

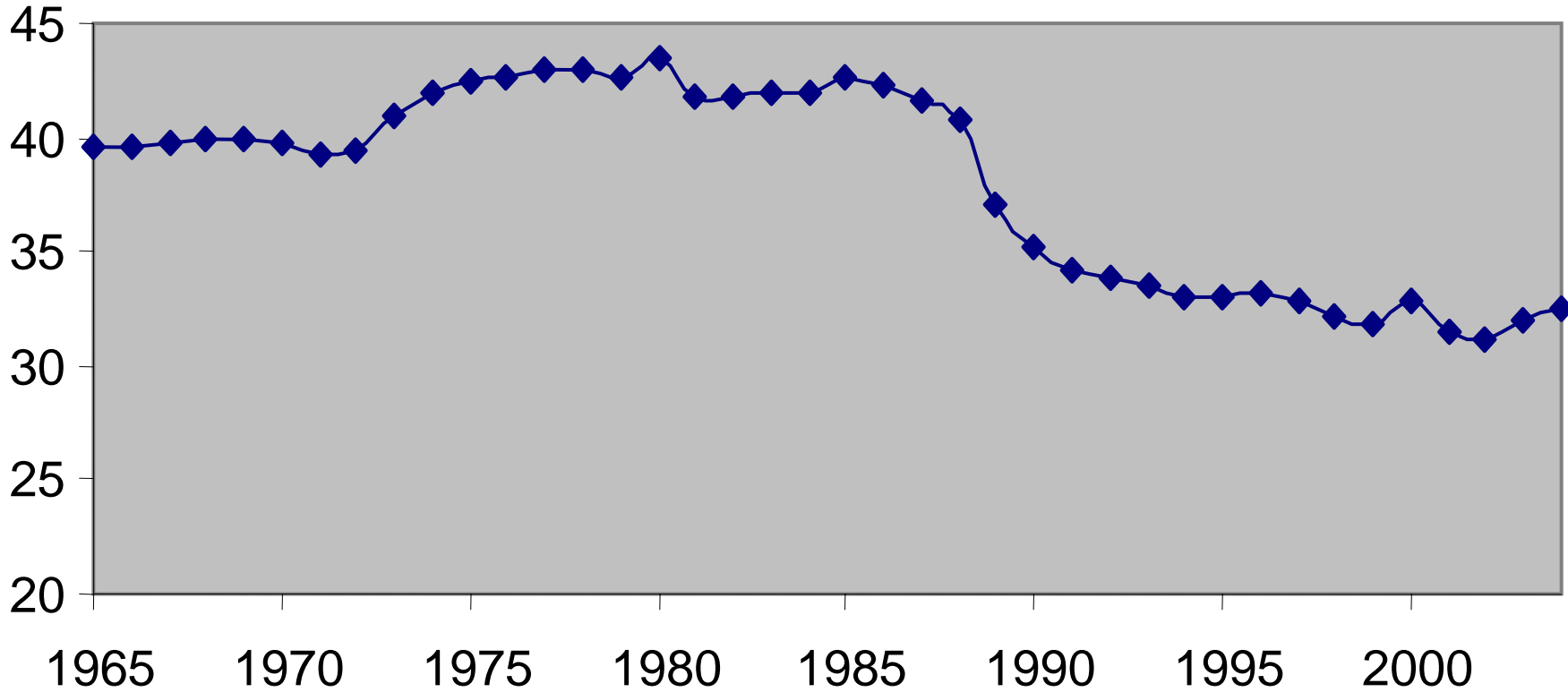
**Developments in the Taxation  
of Corporate Profit in the OECD  
since 1965:  
Rates, Bases and Revenues**

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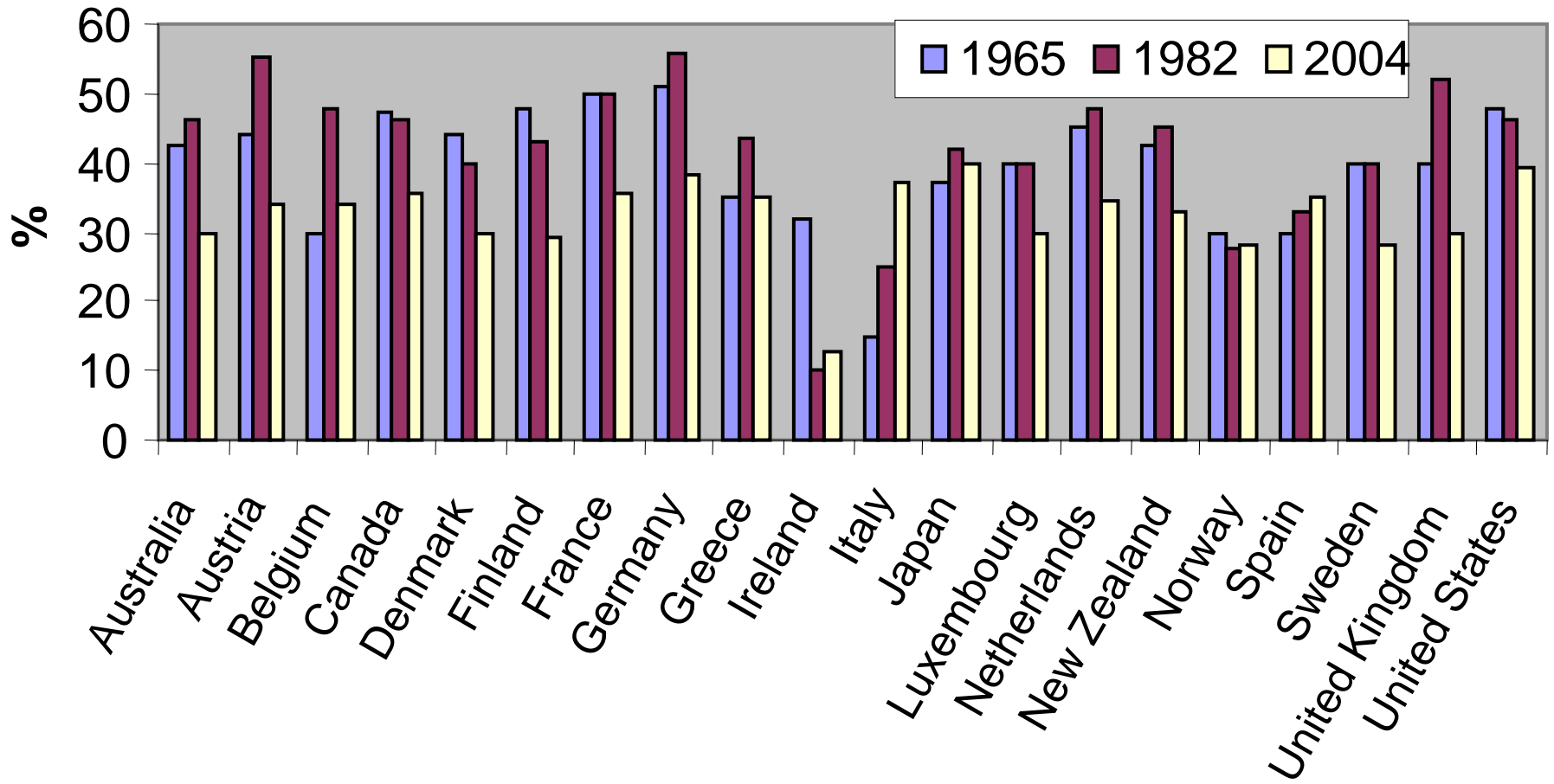
# Plan

1. Description of development of corporation taxes in OECD since mid-1960s
2. What statistical relationship is there between tax rates and tax revenues?

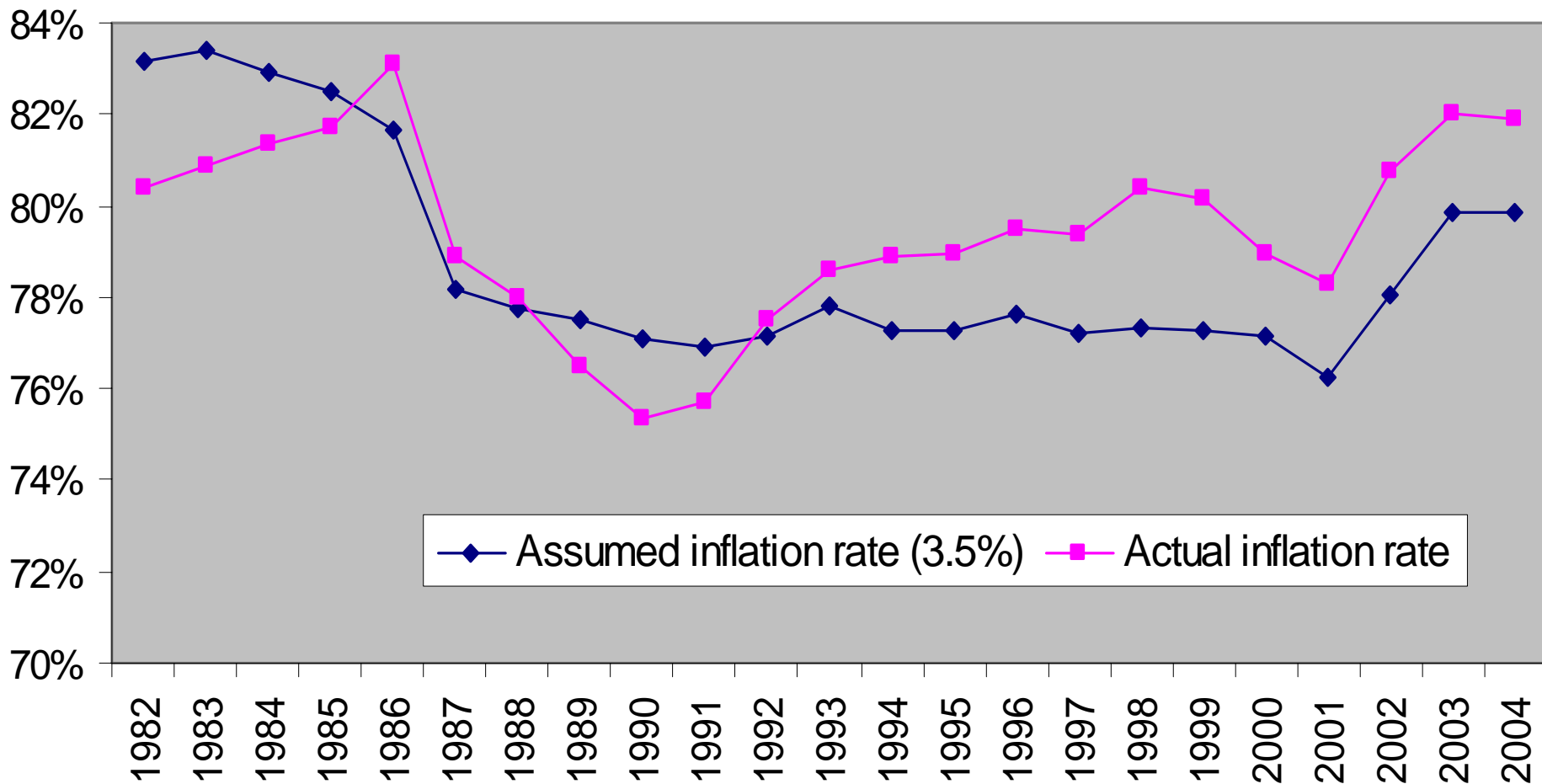
**Figure 1. Development of Average Statutory Corporation Tax Rate in OECD countries, 1965-2004**



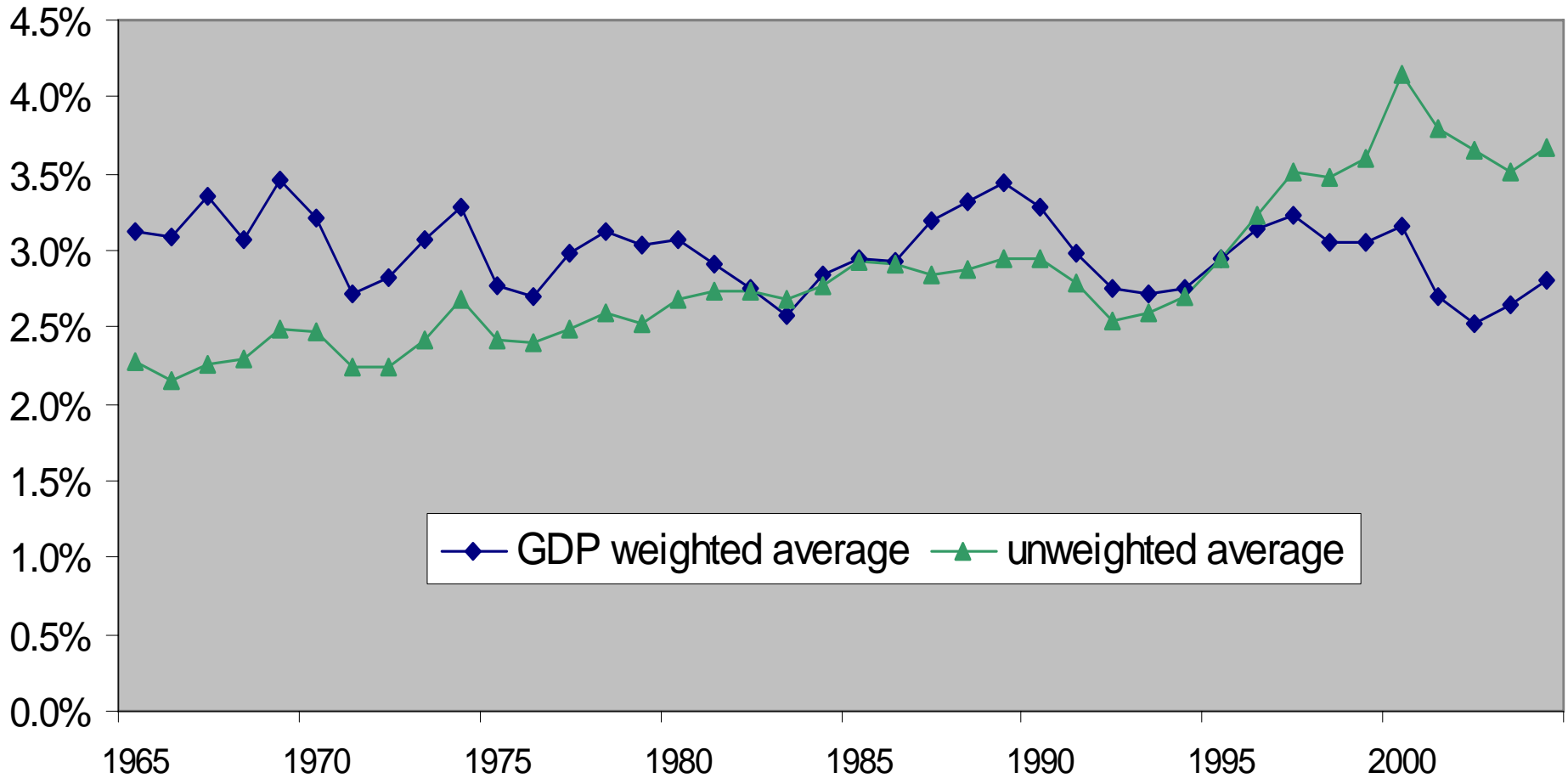
### Figure 3. Statutory Rates of corporation tax



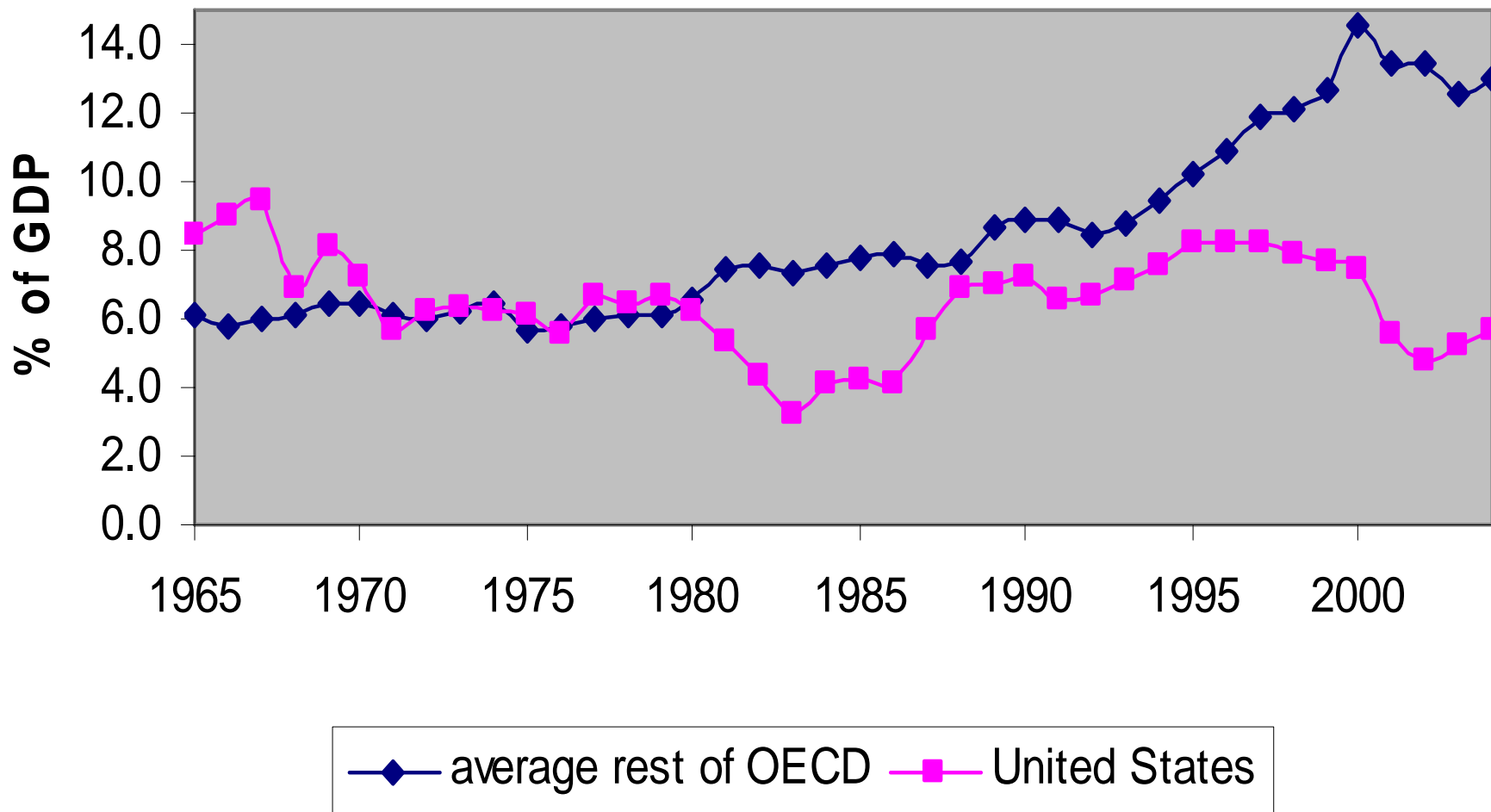
### Figure 5. Weighted Average PDV of Depreciation Allowances



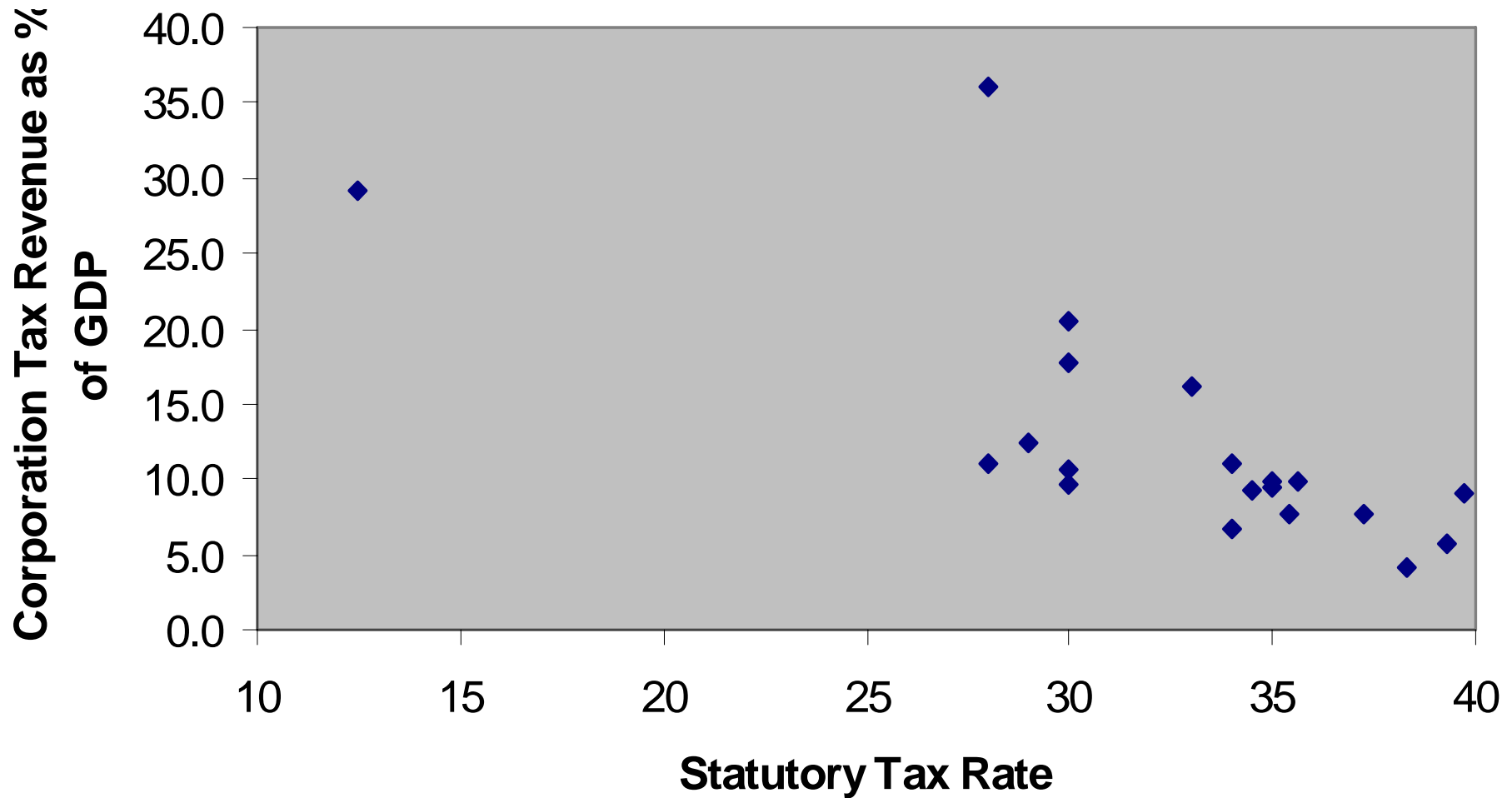
**Figure 10. Corporation Tax Revenues 1965-2004  
(% of GDP)**



# Figure 13. The Development of Taxable Profit in the United States and the Rest of the OECD



**Figure 14. Corporation Tax revenues as % GDP, relative to Statutory Tax Rates, 2004**



# Testing the impact of the tax rate on tax revenue

- Need to allow for several factors:
  - for fixed taxable income, higher tax rate increases revenue
  - but may reduce taxable income due to lower investment, or more income shifting abroad or to personal sector
  - Revenue also depends on legal definition of tax base

# Simple model of tax payments

- Corporation tax = tax rate \* (“full” taxable income *less* income shifted) , or in model:

$$\tau(Y - \phi) = \tau \left\{ 1 - \frac{\tau}{\alpha} + \frac{\tau^*}{\alpha} \right\} Y$$

where:

$\tau$  = tax rate,  $\tau^*$  = “alternative” tax rate

$Y$  = “full” taxable income

$\phi$  = income shifted

$\alpha$  = parameter of income shifting cost function

# Empirical Implementation

- Problems of aggregation from firm to country
- Don't observe aggregate "full" taxable income:
  - affected by GDP, effective marginal tax rate
- Don't observe "alternative" tax rate
  - average of other countries, or income tax rate

# Two alternative specifications

## 1. “More ad-hoc”

$$\frac{CT}{GDP} = a + b_1 t + b_2 t^2 + b_3 t^* + b_4 tA + b_5 t^2 A + b_6 t^* A + e$$

## 2. “Less ad-hoc”

$$\begin{aligned} \ln(CT) = & \alpha + \beta_1 \ln(GDP) + \beta_2 \ln(t) + \beta_3 t + \beta_4 t^2 \\ & + \beta_5 A + \beta_6 m + \beta_7 X + \varepsilon \end{aligned}$$

# 1. Explaining CT/GDP

	(7)	(9)
t	0.332	0.273*
t <sup>2</sup>	-0.768*	-0.491*
t* (other countries)	0.011	
t* (income tax rate)		-0.040
At	-0.169	-0.402*
At <sup>2</sup>	1.429*	0.730*
At* (other countries)	-1.232	
At* (income tax rate)		0.052
time dummies	yes	yes
R <sup>2</sup>	0.25	0.24

## 2. Explaining ln(CT Revenue)

	(2)	(7)
ln(GDP)	0.966*	1.026*
ln(t)	0.792*	0.377
t	-3.389*	-2.465
A	-1.136*	-0.559
ln(% population urban)		1.107
ln(public consumption/GDP)		-0.669
ln(FDI/GDP)		0.037
R <sup>2</sup>	0.91	0.94

# Tentative Conclusions (1)

- Evidence that OECD tax rates have declined, but tax revenues have been maintained, or increased
- No straightforward relationship between tax rate and tax revenue across OECD countries
  - may be a non-linear relationship, implying a revenue-maximising tax rate
  - But results not robust to changes in specification

# Tentative Conclusions (2)

- For policy purposes, need more in-depth analysis: what has happened to taxable income, and why?
  - Has taxable income fallen relative to corporate sector activity?
  - Has activity been moved to non-corporate sector?
  - Has taxable income been shifted abroad?
  - And how sensitive are these effects to the US corporate tax rate, the US income tax rate, and tax rates in other countries