



UNIVERSITY OF  
CAMBRIDGE

Electricity Policy  
Research Group

# Determinants of Investment under Incentive Regulation: The Case of the Norwegian Electricity Distribution Networks

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**Rahmatallah Poudineh and Tooraj Jamasb**

**Abstract.** Investment in electricity networks, as regulated natural monopolies, is among the highest regulatory and energy policy priorities. The electricity sector regulators adopt different incentive mechanisms to ensure that the firms undertake sufficient investment to maintain and modernise the grid. Thus, an effective regulatory treatment of investment requires understanding the response of companies to the regulatory incentives. This study analyses the determinants of investment in electricity distribution networks using a panel dataset of 129 Norwegian companies observed from 2004 to 2010. A Bayesian Model Averaging approach is used to provide a robust statistical inference by taking into account the uncertainties around model selection and estimation. The results show that four factors drive nearly all network investments: number of customers, social-economic costs of energy not supplied, number of holiday homes, and cost of network energy loss in previous period. The results confirm that Norwegian companies have generally responded to the investment incentives provided by the regulatory framework. However, some of the economic incentives do not appear to be effective in driving the investments.

**Keywords :** distribution network, investment, regulation, Bayesian model averaging

**JEL Classification :** D21, L43, L51, L52, C11

Contact tooraj.jamasb@durham.ac.uk  
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