



DIGITISATION: ECONOMIC AND SOCIAL IMPACTS IN RURAL AREAS

The state of digitalisation in Europe: economic growth and the urban-rural digital divide

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10 September 2020

1st webinar of the Rural Digitisation Forum



DESIRA receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 818194. The content of this document does not reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).







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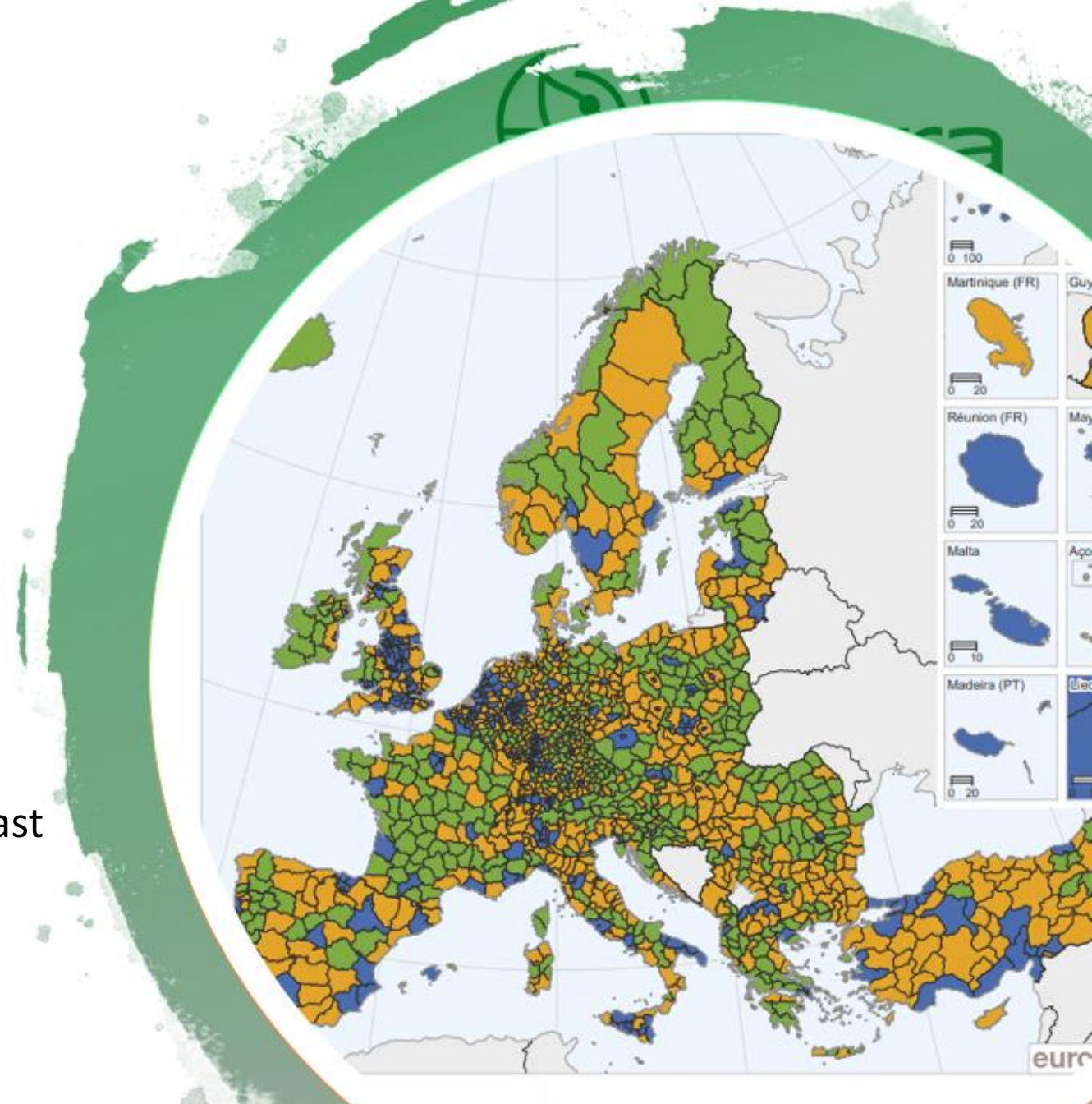
Outline



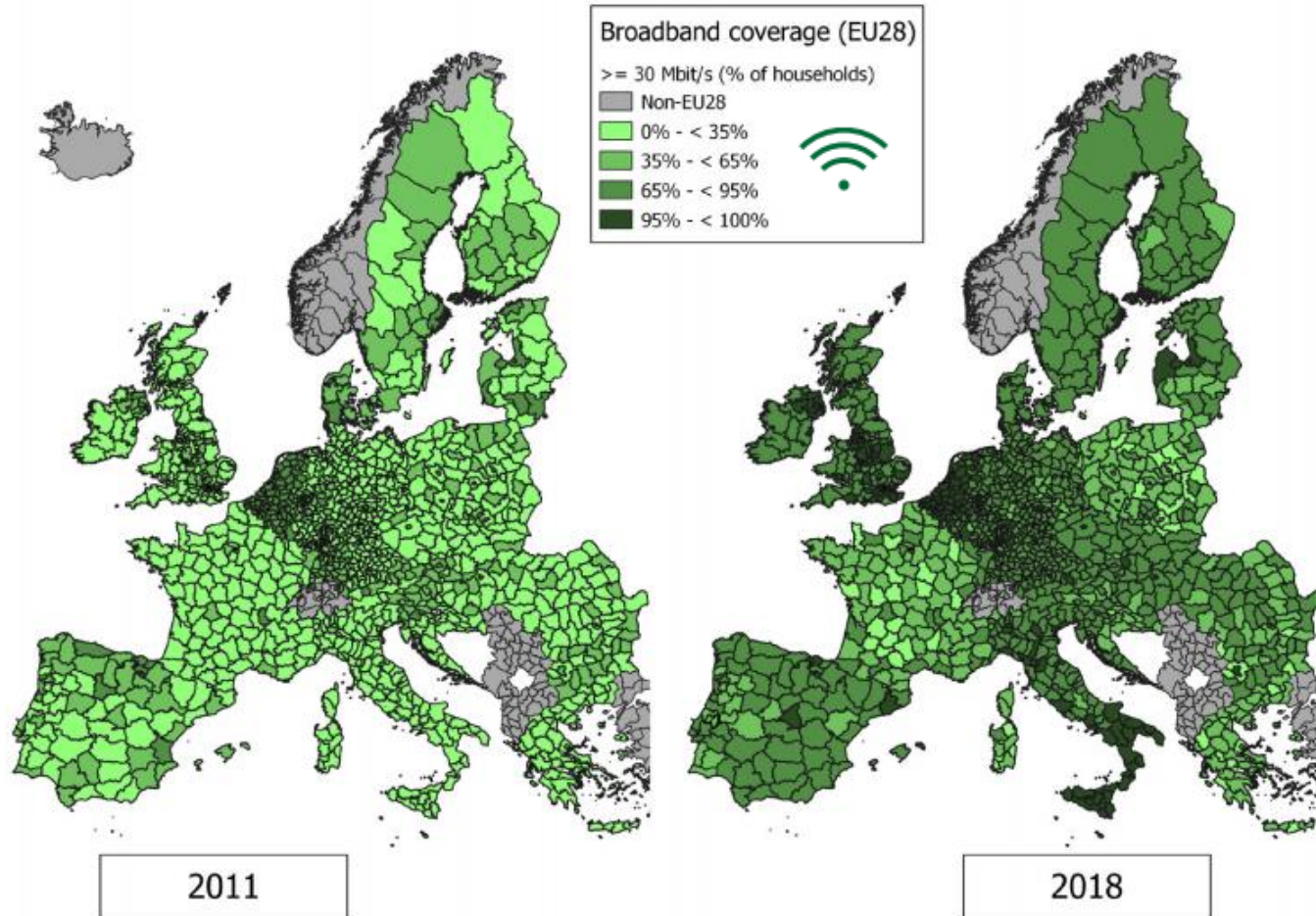
- ◆ Data
- ◆ Descriptive analysis
- ◆ Quantitative analysis
- ◆ Conclusions

Data

- 1348 NUTS 3 regions (Eurostat, 2016)
 - 363 urban regions 
 - 555 intermediate regions 
 - 430 rural regions 
- Broadband coverage (2011-2018) 
 - Share of households with access to at least
 - 30 Mbit/s
 - 100 Mbit/s

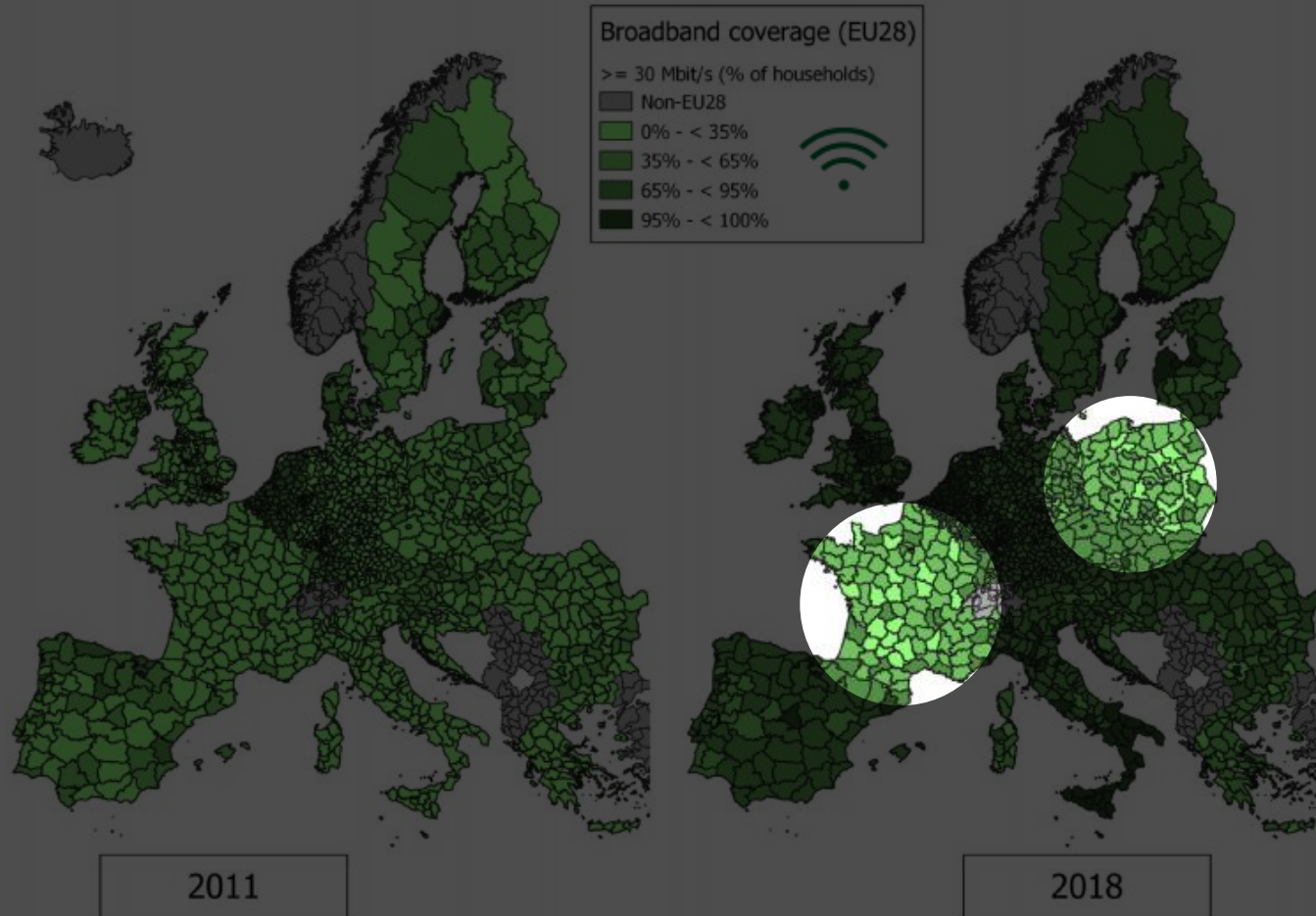


Descriptive analysis



At the level of **30 Mbit/s**, rural regions are **catching up** with urban regions almost everywhere.

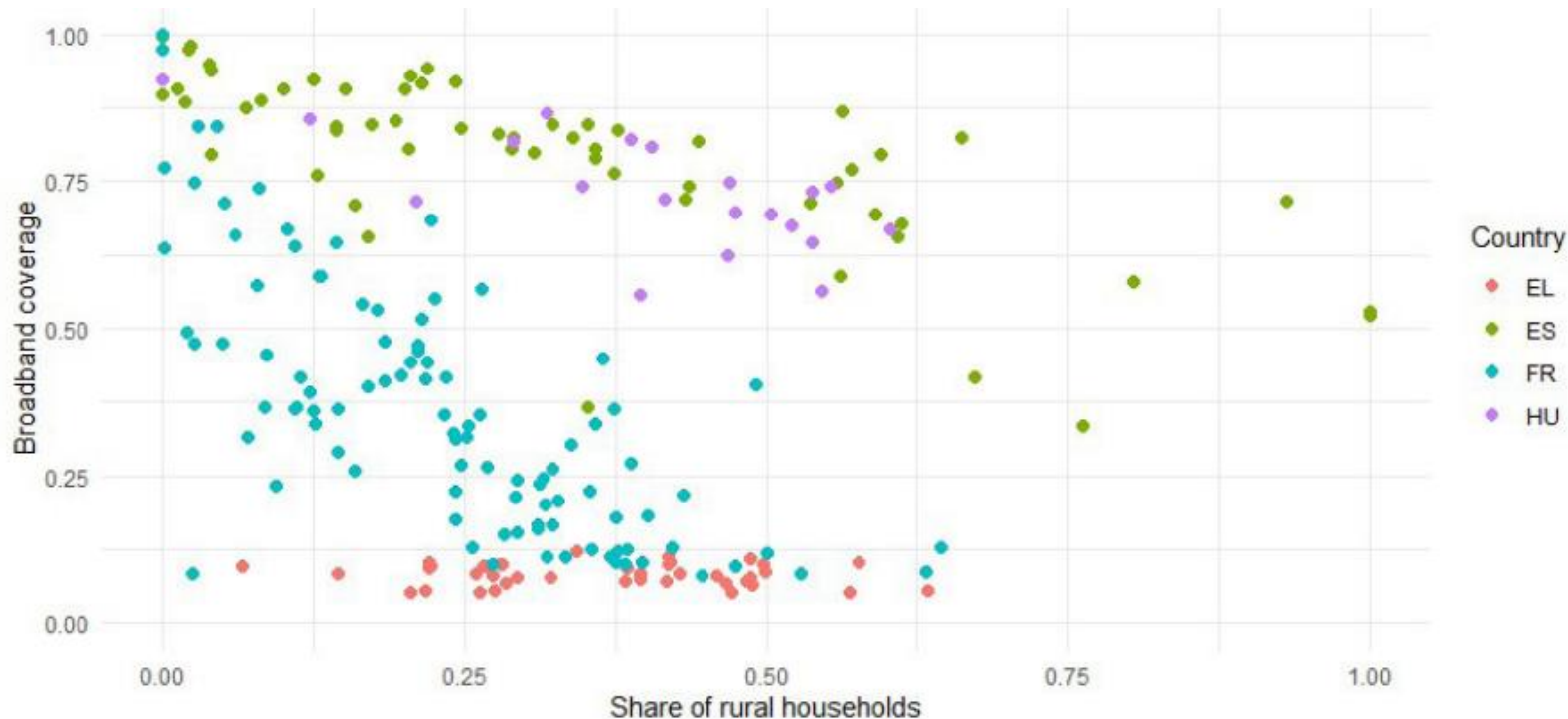
Descriptive analysis



At the level of **30 Mbit/s**, rural regions are **catching up** with urban regions almost everywhere.

Descriptive analysis

However... the **urban-rural digital divide** remains **large** at the level of **100 Mbit/s** 








Multi-level heterogeneity

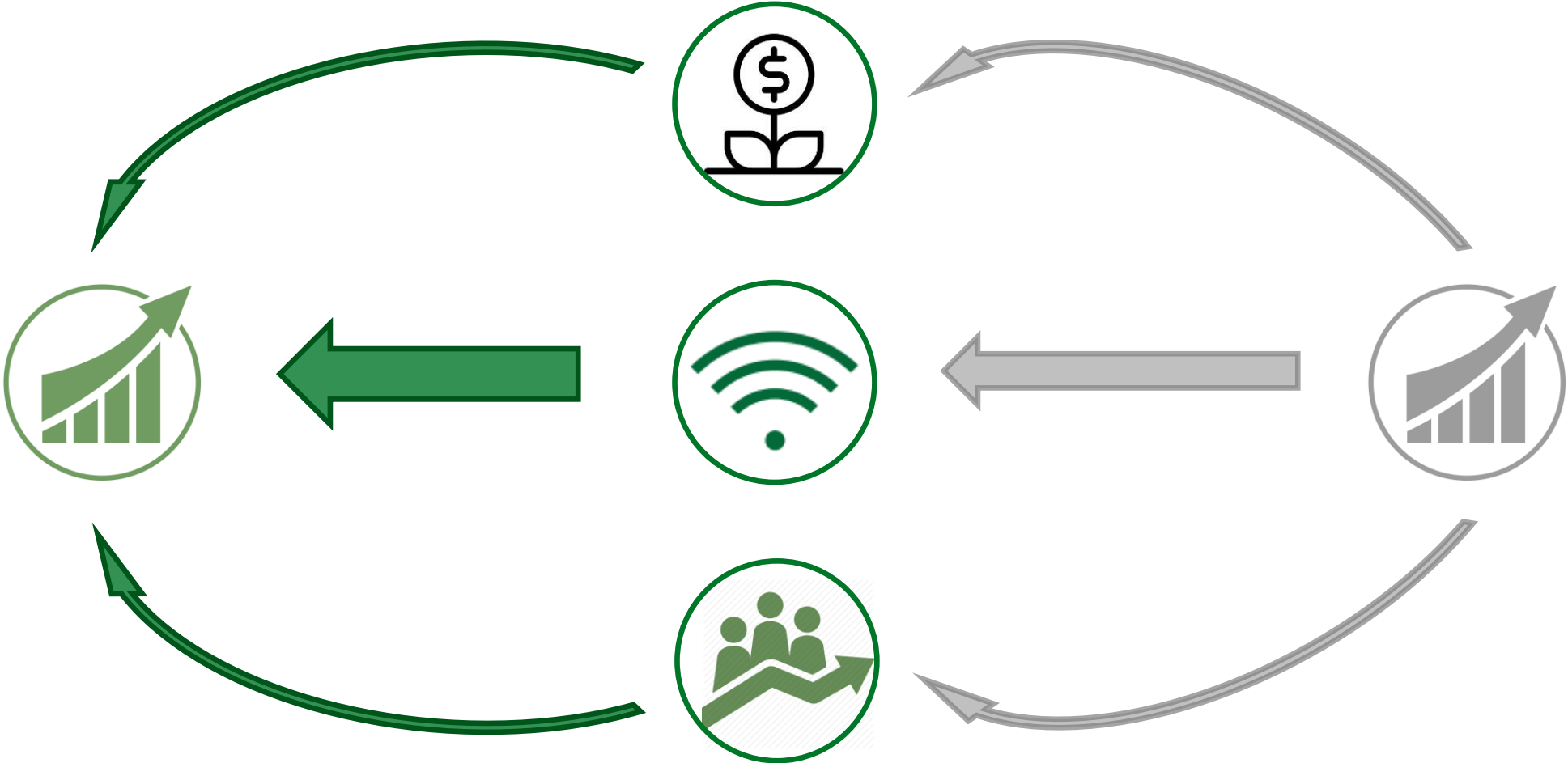
- Disparities between different regions of a country.
- Disparities between different countries.

Quantitative analysis

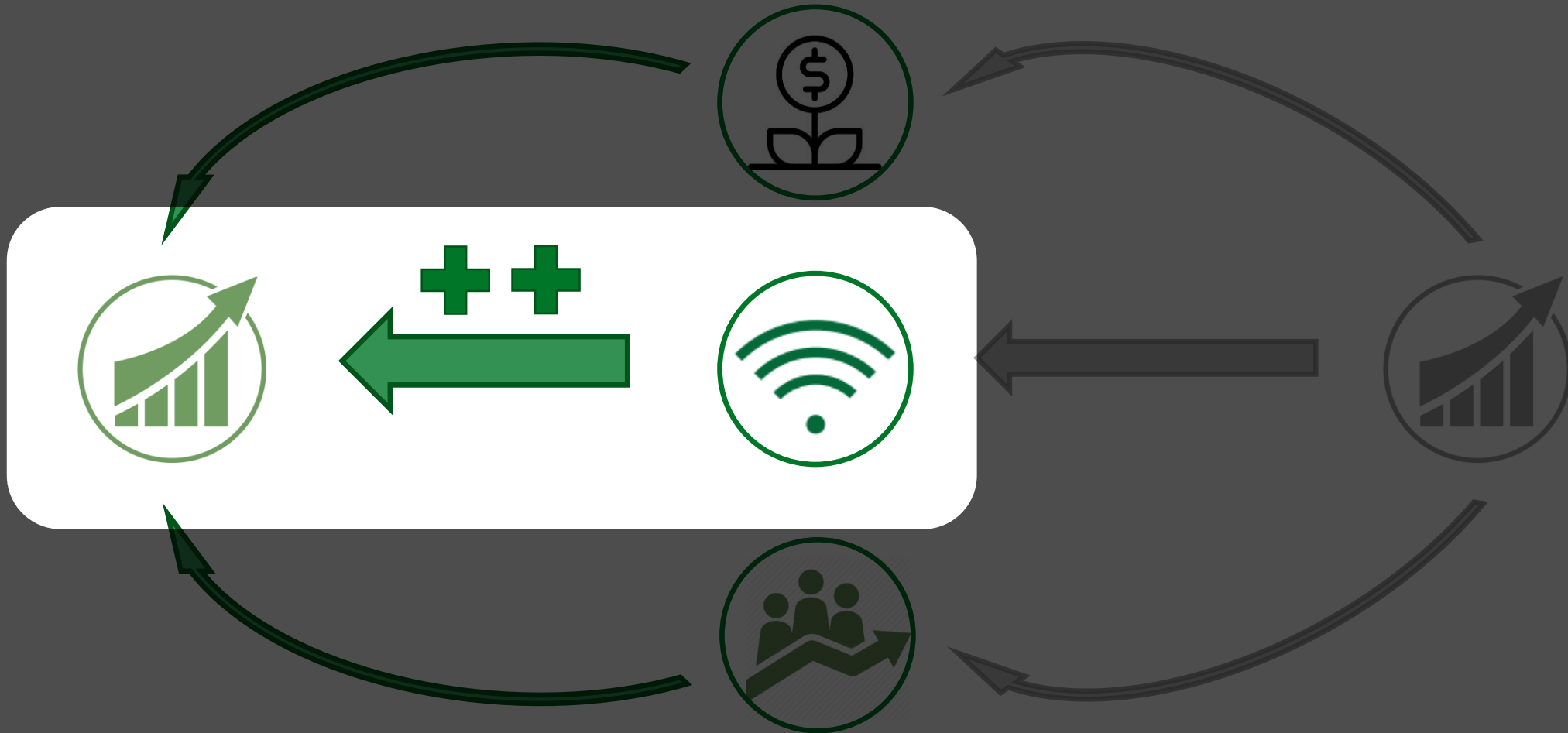


- System-GMM regression (dynamic linear panel model)
- We link **broadband coverage**  to the level of **economic growth** 
 - Real GDP per capita (in EU28 2020 purchasing power parities)
- Compare rural, intermediate, and urban regions across multiple sectors and countries
- Control variables
 - Past economic growth 
 - Population growth 
 - Proxies for investments and trade openness 

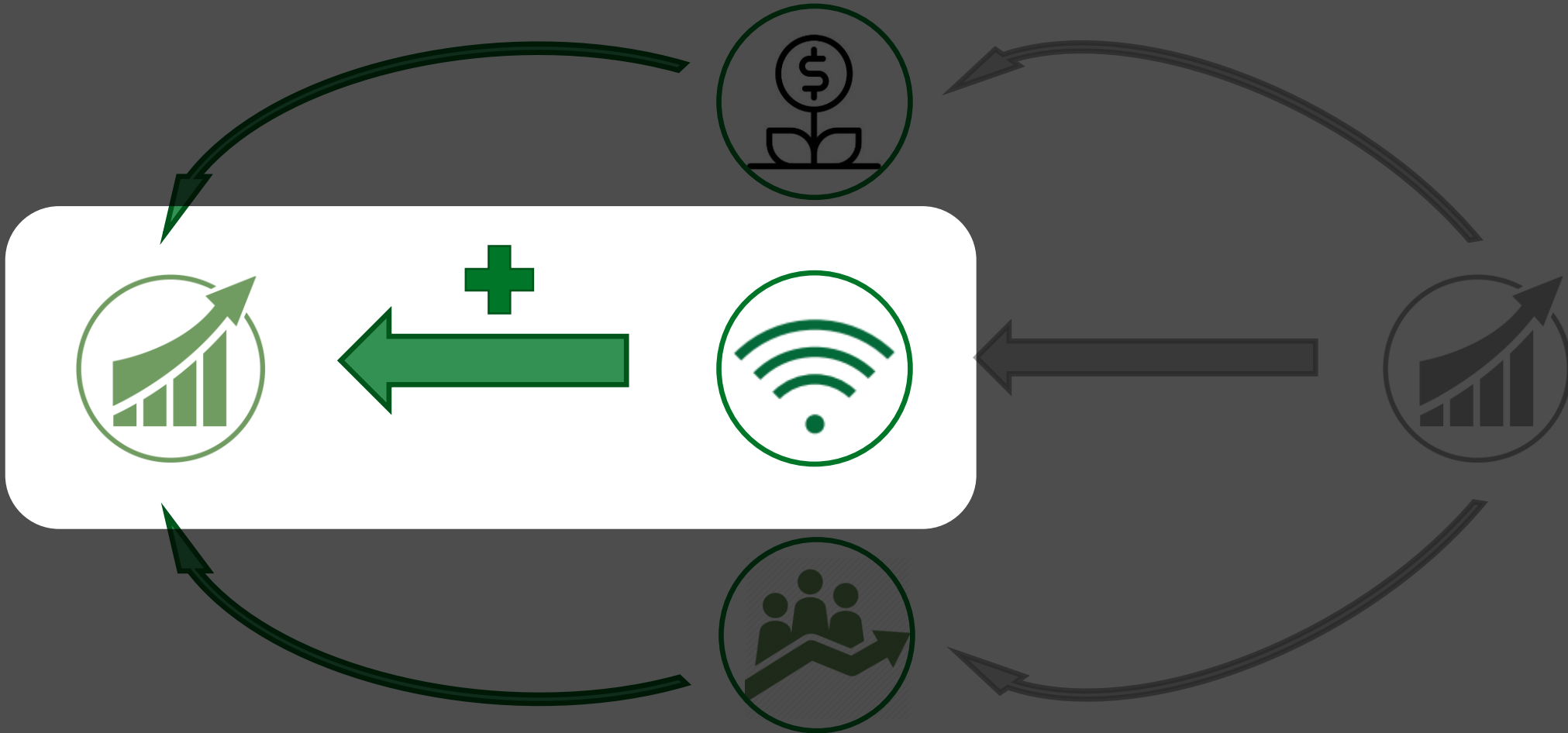
Quantitative analysis



Urban regions

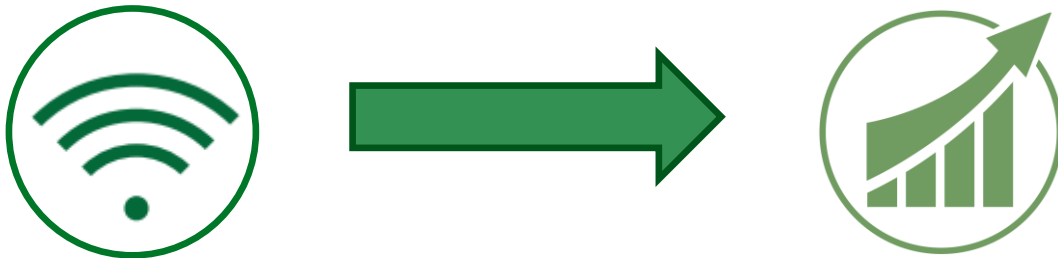


Rural regions



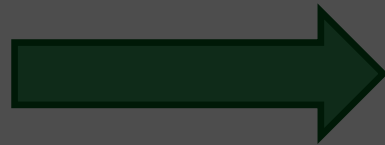
Quantitative analysis

- **Providing broadband access stimulates economic growth**
- Results are robust across countries and sectors
- Weaker effect in rural regions
- Broadband coverage: **diminishing returns to scale**
- Lack of regional data...



Quantitative analysis

- Providing broadband access stimulates economic growth
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The Digital Economy and Society Index (DESI, European Commission)



CONNECTIVITY



HUMAN CAPITAL



USE OF INTERNET SERVICES



INTEGRATION OF DIGITAL TECHNOLOGY



DIGITAL PUBLIC SERVICES

Conclusions







- Urban-rural digital divide **remains persistent** across time & technological advancements
 - 30 Mbit/s is catching up, but industry is already transitioning to 100 Mbit/s standards, ...
- Effect of broadband coverage on economic growth is **lower in rural areas**
 - No incentives for network providers to invest?
 - Role of governments?
- Simply providing broadband coverage in rural areas will not suffice, but...
 - ... fast & reliable network access is a modern-day prerequisite for economies to grow
 - ... fast & reliable network access allows structural changes in rural (farm & non-farm) industries
- Large heterogeneity requires **country-specific** analyses
- Lack of data limits quantitative analyses within regional Europe



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