

Fiscal Policy, Debt, and Seigniorage (Chapter 17)

Some Public Spending, Guess Where ...



Icosahedron in the picture: Divina Proportione by Ai Weiwei, made of Chinese rosewood

Questions

Is public debt fundamentally bad?

How to fund deficits?

Outline

Fiscal policy

Macroeconomic stabilization

Deficit finance

Stabilization of public debt

Government Spending and Finances (2016)

	Eurozone	USA	UK	Japan
Total spending (% of GDP)	47.4	37.9	42.6	41.5
Public consumption (% of GDP)	20.8	14.3	19.2	20.6
Budget surplus (% of GDP)	-2.1	-4.4	-3.4	-4.5
Gross debt (% of GDP)	89.5	107.5	89.7	247.5

Fiscal Policy

Provision of public goods (and some publicly funded private goods)

Reduction of inequality

- ▶ e.g. in Finland government transfers comprise 34% of GDP (62% of govt. spending)

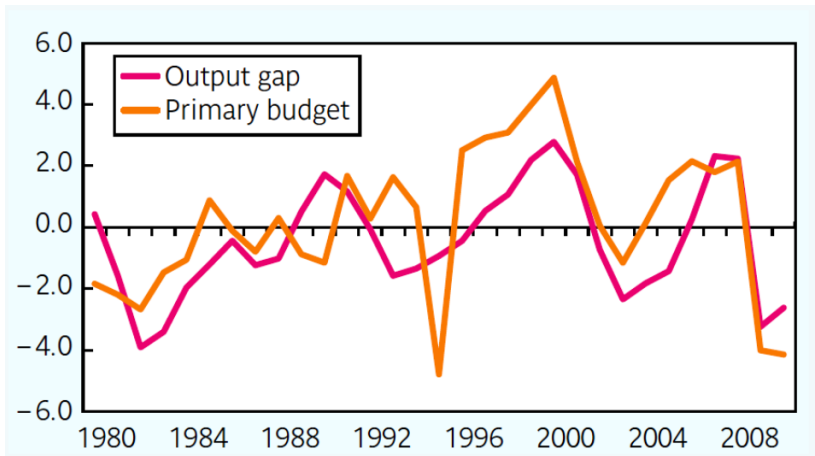
Stabilization of aggregate income and spending

- ▶ consumption smoothing and tax smoothing
- ▶ output and employment stabilization
- ▶ countercyclical fiscal policy

Automatic stabilizers

- ▶ public consumption is insensitive to cycles
- ▶ taxes and transfers are sensitive, e.g. in recession taxes are lower which is similar to fiscal expansion
- ▶ budget balance is procyclical, and the budget is partly endogenous

The Netherlands



Fiscal Policy

Countercyclical fiscal policy

- ▶ increased spending in recessions and decreased spending during booms

Fiscal stance: government's underlying position in applying fiscal policy

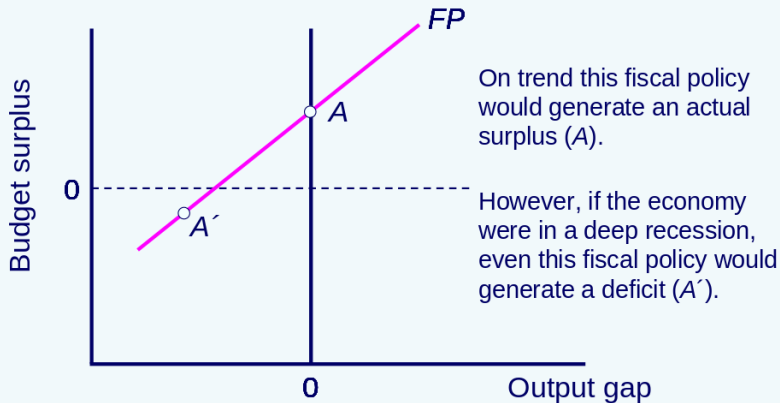
- ▶ neutral
- ▶ expansionary
- ▶ contractionary

Cyclically adjusted budget balance

- ▶ the level of budget if the economy would be on its trend path

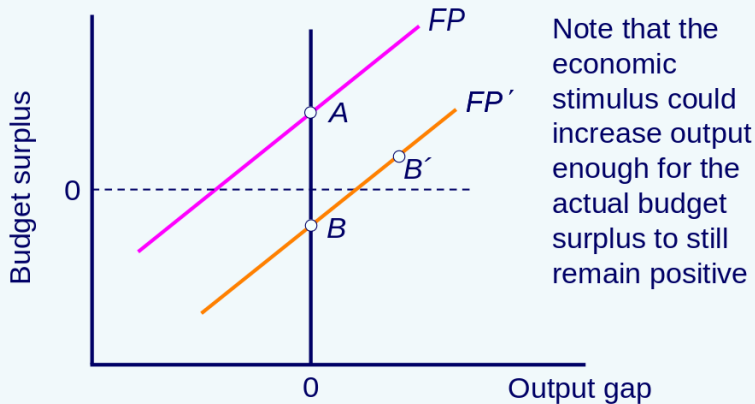
Endogenous and Exogenous Components

Positive slope because taxes increase / transfers fall with output

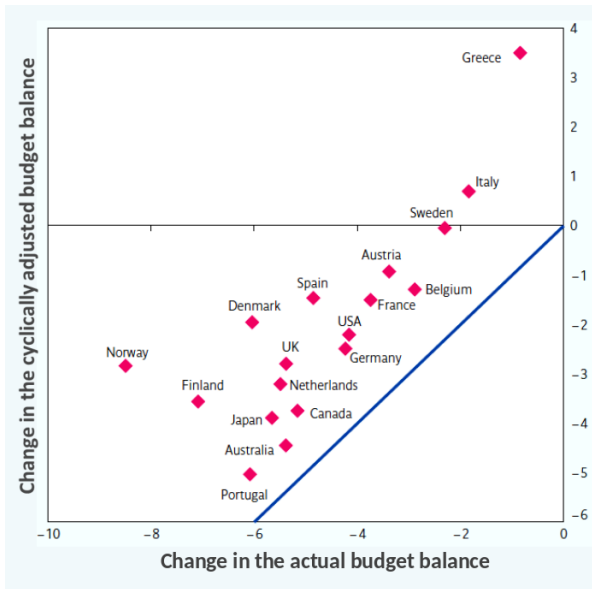


Endogenous and Exogenous Components

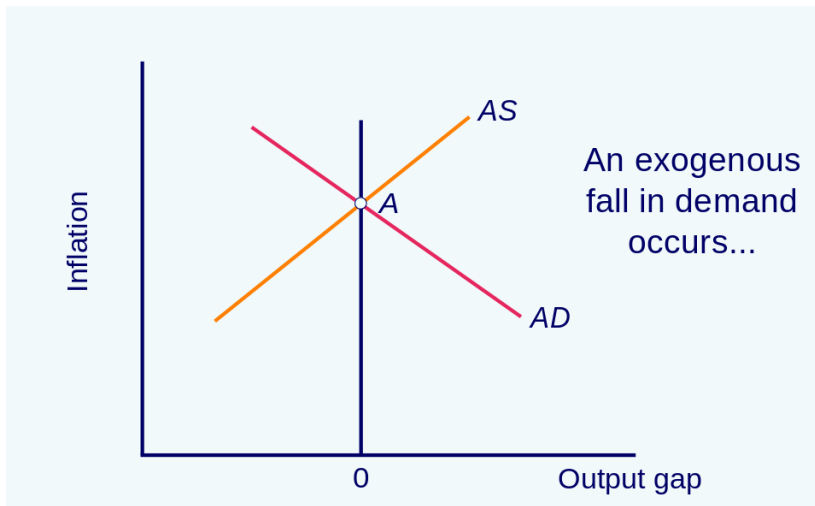
Expansionary fiscal policy lowers budget surplus for any given level of output (shift down)



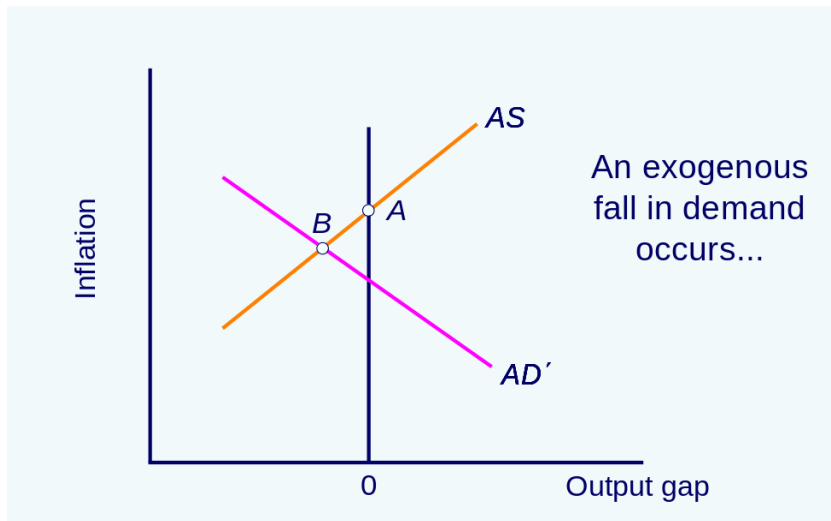
Budget Balances: Changes from 2008 to 2010



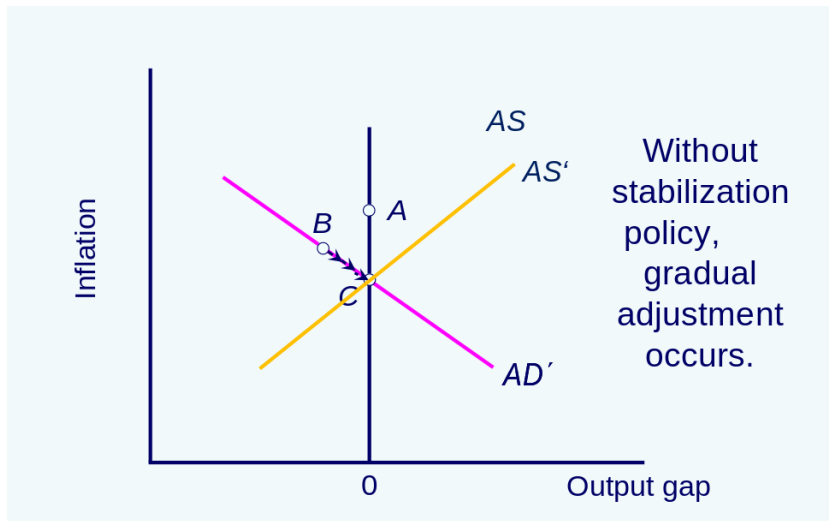
Stabilization Policies: Negative Demand Shock



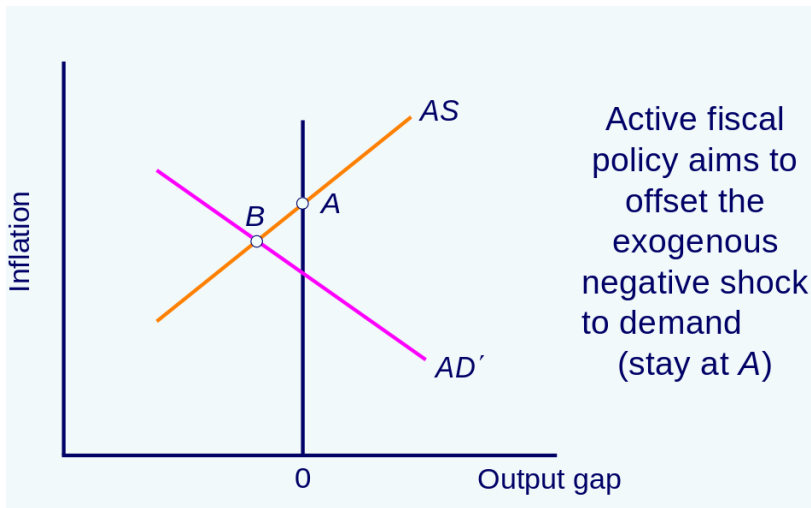
Stabilization Policies: Laissez-Faire



Stabilization Policies: Laissez-Faire



Stabilization Policies: Fiscal Policy



Deficit Finance

No growth, no inflation, no seigniorage

- ▶ debt stock B , real interest rate r
- ▶ budget deficit $\Delta B = G - T + rB$ (primary budget deficit + debt service)
- ▶ budget deficit = debt accumulation = net issue of new debt
- ▶ no asset sales, foreign grants or default
- ▶ if $\Delta B > 0$ government borrows
- ▶ if $\Delta B < 0$ government lends

Accumulation of debt

- ▶ even if $G - T = 0$ (balanced budget), debt may accumulate
- ▶ stabilization requires that $S = T - G = rB$ (S is primary budget surplus)
- ▶ redistribution of income accross generations

Does it make sense to balance debt?

Net Government Indebtedness

Country	Net debt 2015	S (2015)	S^*	S^{**}
Belgium	106.0	-2.6	5.3	2.7
Germany	71.2	0.7	3.6	1.8
Ireland	92.8	-2.3	4.6	2.3
Italy	132.7	-2.6	6.6	3.3
Netherlands	65.1	-1.8	3.3	1.6

in % of GDP

S^* surplus required to stabilize debt ($r = 5\%$ and $g = 2.5\%$)

S^{**} surplus required to stabilize debt/GDP ($r = 5\%$ and $g = 2.5\%$)

Deficit Finance

Growth, no inflation

- ▶ debt-GDP ratio: B/Y
- ▶ note: $\Delta(B/Y)/(B/Y) \approx \Delta B/B - \Delta Y/Y$
- ▶ (percentage) growth of B is $(G - T)/B + r$
- ▶ growth of Y is g
- ▶ $\Delta(B/Y) \approx (G - T)/Y + (r - g)B/Y$
- ▶ stabilization when $(T - G)/Y = (r - g)B/Y$

Growth, inflation and seigniorage

$$\Delta(B/Y) + \frac{(\Delta M0)/P}{Y} \approx (G - T)/Y + (r - g)B/Y$$

- ▶ seigniorage finance: CB made loans to government, creation of additional money base

Economic Growth in Southern Europe

Country	1981–1985	1996–2000	2011–2015
Greece	0.2	3.6	-3.8
Italy	1.7	2.0	-0.7
Portugal	1.5	4.1	-0.9
Spain	1.3	4.1	-0.1
Euro Area	1.6	2.9	0.8
EU	1.5	2.8	0.5

Seigniorage

Difference between the value of money and the cost to produce and distribute it

- ▶ about 30–70% of US bank notes are abroad
- ▶ US seigniorage revenues from foreign countries 6–7 billion USD/year

The process

- ▶ CB prints money, commercial banks buy the money at its face value, money base increases, CB profits

Seigniorage is comparable to a tax

- ▶ increasing money base increases inflation

Example: Cryptocurrencies

Bitcoin

- ▶ the issuance of currency is tied to mining (keeping up the trust in the ledger of transactions)
- ▶ miners get the seigniorage rents
- ▶ deterministic monetary policy (predetermined growth of money base μ)
- ▶ fully decentralized

Privately issued cryptocurrencies

- ▶ the issuer gets seigniorage rents
- ▶ Ethereum (Foundation, main part of the seigniorage goes to miners), Ripple (private company) etc.
- ▶ incentive to create own cryptocurrencies (about 4000 at the moment)
- ▶ possible to circumvent legislations on state money
- ▶ monetary policy serves private interests!

Debt Stabilization in the Short-Run

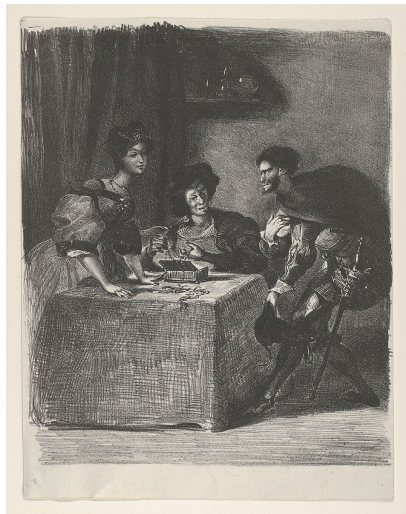
Austerity

- ▶ reduced public spending and/or increased taxes

Inflationary finance

- ▶ monetization of deficits and use of inflation as a tax

Default



E. Delacroix (1828): Mephistopheles presents himself to Martha

Cutting the Deficit

- ▶ Cutting public spending (unpopular among those affected)
- ▶ Increasing taxes (unpopular among electorate)
- ▶ Privatization
- ▶ Note: cuts in recession can be counterproductive

Inflation Tax

$$\Delta(B/Y) = (G - T)/Y + (r - g)B/Y - (\pi + g)[M0/(PY)]$$

- ▶ combine $\Delta(B/Y) + \frac{(\Delta M0)/P}{Y} \approx (G - T)/Y + (r - g)B/Y$, $\Delta M0 = \mu M0$ and $\pi = \mu - g$

Rise of inflation causes decrease of real interest rate

- ▶ nominal interest rates of long-maturity assets cannot be changed
- ▶ but buyers of new bonds issued demand higher nominal interest rate
- ▶ seed of hyperinflation

Debt Stabilization in the Long-Run

Medium to long run options

- ▶ reduction of interest rates (reduction of risk premium)
- ▶ raising growth rate

Long-run growth

The Great European Sovereign Debt Crises

