



# **Economic impact of the recent decrease in social security contributions – A model based analysis –**

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# Structure

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1. Introduction
2. Sketch of the model
3. Results
4. Concluding remarks

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# 1. Introduction

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- Beginning of 2016: Massive reduction of Ukrainian firms' social security contribution (SSC) rate from 44% to 22%
- Idea: Reduction of burden of labour costs
  - Firms' profits and price competitiveness rise
  - Investment and real wages can increase
  - Contribution to “de-shadowing” the economy
- Ukraine is in good company: Ireland (2002), Germany (2007), Hungary (2009), Spain, Finland, Czech Republic (all 2010), Netherlands (2012) did the same, but size of the cut and amount of revenue reduction stands out in Ukraine
- This policy briefing tries to assess the dynamic economic implications of this reduction using a formal economic model

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Narrative in favour of the policy of reducing the SSC rate (“Fiscal devaluation”) fostered by the IMF, but also in numerous academic studies:

General idea of a fiscal devaluation:

- Increase firms’ international price competitiveness by lowering taxes that reduce firms’ marginal costs of production
- Lower marginal costs allow price reductions, terms of trade deterioration and increase in net exports
- Ideal tax is SSC rate which taxes wages
- But: For revenue neutrality other source of revenue need to be increased, typically VAT
- Ukraine: Mainly spending cuts, but also increases in tax base and some other taxes

## 2. Sketch of the model

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- We used the model of Engler et al. (2014) to analyse the macroeconomic effects of SSC rate reduction
- Mainstream macroeconomic model
  - For nerds: “New Keynesian dynamic stochastic general equilibrium model” (DSGE)
  - Prototypical model used by central banks, IMF etc.
  - Peculiarity I: Microfoundations of consumer and firm decisions
    - ⇒ Tax changes incur dynamics because consumers and firms change behaviour
  - Peculiarity II: It describes a “general equilibrium”: Interaction between firm/ consumer behaviour, monetary policy, domestic and foreign variables etc.
  - Peculiarity III: Price stickiness: Prices change only gradually incurring specific short-run dynamics
- Model is
  - Good at short/medium-run dynamics
  - Not very useful at long-run growth dynamics

## 3. Results

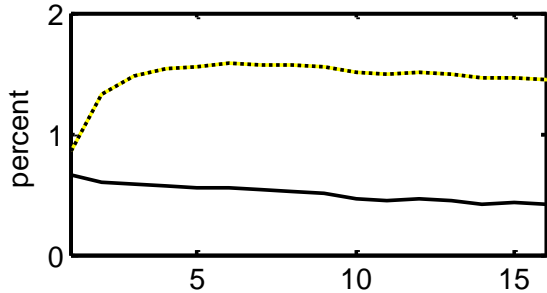
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- Our assumptions for the analysis:
  - Reduction of social contributions worth 3% of GDP
  - Reduction of gov't spending such that fall in revenue is offset
  - NBU aims at both inflation and exchange-rate stabilisation
  - Periods are quarters
  - Variant A: Baseline, no de-shadowing
  - Variant B: Shadow wage bill reduced from 25% to 21% of total net wage bill
    - Process of de-shadowing will be gradual at best; we concentrate on the short-term impact

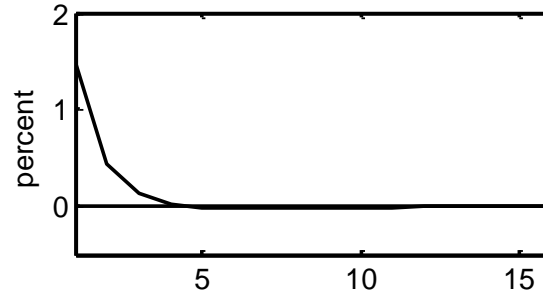
In the following figures, adjustment over time of most important macro variables shown after SSC rate (and spending) cut

# Variant A: Baseline

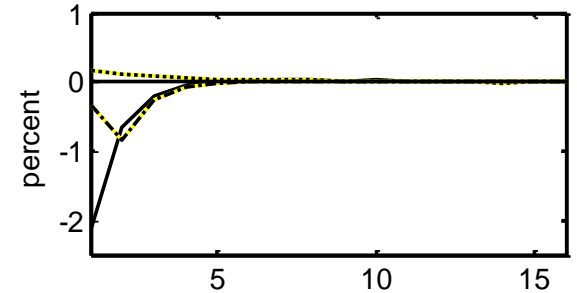
Output and consumption (dashed)



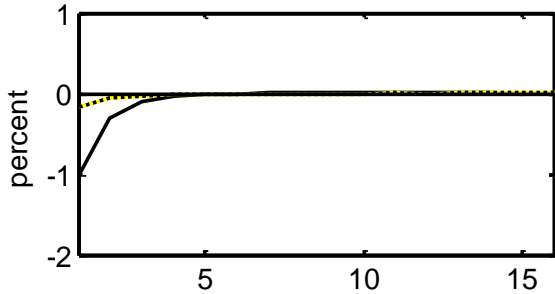
Nominal exchange rate



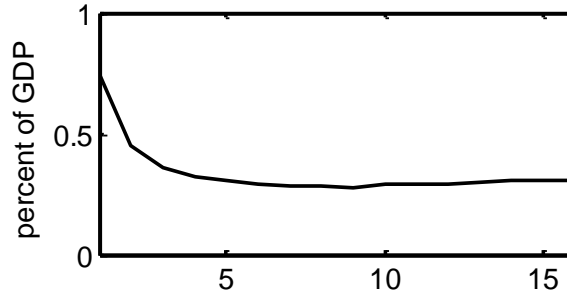
GDP deflator, wage inflation (dashed), CPI inflation (dash-dot)



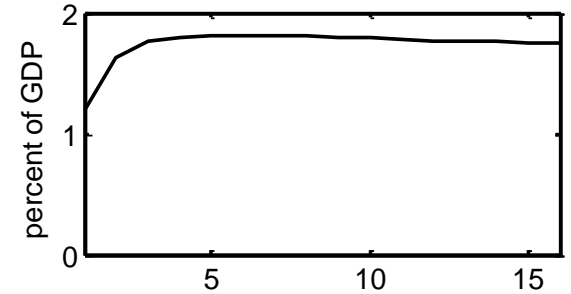
Nominal interest rate and real interest (dashed)



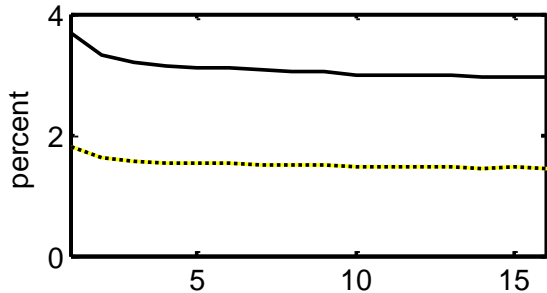
Trade balance



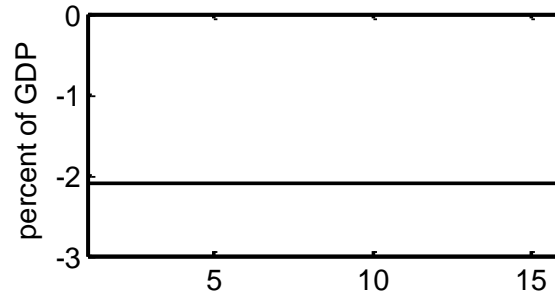
Net foreign assets



Terms of trade and real exchange rate (dashed)



Government spending



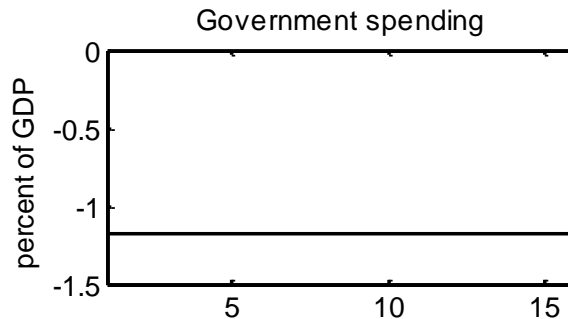
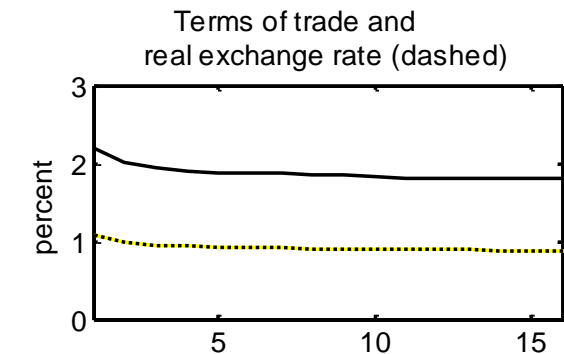
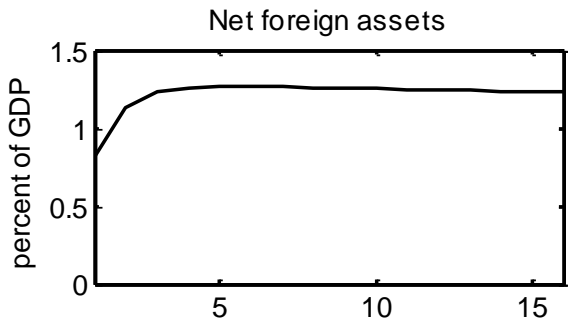
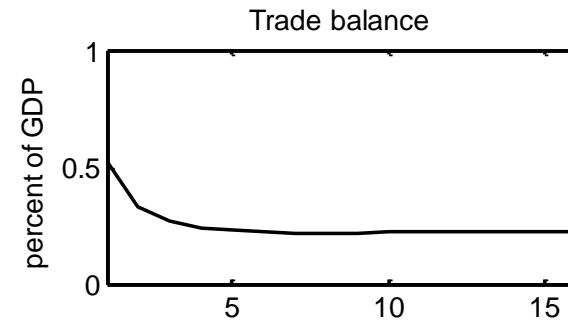
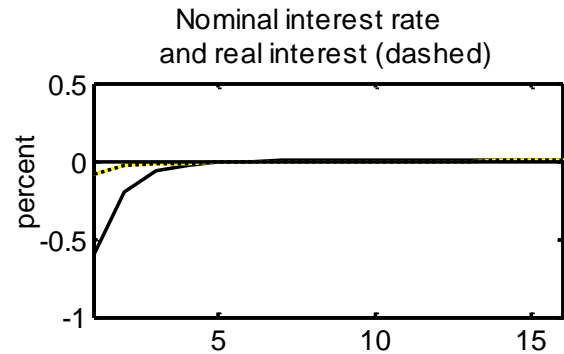
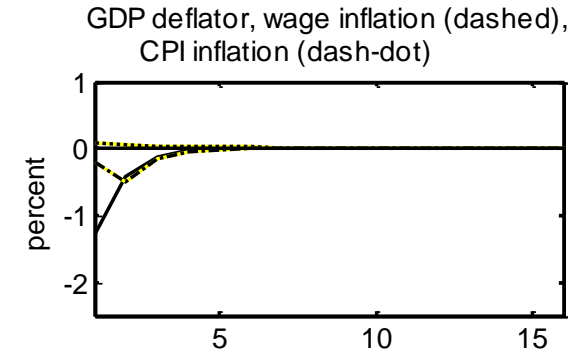
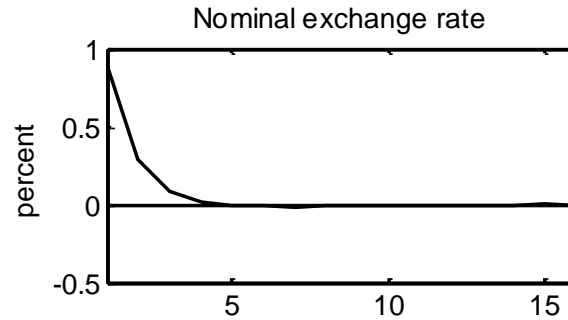
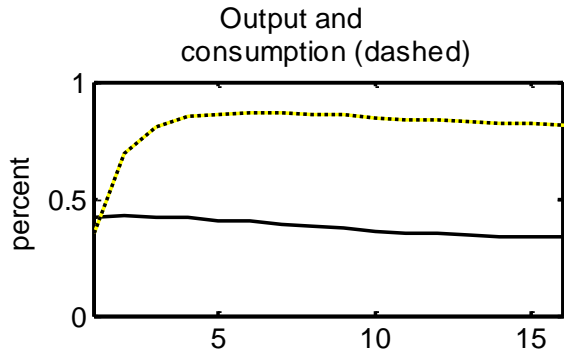
## Variant A: Baseline

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- **Output** increases immediately by **0.7%**; after several years, the effect reduces to **0.4%**
- **Consumption** reacts even stronger by immediately rising **0.8%**; in the longer term this increases further to **1.5%**
- The **trade balance** (relative to GDP) improves by **0.7%** in the short term and by **0.3%** in the longer term
- The necessary **reduction in government spending** to keep the SSC rate cut budget-neutral is **2.1%** of GDP



# Variant B: De-shadowing



## Variant B: De-shadowing

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### Shadow wage bill falls (25% to 21%): All effects smaller!

- **Output** increases immediately by **0.4%**; after several years, the effect reduces to **0.3%**
- **Consumption** reacts by immediately rising **0.35%**; in the longer term this increases further to **0.8%**
- The **trade balance** (relative to GDP) improves by **0.5%** in the short term and by **0.2%** in the longer term
- The necessary **reduction in government spending** to keep the SSC rate cut budget-neutral is **1.2%** of GDP

# Comparison of Variants A and B

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## Reasons for smaller effects with de-shadowing

- Tax base increases => less resources transferred to private sector => less increase in private consumption
- Less deflationary pressure because
  - Lower effective tax cut
  - Spending reduction smaller
  - ⇒ Less expenditure switching from foreign to domestic goods
  - ⇒ Less monetary policy accommodation

## 4. Concluding remarks

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- SSC reduction – huge size but no clear idea of impact
- We use formal model to assess impact on main macro variables
- Depending on variant A (B) we arrive at the following results:
  - Output rises 0.7% (0.4%) immediately and 0.4% (0.3%) in the long-run
  - Consumption rises 0.8% (0.35%) immediately and 1.5% (0.8%) in the long-run
  - Trade balance improves 0.7% (0.5%) immediately and 0.3% (0.2%) in the long-run
- But: Limits of model:
  - De-shadowing involves only costs, no benefits
  - Role of capital flight not included
  - Labour market very stylized
  - **Analysis not to be confused with forecast!**
- For details of the model mechanics see Technical Note 02/2016



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