Fiscal Policy and Classical Economist

Classical macroeconomics

- Minimum intervention in the economy

- Say's law of market

- Wage-price flexibility

- Full-employment

- Quantity theory of money

Fiscal Policy: Government Spending

- Fiscal policy means budget policy which has mainly two instruments: government expenditure and taxation policy.

- How is the government expenditure financed? What are the sources of government spending?.

- Sources of funds: taxation, selling bonds to the public (borrowing funds from the public), or creating new money.

Government spending

- To increase spending, then, the government must increase taxation, sell additional bonds to the public, or increase the money supply.

- As printing of new money will lead to increase in money supply at first instance, let us assume that the money supply is fixed.

- To see the impact of financing of government expenditure through selling of bond to the public, it is further assumed that tax collections are fixed.

Government spending

- The analysis shows that a bond-financed increase in government spending does not affect full employment equilibrium output as well as the price level.

- As output is not getting affected by changes in government spending, so employment must also be unaffected.

- If G is government expenditure and T is for taxes, then

- If G > T then, G – T > 0   Deficit = G - T
- If G < T then, G – T < 0   Surplus = G - T
- If G = T then, G – T = 0   Balance G = T

Government Spending and Loanable funds market

- If $G > T$ then, $G - T > 0$ Deficit $= G - T$

If $G = T$ then, $G - T = 0$ Balance $G = T$

The initial situation

Now let us turn to loanable funds market. In the absence of government borrowing through sale of bonds, initially, the demand for loanable funds only include demand for investment. The market is in equilibrium.

If the government steps in the market for the borrowing purpose then the demand for loanable funds adjusted as
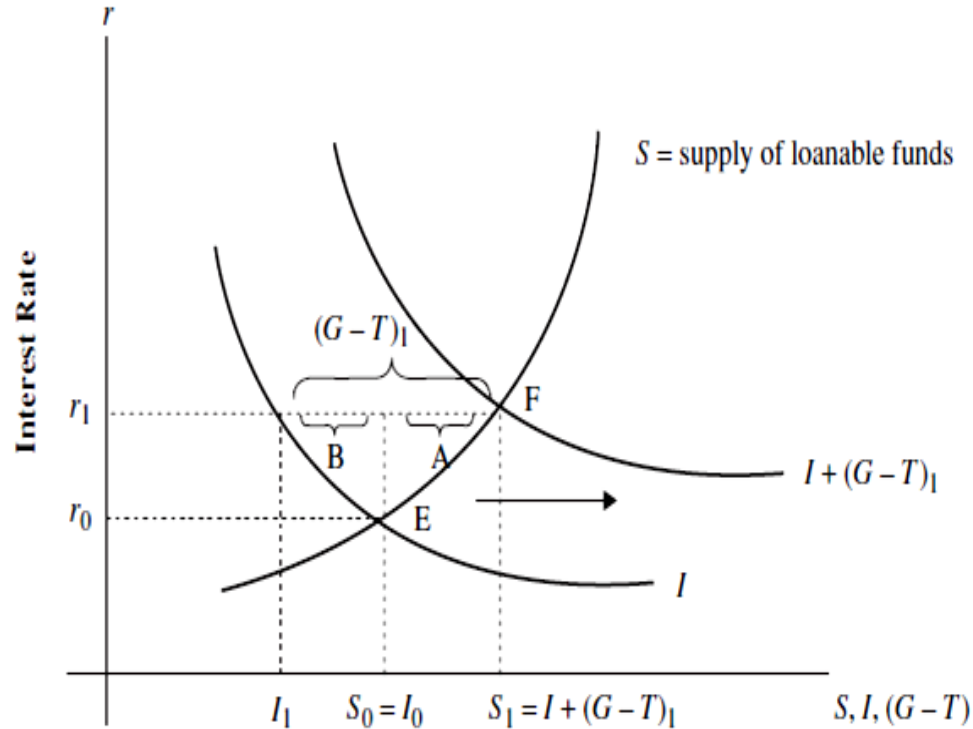
$$[I + (G - T)]$$

where I – investment and $G - T$ is the government borrowing

Government spending and loanable funds

Effect of an Increase in Government Spending in the Classical Model
(Source of Graph: Froyen 2013, P. 77)

"At equilibrium point E, the interest rate r_0 equates the supply of loanable funds, S , with the demand for loanable funds, I .

Adding government deficit spending, (G - T), shifts the demand for loanable funds to the right. The equilibrium interest rate rises to r_1 at point F. The increase in the interest rate causes a decline in investment from I_0 to I_1, a distance B, and an increase in saving, which is an equal decline in consumption, from S_0 to S_1, a distance A.

The decline in investment and consumption just balances the increase in government spending."   (Froyen 2013; 77)

Impact on output and price level

- Thus, the graph clearly shows that financing of government deficit by bonds "crowd out" private expenditure (private consumption expenditure and investment expenditure) equal to the amount of government deficit (increased expenditure).

- This happens because of rise in interest rate people prefer to save more in order to take advantage of high interest and therefore, reduce the current consumption.

- On the other hand, private investment expenditure declines because due to rise in interest rate (cost of funds goes up) now many project will become unprofitable, so, the investors will reduce the investment.

- **The rise in government expenditure is exactly matched by the decline in private expenditure (consumption and investment) which does not allow to increase the aggregate demand. Because aggregate demand is not changed, increases in government expenditures financed by bonds do not affect the price level.**

If the deficit (increased government expenditure) is financed by the new currency?
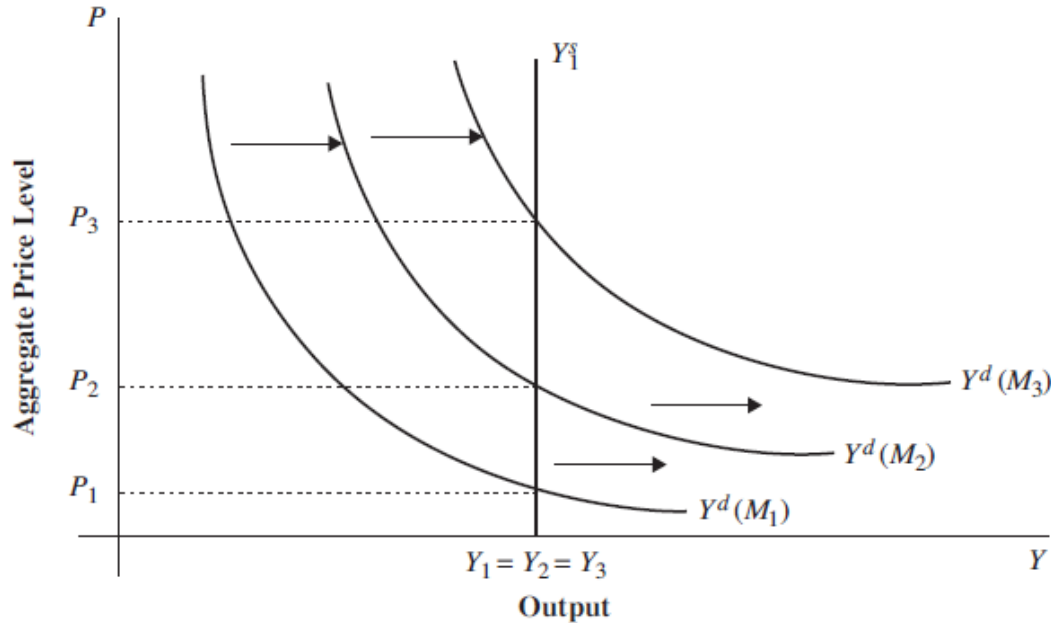
Successive increases in the money supply, from M_1 to M_2 and then to M_3, shift the aggregate demand curve to the right, from $Y^d (M_1)$ to $Y^d (M_2)$ to $Y^d (M_3)$. The price level rises from P_1 to P_2 to P_3. Output, which is supply-determined, is unchanged ($Y_1 = Y_2 = Y_3$).

As per quantity theory of money, any rise in the quantity of money will change the price level proportionately.

Output remains the same but price level goes up and government expenditure (increased) does not have an independent effect on aggregate demand.
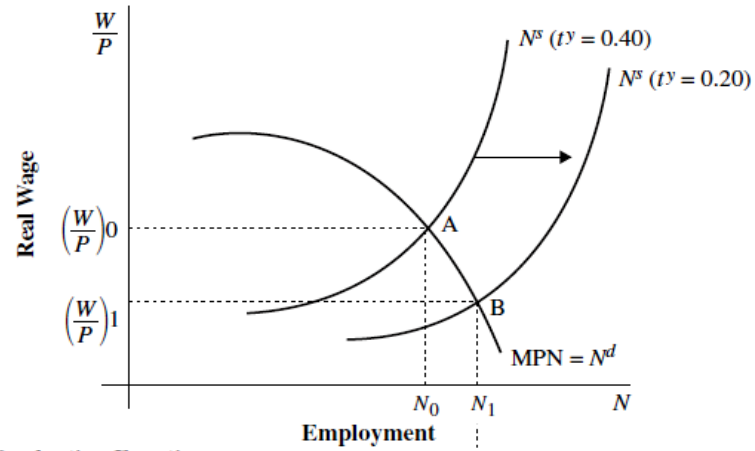
Tax Policy : Demand Side Effects

- If we consider only the effects on demand, the change in tax will have the same effect on output and price levels as was in the case of government expenditure (either through selling of bonds or through printing new currency).

- A tax cut would stimulate consumption by increasing the disposable income in the hands of people.

- "If the government sold bonds to the public to replace the revenues lost by the tax cut, the same crowding-out process would follow, as in the case of a bond-financed increase in government spending. The equilibrium interest rate would rise, investment would fall, and there would also be an interest-rate-induced rise in saving, meaning that consumption would fall back toward the pre-tax-cut level. In the case of a tax cut, as with an increase in spending, aggregate demand would not be affected." (Froyen 2013, p. 78)
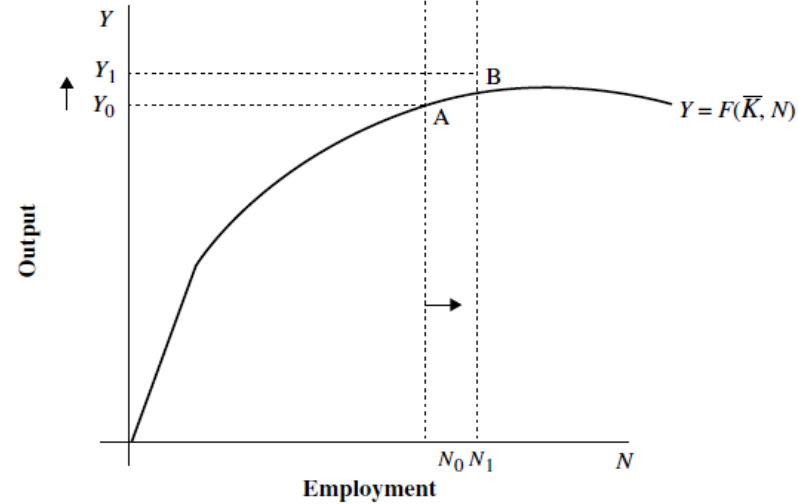
Tax Policy: Supply side effects

- If there is lump sum tax cut, then there would only be demand side effects (same as we have discussed earlier) not the supply side effects.

- In the classical model, under proportional taxation system, any change (cut) in marginal tax rate would have a positive effect on labour supply.

- The change in labour supply would affect the supply side of the model which, ultimately, would affect output and employment.

- A cut in the marginal "tax rate would increase the labour supply at any value of the (pretax) real wage and shift the labour supply schedule out to the right. This shift follows because the worker is concerned about the *after-tax real wage, which in this case is [(1 - t^y)*W/P], where t^y is the* marginal income tax rate". (Froyen 2013, p. 78)

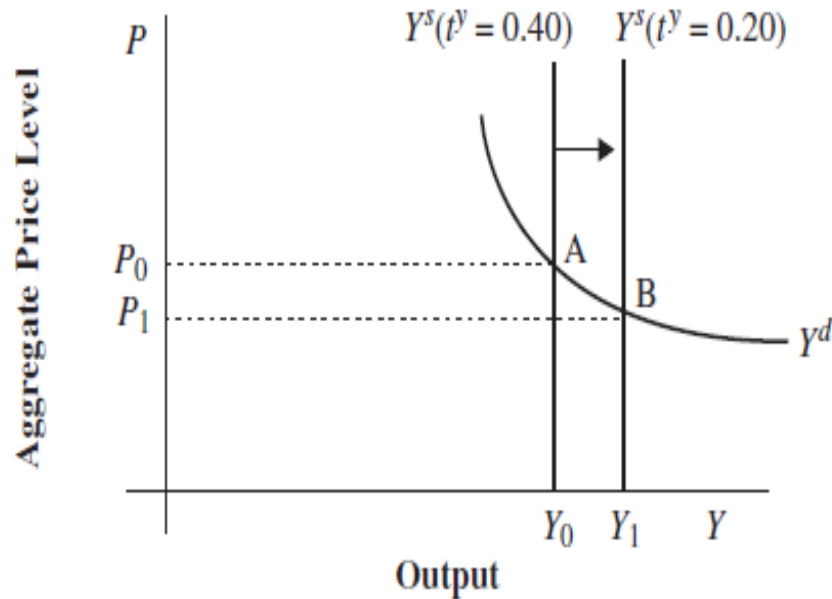## a. Labor Market Equilibrium with Changes in the Marginal Income Tax Rate

$\dfrac{W}{P}$ (Real Wage)

$N^s\ (t^y = 0.40)$

$N^s\ (t^y = 0.20)$

$\left(\dfrac{W}{P}\right)_0$ ··· A

$\left(\dfrac{W}{P}\right)_1$ ··· B

$MPN = N^d$

N_0 N_1 N

Employment

b. Production Function

Y (Output)

Y_1 ··· B

Y_0 ··· A

$Y = F(\overline{K}, N)$

$N_0\ N_1$ N

Employment

Source: Froyen 2013, p. 79

Tax Policy: Supply side effects

c. Aggregate Supply and Demand

Source: Froyen 2013, p. 79

- Thus, a cut in marginal tax rate would

- Increase labour supply means employment

- Increase in employment will lead to increased output

- Given the demand level increased output will lead to fall in price level

To sum-up

- Changes in government spending or taxes have no independent effects on aggregate demand.

- Changes in marginal income tax rates have additional supply-side effects.

- A reduction in the marginal income tax rate, for example, stimulates labour supply and leads to an increase in employment and output.

Main Reference: **Froyen, R. T. (2013), Macroeconomics: Theories and Policies (10th Edition; Global Edition), Pearson Publication.**

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