

E3MG: Assessing the crisis with a sectoral econometric model

Modelling, forecasting and resolving the 2008 global recession: a comparison of annual macroeconomic global projections 2009 to 2012 (and to 2020 and later)

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www.e3mgmodel.com

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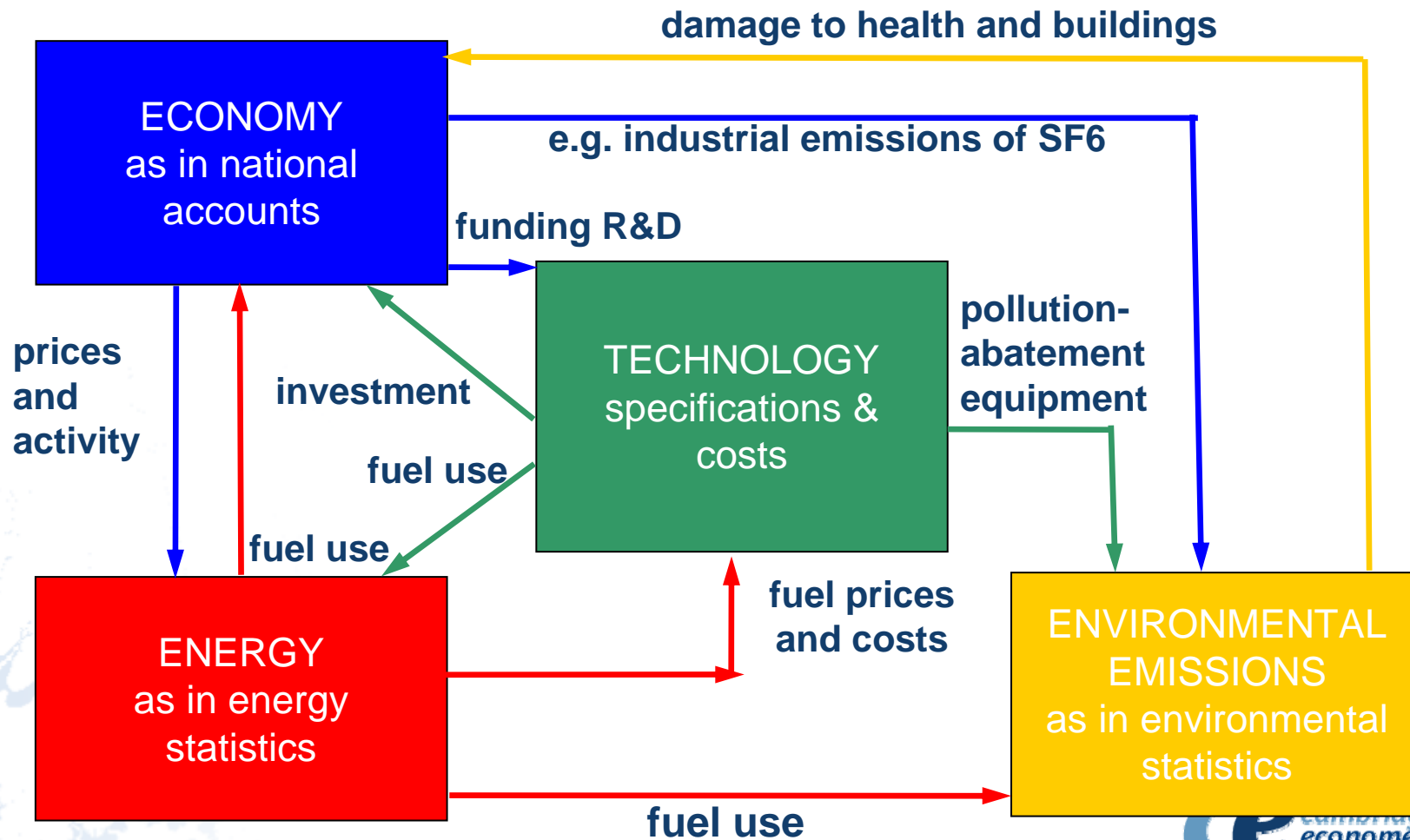
Overview

- **Introduction to the E3MG model**
- **Basic methodology**
- **Empirical results**
- **Brief conclusions**

Introduction to E3MG

- **Econometric model**
 - global coverage through 20 world regions (13 of which are single countries)
 - based on the system of national accounts
 - includes intermediate and all components of final demand
 - detailed treatment of the labour market
 - 22 stochastic equation sets, also covering energy and prices
 - large sectoral disaggregation: 42 industries, 28 consumption categories
 - long and short-term specification
- For more details see www.e3mgmodel.com

E3MG: E3 Links



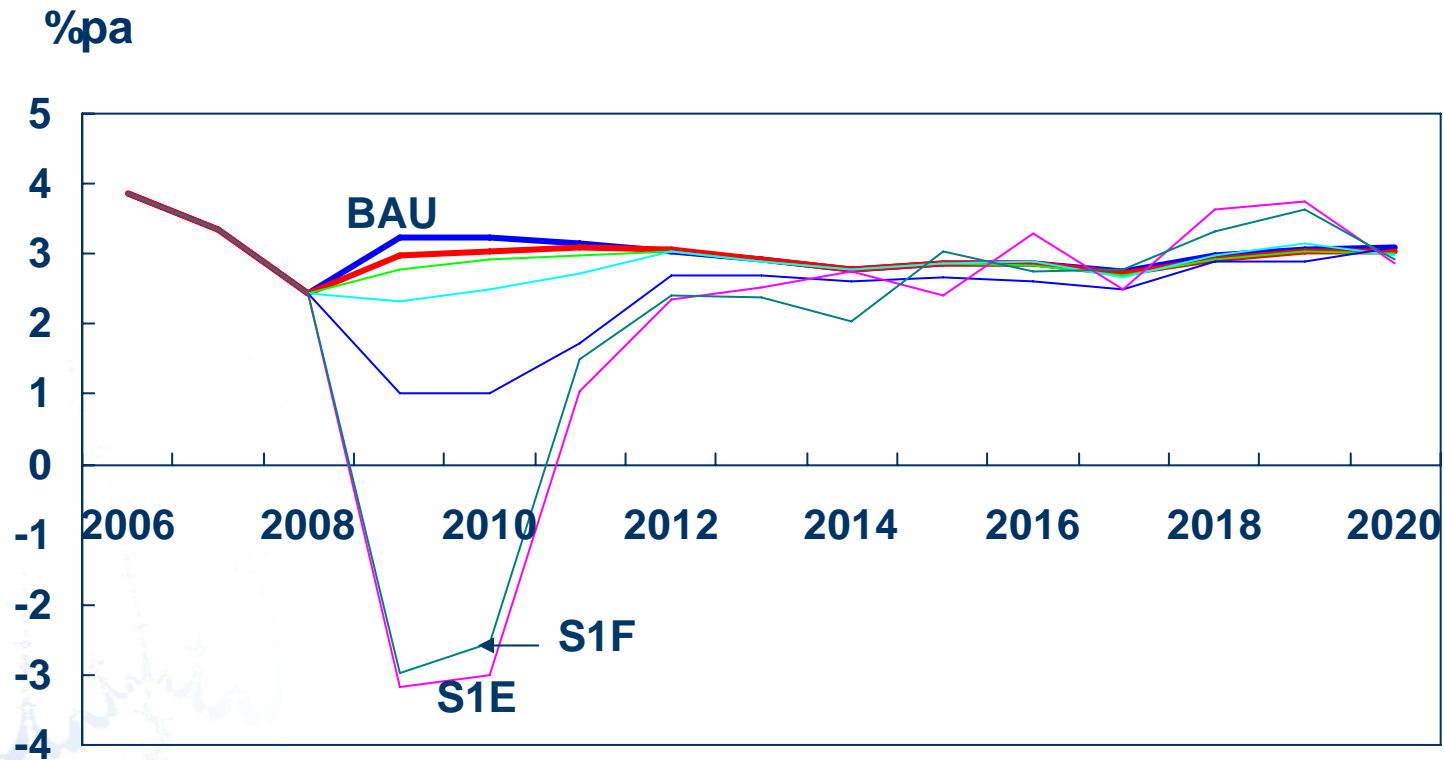
General methodology

- **E3MG was used to form a set of projections, giving a business as usual case**
- **A set of scenarios was set up to capture the effects of the financial crisis**

General methodology (cont)

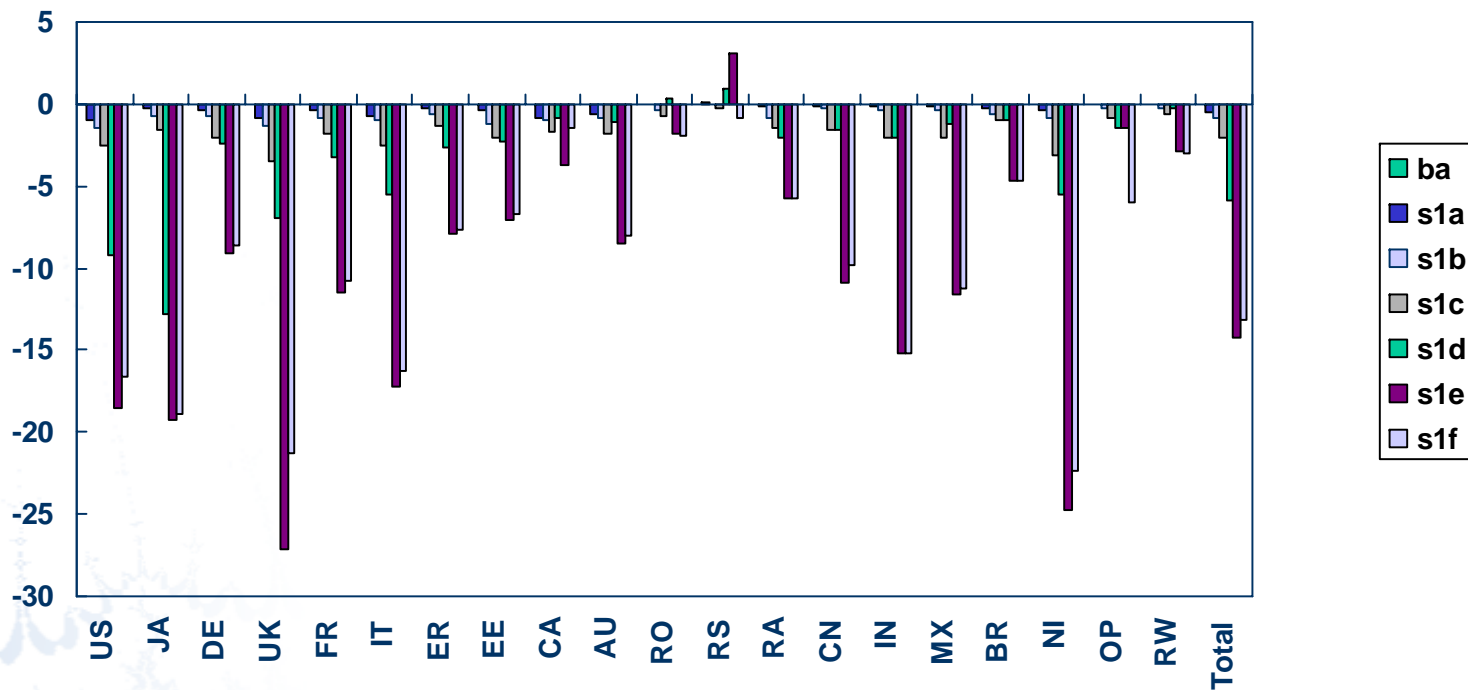
- **Business as usual**
- **Scenario 1a (banks cut back on expenditure)**
 - 25% reduction in investment in banking sectors
 - 12.5% reduction in employment in banking sectors (only in market economies)
- **Scenario 1b (banks push for higher saving)**
 - as scenario 1a plus..
 - Increase in saving ratio by 0.5pp
- **Scenario 1c (lower access to credit)**
 - as scenario 1b plus..
 - 5% reduction in all private sectors investment (exception in agriculture, retailing and miscellaneous services in non-Annex1 regions)
- **Scenario 1d (saving ratios return to normal)**
 - as scenario 1c plus..
 - saving ratio returns to 2000 level in US, UK, FR, IT and ER
- **Scenario 1e (economic uncertainty limits investment)**
 - as scenario 1d plus..
 - 38% reduction in all private sectors investment (exception in agriculture, retailing and miscellaneous services in non-Annex1 regions)
 - Except OPEC and Russia
- **Scenario 1f (oil price falls)**
 - as scenario 1e plus..
 - oil price falls to around \$60/ barrel
 - OPEC and Russia investment falls with oil price

Results: Global GDP growth rates



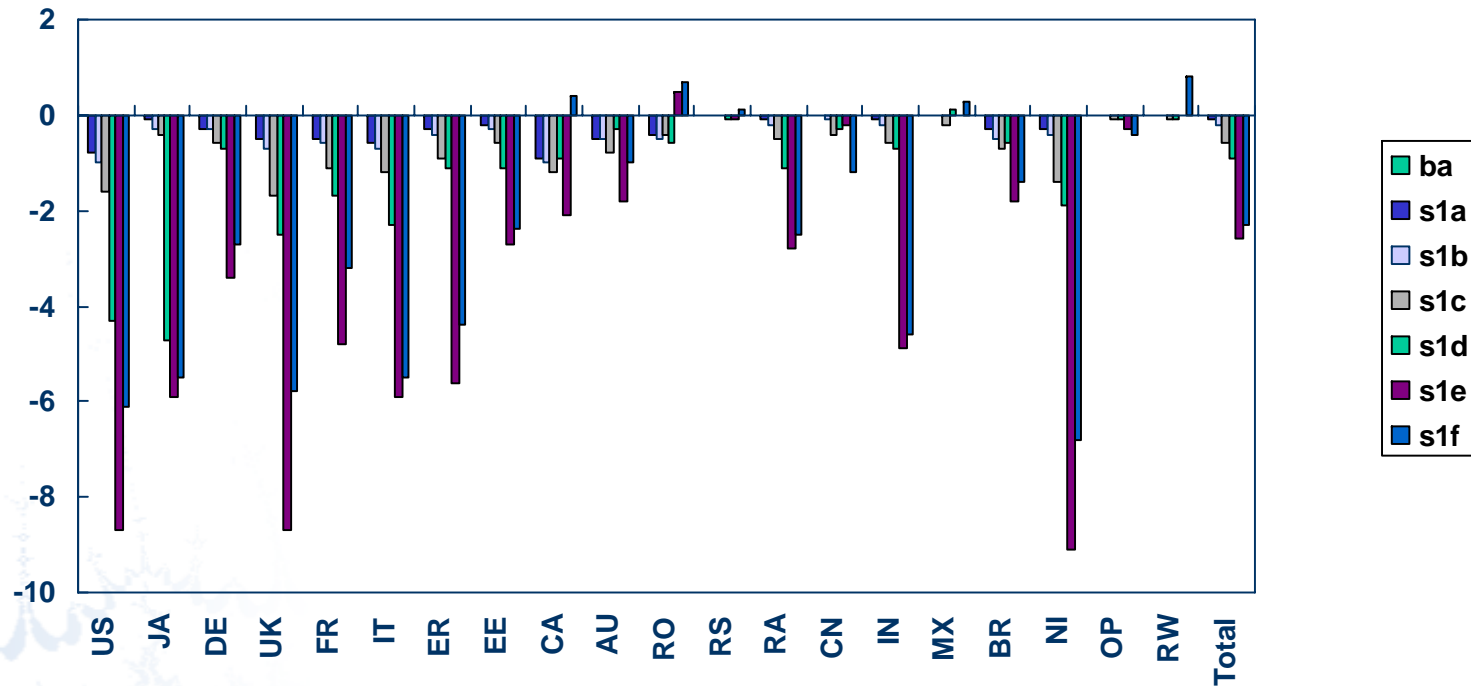
Results: GDP in 2012

% differences
from BAU



Results: Employment in 2012

% differences
from BAU



Brief Conclusions

- **The factors that were modelled could cause a fall in world GDP in 2009 if there is no policy intervention**
- **The countries most affected:**
 - have large financial sectors
 - produce investment goods
 - have very low current rates of saving