



## Dr Denis Lawrence

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| Position      | Director   |
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### Qualifications

Doctor of Philosophy (Economics), University of British Columbia, Canada

Bachelor of Economics (Honours), Australian National University

### Key Skills and Experience

For the past 25 years Denis Lawrence has played a leading role in the regulation, benchmarking and performance measurement of infrastructure enterprises. He has advised Australian and overseas regulators and utilities on a wide range of quantitative and strategic issues in the energy, telecommunications, post and transport sectors.

Denis' consulting projects include advising the Australian Energy Regulator on economic benchmarking of electricity distribution and transmission networks; advising the Australian Energy Market Commission on key aspects of building blocks and productivity-based regulation of network utilities; advising the New Zealand Commerce Commission on the implementation of productivity-based regulation for electricity distribution; advising Australian electricity and gas distribution businesses on productivity measurement issues and their regulatory implications; advising the Commerce Commission on gas network benchmarking and regulation; reviewing the work of Australian regulators for utilities; advising the ACCC on incentive regulation in electricity supply; and, advising the Queensland Competition Authority on service quality incentives.

Denis has developed a quantitative framework for calculating the distribution of benefits from a firm's productivity improvements among the key stakeholder groups of customers, employees and shareholders. He has applied this framework for leading telecommunications and transport firms.

Denis has extensive experience as an economic consultant having also been Director of Tasman Economics and Meyrick and Associates before joining Economic Insights in 2008. Prior to that he held senior executive positions in the Australian Bureau of Industry Economics and the Australian Industry Commission.

### Recent Projects

- Prepared detailed economic benchmarking analyses of Australia's electricity distribution and transmission businesses for the Australian Energy Regulator including identifying the drivers of productivity change for each business
- Advised the Netherlands' Authority for Consumers and Markets on productivity growth in

electricity and gas transmission service operators and on the use of data envelopment analysis in energy network regulation

- Construction of detailed total factor productivity models of Australia Post's overall operations and its reserved services
- Undertook review of electricity transmission benchmarking for the Australian Energy Regulator
- Economic benchmarking of the efficiency of NSW and ACT electricity distribution businesses' operating expenditure for the Australian Energy Regulator
- Advised the New Zealand Commerce Commission on the long-run productivity growth rate for the electricity distribution industry and on opex and capital partial productivity growth rates
- Investigation of the characteristics of energy retail customers remaining on regulated or standing offers in NSW, Queensland and Victoria for the AEMC
- Advice to the AEMC on the use of actual versus forecast depreciation in rolling forward the regulatory asset base between regulatory periods
- Advice to the AER on the implementation of economic benchmarking of electricity distribution and transmission networks and its use in regulatory determinations
- Undertook productivity and benchmarking analysis for SP AusNet's gas distribution business to support opex roll forward forecasts using the 'rate of change' method
- Provided quantitative estimates of scale and density elasticities for postal network functions to inform forecasts of movements in costs in the face of declining postal volumes
- Carried out an economic benchmarking study of the Murray Darling Basin Authority's River Murray Operations against similar Australian rural water businesses using data envelopment analysis
- Assisted the AEMC with its review of total factor productivity-based regulation including advice on data requirements, specification issues, and construction of a detailed model comparing outcomes under productivity-based and building block regulation
- Advice to the Commerce Commission on asset valuation and measuring total factor productivity in the presence of sunk costs and incorporating the principle of financial capital maintenance
- International benchmarking study of the total factor productivity performance of Australia Post and four international postal services
- Advice to the Northern Territory Utilities Commission on the setting of key price control parameters for electricity distribution
- Advice to coalition of large electricity distribution businesses on the development and implementation of the Ontario Energy Board's third generation incentive regulation regime
- Examining the effects of changes in the terms of trade and productivity growth on national welfare
- Advice to the Commerce Commission on using the comparative or benchmarking option for resetting the price path threshold for electricity transmission and distribution businesses using total factor productivity and econometric techniques
- Total factor productivity benchmarking of gas distribution businesses in Victoria, NSW,

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Queensland, South Australia and the ACT and advice on opex roll forward parameters

- Conduct Public Benefit Test and assess the competition implications of the proposed Water Grid Manager in southeast Queensland
- Benchmarked the productivity, operating and capital expenditure, reliability and price performance of 13 of Australia's 15 electricity distributors for a consortium of distribution businesses
- Econometric modelling of operating and maintenance expenditure efficiency based on a sample of electricity distributors and taking operating environment differences into account
- Advised ENMAX Corporation (Alberta, Canada) on developing the case for moving from cost-of-service to formula-based regulation of its electricity distribution business
- Prepared case studies for the Ontario Energy Board of international best practice in distribution pricing structures, allowing for distributed generation, incorporating energy conservation and demand management incentives
- Advised the Australian Energy Networks Association on development of a nationally consistent suite of service quality performance indicators
- Advised CitiPower and Powercor on developing a robust and defensible case for a revised Service Incentive Scheme for their 2006 Price Review submissions
- Assisted the Commerce Commission with reviewing the regulated gas distribution businesses' pricing principles and quantitative cost of service models
- Benchmarking of the efficiency of gas transmission and distribution pipelines in Australia and New Zealand for the Commerce Commission
- Advised the Commerce Commission on the allocation of joint costs in firms supplying electricity and gas

### **Selected Publications**

Coelli, T.J. and D. Lawrence (eds.) (2006), *Performance Measurement and Regulation of Network Utilities*, Edward Elgar Publishing, Cheltenham, UK.

Lawrence, D., W.E. Diewert and K.J. Fox (2006), "The Contribution of Productivity, Price Changes and Firm Size to Profitability", *Journal of Productivity Analysis* 26, 1–13.

Lawrence, D. and A. Richards (2004), "Distributing the Gains from Waterfront Productivity Improvements", *The Economic Record* 80, S43–S52.

Diewert, W.E. and D.A. Lawrence (2002), 'The Deadweight Costs of Capital Taxation in Australia', in K.J. Fox (ed), *Efficiency in the Public Sector*, Kluwer Academic Publishers, Boston.

Diewert, W.E. and D.A. Lawrence (2000), 'Progress in Measuring the Price and Quantity of Capital', in Lawrence J. Lau (ed), *Econometrics Volume 2: Econometrics and the Cost of Capital: Essays in Honor of Dale W. Jorgenson*, The MIT Press, Cambridge.

Zeitsch, J. and D. Lawrence (1996), "Decomposing Economic Inefficiency in Base Load Power Plants", *Journal of Productivity Analysis* 7(4), 359-378.

Zeitsch, J., D. Lawrence and J. Salerian (1994), "Comparing Like With Like in Productivity Studies -

Apples, Oranges and Electricity”, *The Economic Record* 70(209), 162-70.