

# Public Expenditure and Economic Performance: Infrastructure and Productivity

Kevin J. Fox

Centre for Applied Economic Research  
University of New South Wales  
K.Fox@unsw.edu.au

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# Summary

- The role of public capital in driving private productivity growth. What is the empirical evidence?
- Regional implications, and aggregation issues. Should Perth pay for Sydney's roads?
- Caveats to the empirical findings.
- Issues in assessing the performance of the public sector.

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# Public Capital and Private Productivity

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- Evidence suggests very high estimates of the elasticity of private output with respect to public capital, 0.35 to 0.45. (Aschauer, 1989; Munnell, 1990; Otto and Voss, 1994).
- Spurious regression, endogeneity and causality issues examined in considerable detail.
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- Otto and Voss (1996): “While it is possible to imagine circumstances where public infrastructure induces economic growth in the private sector, it is also clear that existing empirical studies do not shed much light on the likelihood of such outcomes.”
- Aggregate economy results may mask what is happening at sectoral level. Connolly and Fox (2004): Sectoral results for Australia (11 sectors, 1965/66-2001/02). Positive and significant impact of public capital on private MFP for Manufacturing, and Wholesale and Retail.
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## Regional Issues

- Morrison and Schwartz (1996): State-level data for U.S. manufacturing. Infrastructure investment provides a significant return to firms, and augments productivity growth.
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- Boarnet (1998): California data, 1969-1988. “The data show that changes in county output are positively associated with changes in street-and-highway capital within the same county, but output changes are negatively associated with changes in street-and-highway capital in other counties.”
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- “[T]he public investment decisions we observe are the result of local political processes, and may not be designed to maximize private sector economic returns.” (Haughwout, 2002)

## Further Issues

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- “Because residents vote and firms do not, it is perhaps unsurprising to discover that the marginal public investment dollar provides larger benefits to households than to firms.” (Haughwout, 2002)
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## Assessing the Performance of the Public Sector

Managers unconstrained by the rigours of competition "are likely to exploit their advantage much more by not bothering to get very near the position of maximum profit, than by storming themselves to get very close to it. The best of all monopoly profits is a quiet life."  
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## Some Characteristics of the Public Sector

- Big: General government expenditure as proportion of GDP is around 20%.
- But getting smaller in some ways: ABS treats Telstra as a “private sector unit” from March quarter 2007 national accounts.
- “Owners” are dispersed so that performance monitoring may be difficult.
- Can be difficult to measure the outputs.
- Public sector managers may not have control of the mix of services they offer (regulation).

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# Conclusions

- Difficult to know how much public capital is "enough". Depends on purpose, consumption attributes and impacts on prices.
- Evidence does not provide comprehensive cost-benefit analysis: social user costs versus social user benefit (Morrison and Schwartz, 1996).
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## Some Areas Where Progress Seems Possible

- Disaggregation of public capital into components to allow investigation of productivity impacts. Some (e.g. schools) would be expected to have long-run impacts, some (e.g. roads) more immediate impacts.

- Regional disaggregation:
  - Point versus network effects — some capital impacts on broader regions than others (water works versus roads). (Boisso, Grosskopf and Hayes, 2000)
  - Positive impacts on one region could lead to negative impacts on other regions. Opportunity costs of each investment option.
  - Private-sector (and household) resource re-allocation caused by public infrastructure choices.



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# Tackling the Tough Problems in Productivity Measurement

Joint ABS/PC/UNSW research initiative:

- Infrastructure
- Services
- R&D Capitalisation

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