

FISCAL POLICY AND THE GOVERNMENT BUDGET

WEEK 11

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A WORD OF CAUTION

- We are entering here into the *most controversial issue* in macroeconomics, and possibly, in the entire field of economics.
- It is the ground where economics meets politics, at its best.
- Fiscal policy involves taxing/subsidizing people and corporations, spending on goods and services, and hiring people for providing services to the community.
- It affects the distribution of income.
- It affects the political landscape and the social equilibrium in a society.
- *What can be more controversial than this in a modern and open society?*

TWO MAIN SCHOOLS OF THOUGHT

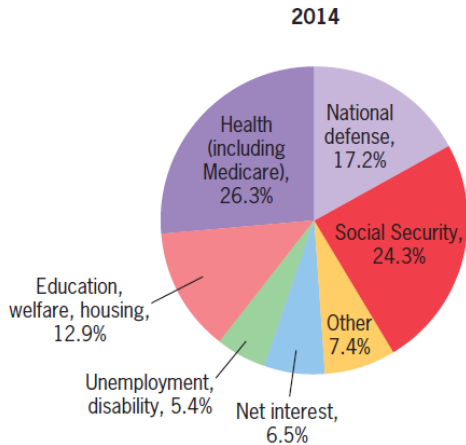
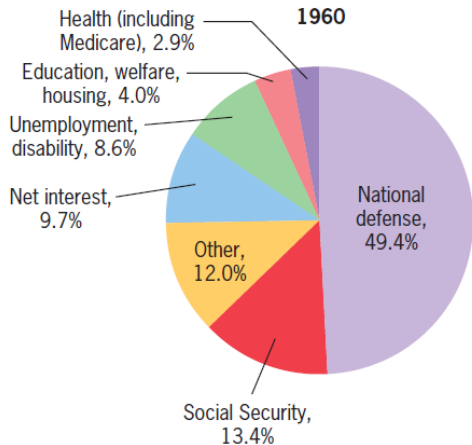
- **Classicals.** Main assumptions:
 - Markets work very well.
 - The best possible outcome is achieved with no government intervention.
 - The government should provide only the goods&services associated with classical functions of the state: defense, justice, and order.
- **Keynesians.** Main assumptions:
 - Markets suffer from significant failures (market power, public goods, externalities, incomplete markets).
 - The best possible outcome is achieved with government intervention.
 - The government should provide the goods&services associated with the market failures, besides those associated with the classical functions of the state.
- **You.** When looking at the subject that we will cover this week, one should be aware of this dichotomy before making one's own opinion.

1. THE GOVERNMENT BUDGET

FEDERAL GOVERNMENT SPENDING: 1960 vs 2014

From: Jonathan Gruber (2016). *Public Finance and Public Policy*, 5th Edition.

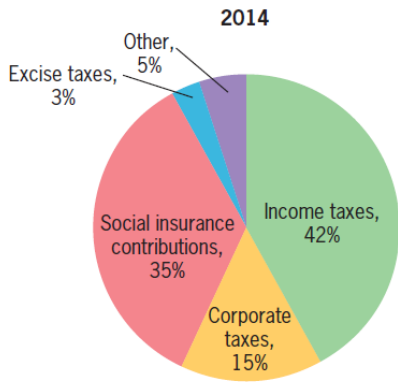
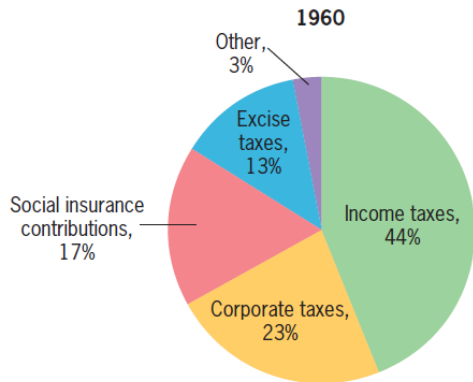
(a) Federal government expenditure by function



FEDERAL GOVERNMENT RECEIPTS: 1960 vs 2014

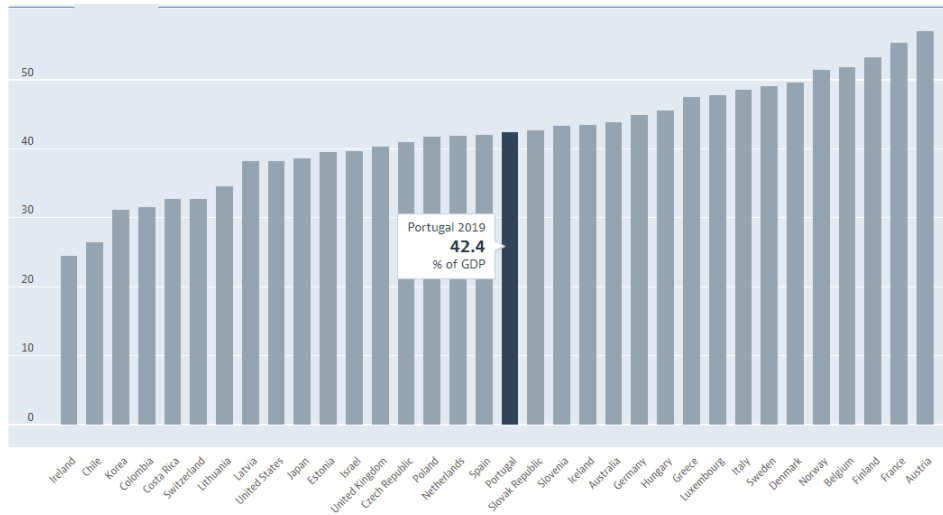
From: Jonathan Gruber (2016). *Public Finance and Public Policy*, 5th Edition.

(a) Sources of federal receipts



PUBLIC SPENDING: % OF GDP (OECD, 2019)

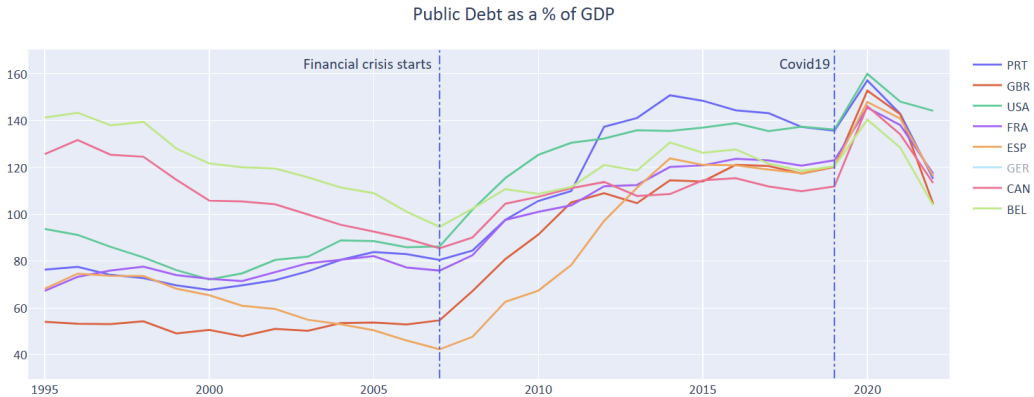
From: [OECD](#)



2. THE SIZE OF GOVERNMENT DEBT

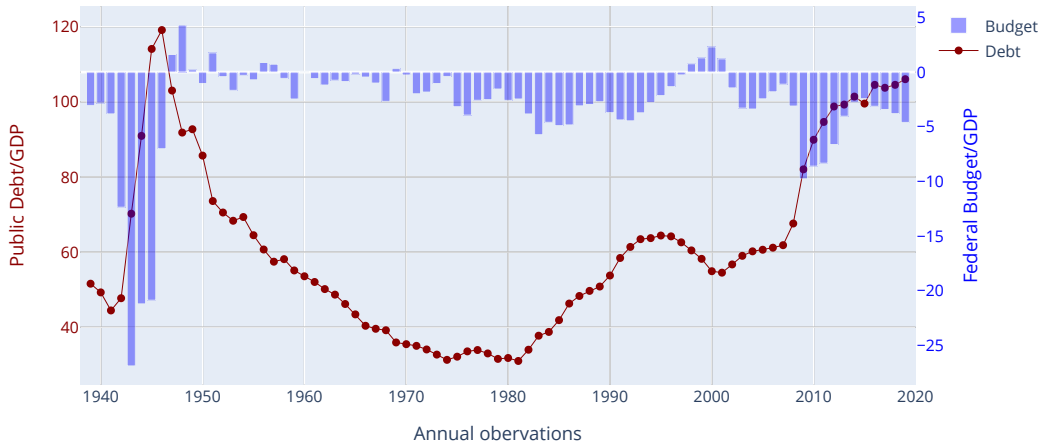
PUBLIC DEBT AS % OF GDP

From: [OECD](#)



USA: FEDERAL BUDGET VS FEDERAL DEBT

Federal Budget and Federal Debt as a % of GDP : USA (1939-2019)



FACTORS THAT AFFECT THE DEBT LEVEL

The level of public debt, as a percentage of GDP (d_t), is affected by three forces:

- The primary deficit (deficit before interest payments) as a % of GDP (p).
- The growth rate of real GDP (g).
- The real interest rate paid on public debt (r_p).

The equation that drives the evolution of public debt as a proportion of GDP is:

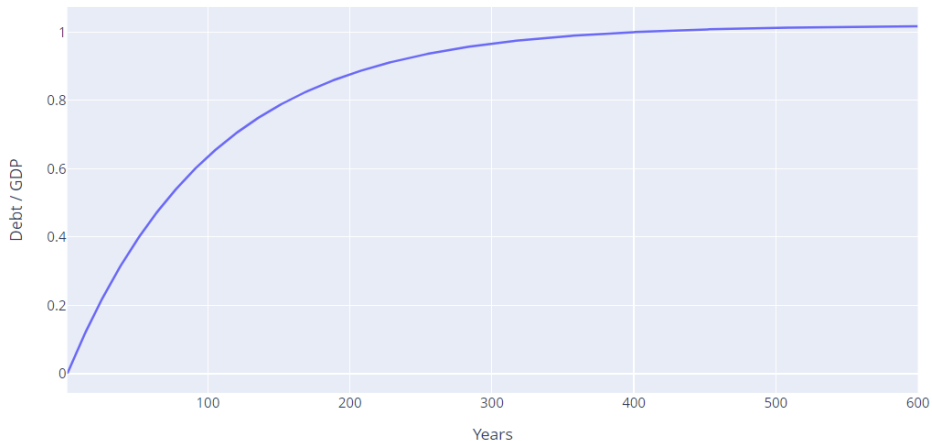
$$d_t = p + \left(\frac{1 + r_p}{1 + g} \right) d_{t-1} \quad (1)$$

- If $g > r_p$, the level of d_t is sustainable.
- If $g < r_p$, the level of d_t is unsustainable (it explodes over time).

PUBLIC DEBT SUSTAINABILITY: AN EXERCISE

Pessimistic scenario: $p = 0.01$, $g = 0.02$, $r_p = 0.01$. Surprise ... the time span.

The evolution of Public Debt as % of GDP



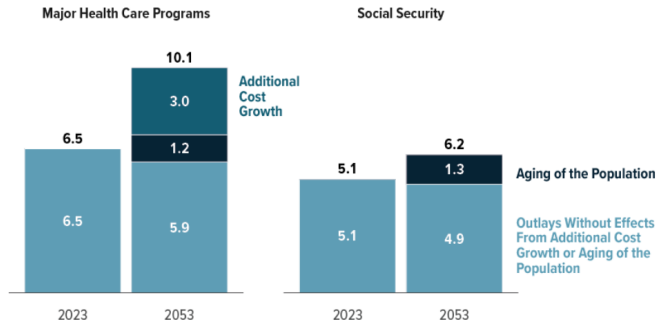
3. AGEING, TAXATION & THE SIZE OF PUBLIC DEBT

THE SHADOWS BEHIND PUBLIC DEBT

From: [Congressional Budget Office: The 2023 Long-Term Budget Outlook](#)

Composition of Growth in Outlays for the Major Health Care Programs and Social Security, 2023 to 2053

Percentage of GDP



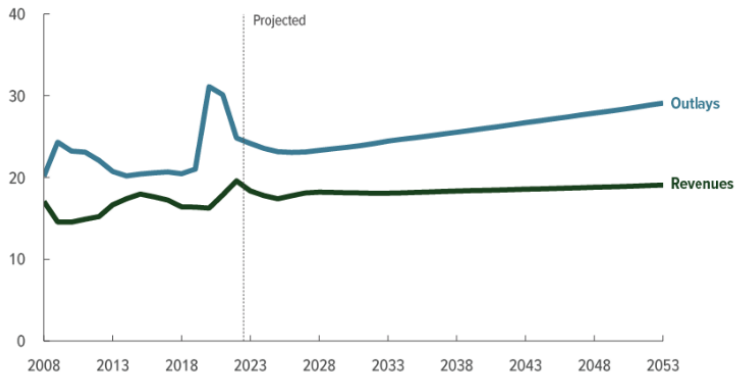
Growth in spending on the major health care programs is largely driven by cost growth above and beyond that accounted for by demographic changes or the growth of potential GDP per person. Spending on those programs, as well as spending on Social Security benefits, is also boosted by the aging of the population.

THE "PROBLEM": THE AGING OF THE POPULATION

For the [Congressional Budget Office: The 2023 Long-Term Budget Outlook](#) aging is one major problem for public finances in the USA.

Total Outlays and Revenues

Percentage of GDP

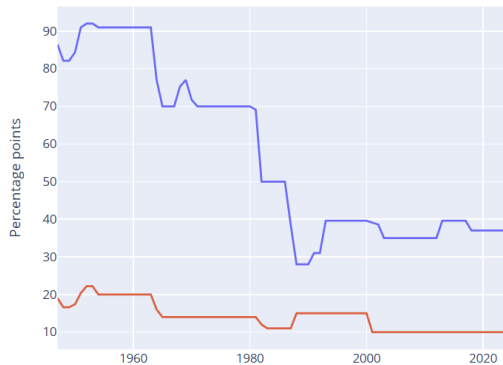


Outlays increase faster than revenues—mainly because of rising interest costs and growth in spending on the major health care programs and Social Security. The result is ever-larger budget deficits over the long term.

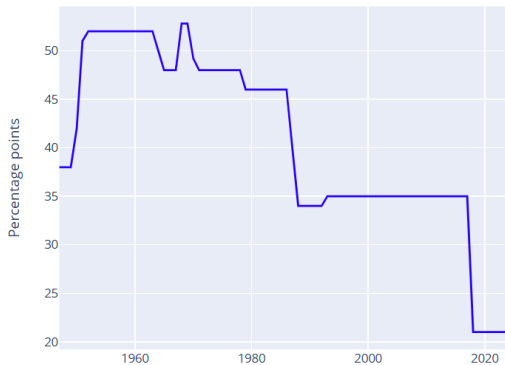
ANOTHER "PROBLEM": INCOME TAXATION

Since the early 1960s, income taxation of the highest brackets have dramatically come down, for individual and corporate taxation.

U.S. Individual and Corporate Income Tax Rates



Individual Income Taxes (highest vs lowest brackets)



Corporate income Taxes (highest bracket)

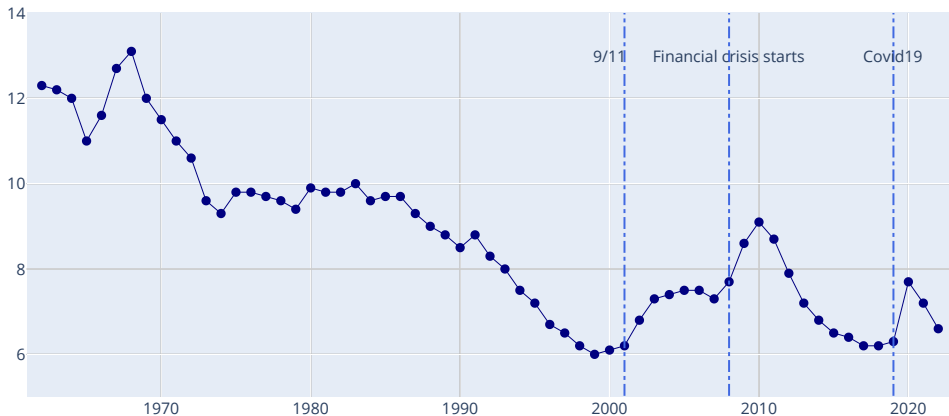
TWO FUNDAMENTAL TYPES OF PUBLIC SPENDING

- Public spending can be separated into two basic types:
 - Mandatory spending
 - Discretionary spending
- Most public spending is considered as mandatory: social security (pensions), medicare+medicaid (basic health care services), defense, justice, police, public schooling.
- Discretionary spending can be used to manage short-term business cycles: unemployment benefits, defense spending, investment subsidies, etc..

DISCRETIONARY SPENDING HAS COME DOWN

From: [US Congressional Budget Office Data](#)

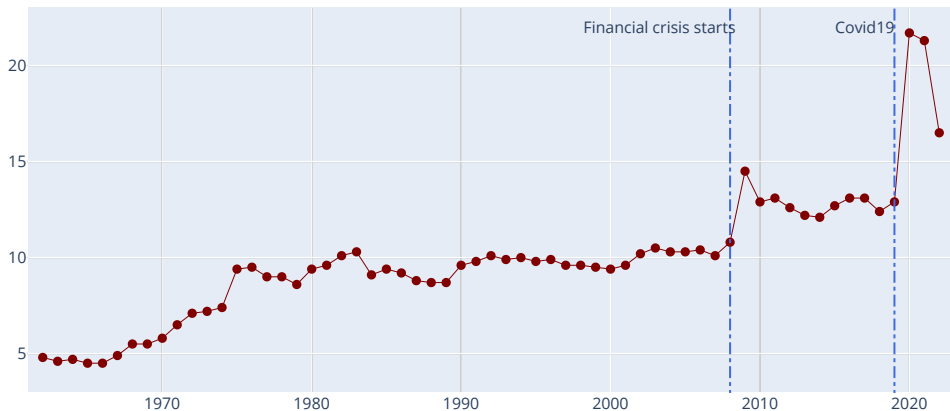
Discretionary public spending as a % of GDP (US: 1962-2022)



MANDATORY SPENDING HAS NOT SKYROCKET

From: [US Congressional Budget Office Data](#)

Mandatory public spending as a % of GDP (US: 1962-2022)



3. FISCAL POLICY & THE ECONOMY IN THE SHORT RUN

WHY USING FISCAL POLICY AS A POLICY TOOL?

- When the economy is hit by large negative/positive shocks, the private sector (firms and households), if left alone, may not be able to stand up to the impacts of those shocks.
- Examples: The Great Depression of the 1930s, the Great Recession of the 2010s, or the Covid19 pandemic.
- Covid19: without the immediate help of governments (and central banks), our societies would be very different from what they still are.
- In times of trouble:
Households, small businesses, big corporations: "Please help!"

WHY IS FISCAL POLICY USEFUL?

There are two basic reasons why active fiscal policy (increase spending/taxation) may be a useful tool to manage the impacts of external shocks:

1. One reason is *not economic*, but rather social and political: to avoid serious social unrest. This is not the subject of our course.
2. The second reason is *economic*: the **fiscal multiplier**:

$$m^g = \frac{\Delta Y}{\Delta G}$$

3. The fiscal multiplier is greater than zero in normal circumstances.
4. The fiscal multiplier is greater than 1 in the ZLB.

FISCAL MULTIPLIER: NORMAL CONDITIONS

- The higher the AS's slope is, the lower will be the fiscal multiplier, and vice-versa.
- The fiscal multiplier will be zero, if the AS is vertical.
- The fiscal multiplier will be quite high, if the AS is horizontal.

Proof. Insert the AS into the AD curve

$$\text{AD : } Y = m \cdot \bar{A} - m \cdot \phi \cdot (\bar{r} + \lambda\pi)$$

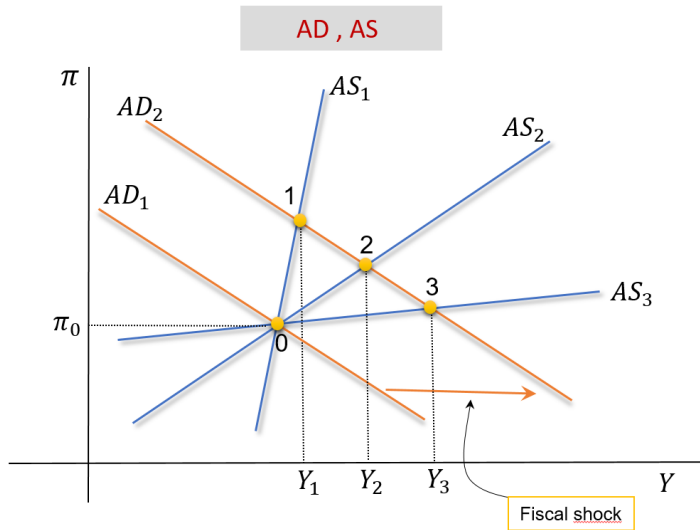
$$\text{AS : } \pi = \pi^e + \gamma(Y - Y^P) + \rho$$

and the result will be

$$Y = \frac{m}{1 + m\phi\lambda\gamma} \bar{A} - \dots \quad ; \quad \Rightarrow \quad m^g = \frac{\partial Y}{\partial \bar{A}} = \frac{m}{1 + m\phi\lambda\gamma}$$

FISCAL MULTIPLIER: POSITIVE

The higher is the AS's slope, the lower will be the fiscal multiplier.



EXPLAINING THE PREVIOUS SLIDE: READ AT HOME

- Suppose there is a positive shock on aggregate demand, such that AD1 moves to AD2.
- The same shock will lead to different increases in GDP depending on the slope of the AS curve.
- If the slope of the AS curve is very high (like AS1), the increase in GDP is tiny: from 0 to Y1.
- If the slope AS is intermediate (like AS2), the increase in GDP is more significant than the previous case: from 0 to Y2.
- If the slope AS is tiny (like AS3), the increase in GDP is considerable: from 0 to Y3.
- The increase in GDP, caused by a shock in de AD, is maximal when the AS curve is horizontal; which occurs when $\gamma = 0$.

4. RICARDIAN EQUIVALENCE

(*COVERED IN CLASSES IF TIME PERMITS*)

THE FISCAL MULTIPLIER IS A FALLACY

In 1974, Robert Barro published a very famous paper.

Barro argument has become known as "*Ricardian Equivalence*" following an economist in the 19th century (David Ricardo)

He argued that, under certain conditions, *fiscal policy is totally irrelevant*: it does not produce any impact at all on economic activity and savings.

Therefore, according to Barro, the previous theory (the fiscal multiplier) is a mere fallacy.

 Barro, Robert J. 1974. Are government bonds net wealth? *Journal of Political Economy* 82(6): 1095-1117.

ROBERT BARRO'S SIMPLE IDEA

Barros's reasoning is very simple:

- Suppose private agents are fully rational.
- They react in a rational manner to any decision announced by the government to reduce taxes and compensate this reduction by issuing more public debt.
- So private agents correctly forecast that, even though they may have to pay less taxes today, they will have to pay higher taxes in the future, so that the government can pay back its debt.
- The net effect is zero: government spends more today, private agents save more today (to pay higher taxes in the future).
- Aggregate demand and savings remain unchanged in the face of changes in fiscal policy.
- In the end, nothing changes in real terms

WHEN RICARDIAN EQUIVALENCE DOES NOT HOLD

Despite being a brilliant simple idea, it does not hold in some important cases:

- **Households are heterogeneous**, not all affected in the same way by the tax cut: redistribution exists in reality.
- **Taxes are distortionary** (VAT, income taxes, etc.).
- **Generations mismatch**: the additional debt raised by the government is not paid back within the lifetime of every household.
- **Credit markets are not perfect**: government and households face different borrowing constraints and borrowing costs.
- **Rational expectations**: private agents make mistakes when forecasting the future, and procrastination is also widespread.

Moreover, there is sound evidence that tax cuts do not lead to higher savings in the private sector.

5. READINGS

READINGS

- Read Chapter 16 of the adopted textbook:

Frederic S. Mishkin (2015). *Macroeconomics: Policy & Practice*, Second Edition, Pearson Editors.