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Long-distance commuting and dispersed socio-economic benefits of connectivity

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ABSTRACT

Long-distance commuting (LDC) in Australia has become an entrenched workforce practice. Work force mobility is not limited to the mining sector although for more than a decade, the scale of LDC in the resources industries has been contentious. A diverse range of workforce supply, logistical and employee preference reasons have contributed to the existence of LDC arrangements throughout Australia across many industry sectors. The economic and social consequences of LDC are also varied and complex. This article reports on research conducted with three case-study communities in rural, regional and remote locations where local residents regularly work long periods of time away from home (source communities) in the mining industry. The research analysed the socio-economic impacts on the workers, families, communities and businesses from source communities. Results show that LDC had benefits and by synthesising the key learnings of LDC, potential benefits for regional and community development are highlighted.

KEYWORDS

Long-distance commuting;
regional development;
resources industries; socio-economic impacts

Introduction

Despite Australia being a highly urbanised nation with almost 90% of its 24.5 million population living in urban areas (Australian Bureau of Statistics, 2016), its economic history has been dominated by staples industries, principally mining and agriculture. Since the 1980s, policies that advocated trade liberalisation, deregulation and privatisation in an era of neoliberalism have transformed how Australian industries operate domestically and engage with global markets (Measham, Haslam McKenzie, Moffat, & Franks, 2013; Minifie, 2013). The most recent resources boom, which commenced in 2001 and lasted more than a decade, was in response to strong Asian demand, particularly from China.

Neo-liberal policy agendas have accelerated flexible production networks. Like most capitalist economies, a range of functions and services are no longer undertaken by government, but instead are provided by business enterprises and corporations which conduct their operations according to commercial principles (Ripepi, 2014). As a result, there has been widespread rationalisation and centralisation of services, especially in rural, regional and remote locations where economies of scale in service delivery are difficult to achieve.

Consequently, the spatial re-organisation of the labour force has tended to follow suit; people choose to live where there are accessible services and high amenity, working compressed shifts (colloquially referred to as “block shifts”), in locations often considerable distance from home. Efficient transport networks underwritten by the private sector and advanced technological innovations enable this spatial reorganisation of the labour force.

The impact of the spatial reorganisation of the labour force is underscored by the phenomena of long-distance commuting (LDC). LDC is an encompassing term for a range of commuter work arrangements including fly-in/fly-out (FIFO), drive-in/drive-out (DIDO), bus-in/bus-out (BIBO) and ferry-in/ferry-out (FEFO) (Haslam McKenzie & Hoath, 2014). The worksite is typically a considerable distance from workers’ homes and often in remote places (Storey, 2010). Employees work for an extended roster of usually more than eight days and often several weeks, before returning home for an extended period of furlough and repeating the cycle. LDC is not new; it has been used by companies for nearly 50 years, but its pervasive practice and impact, particularly on small, non-metropolitan communities, has drawn considerable debate (Franks, Brereton, & Moran, 2013; House of Representatives Standing Committee on Regional Australia, 2013; Nicholas & Welters, 2017) and even ire amongst politicians, community leaders and media commentators.

Not all communities, however, are adversely affected by LDC. Some even thrive because of the practice. This article argues that more nuanced insights into the social and economic impacts of a peripatetic workforce has potential benefits for more carefully planned regional economic development strategies. The next section contextualises the utilisation of LDC as a workforce practice, particularly in the mining industry, and explains why it has become such a pervasive work arrangement. The debates regarding its impacts on social, community and regional economic development will also be considered. Following this, the three case-study communities which offered themselves as *source* communities will be introduced and the research methods used to conduct this research will be outlined. An assessment of the socio-economic impacts of a large mining company’s regional employment initiative on the case-study sites, with a particular focus on the individual and community benefits, will be presented. To conclude, the key findings will be synthesised and the potential benefits for regional and community development will be discussed.

Literature review & theory

There has been considerable literature over many decades regarding worker mobility. Much of this literature focuses on workers travelling long distances to seek work on an individual, informal basis (Cresswell, 2010; Cresswell, Dorow, & Roseman, 2016; D’Arcy, Gustafsson, Lewis, & Wiltshire, 2012; Urry, 2007). However, as noted by Cresswell et al. (2016), a new mobilities paradigm, that is not the antithesis of fixity or immobility, nor about migration, is needed. This article contributes to the emerging new mobilities paradigm literature, where, as articulated by Cresswell et al. (2016), extended travel for work and mobility are inextricably linked. Unlike earlier research on worker mobility, LDC workers in the Australian resources industries are not poor, temporary workers travelling to seek whatever work is available (Lindquist, 2009; Newhook et al., 2011), nor are

they hyper-mobile corporate executive jetsetters (Elliott & Urry, 2010). Instead, they are well paid, highly organised employees and their destinations are constant.

While LDC for work purposes has been of considerable social, economic and public policy interest in Australia for some time, the practice is not new. Formalised LDC was used for oil and gas workers in the Gulf of Mexico in the 1950s (Storey, 2010) and was subsequently used in the North Sea in the 1960s. Since then, it has become an entrenched workforce practice in Canada, Africa, Australia and anywhere where there is a prolonged work activity with no nearby community to support the industry and its workforce. In Canada, the forestry, fishing and resources industries have used LDC for 40 years (Ryser, Markey, & Halseth, 2016). The recent, prolonged resources boom in Australia, the high resources prices and the often chronic labour shortages escalated the demand for LDC workers. Media and political attention, much of which was unfavourable, focused on the resources industries' FIFO practises (Bowler, 2003; House of Representatives Standing Committee on Regional Australia, 2013; Probyn, 2013), and the documented detrimental impacts on host communities (places where LDC employees work) and the families of LDC workers (Markey, Ryser, & Halseth, 2015; Ryser et al., 2016).

The resources industries have been the focus of considerable media and other scrutiny regarding utilisation of LDC, but there are numerous other sectors which use LDC workers for a variety of reasons (Nicholas & Welters, 2017). Work undertaken by Greer and Stokes (2011) and KPMG (2013) provides evidence that the government sector is a much bigger user of transient workers than the resources sector and has been using LDC to fill gaps in the workforce for several decades. Nonetheless, worker mobility, and particularly FIFO and DIDO in the resources industry, has attracted the most interest, much of which is negative, provoking extensive research scrutiny over the last decade. For a variety of reasons, the key features that most excite angst in regional community leadership is where and how LDC workers are accommodated, and the lack of investment in host communities by mining companies and their employees (Miller, Van Megen, & Buys, 2012; Rolfe & Kinnear, 2013; Ryser, Halseth, Markey, & Morris, 2017). There have been several government and public enquiries (Department for Child Protection and Family Support, 2013; Western Australian Legislative Assembly Education and Health Standing Committee, 2015) into the impact of LDC on individuals, families and communities. The most comprehensive is the House of Representatives Parliamentary Inquiry into the use of FIFO workforce practices in regional Australia in 2011. A review of the submissions made to the Inquiry regarding the use of LDC workforce arrangements showed that the majority of the communities (74%) where transit worker accommodation (TWA) proliferated near to resource projects (host communities) were those most antagonistic to the practice of LDC. However, the overarching theme of the final report of the Inquiry (2013) was that LDC was a legitimate way for employers to meet their skill needs and resource companies are expected to demonstrate corporate social responsibility through support of their employees and the communities in which they operate (Haslam McKenzie, 2016).

While source communities (those communities where LDC workers call home and where their families live) have not been nearly as well researched as host communities, there is a growing body of work on the subject. Wright and Czelusta (2007) used a range of international case studies, including several from Australia, which showed that resource-driven growth has had long-term benefits through technological progress and

investments in appropriate knowledge which have spill-over benefits in source communities. More specifically, Hajkowicz, Heyenga, and Moffat (2011) showed that quality-of-life indicators across a range of local government areas with links to mining activity have been generally enhanced. McKenzie's work (2013, 2016) reported on a well-established mine workforce in regional Victoria (Australia), supported by the local government authority, which actively sought LDC opportunities for mining communities elsewhere to counter the impacts of local mine closure. Rather than undermining the community, LDC was viewed as a social and economic lifeline and a solution to imminent economic problems. Porter, Franks, and Everingham (2013) examined the cumulative impacts of resource extraction on the environment and economies of resource-related regions. While there were negative impacts at the host community, there was evidence of cumulative job creation and population retention in source communities. The work conducted by Hoath and Pavez (2013) examined land-use conflict in a long-standing agricultural community where mining has increasingly taken economic, and by default, social precedence. Their work examined the impact of a DIDO workforce and their leisure and expenditure patterns in their home communities. It showed that while there was limited investment by mineworkers in the host community, there was significant investment in the source communities. Similarly, work conducted by Haslam McKenzie and Hoath (2014) tracked expenditure patterns and household impacts of the FIFO lifestyle in a sea-changing rural coastal community. The additional local expenditure and increased local investment made a difference to the local economy. This case study will be re-examined in this article. Markey et al. (2015) examined a small, remote, Canadian "instant town" built in the 1960s to accommodate forestry workers. With the collapse of the forestry industry in 2008, workers looked to LDC to access work. While for many the LDC experience was difficult and disruptive, research participants admitted that LDC enabled the small community to survive the downturn and return to forestry work when the industry recovered in 2011, keeping families and businesses in the town.

Evidence shows LDC has uneven impacts on communities depending upon their role as either a host or source community. However, as made clear in the case study documented by Markey et al. (2015), the proportion of the local population who commute away from a source community also makes a difference. By examining three case-study source communities that report diverse benefits from local LDC workers, this article's contribution to the workforce mobility literature is an insight into the conditions that enable workers, their families and the community to gain the most from the work arrangement. It also provides additional evidence to support Cresswell et al.'s (2016) call for a new mobilities paradigm.

Research methods

Case-study locations

In Australia, at the peak of the resources boom, demand for skilled and experienced labour, especially in the mining areas, was intense. Rio Tinto, one of the largest global mining corporations, explored the potential benefits of employing cohorts of workers from rural, regional and remote locations around Western Australia that had a local airport capable of medium passenger and freight-carrying capacity. Commencing in

2006, Rio Tinto began employing workers from regional Western Australian towns, with the first regional workforce flying from Geraldton in the Mid-West region of Western Australia direct to Pilbara minesites. This was deemed a success and the company was the first to formalise the practice of directly linking source communities with specific mining operations. The “Regional Employment Strategy” was expanded to eight regional Western Australian centres flying to seven Rio Tinto mining operations in the Pilbara region. The source centres selected for this article are shown in [Figure 1](#), and span the state of Western Australia, from Albany on the southern coast to Broome in the northern Kimberley region.

Each case -study source centre is located in a different climatic zone with dissimilar local industry sectors and demographic profiles (see [Table 1](#)).

Busselton’s population growth has been largely due to its transition from a mainly agricultural community to one that is now a recognised sea/tree change locality. While agricultural industries underpin the local economy, new industries, such as viticulture, tourism and leisure industries, such as surfing, are well established. It is also a favoured retirement location. However, along with other communities in the South-West, tourism and agriculture were two industries that struggled during the boom years due to the high Australian dollar, a glut in the wine industry and slim margins in the dairying industry (Australian Bureau of Statistics, 2011, 2012a, 2012c; Department of Infrastructure and Regional Development, 2016). Employment trends are skewed to unskilled and casual labour opportunities, despite many residents having post-school qualifications.

Geraldton and the Mid-West region have a relatively strong and diversified economy (Plummer, Chapman, & Haslam McKenzie, 2015a, 2015b). Agriculture has been the mainstay and mineral resources, particularly in the last decade, have been additional economic contributors to the regional economy. In 2011, Geraldton had the highest regional employment diversity in Western Australia, reflected in local economy growth in line

Figure 1. Rio Tinto regional “source” communities.

Table 1. Source centre demographic profiles.

	Population of local government area (2014)	% of population who are Aboriginal	Distance from Perth*	Dominant industry sectors	Region
Geraldton	39,437	11	424 kilometres north	Broadacre agriculture; Fishing; Mining; Government services and Retail.	Mid-West
Busselton	34,290	<1	220 kilometres south	Agriculture (viticulture and dairying); Tourism and Retail	South-West
Broome	17,251	37	2240 kilometres north	Agriculture (pastoral); Tourism; Government services and retail	Kimberley

with the State economy during 2006–2011, creating jobs at about the same rate as the whole State (Plummer et al., 2013).

Broome is an important population, government services delivery, industry and transportation hub for the west Kimberley region. For the decade 2001–2011, the Shire of Broome had a service-led, relatively diverse economy (Plummer, Chapman, & Haslam McKenzie, 2015a). Whilst education is highly variable in the Kimberley, Broome residents are 34% more likely to have a university graduate or postgraduate degree compared with other regional residents in the State (Australian Bureau of Statistics, 2012b). The Kimberley region has a high proportion of Aboriginal residents compared with the state of Western Australia overall. In comparison with the non-Aboriginal population, there is a persistently low Aboriginal employment rate in Broome (Geografia, 2014) and health and well-being indicators are also persistently low (Australian Institute of Health and Welfare, 2014).

Research design

The research design included meeting the three case-study communities' and the mining company's keen desire to understand the employment strategy's impact on community services, businesses and the company's employees and their families. The company was particularly interested to understand the impact of the Strategy on Aboriginal employees and their families, given the company's commitment to employ Aboriginal people as part of its Indigenous Land Use Agreements. To meet this aim, a mixed-method approach was applied to collect, collate and analyse data. This included desktop research and analysis of existing publicly available data sets, such as local government and census data, intra-regional aircraft and airport information, and de-identified company employee data. In-depth interviews were subsequently conducted with representatives from local and state government organisations ($n = 37$), the Regional Development Commissions ($n = 9$), not-for-profit (NFP) community organisations ($n = 12$), service providers ($n = 14$), industry organisations ($n = 3$), Aboriginal corporations ($n = 5$), Aboriginal employment agencies ($n = 4$), as well as employment officers, liaison officers and mentors from the company ($n = 16$). LDC Rio Tinto employees ($n = 56$) and their family members and

spouses ($n = 41$) were interviewed using individual face-to-face or focus group interviews using a standardised open-ended interview schedule. The research design fully complied with the stringent university ethics guidelines and all participants were issued with comprehensive information about the research, its purpose and how data collected would be used and stored. Consent forms were explained to all interviewees and signed by both parties.

The research undertaken in Busselton was conducted at the peak of the boom in 2012–2013, while the Geraldton and Broome case-study research was undertaken in 2015 and 2016, respectively, when iron-ore prices were considerably lower and the mining sector was beginning to contract. Interview data were subsequently analysed using NVivo software identifying themes in the interviewee responses about a range of personal, family, community and workplace issues in relation to regular worker mobility. The themes discussed differed depending upon whether the interviewee was a LDC worker or family member, a representative of the mining company, a community leader or government agency spokesperson. LDC workers and their families were asked about family structure, education level, the type of work they do, work history, disposable income expenditure and investment behaviour, lifestyle choices and whether they volunteer in their home community. Issues regarding the perceived impact of LDC on source community infrastructure and service needs were the main theme of the questions asked of community leaders. Representatives from local and state government organisations, Aboriginal Corporations, NFPs, service providers and employment agencies were asked about existing linkages, and service delivery gaps between corporate mining operations, government and non-government agencies in source populations. They were also questioned about the potential scope for governance partnerships between local and state government, non-government organisations and the mining sector for strategic and targeted planning purposes and for the provision of appropriate services and infrastructure. For the purposes of this article, findings will focus on the social and economic impact of LDC and worker mobility on the source community by presenting descriptive summaries.

Findings

Consistent across all three case studies, the motivation for the majority of respondents to commute long distances from home to mine sites was to access well-paid jobs while their families resided in the community where the family wanted to live. Individual circumstances guiding the decision to work away from the family and local community for blocks of time were diverse and included specificity and level of experience and qualifications, time of life and family demands. The economic robustness of the local place of residence, availability and range of local employment options and priority given by the family to reside in a specific locality for natural and lifestyle amenities were further drivers. The ability to transition smoothly between home and work was influenced by the length of the work block, the ratio and regularity of time on/time off, the mix and length of shifts, opportunities to rest before flying, and length and complexity of commute arrangements.

All mining company employees reported that they repatriate the majority of their salary back to their home community. While superannuation, large mortgage commitments and holidays spent elsewhere accounted for considerable income leakage, a reasonable proportion of disposable income reportedly circulated locally for all three case-study sites.

Both Busselton- ($n = 9$) and Geraldton- ($n = 5$) based employees explained that their work on mine sites provided a welcome alternative from, or supplement to, the precariousness of self-employment or poorly remunerated employment in small local businesses. They reported that mining income enabled them to stay in their community and enjoy their chosen lifestyle, rather than be forced to move to Perth or elsewhere to seek work. Broome employees all had strong local cultural and family ties and very few considered living elsewhere, regardless of income. In the event they were retrenched from their mining jobs, they reported that they would look for work locally, if available, or resort to social security. The data from all three case-study sites indicated that many (84%) workers and their families routinely saved part of their income or had investments which they hoped would enhance their retirement nest egg or assist their children in the future.

Company employees explained that the generous salaries provided them and their families with material benefits, and particularly for Aboriginal employees, self-esteem and status in their home community. Many ($n = 22$) acknowledged that the personal and skills development accrued through their training and day-to-day work on the mine site were potentially transferable to the home environment and community. Employees ($n = 31$) whose home was in Geraldton and Busselton reported regularly volunteering their skills through emergency services, fire brigades and ambulance services during their time at home.

Community and government organisation representatives, particularly in Broome and Geraldton, appreciated the potential for the mining company's regional employment strategy to boost the local economy. They noted the opportunities and particular employment programmes offered to Aboriginal people. In Geraldton, most Aboriginal employees (72%) had at least some work experience prior to working at the company, although they typically received additional training and work-readiness experience through company-affiliated training programmes. In Broome, however, approximately 20% of employees had never worked prior to undergoing intensive work-readiness and mine site familiarisation programmes. This was recognised as a major contribution, not only to the local economy, but also to community development. A range of government and community representatives in Broome and Geraldton also acknowledged the noticeable material and social difference mining employment was having on particular families and the community more broadly. It was explained that many others in the Geraldton and Broome communities wanted to be eligible for company employment in the future and had adopted practices and habits they thought would put them in good stead for future employment. According to local law and order agency representatives, these aspirations had an overall positive impact on both communities.

Once a person was identified by the company as a potential employee, they were required to undertake intensive locally based training through a local training provider before placement in the workforce. In addition to specific job skills, the training also addressed a range of work readiness and life skills necessary to successfully navigate a potentially unfamiliar work environment and the stringent routines of LDC life. Not all graduates of the work-readiness programmes progressed directly to the company and mine sites; some graduates were employed by contractors who provided services to the company and other mining-related workplaces. Hence, they developed experience and additional work-readiness skills for future work with the company or any other

organisation. The company also sponsored apprenticeships through local government authorities, thereby ensuring a flow through of future skilled employees for the company while enabling apprentices to develop skills in their home community and assisting local government authorities with additional workforce power. The company has a shop front in the main street of the respective towns which community and government representatives considered important, an overt commitment to be an active employer and sponsor of cultural activities, family days, sporting events, local training organisations and community-based personal development programmes.

Discussion and conclusions

As noted by Petrova and Marinova (2013) and Franks et al. (2013), the social and economic impacts of mining are always inter-related, mutually dependent, cumulative and synergistic. In each of the three case-study communities, mining represents a minor industry sector, but its socio-economic contribution is strongly valued by the company employees and also by local government and community organisations. Consistent with the ABS' broad interpretation of socio-economic contribution (Radisich & Wise, 2012), an important economic effect of LDC arrangements is that social and materials benefits are spread over a wider geographic area. This research found that mining incomes enabled people, families and businesses to remain in rural, regional and remote locations, regardless of the considerable distances from the mining activity. As noted by Rolfe and Kinnear (2013), salary tends to be spent in the places where people live, rather than where they work. The present research supports this literature, finding that direct income from mining employment is spread more widely than it would be if employees lived in mining communities. Regional population growth is a key driver of regional development. In all three case-study sites, attracting and keeping families locally, and local expenditure through the company's regional employment strategy, were identified as important for supporting local businesses and retaining services in town.

Also noted by Rolfe and Kinnear (2013), just as important as the direct employment benefits are to company employees, so are the indirect benefits and potential multiplier effects important to the local economy and community. In Broome and Busselton, training programmes targeted at the semi-skilled level and underwritten by the company were developed to assist local job aspirants to prepare for mining work. In both communities, it was reported that these courses were having broader regional benefits not limited to the mining sector. Findings corroborate the work of Rolfe and Kinnear (2013), noting that with employee mobility, the resource company economic and social impacts tend to be diffused and are more likely to be maximised in regions away from the mine site. The relative isolation of Broome and Geraldton contributed to an increased tendency for LDC populations residing in those communities to spend locally on goods and services. Community and government organisations in these towns were more aligned with, and welcoming of, the potential community benefits that derive from increased employment, salary repatriation and training opportunities provided through Rio Tinto. What set the Rio Tinto Regional Employment Strategy apart from other company-sponsored LDC commuting was the scale of employment programme and direct linkages and benefits derived from connectivity between non-metropolitan destinations. Unlike most other FIFO arrangements, flights are not hub and spoke arrangements through a capital city

airport; employment arrangements largely boosted source communities and had socio-economic flow-on effects.

Lack of contribution to community activities is a common theme directed at LDC workers (House of Representatives Standing Committee on Regional Australia, 2013; Markey et al., 2015). This was often raised during interviews; however, findings showed that this was not necessarily the case. Parents wanted to participate in their children's activities, and although they could not necessarily contribute on a regular basis, they helped out at community events and other one-off activities. Other parents regularly participated in in-class reading and mathematics programmes. One father who was a FIFO worker explained that he was conscious of the time he spent away while his children were young and he was the most regular parent to volunteer for reading in his son's Year 1 class. He noted that not everyone in the community wants to volunteer and it is the same in the FIFO community but, too often, LDC parents are a scapegoat for a broader community phenomenon of non-participation. Research participants indicated that many LDC workers were actively engaged in a wide range of activities that could accommodate their intermittent presence, such as fire brigades, sporting teams, children's playgroups or cultural committees. While some had no interest in moving outside their family circle when they were at home, many indicated a desire to volunteer and a willingness to participate in the broader community.

Unlike other studies regarding employment-related geographical mobility, which tend to focus on the impact on people, power relations, transportation, migration and the meanings of mobility, this article examined how LDC and worker mobility impacted regional development through the experiences of three diverse, source communities in Western Australia. Despite the considerable literature on the negative impacts of LDC, particularly FIFO on host communities, this article found that formalised, coordinated practices of mobility had positive outcomes for these three source communities. The benefits of dispersed mining salary expenditure and corporate expenditure on skills and community development had the most obvious impact. This article contributes to the small, but growing, literature advocating a more nuanced perspective on the socio-economic impacts of labour mobility. Specifically, it emphasised opportunities derived from creating work connectivity between regionally based employees with workplaces located considerable distance away, such as enabling families to stay in regional locations while also earning high incomes elsewhere. More nuanced insights into the dispersed impacts of organised workforce mobility adds weight to Cresswell et al.'s (2016) argument that the "new mobilities paradigm" extends mobility theory into territory hitherto unexplored, but which could assist in capturing more accurately the socio-economic impacts for better informed regional development policy.

Disclosure statement

No potential conflict of interest was reported by the authors.

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