Fiscal Simulations with CGE Model

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Presentation structure

- ⊙ What Do We Know about the Effects of Fiscal Policy?
- ⊙ Model Overview
- ⊙ Potential Use
- ⊙ Fiscal Simulations

What is Known about the Effects of Fiscal Policy?

Theory

Ricardian equivalence – economic agents anticipate future policies → neutrality of fiscal policy

Keynesian approach – multiplier-accelerator models (↑ G → ↑ C and ↑ I). (short run)

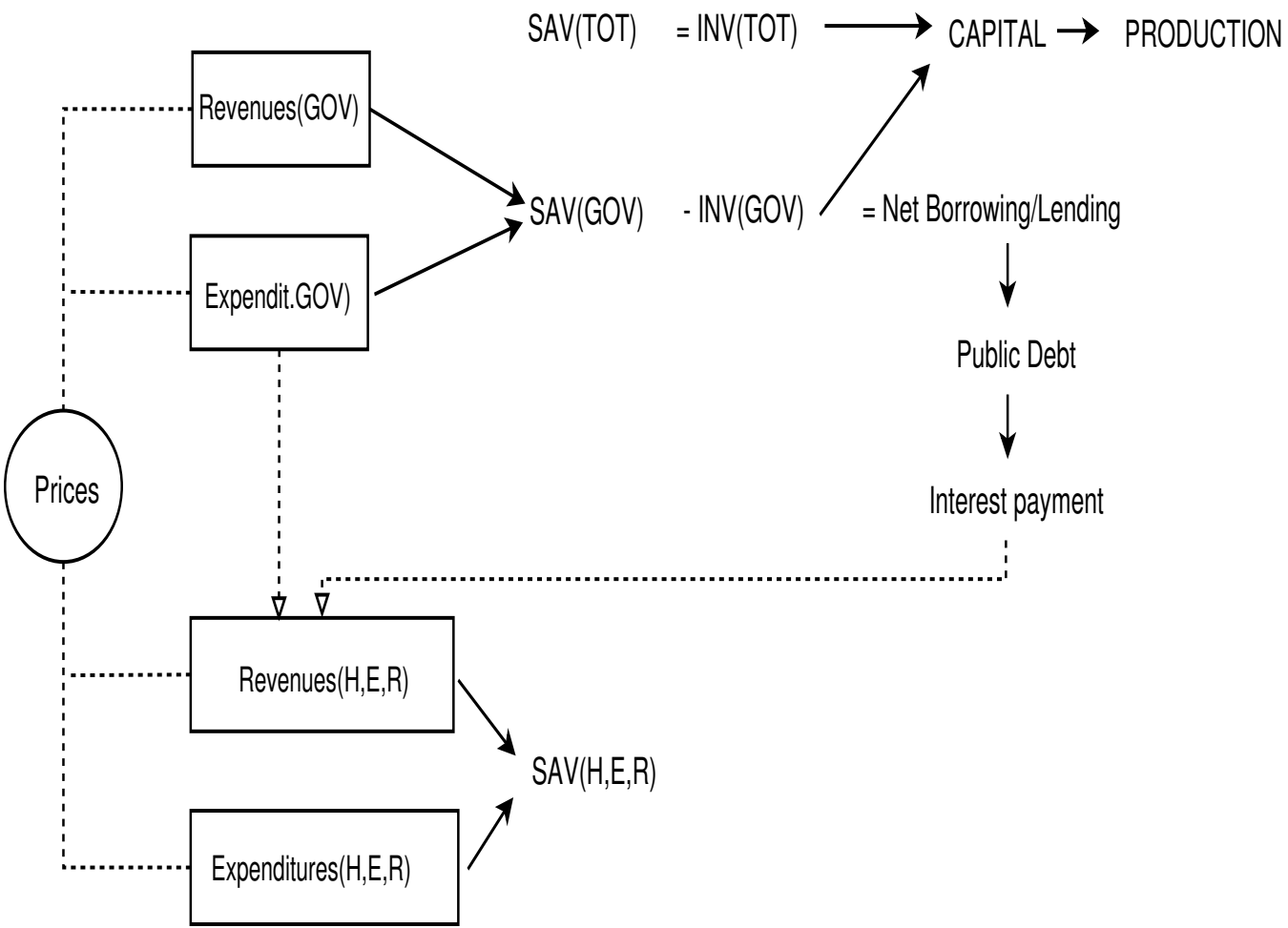
Non-Keynesian approach – expectations, crowding-out effect → reversed effects of fiscal policy. (long run)

Policy

Counter-cyclical policies – active fiscal policy

Fiscal sustainability – medium and long-term effects → fiscal rules

The issue of the impact of fiscal policy remains open ...


SAV(TOT)
= INV(TOT)
CAPITAL
PRODUCTION
Revenues(GOV)
SAV(GOV)
- INV(GOV)
= Net Borrowing/Lending
Expendit.GOV)
Public Debt
Prices
Interest payment
Revenues(H,E,R)
SAV(H,E,R)
Expenditures(H,E,R)

Government Revenues

- ⊙ Taxes on Production
- ⊙ Taxes on Commodities
- ⊙ Personal income Tax
- ⊙ Corporate Tax
- ⊙ Social Security Contributions
- ⊙ Import Duties

Government Expenditure

- ⊙ Public Consumption
- ⊙ Public Investment
- ⊙ Production Subsidies
- ⊙ Commodity Subsidies

Potential Use of the Model

Different Industries

- ⊙ Simulation of different types of tax/subsidy policies
- ⊙ Simulation of different wage policies

Different Commodities

- ⊙ Simulation of different VAT and Duty rates
- ⊙ Simulation of price effects

Different Factors

- ⊙ Simulation of different direct tax rates (Flat tax rate)

Detailed structure of Consumption

- ⊙ Simulation of composition change in private/public consumption

Detailed structure of Investments

- ⊙ Simulation of composition change in private and public investment

Simulations

Budget targeting can be financed by

- ⊙ reduction in public investments or
- ⊙ reduction in public consumption or
- ⊙ increase of taxes.

These variants have different implications for the rest of the economy.

Moreover, *different adjustment paths* play an important role.

Simulation I

Task

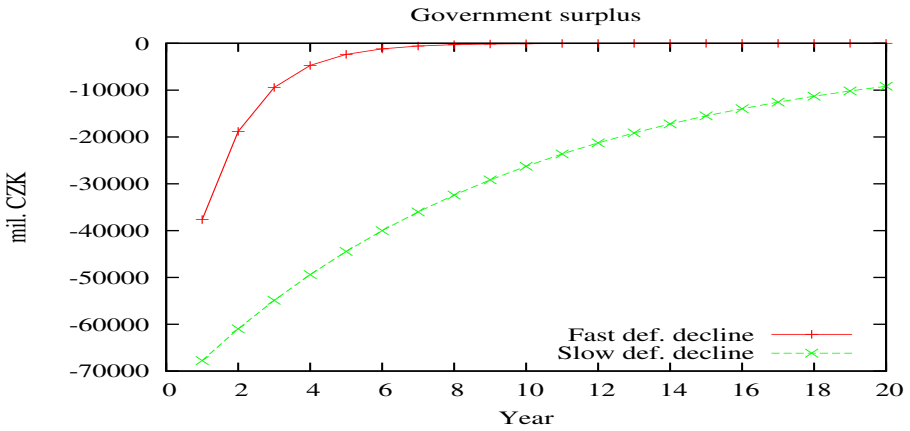
In our year 0 (situation of 2000) the *deficit equals ca 75 bln.* CZK. All the following variants enforce a path for the deficit and assume that *government investment adjusts*.

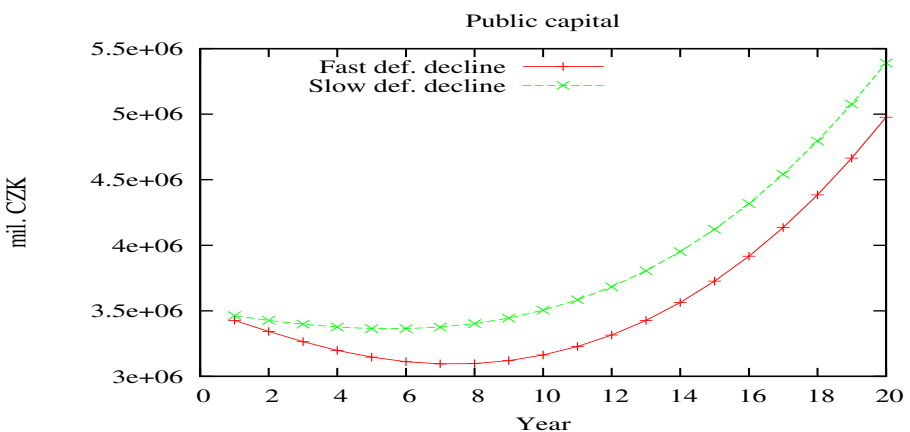
Fast decline of the deficit by 50 % a year.

Slow decline of the deficit by 10 % a year.

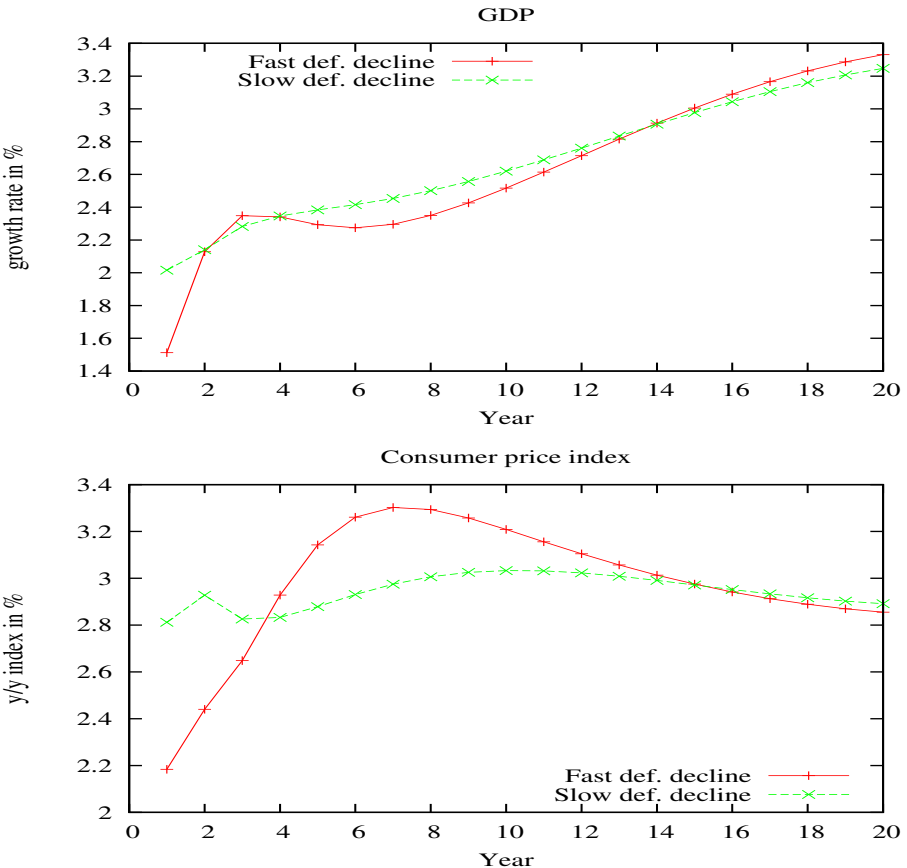
GDP rule says that $\frac{\text{Deficit}}{\text{GDP}} = 3\,\%$.

Deficit – Fast ⊗ Slow

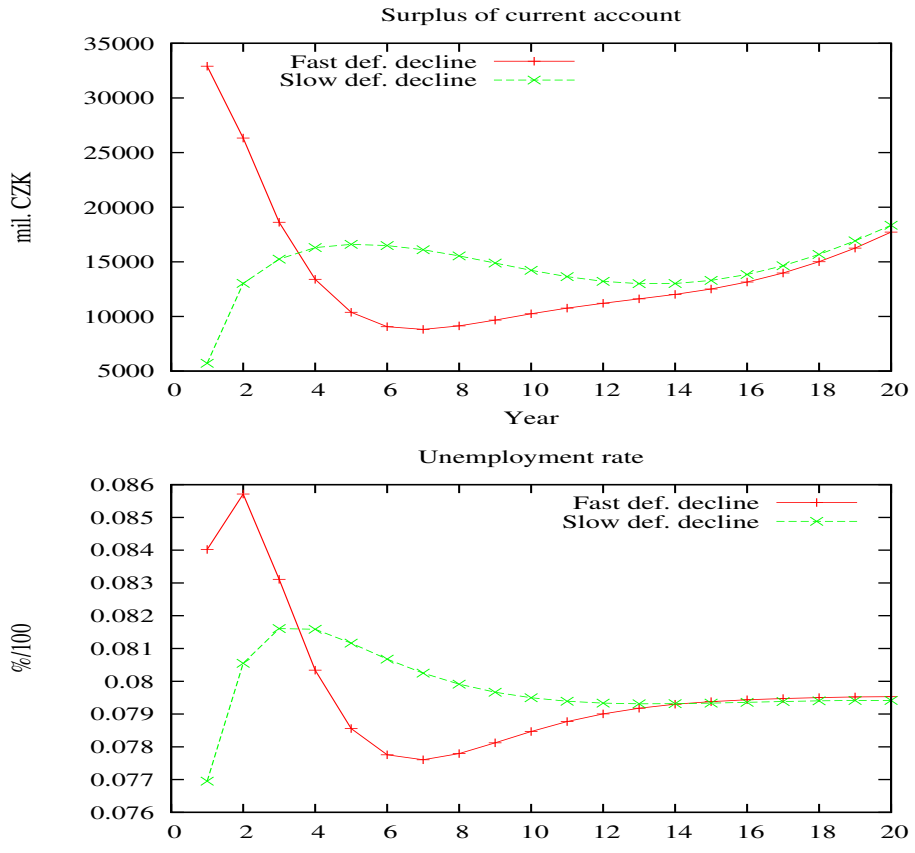




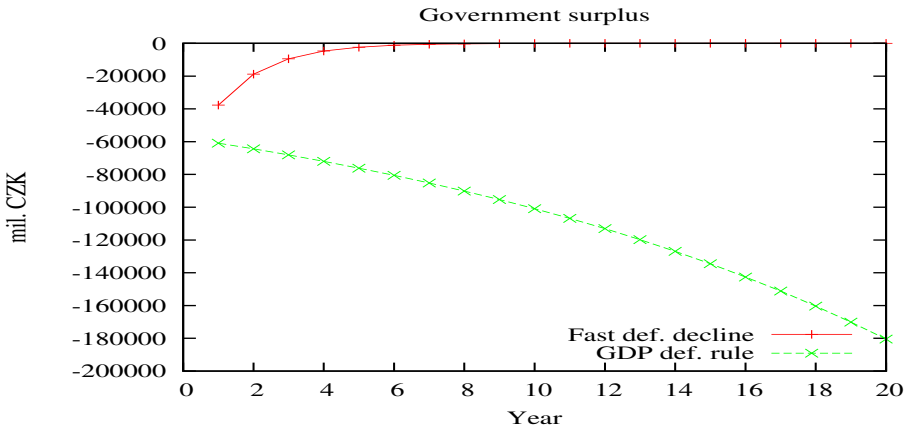
Deficit – Fast ⊗ Slow II

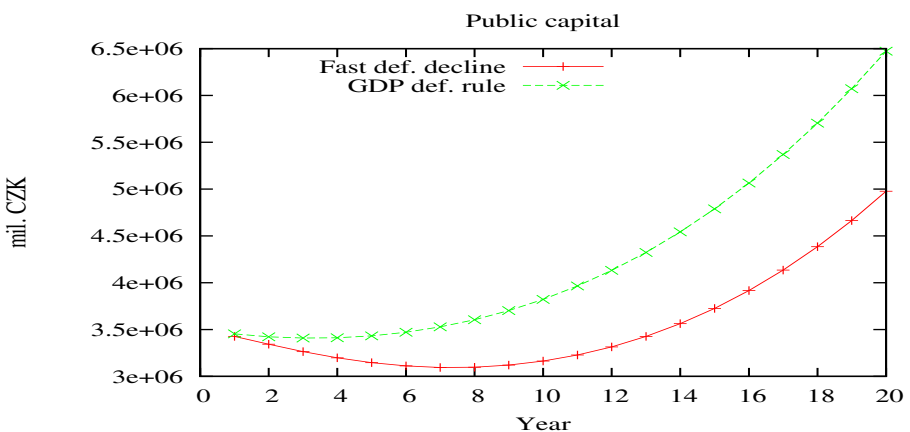


Deficit – Fast ⊗ Slow III

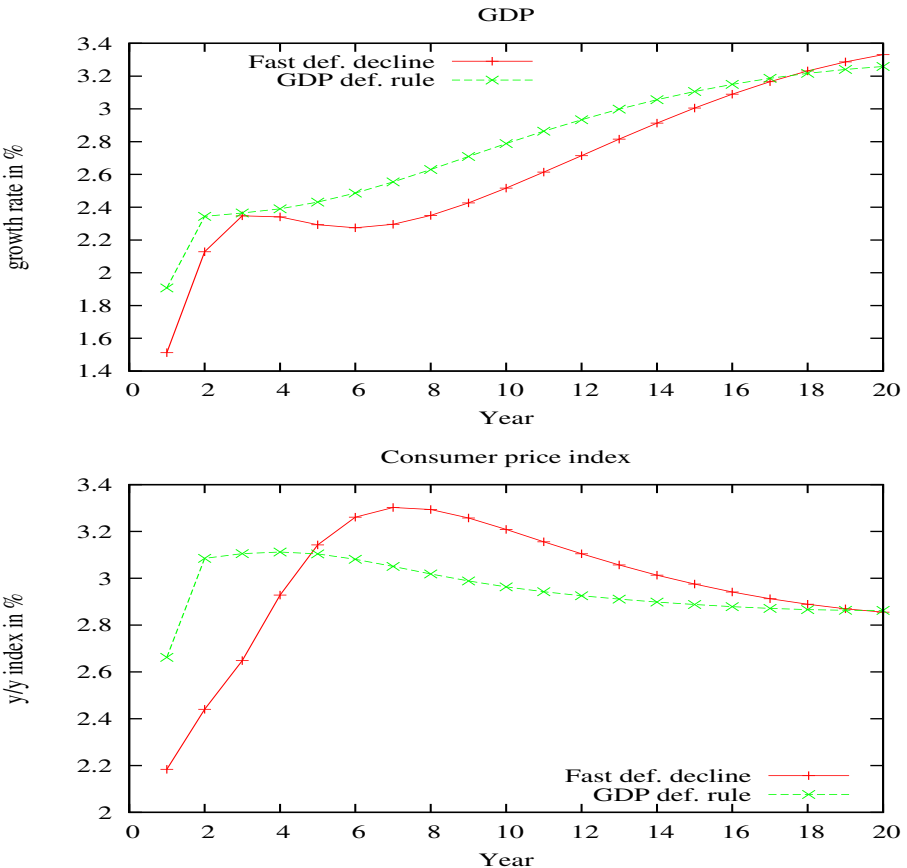


Deficit – Fast ⊗ GDP rule

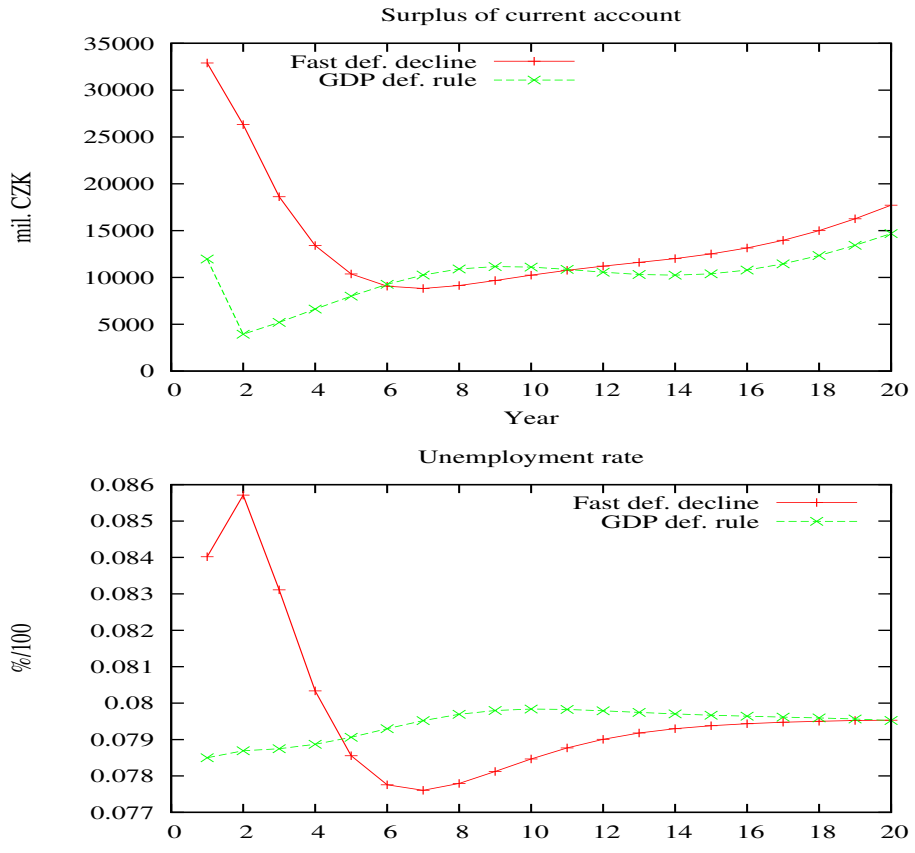




Deficit – Fast ⊗ GDP rule II



Deficit – Fast ⊗ GDP rule III



Simulation II

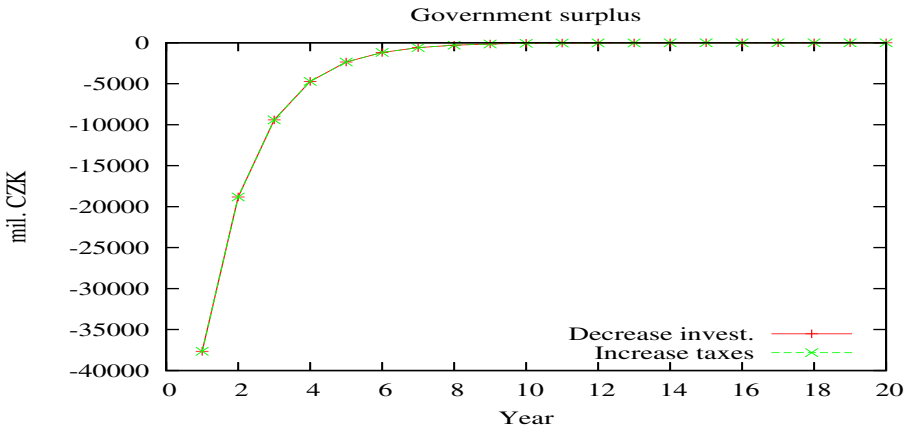
Task

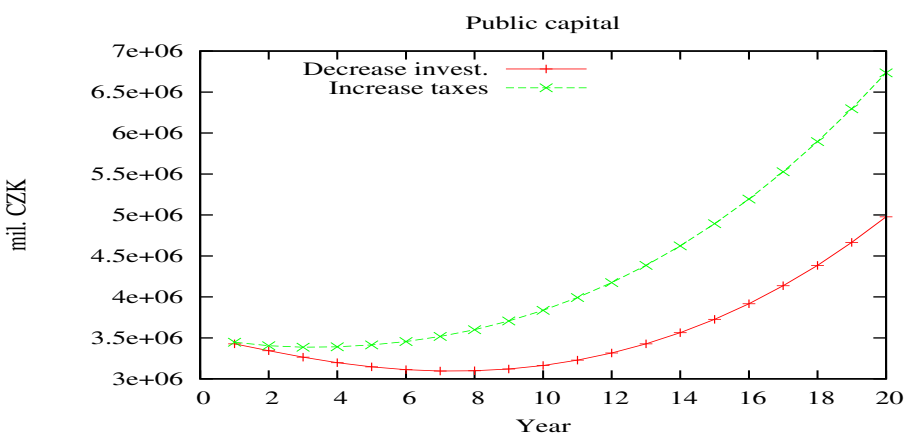
What happens if we cover the deficit in year 0 by increasing taxes or decreasing government consumption ?

Increasing taxes. We increase the VAT, excises and household income tax, so that the ex ante revenues cover the deficit. The tax increase is spread over 4 years.

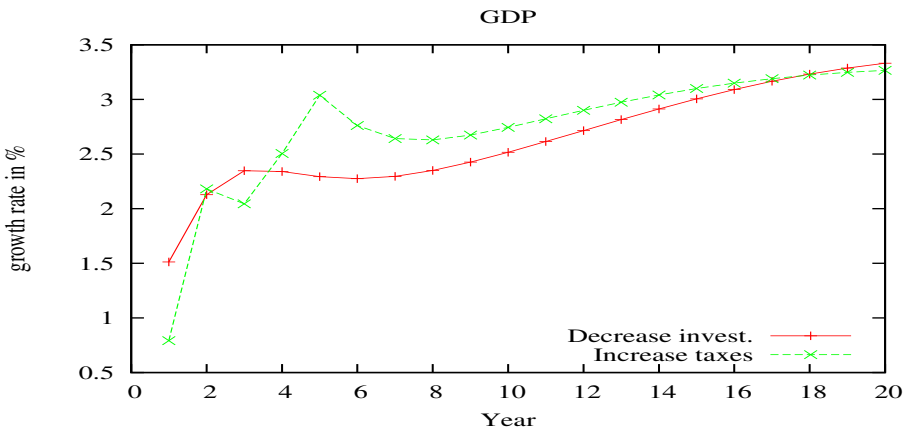
Decreasing consumption. The government transfers to households decrease and the number of government employees declines.

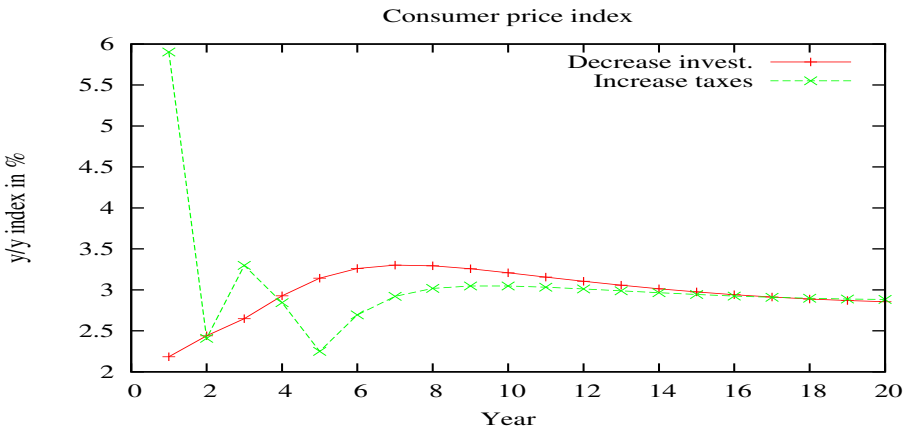
Increasing taxes



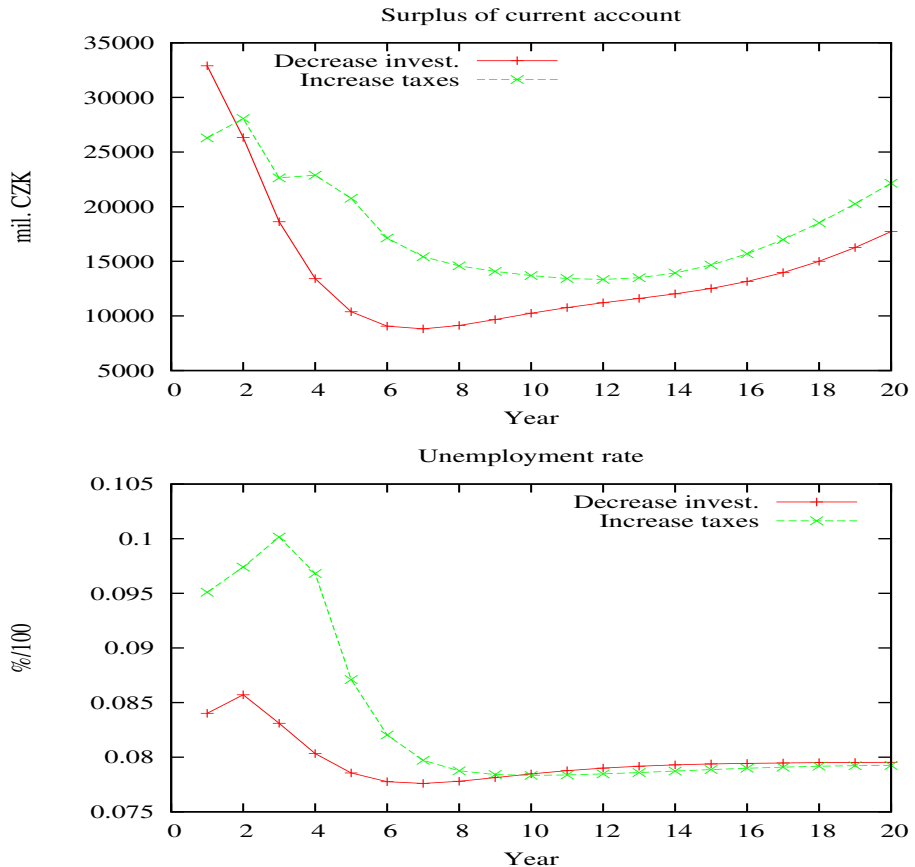


Increasing taxes II

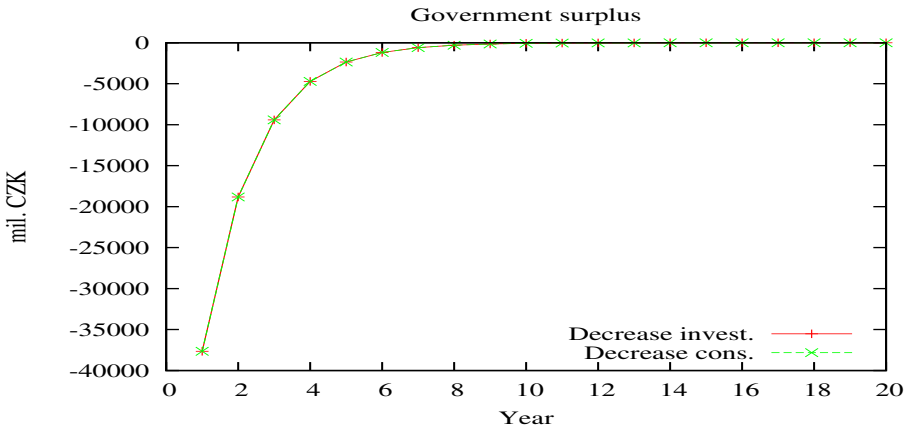


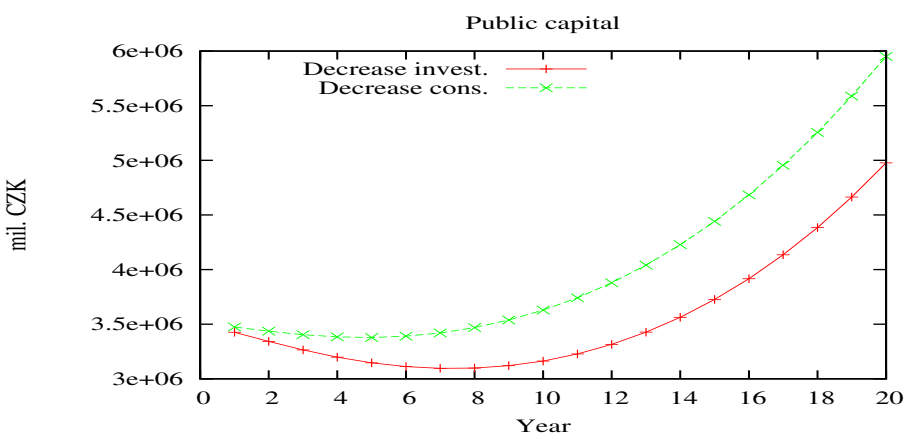


Increasing taxes III

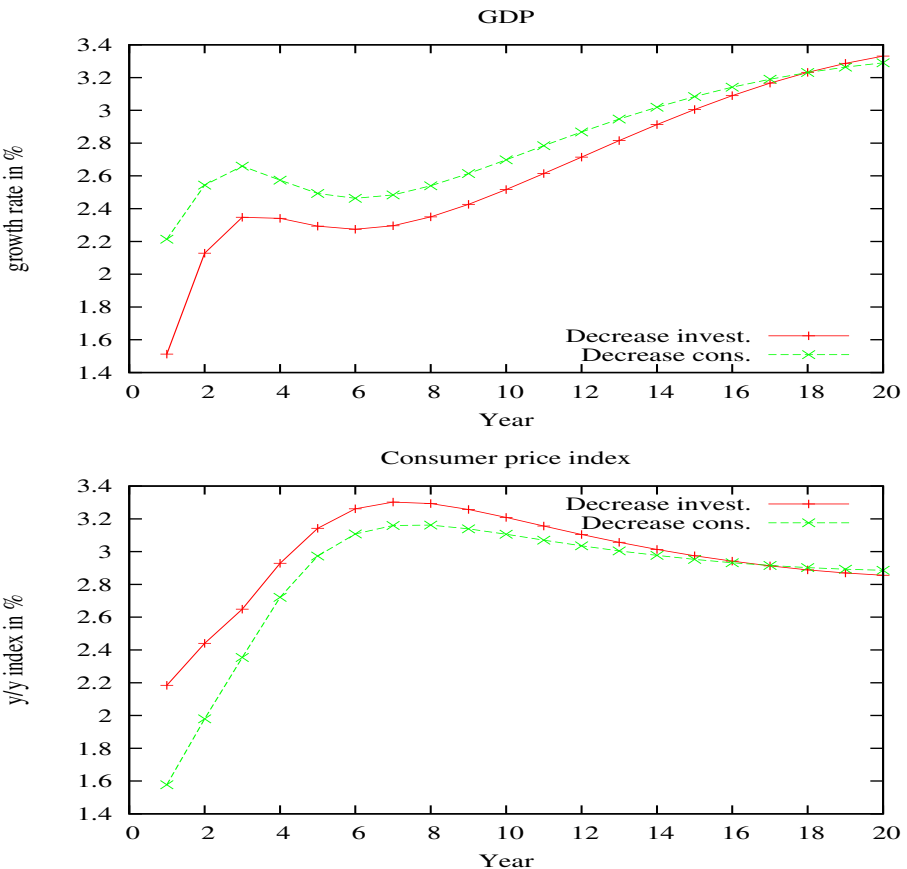


Decreasing consumption I

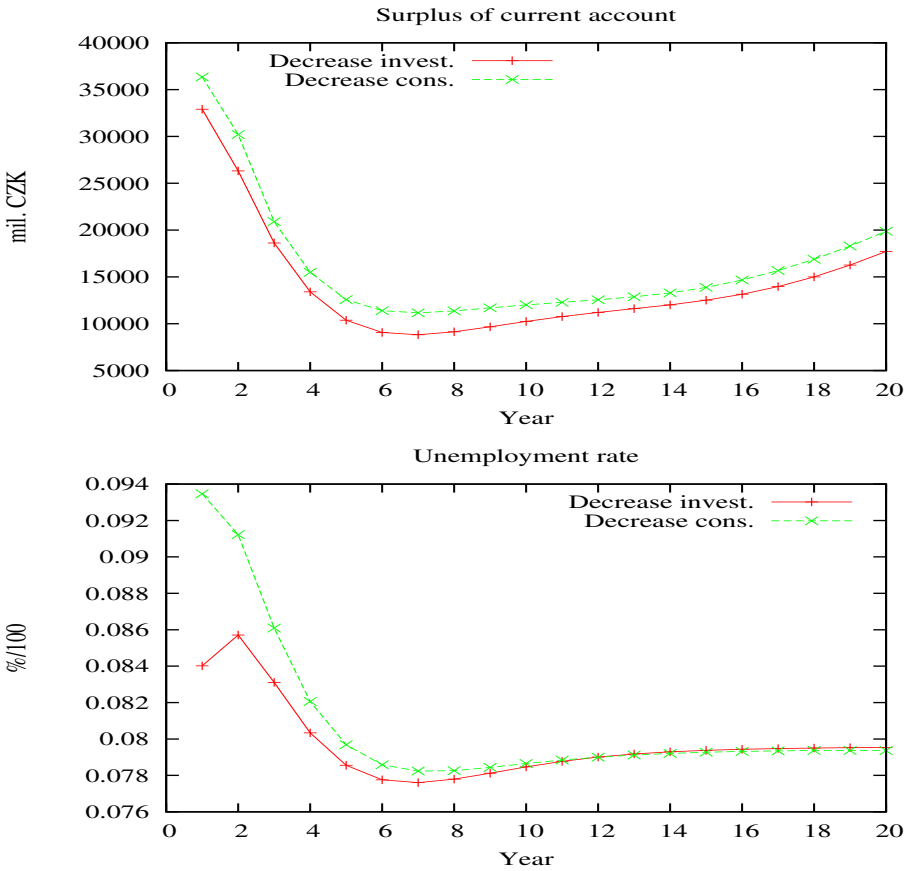




Decreasing consumption II



Decreasing consumption III



Thank you for your attention !