WHAT IS MONEY? - a medium of exchange

(look at ECON 432)

Money => Credit
Parents => offspring
Relationship

- Trust \
- Confidence > = Belief
- Faith /

---

money is built on social conventions, Money is built on social beliefs.
Once those beliefs have been tampered with, there is no trust, confidence and faith in it (like a relationship)

Money only enters society in only 1 of two ways : INTRODUCTION INTO SOCIETY

1. Custom and Habit : as a biproduct of ...
    - Tradition
    - Culture
    - Social Value System
    -
2. Government Legislation of an item as 'legal tender'
    - **Currency** - Bank notes and coins : "FIAT MONEY" - money made through power of government authority
    - **Bank Deposits** (accounts) - become a form of money through 'custom and habit'. - "FIDUCIARY MONEY" - NOT LEGAL TENDER

FORMS OF MONEY

FIAT MONEY:
FIDUCIARY MONEY:
(ELECTRONIC MONEY - not really a different form of money): Bank deposit accounts that are transferred through electronic impulses.

- Debit card is a transfer device : modern version of cheques
- Credit cards leave you liable for a transaction of money These are Money SUBSTITUTES.

Money substitutes are created by BANKS.

Banks: Started as simple safe keeping institutions, now invest, finance etc.

- Primary deposits
- Secondary deposits created out of lending activities of banks

The banking system has complete monopoly power of what we call money today.
BANKS NEED SECURITY to be successful.
[To be a banker you need to be : Creative | Innovative | Prudent]

How did we move away from : metals, shells, cigarettes etc other forms of money to the currency we have now.

Three factors that drive the evolution of money:

1. Changes in Social Value system
2. Changes in Payment Habits - when you are paid
3. Technological Progress

(Look at Asymmetric Information Problems)
for text book. st chapter 3 then 2 then 1… then 16 etc. : ONLY CANADIAN VERSION

11.9.12

Concept of Price Rates : Domestic and Foreign Exchange

Currency And Bank Deposits:

- Anonymity premium:
    - Cash is the only form of money that leaves little or no piper trail, is the only form of money that gives privacy.
    - Bank Deposits : Leave paper and electronic trails
        - Gradually giving rise to electronic or network money. not only transfer devices anymore but also storage.

There will always be a desire for cash.

If a Bank is to survive, there has to be cash inflows. Cash is the basis of the system.

The electronic system and advancement in technology will diminish transaction costs and decrease the use of cash… But IT CANNOT ELIMINATE IT. there will always be a desire for cash.
(Transaction costs : Opportunity costs

    - Search and Shopping costs
    - Price and Information Costs

Money gives rise to credit: credit will reduce the use of cash, but never eliminate it.
Money REDUCES the transaction costs. but NOT ELIMINATE.

Price is not Cost.
cost is how much it costs to make. Price includes extra for profit and overheads etc.
P= AC + SC + Mp

Price is a measure of the quantity of one item(A) sacrificed (given up) to acquire a unit of another item(B). (ratio of how 2 items xchg).

A/B < = > PofB = #of Units of A
1 Unit of B

PofA = #of Units of B
1 Unit of A

Price is a measure of the rate at which 2 items are exchanged
^=> the rate of exchange value => Market Value of an item. | THE VALUE PER UNIT

Relative Price is a REAL PRICE the Value of the commodity item. = > Barter Economy: trade directly for other commodities.

[(How we see price : Price is the amount of $ sacrificed to acquire a unit of a commodity item(A).)
PofA= (amount of $) / (1unit of A)
PofB= (amount of $) / (1unit of B)] - known as Absolute Prices or Money Prices.

P= n(n-1) / 2 - in a Barter Economy Formulas give relativity of a good in either market.

(n-1) - in a money economy.

Shows that more transaction costs in bartering as prices between goods are calculated each time between each good. where as in money economy, money is common form of exchange so little or no calculations are needed between goods.

13.9.12

Money is a Standard unit of account.

Price of anything is a measure elf its value in exchange.

WHAT IS THE PRICE OF MONEY?
-> Purchasing Power of money
-> the market value $ = reciprocal of general price level. P
-> Value of $ = 1 / P = 1 / CPI = 1 / Rate of Inflation (RoI = Pt - Pt-1 x 100) = [∆P / P}
Pt-1
^
CPI< > IPI

WHAT IS THE PRICE OF CREDIT?

-> Interest Rates:

- real = *i*

- Money (nominal) = R = related to the price of money.
- e = expectations : cannot actually be measured

R= *i* + (∆P/P)^e + i(∆P/P) [<= gets X'd cancelled out] = ***THE FISHER EFFECT EQUATION***
∆P/P = Actual Inflation rate = represented by - π

(to calculate what ever interest may be at a time)

If the inflation is going up. sooner or later… the nominal interest rate will follow

Growth:
Vt= currenct Value
vt-1 = Old value

growth (g) = %∆inValue = [(Vt - Vt-1) / Vt-1] x 100

Over time: (Vt/Vt-1)^n - 1 = g
(n = number of periods taken into calculation)
Vt = Vt-1(1+g)^n

[also to do with Dealing with lent money vv]
R = (Future Value of Asset / Present Value)^number of periods of time - 1
R = (FV/PV)^1/n - 1

PV = FV / (1+R)^n - Present Value Formula. can use this to determine the price of a bond

Bond is a debt instrument: a fixed income security.

Equity instrument : Variable Income security : Stocks

Pstock = Dividends / R+ Standard deviation - Sigma symbol ß - represents RISK FACTOR - unsystematic risk
Div/ R+RiskFactor

[In some Text books it is shown as: $1/t_1-(t-1) = 1/n$
Because they have sets = eg.T represents time : 2002,2003,2004… final value = t_1 and 2002 = t-1

($VT_1/VT-1$) ^ 1/n - n is number of sets. - geometric mean]

DOMESTIC CURRENCY

Country A - Has a domestic currency.
When I am in Country A - i use its domestic currency, B's currency is FOREIGN Currency.

Country B - Has a domestic currency
When I am in Country B - i use its domestic currency, A's currency is FOREIGN Currency.

The price of domestic currency of A = Pdca = B's currency / 1dca } Domestic Exchange Rate
The price of Foreign currency of B = Pfcb = A's currency / 1fcb } Foerign Exchange Rate

DER = How many units of the foreign currency we need to get 1unit of the domestic currency .
} ***Double CheckTHIS***
FER = How Many units of the domestic currency buy 1 unit of the foreign currency

Pc$ = US$ / 1c$ Pus$ = C$ / 1us$

18.9.12

12 currencies

Name of Currency	Country	Value of currency in terms of $CAD sept 20/2012 (10:00am)	Value of currency in terms of $USD sept 20/2012 (10:00am)	Value of currency in terms of $CAD November 27/2012	Value of currency in terms of $USD November 27/2012
Euro	Germany	1.27	1.29		
Franc	Switzerland	1.05	1.07		
Sterling Pound	Britain	1.56	1.62		
Baht	Thailand	0.0317	0.0324		
Hong Kong Dollar	Hong Kong	0.126	0.129		
Philippine Peso	Philippines	0.0234	0.0239		
Australian Dollar	Australia	1.02	1.04		
Mexican Peso	Mexico	0.0758	0.0775		
Indian Rupee	India	0.0180	0.0184		
Yen	Japan	0.0125	0.0128		
Dinar	Kuwait	3.49	3.56		
Norweigian Kroner	Norway	0.170	0.174		

(Source: XE.com)

1.0253 US$ buys 1CAD$

1CAD/1.0253USD =

0.9753 CAD$ buys 1USD$

20/9/12

Growth : Timing is everything!

- Decision making and effective choices
=> to gain and grow more the right choice has to be made to maximize risk vs reward pay out.
=> this requires taking in what the current situation is and where it is EXPECTED to go.
=> Implementing it at the right time as well!!! : TIMING.

MONEY & CREDIT, WEALTH

[Credit is the Flow of the rental services of money over a specific period of time.]
- The price of these 'services' is the nominal interest rate

Money: has Ownership , credit is a borrowing of money - makes it way back to original 'owner'

Financial Engineering:
Fairly recent, is a main contributor to the recession that occurred in 07/08.
- mainly due to 'credit' problems

=> Asymmetric Information Problems : Essential to be banker/financial advisor etc.

1. Adverse Selection
2. Moral Hazard

Subprime Mortgage (lenders and borrowers) - BANKS ARE ALWAYS BOTH

Leveraging
Deleveraging

WE all have 3 needs : just like banks

1. we Need to be needed
2. need to be loved
3. need to be empowered

An ASSET, is anything of economic value with the capacity to yield income, either in form or in kind.

=>Money is an asset: credit creates liability

Human Capital is the asset that creates WAGES, SALARIES etc.

Wealth = total assets - total liabilities = Networth

Total assets:
=> Real Assets: Human | Non-human
=>Non-money financial assets
=Money financial assets

Total liabilities :
=> Financial Liabilities.

WEALTH, INCOME & MONEY - 25.9.12

Wealth is a measure of the total assets, owned by an economic unit, at a specific point in time, less the unit's liabilities.

Net Worth = Wealth = (Total Assests: Real assets+ Non money financial assets + Money financial assists) - Financial liabilities.

Real Assets : Human | Non-human
=> Human: Skills Non Human: Physical Capital goods
^>Investment
^>Residential & non residential construction
^> you then become human Capital
^>Fixed Capital formation

INVESTMENT is a Flow variable that enables an asset to be created through expenditures/ made in the process during a given period of time.
^> it is an expenditure: Any expenditure that has the capacity to create a real asset or financial asset.

=> REAL INVESTMENT : creates Real assets
=> FINANCIAL INVESTMENT (portfolio investment) : creates Financial assets

SAVINGS : is a flow variable: Savings fund Investment.
=> it is income left over after spending on consumption & taxes during a specified period of time.
S= y-c-txs

(Stock variable: size or magnitude of a veritable is measured at a specific point in time.)

Non money financial assets: Stocks&Bonds: (Equity instrument)

People do not make a lot of money, they earn lots of income.

Income =Y = R(W)

USES OF SAVINGS

If savings are greater than 0 (positive savings) only 4 things you can do with them.

1. Pay off any debts
2. Buy REAL assets
3. Buy Financial Assets
4. Accumulate $money balances - savings account

If Savings are less than 0

1. decummilate $ balance accounts
2. Sell financial assets
3. Sell real assets
4. Borrow

LIQUIDITY: Property of any asset that makes it easy to convert into 'means of final payment at short notice and with little or no capital loss in its value'.

MONEY

So far we have shown that assets yield income and liabilities incur costs(expenses). Both income and costs are expressed in money terms since prices are expressed in terms of the unit of account used as a medium of exchange. Theses indicate the predominance of money.<=
Pervasive influence in the economy

Money is any generally acceptable medium of echange that is used as a means of final payment and in the discharge of debt obligations in a given society during a given period of time

Its Functions and Characteristics

Money Characteristics:

- any generally accepted medium of exchange used as a means of final payment and/or in the discharge of debt obligation.
- the Highest level of liquidity.
- it is EASILY recognizable and divisible
- Uniformity and convenient to use
- Portable
- Durable
- Scarce in terms of its uses

Liquidity: the property of any asset that makes it easy to convert into means of final payment at short notice with little or no loss in its capital value.

Different assets are characterized by their different degrees of liquidity

Inflation increases the velocity of money, Velocity is the measure of the rate at which money is being spent.

The goal of monetary policies is to avoid inflationary pressures
Control over the quantity of money in circulation: defence against counter fitting.

Seigniorage: The benefit that the government derives from producing money,

2 categories of functions:

- Primary: means of final payment and unit of account - keynesian
- Secondary - Store of Value, standard for deferred payments. - monitarists.

If people lose trust and confidence in their money, they will BARTER

Missed Classes:
11.10.12

In theory, money is the same everywhere, but in practice, it is not.

- Debit Cards
- Chequing accounts
- Chip cards
- EFT

^^ All created ways from banks in order to keep the 'cash' in their reserves, so that they can make more profits.

MONEY => Store of Value System:

1. Credit System
2. Banks Will Develop
3. Savings become More Important

MONEY=> Medium of exchange, Unit of Account } it eliminates the necessity for a double coincidence of accounts ; (eliminating the potential of a barter economy)
=> it Eliminates friction (intermediate trade) - > Time is usually wasted in searching = increase in transaction costs
^> Money comes to promote an increase in the economic welfare by decreasing the transaction costs.

Iran uses barter => very high transaction cost and makes economy inefficient.

MONEY is priceable, it is unique and specific to different societies.
^> how money is designed (paper)
^> what its worth in other societies.

In every country there is a controversy as to which of the categories of the functions of money is most important. Economists are also divided on the relative importance of the medium of exchange a vis-a-vis the, Store of Value (Most liquid store of value)

Monetary Aggregates: An official measure of what is money in a country.
Central bank procedures: - Narrow Monetary aggregates
- Broad Monetary aggregate }>all money

1) Narrow Monetary aggregate - Primary function of Money
2) Broad Monetary Aggregate - Covers All the Functions of Money

In Canada, the money supply is defined as currency outside the banking system plus all bank deposits adjusted for float.
[M0 + M1 + M2 ….. +Mn]

The Money supply serves as the laws for a successful & effective conduct of monetary policy (through which the level of interest rates is influenced and determined.
- How is the money supply measured in canada?
- Why? Basis for monetary policy implementation
- What makes monetary policy effective?

Money is defined as "the amount of currency outside the banking system plus all banks deposits (of both chartered banks & rear banks *adjusted for Float")

Client Banking system Vs. Branch Banking System.
In canada we have a centralized banking system.
- No sever requirements in canada
- reserve requirement in USA & China etc. (Chp 9-8-13)

BANK DEPOSITS: they are transferable by means of CHEQUES & BANK CARDS - (Money Substitutes)

Frachund Reserve System = Banks have to maintain $.
- of each deposit -> it allows banks to create money
^> fiduciary money, not fiat money.
Reserve Ratio: - keeping $20 form each $100
- The bank has to keep $20 or 20%
- the remainder, 80% is going to be invested or given as a loan.

Cheques & EFT = given so that you don't use cash

Currency inside the bank is not part of money supply
- > Reserve money or cash reserves of the banking system
- > They serve as backing for deposits accounts outside
(check word backing with emmanuelle)
-Electronic currency will become money only when backing with deposit accounts.
-It is a form of leveraging.

What is the money supply in canada?

- It is defined by several ways depending on primary function of money and its secondary function

the bank of canada uses M2++ in order to measure the monetary aggregate :"it can there fore adjust the interest rate accordingly"

Money Financial Assets: Currency and Bank Deposits

Non Money Financial Assets: Stocks Bonds
In canada the government savings bonds are liquid.

The central Bank usually reflects the monetary aggregate that correlates strongly with movements in inflation on the rates of growth of real GDP overtime:

Growth rate : [(RGDP2 - GDP1)/GDP1] * 100

Macroeconomic Policy Variable used in conducting monetary policy.
-> it is not the central bank that determines the interest rate, but the market.

Wealth Y income $money

LEARN Greshams Law

CURRENCY OUTSIDE THE BANK : Co (=> Bank Reserves)
CURRENCY INSIDE THE BANK: Cin (=> CASH)

Monetary Bank = Co + Cin = C+BCR BCR = Bank Reserves

1. Fiscal agent of government
2. Issues of a bank notes
3. All barter and not bank
4. conduct last resort
5.Conduct of monetary policy

Narrow Monetary aggregates => M1 | M1++ | M1+++
Broad Monetary Aggregates => M2 | M2+ | M2++ | M3
^> find out about what it covers

Savings Deposits (M2++) are interest bearing but less-liquid
Chequing deposit accounts non interest bearing but more liquid/ Liquid.
^> Personal checking accounts | current accounts are checking accounts form company
=> saved accounts etc.

Bankers risk: The risk that a bank will be unable to honour its clients demand for cash withdrawal.
- fractional reserves banking system, to decrease the bankers risk.

In canada, reser requirements by banks are customer determined:
it is not the central bank that decides:
1, sir of the bank in terms of assets
2 share of the deposit market
3relative exposure to the international operations.

Heading
Oct 16-2011 - oct 16 2012 > Payment
(ALL Items measured in $)

Sources of Income (revenue)	Uses of income (expenses)
	Tax Payments Consumption Expenditures

*Households (Income/Expenditure Statement)

S= Yd - C

Yd= Y-Txs
S= Y-C-Txs

S serves as Balancing Item

Budgetary Surplus is S>0

If S<0 => Y<(Txs+C+S) = Budgetary Deficit
1=> Decumulate $ balances - take money form savings etc.
2=> Sell Financial Assets
3=> Sell Real Assets

Missed Classes: Income Statements - To determine the Savings position of the economic entity
Savings are what banks are trying to attract. - Return earnings = Business savings

- Income statement: S= Y - E(expenditures) - Txs
- NW= (RA+NMFA+MFA)-FL - Balance Sheet Statement
- ∆NW = ∆RA+∆NMFA+∆MFA - ∆FL - Flow of Funds Equation

<u>Income Statement of Financial Firm (Bank)</u>
Date: January 31 up to Dec31 2011
all figures measured in $

Sources of Income	Uses of Income
Interest income from loans	Interest expense on deposits
Income from GVTof Canada securities	Interest Expenses on non deposit borrowing
income form unofficial securities	salaries of employees benefit
Charges on deposits	occupancy costs
other operating	miscellaneous operation

revenues	expenses
	provision for loan losses
	Applicable income taxes
	New income after Taxes

"Off balance sheet activities" of banks
Shadow Banking

The income sheet statement

A significant aspect of the income expenditure. Statements for households, non financial and financial business firms and, even that government sector, is that they all interdepend /interconnected for example , tax payments by all economic units become revenue for the government sector.

How are the business sector and the Household sector interconnected?
-> the Revenue from one economic aspect, it is an expense for another economical unit

1) Income statement: S= Y - E(expenditures) - Txs

Balance sheet Statement => A = L + SHE
it measures the value of the economic agent at a specific period of time.
Why? to see if the company is Solvent of Insolvent.
-> as we know TL>TA or NW<0 =? and economic agent = Bankrupt

The income Statement = to determine the position of the economic aspect.

2) Balance sheet statement: Net Wealth = (RealAssets + Non Money Financial Assets + Money Financial Assets) - Financial Losses

3) ∆NW = ∆RA +∆NMFA + ∆MFA - ∆FL

Camels Rating system.

23.10.12

The Balance Sheet Statement - Is a stock statement : measures the value of an item at a certain time on a specific date

BSS - Used to determine the solvency of a particular entity
=> if Total Liabilites > Total Assets , NetWorth < 0 = Insolvent
=> if TL < TA, NW>0 = solvent

- NW= (RA+NMFA+MFA)-FL - Balance Sheet Statement

- ∆NW = ∆RA+∆NMFA+∆MFA - ∆FL - Flow of Funds Equation

A Significant aspect of the income expenditure statements for households, non-financial & financial business firms, and, even that of the government sector, is that they are all inter dependant or inter-connected. For example, Tax payments by all economic units become tax revenues for the government sector.

Source of revenue for businesses: Income from the sale of goods and services
=>Household sector: Consumption expenses on goods and services

Ones revenue from economic need becomes expenditure for another economic need.

Households

C.A.M.E.L.S - rating system

A hypothetical balance sheet of a Typical Household -

title : Hypothetical Balance sheet Statement of (Mr.Mrs.../ Typical) Household
Date : 0ct 23 2012
-All Figures in $

Total Assets	Total Liabilities + Net Worth
MFA - Money Financial Assets	FL - Financial Liabilities
NMFA- Non-Money financial Assets	
RA - Real Assets	

most liquid assets put first

[NW = RA+NMFA+MFA
Net Worth =
=>Wealth
=>equity capital
=>Shareholders Equity

FL + NW = RA+NMFA+MFA = Uses of Funds]

Hypothetical balance sheet of a typical chartered bank

Assets	Liabilities and net worth
Total Asesets	Finanical liabilities
(i)cash reserves: cash in vault and balances at the central bank (ii) consumer and	(i) deposit accounts of the public and government: Demand, Savings And other time deposits; (ii)Issues of stocks

business loans, (including credit card accounts receivable); (iii)treasury bills, other government bond, securities, foreign securities.	and (III)taxes payable (Iv) Net Worth
Real assets : bank premises	
Total Assets =	Total Liabilities + Net worth

Bankers risk = bank cannot repay people's deposits back (Banks Panic)

Central Bank = issues of bank risks, Fiscal agent, All Bankers bank

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Missed Class -

Analysis of the Bankers Balance Sheet Statement:

Central Bank Balance Sheet
As of October 20th 2012
All measured in $

Assets
-Financial Assets
-Treasury bill & other govt grants etc.
- Loans to the banks
- Foreign Currency Assets

Real Assets
- Bank stuff (preuniles?)

Financial Liabilities
-Currency Outstanding - the central bank has cash as liability - the liability of central bank = everyones Assets
- Deposits of banks,the government and other countries central banks
- Net Worth

Role of the central banks
1) sole issuer of bank notes (currency) - Central Bank can print by buying govt. securities
2) Fiscal Agent to the government
    - monetary policy tools
        - shift in govt deposits between central banks & bonds
3) all bankers bank

4) Lender in last resort
5)implement monetary policy

When governments are too in debt (by budget deficit) the central bank can but corporate securities.

Analysis of the banks Balance Sheet Statement:

The C.A.M.E.L.S rating procedure (you need income and balance sheet statements)

C = Capitcan dependancy Ratios = the ratio Total Equity Capital / total Assets = TEK / TA

A= Asset quity ratio = Total Loans/ Total Assets = TL/TA

M= Management Competency Ratio = Employees Expenditure (wages benefits expenses etc) / Total Assets

E= Earnings Ratios = Net income after losses / Total Assets = NYaTx / TA = RoA
Net Income After loses / Total Equity Capital - NYaTx/ TEK = RoE

L = Liquidity Ratio = Total Liquid Assets / total Assets = TLA / TA

S = Sensitivity to Market Risk Ratio = Total Liabilities/ total assets

Banks don't lent because of asymmetric information and moral hazard.t

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1.11.12

Progress Question and Answer Check:
Question: Usha Monebank works hard and earns a good income of $35000 a year, Still, Ms. Monebank has a hard time keeping on top of her expenses. In 1996, for instance her gross savings amounted to only $700. During the same year, she made several "capital expenditures" : $3800 on an IBM PC; $5300 for a renovations on a summer cottage in the laurentians and $15700 for a a new car. To bridge the gap between what it cost her to acquire these assets and the gross savings she had to spend on them, Monebank drew down her savings account by $6500, got an $8000 mortgage from her bank, activated a $1500 on her personal line of credit and cashed an $8100 worth of Qc and government of canada saints bonds. Given this information, set up mountebanks flow of funds statement for 1996 to determine whether she incurred a budgetary deficit or surplus.

=

The Flow Of Funds Statement : of Usha Money Bank - Economics Method

January 31, 1996 - December 31 1996
All FIgures measured in dollars ($)

Financial Sources of Funds	Financial Uses of Funds

∆ NW - (own saving) = 700 ∆FL - how much you can borrow form other sources =8000+1500	∆RA = 3800+5300+15700=24800 ∆NMFA= -8100 ∆MFA = -6500
= $10,200	= $10,200

(economist method) = ∆NW |<>| ∆RA
(s) change in (I)

The Flow Of Funds Statement : of Usha Money Bank - Accountant Method

January 31, 1996 - December 31 1996
All FIgures measured in dollars ($)

Financial Sources of Funds	Financial Uses of Funds
Income Receipts = 35000 FL inc = 9500 RA dec = 0 NMFA dec = 8100 MFA dec = 6500	Expenditure = 34300 FL dec = 0 RA inc = 24800 NMFA inc = 0 MFA inc = 0
$59100	$59100

Accountant Method

S = Y-(C+Txs)

∆FA - ∆FL
(∆NMFA + ∆MFA) - ∆FL = -8100 - 6500
=> - (14600 + 9500)

= 24,100

S= Y - (C + Txs)

13.11.12

The Multiplier model of the money supply process - Chapter 16 of the textbook

Purpose: To ascertain the determinants of the money supply

Assumptions:

- a) Banks operate in a competitive banking system & practice FRACTIONAL RESERVES banking in order to make profits. (Short run and Long run)
- *b) Banks produce ONLY demand deposits which are subject to a customary cash reserve ratio (r) of 10%.
- c) Banks desire to be loaned up & thus use all excess reserves to make loan investments. This suggests that there are excess reserves drains.
- d) the Non-bank public has asset preferences between the use of cash & deposit accounts & has a demand for cash represented by the currency/deposit ratio (c) of 25%.
- e) The money supply is narrowly defined as monetary aggregate (MI). Hence Ms = C+D.
- f) The major decision-makers in the money supply process are:
  - (i) the central bank as a supplier of currency reserves to the banking system
  - (ii) the banks who accepts cash deposits and make loans
  - (iii) the non-bank public that may desire to make cash deposits into or withdrawals from the banking system.

[3 things to be a good banker:

1. Creative -> in form of development of new financial products.
2. Innovative -> go for New Technologies for delivering financial services
3. Prudent.

3 Prudent -> honesty, integrity, transparency - you must be transparent]

There are some macroeconomic events that are seen as Opportunities, these are unanticipated events. The Banks must reach to theses events. The way the bank reacts is dependent on how CREATIVE and how INNOVATIVE they are.

such Macroeconomic events (regulations) will come in the form of changes in:

- Money supply,
- demand for money,
- interest rates & monetary policy.

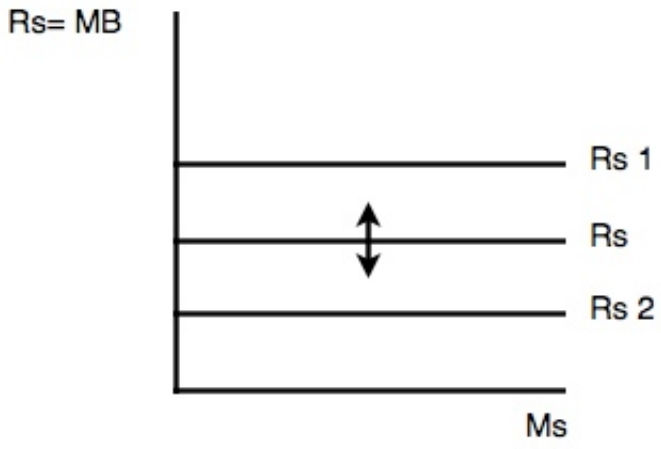
(- ALL EXTERNAL to the banks)

Analysis Of the Model:

a) Supply side: The supply side of the model reflects the behaviour of the central bank-(monetary authority) in its responsibility as regulator of the money supply-(monetary policy).

Symbolically => Supply of Reserves (Rs) is exogenously given as Rs = H = MB(Monetary Base) deriving from the central banks monetary policy initiatives.
Rs = Cash inside + Cash outside (banking system)
= Bank Cash reserves + Currency held by non bank public

Diagrammatic representation:



Changes in the monetary base are a Bi-Product of the monetary policy initiatives of the central bank to deal with problems of either inflation or unemployment.

b) Demand Side (Rd- Demand for reserves): The demand side of the model reflects the interactive behaviour of both the banks and the non-bank public.

Rd = BCR + C
BCR= r x **D** (assumption b)

Rs = $100 => BCR = $10 => ER = $90

FIND EQUILIBRIUM = Rs = Rd = >

MB = D(r+c)

solve for D

Missed Class15.11.12:

Derivation of the Money Supply Function: Chapter 16. - 20.11.12

From the multiplier model, we have seen that the equilibrium level of demand deposits (D) that will be created is given by the expression
D= MB x (1/r+c)… (1)

Similarly, The equilibrium level of the money supply is represented as: **MS = MB x (1+c / r+c)…** (2)

Equation (2) shows that the money supply depends on three factors; namely, MB, & the coefficients of **r** & **c**.
MB reflects the behaviour of the central bank in terms of its monetary policy initiatives. However **r** (the desired cad reserve ratio) depends on the behaviour of banks & how they react to changes in

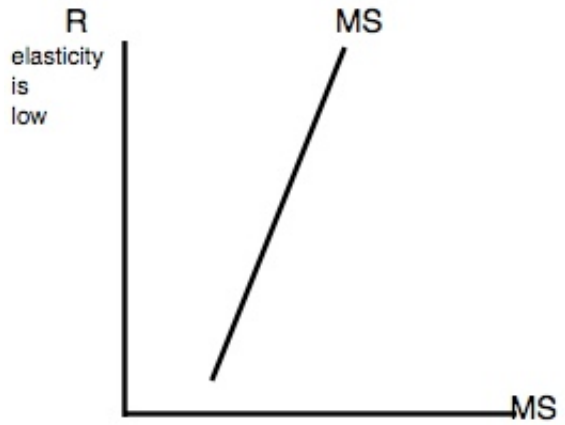
NET deposit inflows and outflows as well as market interest rates **(R).** In other words,
r = f(Ndif, R). (Ndif - Net Deposit inflows = Total deposit inflows - total deposit outflows.)
Similarly, c reflects the behaviour of the non-bank public in terms of its asset preferences which are influence by changes in market interest rates (R), banking technology (Bt) and fiscal policy changes in taxes (tx). That is: c = f(R, Bt, tx).
(When interest rates are high, the banks are less wanting to lend money. therefore c decreases.
when Banking technology increases, then the demand for cash decreases!
When taxes go up, so does the desire for Cash- because the incentive to evade them = rise in black market activity, and cash has no physical trail.)
[The central bank INFLUENCES interest rates and money supply: Does Not necessarily CONTROL the R and MS]
-> when Interest rates go up, the money supply goes up & vice-versa going down

^SUMMARY: from the above analysis, the money supply function becomes: MS = f(MB, Ndif, R, Bt, tx)
in a linear form, MS function becomes: MS = Beta0 + Beta1MB + Beta2Ndif + Beta3R + Beta4Bt - Beta5txs

^>constant for the linear equation

∆MS/∆MB = Beta1 > 0

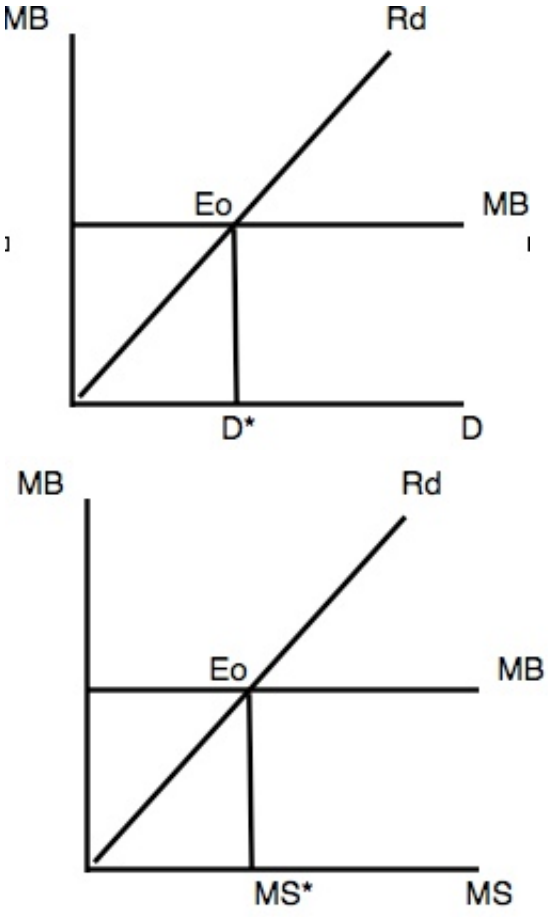
MS = f(R)



The (MS)money supply curve shifts in response to changes in the monetary base, Net deposit inflows, improvements in banking technology and taxes.

if being added, shift to the right e.g., beta1MB
if subtracted, shift to left e, beta5txs.

(on the 22nd will be looking at MD.)



The Money supply is the product of the monetary base & the money multiplier .ie. MS= MB x mm (money multiplier)

MB = MS / mm
= MS/ (1+c / r+c)
MS = c (MB / r+c) + (MB r+c)

Policy Implications of the money multiplier model

Suppose in Econ 331 economy, the narrowly defined money supply is $245.45 million. In the banking system - they currency/Deposit ratio (c) is 35$ and the desired cash reserve ratio (r) is 20%. However, the economy is in a state of unemployment and the authorities introduce a policy package by raising the monetary base through expansionary monetary policy by 10% and, contractionary fiscal policy to raise taxes which, in turn increases the currency deposit ratio by 10%. Find the new MS & Calculate the %Δ in MS.

Expansionary Monetary Policy (MB) :

- Open Market Operations of Government securities.
- Quantitative easing of private sector securities MB
- Shifts of funds from government deposit accounts to banks from central bank. (Redeposits) - most important policy bank in canada adopts to change monetary policy. [vs. Drawdowns]

Fiscal Policy (Tx)

MB = MS / mm
= MS/ (1+c / r+c)

mm= (MS/MB) = 2.4545

from given values,
MB = 245.45 / 2.4545 = $100

mm = 245.45/100 = 2.4545

c = 0.35

[0.35* 1+0.1(the 10%) = 0.385] = cNew

c new = 0.385

Using the models equation:

MSnew = MBnew x (1+c new / r + c new)

= 110 * (1.385 / 0.2 + 0.385)
= 260.4273 = MSnew

MSold = 245.45
∆Ms = MSnew - MSold = 14.9773

Given the policy parameters, the effectiveness of such a policy can be enhanced if in addition, banks/deposit taking institutions can be persuaded to reduce the cash reserve ratio by 10% - such a policy is called "Moral Suasion".

r old = 0.2
r new = 0.18
(r is a determinant of the slope on the graph)

= 110 x (1.385 / .18 +.385)
= 110 x (1.385 / 0.565)

=$ 269.64

FINAL EXAM CHAPTERS: 1,2,3,5,8,9,13,16,17,21

Demand for Money & interest Rates. - Chapters 21, 5

Demand for Money = Stock variable.

Money Demand is simply a measure of the amount of real money balances (MD/P) that people desire to hold as part of their wealth portfolio at some given point in time. However, the amount of real money balances we desire to spend is measured by velocity.(V)

MD / P = 1 / V
V = 1 / (MD / P)

MD or V is the link established between changes in MS and changes in the Nominal Income. Quantity Theory (quantity equation)

MsV = PY
V = PY / Ms = the average number of times a unit of $ is used to finance transactions over a given period of time.

V increases => Decrease in MD

Speculative Demand for Money : (Buy low sell high later = Speculative activity)
(Arbitrage: buy low in one location and sell high in other location)

Liquidity trap: A situation in which prevailing interest rates are low and savings rates are high, making monetary policy ineffective. In a liquidity trap, consumers choose to avoid bonds and keep their funds in savings because of the prevailing belief that interest rates will soon rise. Because bonds have an inverse relationship to interest rates, many consumers do not want to hold an asset with a price that is expected to decline.
http://www.investopedia.com/terms/l/liquiditytrap.asp#axzz2DRHAduCl

4 Theories have generated the MD function as follows:
1) Quantity theory of MD
2) Liquidity preference theory of interest.
3) Portfolio theory of MD
4) Wealth adjustment theory of MD

MD = f(P,Y, Rc, Re, W, Bt, Txs, U)
MD = Beta0 + beta1P +beta2 Y - beta3Re + beta5W - beta6Bt + beta7txs + beta 8U)

The quantity theory of money states that there is a direct and proportionate change in the MS & P. an increase in MS = increase in P. vice versa. Milton freedman took the views of the classical economists and applied them the the period after the second world war. he converted the relationship above to inflation. This is a Longrun relationship/theory.

The Equilibrium Interest Rate

If the money demand function (MD / P = f(Y,R,Re,W,Bt,Txs,u) is specified in a linear form as : Md = Beta0 + beta1P +beta2 Y - beta3Re + beta5W - beta6Bt + beta7txs + beta 8U) … in which Md = MD / P
And the money supply function (MS / P = f(MB, R, Dinf, Bt, Txs) is also expressed in linear form as: Ms = beta0+ beta1MB+ beta2R + beta3Dinf + beta4Bt - beta5Txs)… where Ms = MS / P

To determine the equilibrium interest rate, we simply apply the modified version of the Keynesian liquidity preference theory of interest by equating the Md function to the Ms function to obtain:

Beta0 + Beta1MB + Beta2R + Beta3Dinf +Beta4Bt - Beta5txs = alpha0 + alpha1Y - alpha2R + alpha3Re - alpha4Bt + alpha5txs + alpha6W + alpha7U.

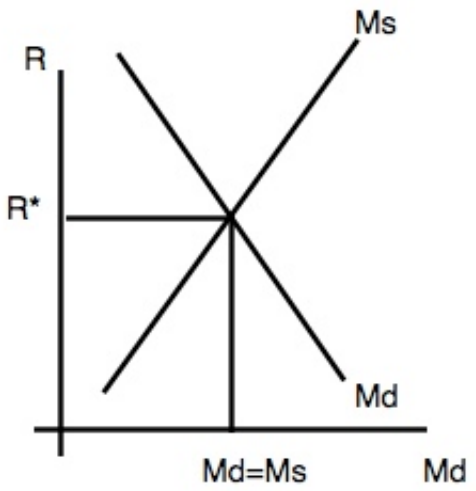
R(Beta2 + alpha2) = (alpha0-beta0) + alpha1Y + alpha3Re - (alpha4 +beta4)Bt + (alpha5 + beta5)txs + alpha6W +/- alpha7U - beta3Dinf - b1MB

(Beta2+alpha2)

R* =

^>equation of the LM curve

$\Delta R / \Delta Y > 0$
$\Delta R / \Delta Y = (alpha1 / alpha2+beta2)$



if interest grows faster then R* rises (if expect Inc in R) ^ Ms
if interest falls then R* decreases (if expect dec R) => ^^ in Md
if they grow at same rate, R* stays the same (if expect R to remain) ^MS ^MD