The Euro Area's pandemic recession: A DSGE-based interpretation

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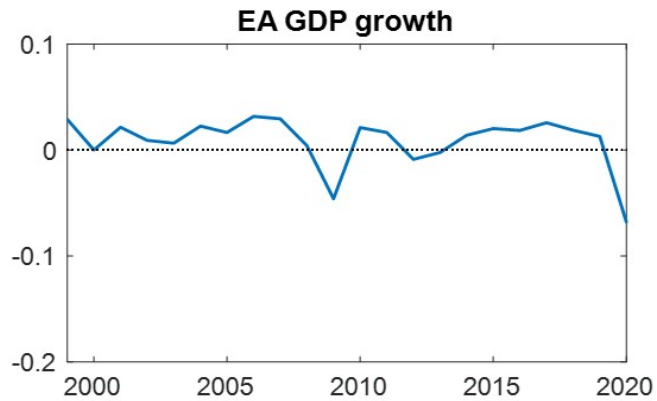
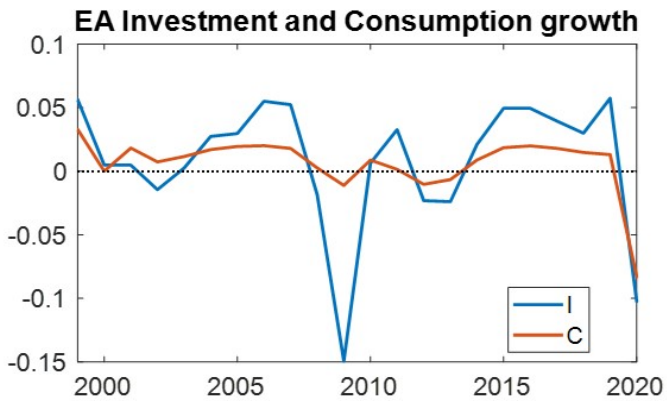
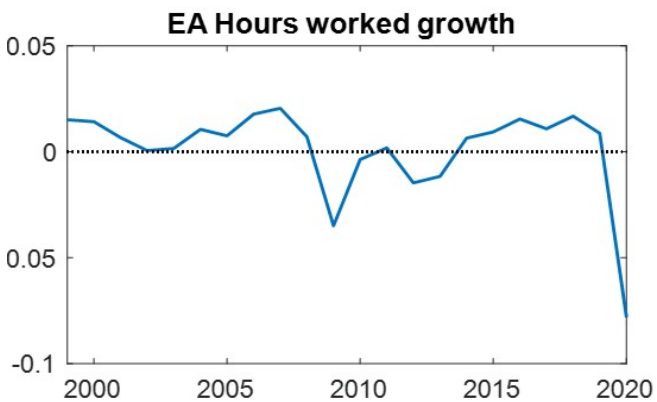
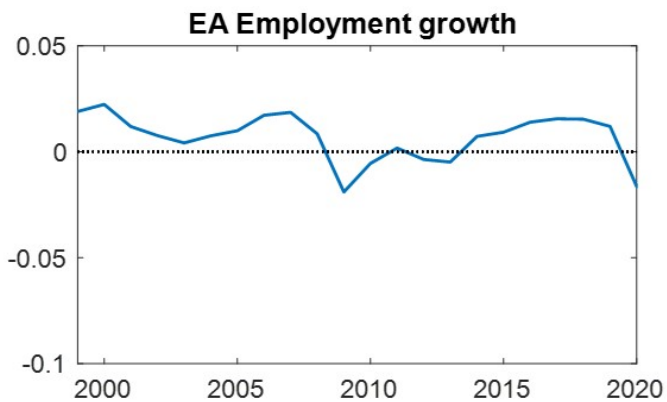
COVID-19 crisis: why so different?









Source: Ameco

Policy support during the pandemic

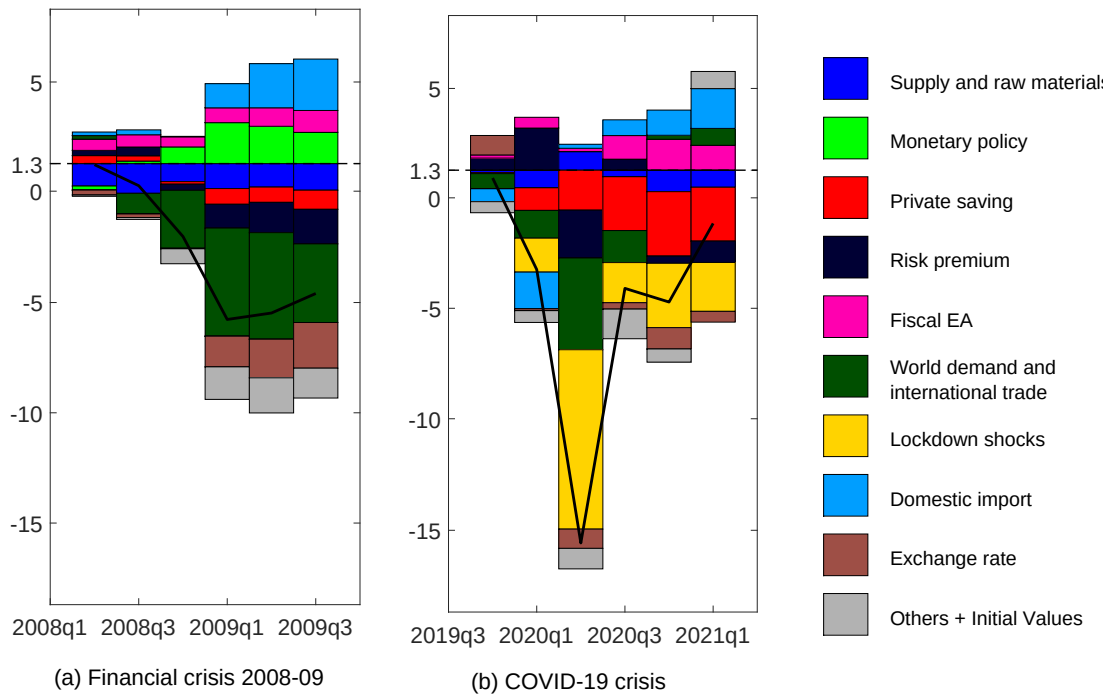
- Many urgent questions for economists:
  What is the shape and depth of the crisis? Which factors matter most? Which policy measures are suitable? How much can economic policy achieve? How long does it take to get back to previous levels of economic activity? And more...

- Priorities shift quickly in a massive and rapidly unfolding crisis
  Trade collapse via China $\rightarrow$ Unprecedented crisis & lockdowns
  $\rightarrow$ Policy packages and recovery (more traditional economics)
  $\rightarrow$ "2nd wave" ...

How to deal with the pandemic in a DSGE model?

- State-of-the-art academic research focuses mainly on SIR extensions...
- BUT we needed to frame the pandemic crisis into a standard business cycle model, which is regularly used during the EC forecasts.
- The EC's Global multi-country model (GM) has been augmented by novel features to capture:
  - social-distancing & lockdowns
  - liquidity shortages of business

Global Financial crisis versus COVID-19 crisis



(a) Financial crisis 2008-09

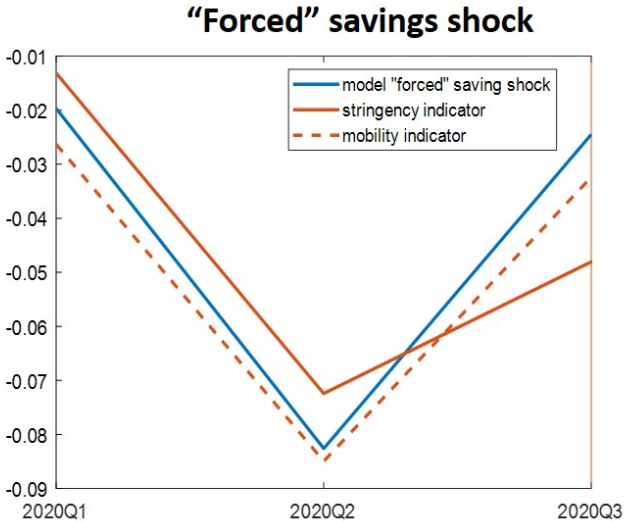
(b) COVID-19 crisis

yoy shock decomposition of GDP growth (%)

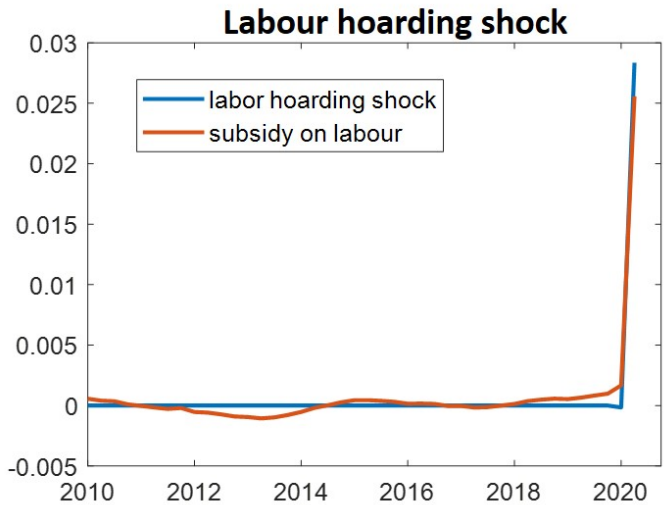
Model allowed to identify factors behind the economic disruptions of COVID-19 in data and ECFIN forecast.

▸ Role of pandemic related shocks

Is our model coherent with data?



The data correspond to standardised time series of the Oxford stringency index (Hale et al., 2020) and Google's mobility indicator aggregated for the EA (red lines and right axis).



The data correspond to demeaned subsidies (on labour) received by the employer as a share to GDP. The model shock corresponds to the estimated `labour hoarding shock'

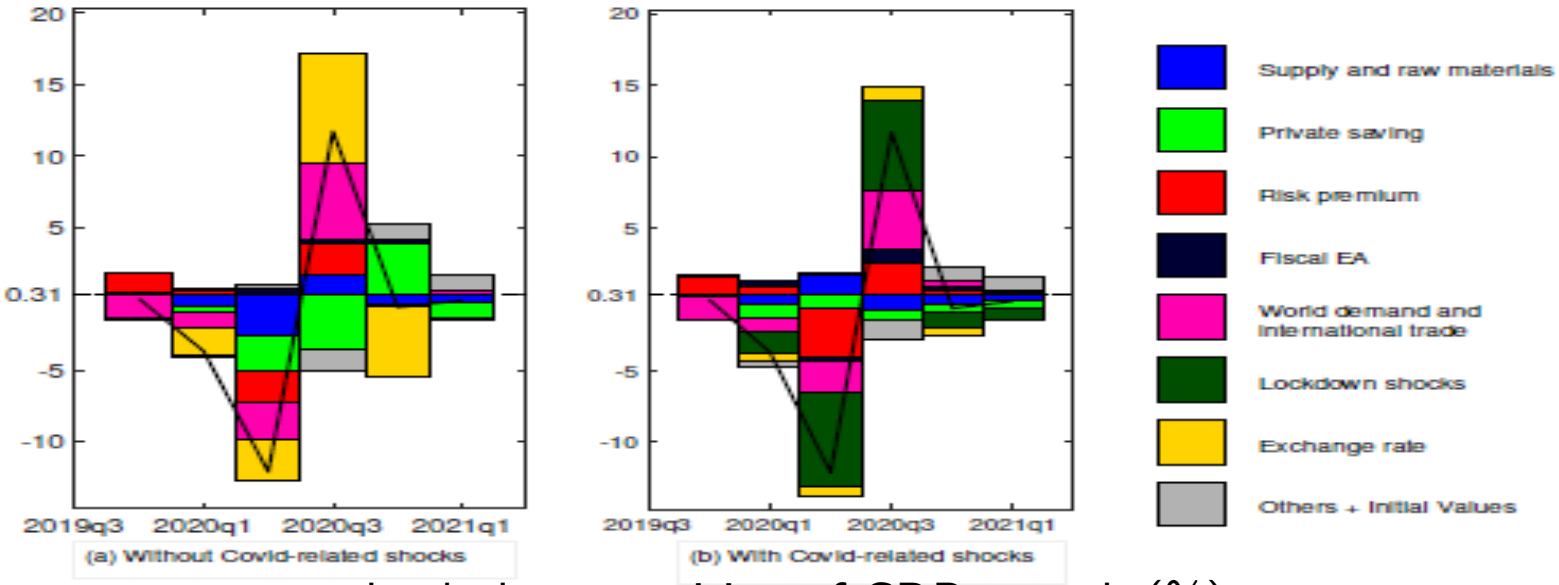
Best practises

- JRC B1 and ECFIN B3 have a long-standing partnership in modelling (e.g. QUEST, GM model and joint research) which allowed a fast reaction in unprecedented circumstances.
- Symbiosis between modellers and policy makers allows to adopt the most recent academic findings and test the proposed solutions.
- All these matters to take timely policy decisions.

Conclusions

- Covid-19 crisis put a challenge for design of policy.
- We adapt the Global multi-country model to explain factors behind the economic disruption.
- A dense consultation process between ECFIN and JRC allowed to quickly accommodate the policy demand.

The role of pandemic related shocks



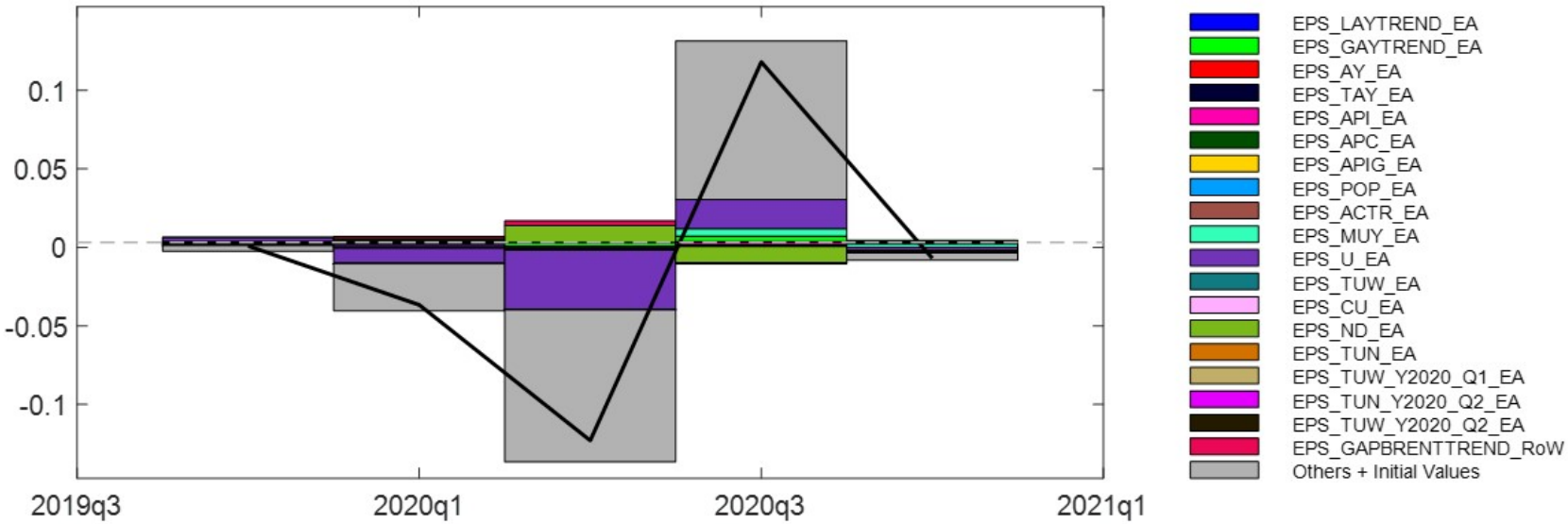
qoq shock decomposition of GDP growth (%)

Without the lockdown shock,

- the drop in consumption is explained by the *voluntary* saving shocks, incompatible with a quick recovery
- prominent role of:
  - exchange rate to reconcile the expected path of interest rate with the observed series;
  - supply, i.e wage markup shock needed to match the decline in hours worked

▸ Back

Supply shocks' contribution to EA GDP growth in absence of COVID shocks



qoq shock decomposition of GDP growth w/o lockdown shocks