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## **Secular Stagnation in Finland (and what to do about it)**

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**Secular stagnation:** Combination of low growth, inflation and real interest rates lasting (much) longer than in the normal recession



*[...] which tend to make business recoveries weak and anaemic and which tend to prolong and deepen the course of depressions. This is the essence of secular stagnation -sick recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment”*

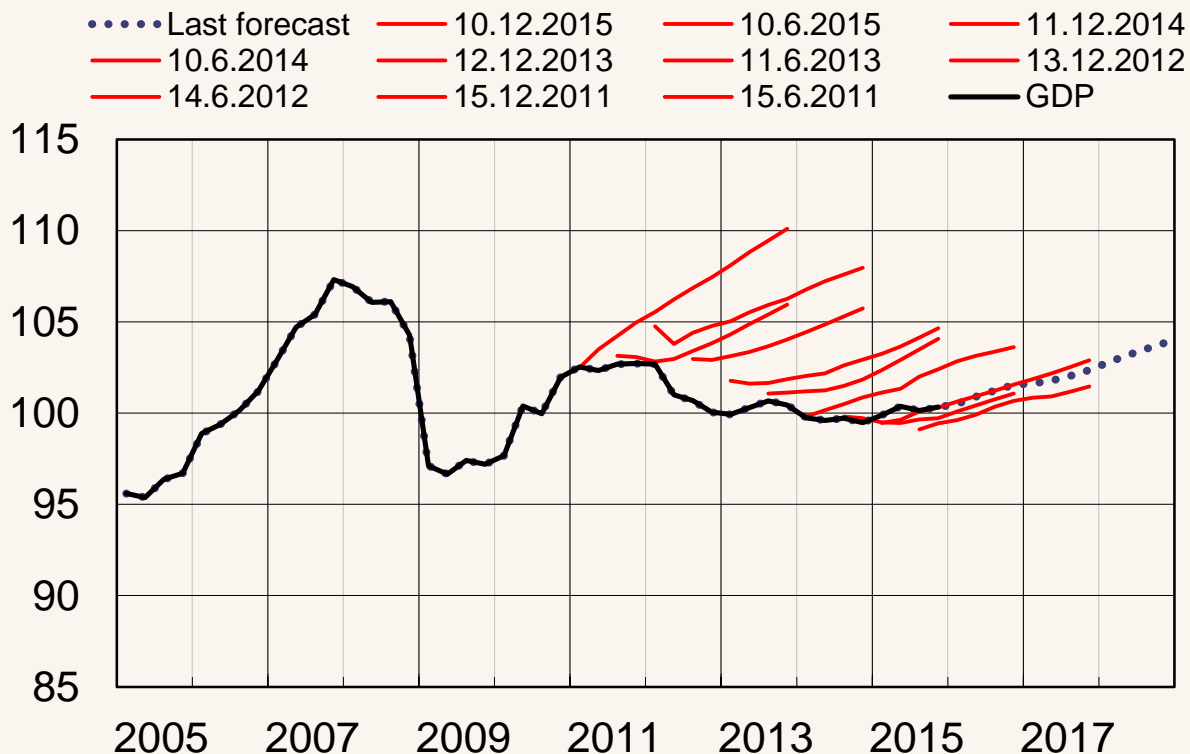
**Alvin H. Hansen (AER, 1938), s. 4**

**“Economic Progress and Declining Population Growth”**



# Finnish GDP and forecast revisions

## GDP index

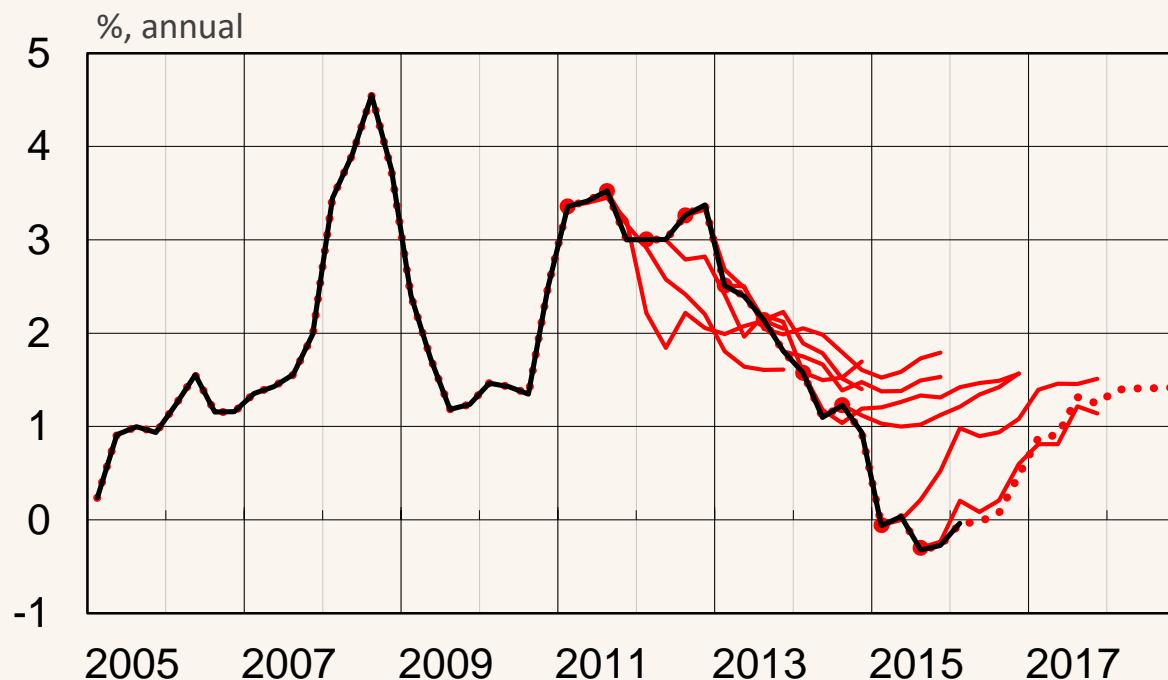


Source: Bank of Finland Database, Statistics of Finland



# HICP inflation and forecast revisions

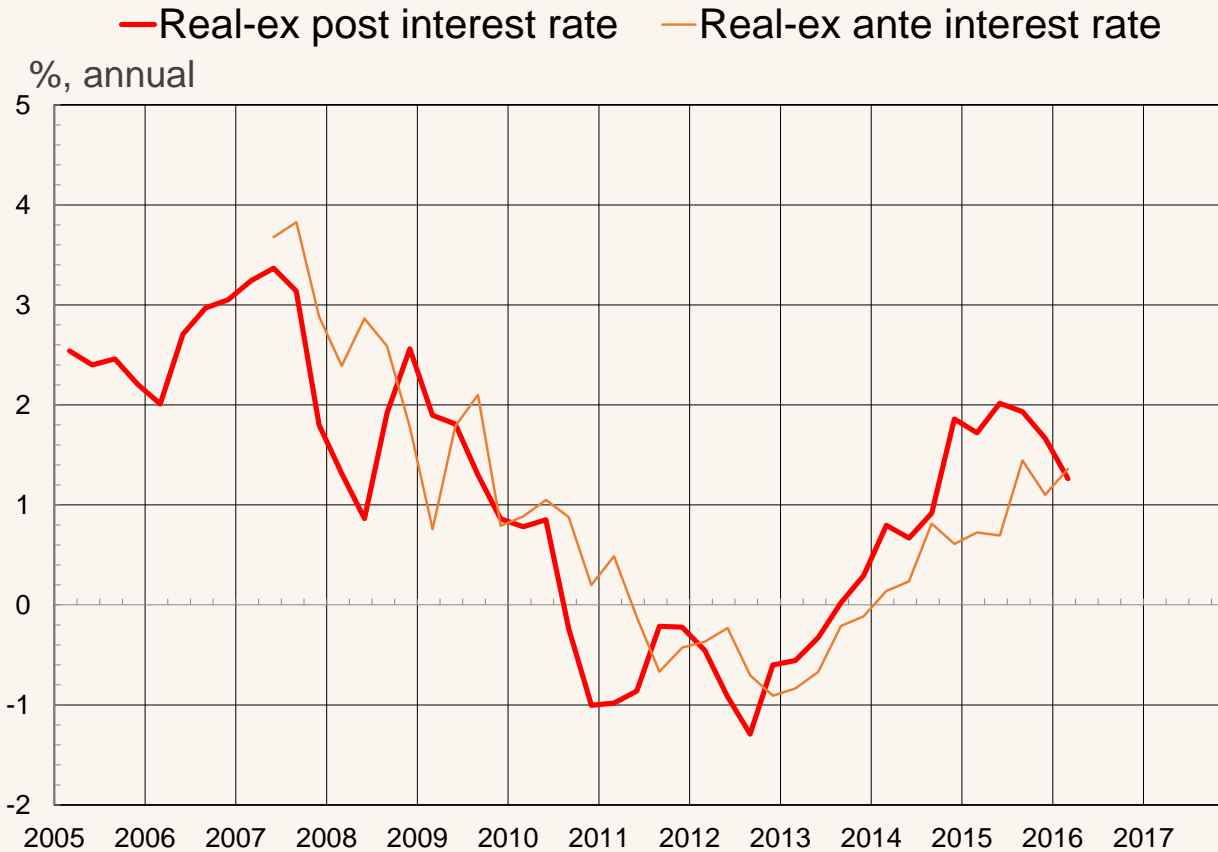
- ..... Last forecast
- 10.12.2015
- 10.6.2015
- 11.12.2014
- 10.6.2014
- 12.12.2013
- 11.6.2013
- 13.12.2012
- 14.6.2012
- 15.12.2011
- 15.6.2011
- HICP



Source: Bank of Finland Database, Statistics of Finland



## ....and finally, the real interest rate



Source: Bank of Finland Database, Statistics of Finland



# Three tales of sick recoveries

- **Financial crises and deleveraging**
  - It takes unusually long time for countries to recover from the financial crises (K. Rogoff)
  - Emphasises the importance of shocks originating and amplified by the financial sector
- **Secular stagnation**
  - Low natural rates of interest and zero lower bound of interest leading to weak investment and low aggregate demand (L. Summers)
  - Weak investments due to population ageing, combined with low productivity as technological advancement slows down (A. Hansen)
- **Stagnation trap**
  - Weak private demand ultimately reduces aggregate supply due to e.g. loss of workers' skills and reduced innovation activity (Benigno and Fornaro)



**So which one, if any, is it?**





# The approaches

- Need to organize the observations in some meaningful manner:
  - What is driving the business cycle (GDP, Inflation, etc...)
- We can use purely empirical approach, but which allows to make some causal interpretation of the data
  - SVAR model where the shocks have been identified, or
- Structural theory based macro model
  - Microfounded, structural shocks identified by theory
- Both have their problems...

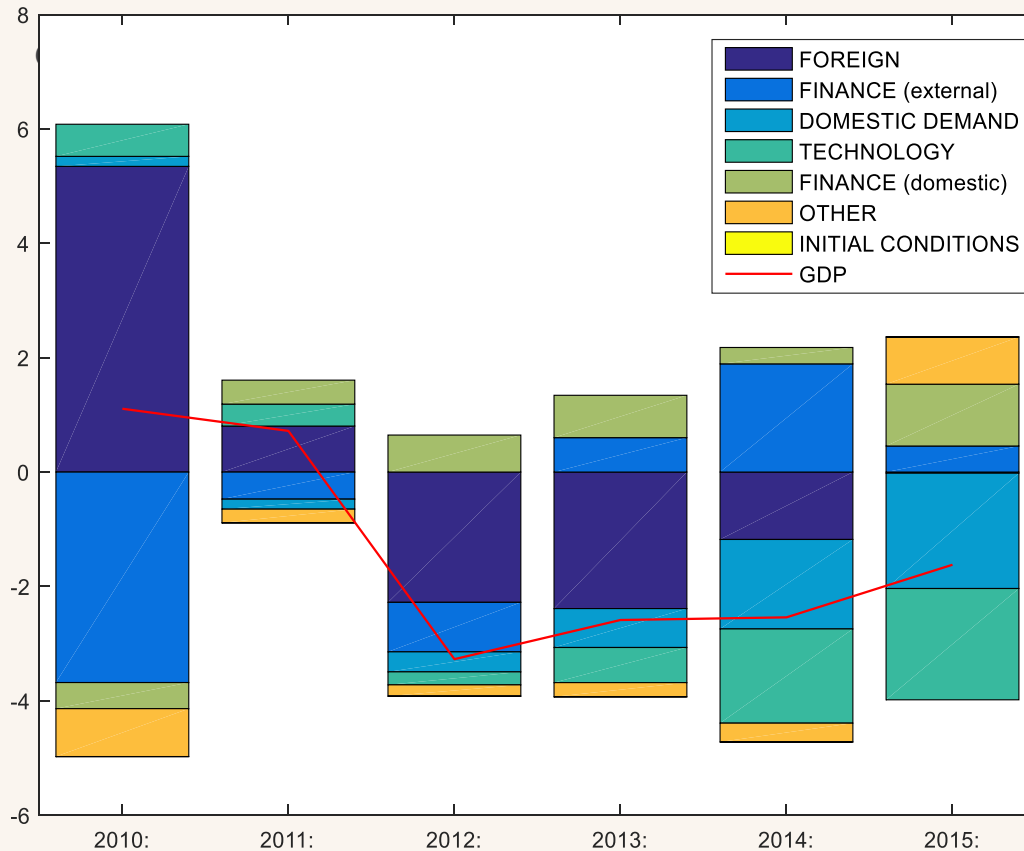


# The toolkit

- **Macro-Finance SVAR**
  - Estimated for the period 1985-2014
  - Shocks identified through sign restrictions approach
  - Limited number of observables and identified shocks
  
- **Aino 2.0: Small Open economy DSGE model with banking**
  - Estimated for the period 1995-2014
  - Very large number of structural shocks and observables
  
- **I will use both models to interpret the data in terms of historical variance decomposition**
  - Do they agree, even if models are not one-to-one in terms of observables and shocks?



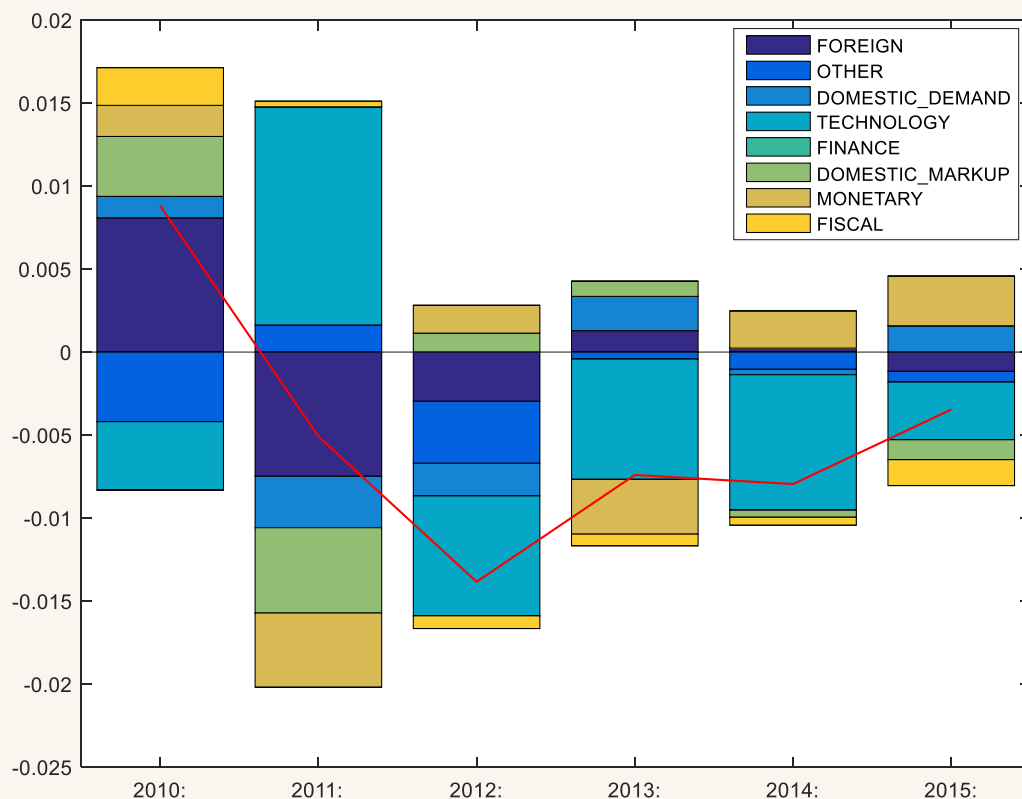
# SVAR: Historical variance decomposition



- External demand and finance shocks important initially
- Domestic demand and supply shocks play important role later on
- Domestic financial shocks relatively unimportant



# DSGE: Historical variance decomposition



- External demand shocks important initially
- Domestic supply shocks important later on
- Financial shocks unimportant
- Domestic demand relatively unimportant



# Findings

## Both models agree that:

- I. external factors were important at early phase
  - II. domestic finance factors were relatively unimportant
  - III. domestic macro factors gain importance over time, especially supply/technology
- **Secular stagnation in Finland:** A combination of weak external demand and aggregate supply (slow down of productivity growth)

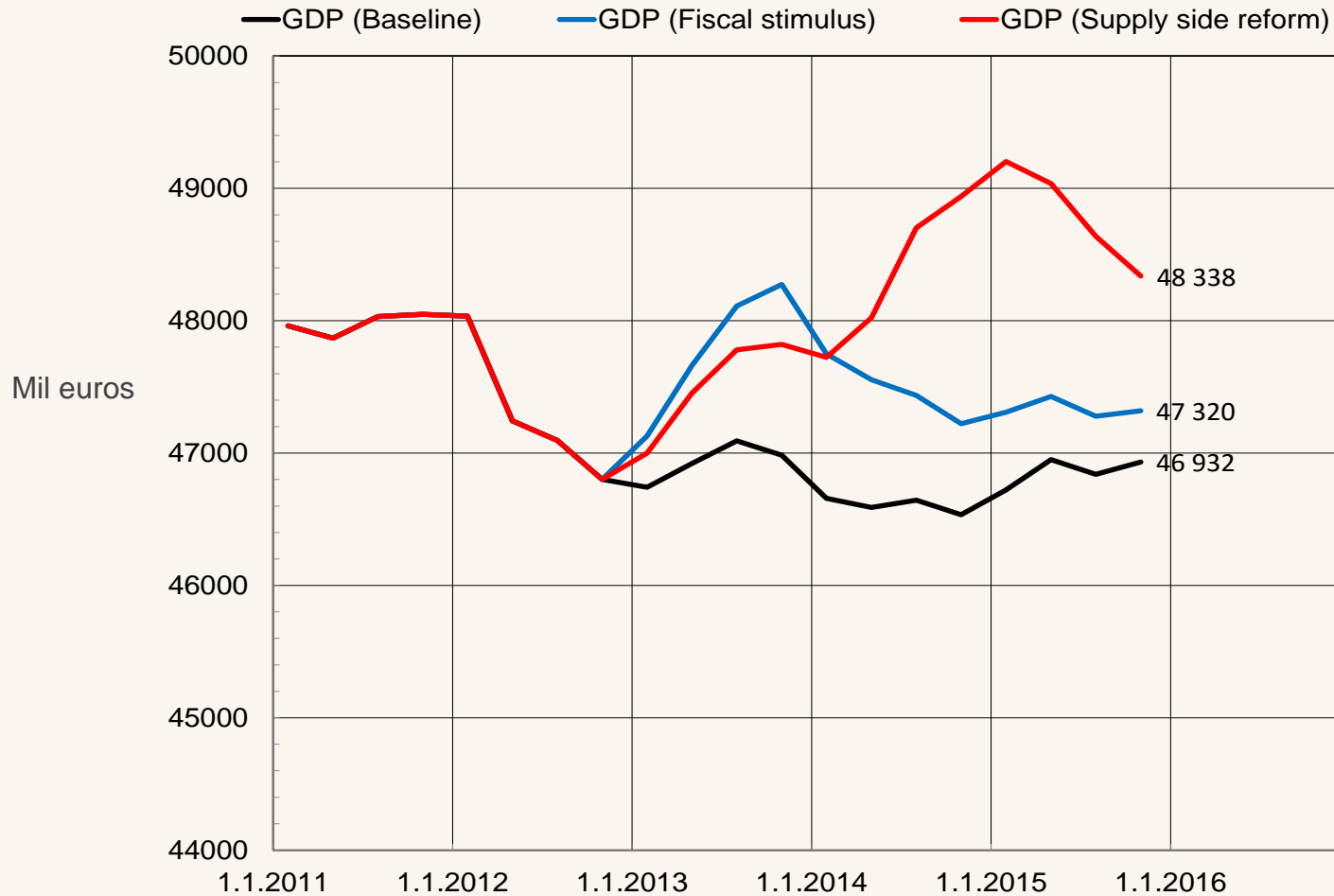


# What to do about it?

- **Policy experiments**
  - Fiscal stimulus
  - Supply side reform
  
- **Accordingly, I run three counterfactuals**
  - 2 bn euro (1 % of GDP) increase in public spending
    - Introduced as a surprise in 2013:Q1, lasting until 2015:Q4
  - Increasing wage flexibility
    - Permanent
  - Otherwise, structural shocks remain the same
  
- **I use Aino 2.0 as it fits better to this type of policy simulations**

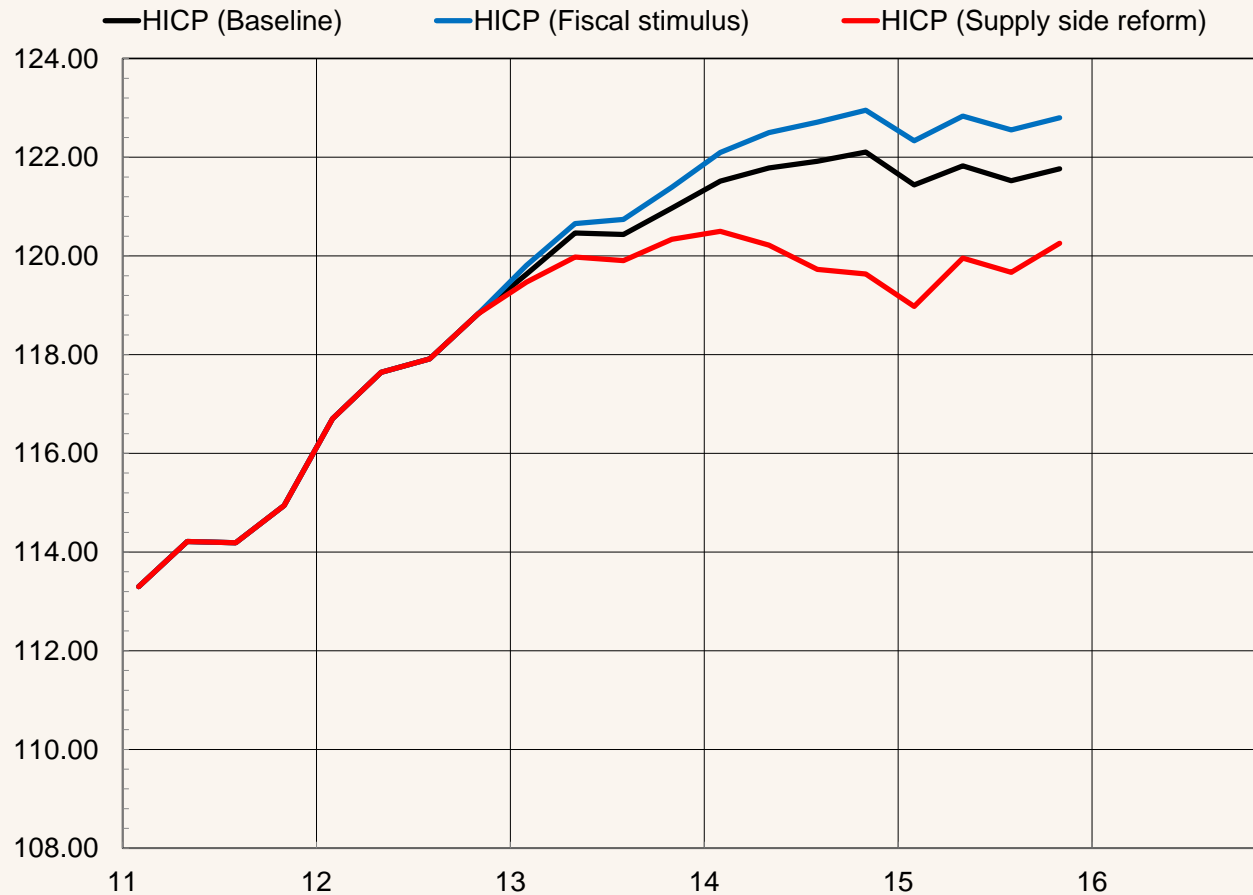


# Policy experiments: GDP





# Policy experiments: HICP







## Concluding remarks

- **Secular stagnation in Finland:** A combination of weak external demand and aggregate supply
  - Weak aggregate supply is linked to both inability of economy to adjust (rigid wages) and slow down of factor productivity growth
- Policies that directly stimulate aggregate demand are only a temporary cure
- Even if supply side reforms lead to temporary increase in the real interest rate, the price competitiveness effects outweigh intertemporal effects



**Thank you!**