment caused by restructuring thereby making some jobs or skills obsolete.
4. **Frictional Unemployment:** Unemployment caused by new entrants into the job market and individuals quitting and searching for a new job. This historically stood at about 3%. (It was believed that any unemployment above this level is undesirable in the past. Why has this change?)

Other related concepts and terms are as follows:

5. **Target Rate of Unemployment:** It is the lowest sustainable rate of unemployment that policy makers believe is achievable under existing conditions (About 6% to 8% currently). **However, this has changed over time, why?** The target rate of unemployment is related to the potential output, which is the output level or level of economic activity that would materialize at the **target rate of unemployment** and the **target rate of capacity utilization** (the rate at which factories and machines are operating compared to the maximum sustainable rate at which they could be used.)
6. **Labor Force Participation Rate (LFPR):** Measures the labor force as a percentage of the total population at least 15 years old. There is an interesting question here, considering Canada has one of the highest college and university attendance and completion rates, by using the 15 year old bracket as the cutoff, would it overstate the potential labor force? How would it affect the employment and unemployment rate?
7. **Employment Rate:** The Number of people who are working as a percentage of the labor force.

\* There is also an interesting relationship known as **Okun's Rule of Thumb** which says that a 1 percent change in the unemployment rate will lead a 2 percent change in output in the opposing direction.

#### → What is Inflation?

**Inflation** is a continual rise in the price level. This price level we talk about is a composite index of the prices, price index of a basket of goods or products in the economy. Consider a simple example: Let the price index on a fixed basket of goods in a year, say 2000 be  $x$ , and the expenditure for the same basket of goods be  $y$  in 2001. Then inflation is just  $\frac{y-x}{x} \times 100$ .

This price index is weighted by its relative importance in the basket of goods under consideration. The more the economy has spent on a particular good or product, the

greater the weight placed on it would be. Some examples of commonly calculated price indexes include:

1. **Raw Material Price Index:** Prices of a number of important raw materials. Although it does not measure the prices faced by individuals, it will give us an indication on the direction of prices of final goods, or goods faced by consumers in general. Why?
2. **GDP Deflator:** An index of the price level of aggregate output or the average price of the components in total output, relative to a base year.
3. **Consumer Price Index (CPI):** is the price of a fixed basket of consumer goods, weighted according to each component's share of an average consumer's expenditure.

It should be noted that using a fixed basket of goods to calculate prices limits the use of the index the farther in time we are considering changes in prices. (Read page 152 of your text).

→ **What are some consequences of inflation?**

1. Redistributive Effects.
2. Expectations of higher inflation can cause inflation to build and compound itself, leading to hyperinflation (inflation of 100% or more per year)

**Exercises:**

Do all the exercises on page 157 to 158 of your text.