Ten Principles of Economics:

1) People face tradeoffs
2) The cost of something is what you give up to get it. (Opportunity cost)
3) Rational people think at the margin
4) People respond to incentives
5) Trade can make everyone better off (Comparative advantage)
6) Markets are a good way to organize economic activity
7) Governments can sometimes improve market outcomes
8) A country's standard of economic activity
9) Prices rise when the government prints too much money
10) Society faces a short run tradeoff between inflation and unemployment

Thinking like an economist:

What are the two roles of economists?

A) Scientists (To explain the world).

They employ scientific methods; the dispassionate development and testing of theories about how the world works. Examine data and find models. Models must be tested.

B) Policy advisors (To improve the world)

They make *positive* statements to describe the world as it is, and *normative* statements to explain how the world should be. Positive statements can be confirmed or refuted whereas normative statements cannot.

Why do they disagree?

They often give conflicting policy advice. Sometimes they disagree about the validity of alternative positive theories about the world. They can have different values and therefore have different normative views about what the policy should try and accomplish.

Chapter 4: Market Forces of Supply and Demand

Supply and demand variables are used often. They are the forces that make the economy work. Determines the quantity produced and sold at which price.

*Always think about the impact on supply and demand.

Markets and Competition:

Supply and demand refers to the actions of individuals and how they interact with each other in a competitive market.

Market: Group of buyers and sellers of a good.

Competitive Market: Many buyers and many sellers that have a negligible impact on the market price.

Demand:

The quantity demanded is the amount of a good buyers are willing to buy.

Law of Demand: If other variables are stable, the quantity demanded of a good falls when the price rises.

Demand Schedule: A table that shows the relationship between the price of a good and the quantity demanded.

Demand Curve: A graph of the relationship between the price of a good and the quantity demanded.

Market Demand: The sum of all individual demands for a particular good or service.

Shift in the demand curve: Any changes that rises the quantity that purchasers want to purchase at a given price shifts the demand curve-

Income:

Normal Good- An increase in income = increase in demand.

Inferior Good- An increase in income= decrease in demand.

Price of related goods:
- Substitutes- Two goods for which an increase in price of one leads to increase in demand for the other.
- Complements: Increase in price of one= decrease of price for the other.

Taste
Income
Number of buyers

*Never shift the demand curve due to a change in price. It moves ALONG the demand curve.

Supply:
Quantity supplied is the amount of a good sellers are willing and able to sell.
Law of Supply: The claim that the quantity supplied of a good rises when the price of a good rises.
Supply Schedule: A table that shows the relationship between the price of a good and quantity supplied.
Supply Curve: A graph of the relationship between the price of a good and quantity supplied.
Market Supply: The sum of supplies of all sellers.
Shift in the Supply Curve: Any change that rises the quantities that sellers wish to produce at a given price shifts the supply curve to the right and vice versa. Factors:

Input Prices
Technology
Expectations
Number of Sellers

Equilibrium:
A situation in which price has reached the level where quantity supplied EQUALS quantity demanded.

Chapter 5: Measuring a Nation's Income
GDP: Gross Domestic Product:
Measures the total income of a nation's and focuses primarily on well-being.
The Market value of all final goods and services produced within a country in a given period of time.
It adds together many different kinds of products into a single measure of the value economic activity.
It includes all items produced in the economy and sold legally in the market.
GDP also includes the market value of the housing services provided by the economy's stock of housing.
There are some stocks that GDP excludes simply because it gets too complicated.
GDP only includes the value of final goods. This is because the value of intermediate goods is already included in the prices of final goods. An exception to this arises when an intermediate good is produced and added to a firm's inventory of goods to be used or sold at a later date.
GDP includes both tangible goods (food, clothing, cars) and intangible services (haircuts etc)
GDP includes food and services currently produced.
GDP measures the value of production within the geographic confines of a country.
GDP measures the value of production that takes place within a specific interval of time. Usually this interval is a year or a quarter. It measures the economy's flow of income and expenditure during that interval.

Components of GDP:
$Y=C+I+G+NX$
Y: GDP
C: Consumption
- -Spending by households in goods and services, with the exception of purchases of new housing.

I: Investments
-Spending in capital-equipment inventories and structures, including household spending on new housing.
G: Government Purchases
-Spending goods and services by local, territorial, provincial and federal governments.
NX: Net Exports
-The value of a nation's exports minus the value of its imports; also called the trade balance.

Gross National Product:
National and not domestic. (Not within territory. Are you Canadian or not?)
Net National Product:
Take out depression of capital.

Q+A
-Debbie spends 200$ on a dinner: Consumption and GDP rises by 200$
-Sarah spends 1800$ on a new laptop built in China: Investment rises by 1800$. GDP is unchanged. The net export falls because the computer is coming in from an outside territory. It isnt supposed to be part of the Canadian economic activity and that is why GDP is unchanged because it belongs to China.
-Jane spends 1200$ on a computer to use in her editing business. She got last year's model on sale from a local manufacturer: The current GDP and investment do not change because it was built last year.
-General motors builds 500$ mil. worth of cars, but consumers only buy 470$ mil. worth: The consumption rises by 470$ mil. Inventory investment rises by 30$ mil and GDP rises by 500$ mil.

The Economy's Income and Expenditure:
For an economy as a whole, income must EQUAL expenditure. (An economy cannot function on deficit)

Circular Flow Diagram:
Income= expenditure because in every transaction there are two sides. The circular flow diagram is almost like an economic map. GOV is missing however.

Real Versus Nominal GDP:
If total spending rises from one year to the next one of two things must be true
-The economy is producing a larger output of goods and services
-Goods and services are being sold at a higher price.
Economists want to separate these two effects.

GDP Deflator:
A measure of the price level calculated as the ratio of nominal GDP to real GDP times 100.

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} * 100$$

$$\text{Inflation rate in year 2} = \frac{\text{GDP deflator in year 2} - \text{GDP deflator year 1}}{\text{GDP deflator year 1}} * 100$$

Chapter 6: Measuring the cost of living
The consumer price index is used to monitor changes in the cost of living over time. When the consumer price index rises the typical family has to spend more dollars to maintain the same standard of living.

Economists use the term inflation to describe a situation in which the economy's overall price level is rising. The inflation rate is the percentage change in the price level from the previous period.

Consumer Price index:
Consumer Price Index: the overall measure of the cost of the goods and services bought by a typical consumer.
How it is calculated: Every month stats Can computes the CPI. It takes data from more than 600 goods and services.
How to compute the inflation rate:

1. Determine the basket
2. Find the prices
3. Compute the basket's cost
4. Choose a base year and compute the index
5. Compute the inflation rate.

$$\text{CPI} = \frac{\text{Price of basket of goods/services in current year}}{\text{Price of basket in base year}} \times 100$$

$$\text{Inflation rate in year 2} = \frac{\text{CPI in year 2} - \text{CPI in year 1}}{\text{CPI year 1}} \times 100$$

Problems in measuring the cost of living:
a)Commodity substitution bias
b)Introduction of new goods
c)Unmeasured quality change
Taken together , these sources of bias cause the CPI to overstate the cost of living by 0.6 percentage points a year according to the bank of Canada.

GDP Deflator versus the Consumer price index
The deflator reflects the current level of prices relative to the level of prices in the base year.
Economists and policy makers monitor both CPI and GDP deflator to gauge how quickly the prices are rising.
Two differences:

1) The GDP deflator reflects prices of goods and services produced domestically.
2) The GDP deflator compares the price of currently produced goods and services with the price of the same goods and services produced during the base year.

Correcting economic variables for the effects of inflation
The purpose of measuring the overall level of prices in the economy is to permit comparison between dollar figures from different points in time.

Indexation
Indexation: the automatic correction of a dollar amount for the effects of inflation by law or contract
COLA: (Cost of Living Adjustment) A COLA automatically raises the wage when the CPI raises.

Real and Nominal Interest Rates
Interest rates involve comparing amounts of money at different points in time. To fully understand interest rates, knowing how to correct for the effects of inflation is important.

Suppose that you make a deposit of $1000 in a bank account that pays interest at a rate of 10 percent per year. After one year, that bank account now contains $1100 (= Principal of $1000 + Interest of $100). Are you actually wealthier after one year?

Nominal interest rate: the interest rate that is usually reported without a correction for the effects of *inflation Real interest rate*: the interest rate that is corrected for the effects of inflation
Real interest rate= Nominal interest rate-Inflation rate

Chapter 7: Production and Growth

What explains the diversity in living standards and growth rates around the world?
How can the rich countries ensure that they maintain their high standard of living?
What policies should the poor countries pursue to promote more rapid growth in order to join the developed world?

Economic Growth Around the World

Data on real GDP per person show that living standards vary widely from country to country.
Income per person in Canada is about: 6 times higher than that of China 12 times higher than that of India

Productivity: Its roles and determinants

Explaining the large variation in living standards around the world is, in one sense, very easy. As we will see, the explanation can be summarized in a single word: PRODUCTIVITY.
Productivity: the quantity of goods and services produced from each hour of a worker's time

Productivity is important because: Productivity is the key determinant of living standards. Growth in productivity is the key determinant of growth in living standards. For a country to enjoy a high standard of living, it must produce a large quantity of goods and services.

Productivity is determined by: Physical capital per worker Human capital per worker Natural resources Technological knowledge.

Physical capital: the stock of equipment and structures that are used to produce goods and services
Human capital: the knowledge and skills that workers acquire through education, training, and experience
Natural resources: the inputs into the production of goods and services that are produced by nature, such as land, rivers, and mineral deposits
Technological knowledge: society's understanding of the best ways to produce goods and services

Economic Growth and Public Policy

The importance of saving and investment
Diminishing returns and the catch-up effect
Investment from abroad
Education Health and nutrition
Property rights and political stability
Free trade
Research and development
Population growth

Importance of Savings and Investment

Because resources are scarce, devoting more resources to producing capital requires devoting fewer resources to producing goods and services for current consumption. Consequently, the accumulation of capital involves a tradeoff. When governments encourage saving and investment, they also encourage growth and in the long run this raises the standard of living.

Diminishing returns and Catch-up Effect

Successful government policies that raise the saving rate mean that fewer resources are needed to make consumption goods and more resources are now available to make capital goods. The capital stock increases, which raises productivity and thus leading to a higher rate of growth of GDP

However, the benefits from additional capital become smaller over time, so growth slows down. In the long run, the higher saving rate leads to a higher level of productivity and income but not too higher growth in these variables. This phenomena is known as diminishing returns

Diminishing returns: the benefit from an extra unit of an input declines as the quantity of the input increases

The diminishing returns to capital has another important implication: Other things equal, it is easier for a country to grow if it starts out relatively poor.

Catch-up effect: Countries that start off poor tend to grow more rapidly than countries that start off rich.

Investment from abroad

Investment from foreigners is another way for a country to acquire new capital.
Foreign direct investment: a capital investment that is owned and operated by a foreign entity
Foreign indirect investment: an investment that is financed with foreign money operated by domestic residents Foreign portfolio investment: an investment that is financed with foreign money but operated by domestic residents

Investment from abroad does not have the same effect on all measures of economic activity. Foreign investment in Canada raises the income of Canadians (this is captured in GNP) by less than it raises production in Canada (this is captured by GDP). GDP increases because the investment increases Canada's capital stock. GNP increases by less because the profits generated from the foreign investment return to the country of the investors.

Investment from abroad can help a country grow. The World Bank tries to encourage the flow of capital to poor countries. Economic distress often leads to political turmoil, international tensions, and military conflict. The World Bank and the International Monetary Fund were created after World War II to promote economic prosperity around the world.

Education

Investment in human capital (education) is at least as important as investment in physical capital for long-run economic success. It is well known that more education leads to higher wages and salaries. One way government policy can improve the standard of living is to provide good schools.
Human capital is also important for economic growth because it conveys positive externalities.
Externalities: the effect of one person's actions on the well-being of a bystander For example, an educated person might generate a new idea that enters society's pool of knowledge and therefore society can benefit from it.

Some poor countries face a brain drain.
Brain drain: the immigration of many of the most highly educated workers to rich countries, where they can enjoy a higher standard of living.

Health and Nutrition
Other things equal, healthier workers are more productive. The causal link between health and wealth runs in both directions. Poor countries are poor in part because the populations are not healthy. Their populations are not healthy in part because they are poor. It is a vicious cycle.
This fact opens the possibility of a virtuous cycle, however. Policies that lead to more rapid economic growth would naturally improve health outcomes. In turn, this would further promote economic growth.

Property Rights and Political Stability
In a free-market economy, it is the invisible hand that brings supply and demand into balance in the many thousands of markets. For the price system to work, property rights must be respected.

Property rights: the ability of people to exercise authority over the resources they own.

Political instability is a threat to property rights. When revolutions are common, there is a doubt that property rights will be respected in the future. There is less incentive to save by nationals, and foreigners have less incentive to invest. Countries with an efficient court system, honest government officials, and a stable constitution will typically enjoy a higher standard of living.

Free Trade
Most economists today will say that a poor country is better off pursuing outward-oriented (as opposed to inward-oriented) policies that integrate these countries into the world economy. Countries that eliminate trade restrictions often experienced the same kind of economic growth that would occur after a major technological advance. Trade volume is not only determined by government policy but also by geography.

Research and Development
One of the major reasons why living standards are so much higher today than they were a century ago is because state-of-the-art technological knowledge has progressed so much. Even if most R&D is conducted in the private sector, there is a public interest in promoting such efforts. Knowledge is a public good. Governments have a vested interest in promoting R&D.

Over the years the Canadian government has: Funded research in CANDU nuclear reactors Offered research grants from the National Sciences and Engineering Research Council of Canada and the Social Sciences and Humanities Research Council of Canada. Offered tax breaks to firms that engage in R&D. Managed the patent system.

Population and Growth
A large population means a larger total output of goods and services. However, it need not mean a higher standard of living for a typical citizen. Beyond these obvious effects of population size, population growth interacts with the other factors of production in ways that are more subtle and open to debate.

Stretching natural resources: A large population means a larger workforce. A large population means more consumers. Therefore, a large population need not mean a higher standard of living.

Thomas Robert Malthus (1766 –1834) argued that an ever-increasing population would continually strain society's ability to provide for itself. Mankind was doomed to forever live in poverty.

Diluting capital stock: According to this theory, high population growth reduces GDP per worker because rapid growth in the number of workers forces the capital stock to be spread more thinly. A smaller quantity of capital per worker leads to lower productivity and lower GDP per worker.

Some analysts believe that reducing the rate of population growth would help poor countries raise their standards of living: By regulating the number of children (e.g., China) By policies that foster equal treatment of women.

Promoting technological progress: Some economists believe that population growth has been an engine of technological progress and economic prosperity. More people means more scientists, more inventors, and more engineers.

Chapter 8: Saving, Investment, and the financial system

Financial system: The group of institutions in the economy that help to match one person's savings with another person's investments.

Financial institutions can be grouped into two categories:

Financial markets:

financial institutions through which savers can directly prove funds to borrowers.

Stock Market:

Stock: Represents ownership in a firm and is, therefore a claim to its profits.

Equity Finance: the sale of a stock to raise money.

The prices at which shares trade on stock exchanges are determined by the supply and demand for the stock.

Stock Index: is an average of a group of stock prices (Dow Jones Industrial Average S&P/TSX composite Index.)

Because stock prices reflect expected profitability, stock indexes are watched closely as possible indicators of future economic conditions.

Financial Intermediaries:

financial institutions where savers can lend money to borrowers.

Bank: The primary function of a bank is to take deposits from savers and use them to lend money to borrowers.

Mutual Funds: an institution that sells shares to the public and uses the proceeds to buy a portfolio of stocks and bonds (Allow diversification, access to the skills of professional money managers.

Saving and investments in the national accounts

Accounting: how various numbers are defined and added up. National income includes GDP.

Important Identities

GDP (or Y)= C+I+G+NX

In a closed economy: NX= 0

Y=C+I+G

Y-C-G= I

S

S=I

National Savings: (s) The total income in the economy that remains after paying for consumption and government purchases.

Let T denote the taxes collected by government minus transfer payments. National saving can then be expressed in either of two ways:
S= Y-C-G or S= (Y-T-C) + (T-G)

Private saving: The income that households have left after taxes and consumption.
Y-T-C
Public saving: The tax revenue the government has left after paying for its spending.
T-G
Budget Surplus: T>G
Budget Defecit: T<G

Meaning of Saving and Investing
Although S=I means that saving and investment are equal to the economy as a whole, it doesn't have to be true for every company or household.

Market for loanable funds
Those who want to save supply funds and those who want to borrow to invest demand funds.
Supply and demand for loanable funds: Saving is the source of supply. Investment is the source of demand. Interest rate is the price of a loan.

Policy 1: Saving Incentives
A higher savings rate can lead to a higher rate of growth of GDP. Its important in the long run of a nation's productivity.
People respond to incentives- consumption taxes like the GST, RRSP, TFSA. GST is a consumption tax which means that since the savings aren't taxed it encourages more saving. RRSP (retirement fund), TFSA is the Tax free savings account.

Tax change would alter the incentive for households to save at any given interest rate, it would affect the quantity of loanable funds supplied at each interest rate The supply of loanable funds would thus shift. The demand would be the same because tax change would not directly affect the amount that borrowers want to borrow at any given interest rate. Saving would be taxed less heavily, households would thus increase their saving by consuming a smaller fraction of their income. They would use this additional saving to increase deposits in bank. Thus the supply of loanable funds increases, shifting the supply curve right. The shift in the supply curve moves the market equilibrium among the curve.

Policy 2: Investment Incentives
Investment tax credit gives advantage to any firm building a new factory or buying a new piece of equipment.

Tax credit does not influence the amount that households save at any given interest rate, it would not affect the supply of loanable funds. The quantity of loanable funds demanded would be higher at any given interest rate. The demand would shift to the right. If a reform of the tax laws encouraged a greater investment the result would be higher interest rates and greater saving.

Policy 3: Government Budget Deficits and Surpluses
Government debt: the sum of all past budget deficits minus the sum of all past budget surpluses.
Crowding out: A decrease in investment that results from government borrowing.

National savings is composed of private and public saving. A change in the government budget balance represents a change in public saving and the supply of funds. The budget deficit does not influence the amount that households and firms want to borrow to finance investment at any given interest rate, it does not alter the demand for loanable funds. A budget deficit shifts the supply curve for loanable funds to the left. When the government reduces national saving by running a budget deficit, the interest rate rises and investment falls.