Public Economics

Chapter III. Public Revenue: Normative Criteria and Economic Effects

3.2 Other Public Income

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Motivation and goals

- **Taxes: + important revenue chapter of the Public Sector in industrialized economies (in Europe> 80%). Its relative importance does not allow us to ignore other public revenues such as:**

1) *Public Prices:*

- **Like private agents, governments can produce goods and services for sale at different prices. In other cases, the Public Sector does not directly obtain revenues from the tariff policy: for example, if it regulates prices of private monopolies.**

2) Money:

- **Governments can finance spending by issuing money ("exclusive" privilege). Monopoly revenue from creating money with effects analogous to taxes = seigniorage.**

3*) Public Debt:*

- **With it, countries obtain most of non-tax revenues. Effects versus taxation. If excessive debt burden for future generations: sustainability of borrowing and implications for macro policy.**

4*) Privatization:*

- **One of the fastest growing forms of public revenue in developed countries in recent decades.**

1. Public prices (I)

- **Economic theory is *normative* (objectives&consequences)**

- **Government can set them directly or by economic agents in the market:**

  A) If government decides to produce goods and services by itself for sale in the market, sale price = public price. Prices at which public companies sell = *Public prices.*

  B) But the government can influence in the provision of goods and services by regulating prices or productions&benefits of certain private companies if they act in markets with limited competition due to externalities or other distortions. Prices charged by regulated private companies = *Public prices*.

1. Public prices (II)

- **Among those activities whose prices are frequently regulated by the Public Sector are:**
  1) Essential public services of transport, communications, energy and water.
  2) Strategic energy and industrial products (coal, oil, nuclear energy, iron&steel, etc.).
  3) Agricultural products.
  4) Financial and insurance services.
  5) Health&educational services.

- **Arguments to influence the Public Sector in these activities: *Economic efficiency, distributive equity, and political and private goals.***

- **Normative theory of public prices refers to cases of natural monopoly or differentiated products or services (*Ramsey-Boiteux prices*) produced by public companies or private monopolies.**

1. Public prices (III)

NATURAL MONOPOLY: BASIC RULES

- **Justification for public intervention in providing essential transport, communications, energy and water services: need to incur in high fixed costs to produce at low marginal costs (decreasing average costs for all production volumes).**

- **3 regulatory pricing schemes could generate efficiency gains regarding the monopolist's equilibrium:**

1) **Rule *Price = Average cost.* *It c*overs costs (Profit 0).**

- **Disadvantages: a) It may not be covered by any price; b) Price is still high and production is low, giving up potential profits.**
- **Other problems with the way price regulation is implemented in practice. Regulation rate of profit, common in many countries, makes + production but the use of capital tends to be excessive, choosing inefficiently costly combinations of factors. Inefficiency of regulating capital profitability: *Averch-Johnson result effect (tendency of regulated monopolies to accumulate + capital that they need)*, could cancel out advantages of + production.**

1. Public prices (IV)

***2) Set Price according to marginal cost*, with different procedures to finance losses. Simple case: setting a price that leads to losses financed by public subsidy (Dupuit, 1844; Hotelling, 1938). But if necessary taxes are distorting and inefficient, it is necessary:**

a*) 2-part tariff:* fixed fee or "down payment fee" to the service, independent of the actual consumption of the good (finances fixed costs), and price per unit = marginal cost. Price scheme + used in countries. Example: Spain&electricity for residential use.

***b) Multi-block tariff:* sets different prices for each demand block, as long as the last units consumed are sold at marginal cost and revenues cover costs. Example: telephone services.**

1. Public prices (V)

DIFFERENTIATED PRODUCTS OR SERVICES: RAMSEY-BOITEUX PRICES

- **If markets are interdependent: it is desirable that Public Sector chooses all taxes simultaneously according to the effects each one of it has on all markets. Every optimal taxation rule is appliable to problem of *optimal setting of public prices*.**
- **This problem of fixing prices (Ramsey-Boiteux) has a formal solution analogous to Ramsey rule of optimal taxation: *"If demand of both services are independent, this means that the margin to be applied on Marginal Cost should be the greater the lower price elasticity of demand".***
- **Example: airline with a monopoly of 2 lines. Cross subsidies. Desirability even to limit or regulate entry.**

1. Public prices (VI)

PRICE REGULATION IN PRACTICE: INFORMATION&INCENTIVES

- **Simpler traditional rule: *"set a price = marginal cost&subsidize resulting losses".***
- **Disadvantages: financing losses from taxes gives distortions but also *information available for regulation and incentives of regulated companies.***

- **Other tariff schemes (price = Average Cost, 2-part tariff, the multiblock &Ramsey-Boiteux prices) do not resolve that asymmetry of information on costs and demand behavior of the company allows it to act inefficiently and extract information advantageous rents.**
- **And if the regulator depends on the regulated, nothing guarantees adequate pricing according to the "Price = Marginal Cost" rule, such as the electricity rate in Spain.**

- **Optimal rule must comply with: 1) be compatible with company incentives to reduce production costs; 2) use observable or verifiable information by the regulator without great costs, and 3) generate increased consumer surplus. But 1) & 3) are contradictory.**

1. Public prices (VII)

PRICES, COPAYMENTS&MANAGEMENT OF PUBLIC SERVICES:

- **One of the management problems of public services not intended for sale is the absence of opportunity cost signals for users and producers of services, distorted demand (health and education) and management to minimize costs.**

- ***Prices, rates and moderator tickets*** **for consumption or** ***co-payments*** **are forms of financing that try to pass part of the cost of public services to consumers. More intensive use to rationalize demand is effective (option not to buy is valid) as long as:**
  A. **Degree of compulsory consumption, for legal or factual reasons, is low.**
  B. **Price elasticity of demand for the service is not null or very low.**
  C. **Affects services or specialties with low cost-effectiveness ratios.**
  D. **Access to service can be guaranteed to users with lower income or need.**
  E. **Transaction costs associated with setting prices and collecting them are not very high.**

- **These properties also have** ***affected income*** **(taxed or not) if the profit principle recommends it.**

2. Money (I)

- **To finance Expenditure (G) activities at each moment of time, Public Sector uses 3 means:**
  1. **Taxes&other ordinary resources (public prices, transfers received, fees, etc).**
  2. **Creation of money.**
  3. **Issue public debt.**

- **Despite differences regarding taxes, creating money is a "peculiar" form of taxation.**

MONEY CREATION & SEIGNIORAGE

- **Public Sector has a special privilege: a monopoly to create an asset with no intrinsic value (money), which agents use in transactions as an accepted payment method. Revenues of privilege = SEIGNIORAGE = Definition by Phelps (1972): It is *opportunity cost*, based on the stock of money in circulation: a tax on real money balances. And, like most taxes, it gives welfare costs or excess of tax burden.**

2. Money (II)

SEIGNIORAGE AND INFLATION TAX

- **Since Friedman (1953) on the optimal quantity of money, it is common to identify *seigniorage with an inflationary tax*. It is related to the *flow* of godos&services produced in the economy that can be acquired by Public Sector by making money.**
- **3rd definition of seigniorage (Marty, 1967): product of growth rate of money supply&real balances.**
- **Seigniorage revenues = inflation tax + emission of money necessary to finance growth in real production.**

MONETARY POLICY AND IMPLIED TAXATION

- **Regularly, development of monetary policy is accompanied by provisions for an additional source of "quasi-tax" resources for Public Sector.**
- **These implicit taxes consider different ways by country, one of which is the *reserve or cash ratio* or a requirement for banks to maintain liquid reserves in proportion to their deposits.**
- **They achieve 3 objectives: regulate creation of bank money, to provide cheap financing to Public Sector and give security to depositors.**

3. Public Debt (I)

- **Public deficit = Public Sector financing needs. It can be budgetary, liquidated, cash, State, Central Administrations, Territorial, Social Security, or consolidated.**

- **Two ways of Public Deficit can be distinguished (*PD = CD + SD*):**

1) ***Cyclical deficit (CD):*** **generated by economic evolution & *automatic stabilizers*. They come from income, taxes on income (Corporate Tax, Personal Income Tax - PIT) and on consumption (VAT); & from expenses: transfers or economic benefits.**

- **In economy with recession, Public Deficit is based on CD and effects are:**
  - **↓ revenues from taxes on income&consumption.**
  - **↓ income.**
  - **↑ transfers or economic benefits to subjects.**
  - **↓ public revenues and ↑ public expenditures, and *CD.***

2) Structural Deficit (SD): **is created by deliberate actions of Public Sector.**

- **If there were an economy with full employment, would there be SD? YES, since Government will want to influence other variables.**

3. Public Debt (II)

- **PUBLIC DEFICIT can be financed by:**

a) **MONEY creation: to promote aggregate demand it would cause an increase in public spending. If aggregate supply does not respond correctly and Public Sector expands money supply, both effects raise prices (INFLATION).**

b) **Go to EXTERNAL CREDIT. 3 cases:**

1. **Entry of foreign capital into country, which would need to buy national currency & the currency exchange rate would rise. Exports will decrease& trade balance deficit will rise.**
2. **Interest rates would rise, lowering private investment, & displacement effect towards public and non-private investments (CROWDING-OUT effect).**
3. **Loan repayment + interest that would go abroad.**

c) **Issuance of PUBLIC DEBT. Securities issued by Public Sector are bought by economic agents in exchange for a loan (principal) + interest being returned to them.**

3. Public Debt (III)

- **In Spain, is regulated by Public Treasury. These titles have advantages, but the + important is FINANCIAL SOUNDNESS. Main titles are:**

- ***In the short- and medium-term:*** **Treasury bills, which finance ordinary State expenses and are issued for 3, 6, 9 and 12 months.**

- ***In the long-term:***
  - **Government bonds are issued for 3 & 5 years.**
  - **Government obligations are issued for 10, 15 & 30 years.**

Both destined to finance extraordinary expenses.

https://www.bde.es/wbe/en/entidades-profesionales/operativa-gestiones/mercado-primario-de-deuda/proximas-subasta/

3. Public Debt (IV)

DEBT BURDEN&FUTURE GENERATIONS

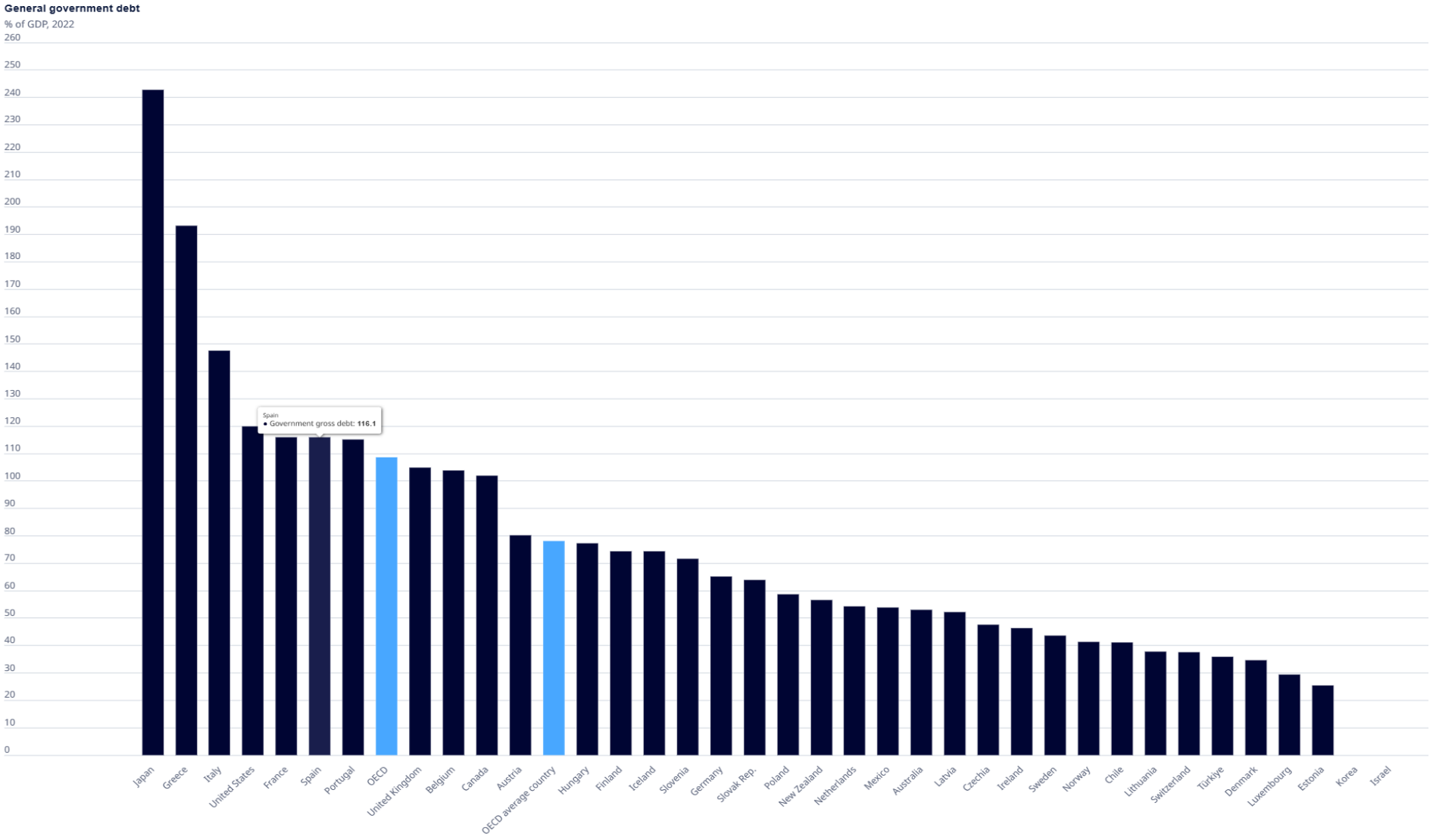
- **It postpones payment of taxes in time.**
- **This possibility of TRANSFERING the financing burden of present spending to future generations raises INTERGENERATIONAL EQUITY PROBLEM.**
- **There is a burden for future generations if they experience a *decrease in their welfare* due to use of debt instead of taxes.**

- ***Is there a debt burden for future generations?* The answer is not simple, since well-being of future generations depends on several factors:**
  - ***Time horizon* of each generation. If debt is neutral (equivalence theorem), it has no effects or generates any burden on future generations.**
  - **Whether equivalence theorem does not hold, the debt burden for future generations depends on: *occasionality* or *permanence* of this Policy&, in the latter case, debt *sustainability.***
  - **Public Economics accepts as a PRINCIPLE OF INTERGENERATIONAL EQUITY the financing with taxes the current expenses and financing with debt the investment expenses *(GOLDEN RULE)*. But validity is conditioned by assumptions.**

https://data.oecd.org/gga/general-governmen debt.htm

3. Public Debt (V)

General government debt. Total, % of GDP, 2022 or latest available



4. Privatization (I)

- **They can be understood as the sale of shares (Initial Public Offering - IPO) from public to private companies. Also as contracting of services of private companies by Public Sector.**

- **To carry out privatization, it is necessary to compare benefits&social costs (Yarrow, 1986):**
  - ***Social costs of privatization:***
    1. **Threat to public interest;**
    2. **Creation of private monopolies, and**
    3. **Valuation problems.**
  - ***Social benefits of privatization:***
    1. **Improved efficiency;**
    2. **Reduction of public debt needs;**
    3. **Facilitate wage negotiation;**
    4. **Less bureaucratic interference;**
    5. **Expand shareholder base;**
    6. **Encourage access for employees to hold shares in the company, and**
    7. **Redistribution of income & wealth.**

- **Goals of privatization:**
  1) To obtain revenues.
  2) To improve economic efficiency.
  3) Political & redistributive goals.

4. Privatization (II)

POLITICAL & REDISTRIBUTIVE GOAL

- **It may pursue the creation of a broad shareholder base ("popular capitalism") as well as achievement of electoral goals, to which the undervaluation of sale price of shares could contribute.**
- **Goals related to income & wealth redistribution can hardly be realized by the sale of public assets. It is + efficient through fiscal mechanisms & direct income transfers.**
- **Other distributive effects of privatization: weakening of trade union power, associated with damage to non-buyers of the sale of securities at a lower price than the market price, or the + "subtle" derived from redistribution of risks in economy.**

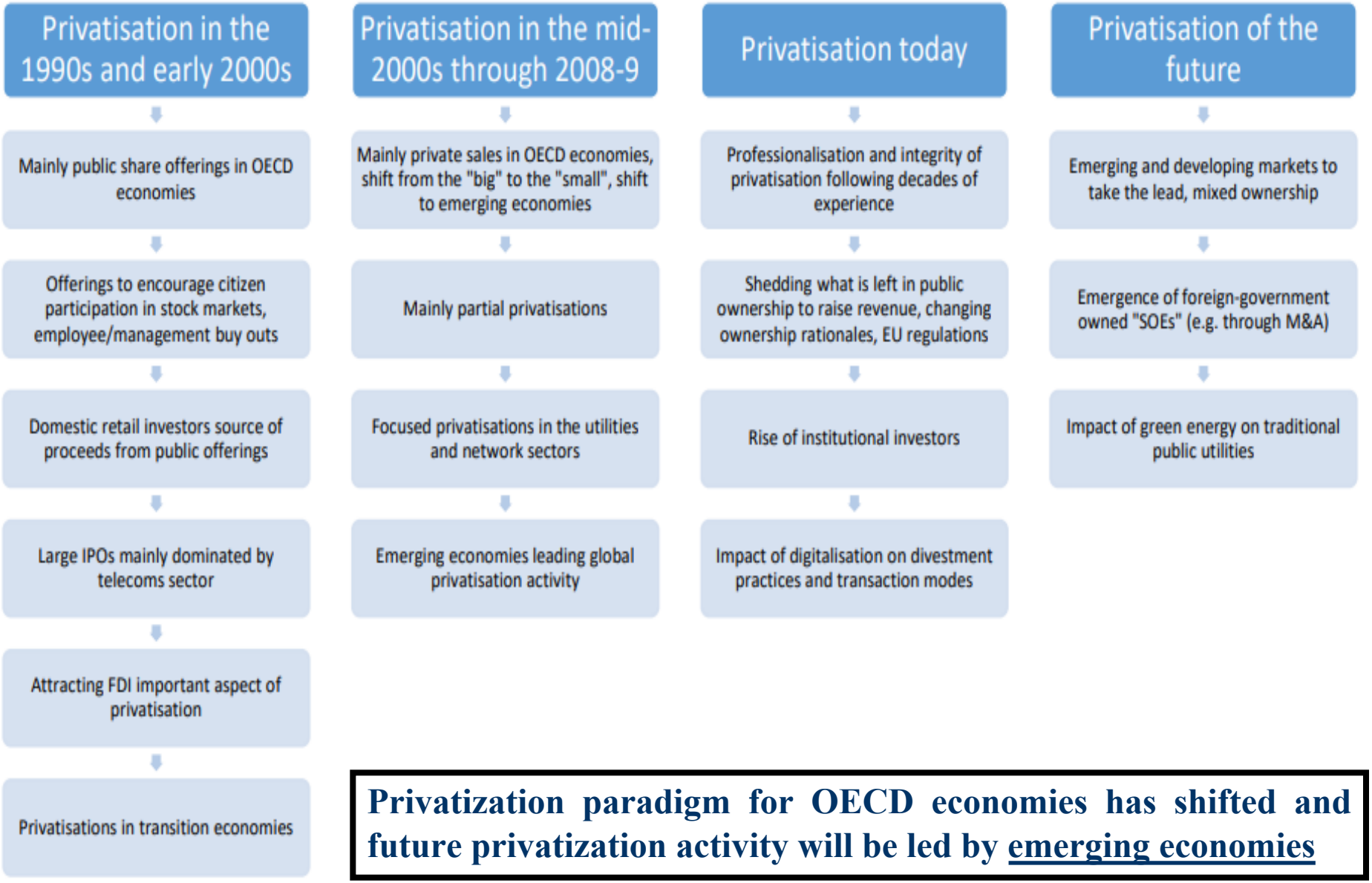
4. Privatization (III)

- **Achieving EFFICIENCY GAINS is the only economically founded justification for privatizing public assets.**
  - **If capital markets work properly, privatization to improve efficiency allow Public Sector to obtain net income.**
  - **If the sale of assets is a mere change of ownership, without changes in the allocation of resources, privatization has effects equivalent to creating public debt.**

- **In both cases, Public Sector obtains income in the short term, but is compensated by giving up a stream of dividends of the same present value.**

- **If privatization partly pursues REDISTRIBUTIVE purposes due to undervaluation of sales prices, Public Sector will see income reduce in present value. This policy is equivalent to making money transfers to buyers.**

4. Privatisation (IV)

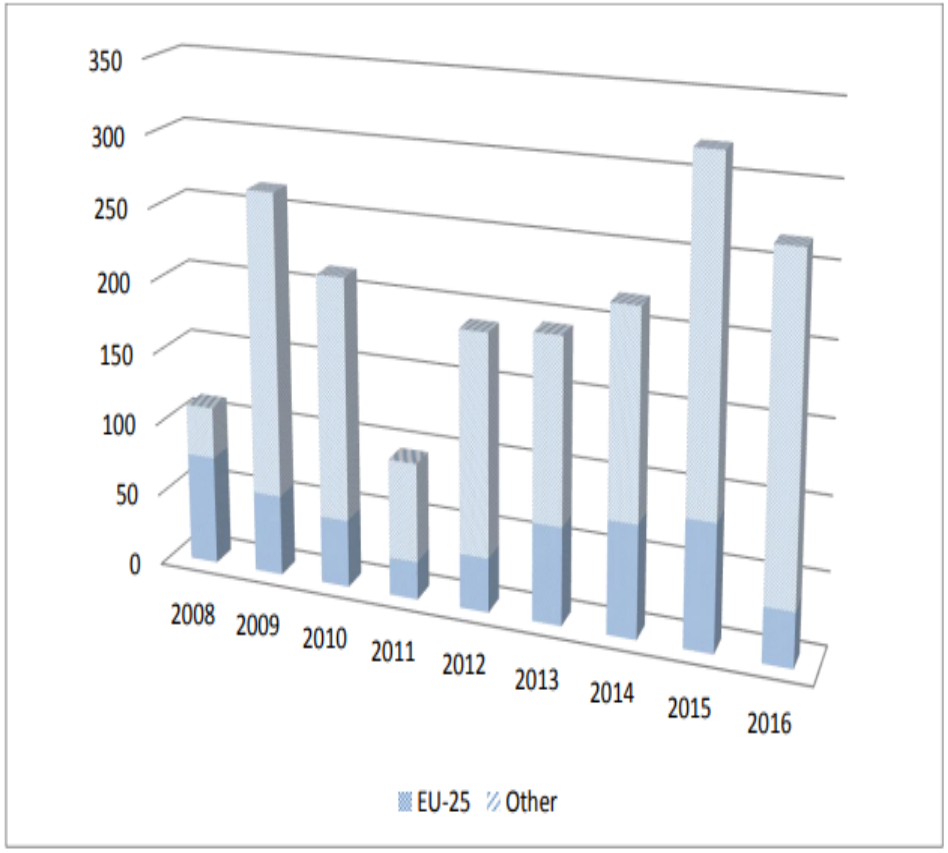


Privatization paradigm for OECD economies has shifted and future privatization activity will be led by emerging economies

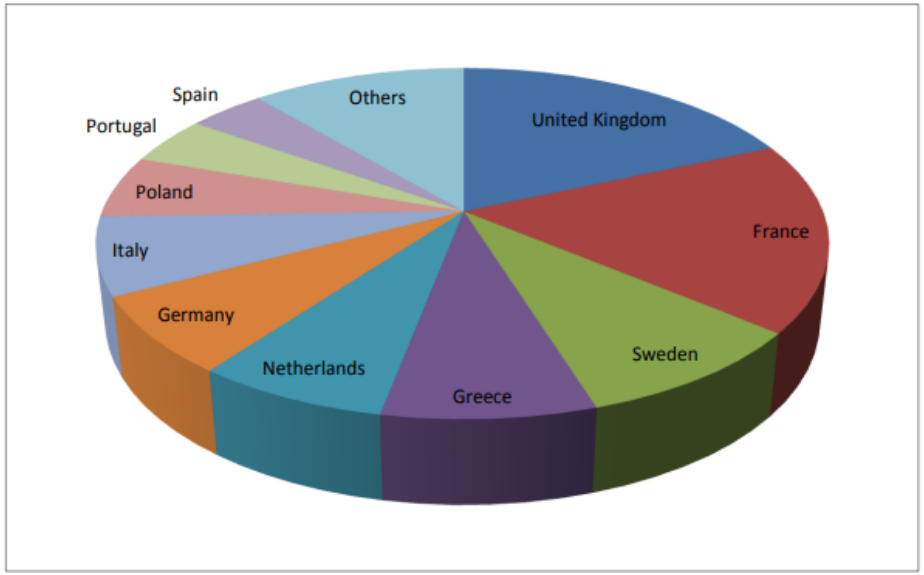
SOURCE: OECD (2019), A Policy Maker's Guide to Privatisation, Corporate Governance, OECD Publishing, Paris. https://doi.org/10.1787/ea4eff68-en

4. Privatization (V)

World annual privatization revenues,
USD billion



Geographic distribution of privatisation in EU-25 countries, 2008-2016
(by total revenue)



Source: Privatisation in the 21st Century: Recent Experiences of OECD Countries
https://www.oecd.org/corporate/ownership-and-governance-of-state-owned-enterprises-a-compendium-of-national-practices.htm
https://www.oecd.org/daf/ca/Privatisation-and-the-Broadening-of-Ownership-of-SOEs-Stocktaking-of-National-Practices.pdf

Final summary

- ***Public prices:*** **require great information to be set at an appropriate level & thus maximize social welfare.**
- ***Money:*** **public revenue from this privilege are seigniorages, as interest savings or inflation tax.**
- ***Public debt:*** **as a 3rd way of financing a possible deficit after creating money or resorting to external credit. If level is permanently unsustainable, it will be necessary to adopt + effective measures to reduce expenses&increase income.**
- ***Privatization:*** **it is important to compare benefits&social costs in order to obtain income& improve economic efficiency.**