FOREIGN EXCHANGE AND THE SELF-CORRECTING BALANCE OF TRADE

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Foreign Exchange (FOREX)

- The buying and selling of currency
  - Ex. In order to buy Hess Burgers in Killeen, French tourists must trade in Euros for U.S. Dollars.
- Any transaction that occurs in the Balance of Payments necessitates foreign exchange
- The exchange rate (e) is determined in the foreign currency markets.
  - Ex. The current exchange rate is approximately 12 Pesos to 1 dollar (March 2013)
- In other words, the exchange rate is the price of a currency!

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Changes in Exchange Rates

- Exchange rates (e) are a function of the supply and demand for currency.
  - An increase in the supply of a currency will decrease the exchange rate of a currency
  - A decrease in supply of a currency will increase the exchange rate of a currency
  - An increase in demand for a currency will increase the exchange rate of a currency
  - A decrease in demand for a currency will decrease the exchange rate of a currency

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Appreciation & Depreciation of Currencies

- Appreciation of a currency occurs when the exchange rate of that currency increases (e ↑)
- Depreciation of a currency occurs when the exchange rate of that currency decreases (e ↓)
  - Ex. If French tourists flock to Killeen to go shopping, and to eat Hess Burgers then the supply of Euros will increase and the demand for Dollars will increase. This will cause the Euro to depreciate and the dollar to appreciate.

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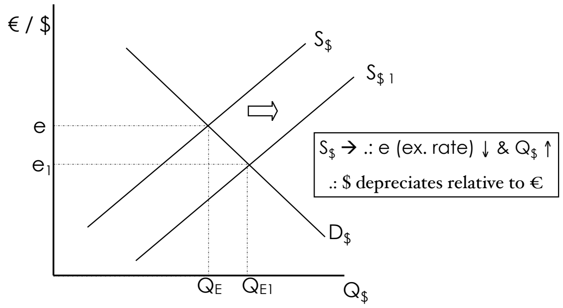
Increase in the Supply of the Dollar relative to the Euro



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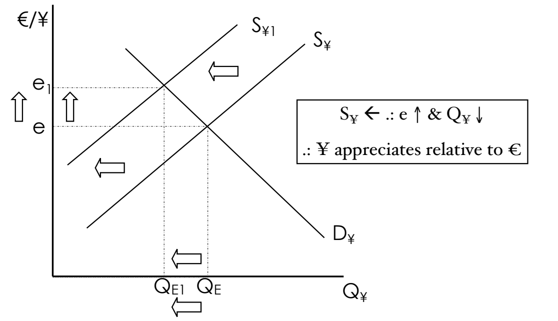
Decrease in the Supply of the Yen relative to the Euro



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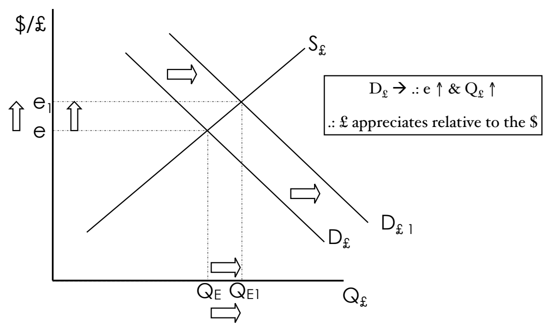
Increase in the Demand for the British Pound relative to the U.S. Dollar



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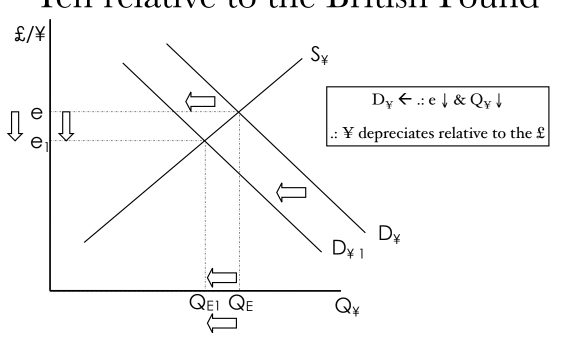
Decrease in the Demand for Yen relative to the British Pound



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Exchange Rate Determinants

- Consumer Tastes
  - Ex. a preference for Japanese goods creates an increase in the supply of dollars in the currency exchange market which leads to depreciation of the Dollar and an appreciation of Yen
- Relative Income
  - Ex. If England's economy is strong and the U.S. economy is in a recession, then the English will buy more American goods, increasing the demand for the Dollar, causing the Dollar to appreciate and the Royal Pound to depreciate

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Exchange Rate Determinants

- Relative Price Level
  - Ex. If the price level is higher in Canada than in the United States, then American goods are relatively cheaper than Canadian goods, thus Canadians will import more American goods causing the U.S. Dollar to appreciate and the Canadian Dollar to depreciate.
- Speculation
  - Ex. If U.S. investors expect that Swiss interest rates will climb in the future, then Americans will demand Swiss Francs in order to earn the higher rates of return in Switzerland. This will cause the Dollar to depreciate and the Swiss Franc to appreciate.

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Exports & Imports

- The exchange rate is a determinant of both exports and imports
- Appreciation of the dollar causes American goods to be relatively more expensive and foreign goods to be relatively cheaper thus reducing exports and increasing imports
- Depreciation of the dollar causes American goods to be relatively cheaper and foreign goods to be relatively more expensive thus increasing exports and reducing imports

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Expansionary Monetary Policy to Counteract a Recession w/ reinforcing effect on Net Exports

Res. Ratio↓ Disc. Rate↓ Buy Bonds TAF	=	ER ↑, therefore MS↑ causing i%↓ which leads to I_G↑ so AD → , resulting in GDP_R ↑ and PL↑ , making u%↓

And now! Because i%↓ either $D_\$$← or $S_\$$→ which causes $↓ making U.S. goods relatively cheaper and foreign goods relatively more expensive causing X↑and M↓ which means X_N↑ thereby reinforcing the increase in AD already caused by the increase in I_G.

ER = Excess Reserves
MS = Money Supply
i% = Nominal Interest Rate
I_G = Gross Private Investment
$D_\$$= Demand for dollars in FOREX
X = Exports

AD = Aggregate Demand
PL = Price Level
GDP_R = Real Gross Domestic Product
u% = Unemployment Rate
$S_\$$ = Supply of Dollars in FOREX
M = Imports, X_N = Net Exports

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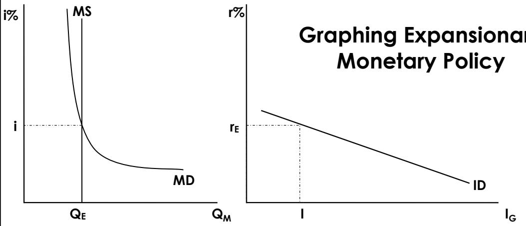
Graphing Expansionary Monetary Policy



Fed buys bonds, TAF loan,

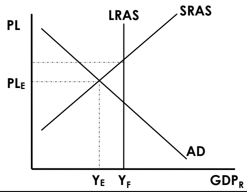
Lower discount rate

.: ER↑ .: MS→ .: i%↓

.: I_G↑

.: AD→.: GDP_R↑ & PL↑

.: u%↓ & π%↑



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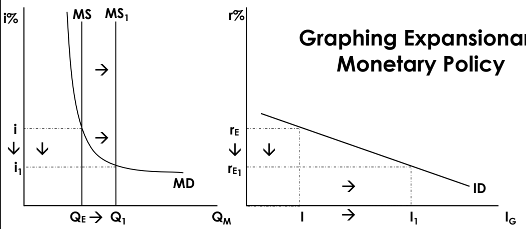
Graphing Expansionary Monetary Policy



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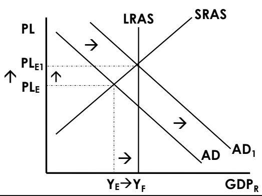

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Contractionary Monetary Policy to Counteract Inflation w/ reinforcing effect on Net Exports

Res. Ratio↑ Disc. Rate↑ Sell Bonds

= ER ↓ ,therefore MS ↓ causing i%↑which leads to I_G↓

so AD ← , resulting in PL ↓ and GDP_R ↓ , making u%↑

And now! Because i%↑either $D_\$$ →or $S_\$$← which causes \$↑making U.S. goods relatively more expensive and foreign goods relatively cheaper causing X↓and M ↑ which means X_N↓thereby reinforcing the decrease in AD already caused by the decrease in I_G.

ER = Excess Reserves
MS = Money Supply
i% = Nominal Interest Rate
I_G = Gross Private Investment
$D_\$$= Demand for dollars in FOREX
X = Exports

AD = Aggregate Demand
PL = Price Level
GDP_R = Real Gross Domestic Product
u% = Unemployment Rate
$S_\$$ = Supply of Dollars in FOREX
M = Imports, X_N = Net Exports

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WEAKNESSES: THE 'CROWDING OUT' EFFECT

- A possible side-effect of increased government spending and reduced taxes is a budget deficit which may lead to the 'crowding-out' of Gross Private Investment (I_G) and Net Exports (X_N)
- When G↑ or T↓, then government must borrow in order to continue spending. This leads to an increase in the demand for loanable funds or a decrease in the supply of loanable funds, which results in r%↑. This change in r% leads to I_G↓. In addition, the increase in r% causes $D_\$$↑ and/or $S_\$$↓ as investors seek higher returns in the U.S. This leads to \$↑ which leads to X↓ and M↑, so X_N↓. Because I_G and X_N are direct components of AD, these decreases offset some of the increase in AD.

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WEAKNESSES:
THE 'CROWDING IN' EFFECT

- A possible side-effect of decreased government spending and increased taxes is a budget surplus which may lead to the 'crowding-in' of Gross Private Investment (I_G) and Net Exports (X_N)
- When G↓ or T↑, then government develops a budget surplus. This leads to a decrease in the demand for loanable funds or an increase in the supply of loanable funds, which results in r%↓. This change in r% leads to I_G↑. In addition, the decrease in r% causes $D_\$$↓ and/or $S_\$$↑ as investors seek higher returns abroad. This leads to \$↓ which leads to X↑ and M↓, so X_N↑. Because I_G and X_N are direct components of AD, these increases offset some of the decrease in AD.

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Self-Correcting Balance of Trade

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Self-correcting Balance of Trade

\$↑

X↑M↓ .: X_N↑

X↓M↑ .: X_N↓

\$↓

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Summary

- FOREX is used to express the buying and selling of currency during international trade.
- Appreciation of a currency occurs when the exchange rate of that currency increases (e↑), while depreciation of a currency occurs when the exchange rate of that currency decreases (e↓)
- The self-correcting balance of trade illustrates that any changes made to imports or exports that affect the value of the dollar will work itself out over time because of the side effects the changes will have.

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