Public Economics: Tax & Transfer Policies
(Master PPD & APE, Paris School of Economics)
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Lecture 1: Taxes & transfers:

why & how much?

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(check [on line](#) for updated versions)

Basic rationales for taxes and transfers

- (1) Public good provision: raising tax revenue to finance public goods: defense, roads, education, health, etc.

- (2) Redistribution: designing taxes & transfers in order to implement a fair distribution of income, wealth and welfare

- (3) Externalities: Pigouvian corrective tax and subsidy schemes so to induce private agents to internalize external effects (e.g. global warming, carbon tax)

- (4) Stabilization: taxes & transfers can also serve as automatic stabilizers and reduce macroeconomic volatility (mostly a by-product of tax and transfer systems)

- Rationales (1), (3), (4) = taxes/transfers generate Pareto improvements and correspond to failures of the first welfare theorem

- Rationale (2) = taxes/transfers shift the economy to another (second-best) Pareto optimum (illusory lump-sum payments of the second welfare theorem)

Reminder: welfare theorems (micro 1)

- First welfare theorem: under standard convexity assumptions, market equilibrium = Pareto optimum (i.e. one cannot raise everybody's welfare at the same time); conversely, if these assumptions are not satisfied (non-convexities: externalities, scale economies, .), adequate govt interventions can generate Pareto improvements (i.e. can raise everybody's welfare at the same time)

- Second welfare theorem: all Pareto optima (all efficient redistributions) can be obtained as market equilibria under adequate lump-sum transfers; but with informational imperfections (moral hazard, adverse selection, etc.), only distortionnary taxation can redistribute resources: second-best Pareto optima

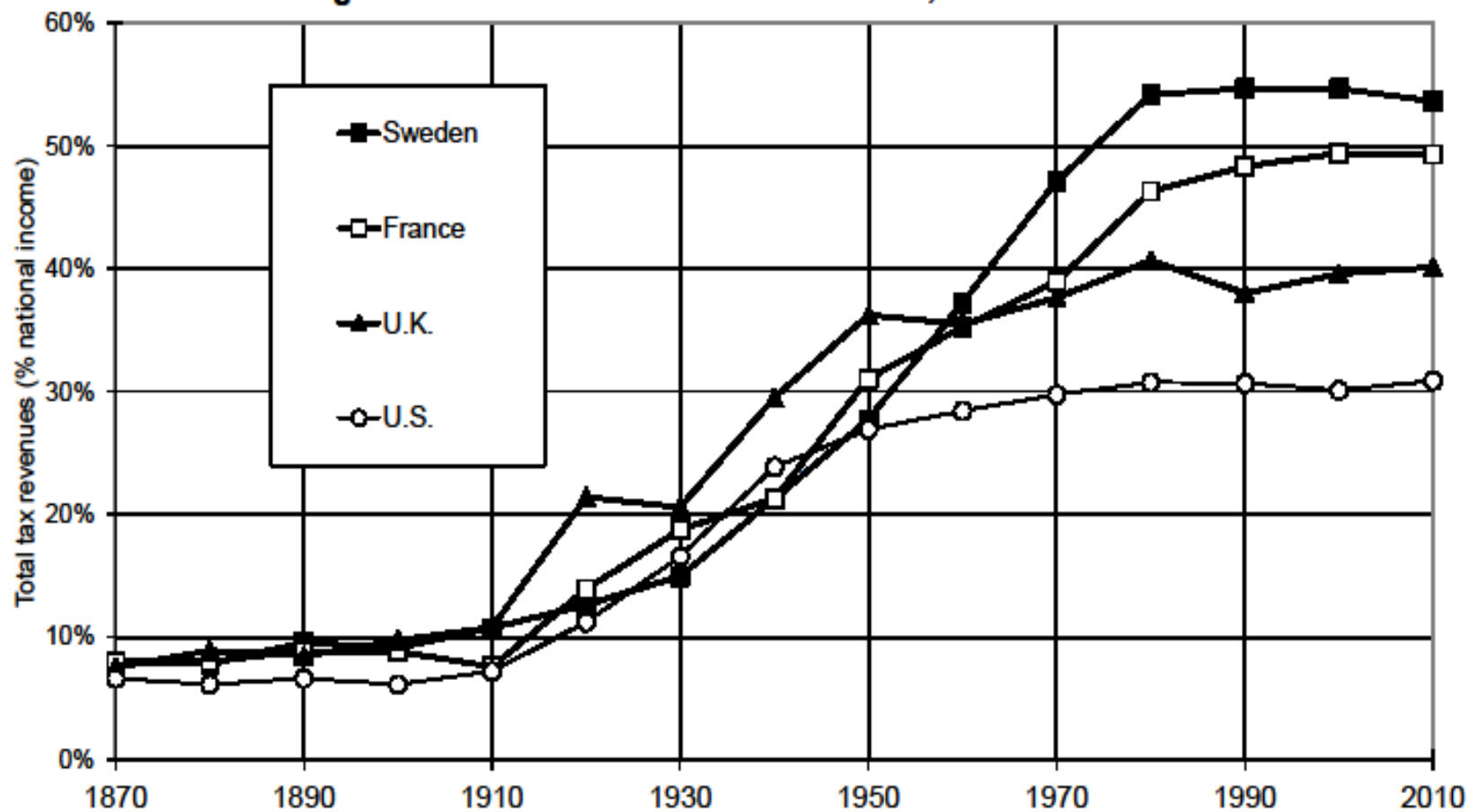# Basic facts about taxes & transfers in rich countries

- Total taxes T = about 40% of national income Y
- I.e. $T = \tau Y$ with $\tau = 40\%$

- Total monetary transfers Y_T = about 15% of national income Y
  (=pay-as-ou-go public pensions, unemployment & family benefits, means-tested transfers,..)

- Disposable household income $Y_D = Y - T + Y_T$ = about 75% of national income Y

- Other government spendings = about 25% of national income
  = in-kind transfers. Typically: 5% education + 8-10% health + 10% police, defense, roads, etc.

- "Social" spendings: monetary transfers + education/health
  = around 30% of national income in rich countries (25%-35%)

Reminder: National income vs GDP

- National income Y = GDP – capital depreciation + net foreign factor income
- Typically Y = about 85-90% GDP
- Capital depreciation = 10-15% GDP
- Net foreign capital income = close to 0% in most rich countries (between +1-2% & -1-2% GDP)

(= most rich countries own as much foreign assets in rest of the world as row owns in home assets)

- On long-run evolution of T/Y, see [this graph](): in rich countries T/Y was less than 10% in the early 20c (police, defense, basic infrastructure and administration), rose enormously between 1950 & 1980, and then stabilized around 40% (with important variations between countries)

- On structure of spendings, see [Adema et al, OECD 2011](); see also [Piketty-Saez 2013 Table 1]() :

  most of the rise in T/Y is due to the rise of social spendings (transfers, education, health); the rise of the fiscal state is the rise of the social state

Figure 13.1. Tax revenues in rich countries, 1870-2010

Total tax revenues were less than 10% of national income in rich countries until 1900-1910; they represent between 30% and 55% of national income in 2000-2010. Sources and series: see piketty.pse.ens.fr/capital21c.

Table 1. Public spending in OECD countries (2000-2010, percent of GDP)

	US	Germany	France	UK	Total OECD
	(1)	(2)	(3)	(4)	(5)
Total public spending	35.4%	44.1%	51.0%	42.1%	38.7%
Social public spending	22.4%	30.6%	34.3%	26.2%	25.1%
Education	4.7%	4.4%	5.2%	4.8%	4.9%
Health	7.7%	7.8%	7.1%	6.1%	5.6%
Pensions	6.0%	10.1%	12.2%	4.8%	6.5%
Income support to working age	2.7%	3.9%	4.8%	4.9%	4.4%
Other social public spending	1.3%	4.4%	5.1%	5.7%	3.7%
Other public spending	13.0%	13.5%	16.7%	15.9%	13.6%

Notes and sources: OECD Economic Outlook 2012, Annex Tables 25-31; Adema et al., 2011, Table 1.2; Education at a Glance, OECD 2011, Table B4.1. Total public spending includes all government outlays (except net debt interest payments). Other social public spending includes social services to the elderly and the disabled, family services, housing and other social policy areas (see Adema et al., 2011, p.21). We report 2000-2010 averages so as to smooth business cycle variations. Note that tax to GDP ratios are a little bit lower than spending to GDP ratios for two reasons: (a) governments typically run budget deficits (which can be large, around 5-6 GDP points during recessions), (b) governments get revenue from non-tax sources (such as user fees, profits from government owned firms, etc.).

- On structure of taxes in Europe, see "Taxation Trends in the European Union", Eurostat 2013; see table of contents; see also updated tables on taxation trends website

- Typically: T = 1/3 indirect taxes + 1/3 direct taxes + 1/3 social contributions

- But: large variations between EU countries

- And: this decomposition is not really meaningful; what matters is the factor income decomposition (capital vs labor) and the consumption vs saving decomposition

  → see Lecture 2 on tax incidence

- Large variations in tax levels: see rich vs poor EU countries

- Large variations in tax mix: EU 27 vs France, Germany, Denmark, Sweden, Luxembourg, Norway, Bulgaria

- In poor countries: T = as low as 10%-15% of national income Y (and stagnating: declining trade tax revenues were not replaced by more modern income or value added taxes)

- See Cage-Gadenne 2012, "The Fiscal Cost of Trade Liberalization", Figure 1