

Macroeconomic Theory and Policy

Lecture 16 Fiscal Policy

Objectives of Fiscal Policy

- **Macroeconomic stabilisation**
- **Higher growth rate of output**
- **Full employment**
- **Stable prices:**
 - **low rate of inflation**
 - **stable interest and exchange rates**
- **Equity: horizontal and vertical**
- **Efficiency in resource allocation**
- **Provision of public goods**
- **Externality**
- **Market failure**
- **Public private partnership**

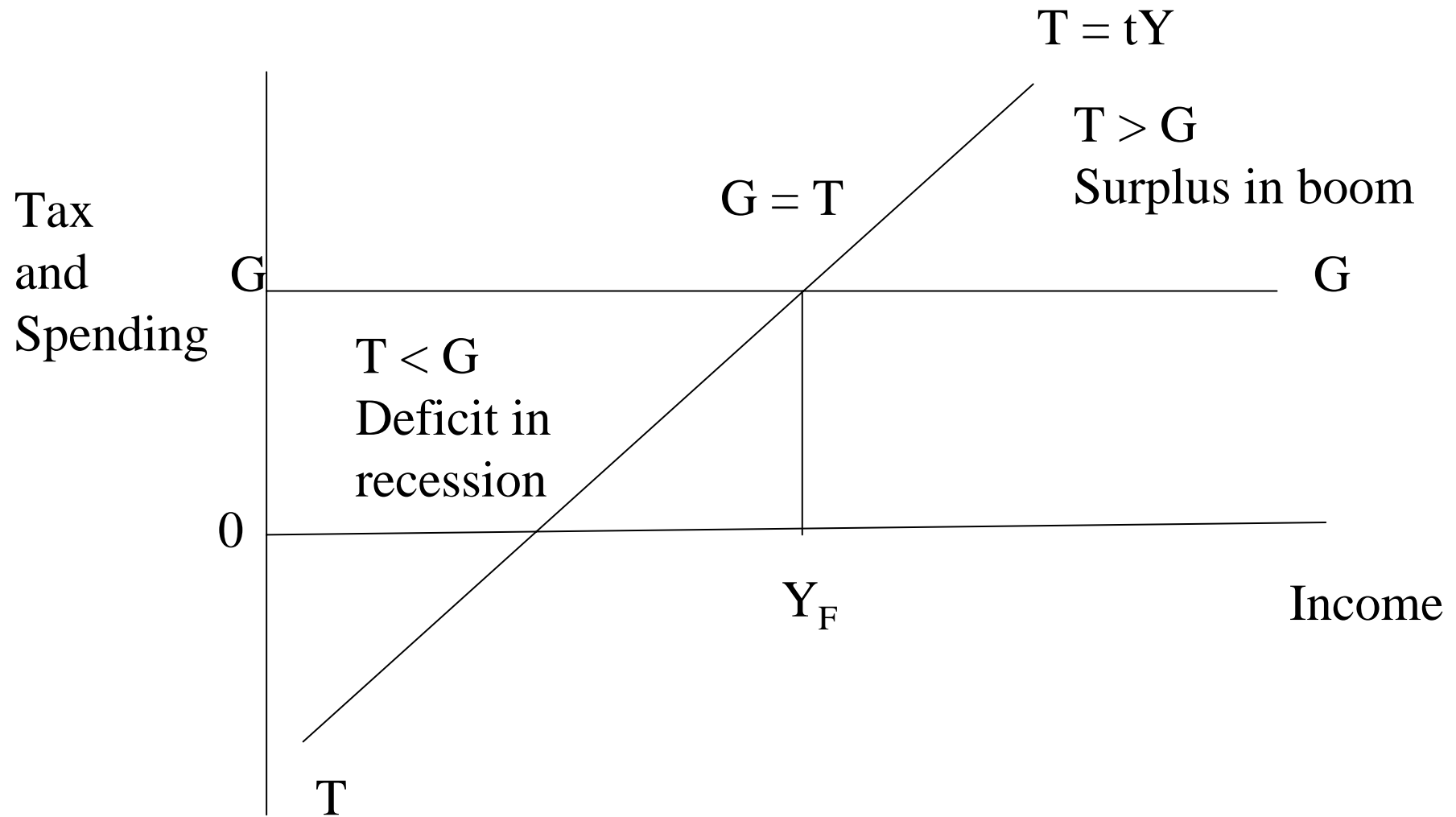
Instruments of Fiscal Policy

- Taxes
 - Direct
 - Indirect
 - subsidies
- Spending
 - Public goods
 - Semi-public goods
- Debt
 - Borrowing from the private sector
 - From the central banks

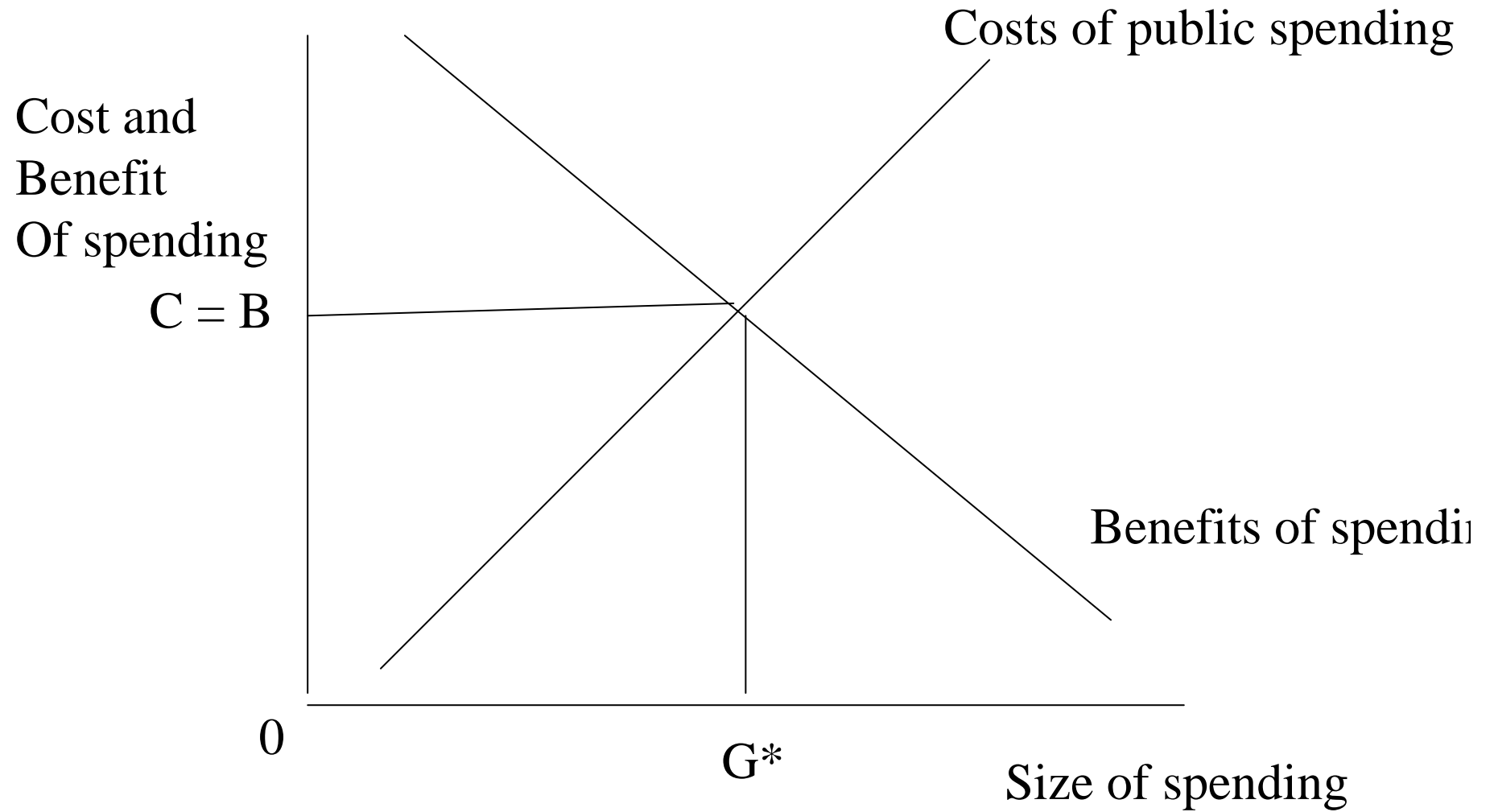
Who Bears the Burden of Taxes and Who Benefit from the Public Spending?

- Producers
 - Labour supply (work hours, leaves, retirement)
 - Taxed sectors vs. subsidised sector
 - Domestic vs. foreign goods
 - Excise duties
- Consumers
 - VAT and market prices
 - Sin goods
- Traders

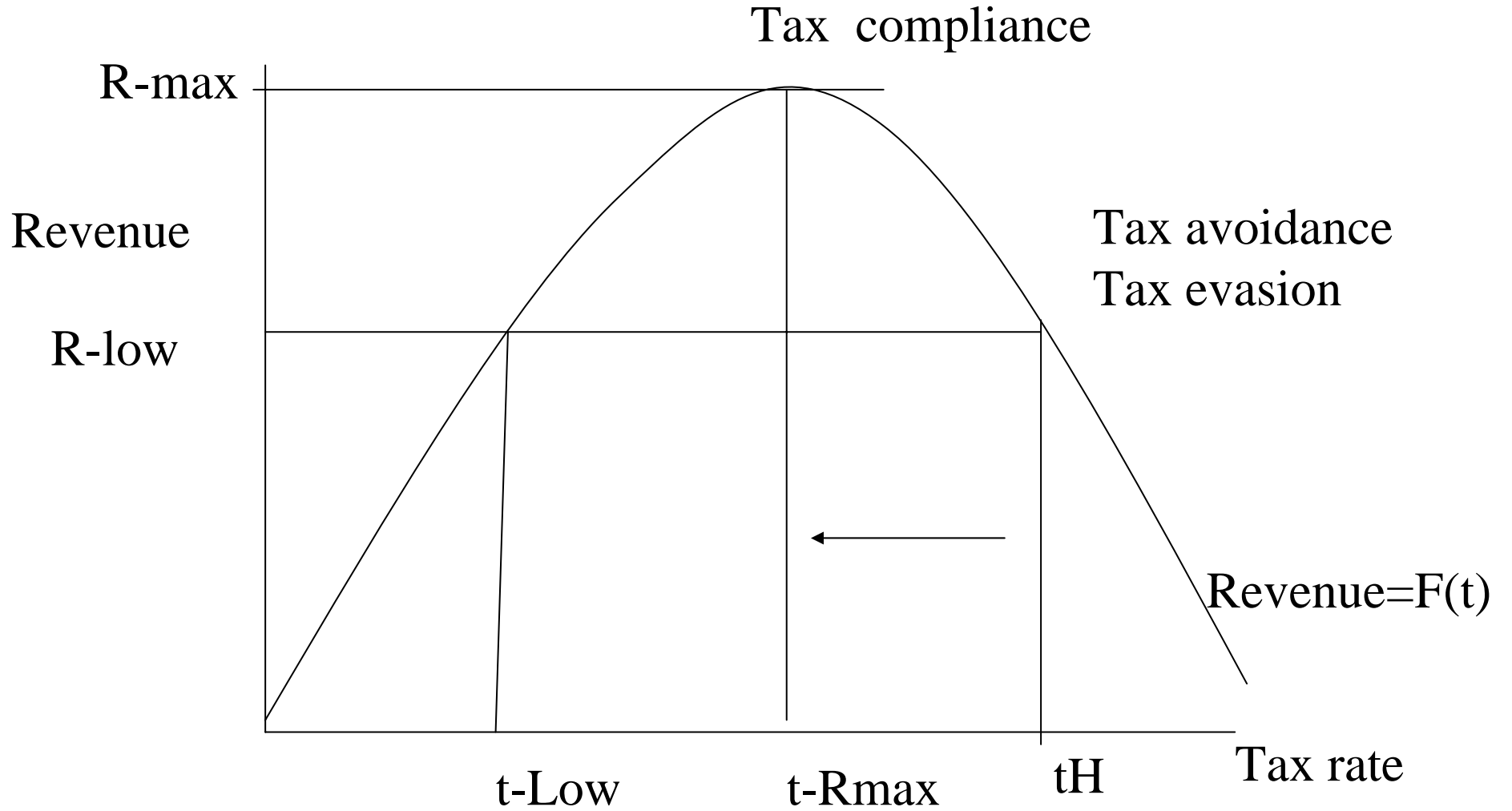
Macroeconomic Stabilisation Role of Tax and Spending



How High Should be Public Spending?



How much should be the tax rate to maximise the government revenue ?



Balanced Budget Multiplier with Lump-Sum Taxes

The real national income is given by the IS Curve:

$$Y = \frac{1}{1 - c_1} [c_0 + \bar{I} + G - c_1 T]$$

Positive Government expenditure multiplier: $\frac{\partial Y}{\partial G} = \frac{1}{1 - c_1}$

Negative tax multiplier: $\frac{\partial Y}{\partial T} = -\frac{c_1}{1 - c_1}$

The balanced budget multiplier: $\frac{\partial Y}{\partial G} + \frac{\partial Y}{\partial T} = 1/(1 - c_1) - c_1/(1 - c_1) = 1$

A change of 100 in both G and T also raised income by 100.

Balanced change in G and T is not macro economically neutral. ⁸

Automatic Stabiliser with Proportional Taxes

Consumption: $C = c_0 + c_1 Y_D$ $0 < c_1 < 1$

Disposable income: $Y_D = Y - T$

Tax Revenue $T = t_0 + t_1 Y$ $0 < t_1 < 1$

Income (IS curve): $Y = c_0 + c_1 Y_D + I + G$

$$Y = \frac{1}{(1 - c_1 + c_1 t_1)} * [c_0 - c_1 t_0 + I + G]$$

The multiplier = $1/(1 - c_1 + c_1 t_1) < 1/(1 - c_1)$,
so the economy responds less to changes in
autonomous spending when t_1 is positive.

High T when Y is high.
Low T when Y is low.

Laffer Curve Model: A Numerical Example

$$R_t = 50t - 2t^2$$

Where R is revenue in billion of pounds, t is the tax rate.

The tax rate that maximises the revenue is given by

$$\frac{\partial R_t}{\partial t} = 50 - 4t = 0 \rightarrow t = 12.5$$

There are two tax rates that can raise the same revenue.

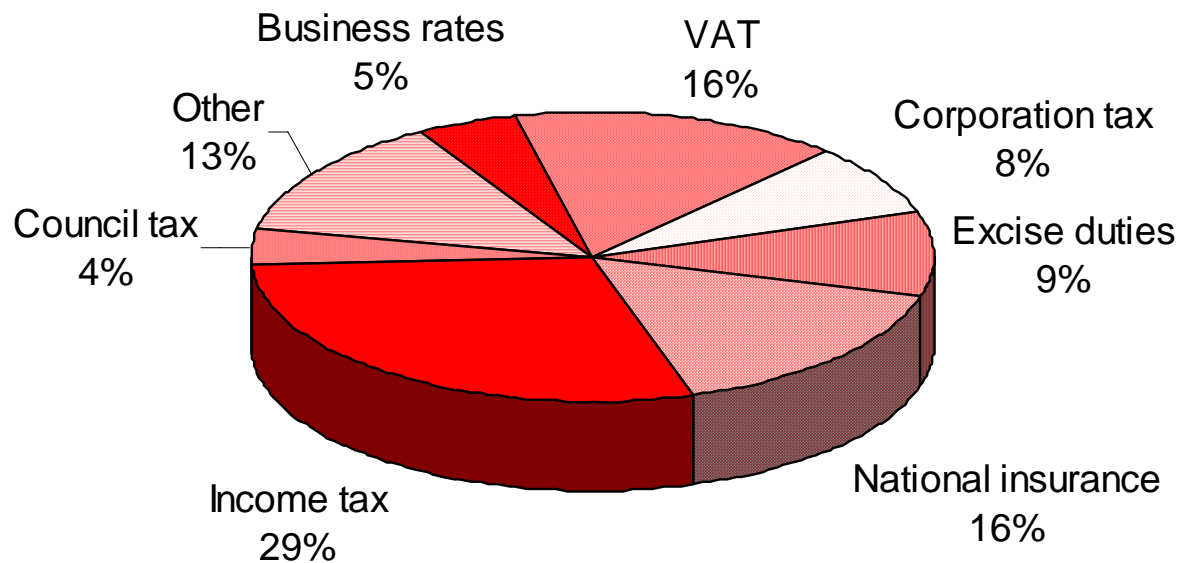
$$200 = 50t - 2t^2 \rightarrow$$

$$t^2 - 25t + 100 = 0; t_1 = \frac{-(-25) \pm \sqrt{(-25)^2 - 4(100)}}{2} =$$

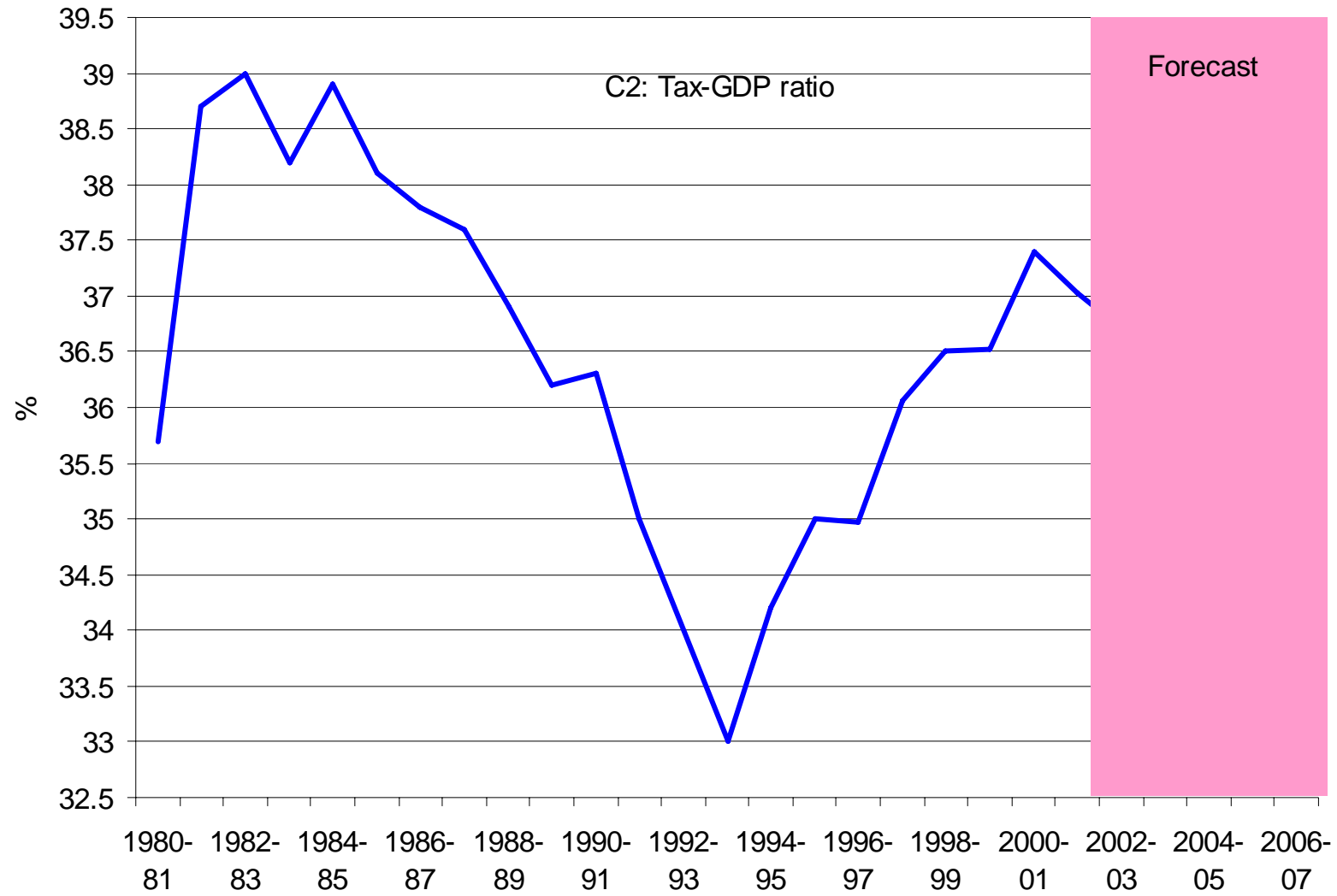
$$t_1 = \frac{25 \pm 15}{2} = 5, 20$$

Structure of Public Revenue in the UK (www.HM-Treasury.gov.UK/Economic Data and Tools)

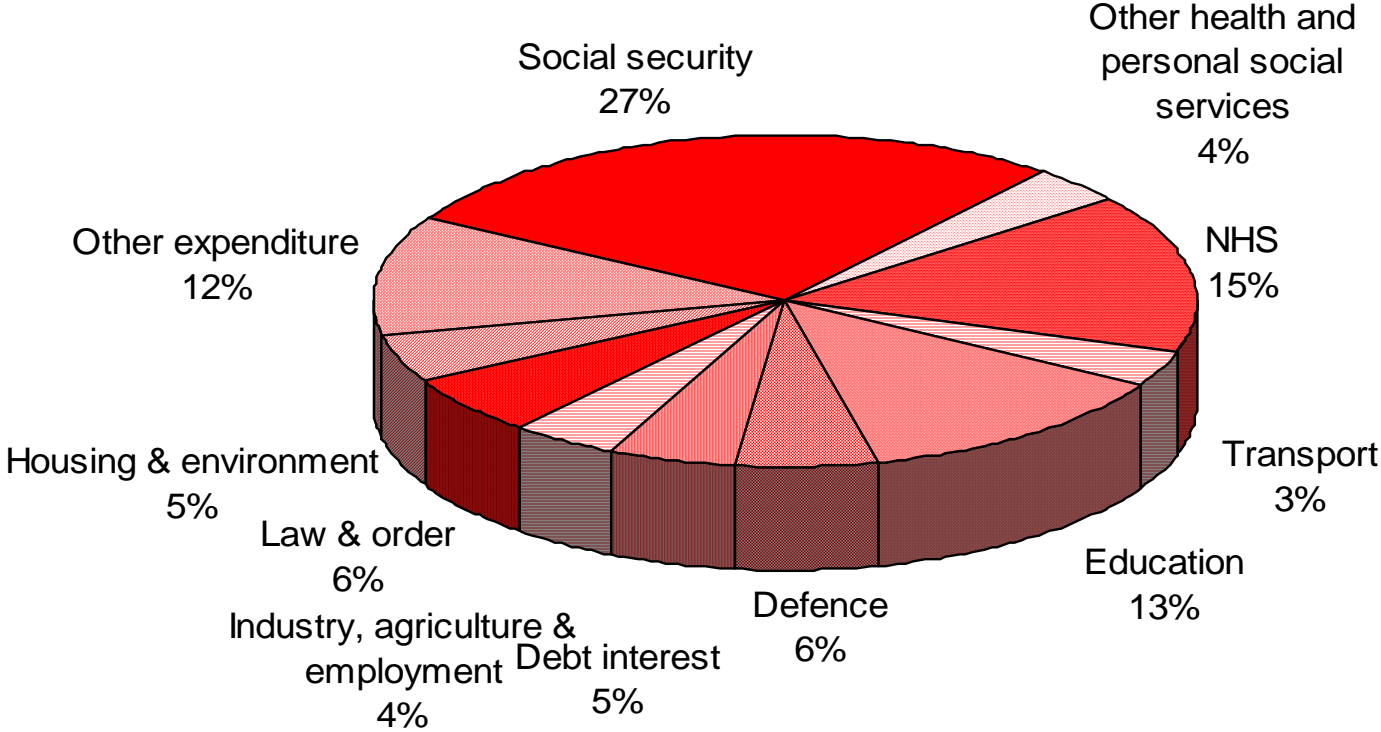
C3: GOVERNMENT RECEIPTS



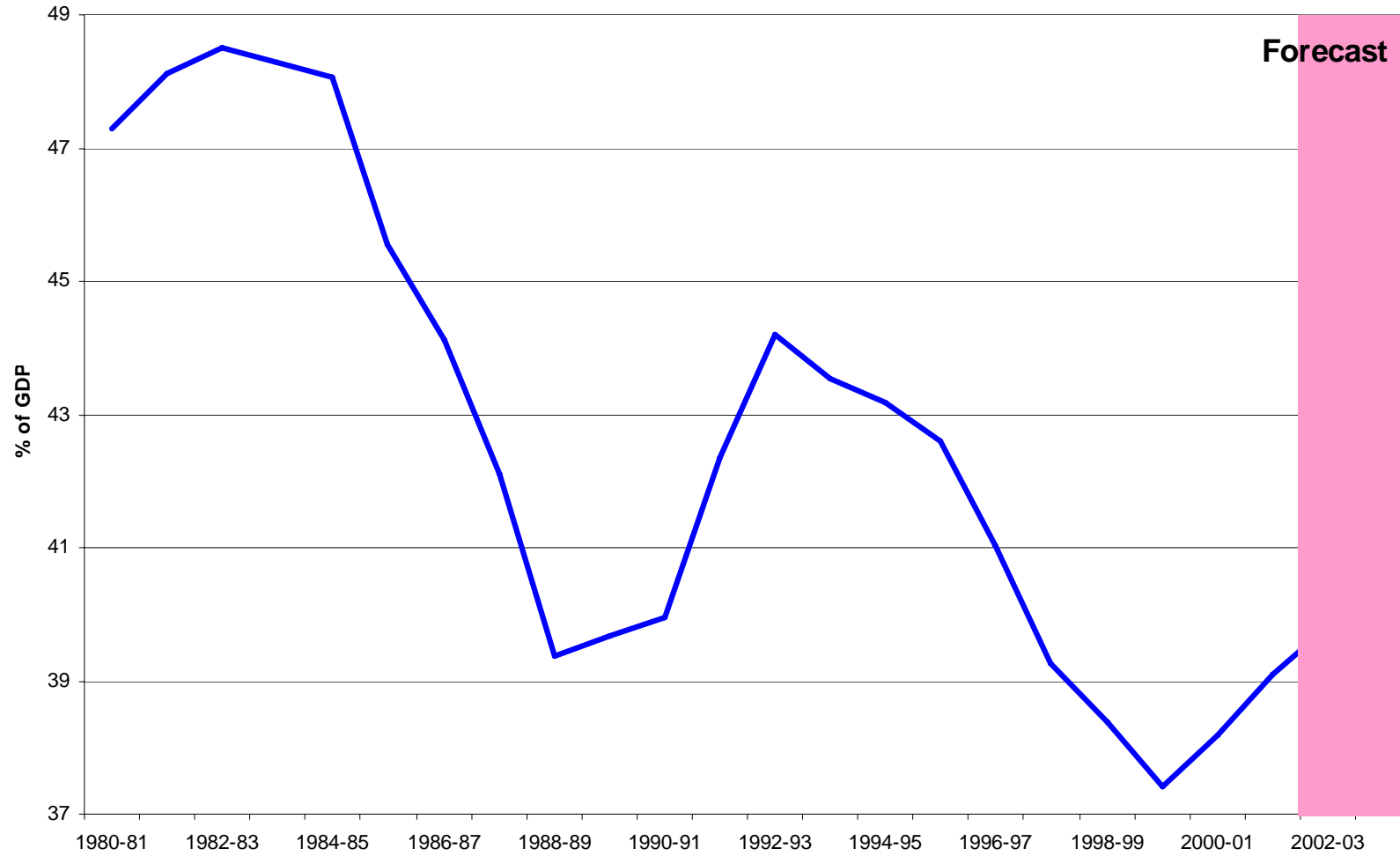
Why Does the Tax Ratio Go Up and Down?

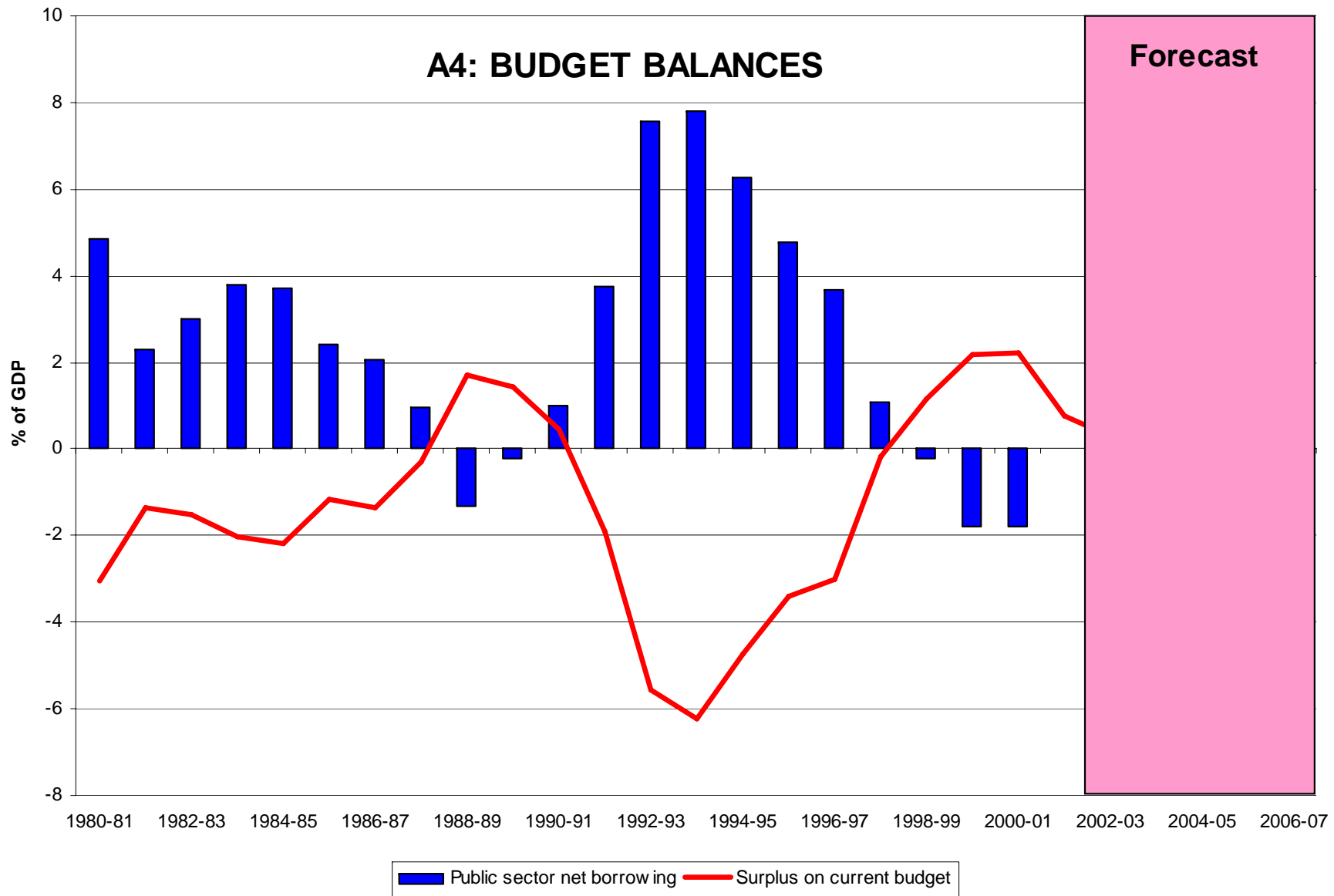


B4: GOVERNMENT SPENDING BY FUNCTION



B3: Total managed expenditure





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