

The contribution of the pastoral industry to a diversified land sector economy in northern Australia

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Abstract. The paper ‘Emerging opportunities for developing a diversified land sector economy in Australia’s northern savannas’ (Russell-Smith and Sangha 2018: *The Rangeland Journal* 40, 315–330. doi:10.1071/RJ18005) draws heavily on work by the present authors. We are of the opinion that the use of our data is incomplete, and in some cases incorrect. We conclude that their analysis does not accurately portray the economic performance and contribution of the pastoral sector in northern Australia, nor justify the conclusion that fundamental land sector change is required. The present work details the concerns that we have with the Russell-Smith and Sangha paper.

Additional keywords: economics of resource use, rangeland governance, rangeland management.

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Introduction

In their paper ‘Emerging opportunities for developing a diversified land sector economy in Australia’s northern savannas’, Russell-Smith and Sangha (2018) draw upon various work of ours that has analysed and reported on the financial and production performance of the beef industry in northern Australia (McLean *et al.* 2014; Holmes 2015; Holmes *et al.* 2017). Their use of this and other data leads them to the conclusion that ‘fundamental land sector change is required’ in their ‘focal region’, which comprises all of northern Australia above the 600 mm annual rainfall isohyet, excluding the wet tropics of Queensland (their Fig. 1) We acknowledge that the financial performance of the majority of the northern industry is suboptimal, but we believe that Russell-Smith and Sangha’s analysis does not accurately portray the industry’s performance, particularly in their focal region.

Our specific concerns with regard to use of data are:

- use of data from the whole of northern Australia in their argument relating to the focal region;
- incorrect reporting of profit after interest and inference that interest rates are understated;
- incorrect representation of the proportion of the industry that is profitable;
- use of inappropriate figures for profit per adult equivalent (AE) as a function of land productivity; and
- incorrect extrapolation of our data to estimate the economic contribution of the pastoral industry in the focal region.

We also contend that their analysis is incomplete in other areas, *viz.*

- the inclusion of an economic cost for greenhouse gas emissions without accounting for carbon sequestered by woodland thickening;
- flawed accounting of the cost of land condition;
- failure to place the business performance of the pastoral industry in the context of non-pastoral businesses; and
- failure to acknowledge imputed owner wages and off-farm income in the economic assessment

These concerns are addressed below.

Incongruity of geographic areas

On page 317 the authors quote data from the ‘entire northern region’ to summarise their economic assessment. These summary financial data do not relate to the geographic area that is the primary focus for the paper. The financial data used are from the Australian Beef Report (ABR) (Holmes *et al.* 2017) and are for the whole of northern Australia (Qld, NT and Kimberley and Pilbara regions of WA) whereas the focal region of Russell-Smith and Sangha is the northern savanna landscapes (>600 mm annual rainfall, excluding the wet tropics, or approximately the area north of the line from Broome in WA to the Burdekin in Qld).

This incongruity is significant, as statistical distributions for the whole of northern Australia are skewed by the large numbers of smaller businesses located outside the focal region. Of the northern population of businesses analysed in the ABR (the population is described further below), 49% have less than 800 head of cattle. The majority of these smaller businesses would be located in southern Queensland. That there are a large number of these smaller businesses in the population does skew the average.

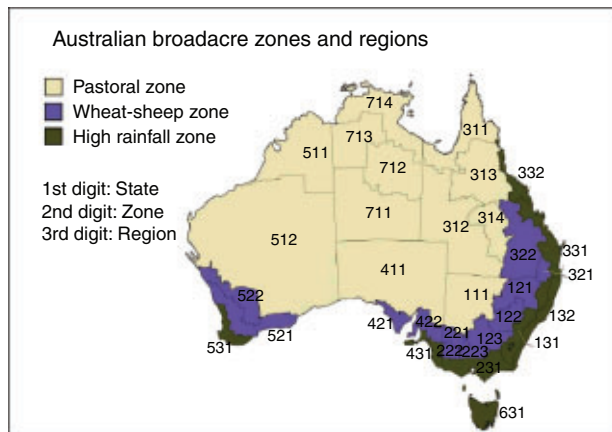


Fig. 1. Australian Bureau of Agricultural and Resources Economics and Sciences (ABARES) regions (Source: ABARES).

The impact of lack of operating scale is detailed thoroughly in the ABR.

The focal region is typified by larger businesses, as detailed by Russell-Smith and Sangha (2018), which means that the northern Australian average (i.e. taken from all of Qld, the NT, Kimberley and Pilbara) as given in the ABR cannot be considered representative of the performance of the focal region. The average herd size of the focal region is over 4500 AE meaning the population is not, on average, constrained by lack of operating scale, compared with 2000 AE for the whole of the north, which is constrained by lack of operating scale.

The primary data source for the ABR is Australian Bureau of Agricultural and Resources Economics and Sciences (ABARES) data and the ABARES regions shown in Fig. 1 (331, 332, 321, 322, 311, 312, 313, 314, 711, 712, 713, 714, 511 and top of 512) were used in the analysis. The ABARES regions which correspond with Russell-Smith and Sangha's focal region are Kimberley WA (511), Victoria River District (VRD) and Katherine NT (713), Top End NT (714), Cape York and Gulf Qld (311) and Central North Qld (313).

The Barkly Tableland region (712) is excluded as the majority of it is outside the focal region and it is dominated by large pastoral companies, which are not included in the ABR data. The Central North Queensland region (313) is included as it is mostly, though not entirely, within the focal region. Note that inclusion of the Central North Queensland region reduces the averages referred to below and inclusion of the Barkly Tableland region would increase them.

The long-term (12 years to 2016) averages can be taken from these regions and combined to produce a weighted (by the number businesses in each region) average profit. When this is done, the long-term average earnings before interest and tax, as well as earnings after interest and before tax, are both positive for the combined population, in contrast with the data from the whole of northern Australia. Therefore, using data for the whole of northern Australia (i.e. all of Qld, the NT, Kimberley and Pilbara) to summarise the 'economic assessment' section does not provide an accurate picture of the financial performance of the focal region.

Incomplete population

The population used for the ABR is family owned specialist beef producers (businesses) with more than 200 head of cattle. These data exclude the large corporate pastoral companies, large indigenous operations, and stations operated by mining companies, all of which have a significant presence in the focal region. Therefore, the assessment of the financial performance and economic benefit (such as estimated gross value of production from page 316 of Russell-Smith and Sangha (2018) of the pastoral industry in the focal region is not complete. A recent study on the performance of large pastoral companies in northern Australian (McLean *et al.* 2018) found that although there were a lot of similarities in the performance of the pastoral companies when compared with the family owned operators, the average profitability of the pastoral companies was higher. Therefore, we can be confident that the conclusions we draw in this paper with regard to the economic performance of the industry are relevant to the whole pastoral sector.

Incorrect reporting of profit after interest

On page 317 of their paper, Russell-Smith and Sangha (2018) state that the earnings after interest and before tax, 'was negative across most of the focal region with the exception of the Kimberley . . . and the Barkly . . .'. They also note that the interest rate (5%) used to calculate interest payments, is conservative.

This statement regarding performance (earnings after interest) is inconsistent with our data. In the ABR (Holmes *et al.* 2017) the long-term (2005FY–2016FY) average earnings before tax (i.e. after interest) was positive for the Kimberley WA (511), VRD and Katherine NT (713) and Cape York and Gulf Qld (311) regions (as well as Barkly). Of the ABARES regions within the focal region, average earnings before tax was negative only in Top End NT (714) and Central North Qld (313).

Further, the interest rate in these data is not assumed, it is directly reported from the ABARES data and reflective of actual interest paid over the 12-year period. Any inference that interest is understated is unfounded.

EBIT per AE for highly productive and less productive pastures

On page 322, Russell-Smith and Sangha (2018) suggest that a profit of \$29 per AE is appropriate for highly productive pastures and \$10.84 per AE for less productive pastures, citing Holmes *et al.* (2017). The figure of \$10.84 per AE is the 12-year average profit for the whole of northern Australia. There is no valid basis for the specific application of this figure to poorly productive pastures. The figure of \$29 per AE appears to be the simple arithmetic average of the Barkly, Kimberley and VRD and Katherine regions. Such a figure would be inappropriate as the overall average should be weighted by population of businesses and number of AE. Additionally, it is not accurate to portray the Barkly, VRD and Katherine and Kimberley regions as 'highly productive' in comparison to the whole of northern Australia. This is evidenced by the fact that the (properly weighted) average productivity (expressed as kilograms of beef produced per animal equivalent per year) of these three regions is 23% lower than the average productivity of the north as a whole, which was used as the less productive proxy (69 kg Beef/AE vs 90 kg

Beef/AE). That the average profit of the north as a whole is lower than the regions identified as 'highly productive' is due to a lack of scale not poor productivity.

The majority of the landscape is operated by profitable businesses

The finding in the ABR that the earnings of the bottom 75% of businesses was a loss, on average, should not be interpreted as all businesses in the bottom 75% making a loss. It is an average of the cohort as a whole. If the overall population is normally distributed, then less than half would be operating at an EBIT loss, given the average is positive.

The performance of the top 25% of businesses can be analysed for Kimberley WA (511), VRD and Katherine NT (713), Cape York and Gulf Qld (311) and Central North Qld (313). There are insufficient data to report on the top 25% of performers in the Top End NT region (714). When the top 25% of businesses from each of these four regions are combined, they account for 59% of the beef produced across the regions and manage 54% of the herd across 48% of the landscape. Given that some businesses in the bottom 75% cohort also operate at a profit, as discussed above, it can be concluded that the majority of the pastoral estate covered by the focal region is being managed profitably.

Although Russell-Smith and Sangha (2018) do acknowledge that the top 25% and some of the remainder operate profitably, they go on to infer on page 317 that only ~28% of producers are 'economically viable'. This is not correct: the figure of 28% refers to the proportion of businesses in the whole of northern Australia who run more than 1600 head. It is not the proportion that is operating profitably, as explained above.

Inclusion of owner wages and exclusion of off-farm income

An important aspect of the methodology used to determine profit in our work is that a full value is allowed for owner wages. This is so that the calculated profit reflects the time and expertise of the owners, if they work in the business, regardless of how much they draw from the business. The value applied in the ABR is about \$110 000 per couple working full time in the business. The amount drawn by owners is usually far less than this, therefore the cash returns of the business will exceed the reported profits. This should be considered when interpreting the results. Also, the ABR analysis excludes any off-farm income which may contribute towards household income.

Pastoral industry profitability is not inconsistent with other industries

An inherent and necessary feature of capitalism is that making a profit is not a given, and not all enterprises will achieve the same level of profitability. We examined the performance of non-agricultural businesses to provide context to the financial performance of the pastoral sector in the Northern Beef Report (McLean *et al.* 2014), a document which is cited by Russell-Smith and Sangha (2018).

In that analysis we drew on a Reserve Bank of Australia paper (Connolly *et al.* 2012) that found that only around 60% of small companies (revenue less than \$2M) and three-quarters of unincorporated companies were profitable (i.e. positive EBIT). However, this result took no account of owner wages and finance

costs, meaning that far fewer would be profitable if analysed consistently with the analysis of Russell-Smith and Sangha (2018).

To examine larger businesses, we analysed the performance of companies listed on the Australian stock exchange and found that only a third achieved a 5-year average return on capital employed of greater than 6%.

For the financial performance of the pastoral industry to be critiqued objectively, it should include reference to the financial performance of non-agricultural businesses for context. When this is done it is apparent that the level and spread of the financial performance of pastoral businesses in northern Australia are not inconsistent with businesses in other industries.

Environmental costs

Attempting to deduct a calculated carbon cost from reported profit as a means of determining profit after environmental costs is specious, in our opinion. However, if it is to be done, then all carbon should be accounted for by also placing a value on the carbon sequestered as a result of woodland thickening across the focal region (Gifford and Howden 2001; Burrows *et al.* 2002). Only accounting for the estimated cost of emissions presents a one-sided assessment.

Deducting a further 'cost' to account for land condition is also, in our opinion, specious. Pastoral businesses could possibly be grouped into four main groups;

- those with good land condition whose productivity, and therefore returns are likely higher and more stable than they would otherwise be,
- those with improving land condition, who through reduced stock numbers and/or remedial work are achieving lower profits than they would otherwise,
- those with declining land condition, whose returns are higher than they would otherwise be through the 'mining' of the natural resource base, and
- those with poor land condition, whose profits are low as a result of reduced carrying capacity.

The 'cost' of land condition would be different for each of these groups and deducting an arbitrary land condition cost from regional averages would not reflect this. Further, for all except the third group, current profits are arguably a function of current land condition, so further deductions would be double counting. This discussion does highlight the need for the Tothill and Gillies (1992) assessment of land condition to be fully updated by suitably qualified and independent professionals.

Discussion

We believe that a successful financial outcome is within reach of most northern beef producers if they were to apply all the existing knowledge (Holmes 2015). The problem, therefore, is not the presence of beef cattle on northern landscapes *per se*, but rather how they are managed for a comprehensive outcome.

It is one thing to suggest fundamental change is needed, but another to implement it. Although there is no doubt that there is room for improvement within the pastoral sector, the current reality is that the pastoral industry is actively managing a significant proportion of the focal region and is doing so largely without public funding. If the pastoral industry were to cease

managing this area, then significant public funds would be required to manage it. The alternative uses proposed by Russell-Smith and Sangha (2018) are largely either reliant on public funds, at least initially, or are highly vulnerable to any changes in government policy and carbon trading rules. The pastoral industry is also subject to government policy changes, but its land management, economic contribution and employment are reliable and consistent year to year. Although there may be potential ‘opportunities’ that ‘dwarf pastoralism’, the current reality that the pastoral industry is an active, reliable and self-funded land manager, employer and economic contributor year in and year out should not be overlooked, particularly as not all opportunities go on to become a reality.

Conclusion

Our analyses of the financial performance of the northern beef industry have identified that there are significant challenges, and opportunities for the industry. We stand by our data and our findings; however, we believe it should be recognised that all businesses and industries have challenges to face, now and into the future.

The financial analysis of Russell-Smith and Sangha (2018) contains several errors and misinterpretations in terms of the portrayal of the financial performance of the industry as a whole and in the calculation of profit after environmental costs. The current financial performance of the pastoral industry in the north presents significant opportunities for improvement, but does not justify the requirement for fundamental land sector change.

Russell-Smith and Sangha (2018) noted that a large percentage of their focal region is currently managed for conservation or greenhouse gas abatement. When this is coupled with our findings that the majority of the pastoral estate is managed by profitable businesses, we can conclude that it is already a successful ‘diversified land sector economy’.

Conflicts of interest

The authors declare no conflicts of interest.

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