The government and fiscal policy

The government in the economy

A. Central government
B. Regional/provincial government
C. Local government
D. Public corporations

A + B + C = General government
A + B + C + D = Public sector
The composition of the public sector

- Government spends, taxes, borrows and regulates

The interaction between government and households and firms
Appropriate mix between government and the market?

- Private initiative and market forces are generally more efficient than government
- Government has to provide an appropriate environment (e.g., legal framework) in which market forces can operate
- Markets sometimes fail (market failure)

- Markets produce efficient outcomes but not necessarily equitable outcomes
- Markets tend to generate macroeconomic instability

Both government and the market therefore have a place
Fiscal policy and the budget

• Definition of fiscal policy:
  – level and composition of
    ▪ government spending
    ▪ Taxation
    ▪ government borrowing

• Budget as main instrument:
  – reflection of political decisions
  – budget deficit/surplus

• Demand management
  – fiscal policy
  – monetary policy
  – expansionary (stimulatory) policy
  – contractionary (restrictive) policy
• Government spending financed by:
  – income from property
  – taxes
  – borrowing

• Borrowing (to finance budget deficit):
  – domestic capital markets (government bonds)
  – international capital market (government bonds)
  – central bank (SARB) (inflationary financing)

• Borrowing increases public debt and interest on public debt

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**Taxation**

• What is a good tax?
  – neutral
  – equitable
  – administratively simple

• Equity
  – ability to pay principle
    ▪ horizontal equity
    ▪ vertical equity
  – benefit principle
Taxation: some important distinctions

• Tax avoidance vs. tax evasion

• Direct taxes vs. indirect taxes

• Taxes on income and wealth vs. taxes on products and production

• General taxes vs. selective taxes

• Progressive, proportional and regressive taxes

The three main taxes

• Personal income tax
  – taxable income (tax base)
  – marginal tax rate and average (or effective) tax rate
  – progressive tax
  – includes capital gains tax
• **Company tax**
  – company profits (tax base)
  – proportional tax

• **Value-added tax**
  – indirect tax
  – regressive tax

**Government in the Keynesian model**

• **Impact of G and T on:**
  – aggregate spending $A$
  – multiplier $\alpha$
  – equilibrium income $Y$

• **Impact of fiscal policy**
  – changes in $G$ and $T$
Government spending \((G)\)

- Essentially a political issue
- Not systematically related to \(Y\)
- Regarded as exogenous/autonomous wrt \(Y\)
- Introduction of \(G\) thus:
  - Raises aggregate spending \(A\)
  - Leaves multiplier \(\alpha\) unchanged
  - Raises equilibrium level of income \(Y_0\)

\[ G = \bar{G} \]
Aggregate spending in an economy with a government sector

Taxes \( T \)

- Taxes \( T \) constitute leakage or withdrawal from circular flow
- Reduce disposable income \( Y_d \), where \( Y_d = Y - T \)
- Taxes are related to income: \( T = tY \)
- Taxes reduce consumption \( C \) indirectly (because they reduce \( Y_d \))
• Introduction of $T$ thus:
  – Does not impact directly on aggregate spending $A$
  – Reduces multiplier $\alpha$
  – Reduces the equilibrium level of income $Y_0$

**Graph:**

- **T**axation as a function of income

  - $T = tY$
  - $t = 0,2$
  - $Y = 500$
  - $T = 100$
The impact of the introduction of taxes on the consumption function

Multiplier with taxes

- Taxes are leakage or withdrawal
- Multiplier now smaller
- $1/1-c(1-t)$ instead of $1/(1-c)$
- Taxes have to be paid before spending can occur

**Example:** if $c = 0.75$ and $t = 0.2$, then $\alpha = 2.5$:
$$\alpha = 1/1-c(1-t) = 1/1-0.75(1-0.2)$$
$$= 1/1-0.75(0.8) = 1/1-0.6 = 1/0.4 = 2.5$$
Equilibrium level of income with government

The model

\[ Y = A \text{ (equilibrium)} \]
\[ A = C + I + G \text{ (aggregate spending)} \]
\[ C = \bar{C} + cY_d, \text{ where } Y_d = Y - T \text{ (consumption spending)} \]
\[ T = tY \text{ (taxes)} \]

Equilibrium

\[ Y_0 = \frac{1}{1 - c(1 - t)} (\bar{C} + \bar{I} + \bar{G}) \]
\[ (= \text{ multiplier } \alpha \times \text{ autonomous spending } \bar{A}) \]
Fiscal policy

• Use government spending and/or taxes to affect $Y$

• Expansionary/stimulatory policy: increase $G$, decrease $t$

• Contractionary/restrictive policy: decrease $G$, increase $t$

• We examine change in $G$ only

• If income $Y$ has to increase by $\Delta Y$ (the income gap)
  – by how much must $G$ increase?
  – answer is by less than $\Delta Y$
  – Why? Because of the multiplier $\alpha$
  – increase in $G$ will be multiplied

• Numerical example
  – if $\Delta Y = 300$ and $\alpha = 3$, then $\Delta G$ required
    $= 300/3 = 100$
Fiscal policy in the simple Keynesian model

Numerical example

Suppose \( C = 300 \), \( I = 600 \), \( G = 800 \), \( c = 0.9 \), \( t = 0.33 \)

\[ Y_f = 4500 \]

\[ Y_0 = \alpha A \]

\[ \alpha = \frac{1}{1-c(1-t)} \]
\[ = \frac{1}{1-0.9(1-0.33)} \]
\[ = \frac{1}{1-0.9 \times 0.67} \]
\[ = \frac{1}{1-0.60} \]
\[ = \frac{1}{0.4} \]
\[ = 2.5 \]
\[ \bar{A} = 300 + 600 + 800 = 1700 \]
\[ Y_0 = \alpha \bar{A} = 2.5 \times 1700 = 4250 \]
\[ \Delta Y \text{ (income gap)} = Y_f - Y_0 = 4500 - 4250 + 250 \]
\[ \Delta G \text{ to fill income gap} = 250/2.5 = 100 \]