Chapter 26

"Money and Banking"

Money

- Medium of exchange
- Store of Value
- Unit of account

Modern Money

- Deposit Money: money held in public banks
- Commercial Banks: financial Intermediaries

Money Creation:

Money Supply = currency in Circulation + Bank Deposits

Reserve Ratio = $\frac{\text{Reserves}}{\text{Deposits}}$, Reserves => Cash on hand ⊕ deposits with bank of Canada

ex:

Assets		Liabilities	
Reserves:			
Cash on hand	$200	Deposits	$1000
Loans	$900	Capital	$100

Assets	Liabilities
$200 + $100	$1000 + 100
200 + 20	
900 + 80	

∴ Target Reserves
1100 · 20% = 220
Actual Reserves = 300

∴ $80 Excess Reserves

① What is TARGET RESERVE RATIO?

Reserve Ratio = $\frac{\text{Reserves}}{\text{Deposits}}$ => $\frac{200}{1000}$ = 20%

② Suppose Someone deposits $100, what is the effect on final deposits? On Money Supply?

SOLUTION: $80 moves to LOANS

Second Bank loan made to.....

Assets	Liabilities
Cash on Hand: ~~+80~~ +16	Deposits: +80
LOANS: $64	

Target Reserves 80·20% = 16
Actual Reserves = 80
∴ Excess Reserves = $64

SOLUTION: Moves $64 to LOANS

Third Bank loan made to.....

Assets	Liabilities
Cash on Hand: ~~+64~~ +12.8	Deposits: +64
LOANS: +51.2	

Target Reserves 64·20% = $12.8
Actual Reserves = $64
∴ Excess Reserves = $51.2

SOLUTION: Moves $51.2 to LOANS

And So on.....

Money Multiplier:

$\frac{1}{rr}$ => Reserve RATIO

Δ in Final Deposits, ΔRE = Initial change in Reserves

$\Delta D = \frac{\Delta RE}{rr}$

③ What was the Overall change in Money Supply?

ΔMS = ΔCurrency + Δ Deposits

$\Delta D = \frac{100}{0.2} = \$500$

∴ ΔMS = −100 + 500 = **$400**

However..... there is sometimes a cash drain,

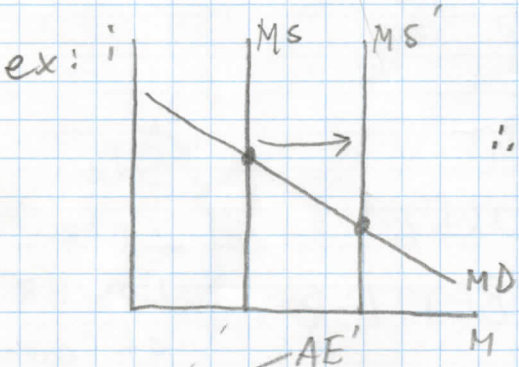
where $\Delta D = \frac{\Delta RE}{C+rr}$

C = Cash drain

Chapter 28

"Monetary Equilibrium"

Transmission Mechanism:



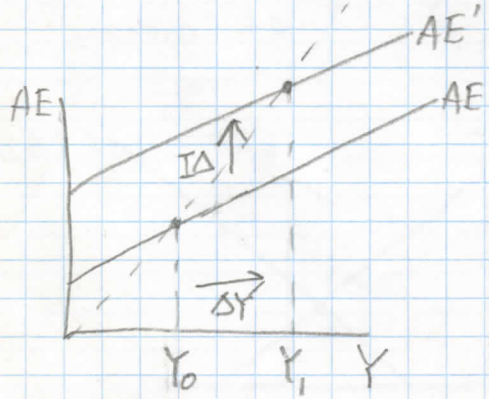
Money Supply increases...

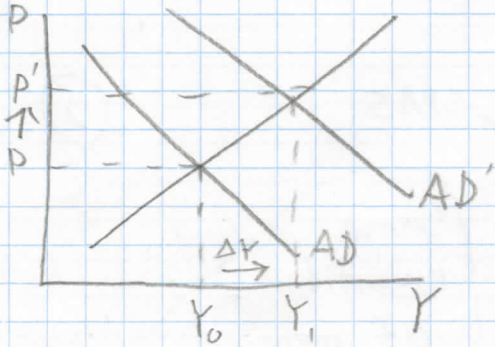
∴ Interest Rates fall...

∴ Investment increases

So, ...

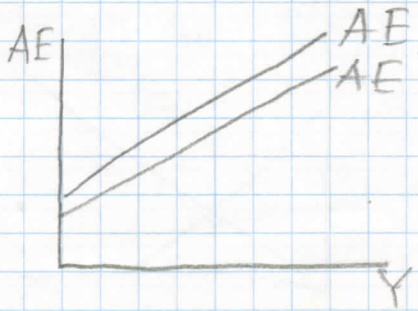
AE increases and AD increases





Because Price increases,

AE shifts down slightly



Monetary Policy Strategies:

① Target the money Supply
OPEN MARKET OPERATIONS
-sell govt. bonds to the public

② Target the Interest Rate
OVERNIGHT LENDING RATE

OLR↑, ↑rr ↓MS

OLR↓, ↓rr ↑MS

Economy starts sliding into recession.....
how to fight it

① Target Money Supply WORSE

② Target interest rate BETTER

Same interest rate, LOWER quantity of money

① P LRAS SRAS Y

keeping MS Constant

i MS MD MD' M

Same quantity of money LOWER interest rate

② LRAS SRAS

MS' MS

Chapter 29

"INFLATION"

Nominal Wage = Real wage + inflation

How inflation affects Wages:

$Y^{eq} > Y^*$ => Inflationary Gap => ↑ Wages

$Y^{eq} < Y^*$ => Recessionary Gap => ↓ Wages

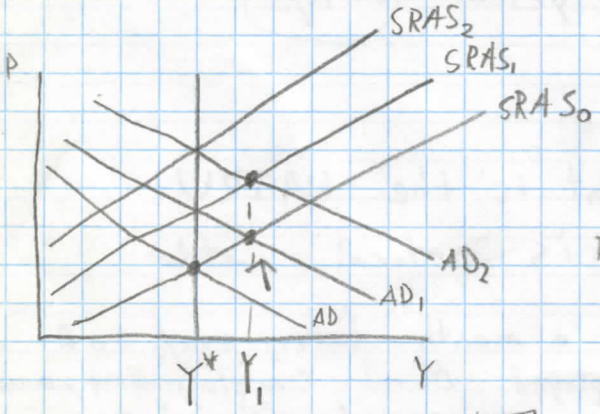
$Y^{eq} = Y^*$ => no gap => no effect to wages

AS

No Validation	Validation
Deeper recession	no recession
Temporary inflation	more inflation

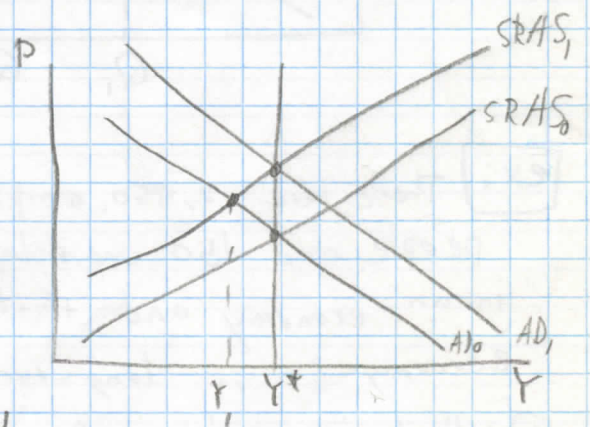
Monetary Validation:

For AD Shock



Bank of Canada uses expansionary policy to move it to Y_1

For AS Shock



AD

NO Validation	Validation
NO economic growth	Economic growth
Temporary Inflation	Sustained Inflation

Close the gap

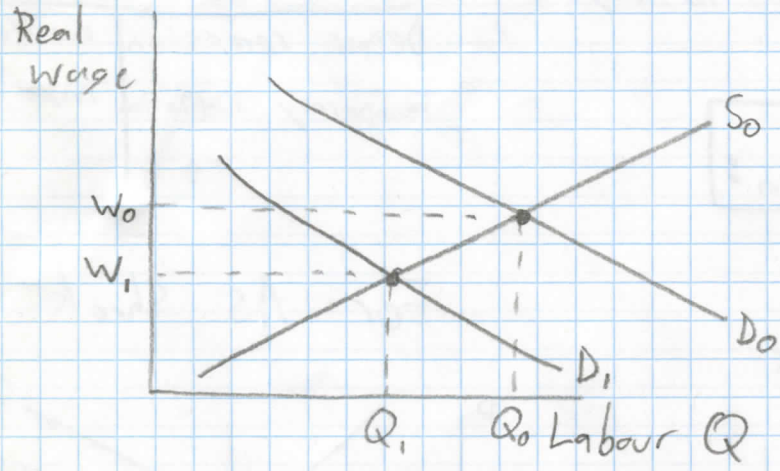
Chapter 30

"Employment / Unemployment"

$U^{eq} > U^*$ => Recessionary Gap

$U^{eq} < U^*$ => Inflationary Gap

NAIRU: Natural rate of employment "U^*"
$\neq 0$, Why? when $U^{eq} = U^*$, there is only frictional and structural unemployment



④ What is the rate of clycical unemployment?

$U^* = 5\%$

$U_1 = 5.9\%$

Clycical = (0.9%)

ex: There are 2,850 employed people and 150 unemployed people in an economy and that this economy is in long-run equilibrium

① What is rate of unemployment

$U = \frac{\#\text{ of unemployed}}{\#\text{ of Labour force}}$

$U = \frac{150}{3000} = 5\%$

② what is the NAIRU
5% is natural rate

"Now a month later, 20% of unemployed find employment, and 2% of employed lost their jobs.

③ what is U? $\Delta U = 150 - 30 + 57 = (177)$

$150 \cdot 20\% = 30$

$2850 \cdot 2\% = 57$

$U = \frac{177}{3000} = 5.9\%$

Chapter 31

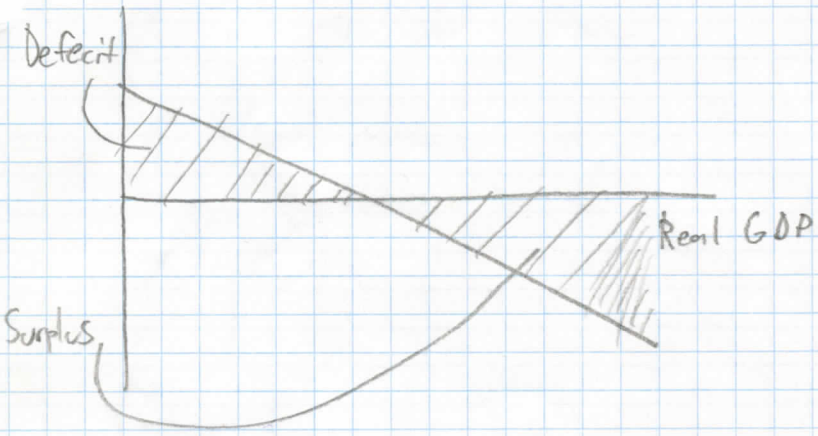
"Debt, Budget, Fiscal Policy"

Budget Deficit Fcu

$$B = G - T + iD$$

G → autonomous
iD

What would stabilize



Debt to GDP Ratio

$$\Delta d = \frac{G - T}{GDP} + (i - \pi - g)d$$

i = nominal Interest
π = inflation
g = growth rate GDP
d = debt to GDP ratio

Chapter 32

"Gains from Trade"

Output

ex:	Canada	Mexico
Wheat	6	1
Cloth	4	5

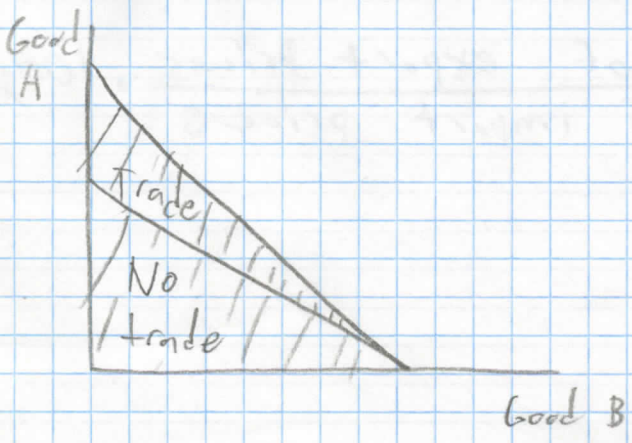
Canada has AA in wheat
Mexico has AA in cloth

Opportunity Cost

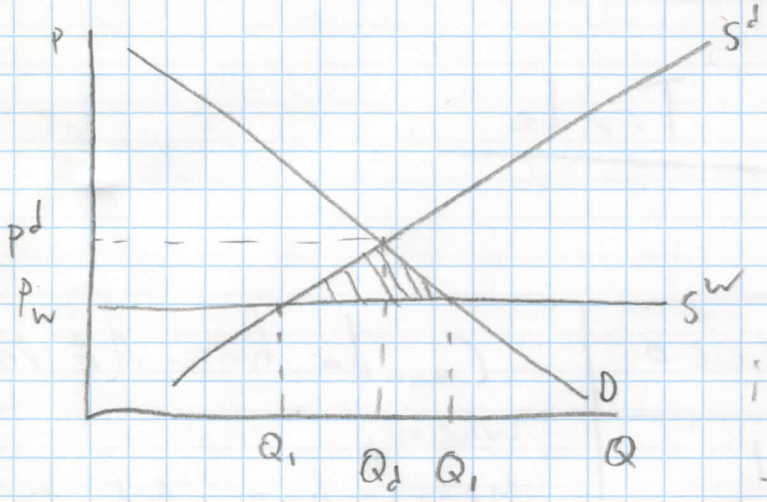
	Canada	Mexico
Wheat	$\frac{2}{3}$ cloth	5 cloth
Cloth	$\frac{3}{2}$ wheat	$\frac{1}{5}$ wheat

∴ Canada has CA in cloth
Mexico has CA in wheat

Consumption Possibilities Frontier (CPF)



Net Importer

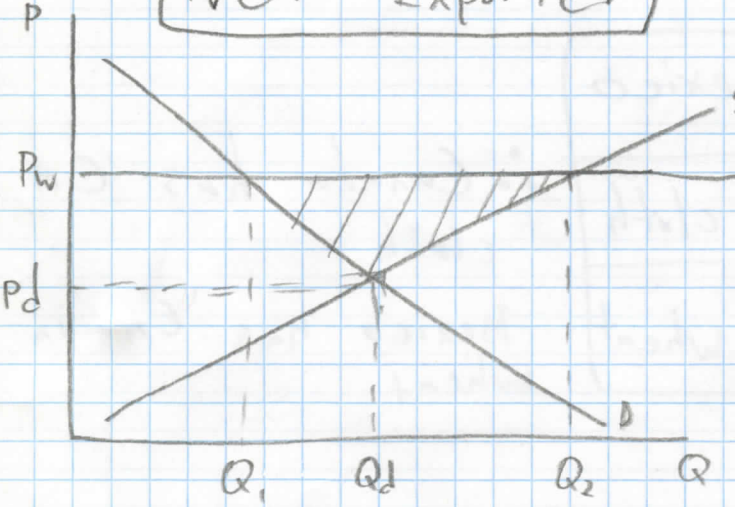


increase in C.S

decrease in P.S.

$Q_2 - Q_1$ = imports

Net Exporter



increase in P.S.

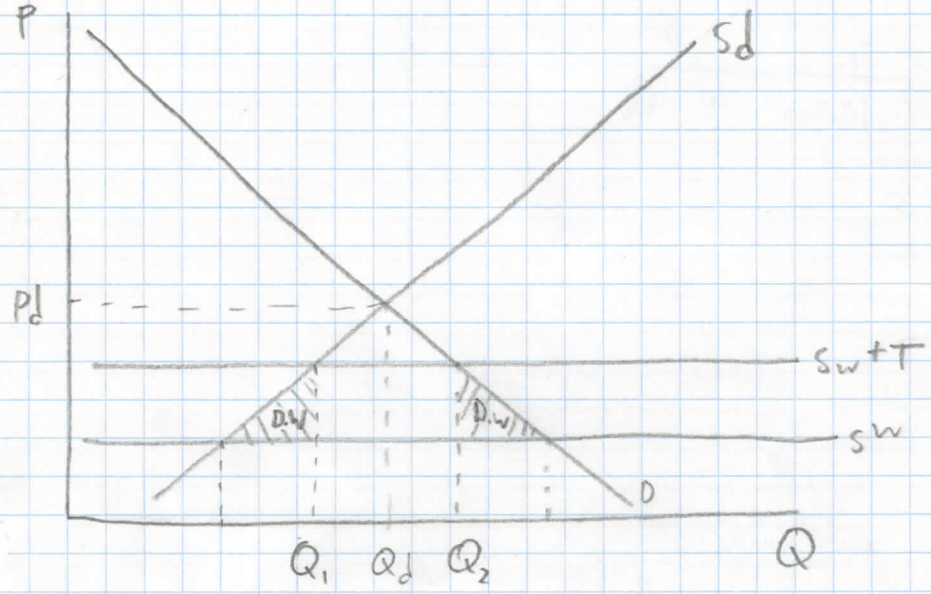
decrease in C.S.

$Q_2 - Q_1$ = Exports

$$\text{Terms of Trade} = \frac{\text{index of export prices}}{\text{index of import prices}} \cdot 100\%$$

Chapter 33

"Trade Policy"



$Q_2 - Q_1$ = Imports

* notice, less than before because of deadweight loss

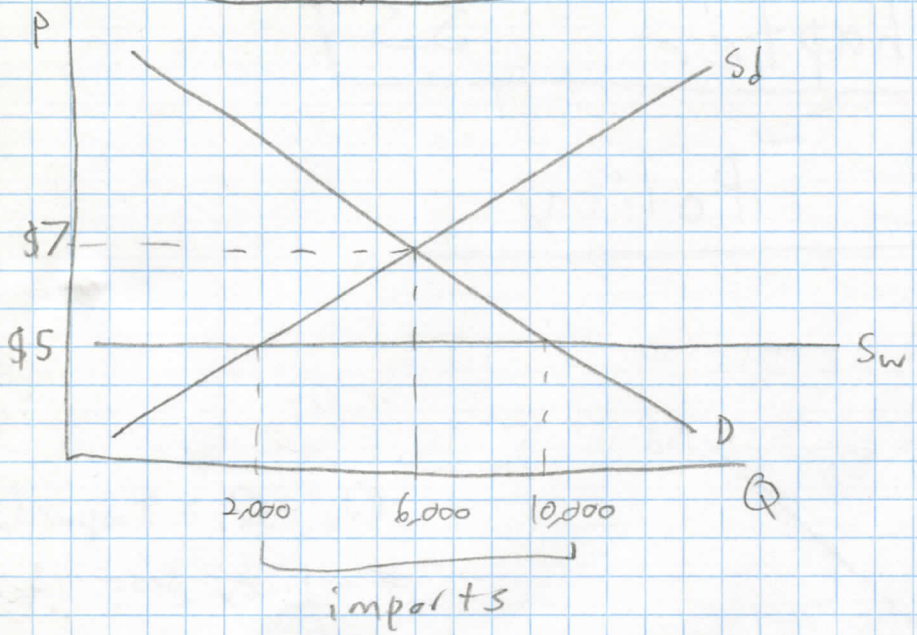
Country A's Demand / Supply schedule

Price	10	9	8	7	6	5	4
Q demanded	0	2	4	6	8	10	12
Q Supplied	12	10	8	6	4	2	0

① what is equilibrium Price
$7, because $Q_d = Q_s$ @ 6 units

② Suppose a World price of $5, will country "A" import or export
- Will Import 8 units

Country A



Chapter 34

"Exchange Rates/Balance of Payments"

Balance of Payments

Current: Case of wine, $100, pack of oranges

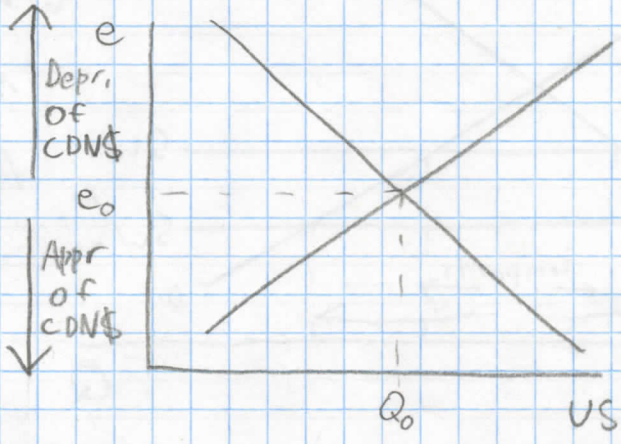
Capital: Government bonds

1. Was it an inflow or outflow?
   ie: Export or import
2. Current Account or Capital Account?
   ie: Goods and Services or Investment

Exchange Rate:

$$e = \frac{\text{CDN \$}}{\text{USA \$}}$$

ie: Price of a US Dollar

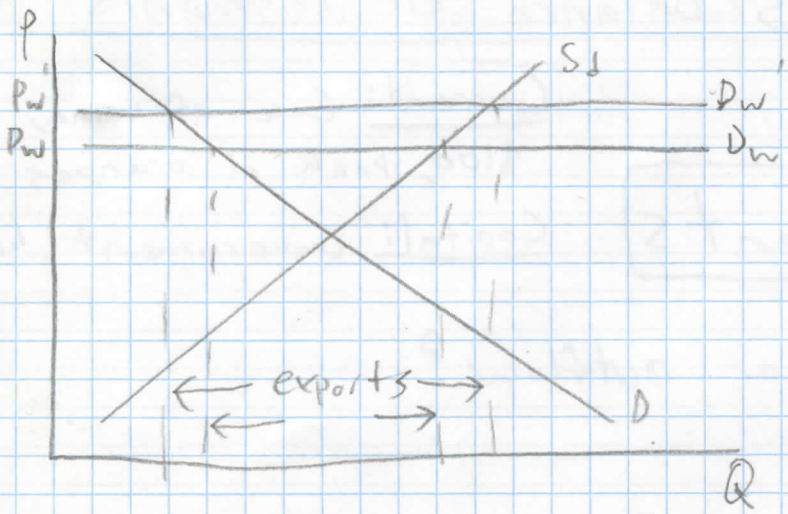


* Its all about do people Want CDN dollars abroad?

What causes Supply/Demand for foreign currency to shift?

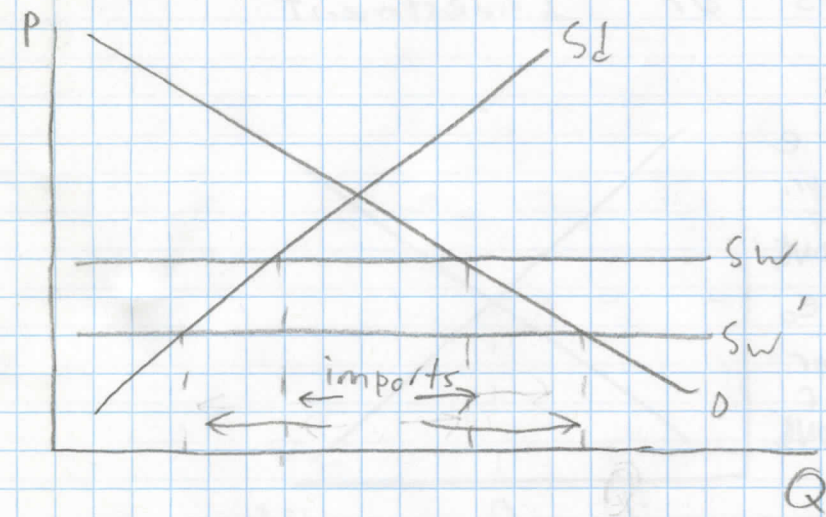
1. Inflation (changes in price levels)
2. imports/Exports, tariffs
3. Interest rates

Canada as an Exporter

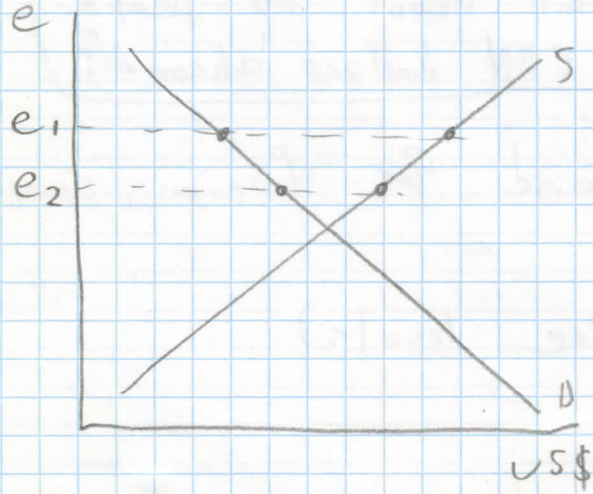


When ↑e, exports increase and CDN$ DEPRECIATES

Canada as an Importer



When ↓e, imports increase and CDN$ APPRECIATES



if BOC moves from e_1 to e_2 this is devaluation of exchange rate