#### ARTICLE IN PRESS

Telecommunications Policy (xxxx) xxxx-xxxx



Contents lists available at ScienceDirect

#### **Telecommunications Policy**

journal homepage: www.elsevier.com/locate/telpol



### Political economy of telecommunication infrastructure: An investigation of the National Broadband Network early rollout and pork barrel politics in Australia

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#### ARTICLE INFO

# Keywords: Political economy Infrastructure Telecommunication Australia Pork barrel National Broadband Network

#### ABSTRACT

It has been argued that infrastructure unevenness rigidifies into more lasting structures of socioeconomic and political privilege and advantage. This paper focuses on telecommunication infrastructure as the backbone of the fast-growing digital economy, and raises important questions about the early National Broadband Network (NBN) rollout in Australia. The paper asks whether there was any case of pork barrelling in the selection of early release sites that enjoyed a regional competitive advantage against other localities that had to wait several years to receive the infrastructure. The answer to this question then leads to a second question about the degree to which voting in the early NBN release sites has swung following the infrastructure rollout. In order to answer these questions the paper examines the voting patterns in the earlier NBN release sites versus all electorates in the Federal elections in 2007–2013 using the data available via Australian Electoral Commission. Findings show trends of politically targeted funding, followed by vote swing in the very next election.

#### 1. Introduction

Infrastructure has long been a topic of investigation for numerous urban studies (Graham & Marvin, 2001; Kaika & Swyngedouw, 2000; Swyngedouw, 1997). The investigation, for the last two decades, mostly included a strong focus on infrastructure protection closely linked to the conventional treatments around technical and engineering aspects of infrastructure provision and maintenance (Gheorghe, Masera, & Weijnen, 2006). It has been only over the last few years that a surge of interest in the socio-economic and political character of infrastructure formations has been witnessed (Dodson, 2009; Neuman & Smith, 2010). It has been argued that the infrastructure unevenness rigidifies into more lasting structures of privilege and advantage (Bröcker, Korzhenevych, & Schürmann, 2010; Dodson, Gleeson, Evans, & Sipe, 2007).

More recently, the literature has shown growing interest in broadband technology as the key telecommunication infrastructure, and also as the backbone of the fast-growing knowledge economy (Eskelinena, Frankb, & Hirvonena, 2008; Ford & Koutsky, 2005; Grubesic & Mack, 2015). In the US, consequences of uneven distribution of the new infrastructure have been studied with focus on 'islands of inequity' that are simultaneously victimized by the deregulated telecommunications market, and by local governments not promoting an equitable distribution of broadband services (Grubesic & Murray, 2004; , 2006, 2012). In Australia, referring to the ongoing investment on the National Broadband Network (NBN), it has been argued that the early NBN rollout gives the release sites a regional competitive advantage against other localities that have to wait up to several years to receive the telecommunication

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http://dx.doi.org/10.1016/j.telpol.2017.02.002

Received 7 October 2016; Received in revised form 2 February 2017; Accepted 3 February 2017 0308-5961/  $\odot$  2017 Elsevier Ltd. All rights reserved.

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infrastructure (Alizadeh, 2013, 2015a).

This paper, however, takes the discussions on the provision of telecommunication infrastructure in Australia to a new level, and raises important questions about the political economy of infrastructure provision. The paper asks firstly whether there was any case of pork barrelling in the early NBN rollout; and secondly if the (targeted) infrastructure funding swung votes at all.

In order to answer the above questions, the paper starts with an investigation of political economy of infrastructure investment both internationally, and in Australia. It then focuses on telecommunication infrastructure with a review of the ups and downs of the National Broadband Network (NBN) since its announcement in April 2009. An analysis of the distribution of the early NBN rollout across Australian Federal electorates is then followed to examine if there was any pork barrelling politics involved in the infrastructure investment, and if the targeted funding swung votes.

Such an examination has its limitations—while the early NBN rollout gave the local communities a competitive advantage, the new telecommunication infrastructure was only a fraction of total federal government investment. In other words, the NBN rollout was only one possible way that the government could direct resources towards particular electorates. Decisions over the location of universities, hospitals, military bases, and government offices can all be implemented in a partisan manner. This suggests that this study at best will be able to identify some correlation between the telecommunication infrastructure investment distribution, and voting behaviour. This cannot be assumed as a causal relationship because of the complexity of all of the factors which influence voting decisions.

#### 2. Political economy of infrastructure investment: pork barrel politics

The surge of interest in infrastructure, over the last few years, has involved a shift from conventional treatments organised around technical and engineering discussions to more recent approaches that emphasize the socio-economic and political character of infrastructure formations (Alizadeh, Sipe, & Dodson, 2014; Dodson, 2009; Kaika & Swyngedouw, 2000; Lorrain, 2001). Much of this new interest in infrastructure stems from the recognition that modern cities are comprised of multiple, inter-connected and/or overlapping networks of physical and digital infrastructure conveying not only people, water, waste and energy, but also information (Furlong, 2011; Graham & Marvin, 2001; Guy, Marvin, Medd, & Moss, 2010; Rutherford, 2011). The utmost level of integration of modern life with infrastructure has resulted in increased governments' investment; and also made infrastructure a desirable target of pork barrel politics.

Pork barrel politics - the practice of targeting public funds to particular regions or local districts based on political considerations - has long been investigated (Evans, 2004; Leigh, 2008). One set of studies has focused on the relationship between electoral systems and pork barrel politics. A key question is whether politicians allocate resources primarily towards swing seats or safe seats. While Cox and McCubbins (1986) posited a model in which politicians are risk-averse, and therefore channel resources more generously towards their core supporters, Dixit and Londregan (1996) argued that in certain circumstances, politicians prefer to spend money on swing voters. Another important question is whether and if yes, how much pork barrelling matters at the ballot box. While some studies have observed little or no relationship between local expenditure and vote share (Feldman & Jondrow, 1984; Stein & Bickers, 1994), others have found that more spending influences people's voting behaviour (Alvarez & Saving, 1997b; Levitt & Snyder, 1997).

There is a well-established body of international literature around political economy of infrastructure investment (Cadota, Röller, & Stephan, 2006; Gramlich, 1994), covering a wide range of traditional infrastructure projects (transport, energy, etc.). There, however, remain ongoing debates around the impact of government investment in different types of infrastructure projects on economic activity and employment at the national level (Crain & Oakley, 1995; Edelberg, Eichenbaum, & Fisher, 2002). The literature argues that the main political factor considered in infrastructure allocation is a measurement of the electoral productivity of funds invested in each region (Castells & Solé-Ollé, 2005).

#### 2.1. International perspective

The politics of infrastructure provision, has been widely studied across the US (Alvarez & Saving, 1997a; Crain & Oakley, 1995; Feldman & Jondrow, 1984); with evidence suggesting that political conditions such as legislative stability and voter volatility are systematically related to infrastructure differences across states (Alvarez & Saving, 1997b; Evans, 2004).

Similar patterns are observed across Europe, and research has shown historic trends of pork barrelling in a number of countries including Italy (Golden & Picci, 2008), Spain (Castells & Solé-Ollé, 2005) and France (Cadota et al., 2006). Results mainly suggest that efficiency criteria played only a limited role in the geographical distribution of infrastructure spending. Nevertheless, electoral concerns appeared to be, indeed, significant determinants of the cross-regional allocation of infrastructure investments.

Empirical evidence from South and Central America also show a culture of 'political opportunism' and 'local pork barrel politics' in infrastructure investment at different levels (Costa-I-Font, Rodriguez-Oreggia, & Lunapla, 2003; Schady, 2000). Drazen and Eslava, (2005, 2006, 2010) in a series of studies presented a model of the political budget cycle – across Colombian municipalities – in which targeted infrastructure investments were devised to influence voters, especially in swing regions.

The data coming out of the fastest growing economies in the world, China and India, seem to also be telling similar stories of pork barrel politics (Khemani, 2010; Luo, Zhang, Huang, & Rozelle, 2010). For example, Khemani (2010) examined the variation pattern of public spending in infrastructure across India over time, and argued that the pattern was due to infrastructure projects being used at the margin for political gain.

More specifically, there is a growing body of international literature focusing on the political economy of telecommunication

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