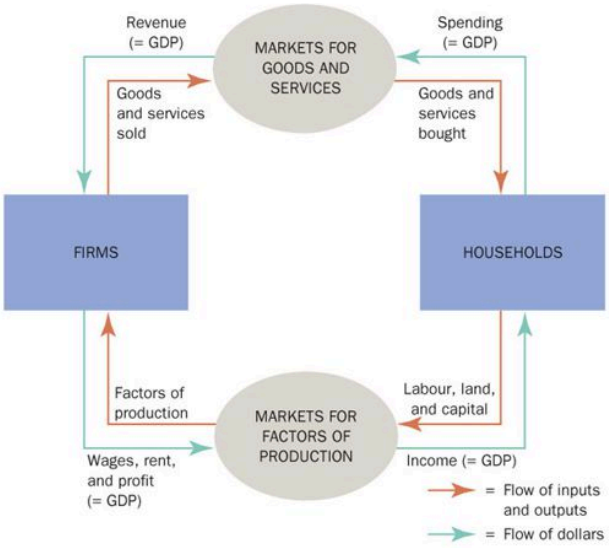
ECO1102 Notes

Chapter 5
Measuring A Nations Income
September 20th 2016

Microeconomics: the study of how households and firms make decisions and how they interact in markets
Macroeconomics: the study of economy-wide phenomena, including inflation, unemployment, and economic growth
- for economy as a whole income must equal expenditure

Gross Domestic Product: the market value of all final goods and services produced within a country in a given period of time
- countries with a high GDP usually also have a high "quality of life"
  - good health programs, education, low pollution, etc.



- income = expenditures
- circular-flow diagrams show the relationship between firms and households —> the flow of money
- firms own labour that they provide to household (their expenditure) for money (income)
- capital (a loan of money for business) can be seen as a tool
-interest is made, and that money is collected from households

Factors of Production: land, labour, capital, entrepreneurship
- owner of a firm needs an entrepreneurial spirit and skill to succeed.

- GDP includes any product within the economy and its transaction - that are legal
  - not all transactions are known (still legitimate) = underground economy that is a secret from tax authorities
  - estimated rent is also included in GDP
    - the value of living (the rent you would pay if you were renting plus the value of the house when it was initially sold
  - only final goods are included
  - Includes tangible goods and intangible services

Personal Disposable Income: is your income minus the cost of your need
  - you can either spend or save this

GDP (Y) = Consumption (C) + Investment (I) + Government Purchases (G) + Net Exports (NX)
Consumption: is spending by households on goods and services, with the exception of purchases of new housing
  - Includes education

Investment: spending specifically on capital equipment, inventories, and structures, including household purchases of new housing
  - things that increase capacity - does not include employees

Government Purchases/Expenditures: spending on goods and services by local, territorial, provincial, and federal governments
  - includes payment of government employees

- does not include benefits/aid government provides because it isn't for a good or service

Net Exports: the value of a nation's exports minus the value of its imports; also called the trade balance
- goods made here, sold to foreign states —> only final goods
- if there is greater imports than exports there is a negative net exports
- when someone buys a good or service from abroad, the purchase reduces net exports - but because it also raises consumption, investment, or government purchases, it does not affects GDP

"Cost of living rising"
- GDP measures the total spending —> If total spending rises from one year to the next it means one of two things
  1. the economy is producing a larger output of goods and services
  2. goods and services are being sold at higher prices
- prices going up in general = inflation
  - also means wages will increase
- GDP will increase as money inflates because we convert goods and services into a dollar amount to calculate GDP

Nominal GDP: the production of goods and services valued at current prices
- will compare the prices to see what the GDP of one year would be in another

Real GDP: the production of goods and services valued at constant prices
- calculated simply

GDP Deflator: a measure of the price level calculated as the ratio of nominal GDP to real GDP time 100
- GDP Deflator = (nominal GDP/real GDP) x 100
- Inflation Rate in Yr. 2 = $\frac{\text{GDP Deflator in Yr. 2 — GDP Deflator in Yr. 1}}{\text{GDP Deflator in Yr. 1}}$ X 100
  - real GDP will tell you the actual growth in economy
  - If real GDP decreases in 2 consecutive periods = recession

- Canada highly relies on foreign investment
  - foreign states spend more on us than we do on them
  - allows is tho produce more and hire more people, who will buy more, inevitably bettering the quality of life
  - Canadian nationalists want to stop foreign investment/reliance
    - to make Canada more independent
    - Pierre Elliot Trudeau —> anti-foreign investment

Chapter 6
Measuring the Cost of Living
October 4th 2016

Inflation: when price, in general, go up
Consumer Price Index (CPI): a measure of the overall cost of the goods and services bought by a typical consumer
- computed to give you a general cost of living

CPI = $\frac{\text{price of basket in current year}}{\text{price of basket in base year}}$ X 100

Inflation Rate: the percentage change in the price index from the preceding period
- Inflation Rate in Yr. 2 = $\frac{\text{CPI in Yr. 2 — CPI in Yr. 1}}{\text{CPI in Yr. 1}}$ X 100
- *Core Inflation:* a measure of the underlying trend of inflation

Problems in Measuring the Cost of Living
Commodity Substitution Bias: when prices change from one year to the next, they do not all change proportionately
- some prices rise more than others and consumers react to the changes in price
  - buying less of the good that has risen in price
  - CPI ignores this because it averages out the basket

Introduction of new goods: when a new good id introduced, consumers have more variety to choose from
- greater variety makes each dollar more valuable
  - CPI's average doesn't consider the increase in the value of the dollar that arises from the introduction of new goods

Unmeasured quality change: if the quality of a good deteriorates from one year to the next, the value of a dollar falls, even if the price of the good stays the same. And if the quality rises, the the value of a dollar rises
- Stats Canada tries to deal with the challenge but can't fully account for it

GDP Deflator vs. Consumer Price Index
- GDP deflator reflects the prices of all goods and services produced domestically, whereas consumer price index reflects the prices of all goods and services bought by consumers
- consumer price index compares the price of a fixed basked of goods and services to the price of the basket in the base year, where the basket changes every two years
  - Whereas GDP deflator compares the price of currently produced goods and services tot eh price of the same goods and services in the base year

1957 gas price in 2012 = 1957 gas price (CPI in 2012/CPI in 1957)
- for when you need to compare interest rates at different times

Inflation rate: the automatic correction of a dollar amount for the effects of inflation by law or contract
  - N*ominal interest rate:* doesn't consider inflation
  - R*eal interest rate:* considers inflation
    - what is the value of interest made/given
    - Real interest rate = Nominal interest rate — Inflation rate

Chapter 7
Production and Growth
October 4th 2016

- WWII caused a stagnation in production/economy
  - the loss of life, businesses and factories
    - this all provided and opportunity for growth in North America at huge rates —> SHORT TERM
    - Women entered the workforce in WWI, and increased in WWII
      - double the labourers = more production in general
    - Increase in technology (computers, industrial, and transportation
  - the post-war period of growth ends in 1979d due to the OPEC oil crisis

Productivity: the quantity of goods and services produced from each hour of a worker's time
- workers have high productivity as their skills increase
- labour natural resources and technology determine productivity
- productivity = output/input
- Capital determines productivity…
  - *Physical capital:* the stock of equipment and structures that are used to produce goods and services (machines - and their quality)

- *Human capital:* the knowledge and skills that workers acquire through education, training, and experience (education and labour skill)
  - therefore, you need updated technology and a certain type of 'geographical type"
  - *Natural Resources:* the inputs into the production of goods and services that are provided by nature such as land, rivers, and mineral deposits
  - *Technological Knowledge:* society's understanding of the best ways to produce goods and services
    - proprietary knowledge, is knowledge only by the company that discovers it
- in the post-war period, Japan used investment in capital goods to recover and experience their miracle economic boom —> Sony and Toyota came from this

Economic Growth: an increase in the amount of goods and services produced per head of the population over a period of time.

- capital is a produced factor of production, so society can change the amount of capital it has
  - because resources are scarce, devoting more resources to producing capital means there will be fewer resources to produce goods and services
    - a tradeoff
- a well-functioning and carefully regulated financial market, one that quickly and efficiently brings savings and investment together with minimal risk and in a transparent way, is a critical ingredient in the recipe for economic growth
  - When governments encourage saving and investment, they also encourage growth - better standard of living in the long-run

Diminishing Returns: the property whereby the benefit from an extra unit of an input declines as the quantity of the input increases

- when a nation saves more, fewer resources are needed to make consumption goods. And more resources are available to make capital goods
  - = more capital, more production, a more rapid growth in GDP
- diminishing returns is the view that as the stock of capital rises, the extra output produced from an addition unit of capital if subject to fall
  - higher saving rate allows more capital to be accumulated, the benefits from additional capital become smaller over time, and so growth slows down
  - The growth is short-term

Catch-up Effect: the property whereby countries that start off poor tend to grow more rapidly then countries that start off rich

- rich countries' capital per worker is already so high, that anything additional has a small effect on productivity

- foreign Investment is another way for a country to acquire new capital
  - *Foreign Direct Investment:* a capital investment that is owned and operated in 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 in human capital (education) is essential for long-run economic success
  - education/government policy to provide good education = higher wages and salaries
  - also results in externalities
    - *Externalities*: the effect of one person's actions on the well-being of a bystander —> an educated person's new idea entering society's pool f knowledge
  - some poor countries face brain drain
    - *Brian Drain*: is the immigration of many of the most highly educated worker to rich countries, where they can enjoy a higher standard of living - rather than improving the production within their own country
- Healthier workers are more productive

- the poverty cycle of people being sick because they poor, and people being poor because they are sick
- policies that ensure the health of the people = higher growth

Property Rights: the ability of people to exercise authority over the resources they own
- political instability is a threat to property to rights
- a lack of property rights give less incentive to save by nationals, less incentive to invest by foreigners

Inward-oriented Policies: policies that are aimed at raising productivity and living standards within the country by avoiding interaction with the rest of the world
- supported by domestic firms and the world's poorest countries have tried to achieve rapid growth through these means
- distrust of foreigners led policymakers to impose tariffs and other trade restrictions

Outward-oriented Policies: International trade in goods and services can improve the economic well-being of a country's citizens
- poor countries are better off pursuing this
- this is also where geographical location come into play

Public Good: the idea that once one person discovers a good, the idea should enter society's pool of knowledge, and other people can freely use it
- knowledge is a public good
- technological progress is a major reason for high living standards
- governments promote research and development
  - funding, research grants, tax breaks

Population Growth = a larger total output of goods and services
- doesn't not = a higher standard of living (i.e. China)
- effects of population growth on other factors of globalization
  - *Stretching Natural Resources:* a large population means a large workforce = more consumers
    - resources are scarcer
  - *Diluting Capital Stock:* high population growth reduces GDP per worker because rapid growth in the number of workers forces the capital stock to be spread more thinly
    - policies of equal treatment of women = a smaller brith rate

Chapter 8
Saving, Investment, And The Financial System
October 11th 2016

Financial System: is the group of institutions in the economy that help to match one person's savings with another person's investments
- saving and investment = long-run economic growth
  - when a country saves portions of its GDP, more resources are available for investment in capital = increase in productivity and living standard
- Financial systems move the economy's scarce resources from *savers* (spend less than the earn) to borrowers (spend more than they earn) to *borrowers* (spend more than they earn)
- *Financial Institutions:* coordinate savers and borrowers, are government regulated, but operate within the private sector - various financial institutions make up financial systems - can be divided into 2 categories…
  1. *Financial Markets:* financial institutions through which savers can directly provide funds to *borrowers*
     - *The Bond Market:* a bond is a certificate of indebtedness that specifies the obligation of the borrower to the holder of the bond - selling bond to raise money
       - bond is an IOU - it identifies the time at which the loan will be repaid, called the *date of maturity* and the *rate of interest* that will be paid periodically until the loan matures
       - 2 characters of bonds:

- T*erm:* length of time before a bond matures (*perpetuity*: bond that never matures - principal is never payed, interest forever)
- *Credit Risk:* the probability that the borrower will fail to pay some interest or principal
  - failure is called *default*
  - higher interest rates compensate higher risk
  - affected by level of debt being carried, stability of revenues
  - bonds will have higher interest rates than provincial/territorial bonds because corporate revenues are more volatile

- *The Stock Market:* stock represents ownership (partial) in a firm - therefore, a claim to profits
  - *Equity Finance:* is the sale of stock to raise money
  - owner of shares of stock is a part-owner
  - owner of a bond is a creditor of the corporation
    - Shareholders enjoy benefits of profit (and loss), where bondholders get only interest (constant)
  - NASDAQ and TSX
  - *Stock I*ndex: is computed as an average of a group of stock prices - monitor overall level of stock prices

2. *Financial Intermediaries:* are financial institutions through which servers can indirectly provide funds to borrowers
   - banks*:* smaller, unknown businesses will use bank loans to invest/finance their businesses
     - receive and gives interest to borrowers and savers
     - also a medium of exchange
   - mutual funds: an institution that sells shares to the public and uses the proceeds to buy a selection (portfolio) of various types of stocks of bonds
     - shareholder accepts all risk and return

Identities

- gross domestic product
  GDP = consumption + investment + government purchases + net exports
- *Closed Economy:* one that doesn't interact with other economies - in international trade (NX)
  Y = C + I + G
- *National Saving (Saving):* the total in the economy after paying for consumption and government purchases
  I = Y - C - G
  I = S
  S = Y - C - G
  S = (Y - T - C) + (T - G)
- *Private Saving:* the income that households have left after paying for taxes and consumption
  = Y - T - C
- *Public Saving:* the tax revenue that the government has left after paying for its spending
  = T - G
  - if T exceeds G —> have more than it spends, the government runs a *budget surplus*
  - if G exceeds T —> spends more than it has, the government runs a *budget deficit* (negative number)
- for the economy as a whole, S = I means that savings must be equal to investment
- financial systems are stand between S and I, directing a nation's savings to its investment

Investment: refers to the purchase of new capital

- if an individuals income exceeds his consumption, he adds to the nation's savings (even if he invests the money) therefore he is saving

Loanable Funds: refers to all income that people have chosen to save and lend out, rather than use for own consumption

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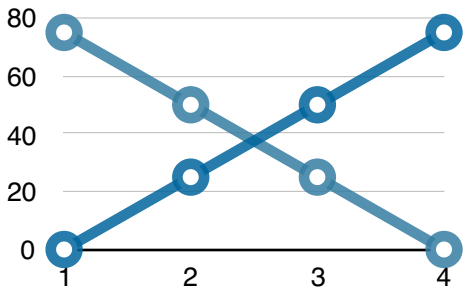
- *Market For Loanable Funds:* the market in which those who want to save supply funds and those who want to borrow to invest, demand funds
- this market, like all others, is governed by supply and demand
  - saving is the source of the supply of loanable funds
    - from those who want to borrow
  - investment is the source of the demand of loanable funds
    - from those who want to borrow

- interest rates are the price of a loan
- high interest rates
    - demand falls
  - supply rises
  - Low interest rates
    - demand rises
    - supply falls



Savings Incentives

- Canada has a low level of saving
  - countries standard of living depends on its ability to produce goods and services
- saving = long-run determinant of a nation's productivity
  - raise in saving rate = increase in growth of GDP
- economists favour changes to the tax system that encourage greater saving
- a lower cost of borrowing means households and firms are motivated to borrow more
- a reform in tax laws, encouraged greater saving, results in lower interest rates and greater investment
  - supply shifts to the right —> tax incentive, savings increase, supply increase
- However those tax changes decrease national saving

Investment Incentives

- *Investment Tax Credit:* gives a tax advantage to any firm building a new factory or buying a new piece of equipment
- a reform of the tax laws encouraged greater investment, the result would be higher interest rates and greater saving
  - demand shits to the right —> investment incentive, increases the demand for loanable funds

Government Budget Deficits and Surplus

- budget deficit, budget surplus, balanced budget
- *Government Debt:* is the sum of all past budget deficits and surpluses
- *Crowding Out*: a decrease in investment that results from government borrowing
  - caused by the higher interest rate
  - budget deficit lowers national saving, so when the government borrows to finance its budget deficit, it crowds out those (households + firms) that would finance investment
- when a government reduces their national saving by running a budget deficit, the interest rate rises, and investment falls
  - supply shifts to the left —> budget deficit decreases the supply of loanable funds

Vicious Circle: cycle that results when deficits reduce the supply of loanable funds, increase interest rates, discourage investment, and result in slower economic growth; slower growth leads to lower tax revenue and higher spending on income-support programs, and the result can be even higher budget deficits

Virtuous Circle: cycle that results when surpluses increase the supply of loanable funds, reduce interest rates, stimulate investment, and result in faster economic growth; faster growth leads to higher tax revenue and lower spending on income-support programs, and the results can be even higher budget surpluses

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Chapter 9
Unemployment And Its Natural Rate
October 18th, 2016

Labour Force: the total number of workers, including both the employed and unemployed
- labour force = number employed + number unemployed

Unemployment Rate: the percentage of the labour force that is employed
- unemployment rate = (number of unemployed/labour force) x 100

Labour-force Participation Rate: the percentage of the adult population thetas in the labour force
- labour-force participation rate = (labour force/adult population) x 100

Natural Rate of Unemployment: the rate of unemployment to which the economy tends to return in the long-run
Cyclical Unemployment: the deviation of unemployment from its natural rate
Frictional Unemployment: unemployment that results because it takes time for workers to search for the jobs that best suit their tastes and skills
Structural Unemployment: unemployment that results because the number of jobs available in some labour markets is insufficient to provide a job for everyone who wants one
Job Search: the process by which workers find appropriate jobs given their tastes and skills
Employment Insurance: a government program that partially protects workers' incomes when they become unemployed
Unions: a worker association that bargains with employees over wages and working conditions
Collective Bargaining: the process by which unions and firms agree on the terms of employment
Strike: the organized withdrawal of labour from a firm by a union
Efficiency Wages: above-equilibrium wages paid by firms in order to increase worker productivity

Chapter 14
Aggregate Demand and Aggregate Supply

Facts about economic fluctuations
1. fluctuations are irregular and unpredictable - business cycle
2. most macroeconomic Quantities fluctuate together
3. as output falls, unemployment rises

Model of aggregate demand and aggregate supply: the model that most economists to use to