Quantifying spillover effects of Next Generation EU investment

Philipp Pfeiffer with Janos Varga & Jan in ‘t Veld

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Our work in a nutshell

- Next Generation EU (NGEU) a EU-wide investment and reform programme:
  - Response to COVID crisis: unprecedented policy package worth up to 5.4% of EU GDP
  - Funds are unevenly allocated across EU Member States -> supports convergence
- Questions: What is its macroeconomic impact? Under which conditions will the impact be large? Which factors are important for policy?
  - Our tool: A rich 28-region macroeconomic model developed at the European Commission, DG ECFIN
- We find a significant impact positive impact (EU real GDP up by 1.5%)
- Cross-country spillover effects are central for many countries

Model complexity reflects the purpose …

- Dynamic and quantitative workhorse model with two main features:

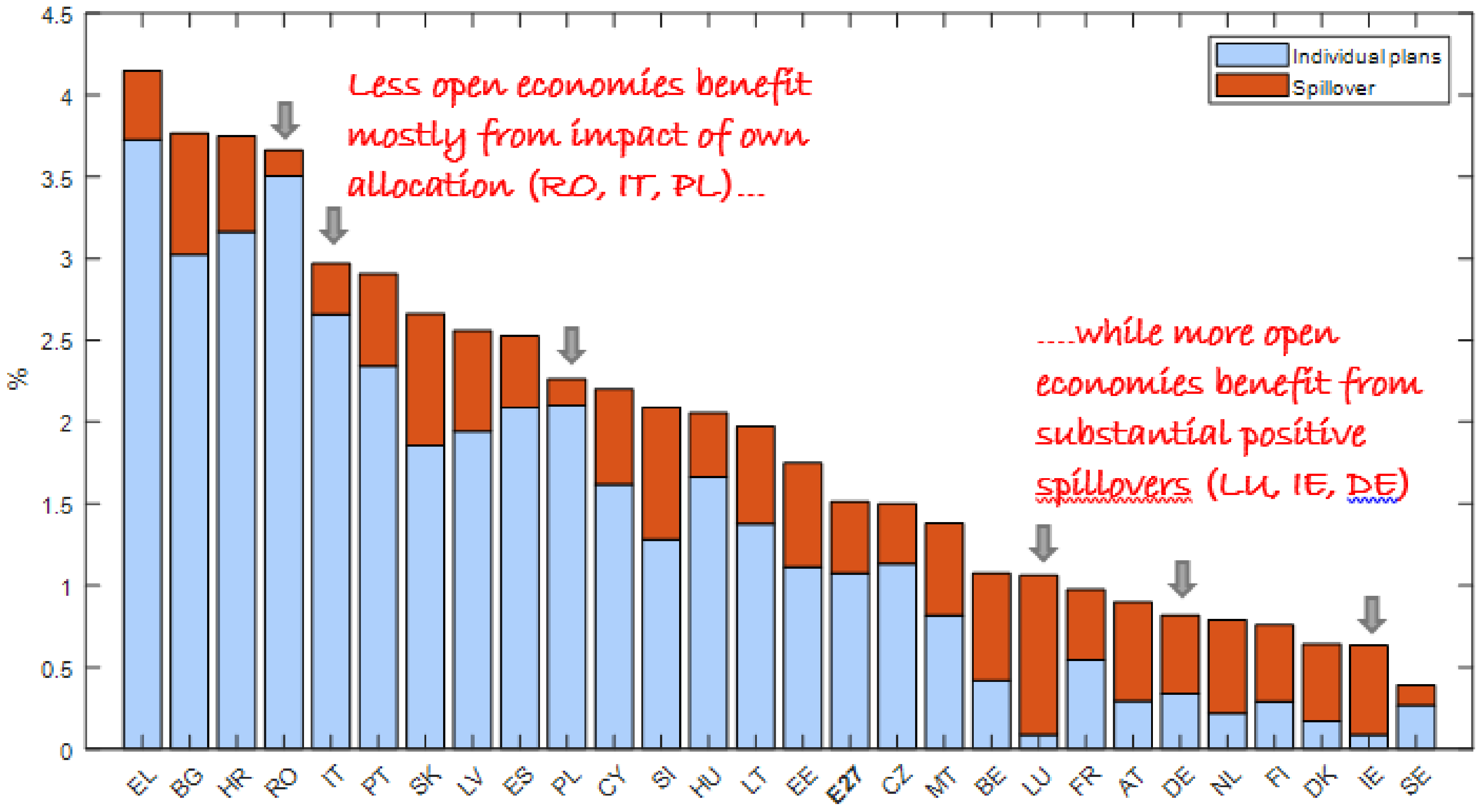
1. Rich cross-country linkages:
    - A detailed macro structure for each of the 27 EU Member States & rest of the world based on optimising households and firms (rich second-round effects)
    - Trade in intermediate inputs (cross-border value chains), which is typically exploited only in static input-output-analysis
2. Detailed role for fiscal policy and public investment:
    - Productive public capital and time-to-spend/build delays
    - Stylised representation of NGEU financing (grants, loans, repayment)

… and requires abstraction

1. Principle of parsimony: analysis remains manageable despite model size
2. Missing information:
   - Not all information on recovery plans of the Member States was available -> we assume that all spending is public investment
3. Some aspects are hard to quantify or require strong assumptions:
   a) Sensitivity analysis lays out alternative assumptions. However, we are often asked to produce a single “headline” number

   b) Leave out some aspects: For example, NGEU has two legs: Investment and reforms; we did not quantify to the latter as it would have required (very) strong assumptions and blurred the main insights.

Modelling for policy support: Key results



Additional GDP generated by NGEU in 2024 (in % deviation from no-NGEU baseline)

- **Significant impact**: on average 1.5% increase in real GDP
  - Strongly supports convergence
- **Narrative: Spillover is crucial.**
  - Extrapolating from allocations to macroeconomic impact can, thus, be misleading
  - Particularly relevant for richer open economies
- We have also analysed **conditions for success**

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Annex: Spillover in more detail

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
BE	0.42	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00
BG	0.00	3.02	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.00
CZ	0.00	0.01	1.13	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.07	0.00	0.00
DK	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DE	0.07	0.06	0.06	0.06	0.34	0.06	0.06	0.05	0.06	0.05	0.06	0.05	0.05	0.06	0.05	0.10	0.05	0.05	0.07	0.08	0.03	0.06	0.02	0.07	0.08	0.05	0.02
EE	0.00	0.00	0.00	0.00	0.00	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
IE	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EL	0.04	0.10	0.01	0.03	0.03	0.03	0.04	3.73	0.03	0.03	0.03	0.03	0.11	0.03	0.03	0.05	0.01	0.06	0.04	0.03	0.01	0.03	0.01	0.04	0.04	0.03	0.00
ES	0.13	0.12	0.04	0.10	0.10	0.11	0.11	0.10	2.09	0.11	0.10	0.10	0.10	0.11	0.11	0.18	0.04	0.11	0.12	0.11	0.02	0.19	0.02	0.12	0.13	0.10	0.02
FR	0.09	0.06	0.02	0.05	0.06	0.06	0.06	0.05	0.06	0.54	0.05	0.05	0.05	0.06	0.05	0.12	0.02	0.06	0.07	0.06	0.01	0.07	0.01	0.07	0.07	0.05	0.01
HR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.09	0.01	0.00	0.00
IT	0.30	0.28	0.09	0.21	0.23	0.25	0.25	0.23	0.24	0.23	0.28	2.66	0.23	0.24	0.23	0.46	0.10	0.26	0.26	0.27	0.06	0.24	0.09	0.35	0.29	0.22	0.04
CY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LV	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LT	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HU	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00	0.02	0.01	0.00	0.02	0.02	0.05	0.00	0.00
MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NL	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.01	0.22	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00
AT	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.29	0.00	0.01	0.00	0.02	0.01	0.01	0.00
PL	0.02	0.02	0.07	0.02	0.02	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.03	0.06	0.02	0.05	0.01	0.02	0.02	2.10	0.00	0.02	0.03	0.08	0.01	0.02
PT	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.01	0.03	0.03	0.02	0.00	2.34	0.00	0.02	0.03	0.02	0.00
RO	0.01	0.09	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.08	0.01	0.01	0.02	0.02	0.00	3.51	0.03	0.04	0.00	0.00
SI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	1.28	0.01	0.00	0.00
SK	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.01	0.01	0.02	1.86	0.01	0.00
FI	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00
SE	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.27
NGEU	1.07	3.76	1.50	0.64	0.82	1.75	0.63	4.15	2.53	0.97	3.75	2.97	2.20	2.56	1.97	1.06	2.06	1.38	0.79	0.90	2.26	2.91	3.66	2.09	2.66	0.76	0.39