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
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

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

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**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 α unchanged
  - Raises equilibrium level of income Y₀

\[ G = \hat{G} \]

[Graph showing Government spending]
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 $Y_0$

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**Taxation as a function of income**

![Graph showing a linear relationship between taxes and total income with a tax rate of 0.2 and a tax of 100 when income is 500.]
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

\[ Y_0 = \frac{1}{1-c(1-t)} (\bar{C} + \bar{I} + \bar{G}) \]

\[ (= \text{ multiplier } \alpha \times \text{ autonomous spending } \bar{A}) \]

The impact of government spending and a proportional income tax on the equilibrium level of income
**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

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

\[ Y_0 = \alpha \bar{A} \]

\[ \alpha = \frac{1}{1-c(1-t)} = \frac{1}{1-0.9(1-0.33)} = \frac{1}{1-0.9 \times 0.67} = \frac{1}{1-0.60} = \frac{1}{0.4} = 2.5 \]
$\bar{A} = 300 + 600 + 800 = 1700$

$Y_0 = \alpha \bar{A} = 2.5 \times 1700 = 4250$

$\Delta Y (income \ gap) = Y_f - Y_0 = 4500 - 4250 + 250$

$\Delta G \ to \ fill \ income \ gap = 250/2.5 = 100$