

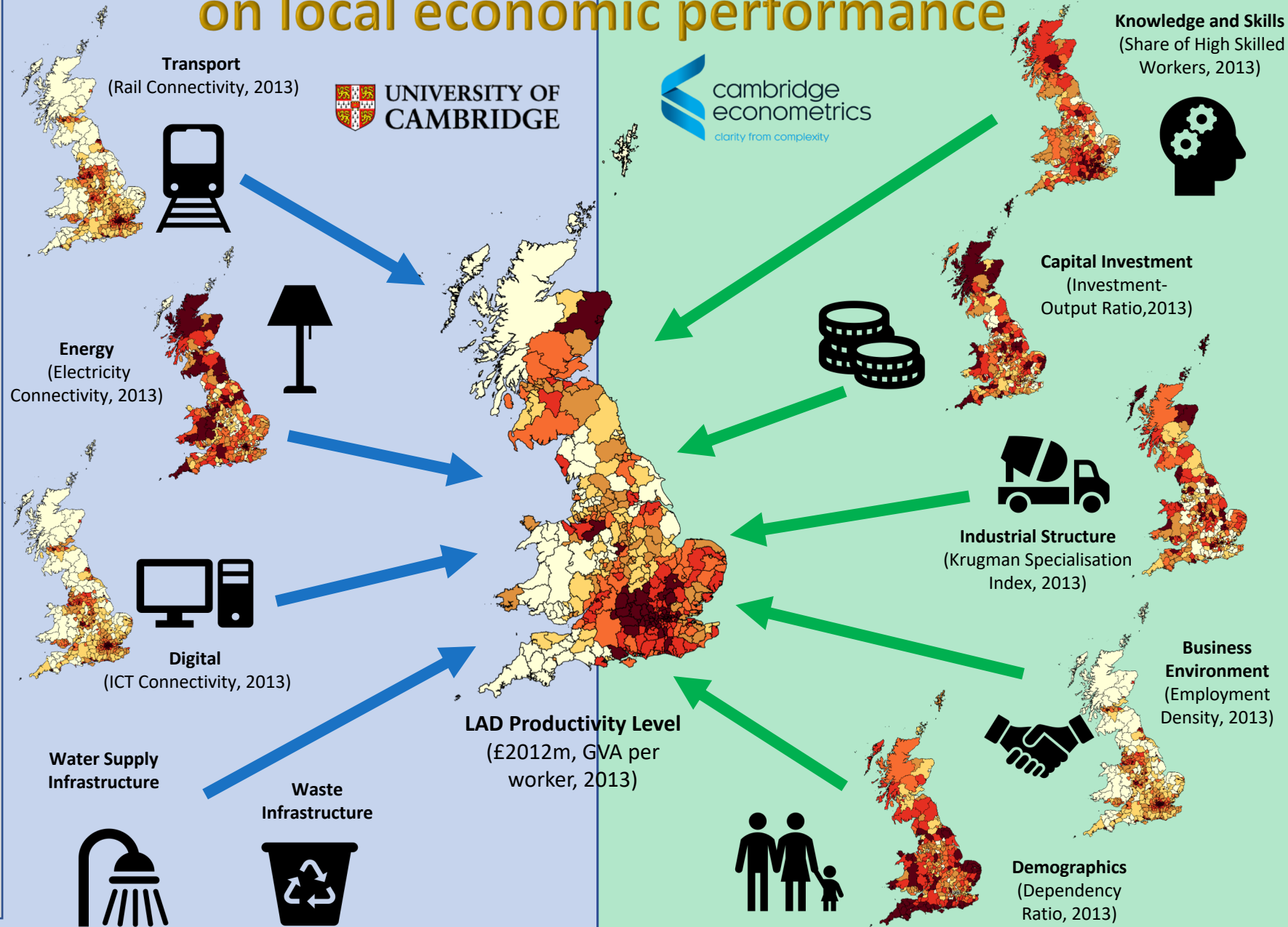
Stage 1: What questions are we trying to answer?

- To model the relationship between infrastructure quality and local economic growth in the United Kingdom over the period 1981 through 2015, particularly as it relates to enhanced connectivity and to do this at LAD, urban and possibly other spatial levels where this is possible.
- Through this, to develop better measures of the quality of local infrastructure that can be used in the economic modelling of local growth and productivity.
- To assimilate the findings from the research into Flagship 4; improved methodology for appraisal of infrastructure investments.

Stage 2: What has been done before?

- A key difficulty in modelling the economic effects of infrastructure has been that 'infrastructure' has lacked an unambiguous definition, hence it has not been clear how it would enter economic modelling.
- The measures of infrastructure are normally very crude, reflecting simple supply metrics at coarse geographical levels. For example, the most commonly used metric as a proxies of infrastructure quality were road lengths and road density. Often this choice was the product of data constraint.
- Most of the studies do not account for the evolution of variables over time either for the dependent, independent and control variables. Due to data restrictions, cross-sectional analysis of economic performance attributable to infrastructure variations at a single point in time were the norm.

Assessing the impact of Infrastructure on local economic performance



Stage 3: What is our approach?

- Firstly to develop a Logic Chain to summarise how changes in the availability of transport infrastructure affects relevant longer term economic outcomes
- A key part of the work has been to develop better measures of the quality of local infrastructure that can be used in the economic modelling of local growth and productivity.
- We have employed panel/longitudinal data structures for all our empirical work. We have used econometric tools which are able to account for the various sources of statistical issues.
- The team have built an extensive dataset that enables the modelling of the impact of enhanced infrastructure, particularly as it relates to connectivity using historical data and projections for the Local Authority Districts of the UK, including Gross Value Added (GVA) and employment covering the period 2001-2015, with further augmentation of the data back to earlier years based on city analysis.

Stage 4: What have we found?

- The model that has now been established contains measures of connectivity (road, rail and air) and ICT quality. The model contains data on local skills (occupation based), Innovation, specialisation, capital stock and a number of other variables that are important in modelling at the local level.
- A number of different econometric hypotheses and models are now being tested.