

Recent evolution of research into the wider economic benefits of transport infrastructure investments

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Introduction

- Why wider benefits?
- Raison d'être
 - Investment appraisal
 - Overall impact of transport
- Objectives
 - Output
 - Productivity
 - Employment
 - Welfare
- Issues
 - Link or network effects
 - Geographic scale

Approaches

- Macro approaches
 - Overall impact
 - Misses detail of way transport is used
- Market (meso) approaches
 - Overall impacts but better recognition of individual markets
 - Use of labour market effective in urban studies
- Micro approaches
 - Examine changes in behaviour in response to transport change
 - Identify how internal reorganisation rather than level of activity may be source of productivity gain

Evidence – macro studies

- The Aschauer legacy
 - The productivity of public infrastructure
 - Public infrastructure and the enhancement of the productivity of private infrastructure
 - Debunking crowding out
 - Excessive optimism
 - Geographic scale
- Econometric problems
 - Causality
 - Spatial autocorrelation and spatial spillovers
- What should we measure?
 - Output/productivity
 - Employment

Evidence – macro studies

- Alternatives to aggregate econometrics
 - Land Use Transport Interaction Models
 - Multiple markets with specific transport use
 - Based on static input-output relations
 - Need to allow for dynamic behavioural response
 - Computable General Equilibrium Models
 - Allow for whole network evaluation
 - More interaction between markets
 - Identify case specificity of results
 - Imply larger wider benefits/user benefits
- Ex post studies of impacts
 - Rare and less encouraging

Evidence – market studies

- Exploring detail of agglomeration models
- Competition effects
 - Ambiguity
 - Pro-competitive effects from lower transport costs
 - Limited by existence of imperfect competition and rent seeking
- Agglomeration effects
 - Localisation economies
 - Urbanisation economies
 - Productivity effects – elasticities higher for services than traditional estimates for manufacturing (Graham)
 - Spatial scale variations
- Linkage effects
 - Labour market thickening (Venables)

Evidence – micro studies

- Why micro studies?
 - changes in behaviour and organisation
- Labour market effects
 - Accessibility and property prices
 - Jubilee Line impact (Gibbons and Machin)
 - Increase in values +9.3% in areas with new stations
 - 1km reduction in access led to 1.5% increase in values
- Business organisation
 - TGV effects and internal restructuring
 - Concentration towards access to network rather than along network

Implications for appraisal

- From theoretical model to method of appraisal for individual projects.
 - Towards a more theoretically correct CBA recognising externalities and imperfect competition.
 - CGE models and scale of projects: link estimates and network effects
- Wider benefits include:
 - User benefits (journey time savings)
 - Productivity effects,
 - Agglomeration effects,
 - Competition effects
 - Labour market effects.
- Data requirements
 - Evidence at more detailed level than typical in CGE studies

Implications for policy

- Simple rules are dangerous
 - Investment in transport can damage your health
 - Failure to invest in transport can damage it too
- Appraisal rules need to be comprehensive but transparent
 - Decisions have to be robust
 - But clearly understood by all stakeholders
- Levels of decision making
 - Spillovers
 - Policy refraction in multi-level governments
 - Jurisdictional competition and over- or under-investment

Concluding remarks

- Full circle on wider benefits
 - From “transport is critical”
 - To “beware double counting”
 - To “wider benefits are the key”
- But beware all simple rules in transport appraisal
- There remains much on the research agenda
 - Imperfect competition and the productivity gains from transport
 - Micro-behavioural evidence
 - Link versus network effects
 - Spillovers and jurisdictional competition
 - More ex post studies, does transport investment really make the difference claimed?