



Socio-economic wellbeing in Australian mining towns: A comparative analysis

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A B S T R A C T

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Understanding the links between resource dependence and socio-economic wellbeing has long been a subject of interest amongst social scientists in North America. By contrast, relatively few Australian studies exist on this topic. This is despite the significant role of resource industries in shaping Australia's economic and social geography. Where research has been undertaken it tends to focus on the experience of a single town or region. This paper presents a cross-sectional analysis of socio-economic performance across 33 small mining towns in Western Australia. We design and test a number of empirical models that are hypothesised to account for the variability in socio-economic performance across different resource industry contexts. The results of the analysis suggest that socio-economic wellbeing in these towns is highly variable, and contingent on a range of factors including the nature of the particular commodity, company structure, and location.

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1. Introduction

The economic and social challenges facing small, resource dependent towns has long been of interest to social scientists. This body of work is particularly voluminous in North America, where geographers, sociologists and regional scientists have established a venerable tradition of 'resource town' studies (e.g. Landis, 1938; Kaufman and Kaufman, 1946; Lucas, 1971; Himelfarb, 1976; Nord and Luloff, 1993; Randall and Ironside, 1996; Markey et al., 2008). Given the finite nature of non-renewable resources and the volatility that often characterise these economies, much of the research on this issue has emphasised the problematic relationship between high levels of resource dependence and the socio-economic wellbeing of the residents of these towns. One of the central themes in this research has been to better understand the paradox of 'poverty in the midst of resource abundance', focusing on questions such as the interaction between commodity prices and social welfare (Freudenburg, 1992), income inequality in resource communities (Leatherman and Marcouiller, 1996), welfare dependence (Elo and Beale, 1985), and the instability of resource dependent labour markets (Halseth, 1999). In much of the earlier research on the topic, however, there had been a tendency to treat resource dependence as a unitary phenomenon rather than something that is highly nuanced and shaped by the specific resource base, company structure, history and location (see Stedman et al., 2004).

In response to this, an increasing number of scholars have begun to explore the diverse development trajectories and experiences of resource towns, particularly with regard to socio-economic wellbeing (e.g. Nord and Luloff, 1993; Randall and Ironside, 1996; Freudenburg and Wilson, 2002; Wilson, 2004).

In contrast to the focus on issues associated with socio-economic wellbeing and resource dependence in North America, research on this theme in Australia has been of relatively marginal scholarly interest. This is surprising given that mining is a fundamental part of the nation's economy and that resource towns have long been a major feature of the economic and social geography of Australia (Blainey, 1963). There is, however, a small body of literature that has focused on issues such as infrastructure, housing and service provision (Rolfe et al., 2007), demographic change (Petkova et al., 2009), labour force attraction and retention (Tonts, 2010), the emotional impacts of mine closure (Pini et al., 2010), the social characteristics of resource boomtowns (Lawrie et al., 2011) and the socio-economic wellbeing and marginalisation of Aboriginal peoples (Howitt, 2001; Lawrence, 2005; Langton and Mazel, 2008). One of the characteristics of this research has been the tendency to focus on single town or region case studies, rather than broader analyses that incorporate multiple locations and sectors (Hajkowicz et al., 2010). As a result, there are few comparative studies that consider how socio-economic wellbeing might vary according to the particulars of resource base, company structure, or a range of other place-based effects.

This paper presents a cross-sectional analysis of socio-economic performance in 33 small mining towns in Western Australia. It focuses on a selection of widely accepted and readily quantifiable

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measures of socio-economic wellbeing, such as income, unemployment and welfare receipts, to examine the relationship between resource dependence and socio-economic wellbeing, and how it varies according to the diverse local contexts in which mining takes place. The rest of the paper is organised into five main sections. The following section considers the complex relationships between resource dependence and socio-economic wellbeing in rural areas. Based on the findings of previous research, it identifies a number of potential drivers of differential socio-economic performance within resource dependent communities. Section 4 outlines the characteristics of the mining industry and associated small communities in Western Australia, focusing on commodity mix, economic performance, and employment structure. Section 5 provides an overview of the model design and methodology. Section 6 presents the results of the modelling, and explores the complex and inter-connected drivers of socio-economic wellbeing in Western Australian mining towns.

2. Resource dependence and socio-economic wellbeing: a brief review

The long tradition of research on resource dependent communities began to take on a renewed vigour during the 1970s and 1980s (see Lucas, 1971; Brookshire and D'Arge, 1980; Freudenburg, 1984; Gartrell et al., 1984; Bradbury and Sendbueler, 1988). This was largely motivated by several broader structural changes within the resources industry, the implications of which contributed to a growing interest in the dynamics of the sector and the challenges faced by resource dependent communities. During this period, it became increasingly apparent that the combined effects of finite local resources, rising international competition and global economic upheaval were having a deleterious effect on the local economies of many mineral resource towns in the United States, Canada and Europe (see Himelfarb, 1976; Bradbury and St-Martin, 1983; Neil et al., 1992). This research often built on work conducted in developing economies (e.g. Frank, 1967), with an increasing number of scholars seeking to understand why poverty was so often apparent in the midst of natural resource abundance (see Mills, 1995). Juxtaposed against many declining mining towns, the Arab oil embargo of the early 1970s underpinned the emergence of energy boomtowns, particularly in the western United States (e.g. Little, 1977; Wilkinson et al., 1982; Brown et al., 1989). In these towns, social scientists observed a range of challenges associated with rapid growth, including shortages in the provision of housing and services, high crime rates, and low levels of social connectivity (Gilmore and Duff, 1975; Little, 1977; Corden and Neary, 1982).

Subsequent research has frequently pointed to relatively high levels of social and economic disadvantage in resource communities, particularly in remote regions with small populations (Rushen, 1995; Randall and Ironside, 1996; Wilson, 2004). Indeed, the literature is replete with studies linking resource dependence to high rates of unemployment, poverty and welfare reliance (e.g. Elo and Beale, 1985; Freudenburg and Wilson, 2002). Coupled with this have been ongoing concerns about income inequality within resource communities (Leatherman and Marcouiller, 1996). While there is evidence to suggest that resource towns are often associated with high incomes, these findings tend to mask the unequal distribution of earnings within the population (Freudenburg and Wilson, 2002; Stedman et al., 2004). This is attributed to a growing disparity between high income earners engaged in specialised, highly skilled occupations and the low-income earners employed in unskilled, peripheral occupations (Williams, 1981; Barrett, 1994; Peluso et al., 1994). In terms of human capital, research has also noted a lack of educational attainment and

transferable skills in resource dependent communities, leaving local workers vulnerable in the face of industry change (Freudenburg, 1992; Halseth, 1999; Stedman et al., 2004).

One of the major challenges facing resource communities is that they are inherently vulnerable to volatile global commodity markets and associated fluctuations in production and employment. Moreover, a single company often dominates these communities, which has the potential to amplify levels of socio-economic vulnerability (Barrett, 1994). As Machlis et al. (1990) have emphasised, resource communities are essentially 'small towns in mass economies', with their social and economic stability largely a function of wider global and national economic systems. This is particularly true for single commodity towns where exposure to external trends and the risk of economic crisis is exacerbated by a narrow economic base and limited opportunities for diversification (Randall and Ironside, 1996). There is evidence to suggest that when downturns inevitably occur in such places, the resultant contraction of local labour markets can lead to high rates of unemployment, poverty and outmigration (Bradbury and St-Martin, 1983; Neil et al., 1992; Randall and Ironside, 1996; Halseth, 2005).

While much of this research focuses on the problematic nature of resource dependent communities, Nord and Luloff (1993) stress that this is by no means a universal trait. Indeed, they argue that there is considerable heterogeneity in the socio-economic characteristics and development trajectories of resource communities. Similarly, Wilson (2004) noted that much of the literature examining the effects of resource dependence tended to generalise patterns related to mining, ignoring the local circumstances within which mining occurs, the role played by the resource (i.e. their size, shape, location and quality), and method of extraction. She argued that, as such, "...the rides of all communities will not be identical, some may experience a wild ride while others may feel only a little dip or bump from time to time" (2004, p. 266). Research also points to the broader temporal and structural dynamics of particular commodities, including the role of global markets and price cycles in shaping local economic and social systems (see Freudenburg, 1992; Machlis et al., 1990).

3. The regional context

Western Australia has a long tradition of resource extraction dating to the first major gold rush in the 1890s (Bolton, 2008). Indeed, much of the State's early prosperity was closely tied to the fortunes of the gold industry. While gold dominated the industry for the better part of a century, the 1960s heralded the beginning of a significant expansion of resource exploitation with the opening up of major iron ore reserves in the north-west of the State. A number of other large mineral deposits were also developed during the 1960s and 1970s including nickel, bauxite, and mineral sands. Significant reserves of natural gas and oil were discovered off the State's north-west in the 1960s and 1970s, with large-scale commercial production commencing in the mid 1980s. Today, Western Australia has a large and extremely diversified commodity base. The State has some 513 commercial mineral projects, encompassing 893 operating mine sites and producing over 50 different mineral resources (Department of Mines and Petroleum, 2010). It is also host to 64 operating oil and gas fields, located predominantly off the North West Shelf of Western Australia (Department of Mines and Petroleum, 2010).

Over the past decade, Western Australia has recorded a significant increase in the value of resource production, largely as a result of increasing global prices for commodities (Fig. 1). Between 2001 and 2010, the value of metals resources increased from a little over A\$17,036 million to A\$52,130 million; a rise of some 206 per cent. In

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