

Introduction to Public Finance

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Lecture Overview

Size of government relative to the economy

- Receipts and expenditure trends in the U.S.
- International perspective

General course overview

- ① Role of government in the economy
- ② Recurrent budgets
- ③ Capital budgets
- ④ Government revenue
- ⑤ Debt management and forecasting

Data sources

- Use of official (government) and other up-to-date data sources

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Gross Domestic Product (GDP)

Definition of GDP by the Bureau of Economic Analysis (BEA)

- *The value of the goods and services produced in the United States is the gross domestic product.*

Measurement of economic growth by changes in the GDP

- Important aspect of recession dating besides employment levels
- *"We view real GDP as the single best measure of aggregate economic activity. In determining whether a recession has occurred and in identifying the approximate dates of the peak and the trough, we therefore place considerable weight on the estimates of real GDP issued by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce."* [Business Cycle Dating Committee Announcement January 7, 2008](#)

2022 Federal Government in a Nutshell

Outlays ([Federal Budget 2022](#))

- Discretionary outlays (e.g., defense)
- Non-discretionary outlays (e.g., Social Security, Medicare, Medicaid)

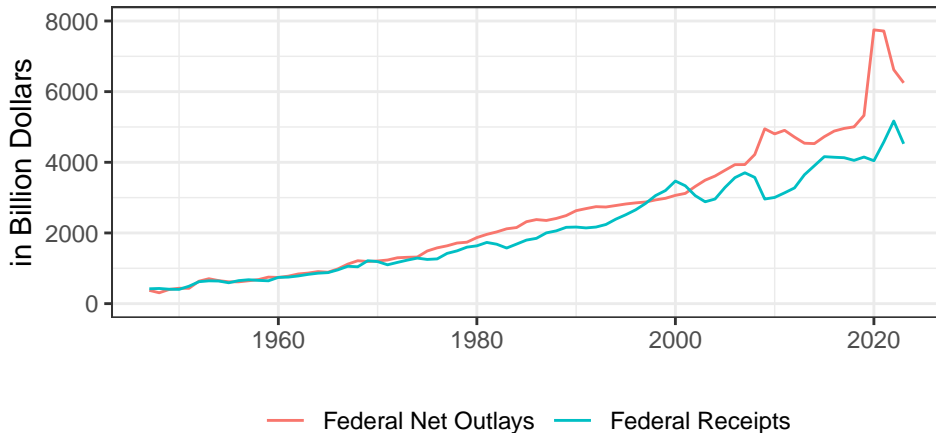
Government revenue (\$4.9 trillion)

- Individual income taxes (\$2.6 trillion)
- Payroll taxes such as Social Security (\$1.5 trillion)
- Corporate income taxes (\$425 billion)
- Other revenues such as excise taxes, estate and gift taxes, customs duties

Government expenditures/outlays (\$6.3 trillion)

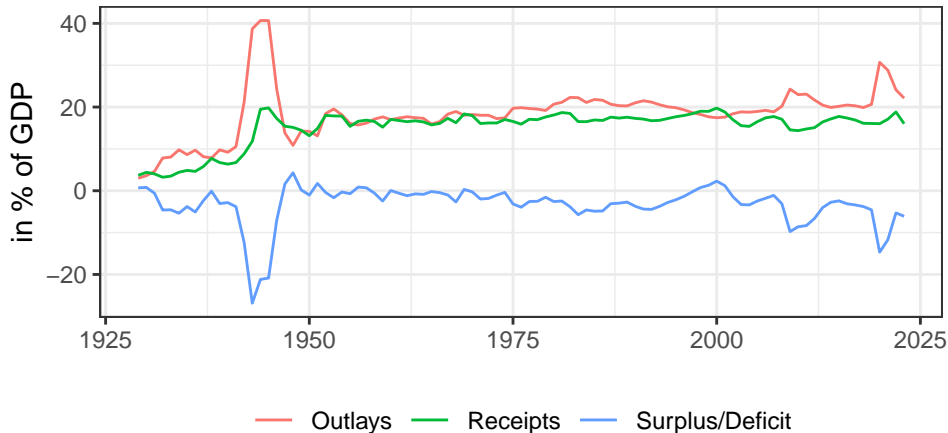
- Mandatory spending (\$4.1 trillion)
- Discretionary spending (\$1.7 trillion)
- Net interest (\$475 billion)

Real Federal Net Outlays and Receipts



Source: FRED Series ID [FYFR](#) and [FYONET](#)

Historical Budget in Percent of GDP



Source: FRED Series IDs [FYFRGDA188S](#), [FYONGDA188S](#), and [FYFSGDA188S](#)

Major Foreign Holders of Treasury Securities

Top 10 Countries	Jan-23	GDP	Ratio
Japan	1,104	4,231	26.1%
China	859	17,963	4.8%
UK	668	3,071	21.8%
Belgium	331	579	57.2%
Luxembourg	318	82	387.8%
Switzerland	291	808	36.0%
Cayman Islands	285		
Canada	254	2,140	11.9%
Ireland	253	529	47.8%
Taiwan	235		

Notes: In Billion USD from [Major Foreign Holders of Treasury Securities](#)

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State and Local Government

Number of Local Governments in the U.S.

2017 Census of Governments

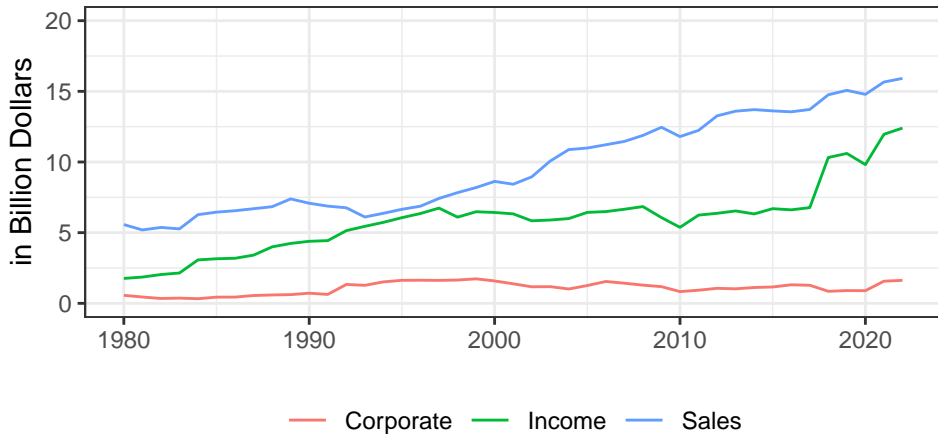
- 50 State governments
- 19,495 Municipal governments
- 16,253 Town or township governments
- 3,031 County governments
- 12,754 Independent school districts
- 38,542 Special district governments

Notes:

- Source: [U.S. Census Bureau 2017 Census of Governments – Organization](#)
- Relatively stable between 2012 and 2017

Government revenue and expenditures at the state and local level

Real State Government Tax Collections: Indiana



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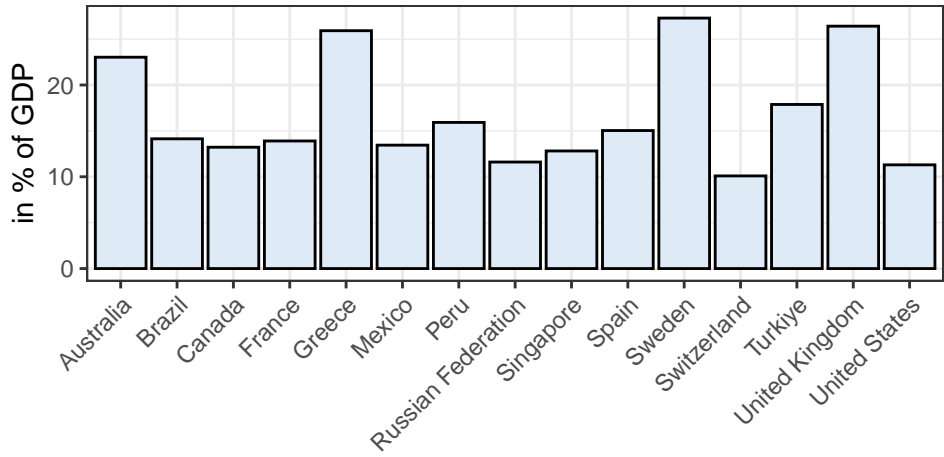
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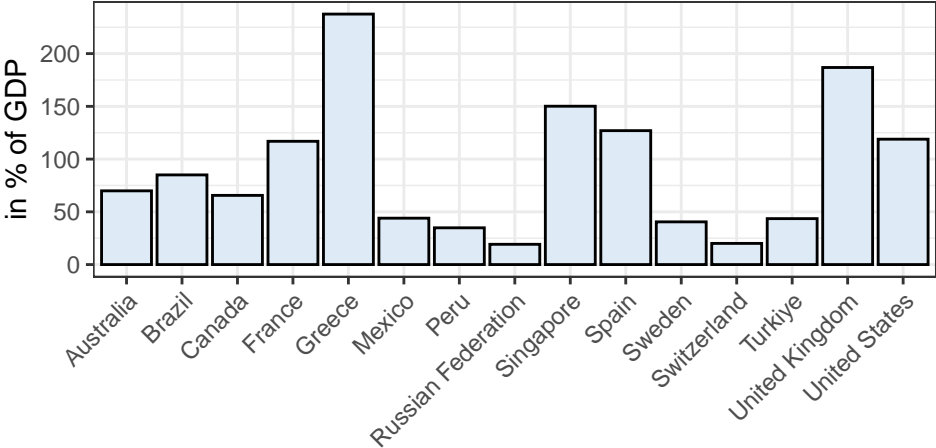
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International Perspective

Tax Revenue (2021)



Central Government Debt (2021)



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Role of Government in the Economy

Real versus nominal prices

- Time value of money (e.g., inflation)

Market failures

- Public goods, externalities, imperfect competition, etc.
- Economic stabilization
- Redistribution

Recurrent Budgets

Budgets on an annual basis

- Matching current receipts and expenditures (services)

Overview of government budgeting

- Budget cycle, budget process, and budget preparation

Federal budget process

- Institutions, audits, and evaluation
- Appropriation bills (required for discretionary spending)
- Mandatory spending (no appropriation bill required)

Budget methods and format

- Budget classification and budget examples
- Cost analysis

Capital Budgeting

Purchasing of capital items

- Assets with a useful life of more than one year
- Non-recurring expenditure
- Examples: Infrastructure such as bridges or airports
- Usually very large expenditure

Cost-benefit analysis

- Net present value analysis

Benefits and expenses over multiple years

Government Revenue I

Various perspectives:

- Economic and political

Taxation

- Efficiency
- Equity
- Adequacy, elasticity, and stability

Economics of taxation

- Per-unit tax versus lump-sum tax

Evaluation of who is burdened by the taxes (e.g., based on income group)

Government Revenue II

Income taxes

- Lump-sum tax (from an economic perspective)
- Largest contributor to the federal budget

Taxes on goods and services

- Sales taxes (as a percentage of price)
- Fuel taxes (per unit tax)
- Influence on consumption of taxed goods

Property taxes

- Source for local funding

Other revenue sources

- User fees and lotteries

Debt Management and Forecasting

Federal level:

- Difference between deficit/surplus (i.e., difference between current fiscal year outlays and revenues) and debt (accumulated over years)

State and local level:

- Revenue sources: (1) Taxes, (2) federal aid, and (3) borrowing

Mechanics of bond values

- Issuer of a bond pays the holder interest and repays the principal at a specific date in the future (maturity date).
- Type of bonds
- Value of bonds

Deficit and debt management

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Congressional Budget Office (CBO)

Publication of long-term budget outlooks

- Most current outlook: [CBO Long Term Budget Analysis](#)
- Federal revenues and expenditures given current policies and macroeconomic projections

2002 CBO Projections (January 2002) “The Budget and Economic Outlook: Fiscal Years 2003-2012”

- Projected debt held by the public as a percentage of GDP in 2012: 7.4% (Q1 2023: 93%)

Significant discrepancy between projection and reality:

- Tax cuts, homeland security, 2001 economic downturn, 2008 great recession, stimulus spending (all in the 2000's), COVID-19, etc.

Government Data and International Organizations

Use of objective and unbiased data sources:

- Office of Management and Budget (OMB) of The White House
- Federal Reserve Economic Data (FRED) of the St. Louis Fed
- U.S. Census Bureau
- IMF and World Bank

European Union and OECD

Data Source:

- EUROSTAT and OECD

General government deficit/surplus

- General government deficit/surplus

General government gross debt

- European Union
- General government gross debt

Tax revenue

- OECD Tax Revenue