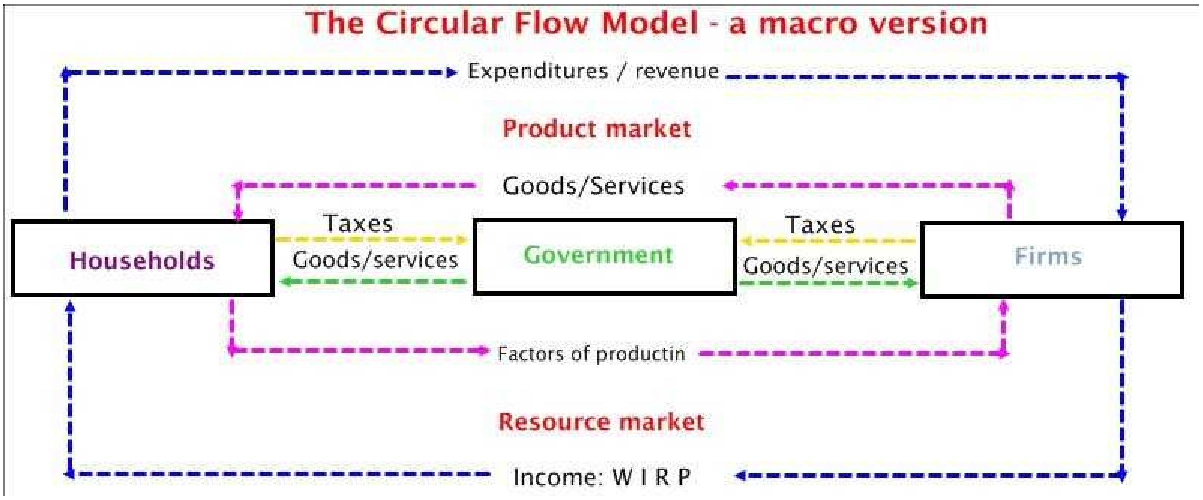
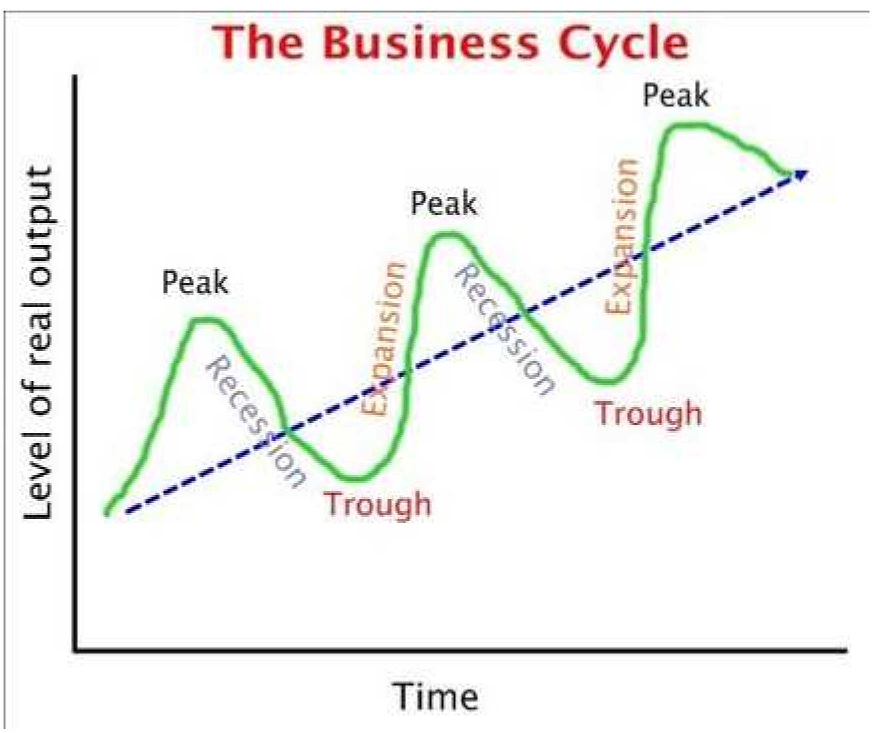
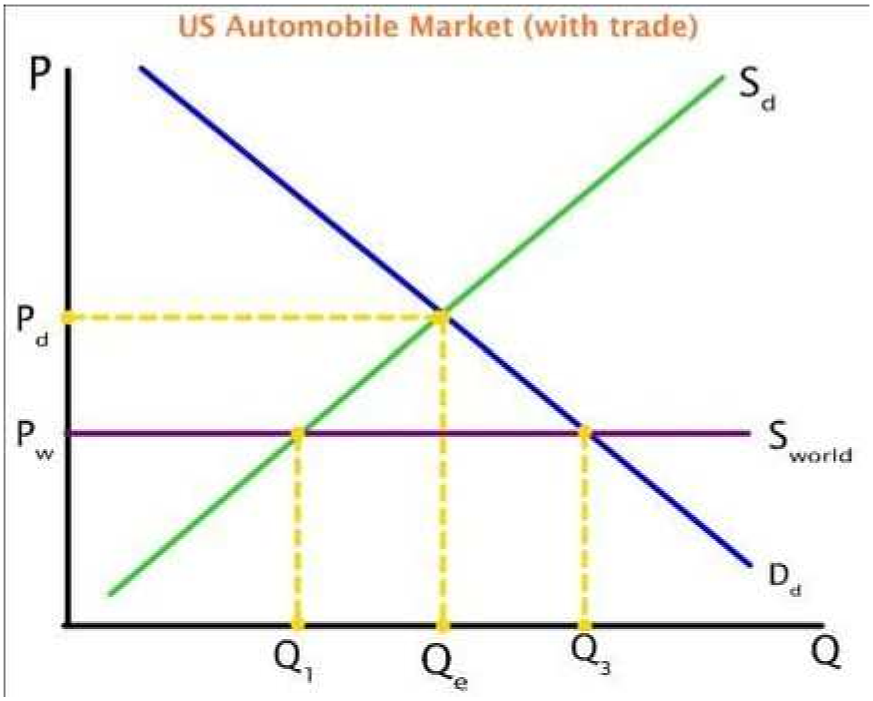
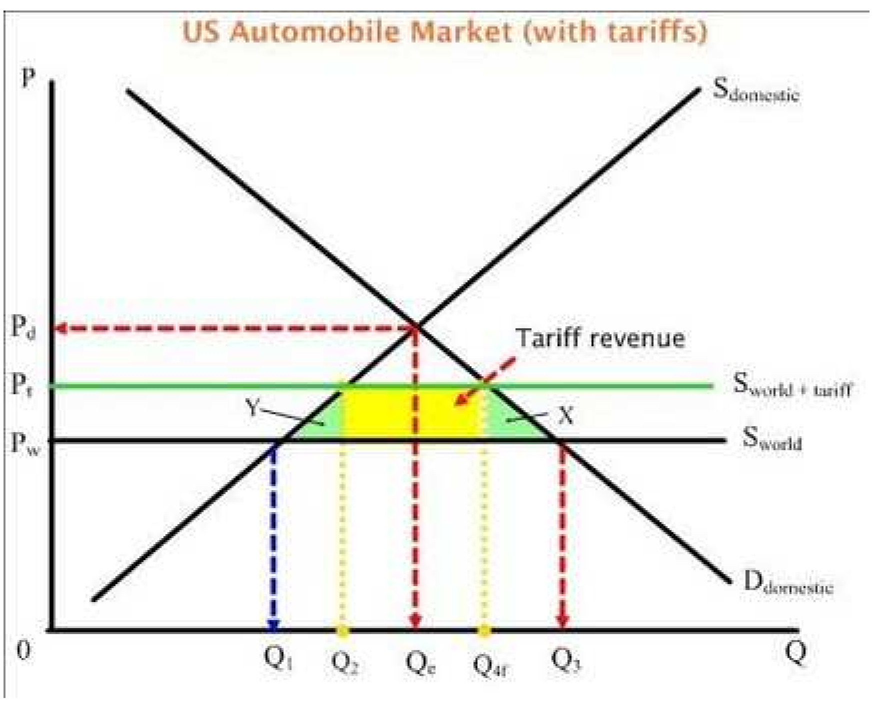
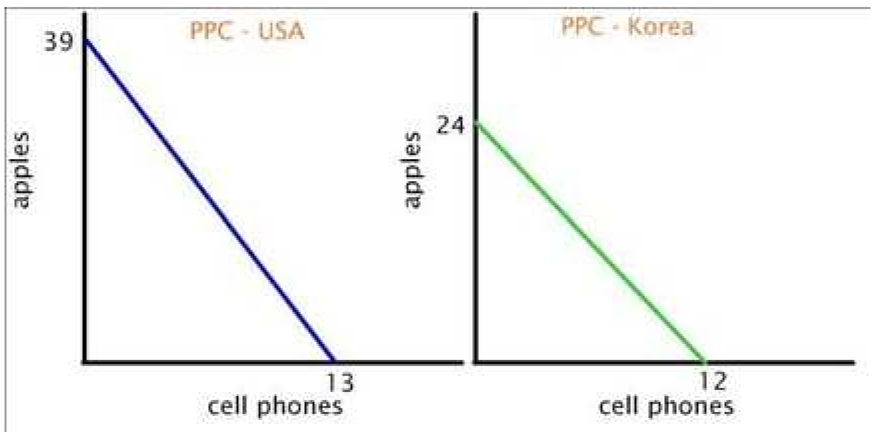

The Circular Flow Model - a macro version
Expenditures / revenue
Product market
Goods/Services
Taxes
Goods/services
Households
Government
Taxes
Goods/services
Firms
Factors of productin
Resource market
Income: W I R P


The Business Cycle
Level of real output
Peak
Recession
Trough
Expansion
Peak
Recession
Trough
Expansion
Peak
Time

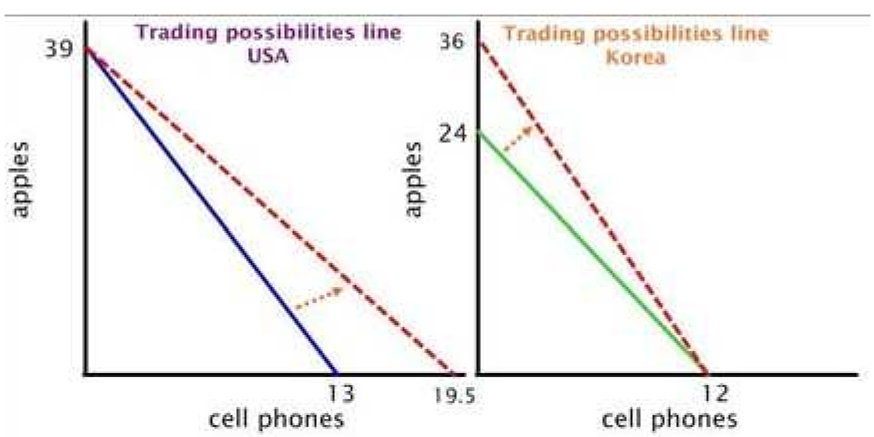




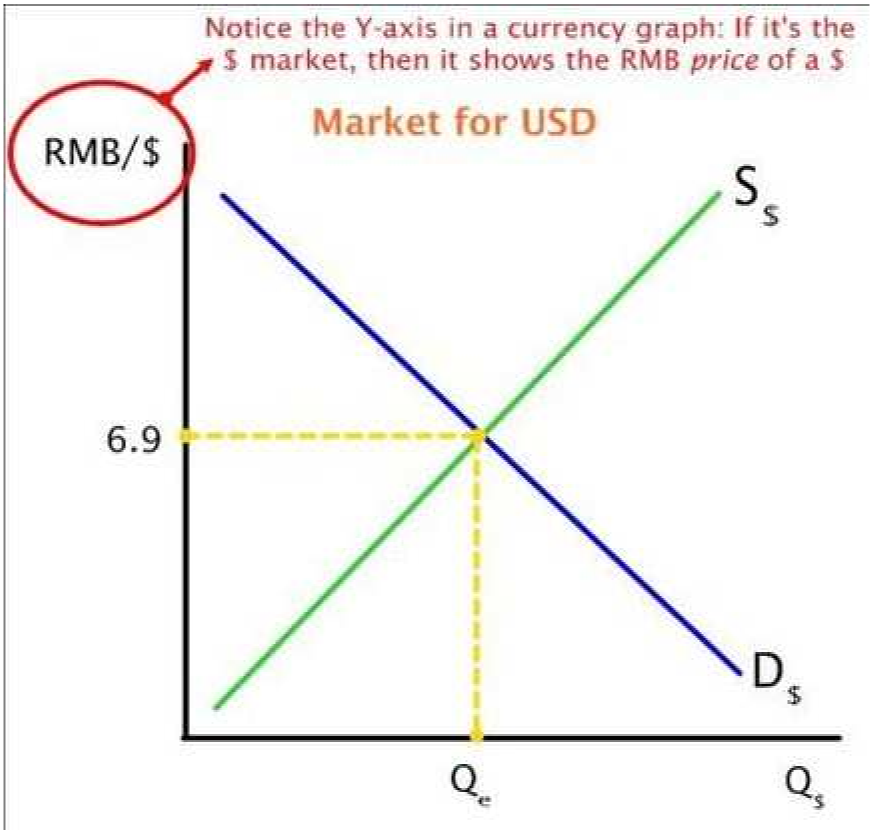
Description: A tariff on imported automobiles raises the price and quantity supplied by American firms, decreases the quantity demanded, and reduces output by foreign car makers. DWL occurs, tariff revenue is collected.



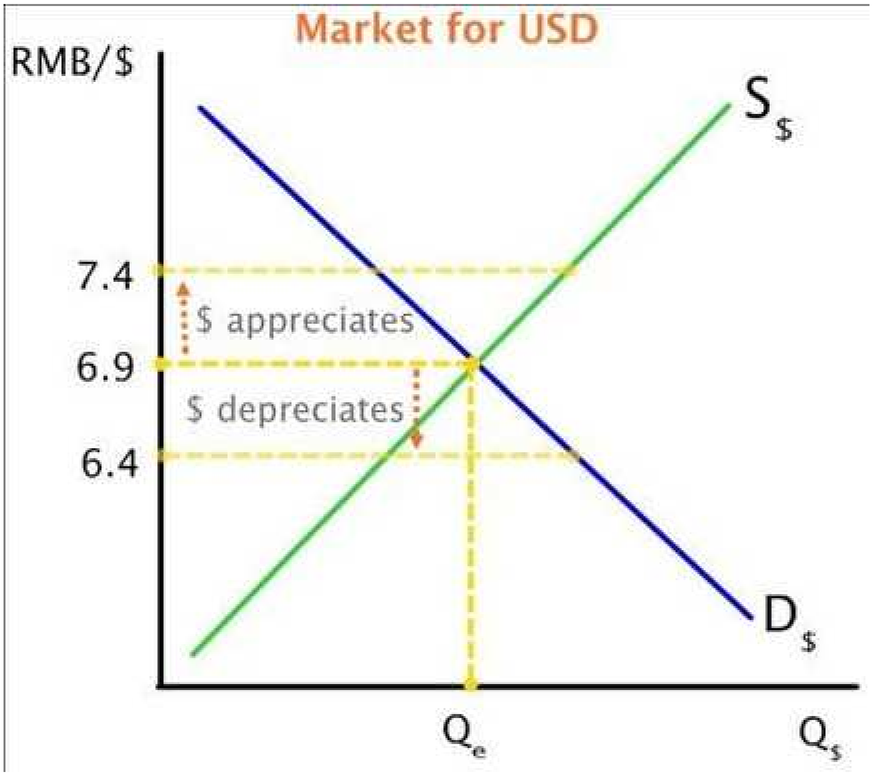
Description: USA: 3 apples cost 1 cellphone, 1/3 cellphone costs one apple
Korea: 2 apples cost one cellphone, 1/2 cellphone costs one apple
Terms of trade: (maximize product)
USA produce apples, Korea produce cellphones. Trade based on comparative advantage.



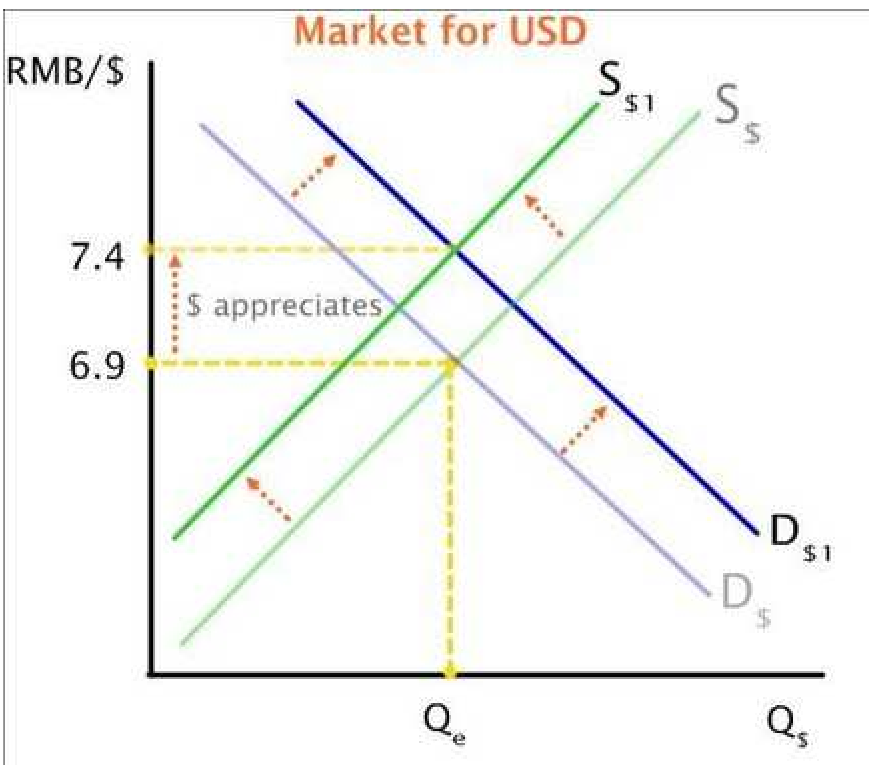
Description: From trade based on comparative advantage, USA and Korea's PPC shift beyond domestic PPC. Korea can now get 36 units of apples and USA can get 19.5 units of cellphone because of trade.



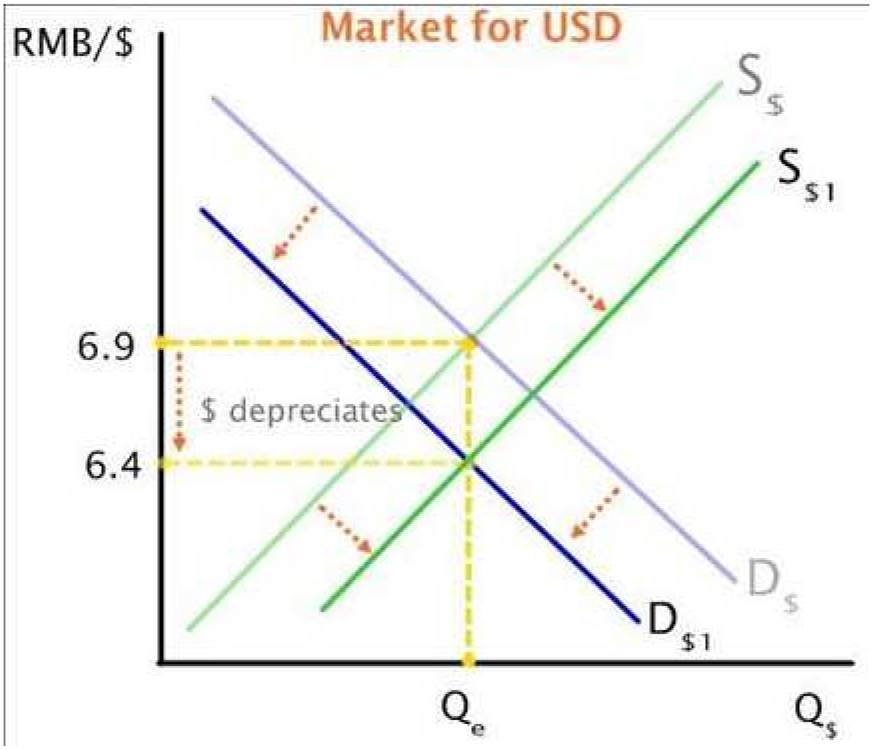
Description: The exchange rate is determined by where Supply for dollars intersect Demand for dollars.

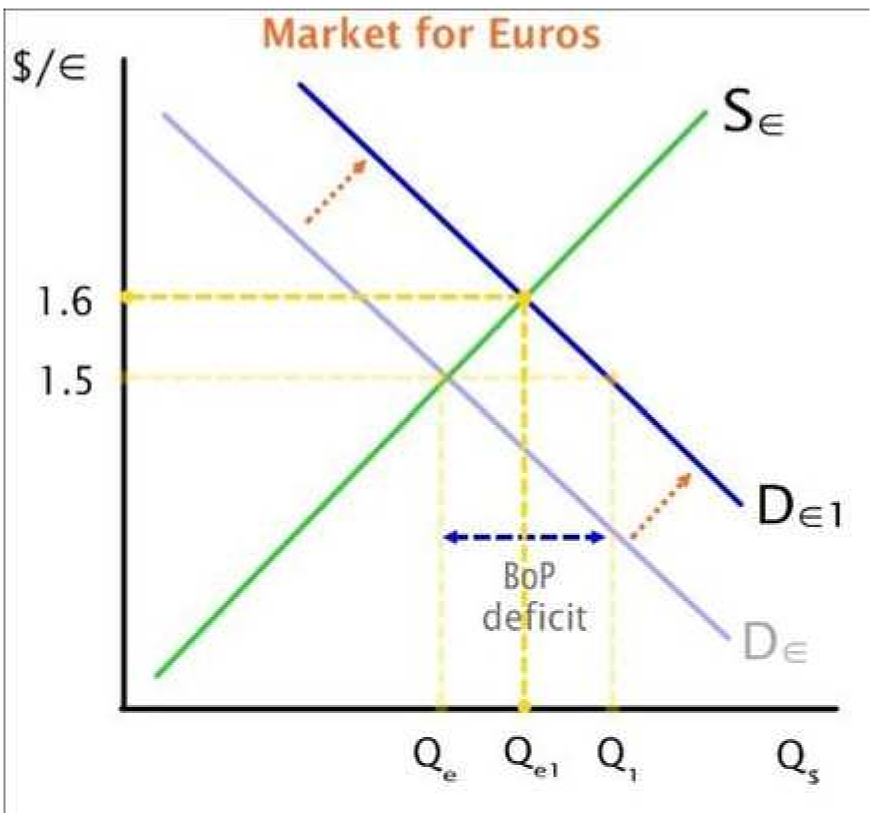


Description: When the RMB price of $ goes up, the $ appreciates. When the RMB price of $ falls, the dollar depreciates.

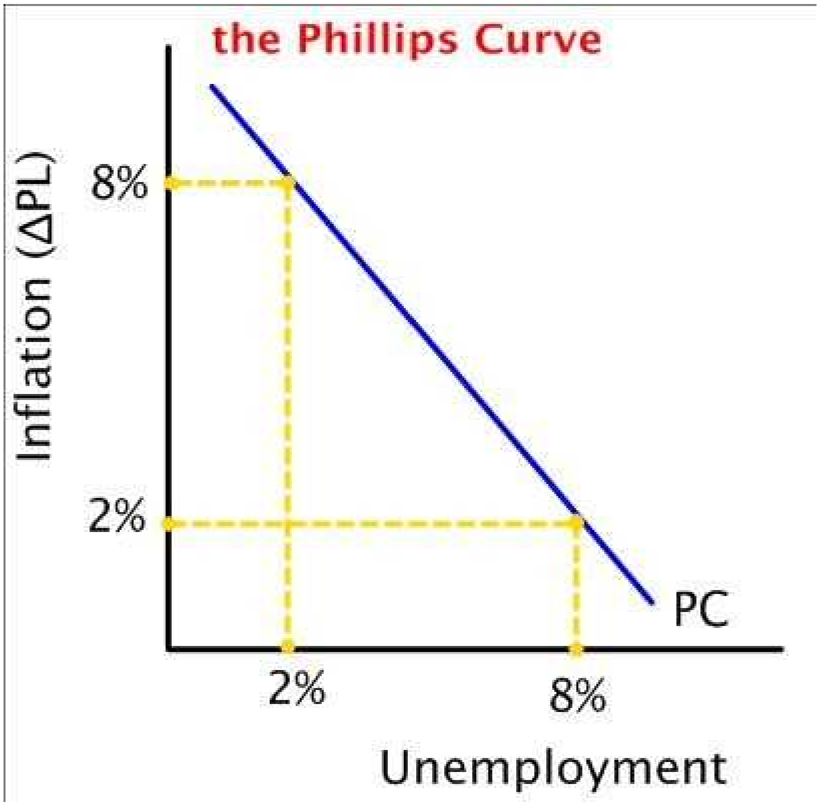


Description: Demand of dollars increases by as much as supply of dollars decreases; quantity of dollars stays the same, while the USD appreciates as 1 USD is now worth 7.4 RMB after the shift.

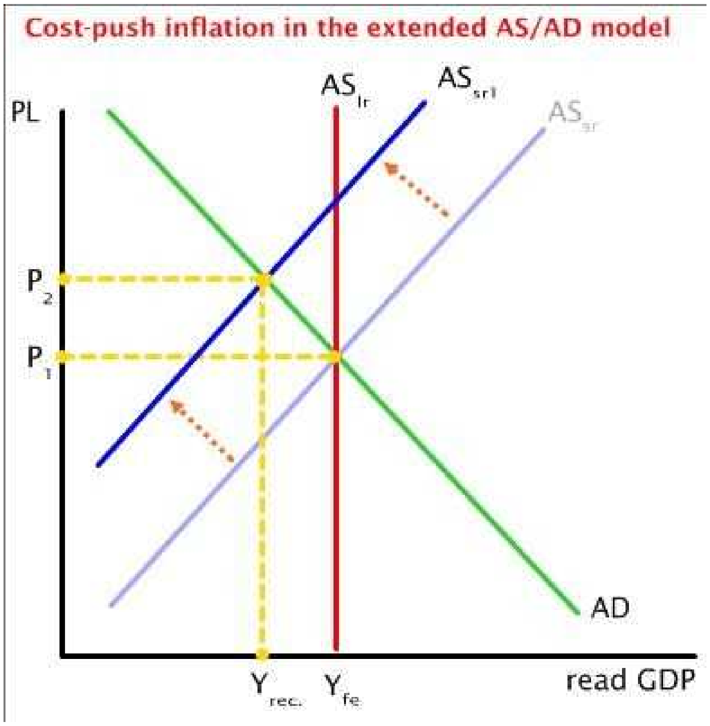




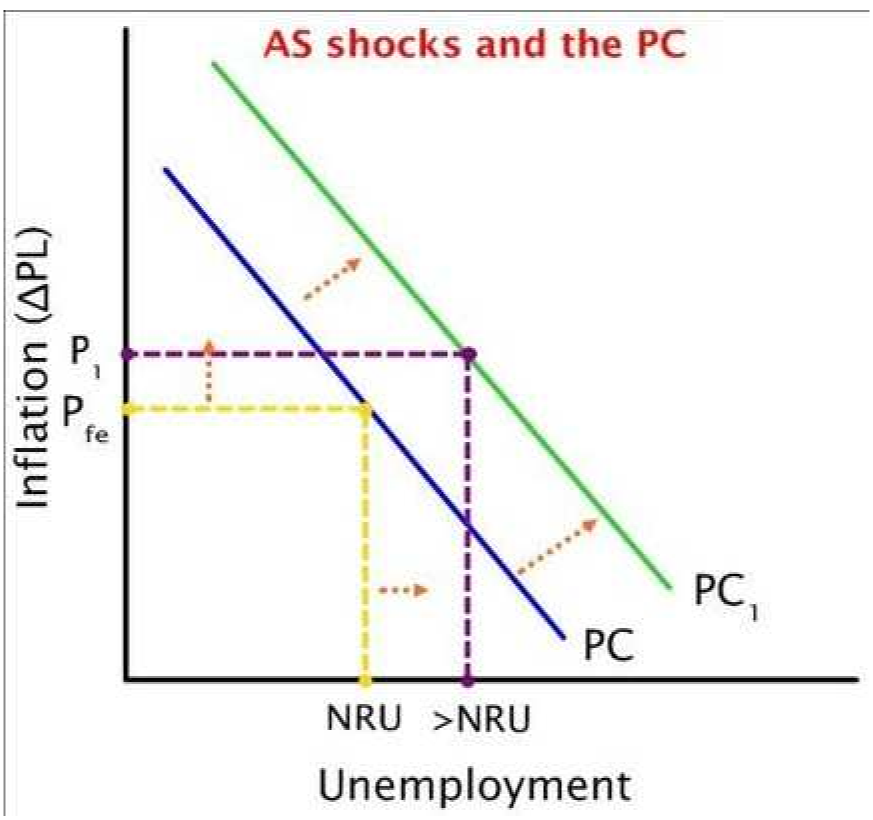
Description: As the demand for Euro increases against the dollar, Euro appreciates and dollar depreciates. The determinants of exchange rates are change in tastes, relative interest rates, political stability, relative income level, relative prices, and speculation.

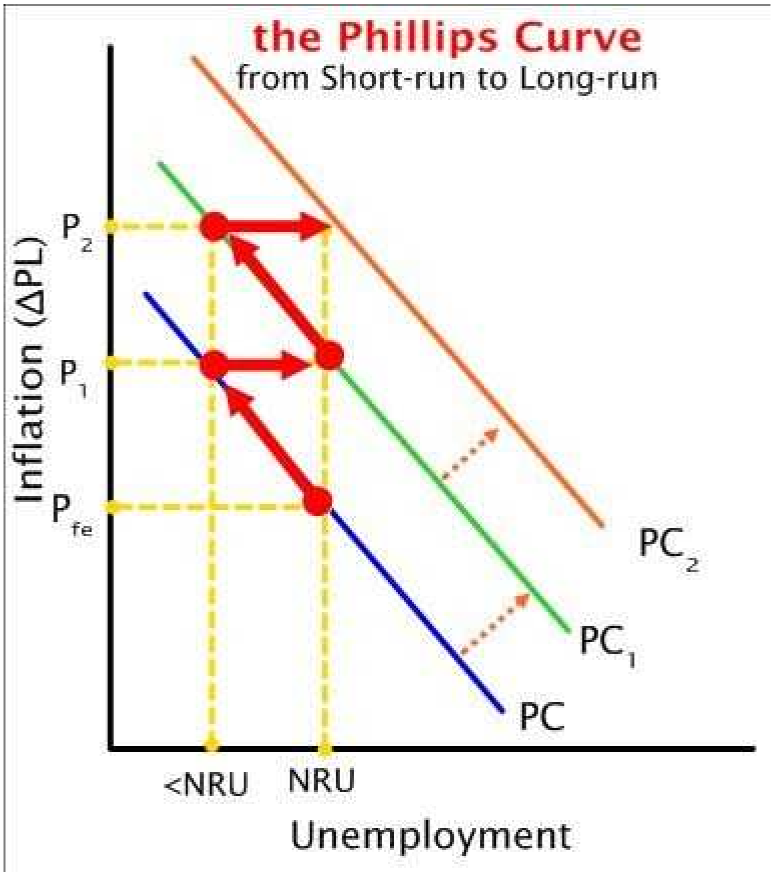


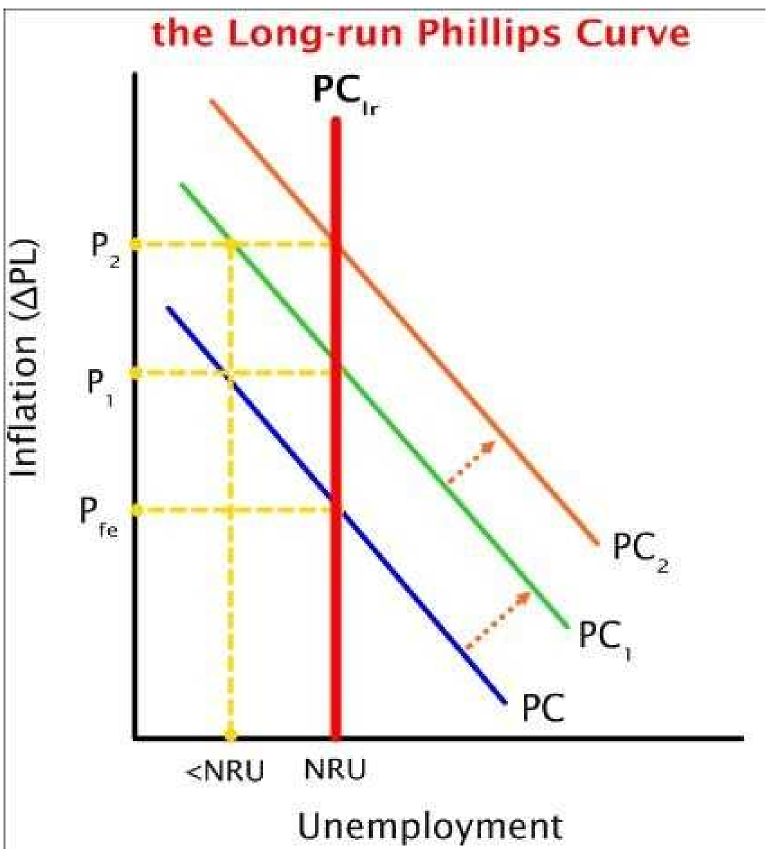
Description: There is an inverse relationship between inflation and unemployment. In other words, if inflation decreases, unemployment increases. This is only true in the short term. The curve shifts out (to the right) if AS shifts left.



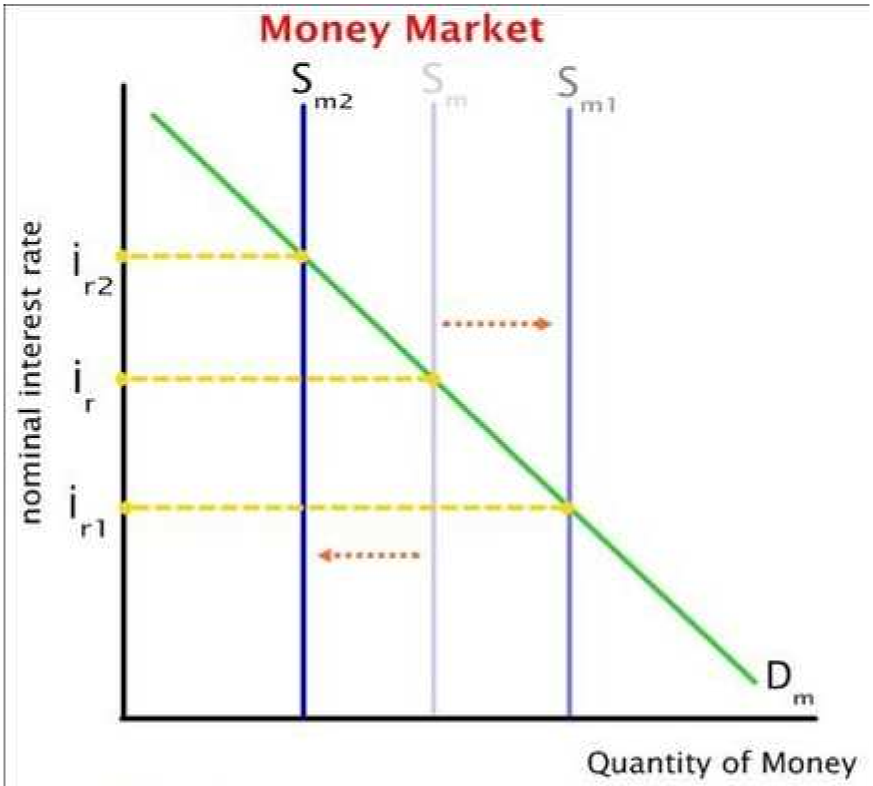
Description: If short run AS shifts to to the left, price levels will increase, and unemployment will also increase. This is also known as a supply shock. If cost of production increases, firms will cut down production and hire fewer workers.



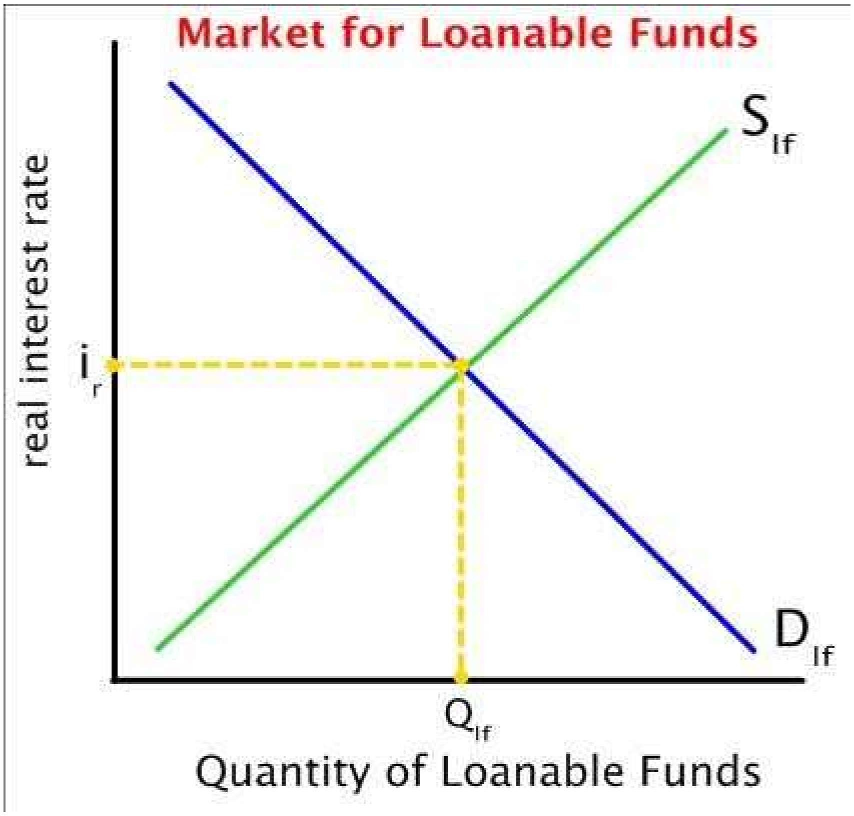


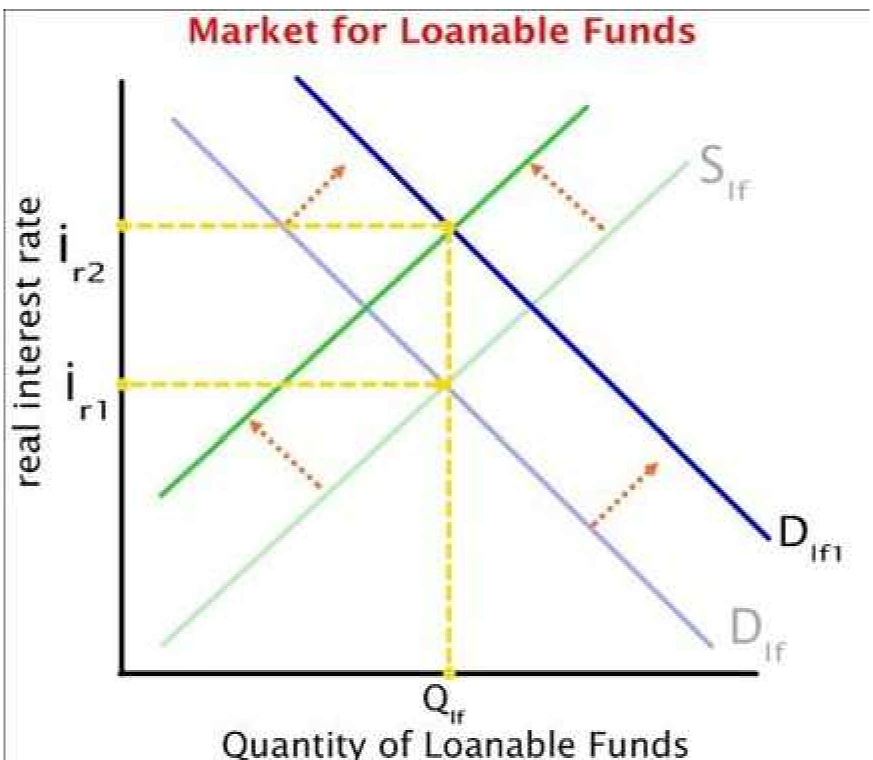


Description: Workers recognize their nominal wages haven't increased as fast as inflation, wages will increase. Business profits fall to prior level and no more workers will be employed. Unemployment returns to natural level and inflation occurs.



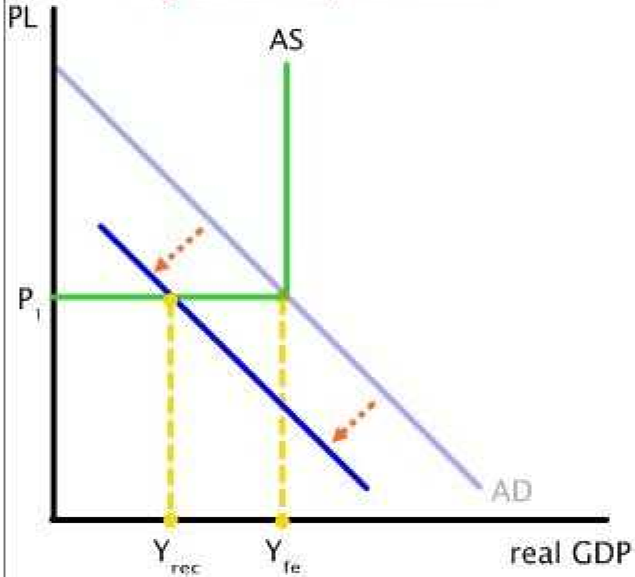
S_m to S_{m1}: Easy money policy, Fed buys bonds
S_m to Sm_2: Tight money policy, Fed sells bonds



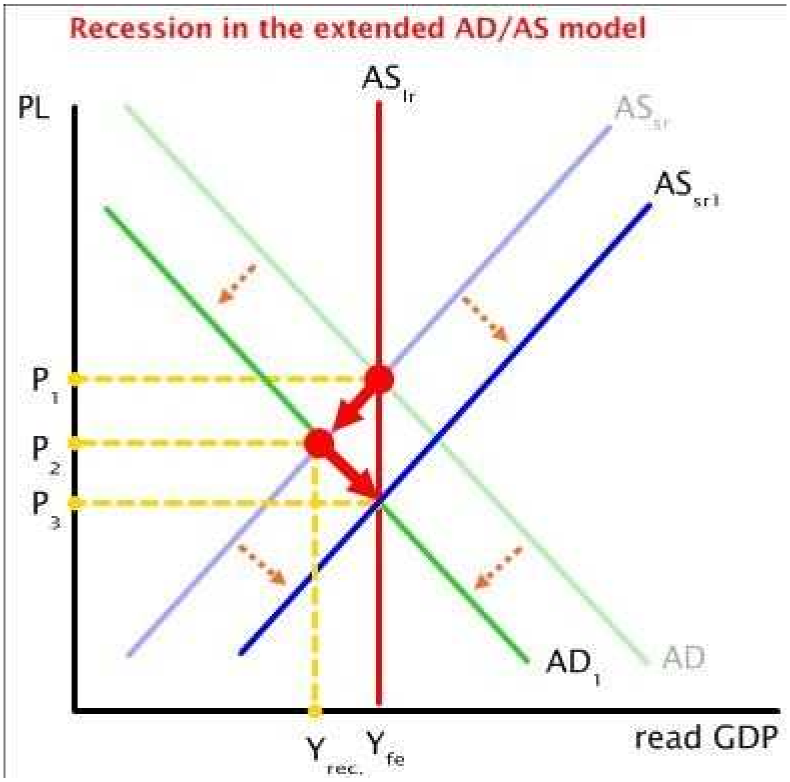


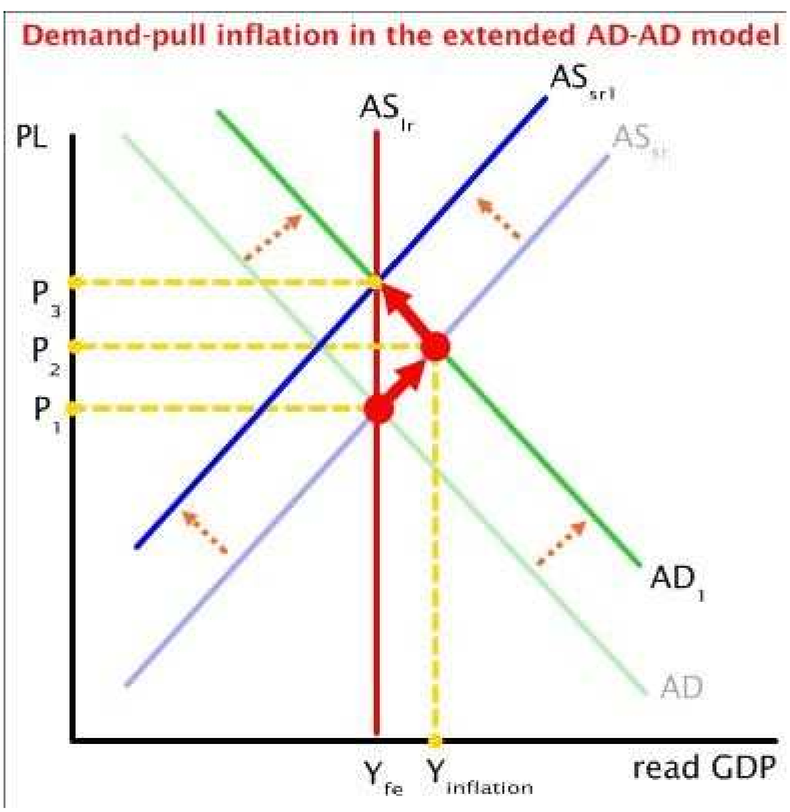
Gov't deficit spending shifts S_{lf} in and D_{lf} out, driving up real interest rates, crowding out private investment

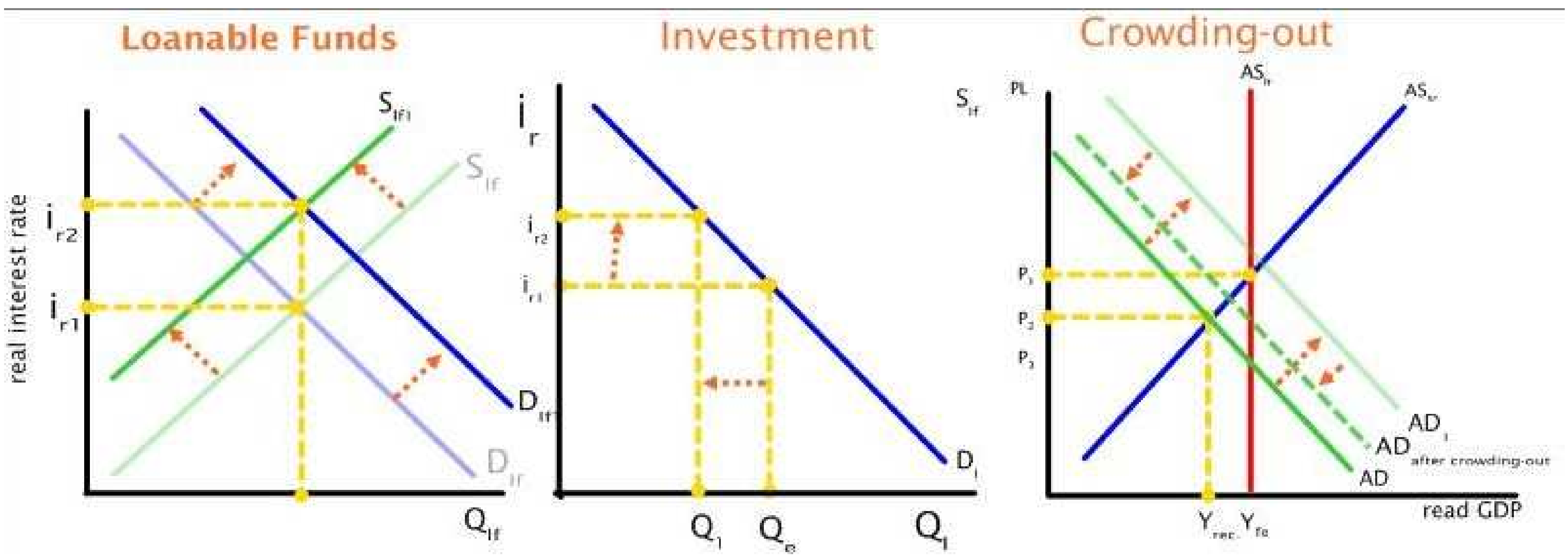
Keynesian AD/AS Model



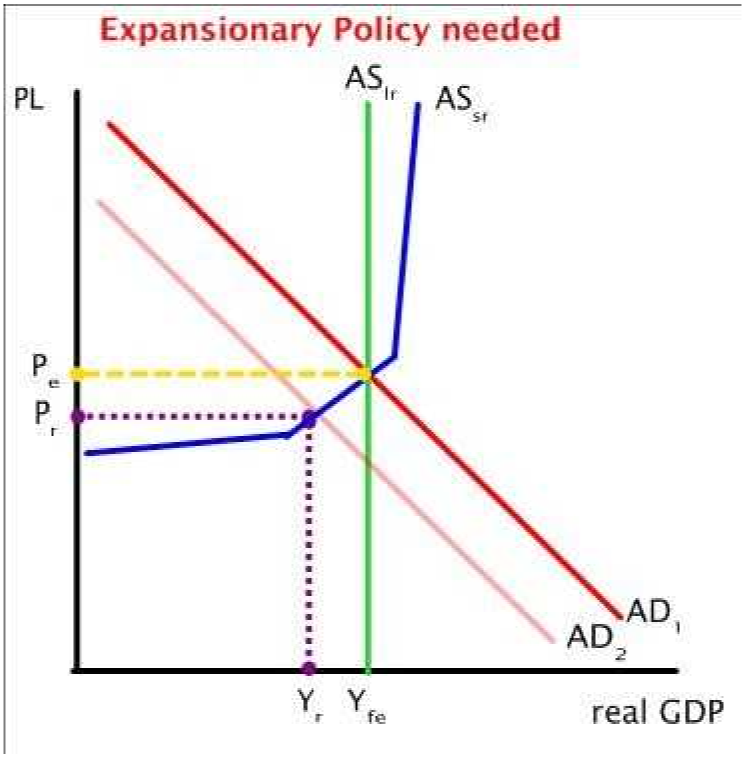
Prices and wages are inflexible downwards. Weak AD leads to severe recession and no self-correction. Active role for government needed to restore full-employment through fiscal and monetary stimulus.

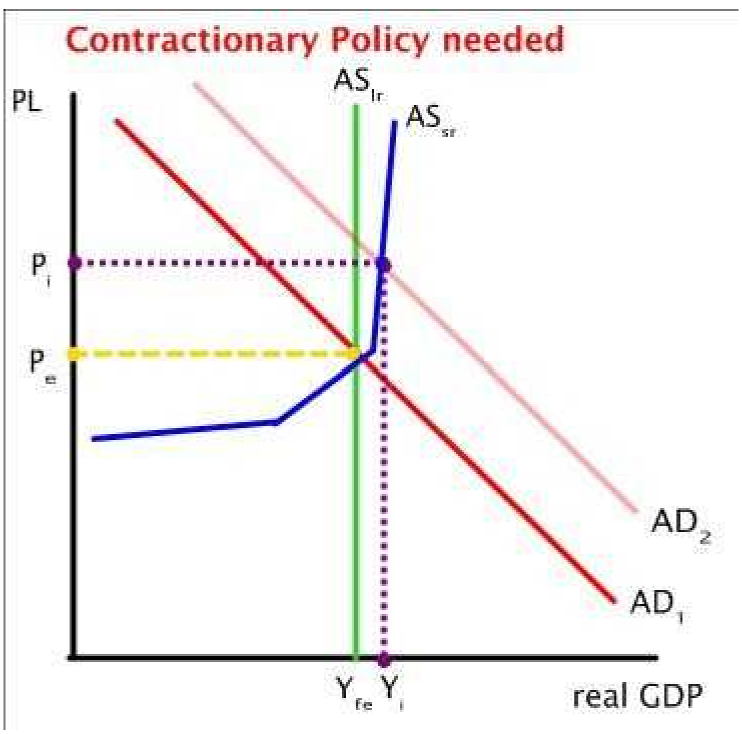

Recession in the extended AD/AS model
PL
AS lr
AS sr
AS sr1
P 1
P 2
P 3
AD 1
AD
Y rec.
Y fe
read GDP


Demand-pull inflation in the extended AD-AD model
AS sr1
AS lr
PL
AS sr
P 3
P 2
P 1
AD 1
AD
Y fe
Y inflation
read GDP

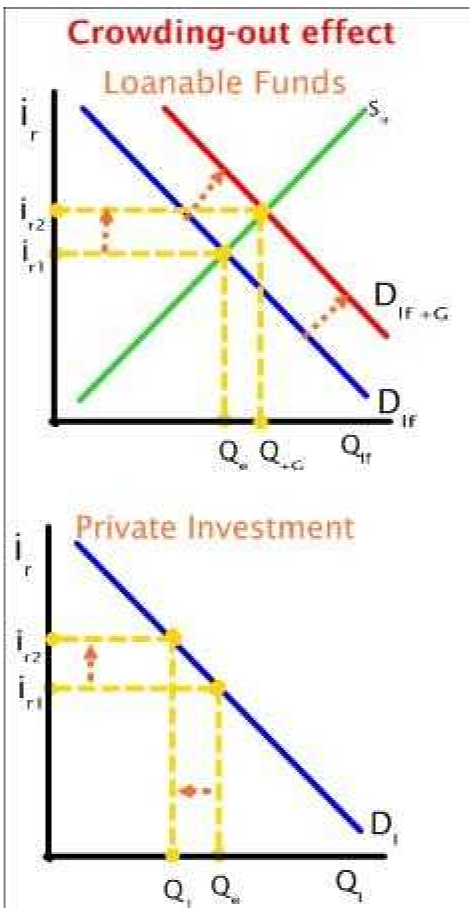


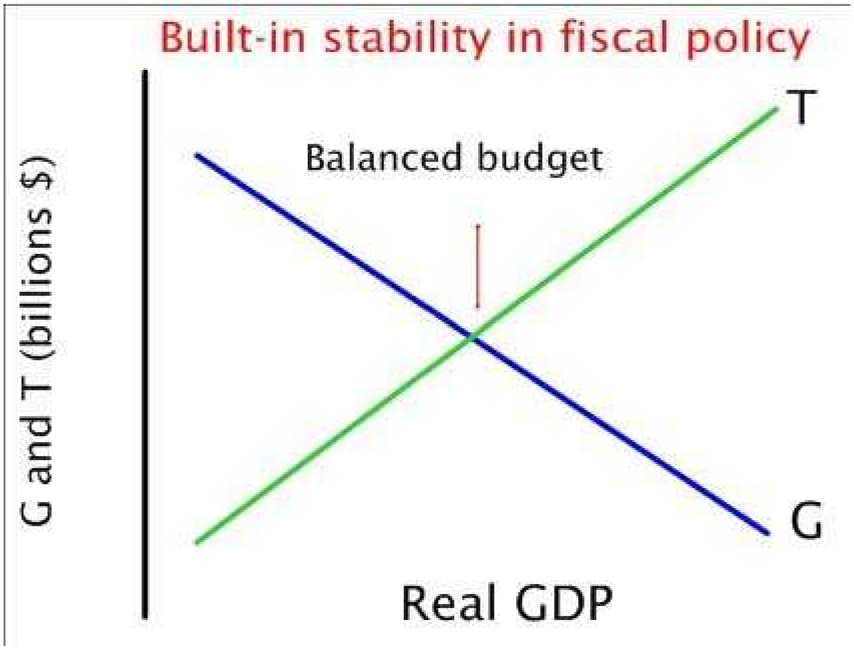
Loanable Funds
Investment
Crowding-out
real interest rate
i_{r2}
i_{r1}
S_{lf1}
S_{lf}
D_{lf1}
D_{lf}
Q_{lf}
i_r
S_{lf}
D_I
Q_1
Q_e
Q_I
PL
AS_{lr}
AS_{sr}
P_1
P_2
P_3
AD_1
$AD_{\text{after crowding-out}}$
AD
$Y_{rec.}$ Y_{fe}
read GDP

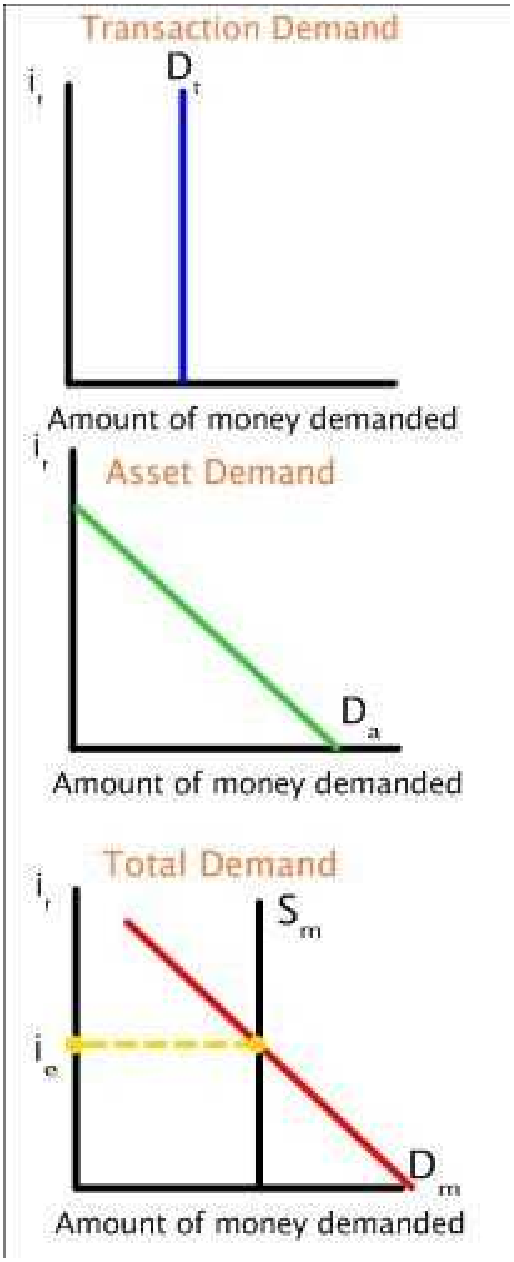

Expansionary Policy needed
PL
AS lr
AS sr
P e
P r
AD 1
AD 2
Y r
Y fe
real GDP

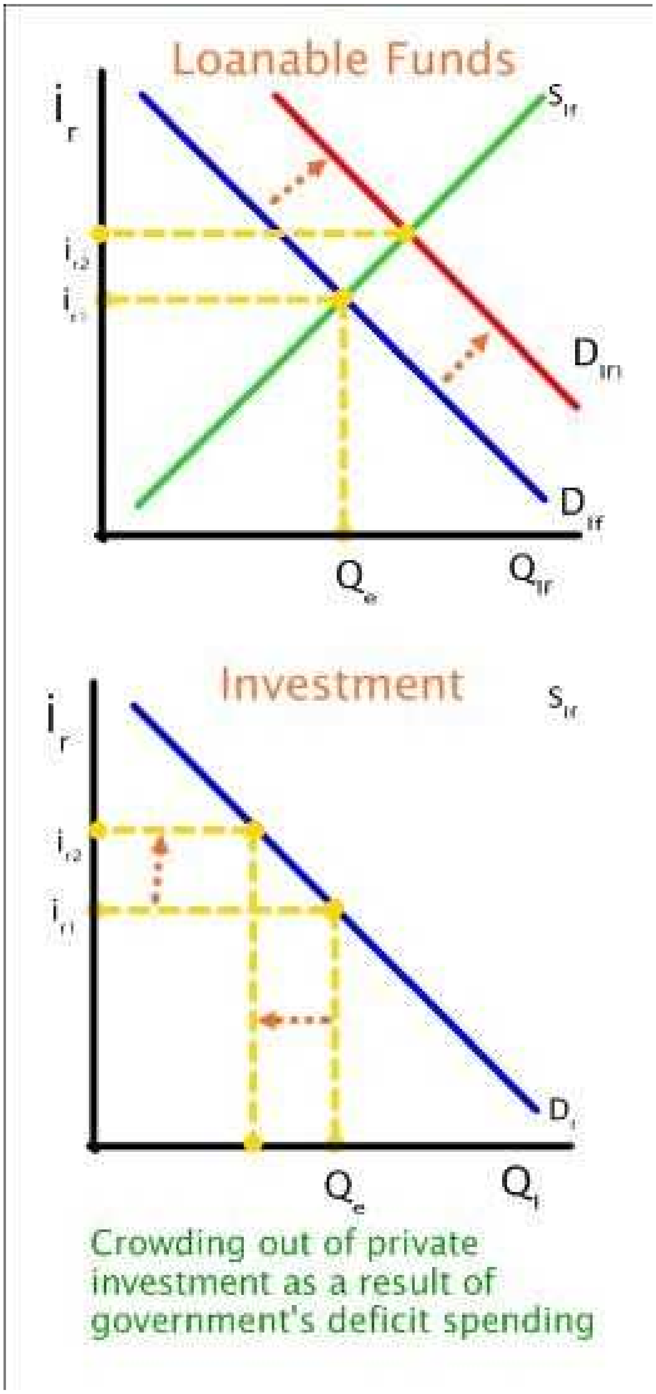

Contractionary Policy needed
PL
AS lr
AS sr
P i
P e
AD 2
AD 1
Y fe
Y i
real GDP

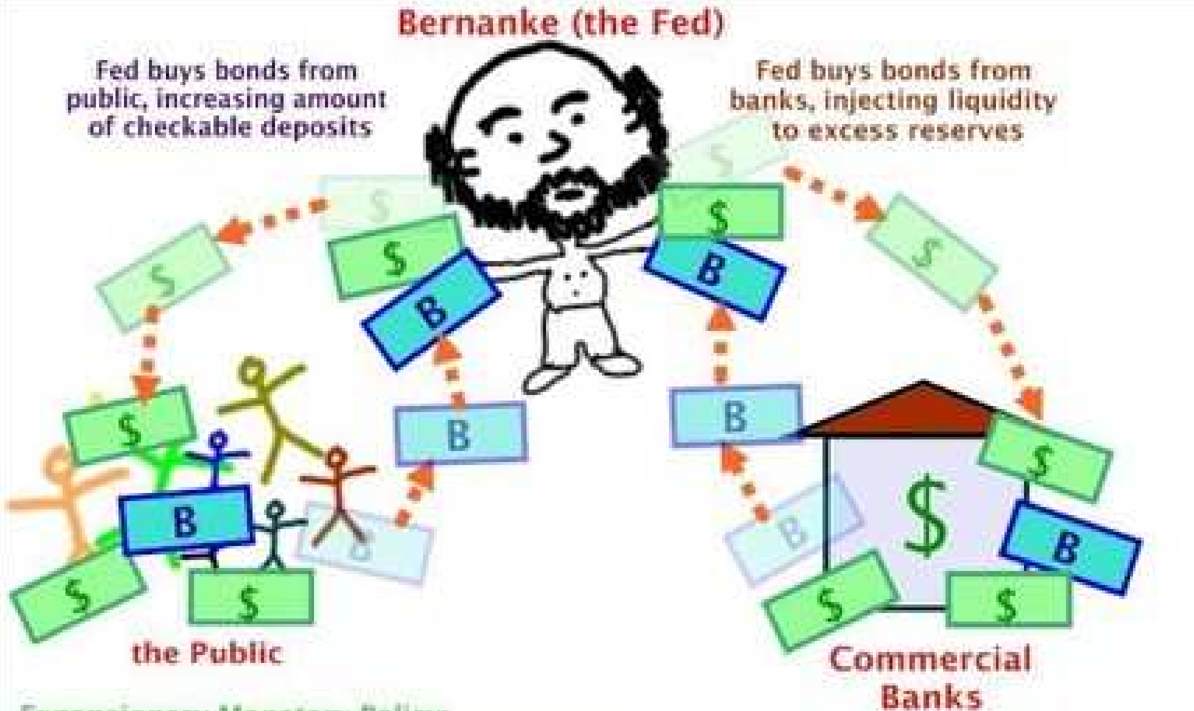
	G	T
Expansionary	↑	↓
Desired effect: G up > AD up >GDP up, UE dn PL up		T dn > DI up > C up > AD up > GDP up, UE dn, PL up
Contractionary	↓	↑
Desired effect: G dn > AD dn > GDP dn, UE up, PL dn		T up > DI dn > C dn > AD dn > GDP dn, UE up, PL dn




Built-in stability in fiscal policy
G and T (billions $)
T
Balanced budget
G
Real GDP


Transaction Demand
i_r
D_t
Amount of money demanded
i_r
Asset Demand
D_a
Amount of money demanded
Total Demand
i_r
S_m
i_e
D_m
Amount of money demanded

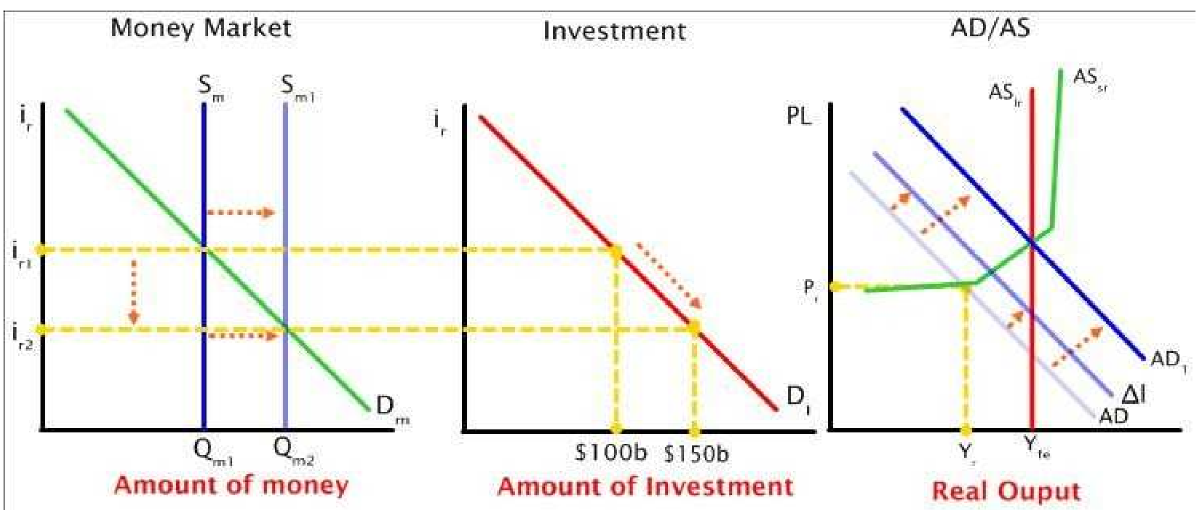

Loanable Funds
i_r
S_{lf}
i_{r2}
i_{r1}
D_{lf1}
D_{lf}
Q_e
Q_{lf}
Investment
i_r
S_{lf}
i_{r2}
i_{r1}
D_I
Q_e
Q_I
Crowding out of private
investment as a result of
government's deficit spending



Expansionary Monetary Policy:

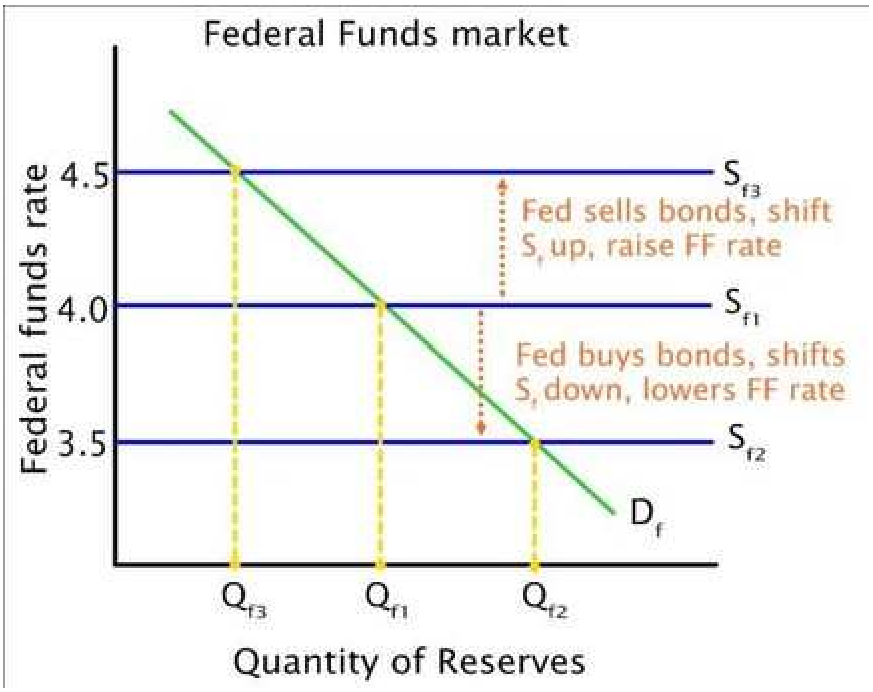
- The Fed wishes to *increase the money supply* in order to lower interest rates and *encourage new consumption and investment.*
- Fed *buys bonds from banks and the public on open market*: Exchanges liquid money for illiquid bonds.
- The public deposits new cash into banks, bank reserves increase, forcing them to lower interest rates to encourage new borrowing.
- *Consumption and investment increase* w/ lower interest rates, shifting AD out, reducing unemployment, increasing GDP and the price level.

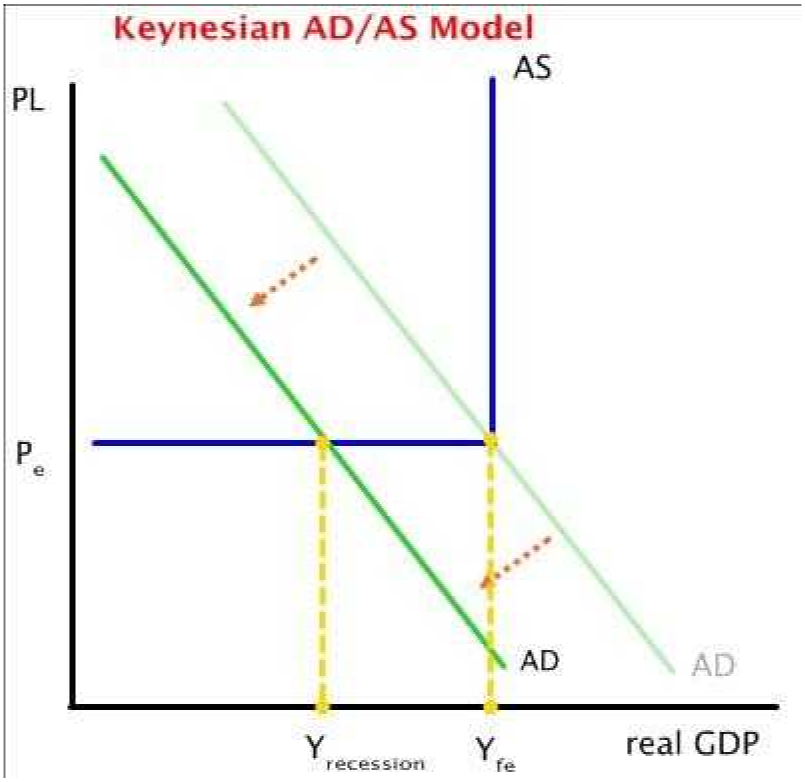
by Jason Welker - http://welkerswikinomics.com/blog

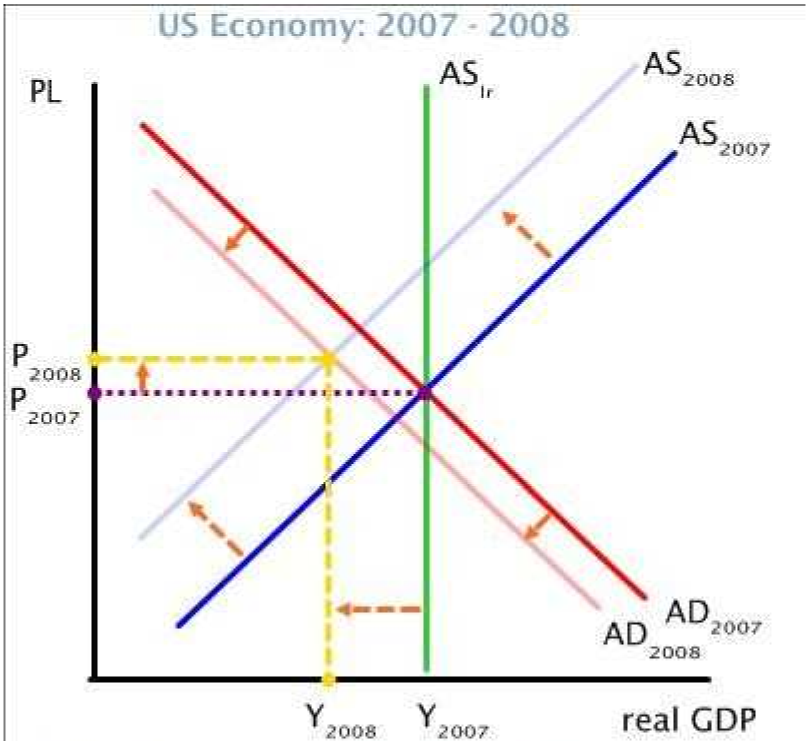


Monetary Policy and the *spending multiplier*:

- Assume MPC = .6
- If investment increases by \$50 billion as a result of expansionary monetary policy, *how much will AD increase by?*


Federal Funds market
Federal funds rate
4.5
4.0
3.5
Fed sells bonds, shift
S up, raise FF rate
Fed buys bonds, shifts
S down, lowers FF rate
Sf3
Sf1
Sf2
Df
Qf3
Qf1
Qf2
Quantity of Reserves


Keynesian AD/AS Model
AS
PL
P e
AD
AD
Y recession
Y fe
real GDP



Is the US economy experiencing stagflation?

The model above shows the effects of weak aggregate demand combined with high input prices. Both AD and AS may have shifted left since early 2007, triggering both recession and inflation. Unemployment rises, price levels rise, output decreases.