

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

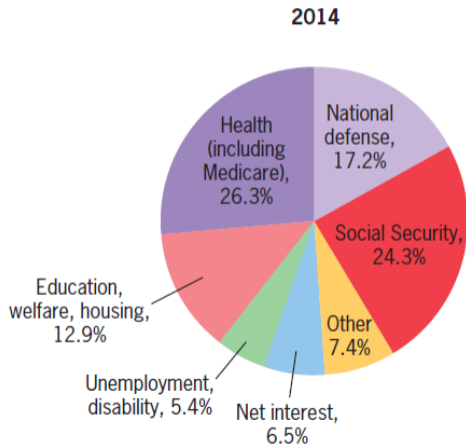
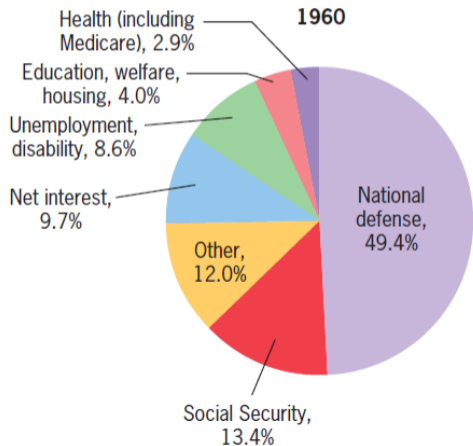
- **Classicals.** Main assumptions:
 - Markets work very well.
 - The best possible outcome is achieved with no government intervention.
 - The government should provide only the goods&services associated with classical functions of the state: defense, justice, and order.
- **Keynesians.** Main assumptions:
 - 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.

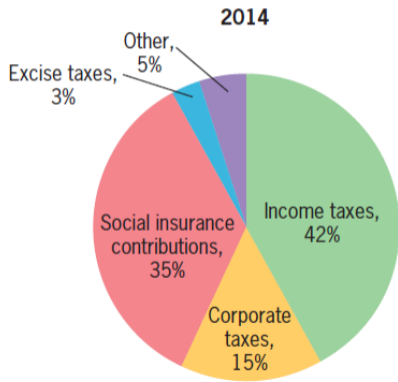
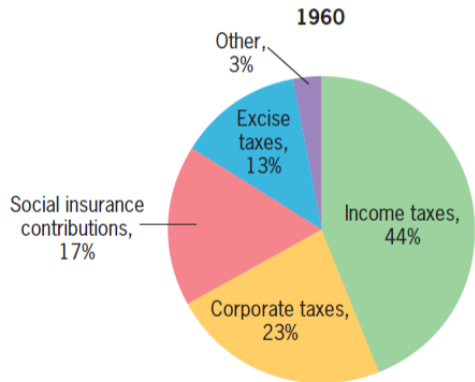
(a) Federal government expenditure by function



FEDERAL GOVERNMENT RECEIPTS: 1960 vs 2014

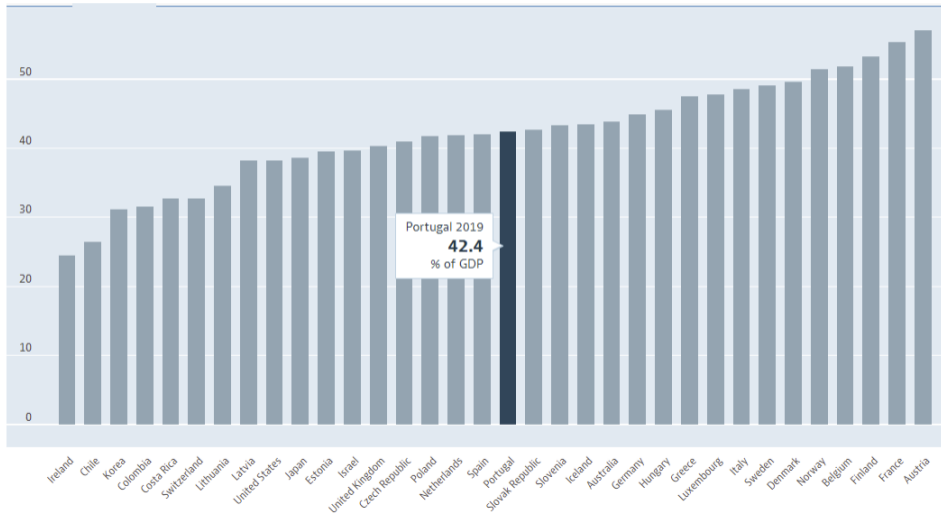
From: Jonathan Gruber (2016). *Public Finance and Public Policy*, 5th Edition.

(a) Sources of federal receipts



PUBLIC SPENDING: % OF GDP (OECD, 2019)

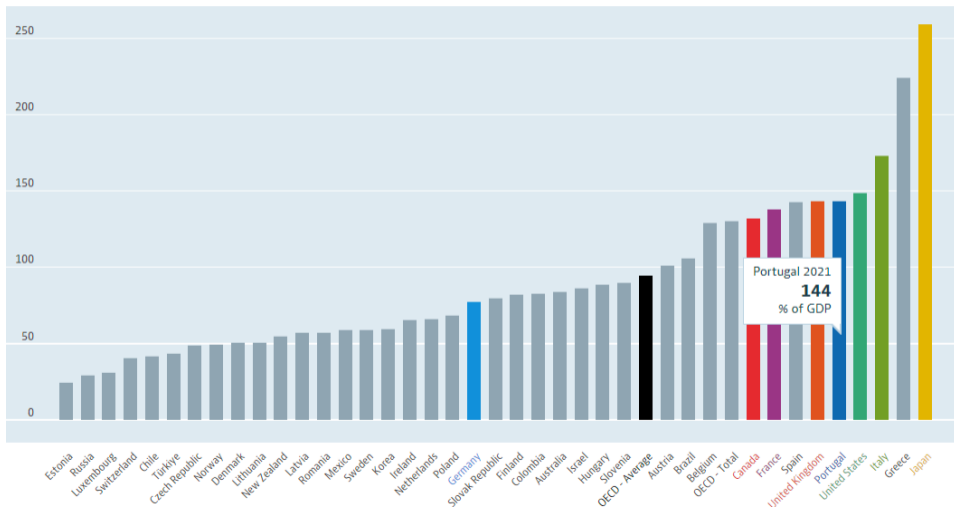
From: [OECD](#)



2. THE SIZE OF GOVERNMENT DEBT

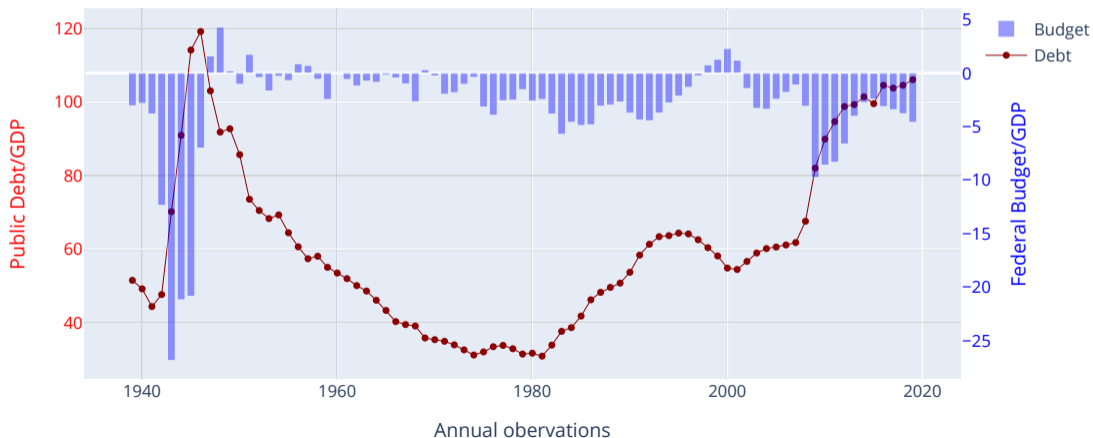
PUBLIC DEBT AS % OF GDP

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 factors:

- 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:

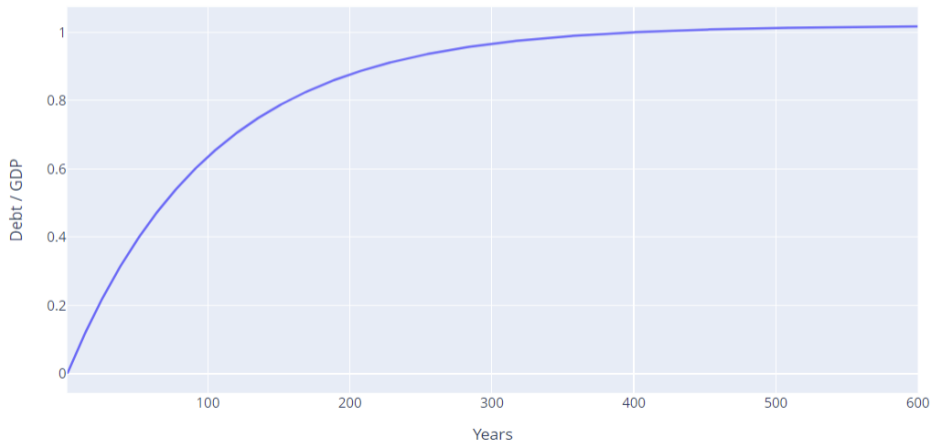
$$d_t = p + \left(\frac{1 + r_p}{1 + g} \right) d_{t-1} \quad (1)$$

- 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: $p = 0.01$, $g = 0.02$, $r = 0.01$. Surprise ... the time span.

The evolution of Public Debt as % of GDP



TWO FUNDAMENTAL TYPES OF PUBLIC SPENDING

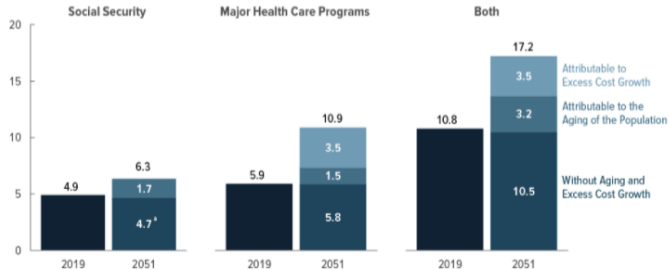
- Public spending can be separated into two basic types:
 - Mandatory spending
 - Discretionary spending
- Most public spending is considered as mandatory: social security (pensions), medicare+medicaid (basic health services), defense, justice, police, public schooling.
- Discretionary spending can be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

THE SHADOWS BEHIND PUBLIC DEBT

From: [Congressional Budget Office: The 2021 Long-Term Budget Outlook](#)

Outlays for Social Security and the Major Health Care Programs in 2019 and 2051

Percentage of Gross Domestic Product

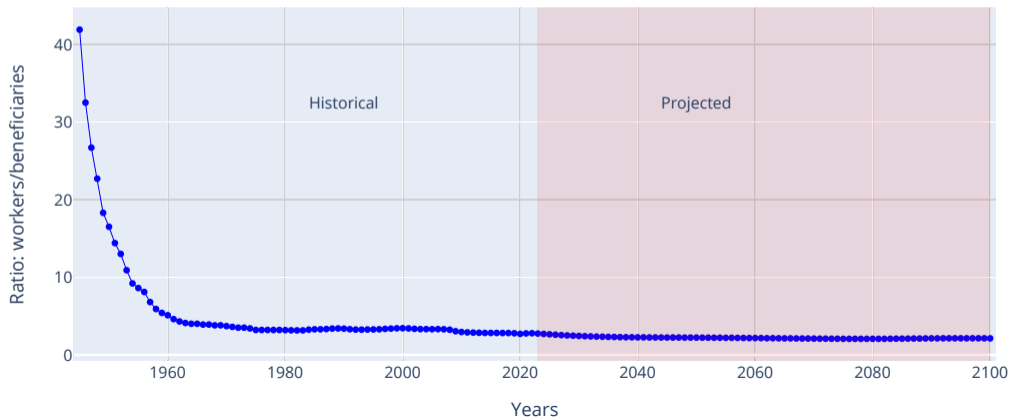


Much of the growth in combined spending for Social Security and the major health care programs results from the aging of the population. Growth in spending for the major health care programs is also driven by excess cost growth—the extent to which the growth rate of health care costs per person (adjusted for demographic changes) exceeds the growth rate of potential GDP (the

AGING: A SERIOUS PROBLEM OR A MYTH?)

From: [The 2022 OASDI Trustees Report](#)

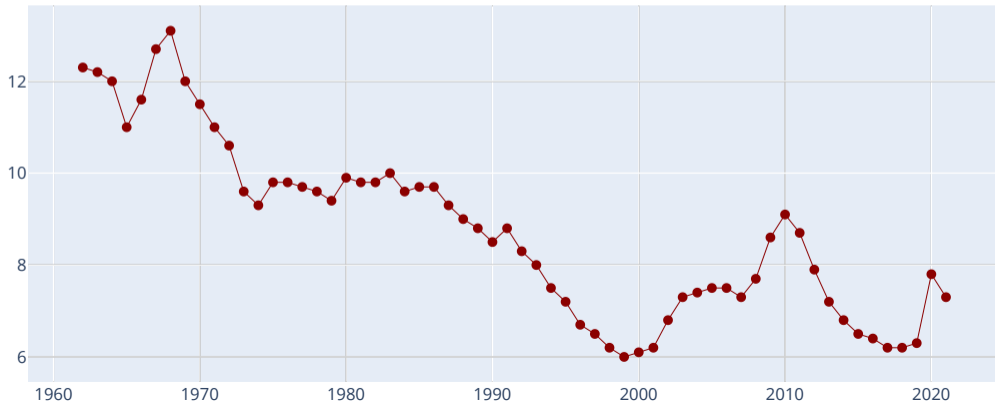
Number of workers per beneficiary of the US social security system



DISCRETIONARY SPENDING HAS COME DOWN

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

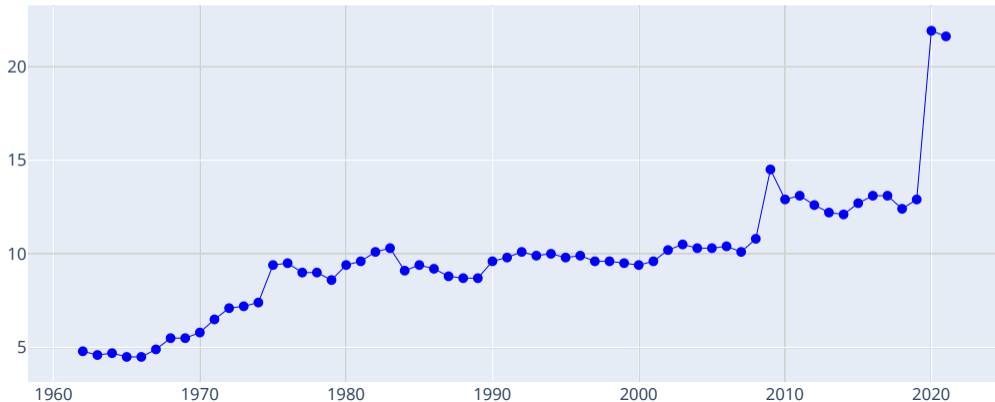
Discretionary public spending as a % of GDP (US: 1962-2021)



MANDATORY SPENDING HAS NOT SKYROCKET

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

Mandatory public spending as a % of GDP (US: 1962-2021)



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

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

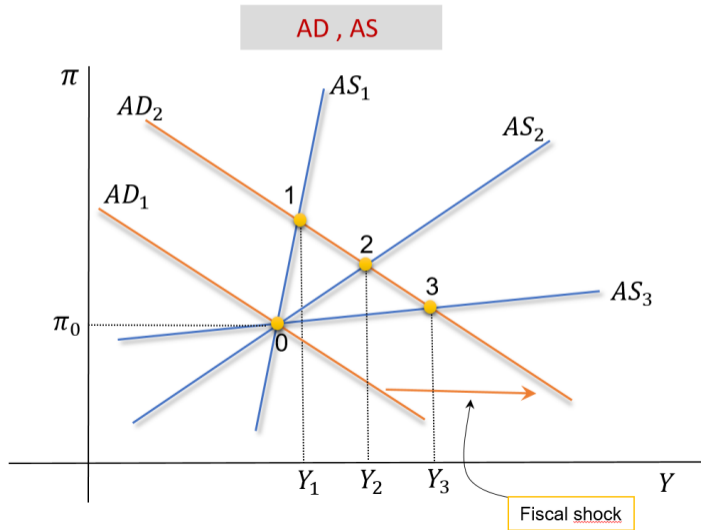
$$\text{AS : } \pi = \pi^e + \gamma(Y - Y^P) + \rho$$

and the result will be

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

FISCAL MULTIPLIER: POSITIVE

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

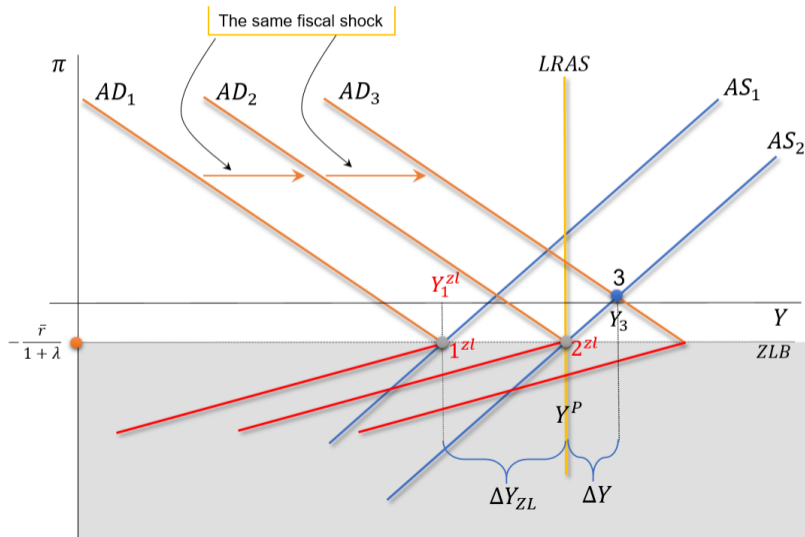


EXPLAINING THE PREVIOUS SLIDE: READ AT HOME

- 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 $\gamma = 0$.

FISCAL MULTIPLIER: VERY HIGH IN THE ZLB

In the ZLB the fiscal multiplier is maximal.




EXPLAINING THE PREVIOUS SLIDE: READ AT HOME

- Suppose the economy is trapped in the ZLB at point 1zl. The AD suffers a positive and moves from AD1 to AD2.
- In this case the economy will move from 1zl to 2zl, and GDP increases by ΔY_{ZL} .
- Suppose that there is another shock on the AD (with the same magnitude): the AD moves from AD2 to AD3.
- The economy moves to point 3. It leaves the ZLB and GDP increases by ΔY .
- Notice that the same AD shock produced two different increases in GDP:
 - In the ZLB: ΔY_{ZL}
 - Outside the ZLB: ΔY
- It is easy to see that: $\Delta Y_{ZL} > \Delta Y$. What is the reason that explains this?
 $i = 0$ in the ZLB $i = 0$ and an increase in GDP does not lead to higher inflation, which allows the central bank to keep interest rates unchanged.

EXPANSIONARY AUSTERITY IS GOOD FOR YOU

*"In contrast to the prediction of standard models **driven by aggregate demand**, many fiscal contractions have been associated with higher growth, even in the very short run". (p.571)*

 Alesina, A., Ardagna, S., Perotti, R., and Schiantarelli, F. (2002). Fiscal Policy, Profits, and Investment. *American Economic Review*, 92(3), 571-589.

*"This is Alesina's hour. In April (2010) in Madrid, he told the European Union's economic and finance ministers that **large, credible and decisive** spending cuts to rescue budget deficits have frequently been followed by **economic growth**. He was ... influential enough to be cited in the official communiqué of the EU finance minister's meeting."*

 Coy, P. (2010). Keynes vs Alesina. Alesina Who? *Bloomberg Business Week*, June 30.

EXPANSIONARY AUSTERITY IS BAD FOR YOU

"The standard approach tends to select periods associated with favorable outcomes but during which no austerity measures were actually taken. It also tends to omit cases of fiscal austerity associated with unfavorable outcomes." (p.96).



Leigh, D. et al. (2010). "Will it hurt? Macroeconomic effects of fiscal consolidation." *IMF World Economic Outlook 2010*, 93-124.

"A forma como estava desenhado o programa [da Troika] impediu a concretização plena dos montantes de ajustamento orçamental que estavam previstos" (19.3.2013)

"A repetição destes desvios minou a minha credibilidade enquanto ministro das Finanças." (1.7.2013)

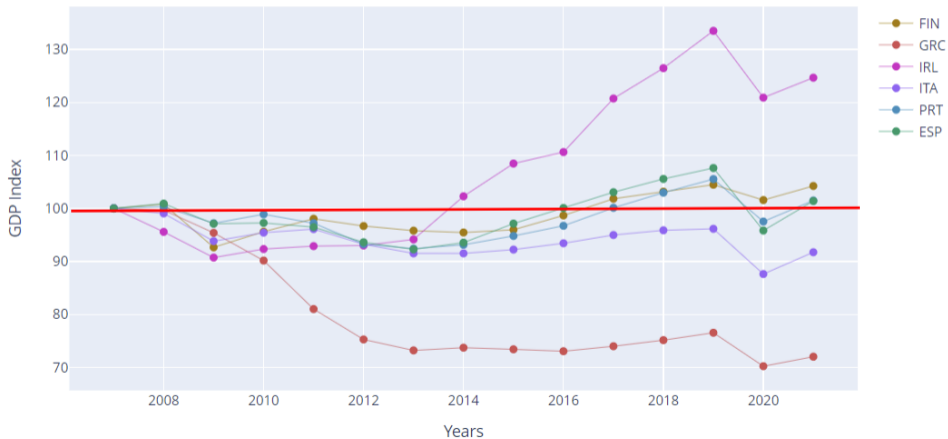


Vitor Gaspar, citado em "O Expresso".

EXPANSIONARY AUSTERITY: SOME EVIDENCE

Severe fiscal adjustments in the Eurozone Periphery were extremely painful

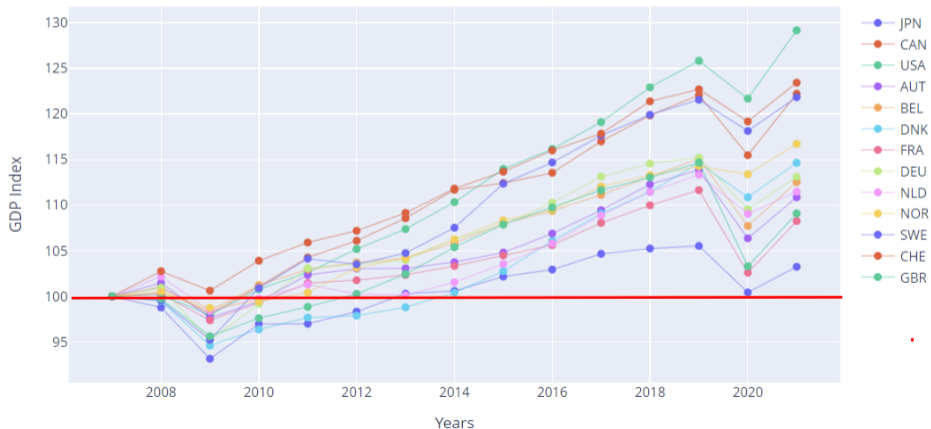
The impact of the financial crisis in the EZ Periphery (Real GDP)



EXPANSIONARY AUSTERITY: SOME EVIDENCE

Mild fiscal adjustments in the Eurozone Core were good for them

The impact of the financial crisis in the EZ-Core+ (Real GDP)



4. RICARDIAN EQUIVALENCE

Not covered due to lack of time. The basic idea was explained, but not more than that.

THE TWO PREVIOUS THEORIES ARE FALLACIES

In 1974, Robert Barro published a very famous paper.

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, both previous theories (the fiscal multiplier theory or the expansionary austerity view) are mere fallacies.

 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.

6. READINGS

READINGS

- Read Chapter 16 of the adopted textbook:

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