

Macroeconomic Modelling and Elaboration of the Macro-Econometric Model for the Latvian Economy

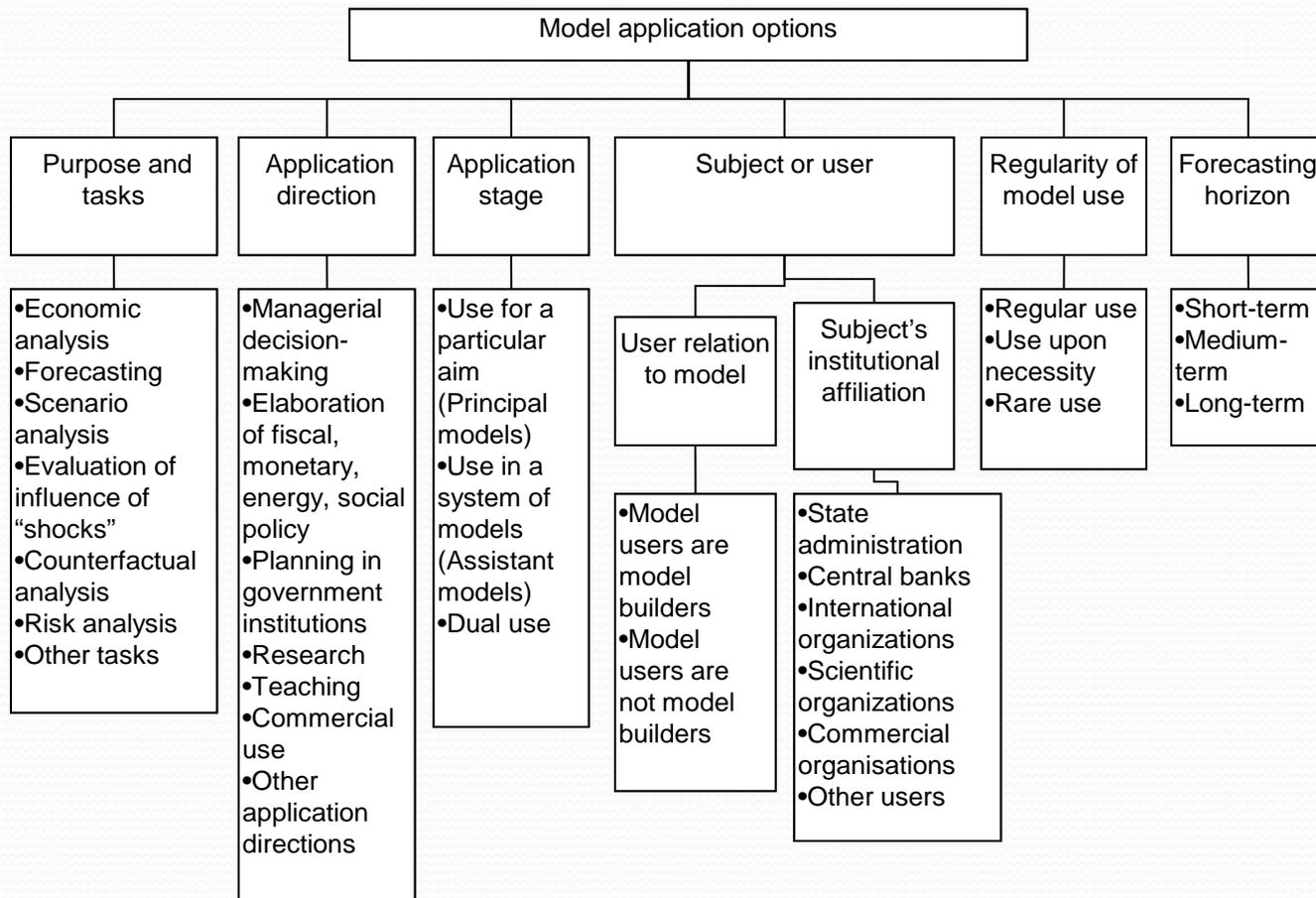
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Riga Technical University

21st Inforum World Conference at Listvyanka, 2013

Macroeconomic Modelling in Latvia

- Banks
 - Regular use, but mostly confidential
- Ministries
 - Ministry of Economics and Ministry of Finance, regular use
- Universities and other organisations
 - Mostly analysis of different aspects of economy

Analysis of Macroeconomic Models



Latvia's Macro-Econometric Model

- Latest developments:
 - Updated database
 - Updated model
 - Portable Dyme and G7

Monograph Contents

- **1. OVERVIEW OF MACROECONOMIC MODELS IN THE WORLD**
- 1.1. General Characterization of the Models
- 1.2. Theoretical Basis of the Models
- 1.3. Application Options of the Models
- 1.4. Model Structure
- 1.5. Informative and Software Maintenance
- **2. THE STRUCTURE OF THE LATVIA'S MACRO-ECONOMETRIC MODEL**
- 2.1. Theoretical Justification of the Model
- 2.2. General Structure of the Model
- 2.3. GDP Use and Income Section
- 2.4. Supply of Goods and Services and Production Factors
- 2.5. Prices and Wages
- 2.6. Foreign Trade and Balance of Payments
- 2.7. Employment and Demographic Indicators
- 2.8. Fiscal Sector
- 2.9. Energy Sector
- **3. APPLICATION OF MACROECONOMIC MODELS IN LATVIA**
- 3.1. Modelling in Latvia
- 3.2. Development Scenarios of Latvian Economy
- 3.3. Forecasts of Macroeconomic Indicators

Future Prospects

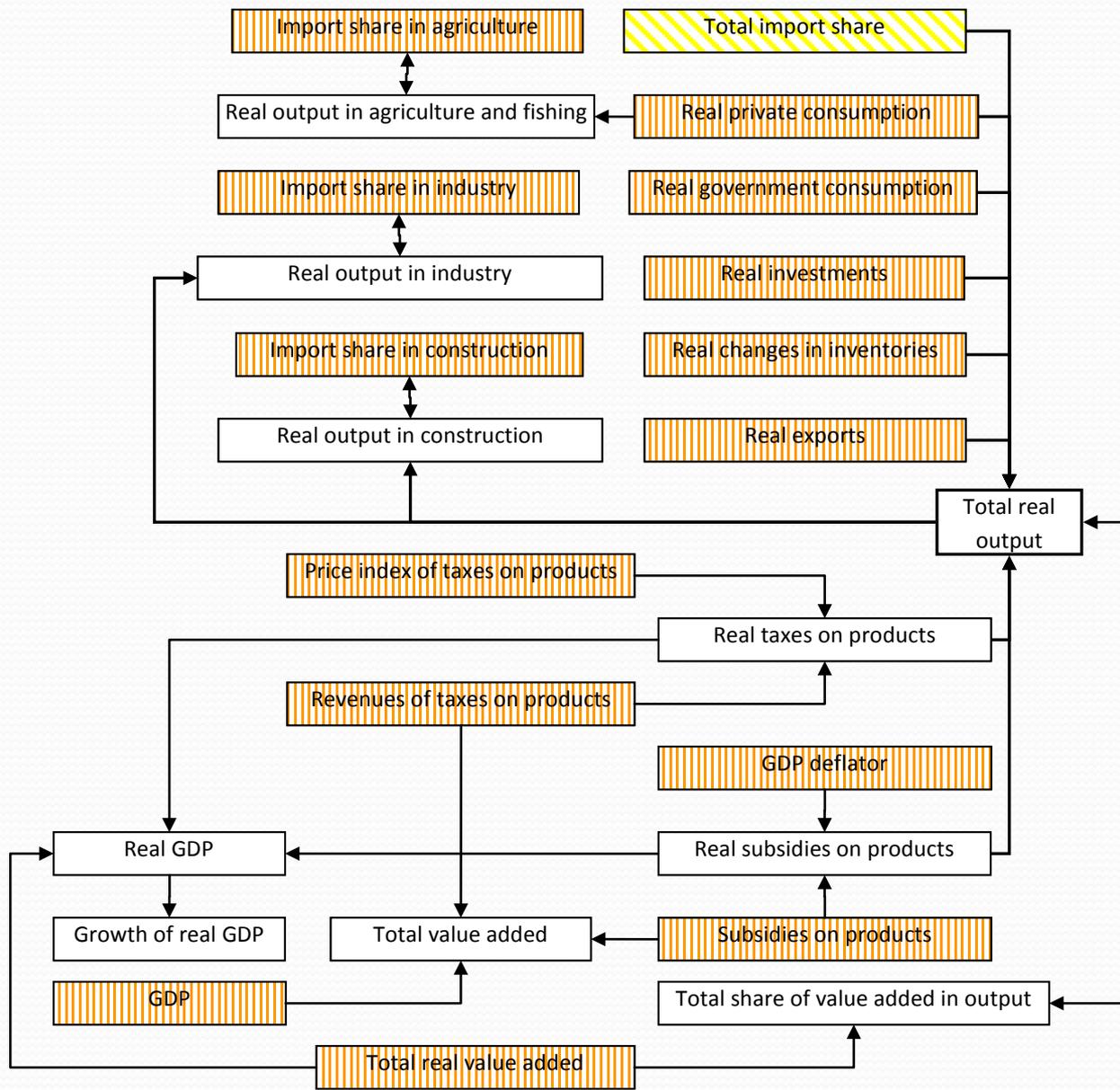
- Modelling of Logistic Systems and Transit
- Product- to-Product Tables for Products of Forestry and Wood

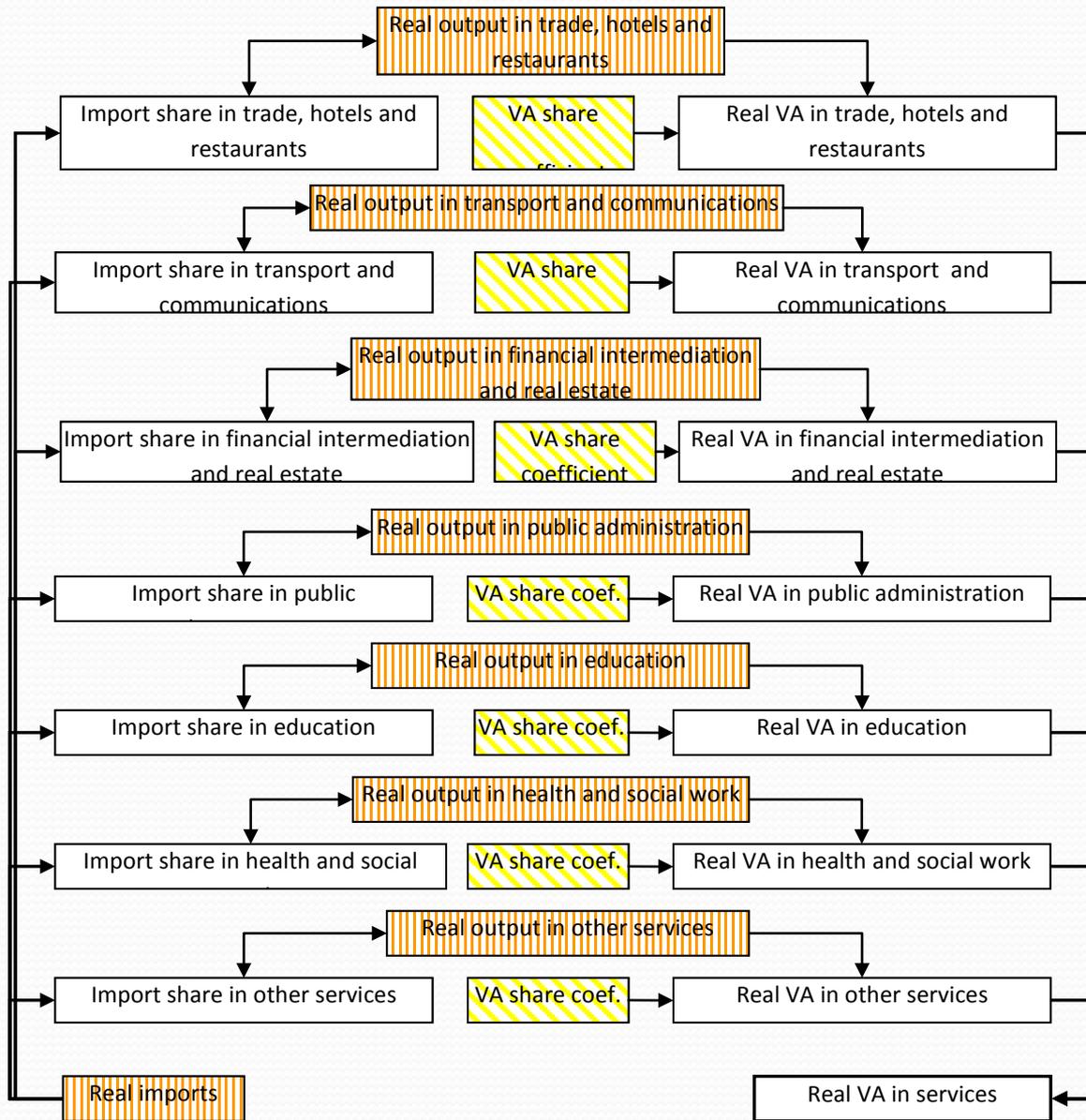
Latvia's Macro-Econometric Model

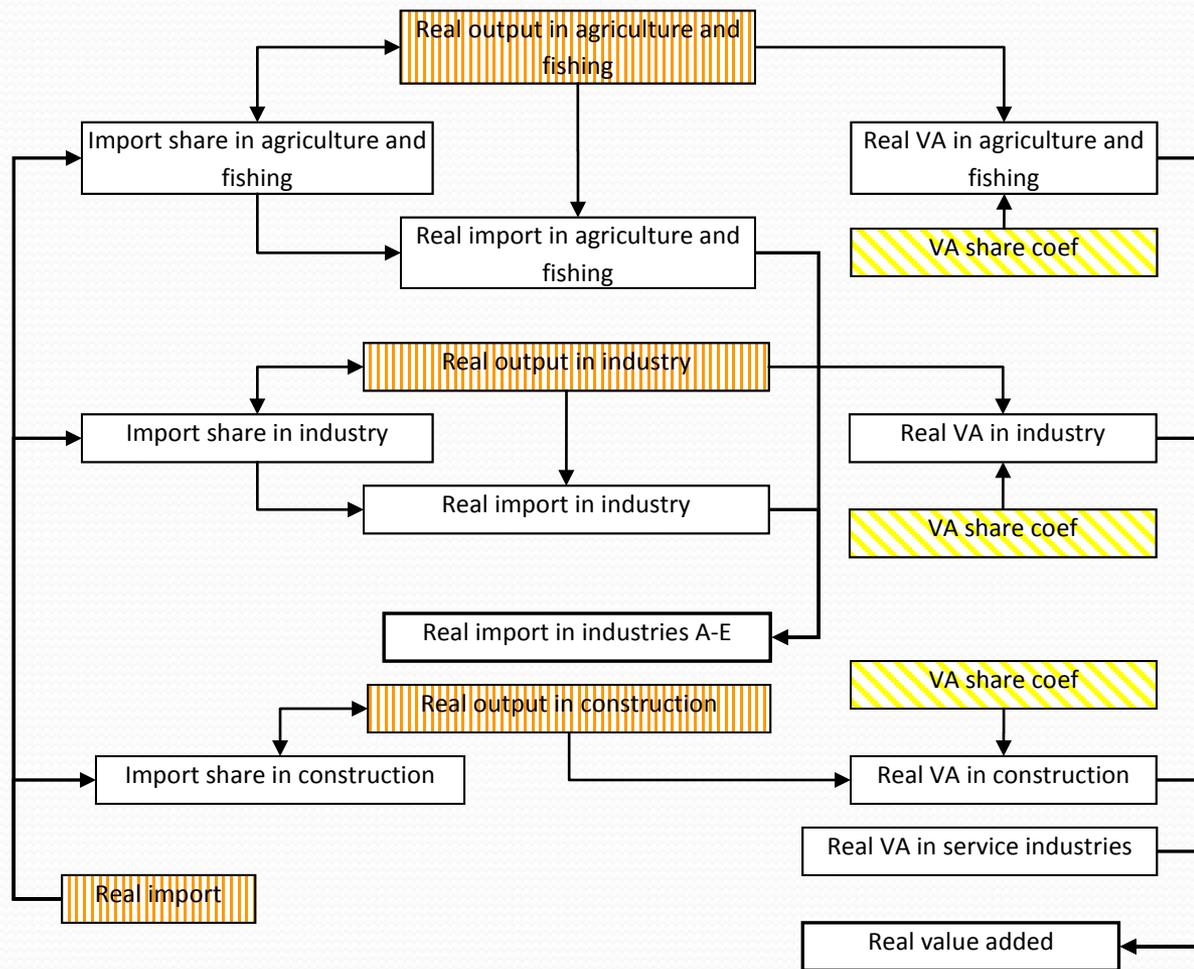
- Latest developments:
 - Updated database
 - From 15 industries to 10
 - New data on resident population – Population Census 2011
 - G7 at last

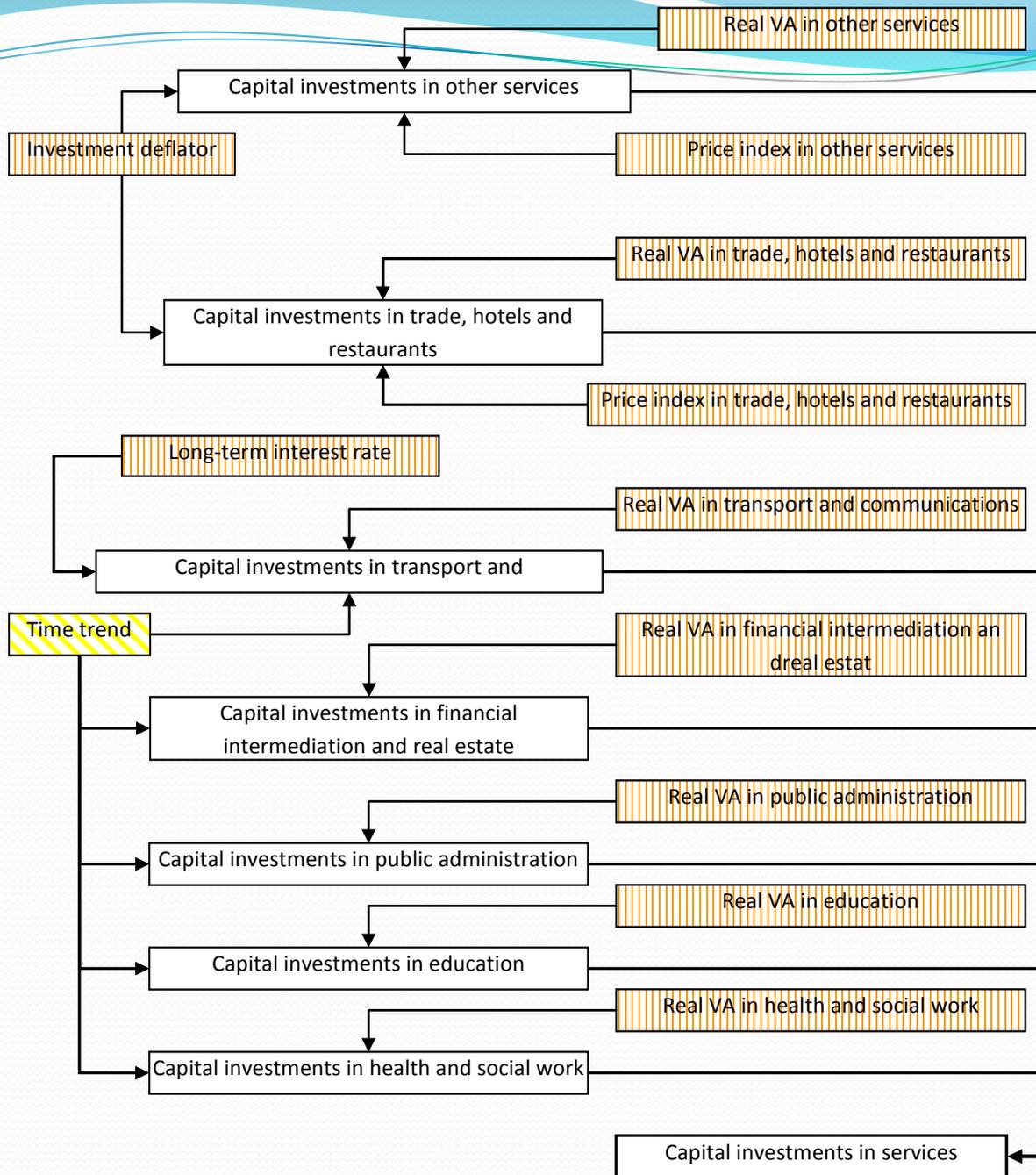
Latvia's Macro-Econometric Model

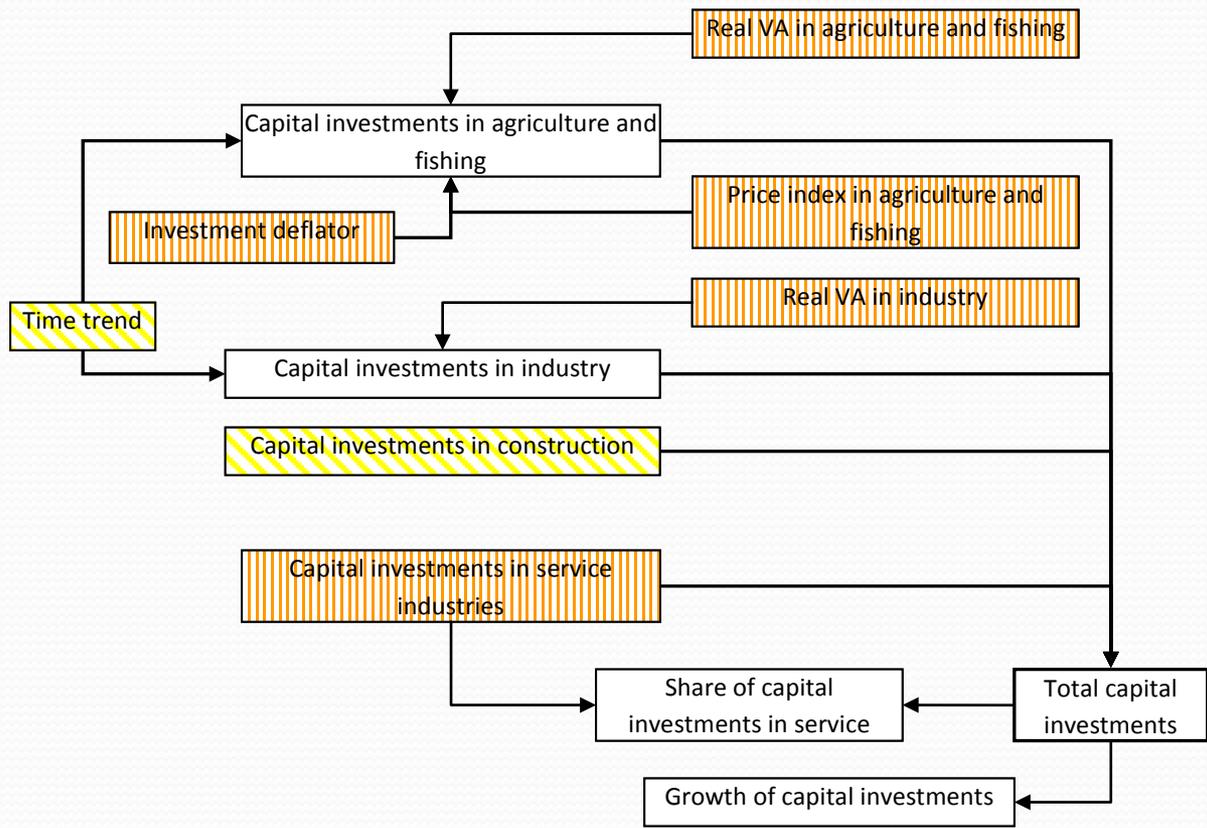
- GDP use and income section,
- supply of goods and services and production factors,
- prices and wages,
- foreign trade and balance of payments,
- fiscal sector,
- employment and demographic indicators,
- energy sector

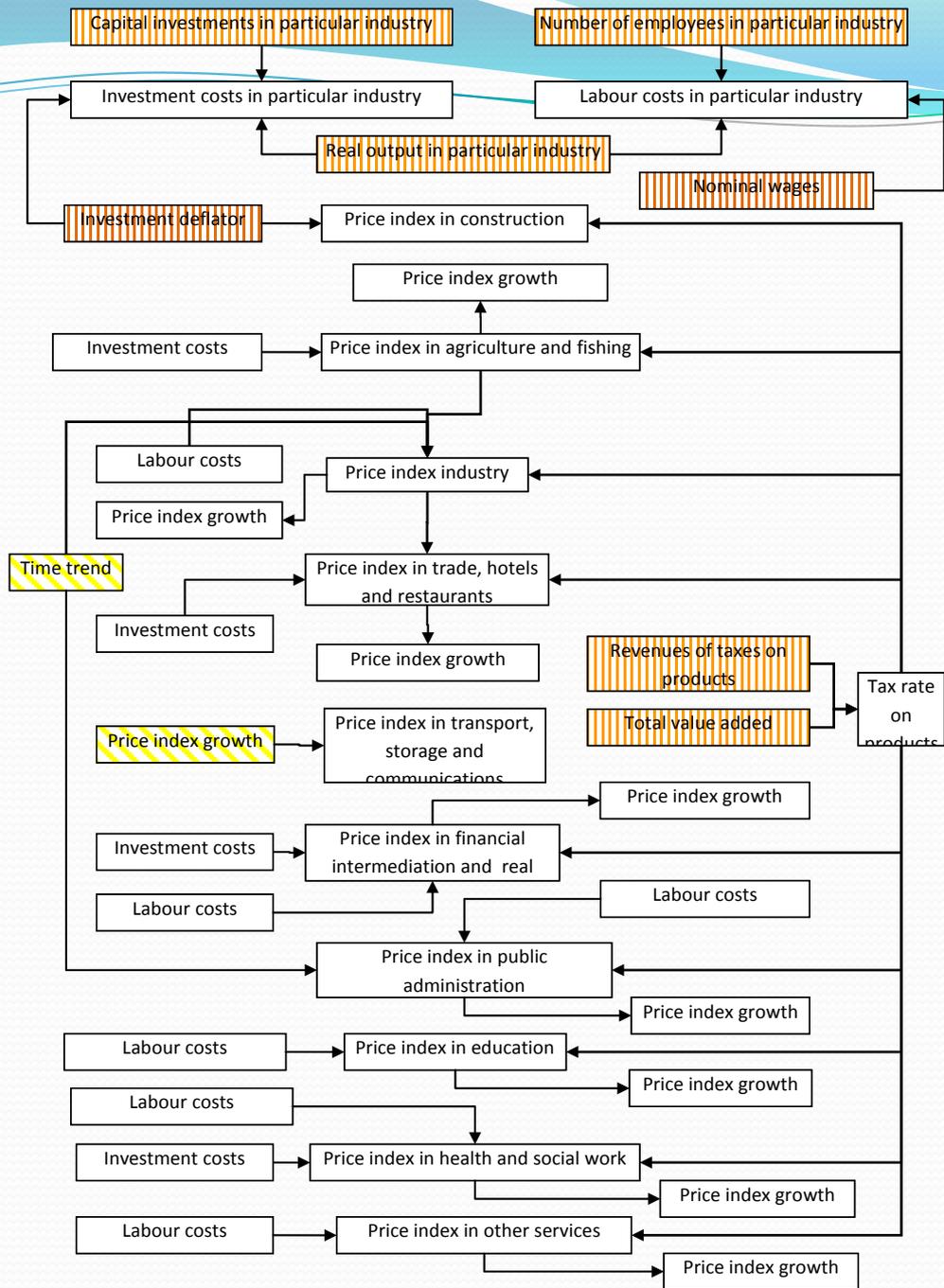


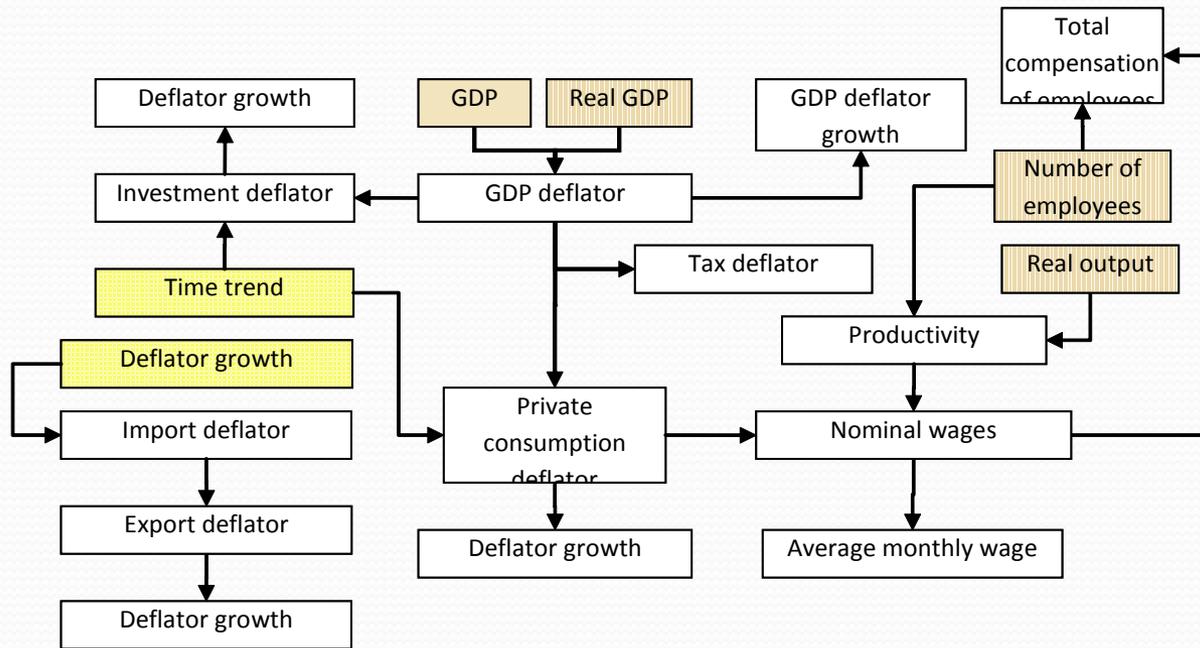


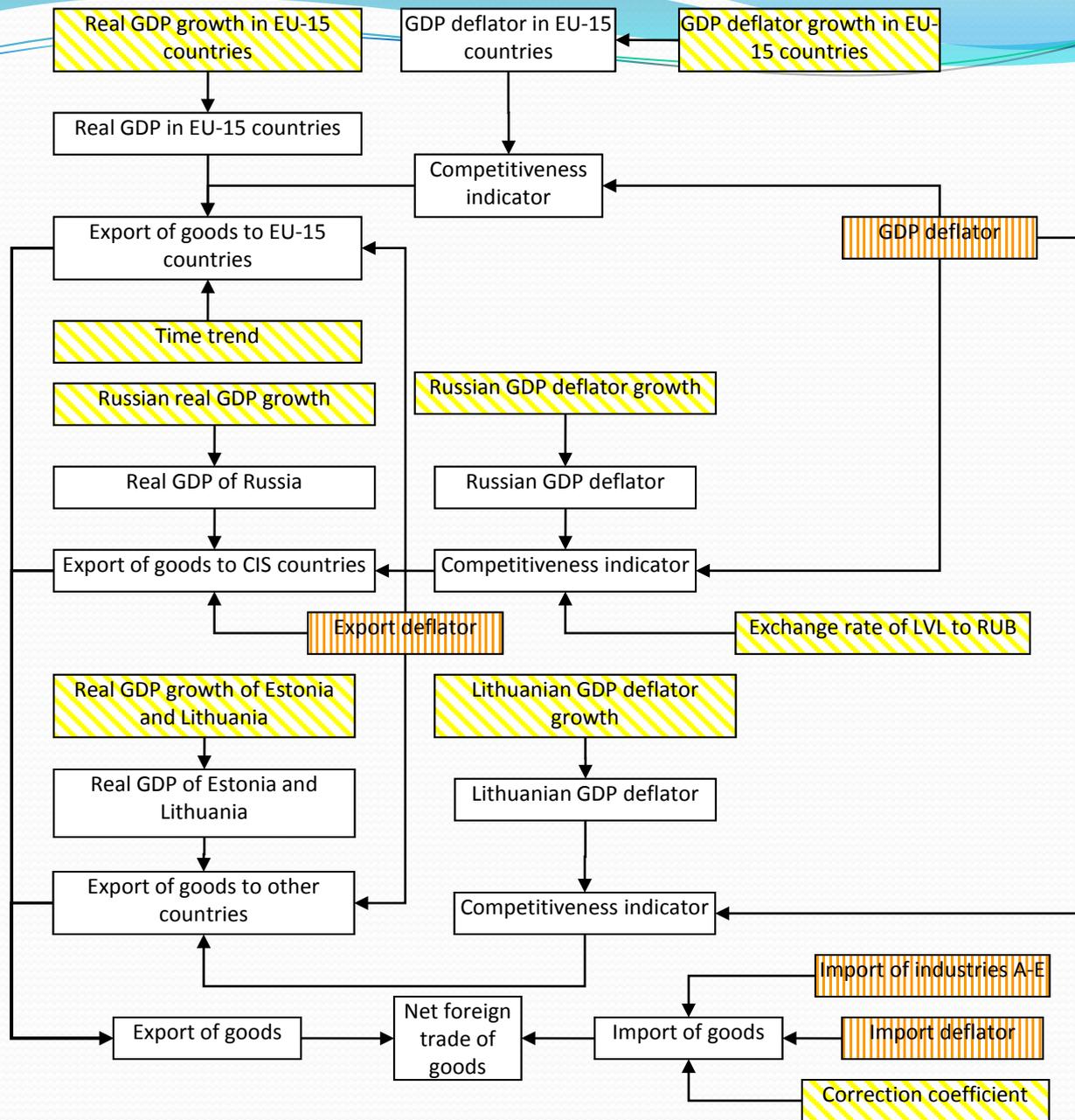


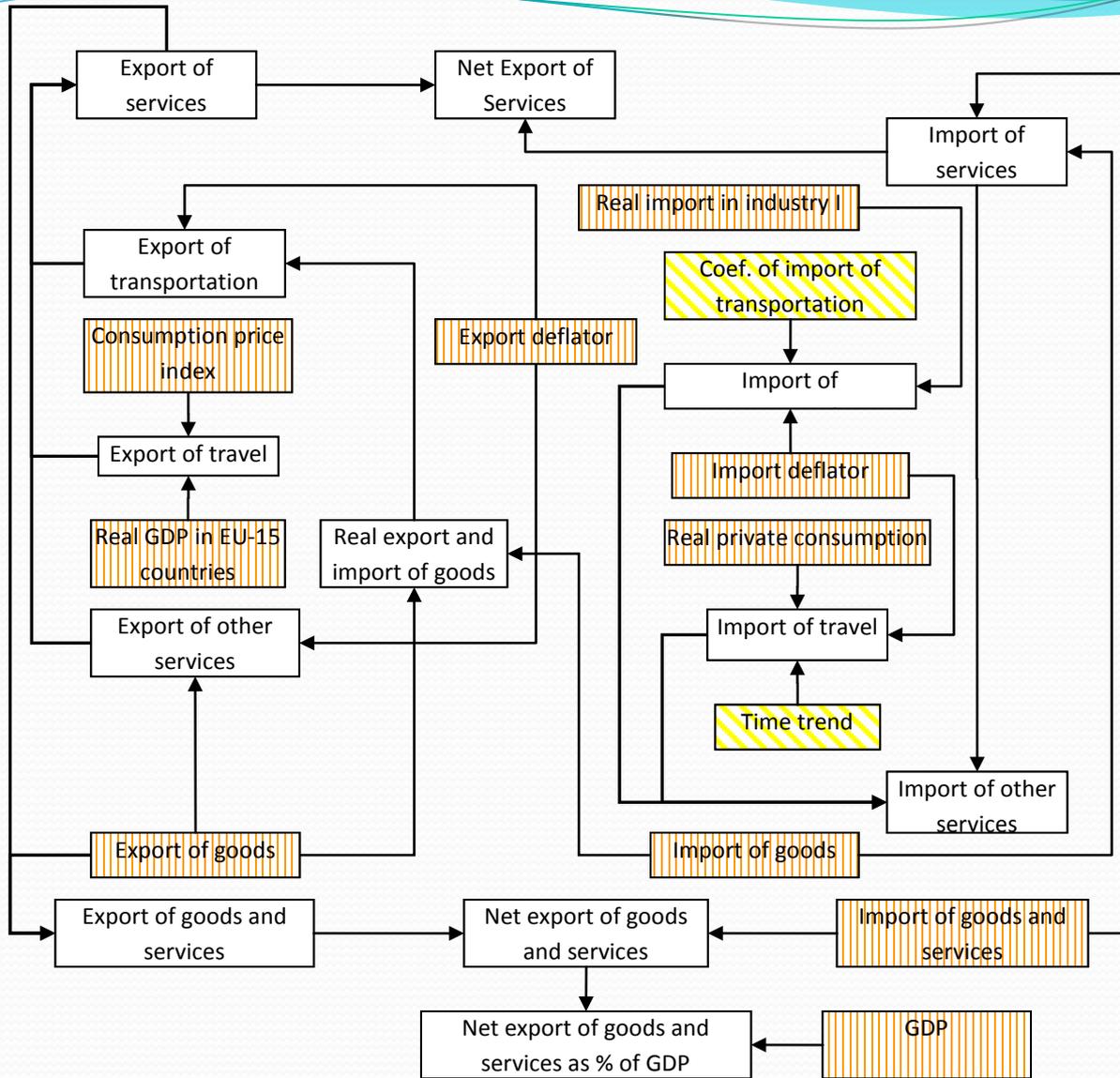


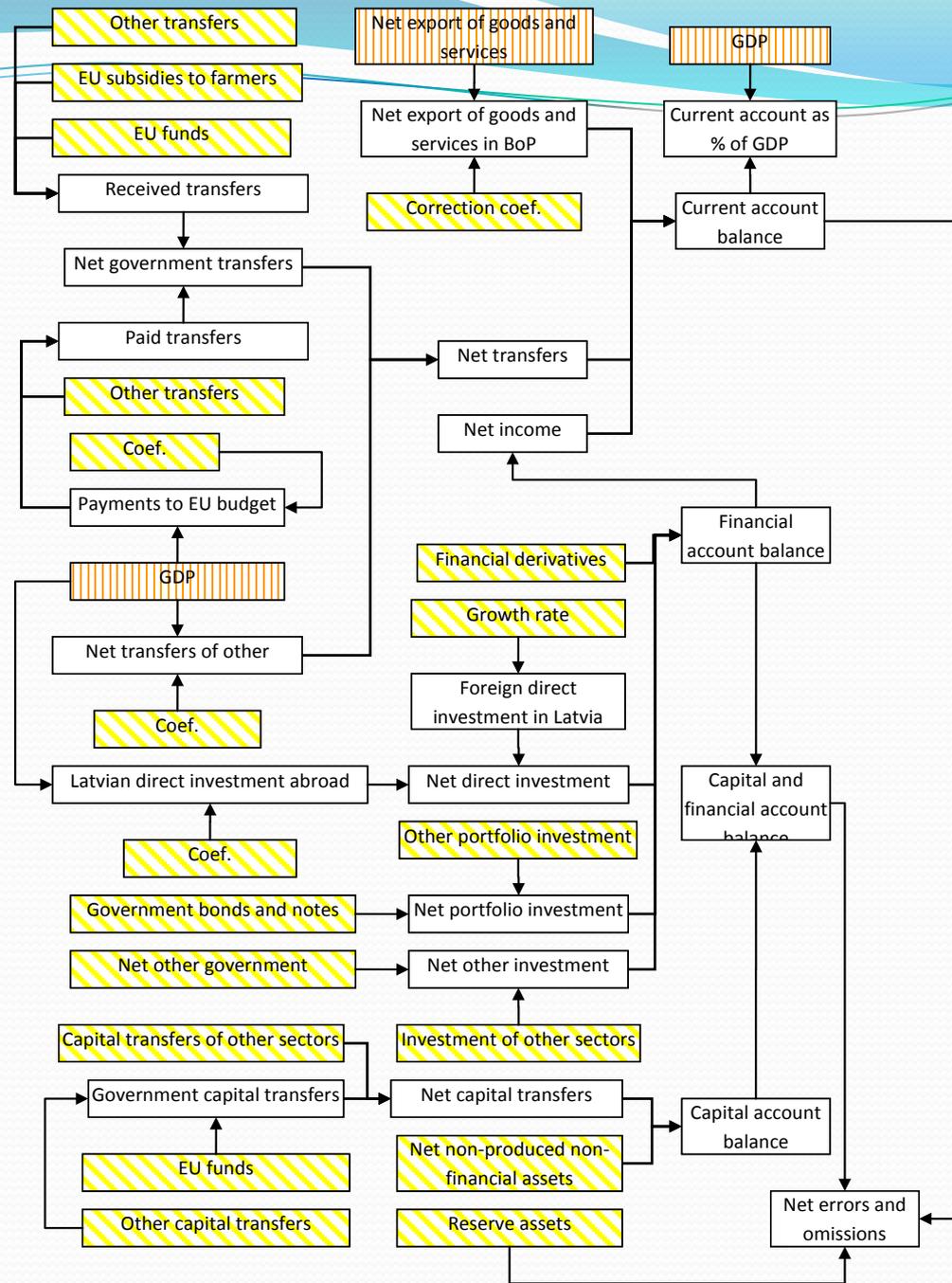


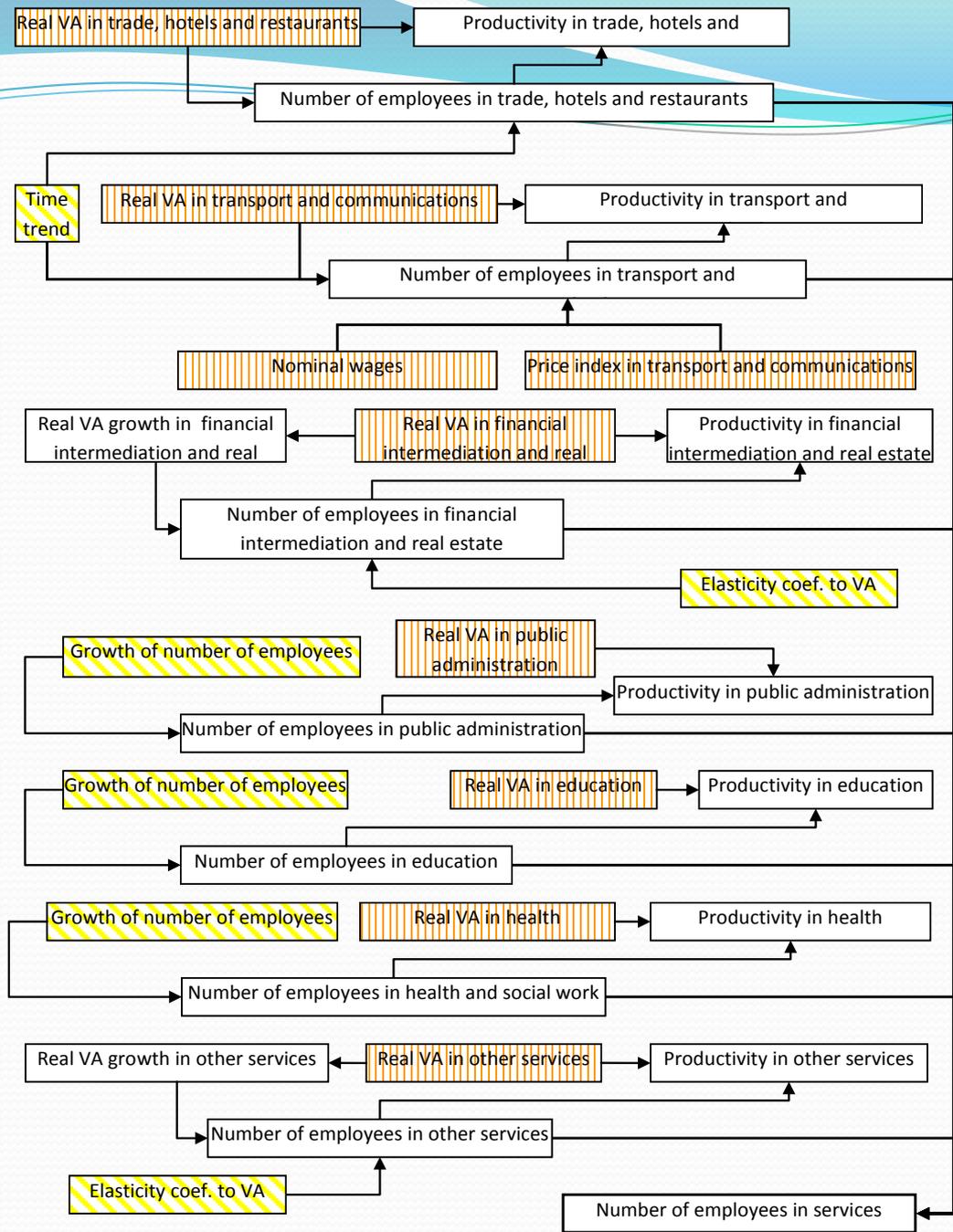


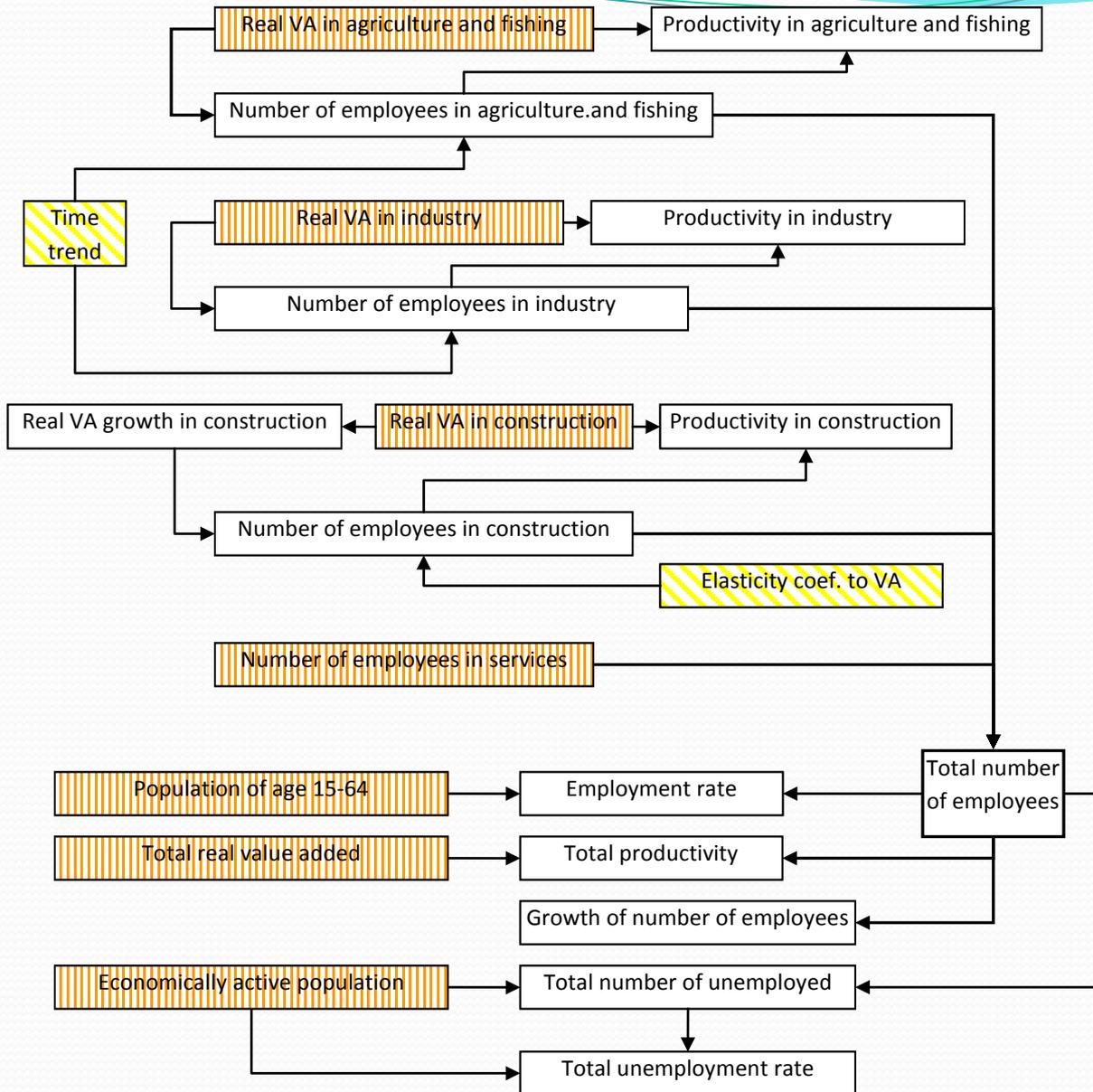


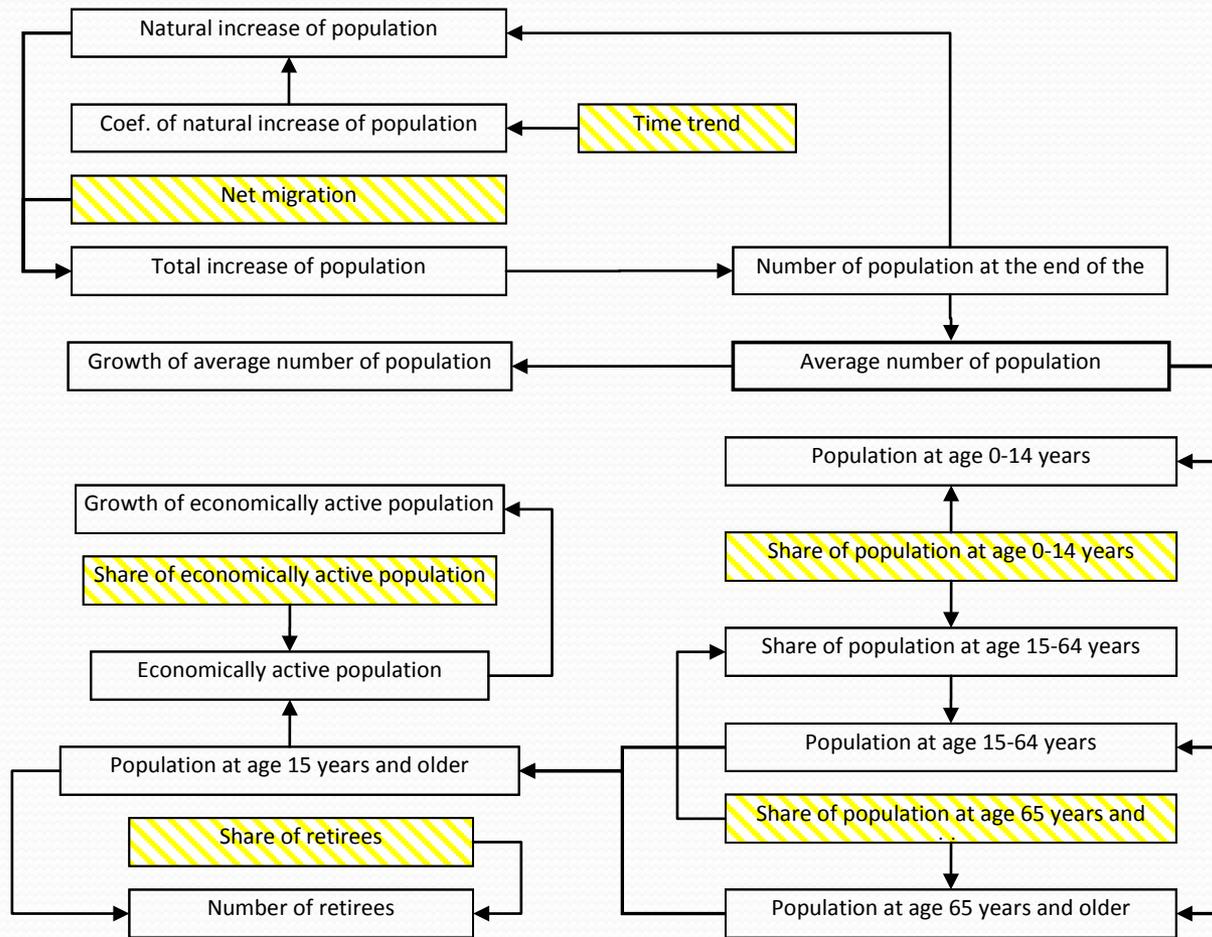


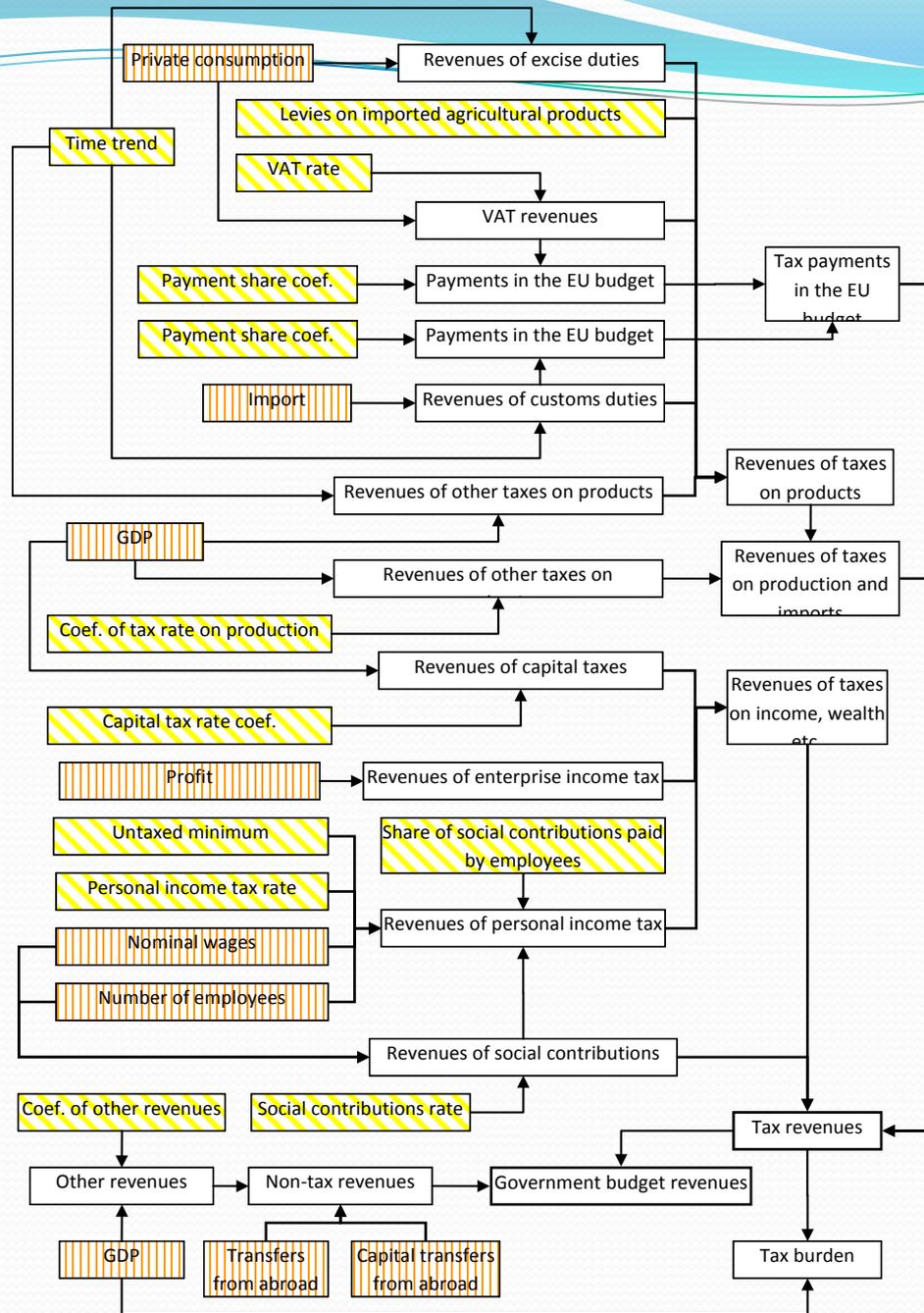


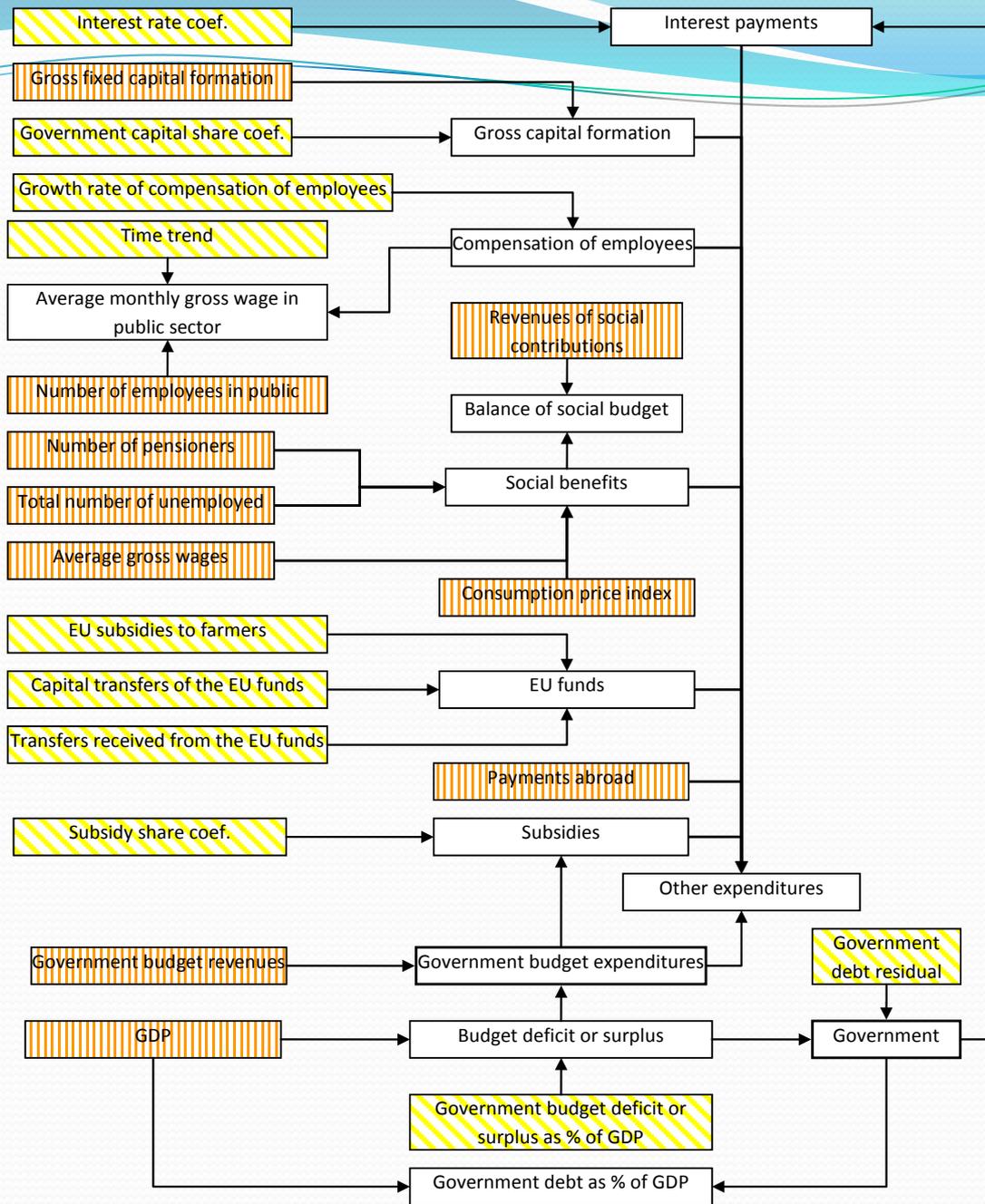


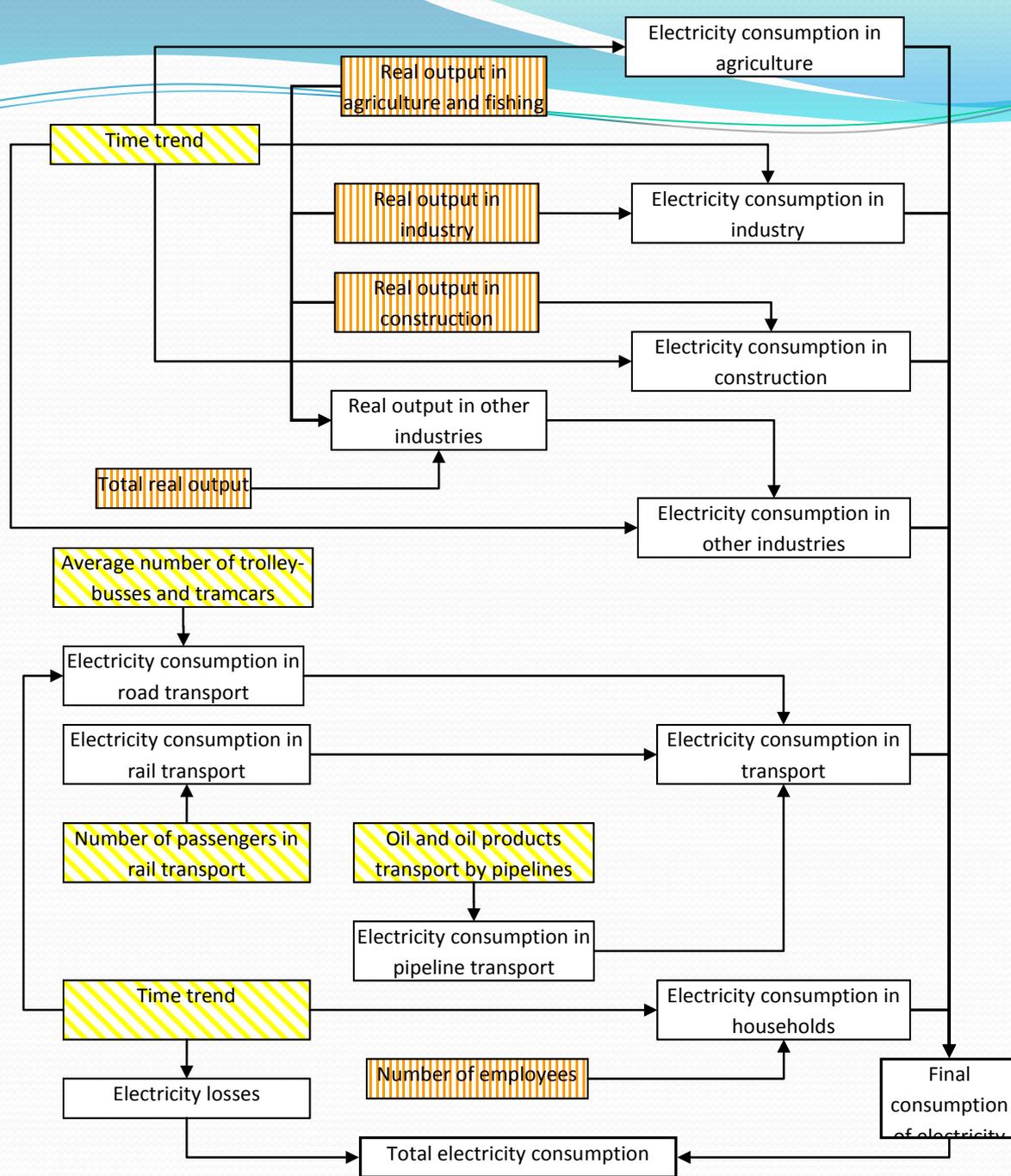












Model in Portable Dyme

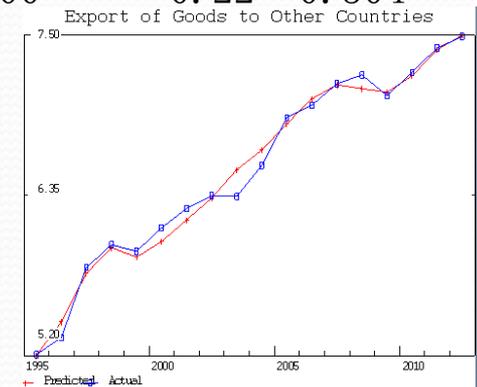
- Database
 - Not yet “German efficiency” – hist vs. calc
 - Too many re-runs

Model in Portable Dyme

- Regressions
 - Temporary variables vs. additional variables in data space – problems with different limits (2011/2012)
 - Does the sequence matters in `alleqn.reg`? How about coefficients?

Latvia's Macro-Econometric Model

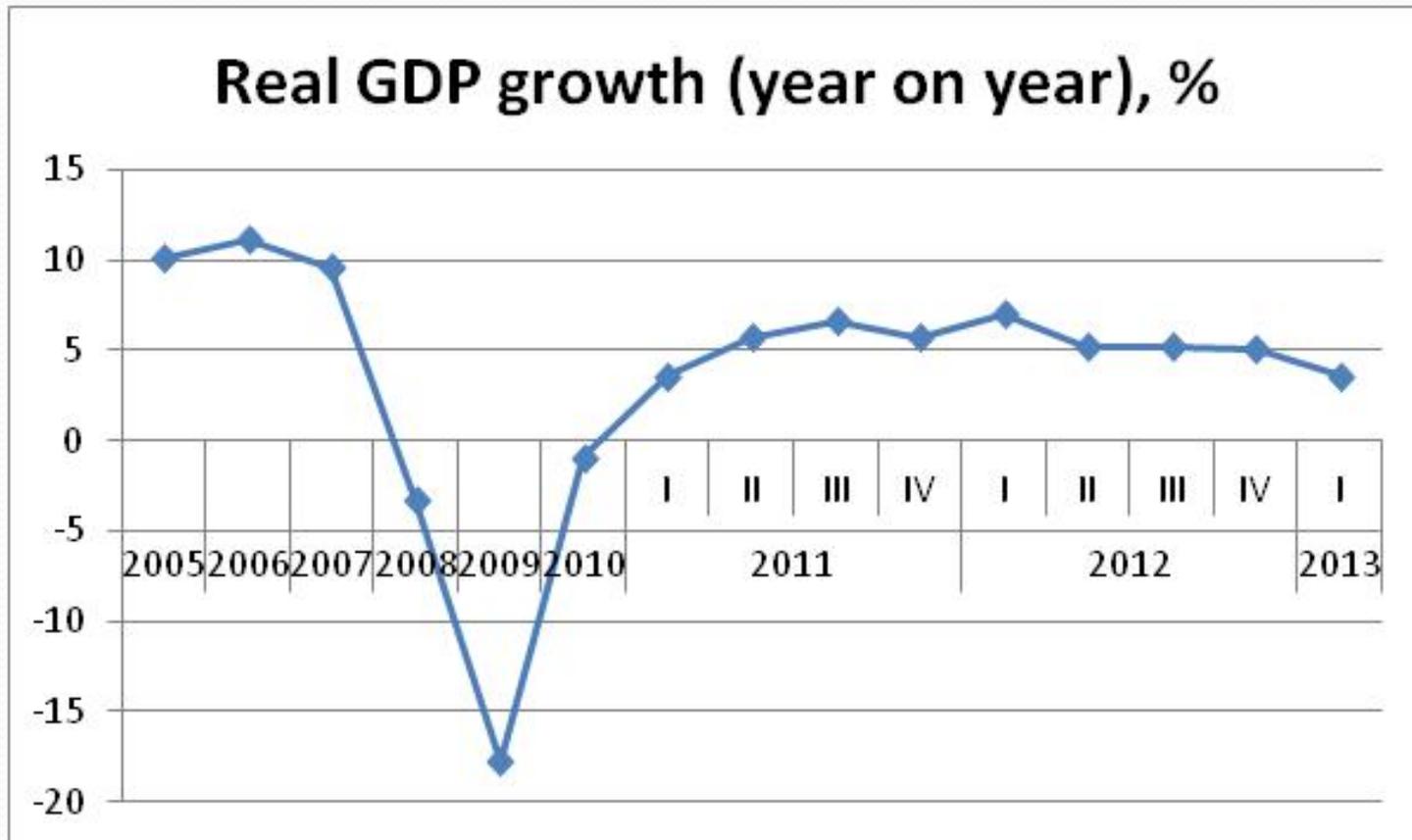
- Export of Goods to Other Countries
- SEE = 0.07 RSQ = 0.9882 RHO = 0.19 Obser = 18 from 1995.000
- SEE+1 = 0.07 RBSQ = 0.9857 DW = 1.62 DoFree = 14 to 2012.000
- MAPE = 0.87
- Variable name Reg-Coeff Mexval Elas NorRes Mean Beta
- 0 LEX_GOODS_OTH - - - - - 6.52 - - -
- 1 intercept -23.91665 215.1 -3.67 84.83 1.00
- 2 @log(GDP_EELT_FP) 3.04446 286.6 4.69 4.18 10.03 1.170
- 3 @log(PI_GDP/PI_LT_GDP) -1.56456 40.4 -0.03 4.06 0.14 -0.373
- 4 D_0911 0.49666 101.6 0.02 1.00 0.22 0.304



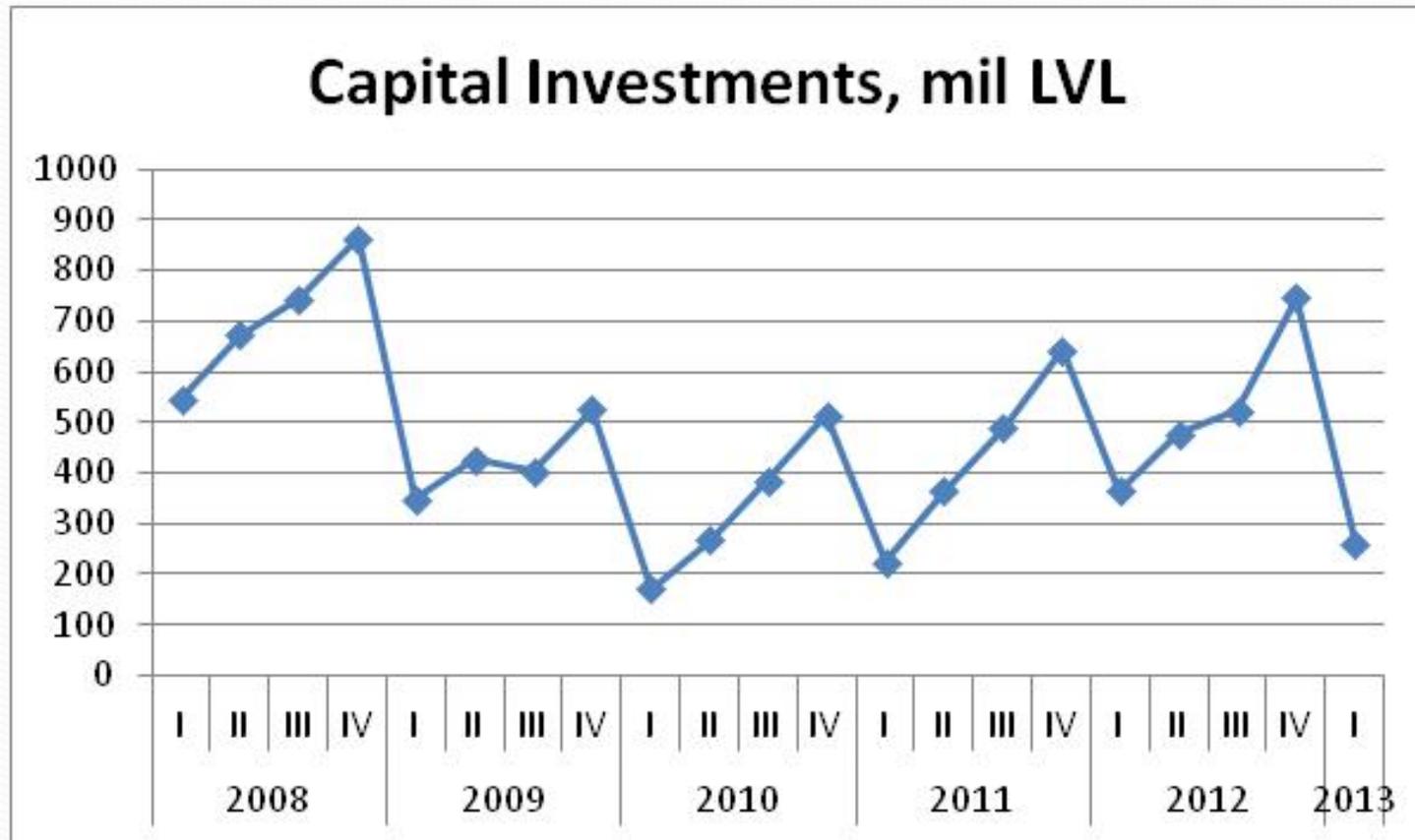
Model in Portable Dyme

- Model
 - Many things to forget
 - Double information/missing information

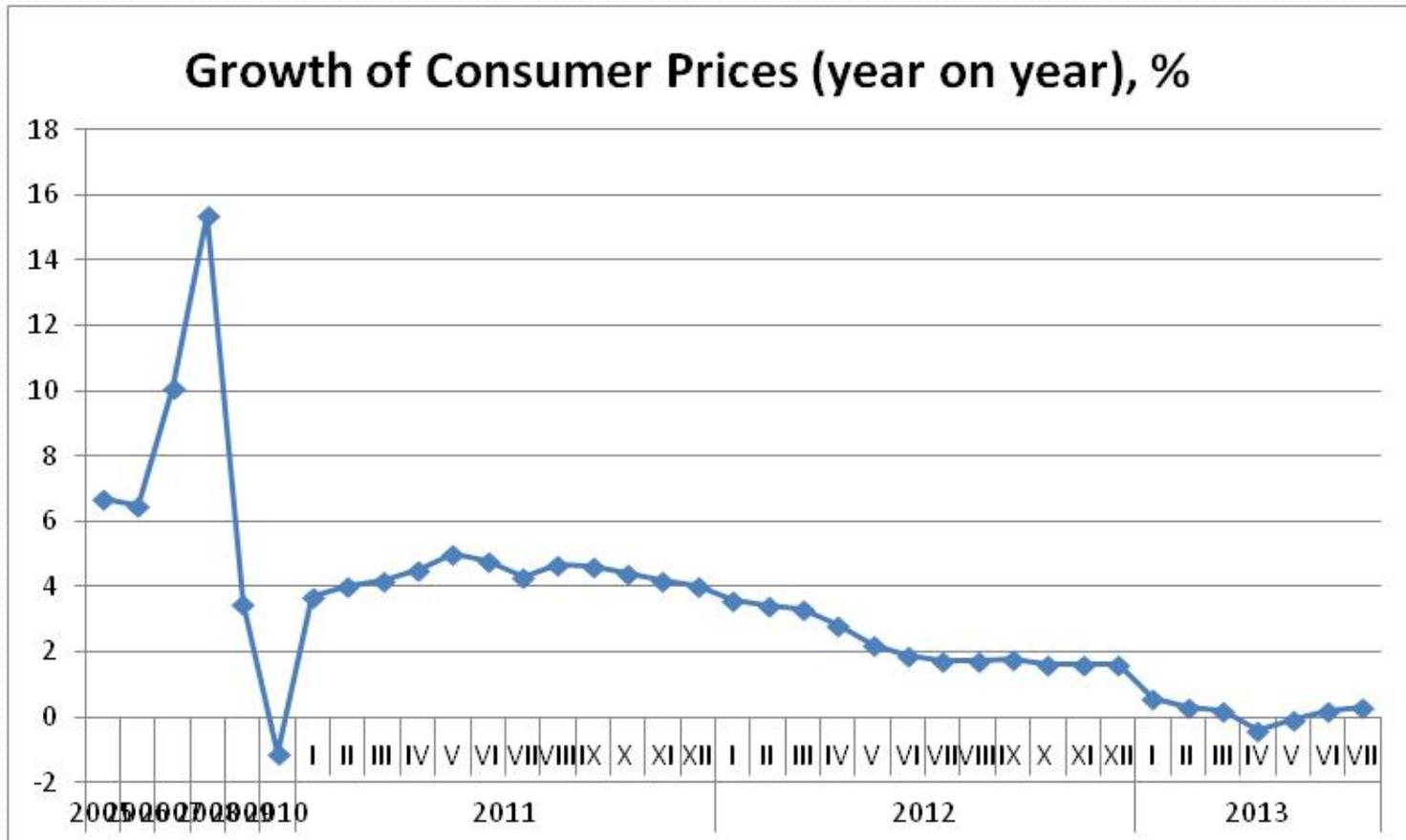
Economic Development of Latvia



Economic Development of Latvia



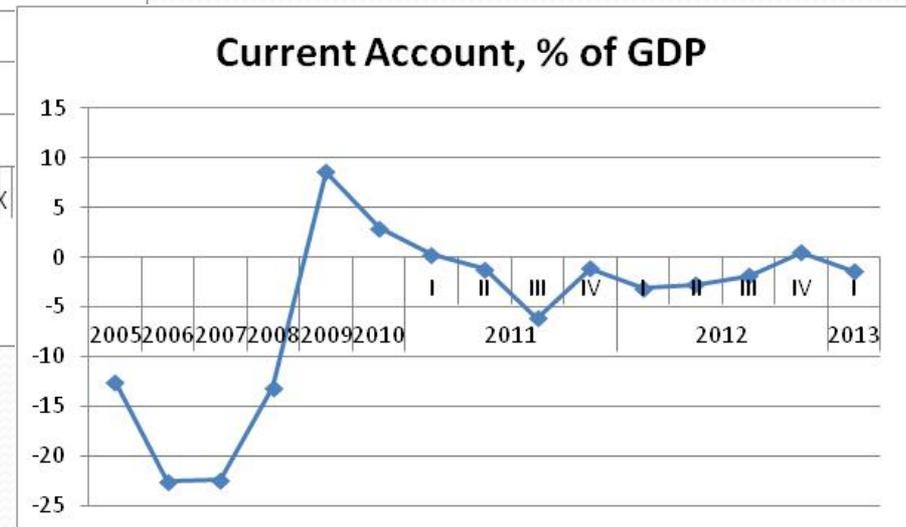
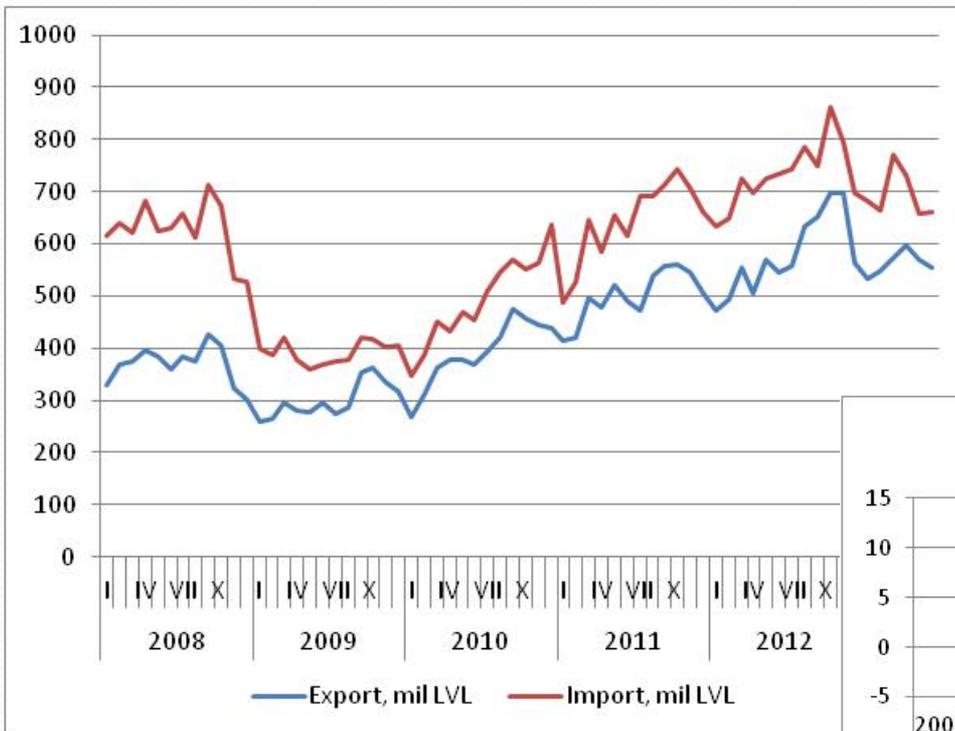
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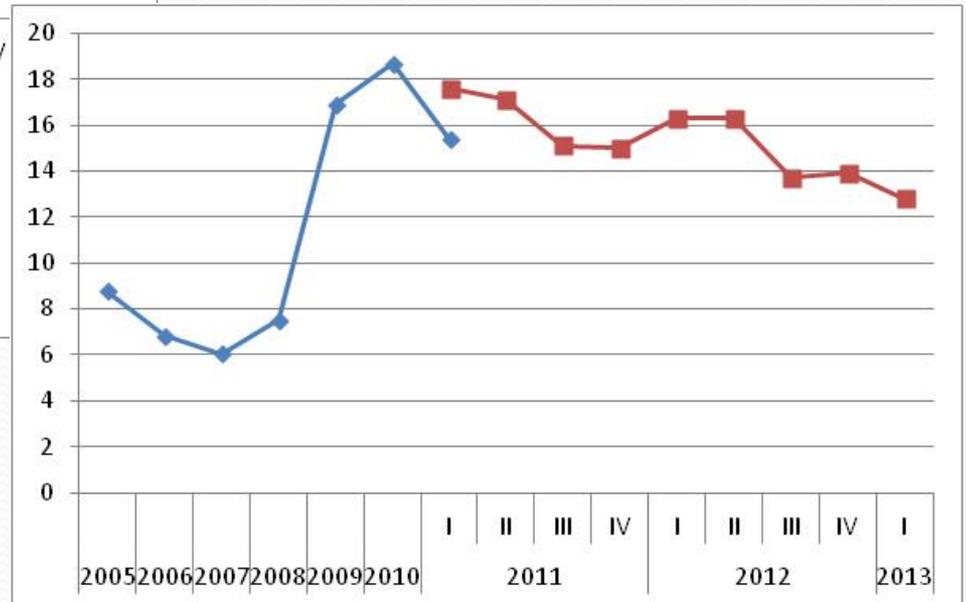
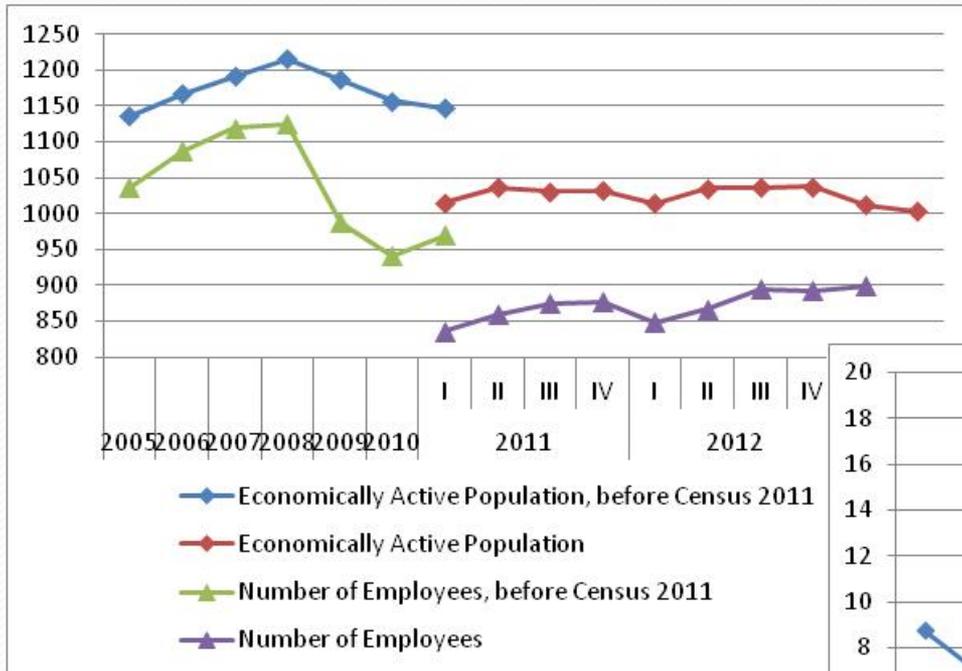
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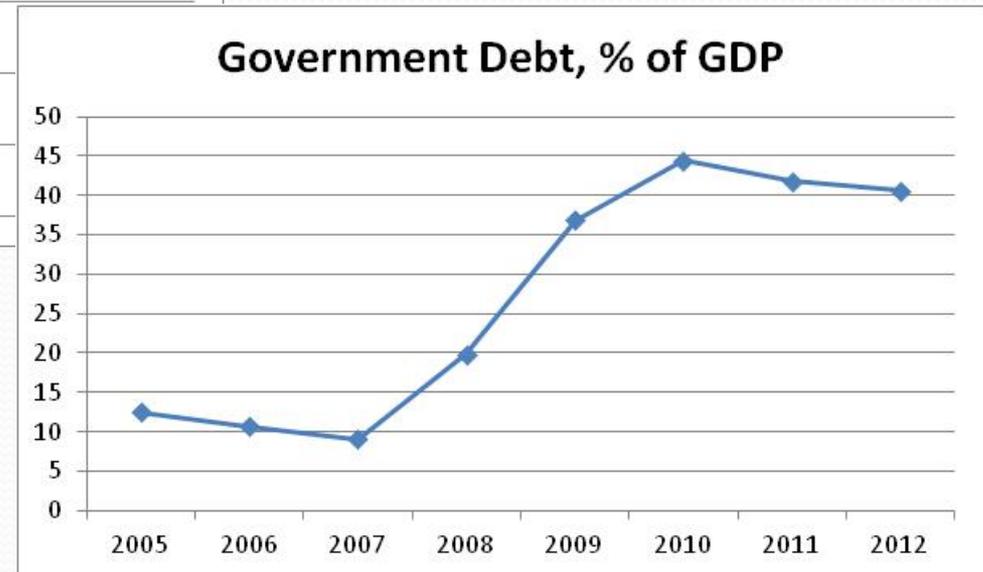
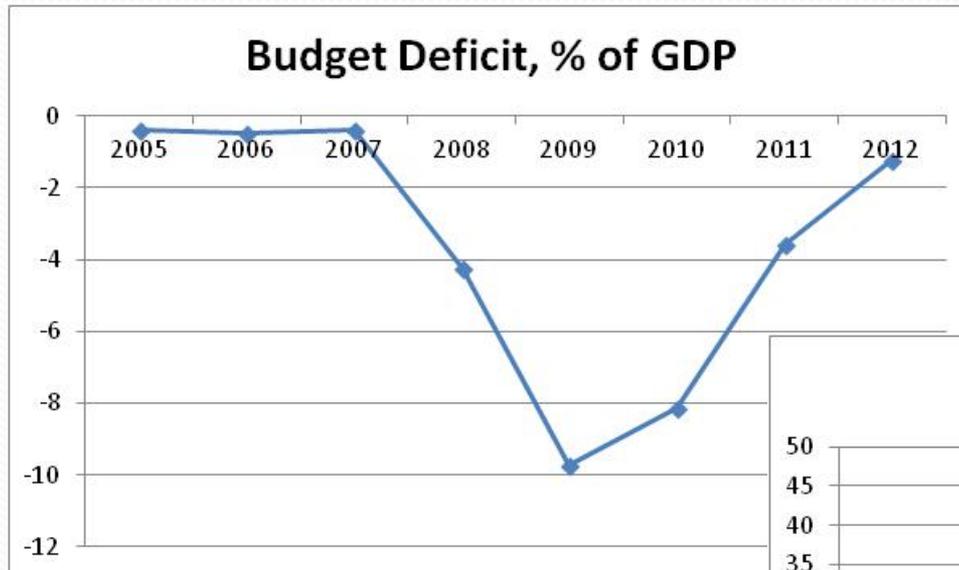
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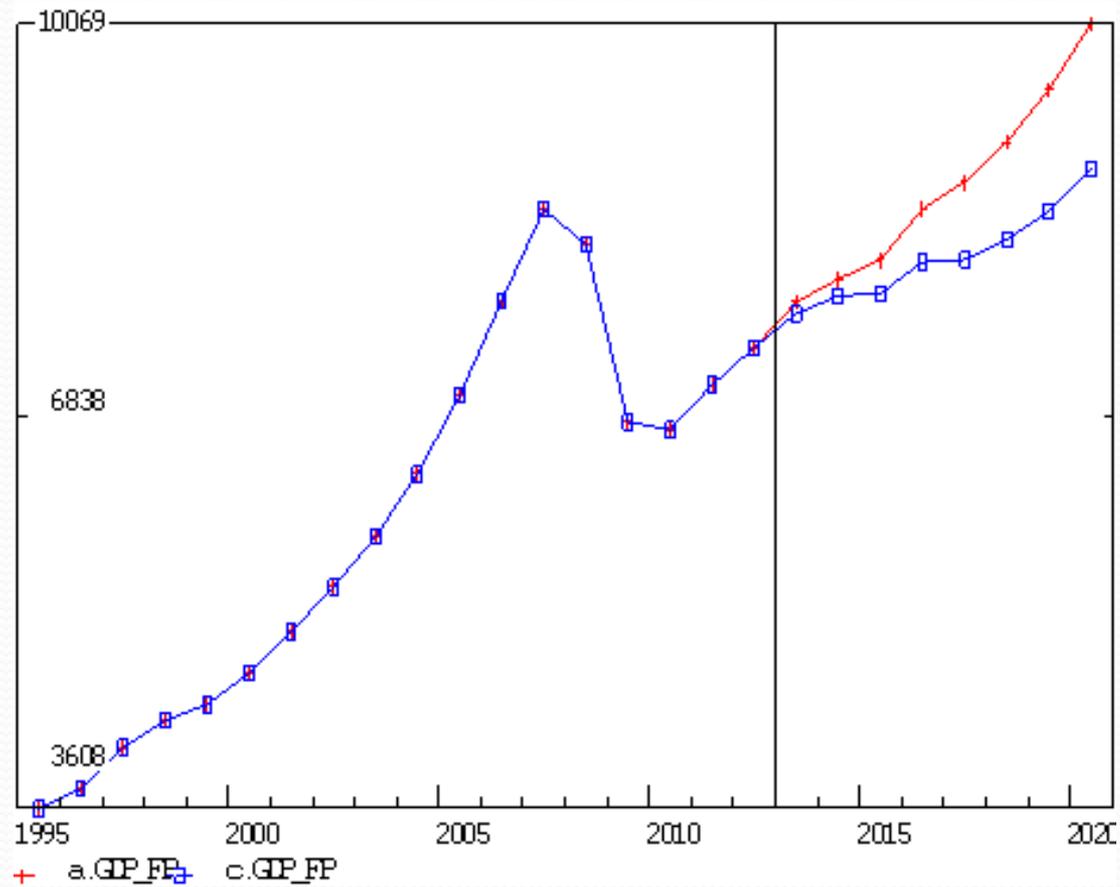
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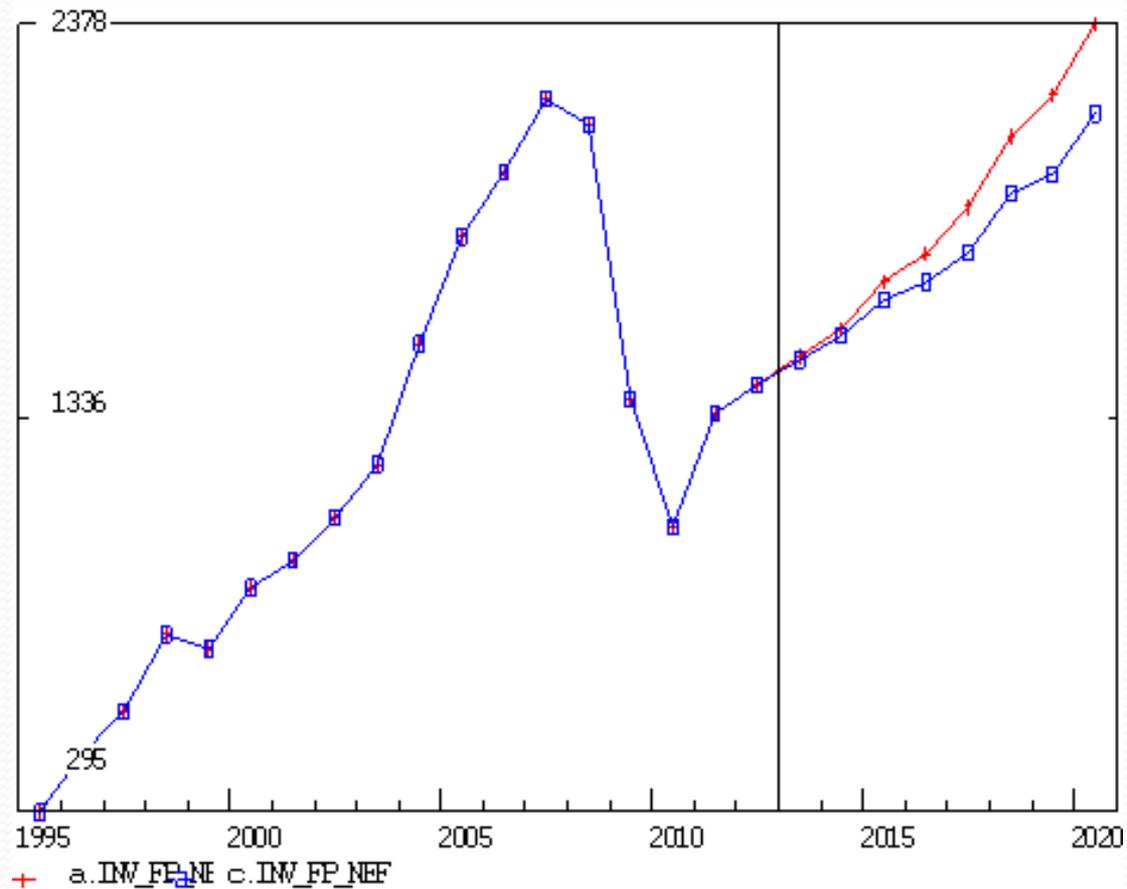
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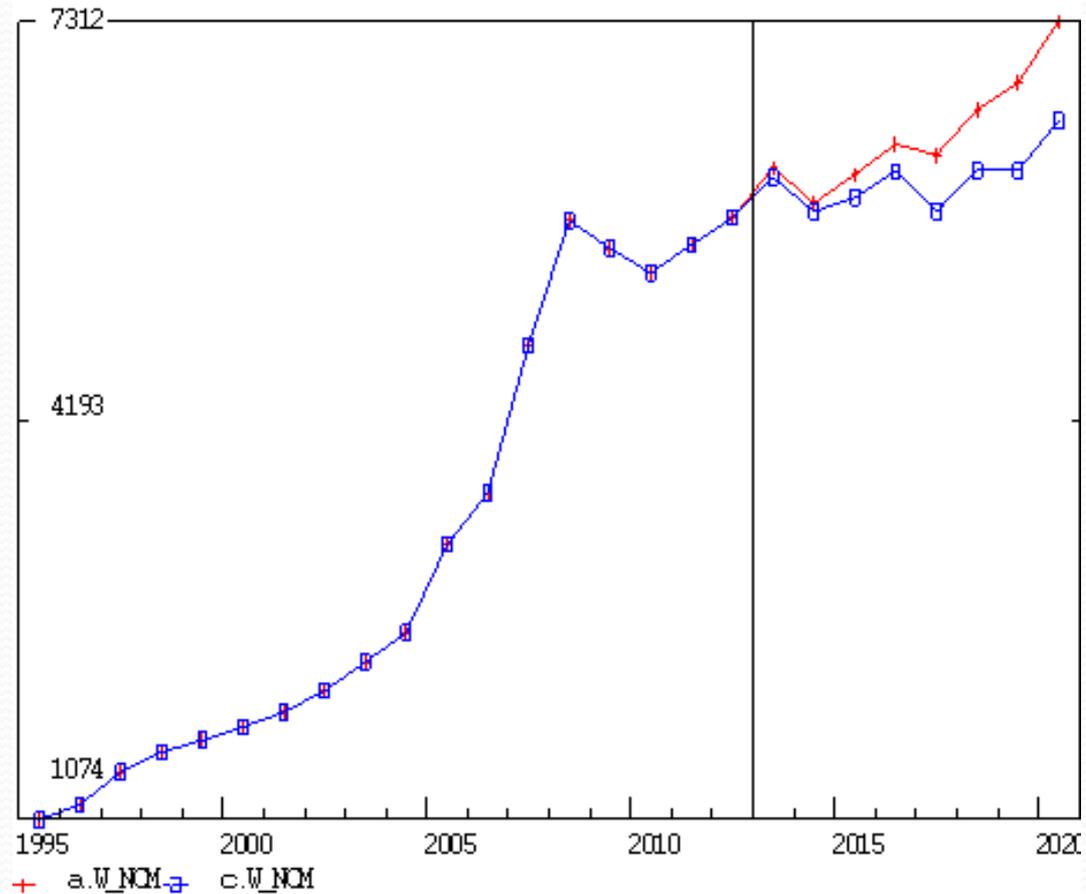
Results: Real GDP



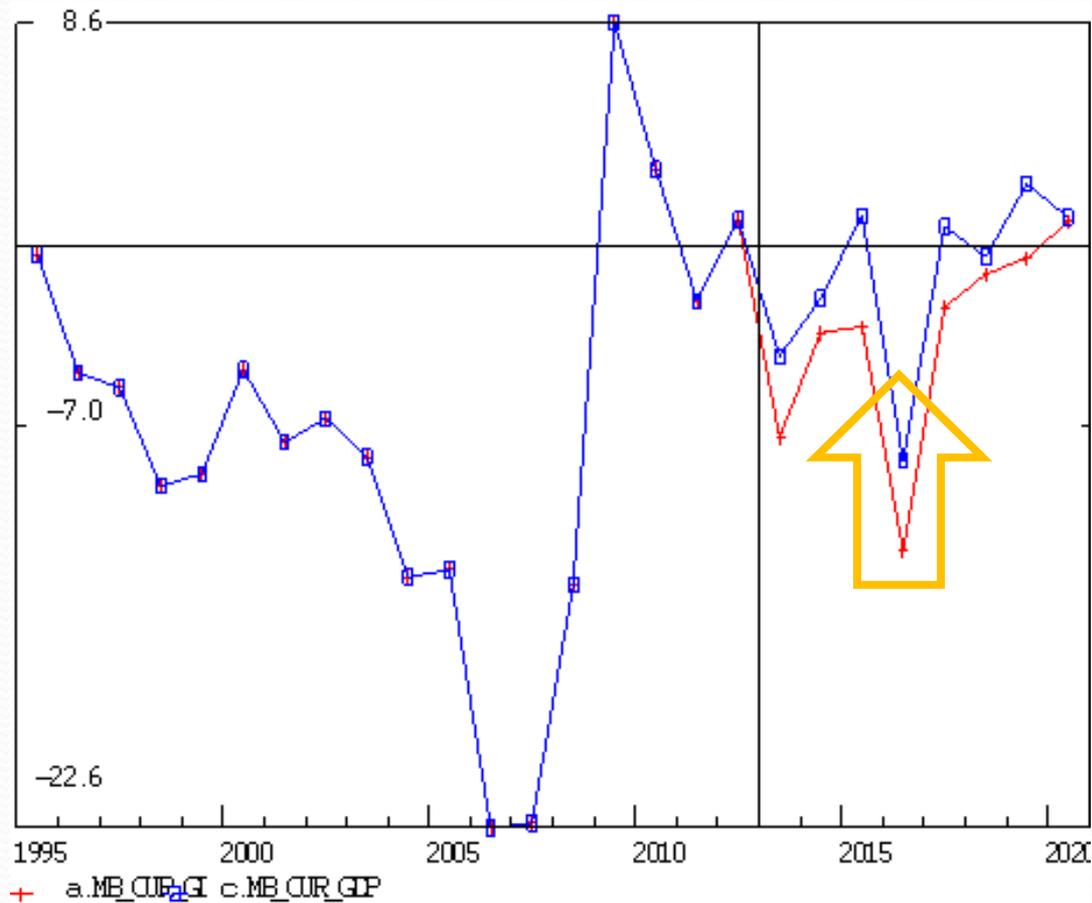
Results: Real Capital Investments



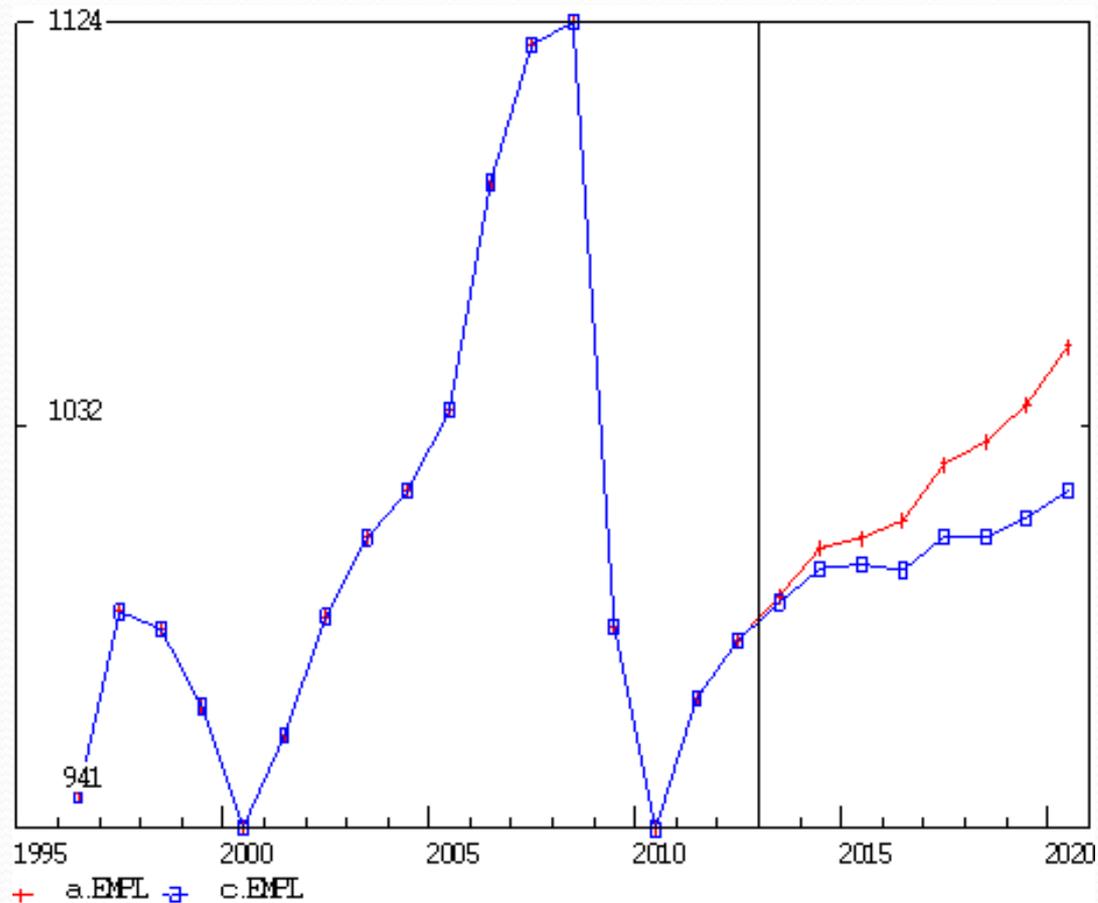
Results: Nominal Wages



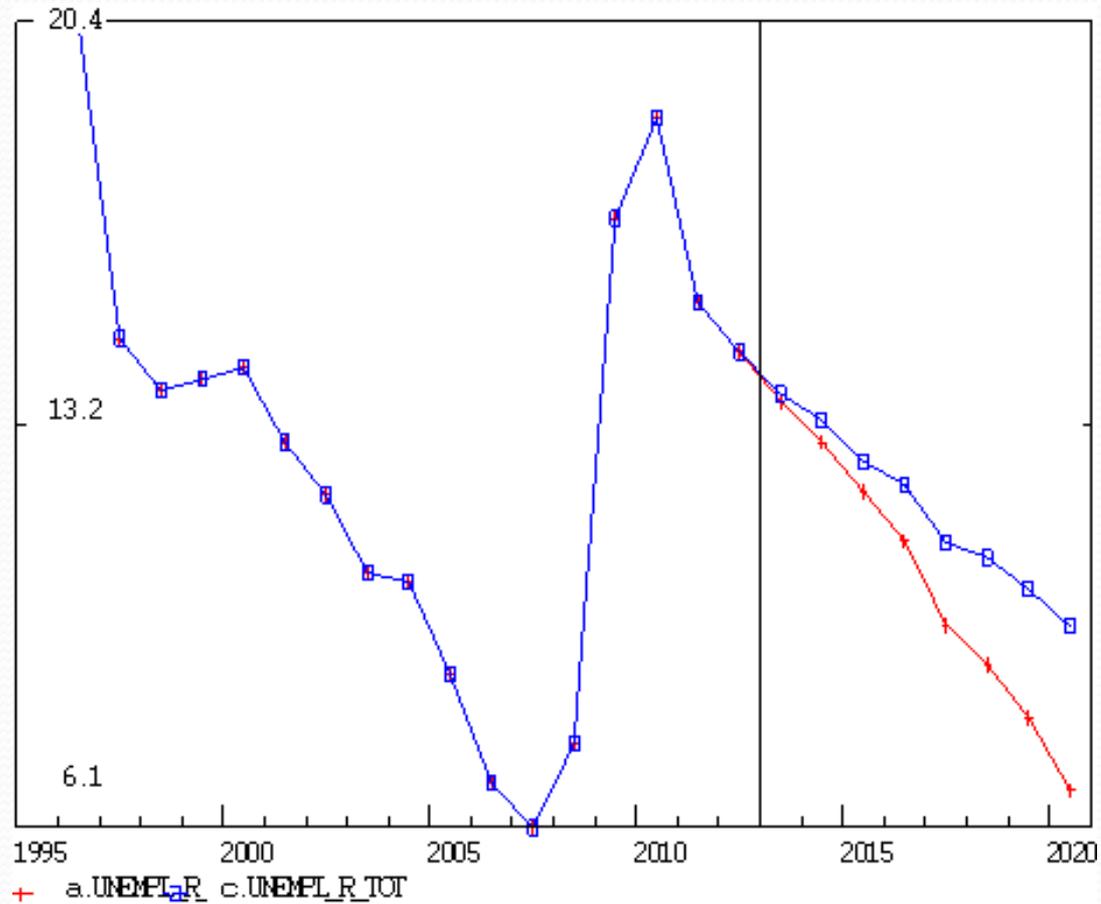
Results: Current Account, % of GDP



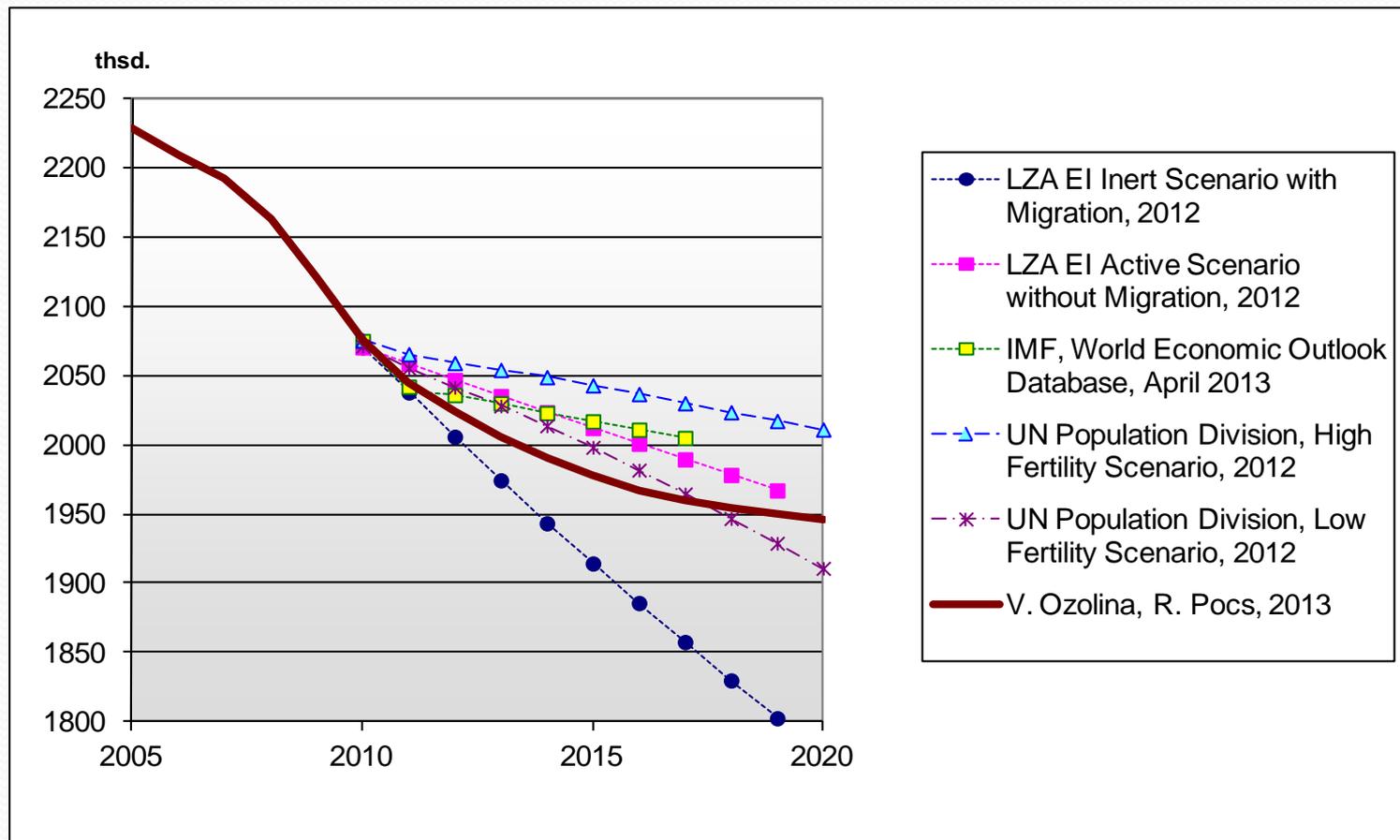
Results: Number of Employees



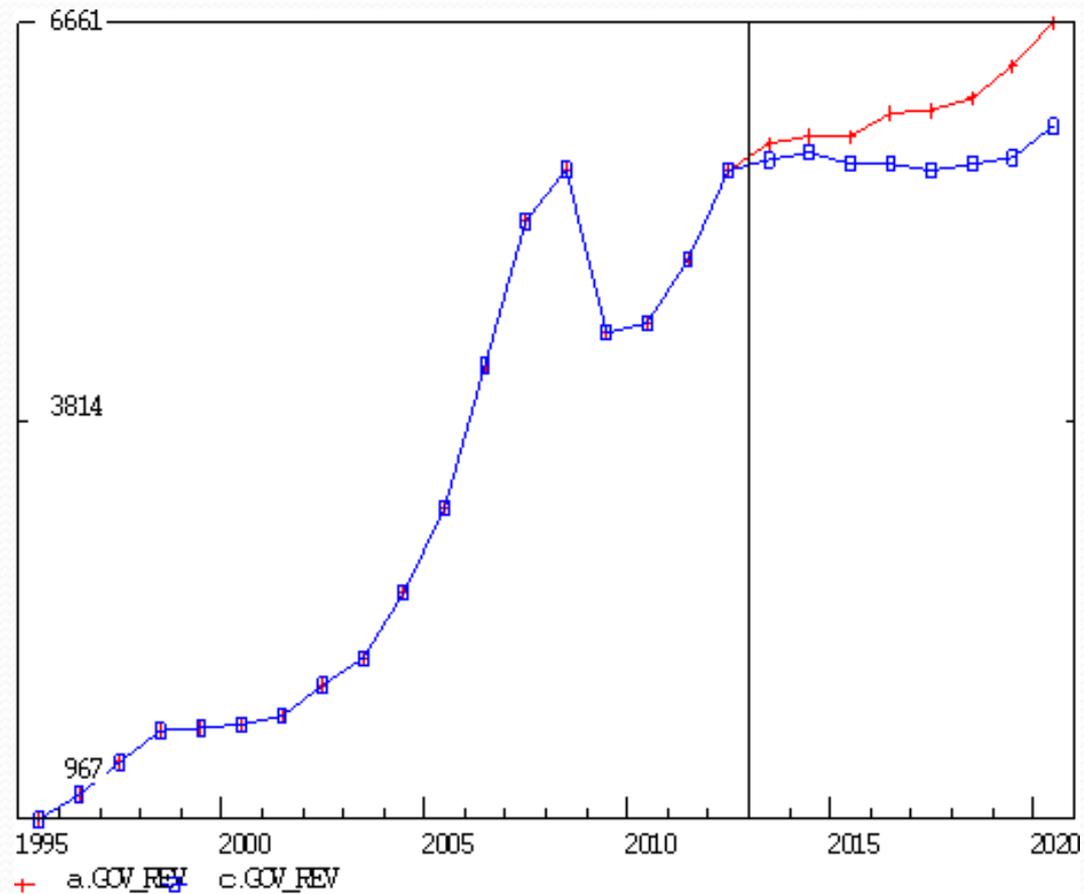
Results: Total Unemployment Rate



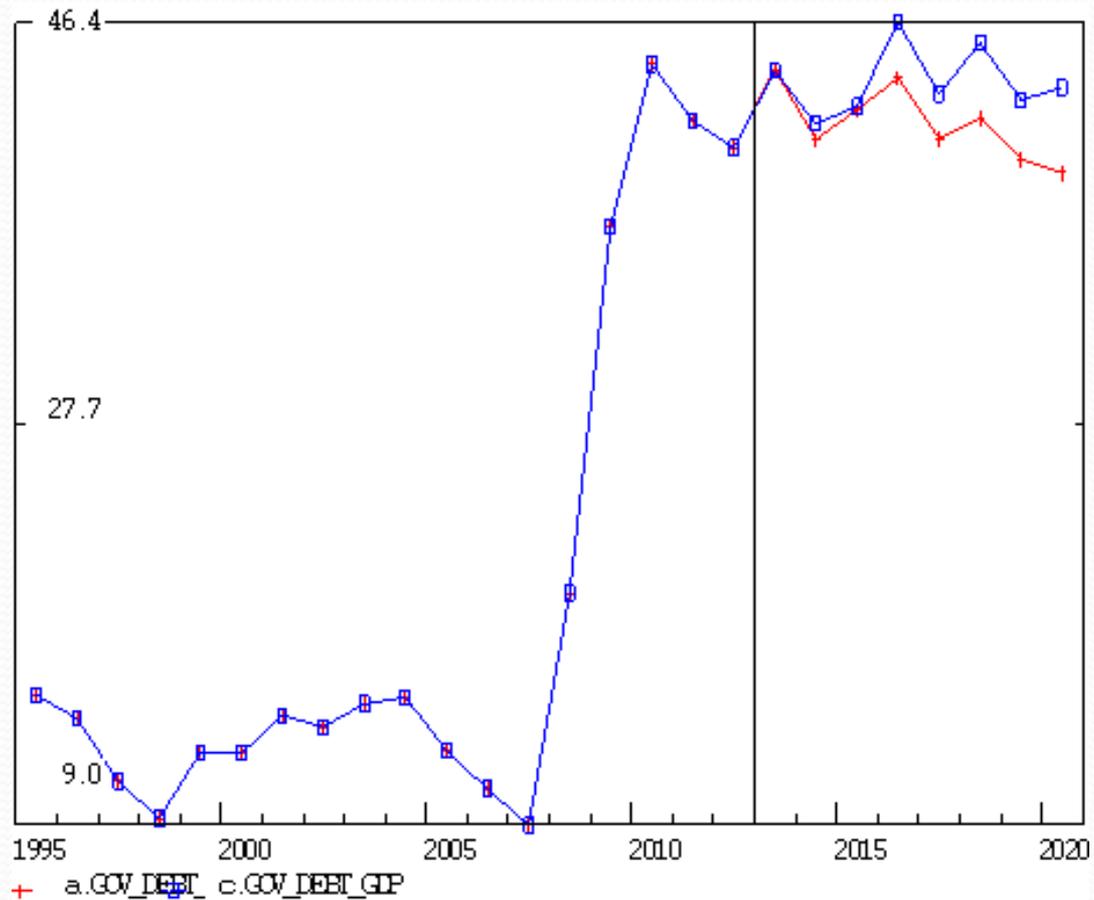
Results: Population



Results: Government Revenues



Results: Government Debt, % of GDP



Results: Electricity Consumption

