

Dairy productivity

Tony Baldwin

www.tonybaldwin.co.nz

August 2016

Dairy productivity

- Over the last [40] years, New Zealand's productivity performance has been relatively dismal. We've plummeted from top 5 to around 30th in the international rankings and incurred corresponding falls (followed by a sustained flattening) in our per capita standard of living relative to other OECD countries.
- Until about 10 years ago, dairy was a stand-out in our productivity stakes, delivering gains at a much better rate than most other sectors of the economy. Dairy kept producing higher volumes of milk for the same or less inputs.
- This was underpinned by improvements in pasture and feed management, milking and processing technology, and bovine genetics.
- Over the last 10 years, however, productivity in dairy has been less impressive. Milk production has increased significantly, but a significant proportion of the growth is likely to have been negative in productivity terms with more inputs used for each unit of output.
- It is also likely to have been uneconomic with the full costs of producing an extra unit of milk greater than the additional income it generated.

Dairy productivity *(cont'd)*

- In 2014, AUT masters student, Xiaoqi Wei, found that only 17% of dairy farms in his sample were operating at their optimal size. Half of the farms could increase their technical efficiency by decreasing their size.
- In another 2014 paper, Economist Peter Fraser and two colleagues suggest that much of growth in raw milk volumes is probably not profitable. They surmise that volumes have been increased as a result of farmers and their advisors taking an average cost rather than marginal cost approach. Fraser concludes that less intensive production is likely to be more profitable for farmers and better for the environment.
- Many farmers, and the environment in which they operate, would probably be better off if milk production were reduced to more optimal levels.
- 'Total factor productivity' is another key performance indicator. In dairy over the last 10 years it has fallen by 7.3% (as at August 2016)

Dairy productivity *(cont'd)*

- Growth in value-added activities has been weak, even when terms of trade and dairy prices have been strong.
- Participation in global value chains remains low, even when more prosperous firms have been adding different elements of final goods and services in different places to capture gains from specialisation and economies of scale. Meanwhile, Fonterra continues to place high importance on exclusive control from cow shed to customer.
- 'Total factor productivity' is another key performance indicator. In dairy over the last 10 years it has fallen by 7.3% (as at August 2016)
- Growth in value-added activities has been weak, even when terms of trade and dairy prices have been strong.
- Participation in global value chains remains low, even when more prosperous firms have been adding different elements of final goods and services in different places to capture gains from specialisation and economies of scale.
- Meanwhile, Fonterra continues to place high importance on exclusive control from cow shed to customer.

Dairy productivity *(cont'd)*

Sources:

- <http://www.treasury.govt.nz/downloads/pdfs/2025tf-2ndreport-nov10.pdf>
- Xiaoqi Wei, “Efficiency measurement of New Zealand dairy farms”, AUT, 2014, pp 38 and 39
- MPI
- Fraser, Ridler, Anderson. “The intensification of the NZ Dairy Industry – Ferrari cows being run on two-stroke fuel on a road to nowhere?”, 2014 - <http://www.grazingsystems.co.nz/wp-content/uploads/NZARES-Fraser-The-intensification-of-the-NZ-Dairy-Industry-FINAL.pdf>
- Rebecca Macfie, “Milk Tanks”, The Listener, April 2016 - <http://www.listener.co.nz/current-affairs/business/milk-tanks/>
- DairyNZ’s ‘Economic Survey’ - <http://www.dairynz.co.nz/media/4291790/dairynz-economic-survey-2014-15.pdf>. TFP measures productive value gain over and above changes in inputs like capital and labour – MPI
- A recent OECD paper, indicated that New Zealand was in 30th place in list of OECD countries, with very little improvement in New Zealand’s participation from 1995 to 2011 (De Backer and Yamano, 2012). See Professor David Deakins, 15 August 2015, Blog - <http://masseyblogs.ac.nz/othersideofbusiness/2013/08/15/is-fonterra-good-for-new-zealand/>
- Treasury – Holding On, Letting Go, 2014 - <http://www.treasury.govt.nz/publications/briefings/holding-on-letting-go/holg14.pdf>. See also Bollard remarks to lecture in Wellington in 2015 and again in 2016