

# Fiscal Macroeconomics

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# Structure of the Course

- General exam (no midterm)
- Students' presentations
  - final grade for attending students =  $0.5 \times \text{general exam} + 0.5 \times \text{presentations}$
  - final grade for not-attending students = general exam
- Problem sets
- Guest lectures (very special guests !)
- Course material available at  
*<https://mypage.unibocconi.eu/carloambrogiofavero/>*

Today's lecture:

- Overview
- Illustration of the topics for students' presentations

This course focuses on the macroeconomic effects of fiscal policy and is organized in six main topics:

- The Keynesian and Neoclassical views on government expenditure.
- Tracking intertemporal budget constraints.
- Empirical evidence on the macroeconomic effects of fiscal policy.
- The dynamics of  $r$  and  $g$ .
- Debt instruments and debt mis-pricing.
- Good debt and bad debt.

# The Keynesian and Neoclassical Views

We begin with the debate on the macroeconomic effects of government expenditure, independent of its quality.

## Keynes's Statement

*"If the Treasury were to fill old bottles with banknotes, bury them at suitable depths in disused coal mines which are then filled up to the surface with earth, and leave it to private enterprise on well-tryed principles of laissez-faire to dig the notes up again, there need be no more unemployment and, with the help of the repercussions, the real income of the community, and its capital wealth also, would probably become a good deal greater than it actually is. It would, indeed, be more sensible to build houses and the like; but if there are political and practical difficulties in the way of this, the above would be better than nothing."*

— J.M. Keynes, *The General Theory of Employment, Interest and Money* (1936)

This contrasts with the analysis of fiscal policy in a world without frictions and rational forward-looking agents.

# Tracking Intertemporal Budget Constraints

The contrast between the Keynesian and Neoclassical views highlights the difference between:

- A single-period approach.
- A multi-period intertemporal approach.

We will discuss:

- The Intertemporal Households Budget Constraint (IHBC).
- The Intertemporal Government Budget Constraint (IGBC).
- Tracking Debt Dynamics Over Time.

We will analyze:

- The main issues in measuring the effects of fiscal policy.
- How these issues are addressed in the literature.
- Key results from empirical studies.

# The Dynamics of $r$ and $g$

The Intertemporal Government Budget Constraint (IGBC) highlights the importance of:

- The cost of financing debt ( $r$ ).
- The rate of economic growth ( $g$ ).

We will explore these dynamics:

- Theoretically.
- Empirically, using data.

# Debt Instruments and Mispricing

Debt financing depends on:

- Government choices of debt instruments.
- Market pricing of these instruments.

We will examine:

- Misalignments between bond prices and fundamentals.
- Consequences of mispricing.
- Potential institutional solutions.



# Good Debt and Bad Debt

## Good Debt

Provides resources to current and future generations (e.g., health, infrastructure, reducing emissions, financing a defensive war).

## Bad Debt

Finances political support by transferring resources from future generations (non-voters) to current generations (voters).

- A recent example:
- the "110 percent superbonus" introduced by the Italian government in 2018-19
- rules that allow for earlier retirement at unchanged benefits

This course equips you with tools to:

- Analyze the macroeconomic effects of fiscal policy.
- Critically assess their empirical evidence.
- Evaluate fiscal policy design and its implications.

## Students' Presentations

Eight topics are offered for Students' Presentations.

# 1. Why are Government debts as a % of GDP increasing?

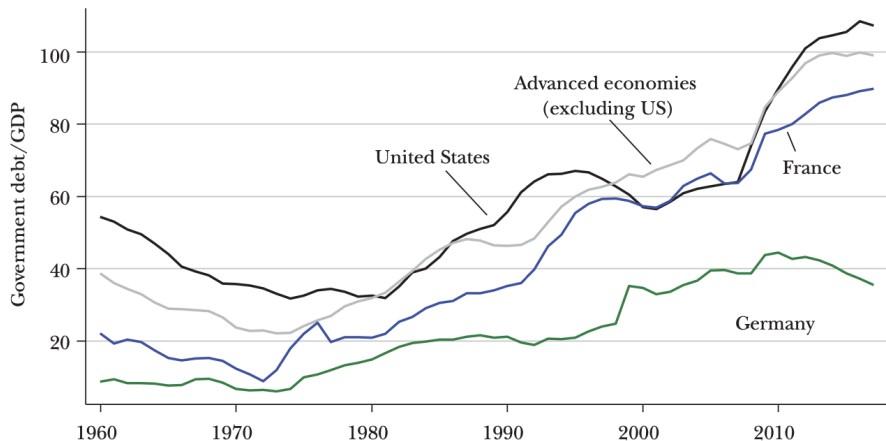
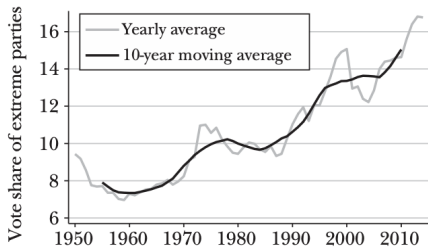


Figure: Government Debt as % of GDP in Advanced Economies

- In "normative" macroeconomic theories – that is in theories that analyze "optimal" levels of debt – this helps facilitate **tax-smoothing** and provides a **safe asset**
- However, the trend in debt accumulation in advanced economies seems inconsistent with these theories of optimal government debt policy:
  - with an aging population and long-term rise in fiscal pressures, tax-smoothing would have prescribed a de-cumulation of debt
  - financial de-regulation and the accompanying increase in private sector debt between 1980 and 2007 would suggest a **decrease** in public debt ratios, (as there is less need of a government provided safe asset ).
- Yared (2019): An increasingly **older population**, rising **political polarization**, and rising **electoral uncertainty** can explain the long-run trend in government debt

# Demographics and Political Forces

A: Rising Vote Share of Extreme Parties in the Legislature in Advanced Economies  
(percent)



B: Rising Fractionalization in the Legislature in Advanced Economies  
(percent)

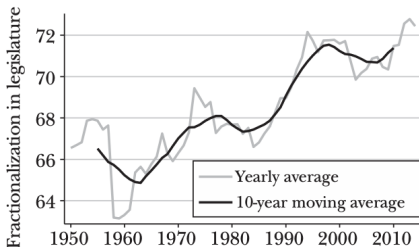


Figure: Political Polarization and Fractionalization in Advanced Economies  
(Yared, 2019)

## 2. Ricardian Equivalence and Fiscal Policy

- Ricardian Equivalence suggests that government debt has no effect on the real economy.
- Government spending is ineffective to boost aggregate demand since households will increase their savings to offset future tax burdens.
- Challenges:
  - **Finite lives:** If consumers' horizon is shorter than that of the government, households may not fully internalize future tax liabilities. This breaks Ricardian equivalence.
  - **Liquidity Constraints:** Some households cannot smooth consumption, making fiscal transfers impactful.
  - **Nominal Rigidity:** Price stickiness allows deficits to stimulate aggregate demand in the short run.

# Classical Defense of Ricardian Equivalence

- Inter-generational transfers can neutralize the impact of finite lives: if this is the case, Ricardian Equivalence survives.
- Fiscal transfers to liquidity-constrained households have a positive wealth effect only if the government is more efficient than the private market in carrying out "this sort of loan".
- Government transaction costs for bond issues and tax collection imply a negative wealth effect of government bonds. Thus a positive wealth effect is not warranted.



# Self-Sustaining Deficits?

- Self-sustaining deficits occur when fiscal deficits finance themselves over time, reducing or eliminating the need for future tax increases or spending cuts.
- Key Mechanisms:
  - Fiscal deficits stimulate economic activity, broadening the tax base and generating higher revenue without the need to raise tax rates.
  - Increased inflation reduces the real value of nominal debt, reducing the repayment burden.
- Chen, Lian, and Wolf (2023) demonstrate that delaying fiscal adjustment enhances these channels, potentially allowing deficits to converge back to initial debt levels without the need for additional intervention.

### 3. Modern Monetary Theory (MMT)

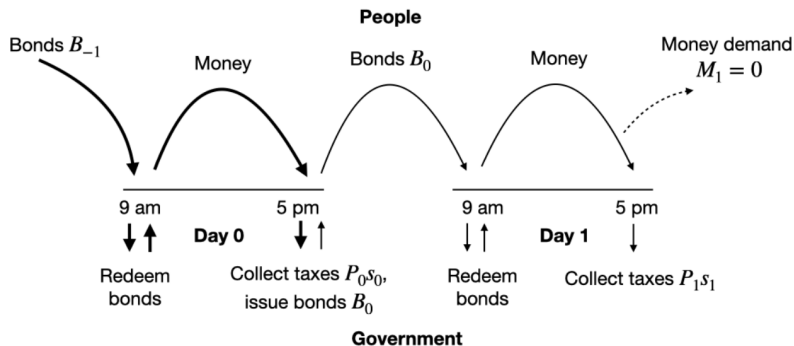
- MMT posits that sovereign governments with their own currency (US, UK, China, India etc.), are not constrained by revenue when funding spending:
  - They can issue currency to finance deficits without raising default risk
  - Inflation and resource constraints, not debt levels, are the main limits.
- MMT advocates argue in favor of:
  - a shift in focus from **how to pay for spending** to **how spending impacts the economy**
  - relying on MMT as a tool for achieving societal goals like full employment, sustainable economic growth, equitable resource allocation (and inflation control?)

- Myth 1: The government should budget like a household.
  - Households use currency; governments create it.
- Myth 2: Deficits = Overspending
  - Deficits = private sector savings, not fiscal mismanagement.
  - Evidence of overspending is inflation
  - Taxes are tools for managing inflation, resource utilization and inequality, not funding
- Myth 3: Deficits crowd out private investment
  - Wrong assumption that government competes with other borrowers for access to a limited supply of savings
  - Fiscal deficits increase private saving

## 4. The Fiscal Theory of Price Level (FTPL)

- Premise: Money is valued because the government accepts money for tax payments.
- The price level adjusts to ensure that the real value of government debt matches the present value of real primary surpluses.
- FTPL implies that over the long run, fiscal policy, not monetary policy, determines inflation.
- Intuition: One-period model

# One-Period Model



- Cash printed in the morning must all be soaked up by taxes at the end of the day, i.e.,  $B_0 = P_1 s_1$
- Debt  $B_0$  is predetermined. The price level  $P_1$  adjusts to satisfy  $B_0 = P_1 s_1$

## 5. Government Debt Management

- Government debt management is a separate policy tool with different objectives from those of fiscal and monetary policies
- Risk on debt depends on:
  - composition of the debt (the risk exposure): largely endogenous to the debt manager
  - changes in market rates (the risk factors): exogenous
- Risk exposure indicators can provide information on interest rate risk, foreign exchange risk, and refinancing risk.
- Goal: identify debt compositions that provide low expected cost and are resilient to a range of shocks to interest rates and exchange rates.

# Scenario Analysis

- Scenario Analysis facilitates the identification of debt management strategies by assessing the impact on the cost of financing the debt of alternative borrowing strategies.
- A key set of inputs to scenario analysis are future market rates, i.e. interest rates and exchange rates
- Then Scenario Analysis consists of
  - a baseline that provides the expected cost
  - risk scenarios that provide information on the riskiness of the debt portfolios generated by different borrowing strategies
- Main output of scenario analysis are future cash flows
- Using the simulated cash flows, one can compute risk exposure indicators

## 6. Fiscal Rules and the SGP

- **Stability & Growth Pact:** A set of fiscal rules to promote fiscal responsibility and ensure that member states pursue sustainable fiscal policies
- Structural balance (refers to potential GDP) most important target
- Establishes the Excessive Deficit Procedure (EDP), activated if:
  - The budget deficit exceeds 3% of GDP.
  - Public debt is above 60% of GDP and not declining at a satisfactory pace (1/20 per year)
- Challenges:
  - Relies heavily on national measures of the output gap, which is not observable.
  - Unrealistic
  - Rigid and limited room for crisis handling and public investment encouragement



- **Medium-run debt target:** With the long run debt target set at 60%, introduce a medium run target based on a speed of adjustment (sensitive to composition of past spending)
  - A slow speed part using the debt accumulated in response to crises or to finance spending for the future
  - A fast-speed part that is the residual stock of debt
  - Ensures that higher investment today does not trigger a fast readjustment in the immediate future.
- **Spending Rule:** Defines a ceiling for the growth rate of primary expenditure net of interest payments, automatic stabilizers, and spending-for-the- future items
  - Gives countries space to increase public investment
  - Does not rely on output gap

## 7. The Case for Retirement Bonds

- Looming retirement crisis
  - individuals asked to take responsibility of their retirement planning
  - majority are financially unsophisticated
- Retirement plans require complex decisions:
  - how much to save?
  - how to invest?
  - how to decumulate one's portfolio at retirement
- Need to account for not only for inflation but also standard of living
- Current investment approaches focus on wealth at retirement, instead of guaranteed retirement income to support a given standard-of-living

- BTTPI is a single, liquid, low-cost, relatively low-risk (government-issued) instrument for retirement
- It embeds accumulation, decumulation, compounding and inflation-adjustments
- Matches the desired real retirement income profile of individuals
- BTTPIs start paying investors upon retirement, and pay real income-only
  - ideally indexed to aggregate per capita consumption
- purely market-based instrument, i.e., market forces at the time of issuance will determine its issue price and its secondary market price.

## 8. Is a Serious Global Debt Crisis Possible?

- A symposium of views on the possibility of a debt crisis is offered.
- **Task:** Exposition and critical analysis by organizing them around the topics offered in the course.
- "Yes": Record high debt levels, weak growth, political failure, rising fiscal pressures (aging), vulnerability to crises and geopolitical uncertainty
- "No": Low interest rates, CB buyer of last resort (for debt denominated in own currency), improved resilience due to post-2008 reforms