

# Lecture 9: An Overview of Fiscal Policy

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# Outline

- ▶ General objective of government policies
- ▶ What is fiscal policy
- ▶ Fiscal policy in historical perspective
- ▶ The government budget constraint
  - ▶ The intertemporal government budget constraint
  - ▶ How much can a government borrow?
  - ▶ Do government deficits crowd out investment?
- ▶ Fiscal problems in Europe
- ▶ The fiscal problem of the 21st century
- ▶ Fiscal rules across countries (optional)

# General Objective of Government Policies

- ▶ Objective of government policies
  - ▶ maintain full employment
  - ▶ moderate business cycle
  - ▶ achieve sustained long-term growth
  - ▶ keep price stability
- ▶ Duties of the treasurer of the Commonwealth of Australia: “The Treasurer has overall responsibility for all of the policy matters falling within the Treasury portfolio. These include: economic and fiscal policy; taxation; price surveillance; competition policy; national and occupational superannuation; borrowing money on the public credit of the Commonwealth; banking; insurance; currency and legal tender; foreign exchange; foreign investment in Australia; census and statistics; business law and practice; corporate and securities law; corporate insolvency; valuation services; and Commonwealth-State financial relations.”

# What is Fiscal Policy?

- ▶ Fiscal policy is made by the *president (premier, prime minister)* and the *Congress*.
- ▶ It is the use of **government budget** (expenditure, taxation, debts) to achieve macroeconomic objectives.
- ▶ The **two main instruments** of fiscal policy are government **expenditure** and **taxation**.
- ▶ The government finances its spending by taxing the private sector. Its budget or fiscal balance equals tax revenue minus expenditure. Three states of budget balance:
  - ▶ balanced budget
  - ▶ budget deficit
  - ▶ budget surplus

## Government Debt

- ▶ **Government/public debt** is the total amount that the government has borrowed. It is the accumulation of all past deficits. Budget surpluses allow the government to pay off some debts.
- ▶ The law of motion for nominal debt

$$D_t = D_{t-1} - (B_t - i_t D_{t-1})$$

where  $D_t$  denote the stock of government debt at the end of year  $t$ ;  $i_t$  is the (average) nominal interest rate and  $B_t$  denotes the primary (i.e. non-interest) government balance.

- ▶ Ratio of public debt to GDP becomes

$$\begin{aligned} \frac{D_t}{P_t Y_t} &= \frac{(1 + i_t)D_{t-1} - B_t}{P_t Y_t} = \frac{(1 + i_t)D_{t-1} P_{t-1} Y_{t-1}}{P_t Y_t P_{t-1} Y_{t-1}} - \frac{B_t}{P_t Y_t} \\ &= \frac{1 + i_t}{(1 + g_t)(1 + \pi_t)} \frac{D_{t-1}}{P_{t-1} Y_{t-1}} - \frac{B_t}{P_t Y_t} \end{aligned}$$

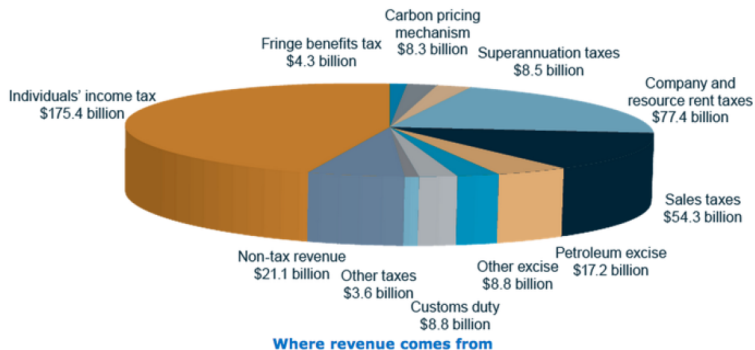
where  $g_t$  is the growth rate of real GDP and  $\pi_t$  is the inflation rate (measured as the rate of change of the GDP deflator,  $P$ ).

# Stances of Fiscal Policy

- ▶ There are three possible stances of fiscal policy:
  - ▶ A **neutral** stance of fiscal policy implies a **balanced budget** where government spending is fully funded by tax revenue and overall all budget outcome has a **neutral effect on the level of economic activity**.
  - ▶ An **expansionary** stance of fiscal policy involves a **net increase in government spending** through **rises in government spending, falls in taxation revenue, or a combination of the two**. It would lead to a smaller budget surplus or budget deficit.
  - ▶ A **contractionary** fiscal policy occurs when net government spending is reduced either through **higher taxation revenue, reduced government spending, or a combination of the two**. It would lead to a smaller budget deficit or a budget surplus.
- ▶ Changes in the **level** and **composition** of taxation and government spending can impact on the following variables in the economy.
  - ▶ aggregate demand
  - ▶ level of economic activity
  - ▶ pattern of resource allocation
  - ▶ distribution of income

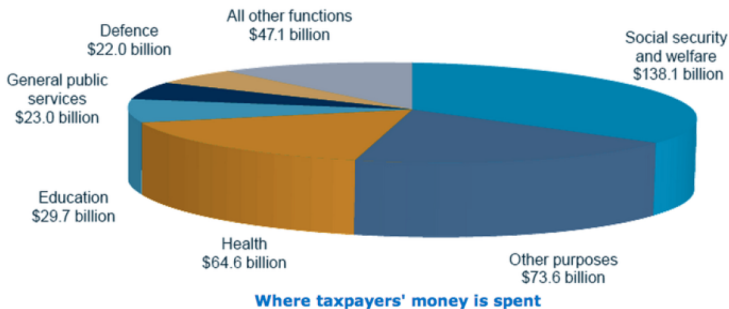
# Australian Government Budget: Revenue Outcome

Figure: Source of Australian government revenue (2013-2014)



# Australian Government Budget: Expenses Outcome

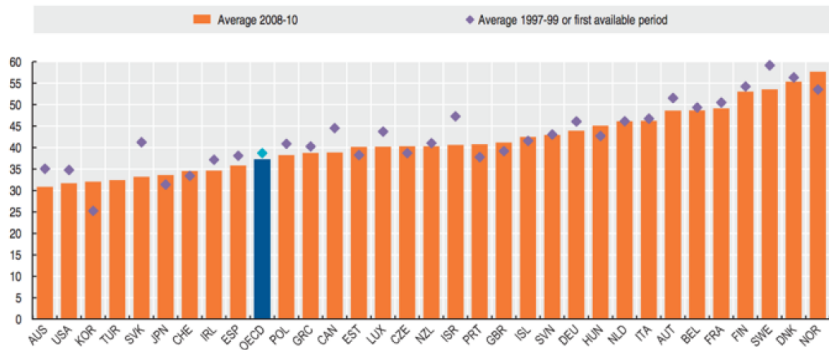
Figure: Source of Australian government spending (2013-2014)





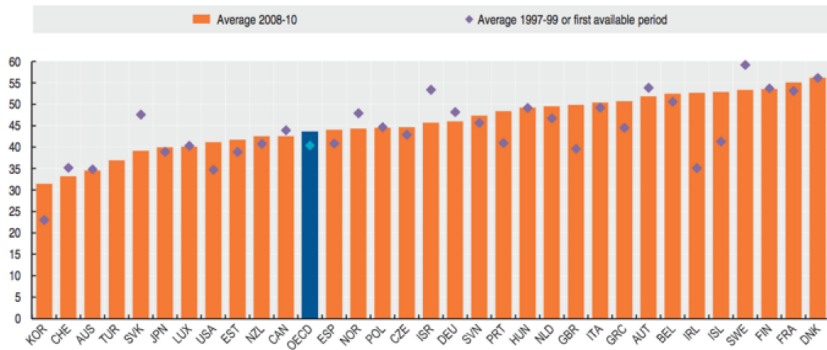
# Government Revenue of OECD Countries

Figure: General government revenues (as a percentage of GDP)



# Government Spending of OECD Countries

Figure: General government expenditures (as a percentage of GDP)



## Fiscal Policy in Historical Perspective

- ▶ The idea of using fiscal policy to combat recessions was introduced by John Maynard Keynes in the 1930s, partly as a response to the Great Depression.
- ▶ From the end of the Great Depression until early 1970s, Keynesian economy provided the main inspiration for economic policy makers in industrialised countries. A main theme of Keynesian economics is to use the **active fiscal policies to manage aggregate demand**.
- ▶ The influence of Keynes's theories waned in the 1970s, due to stagflation and critiques from Friedman, Lucas, and other economists. Indirect intervention through monetary policy becomes more popular among industrialised countries.

## Concerns of Using Fiscal Policy

- ▶ **Time lags:** the legislative process can be too slow to permit the effective use of fiscal policy when it is needed.
- ▶ Effects of tax and spending policies on economic activities are **direct and strong**, such that fiscal policies may **distort economic activities** and **create extra fluctuations**. (e.g. the crowding out effect of government spending)
- ▶ Concerns that active fiscal policy may **lead to large and persistent budget deficit**.
  - ▶ Long term budgetary challenge: There is likely to be a sharp rise in the number of retirees relative to the number of workers in coming decades, such that the resulting increase in social security and health care spending may further raise the deficit.
  - ▶ There is widespread perception that large and persistent budget deficits could slow down economic growth and may lead to debt crisis.
- ▶ The global financial crisis in 2007 and the COVID-19 pandemic in 2020 have caused a resurgence in Keynesian thought. Many government implemented fiscal stimulus packages to combat recession.

## Government Budget Constraint (1 of 2)

- ▶ The government budget constraint (**flow version**) which is based on **accounting identity**.

$$G_t + Tr_t + iD_t = T_t + \Delta D_t + \Delta M_t$$

- ▶ Source of government expenses
  - ▶  $G_t$  is spending on goods and services and  $Tr_t$  denotes transfer payments (unemployment insurance, social security and welfare programs)
  - ▶  $D_t$  is existing stock of government debt
  - ▶  $i$  denotes nominal interest rate
- ▶ Source of government funds
  - ▶  $T_t$  is tax
  - ▶  $\Delta D_t$  denotes amount of new borrowing
  - ▶  $\Delta M_t$  denotes changing in the stock of money: having this in a model gives a interaction between monetary and fiscal policies

## Government Budget Constraint (2 of 2)

- ▶ Assuming  $\Delta M_t = 0$  and  $Tr_t = 0$ , we have:

$$G_t + iD_t = T_t + \Delta D_t$$

$$G_t + iD_t = T_t + (D_{t+1} - D_t)$$

$$D_{t+1} = (1 + i)D_t + (G_t - T_t)$$

- ▶ Suppose economy exists for two periods: the economy begins in period 1 and ends after period 2
- ▶ Period 1 balance plus present value of period 2 balance should be equal to initial debt.

$$T_1 - G_1 + \frac{T_2 - G_2}{1 + i} = (1 + i)D_1$$

- ▶ The lesson of budget constraints: **budget must balance not period by period, but in present discounted value.**

## How Much Can A Government Borrow? (1 of 3)

- ▶ Suppose the outstanding debt is growing at 3% per year, is that a problem?
- ▶ Is there a particular debt/GDP ratio at which problems occur?
- ▶ What kind of problems happen?
- ▶ Is borrowing from future generations a good thing?
- ▶ Do government deficits crowd out investment?

## How Much Can A Government Borrow? (2 of 3)

- ▶ Is there a particular debt/GDP ratio at which problems occur?
  - ▶ Argentina 2001: debt/GDP peaked at 65%
  - ▶ Greece: about 170% in 2012!
  - ▶ But Japan today and the U.S. after WWII were higher
- ▶ Is borrowing from future generations a good thing?
  - ▶ Under current policies, the generation born in 2004 will pay a net lifetime tax rate of 18.5%.
  - ▶ On average, future generations will have to pay a net lifetime tax rate of 58.2%!
  - ▶ These numbers are from Gokhale (2008) which is based on Auerbach et al. (1994) article.



## How Much Can A Government Borrow? (3 of 3)

- ▶ GDP is growing faster than debt, then ratio of debt to GDP would be declining.
- ▶ Probability of default
  - ▶ When debt/GDP ratio gets to be too high, lenders may become worried about the government's ability to repay its debt and may stop lending.
  - ▶ Investors doubt the ability of government to finance its debt, they may demand for a higher interest rate on new borrowing.
- ▶ Inflation
  - ▶ Repay debt with a less face value (printing money)

## Do Government Deficits Crowd Out Investment? (1 of 2)

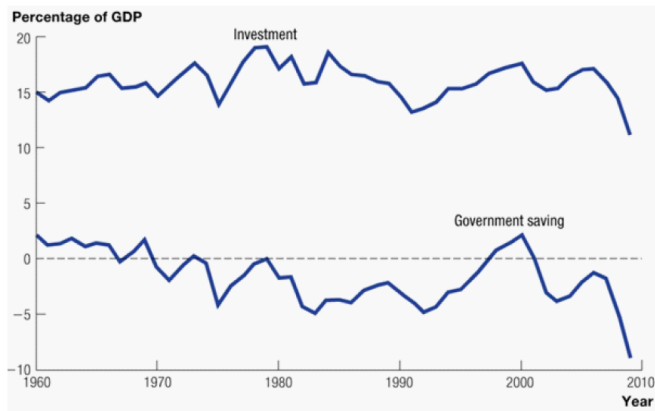
- ▶ Recall our manipulation of the **national income identity**:

$$(Y - T - C) + (T - G) + (IM - EX) = I$$

- ▶ Potential offsetting forces
  - ▶ Ricardian equivalence (private saving may rise)
  - ▶ Foreign saving may increase to take advantage of a high return

## Do Government Deficits Crowd Out Investment? (2 of 2)

Figure: US investment and the budget deficit



Source: Charles Jones (website)

## Fiscal Problems in Europe (1 of 2)



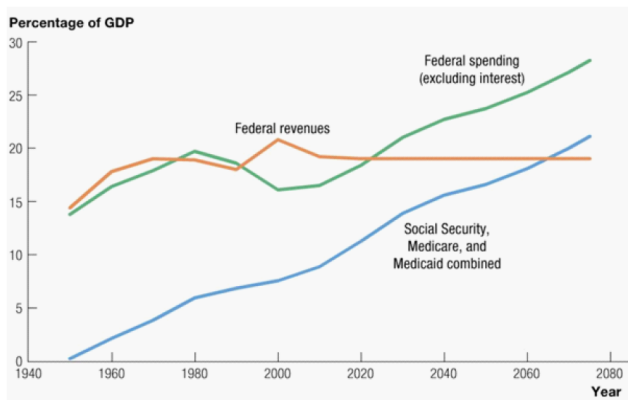
Source: Economist.com

## Fiscal Problems in Europe (2 of 2)

- ▶ Issues in the European Debt Crisis
- ▶ Austerity
  - ▶ Goal is to reduce debt and deficits
  - ▶ By prolonging the recession, does it perversely raise them?
- ▶ Long term fiscal balance
  - ▶ Reform entitlement programs and spending
  - ▶ Raise retirement ages, limit pensions, reform labour market institutions
  - ▶ If phased in, maybe solves fiscal problem, promotes long-run growth, and mitigates short-run problems?

# The Fiscal Problem of the 21st Century (1 of 4)

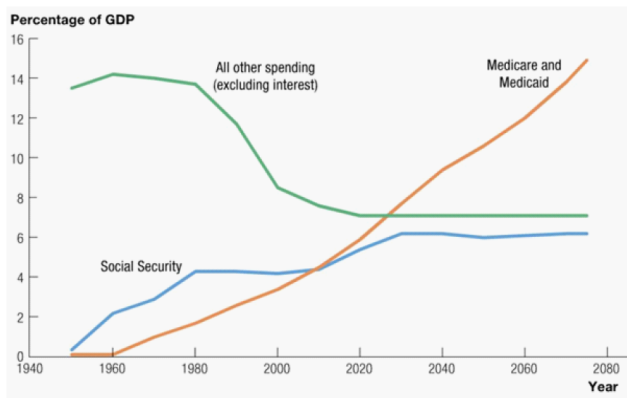
Figure: Federal spending and revenue (1950-2075)



Source: Congressional Budget Office (CBO) (2022): “A 125-Year Picture of the Federal Government’s Share of the Economy, 1950 to 2075”

## The Fiscal Problem of the 21st Century (2 of 4)

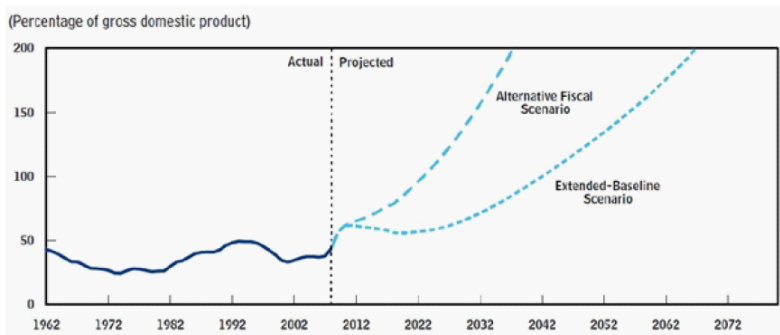
Figure: Components of Federal spending (1950-2075)



Source: Congressional Budget Office (CBO) (2022): “A 125-Year Picture of the Federal Government’s Share of the Economy, 1950 to 2075”

# The Fiscal Problem of the 21st Century (3 of 4)

Figure: The debt/GDP ratio in the future?

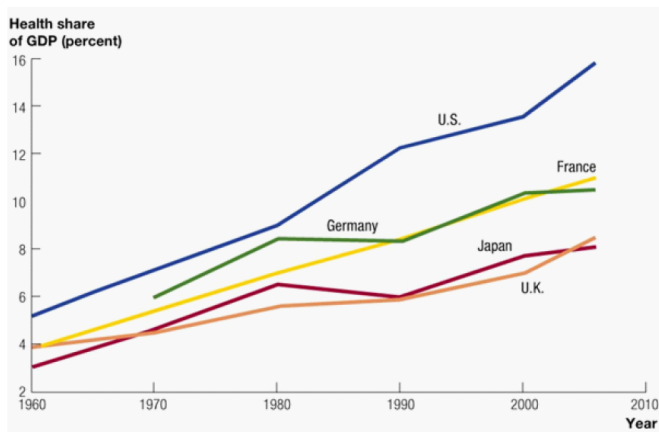


Source: Charles Jones (website)



## The Fiscal Problem of the 21st Century (4 of 4)

Figure: Health spending as a share of GDP around the world



Source: Charles Jones (website)

# Why is Health Spending as a Share of GDP Growing?

- ▶ Joseph Newhouse (1992): New, expensive technologies
- ▶ But why are these being invented and used?
- ▶ One possible explanation (Hall and Jones, 2007)
  - ▶ Standard economics predicts that the health share should rise!
  - ▶ Diminishing returns to consumption
  - ▶ As we get richer, the extra utility from another car, another television, or more clothing declines – barely enough time to enjoy what we have.
  - ▶ Instead, what we need are more days of life to enjoy our high incomes.
  - ▶ It may be optimal for health shares to head even higher!

# How to Finance Higher Health Spending?

- ▶ Most health spending occurs toward the end of life.
  - ▶ Can we look forward and be disciplined enough to save 30% of our lifetime income for spending that may occur in 30 to 50 years?
- ▶ Who provides insurance?
  - ▶ Classic result in economics: private insurance breaks down. Private insurers have huge incentives to avoid paying out.
  - ▶ But tax distortions from government could be enormous.
  - ▶ Health saving accounts? Required minimums; optional extra contributions.
  - ▶ David Cutler (2005), *Your Money or Your Life: Strong Medicine for America's Health Care System*