

Resources Cycle

Subjects: **Economics**

Contributor: Theo Connell-Variy

Resources cycle means volatility in the resources sector over a period of time based on metrics such as value or production volume. Resource cycles present considerable heterogeneity with differing time lines but generally run from a low point (production, demand or value) through a period of increase, before returning to a comparable low point. Since the turn of the century this concept has driven discourse and research into housing markets, investment opportunities and socioeconomic change in resource towns of a country as the impacts of mining driven change become increasingly pronounced.

mining towns

volatility

housing markets

Australia

Sweden

1. Introduction

In Australia, the notion of what a resource town is is shifting and evolving, especially in light of recent cycles and the changes that accompanied these. International researchers have examined the resource town in the context of a mining cycle more holistically and more completely. In Canada, where resource-based industry is prolific and not limited to mining, the development of a suite of research examining all facets is apparent. The bust stages of the boom and the implications of this 'wind down' on the community have been examined [1], an aspect of the most recent boom that must be further researched in an Australian setting. While Australia too has produced historical research around mining-driven growth, it has little applicability to the most recent boom due to the boom's significant structural differences.

The emergence of fracking in North America and Canada has also driven a considerable amount of recent research building on the seminal work of [2] who set out to analyze if resource abundance was good for economic growth. This question is simple, but increasingly complicated, especially as mining cycles, particularly the booms, change. It is also necessary to explore what economic growth constitutes on a local level, and how one monitors change. Notably, reference [3] used 44 years of data to track this over time, however used rental amounts, rather than house prices, in their models to look more closely at the impacts on property. Although in geographical settings there are identified challenges with rental data being either unavailable or thin in areas where mining is common [4]. Importantly, it is stated "house prices presumably capitalize expectations of future market conditions, including the future duration of a natural resource boom or bust" [3] (p. 17), which raises further questions around forecasting capacity and gaps in knowledge.

There is an overarching theme of forward-looking research carried out in the United States and Canada with a view to understanding how certain communities survived into the post-boom phase [5][6]. The notion of 'community

'survival' will be explored further in a modern-day Australian context, particularly by examining the idea of 'critical mass' of population, amenities and facilities in mining towns in Queensland's Bowen Basin. This idea is then extended to Gällivare and Kiruna to facilitate a comparative analysis. This concept of resource town lifecycle analysis is not new in an international setting with early research from [7] examining the growth and decline of Skagway, Alaska, as well as modern research from the region of Zasavje in Slovenia [8].

The need for longer-term, lifecycle-focused analysis of resource communities is established and researchers from Canada and the USA have illustrated the breadth of factors impactful on community wellbeing. Research in Canada [1] was some of the earliest to identify housing as a critical component of wellbeing in mining towns and a focal point in analysis of any resource community 'winding down'. This research was followed up by [9] which identified housing as a critical resource in communities more than two decades before the first, similarly focused research was produced in an Australian context.

In general, mining towns share certain similarities with regional and rural markets, but experience a range of unique fluctuations and volatilities due to the inherent nature of resources and mining [10]. The severity of impacts is compounded for mining towns where housing and property policy has lagged, and changes within the resources sector have been significant [11]. Mining regions and towns have only received limited research highlighting critical policy considerations relating to housing supply, land release, affordable housing development, and infrastructure and amenity [12]. Critically, as social changes occur and the roles of mining companies shift, very little new policy has been developed or put in place. Research must lead the way in developing and driving policy responses to changing economies.

Increasingly pervasive is the sentiment that many mining companies are failing to contribute to the communities that are enabling their operations: "Arguing that they are paying substantial royalties to the government, companies publicly resist calls to provide infrastructure and services that they see as being the responsibility of the government" [13] (p. 376). This increasing separation of company and town is critically important in the analysis of housing markets during a resources cycle, and in particular, the post-boom phase and the wind-down of operations, as this transcends town typologies. Besides lacking in infrastructure and service development, many small mining towns have experienced problems in the post-mining era in that the landscape, including ground water, is polluted owing to the operations of the mining companies. Therefore, an important strand of research has focused on experiences of communities, post-mining, in European regions [8].

Leading research has illustrated a clear need to diversify and develop alternative industry bases, as the single-industry, resource-reliant model is not sustainable [14]. The 'hub' phenomenon has been widely reported in Australia [15] and has brought "very different regional impacts...as compared to earlier growth in the industry" [16] (p. 142). The proliferation of more efficient mining technologies and increasingly withdrawn private sector governance will only accelerate mining communities away from the historic model and necessitate new, future planning. In Europe, the importance of the Cohesion and Regional Fund has been emphasized as the continent has experienced numerous mine de-commissioning waves since the 1970s. The challenge has been to revitalise the often-lagging

mono-economic communities across Europe, ranging from Galicia in Spain to Bohemia in the Czech Republic [17] [18].

2. Housing in Resource Communities

This study, which compares a range of town typologies that rely on two different, but related, resources in disparate geographical settings extends the current knowledge in numerous areas, but in particular, in understanding of housing market behaviours and their cycles in economies that are built around resources, which, too, are cyclical. This research expands the idea of interacting cycles, that is, the respective resource and the housing market, and extends Australian studies that have been carried out around the most recent resources cycle (e.g., [19][20]). By comparing complimentary resources in two geographically separated locations, this study advances the understanding of resource economies and is able to make a sound contribution around cyclical interactions, particularly in relation to housing market outcomes.

Recent research exploring economic implications of new mining technologies and the expansion of fracking operations has sought to understand the gamut of economic impacts, and this has often extended to property and housing. From these papers there is important factual understanding derived regarding the interplay between a resource sector, economic change and the housing market [21][22][23].

The emergence of socioeconomic factors as part of any mining town analysis is a critical step forward and leads into a more comprehensive review of housing markets as a critical component of mining and resource communities [24]. Increasingly, socioeconomic analysis of communities subject to resource fluctuations is being undertaken, and the importance of socioeconomic wellbeing in light of massive economic growth is being recognized [25]. Here, international research must guide this research as towns and regions move into the post-boom phase.

Research from American and Canadian researchers have focused heavily on socioeconomic wellbeing, to which housing and accommodation is fundamental [26]. Several key pieces of research identify the examination of housing as a crucial part of any broader socioeconomic analysis in the context of resource reliance [20][24][27]. The research that is discussed in the following section has examined, in far greater detail than any of the recent Australian literature, the impacts and outcomes on communities associated with an exhaustible resource, particularly with respect to their housing markets.

The Australian Housing Urban Research Institute (AHURI) presents a strong tradition of research in non-urban areas and researchers who have contributed to AHURI papers have also examined aspects of housing markets in the resources cycle, perhaps most notably the catalogue of work by [13] confronted the complexity of housing market development and management in a strong economy, in which it was demonstrated “how unprecedented international demand for mineral resources resulted in critical, local housing issues in mining communities”. In this case, it was housing stress due to uncapped demand; however, as the boom busted, the inverse was true with high vacancy rates and value loss. Critically, they conclude that, “without careful strategic planning and understanding of

the economic and social role of housing, international market dynamics can create local housing situations that are vulnerable to market and social failures" [13] (p. 373).

The AHURI positioning paper 105 [28] explores housing market dynamics in the context of the cycle's boom phase. This seminal paper also examined 'housing' as it relates to remoteness and isolation in resource dependent communities; that is, housing market analysis in resource towns is not simply a relationship between two variables. This research, published at a point when commodity prices were high and rising, also examines policy intervention designed to address critical issues around development, availability and affordability [25]. Thus, pioneering the idea that while housing and mining cycles are being examined the exogenous factors which impact here are significant, and in the context of recent resource sector volatility, have been underexamined.

Development and supply of housing in mining communities in the recent boom is another way in which this boom differed from those which preceded it, further necessitating this research as FIFO commuting was increasingly common and the work camp model became preferred. Issues around housing in particular have underpinned the broader socioeconomic issues identified in the research [29][30]. Comparatively, much of the population in the Swedish mining communities are dependent on the mining operations for their income, but the housing market is not in the hands of the mining companies. The most common type of dwelling is small detached houses, followed by apartments and condominiums. Even though the prices are below the Swedish average, prices have nearly quadrupled during the investigated period, despite a decreasing population (see **Figure 1** below). **Figure 2** (below) illustrates the volatility experienced in Australian mining towns over the corresponding period.

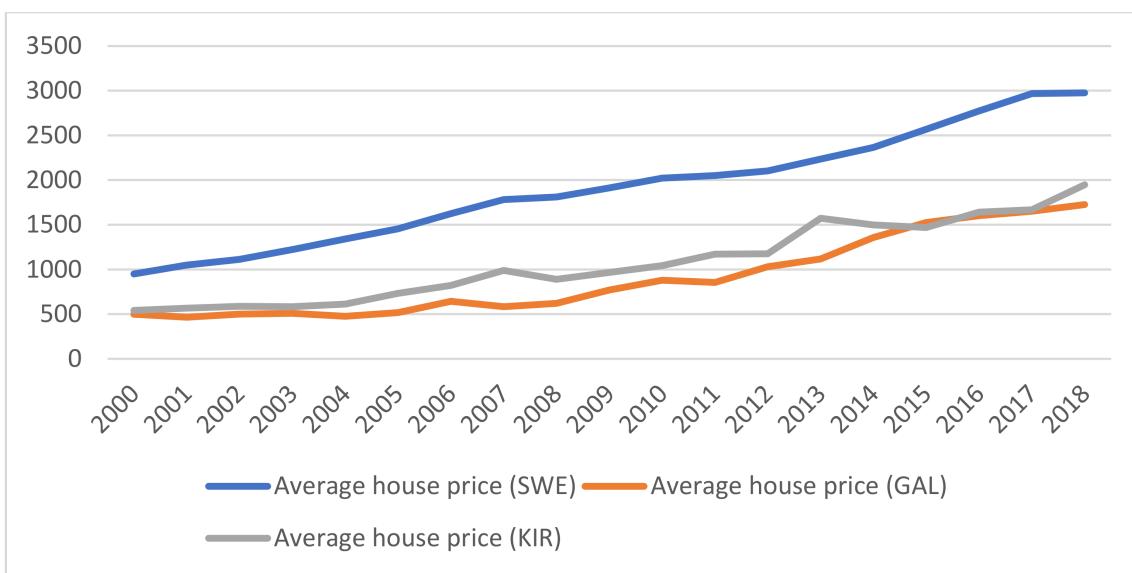


Figure 1. Average house price in Swedish mining towns (TSEK). Source: [31].

The economic implications of mining camp development have been overwhelmingly negative for communities reliant on the economic inflows that increases in mining activity bring, specifically where changes to housing and management of employees reduced economic inflows into specific communities [32]. This is clear evidence of mining company operational praxis impacting on housing markets, with broader, wide-ranging impacts on

community. With housing shortages in the Bowen Basin necessitating the development of camps at the height of the cycle, it is reasonable to assert that significant change will occur in mining towns as booms bust or as minerals are exhausted.

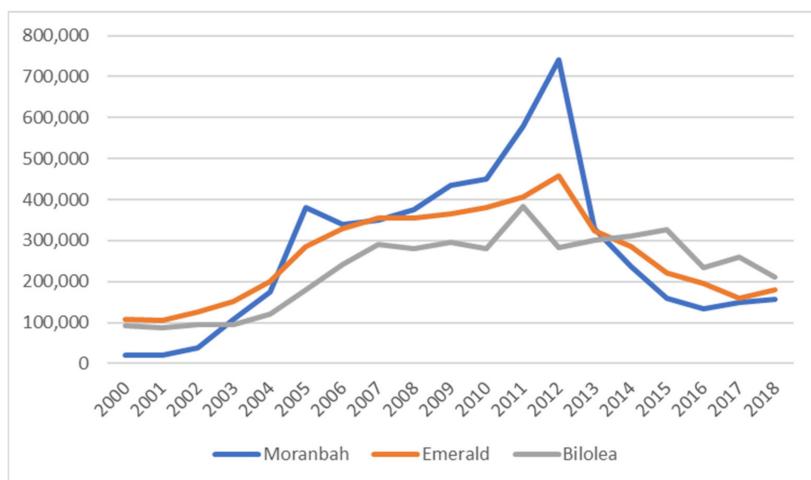


Figure 2. Average house prices in Australian

mining towns (AUSD). Source: [33].

References

1. Bradbury, J.H.; St-Martin, I. Winding Down in a Quebec Mining Town: A Case Study of Schefferville. *Can. Geogr. Géogr. Can.* 1983, 27, 128–144.
2. Van der Ploeg, F. Natural resources: Curse or blessing? *J. Econ. Lit.* 2011, 49, 366–420.
3. Allcott, H.; Keniston, D. Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America. *Rev. Econ. Stud.* 2018, 85, 695–731.
4. Connell-Variy, T.; McGough, T. An examination of house price movements in Queensland resource communities. *Pac. Rim Prop. Res. J.* 2021, 26, 1–14.
5. Douglas, G.E.; John, D.M.; Williamson, D.B.; Reid, G. The aquatic algae associated with mining areas in Peninsula Malaysia and Sarawak: Their composition, diversity and distribution. *Nova Hedwig.* 1998, 67, 189–211.
6. Levi, M.A. The Canadian Oil Sands: Energy Security vs. Climate Change (No. 47); Council on Foreign Relations: New York, NY, USA, 2009.
7. Foscue, E.J. The Development and Decline of Skagway, Alaska. *Econ. Geogr.* 1934, 10, 419.
8. Marot, N.; Harfst, J. Post-mining landscapes and their endogenous development potential for small- and medium-sized towns: Examples from Central Europe. *Extr. Ind. Soc.* 2021, 8, 168–175.

9. Bradbury, J. Housing policy and home ownership in mining towns: Québec, Canada. *Int. J. Urban Reg. Res.* 1985, 9, 1–14.
10. Ballard, C.; Banks, G. Resource Wars: The Anthropology of Mining. *Annu. Rev. Anthr.* 2003, 32, 287–313.
11. Morrison, T.; Wilson, C.; Bell, M. The role of private corporations in regional planning and development: Opportunities and challenges for the governance of housing and land use. *J. Rural Stud.* 2012, 28, 478–489.
12. Hajkowicz, S.; Heyenga, S.; Moffat, K. The relationship between mining and socio-economic well-being in Australia's regions. *Resour. Policy* 2011, 36, 30–38.
13. McKenzie, F.M.H.; Rowley, S. Housing Market Failure in a Booming Economy. *Hous. Stud.* 2013, 28, 373–388.
14. Hayter, R. Single industry resource towns. In *A Companion to Economic Geography*; John Wiley & Sons: Hoboken, NJ, USA, 2000; pp. 290–307.
15. Langton, M.; Longbottom, J. (Eds.) *Community Futures, Legal Architecture: Foundations for Indigenous Peoples in the Global Mining Boom*; Routledge: London, UK, 2012.
16. Rolfe, J.; Miles, B.; Lockie, S.; Ivanova, G. Lessons from the social and economic impacts of the mining boom in the Bowen Basin 2004–2006. *Australas. J. Reg. Stud.* 2007, 13, 134–153.
17. Carvajal, D.J.; González, A. Mining Heritage & Closure Mines. In *Cierre de Minas: Experiencias en Iberoamerica*; Villas Boas, R.C., Baretto, M.L., Eds.; CYTED-CETEM: Rio de Janeiro, Brazil, 2000; p. 158.
18. Servillo, L.A.; Atkinson, R.; Russo, A.P.; Sýkora, L.; Demazière, C.; Hamdouch, A. Final Report 2014: TOWN, Small and Medium Sized Towns in Their Functional Territorial Context; WIT Press: Southampton, UK, 2019.
19. Goodman, J.; Worth, D. The minerals boom and Australia's 'resource curse'. *J. Aust. Political Econ.* 2008, 61, 201–219.
20. Tonts, M.; McKenzie, F.H.; Plummer, P. The resource 'super-cycle' and Australia's remote cities. *Built Environ.* 2016, 42, 174–188.
21. Feyrer, J.; Mansur, E.T.; Sacerdote, B. Geographic Dispersion of Economic Shocks: Evidence from the Fracking Revolution. *Am. Econ. Rev.* 2015, 107, 1313–1334.
22. Mothorpe, C.; Wyman, D. What the Frack? The Impact of Seismic Activity on Residential Property Values. *J. Hous. Res.* 2021, 30, 34–58.
23. Goderis, B.; Malone, S.W. Natural Resource Booms and Inequality: Theory and Evidence. *Scand. J. Econ.* 2011, 113, 388–417.

24. Shandro, J.A.; Veiga, M.M.; Shoveller, J.; Scoble, M.; Koehoorn, M. Perspectives on community health issues and the mining boom–bust cycle. *Resour. Policy* 2011, 36, 178–186.
25. Bradbury, J. The Rise and Fall of the «Fourth Empire of the St. Lawrence»: The Québec-Labrador Iron Ore Mining Region. *Cah. Géogr. Québec* 1985, 29, 351–364.
26. Barnes, T.J.; Hayter, R. No “Greek-Letter Writing”: Local Models of Resource Economies. *Growth Chang.* 2005, 36, 453–470.
27. Hayter, R. Environmental Economic Geography. *Geogr. Compass* 2008, 2, 831–850.
28. McKenzie, F.H.; Brereton, D.; Birdsall-Jones, C.; Phillips, R.; Rowley, S. A review of the contextual issues regarding housing market dynamics in resource boom towns. *AHURI Position. Pap.* 2008, 105, 1–42.
29. Ennis, G.; Finlayson, M.; Speering, G. Expecting a boomtown? Exploring potential housing-related impacts of large scale resource developments in Darwin. *Hum. Geogr. J. Stud. Res. Hum. Geogr.* 2013, 7, 33–42.
30. McKenzie, F.H. Fly-In Fly-Out: The Challenges of Transient Populations in Rural Landscapes. In *Landscape Series*; Springer Science and Business Media: Berlin, Germany, 2010; pp. 353–374.
31. Statistics Sweden. 2019. Available online: www.scb.se/en (accessed on 1 September 2020).
32. Petkova, V.; Lockie, S.; Rolfe, J.; Ivanova, G. Mining Developments and Social Impacts on Communities: Bowen Basin Case Studies. *Rural Soc.* 2009, 19, 211–228.
33. Final Report 2019: Queensland Valuation and Sales, QVAS. Available online: <https://www.qld.gov.au/environment/land/title/valuation/property-sales> (accessed on 19 June 2020).

Retrieved from <https://encyclopedia.pub/entry/history/show/30889>