

OTOPs evidence

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DairyNZ 

Importance of Dairy

- These economic benefits of dairy production flow onto other sectors of the economy.
- Dairy farmers are the largest purchasers of agricultural support services, basic wholesale materials, and veterinary services in New Zealand.
- Dairy farming is a particularly important part of the Canterbury economy.
- The OTOP sub-region includes the Timaru District and part of the Mackenzie District. Dairy employment growth in the Timaru district was 6% from 2000-17, whereas total employment growth was 2% over the same time period (NZIER, 2018).

Incomplete assessment

- Aggregated approach ignores the diverse effects that the policy will have on individual and heterogeneous farm units
- Environment mitigations, such as those proposed under *PPC7* are not the only factors affecting dairy farm operating profit

| Reduction in N beyond GMP | Change in operating profit with respect to the 2018-19 milk price in the Canterbury Region (\$1.90/ kg MS) | | |
|---------------------------|--|-------------------------|-------------------------|
| | <i>Low</i> | <i>Medium</i> | <i>High</i> |
| 10% | -27% ³ (\$1.38/ kg MS) ⁴ | -34% (\$1.24/ kg MS) | -40% (\$1.14/ kg MS) |
| 20% | -35% (\$1.23/ kg MS) | -39% (\$1.16/ kg MS) | -47% (\$1.02/ kg MS) |

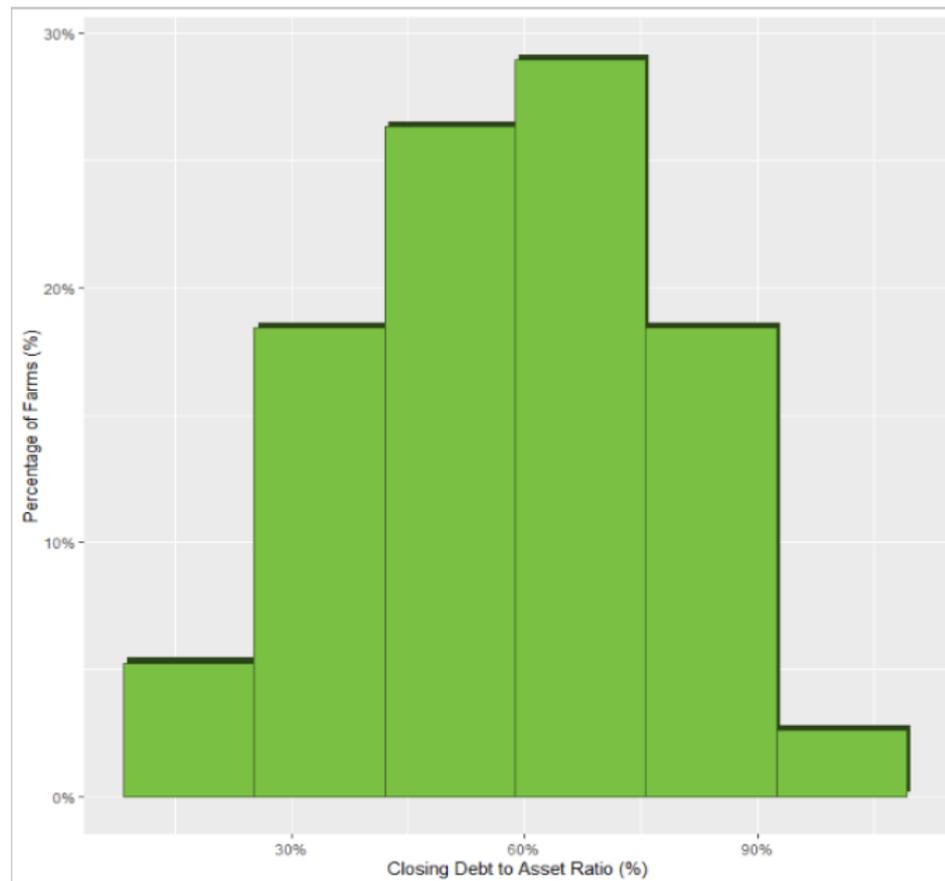
- Harris (2019) evaluates the economic effects of the proposed nutrient reductions and changes to the flow regime independently, not simultaneously in an integrated model, underestimating the economic impacts on farms affected by both increased minimum flows and nutrient reductions.

Unsuitable modelling assumptions

- The use of input output tables from the Waimakariri District to model the economic impact of the proposed *PPC7* in OTOPs is not appropriate.
 - Waimakariri's adjacency to Christchurch, greater population (approximately 30% greater) and geographical differences have an impact on the structure of the economic transactions such that input output tables are likely incomparable between the two districts
- The simplifying assumptions within the modelling framework bound the timeframe of usefulness of the input-output model to the short-run where price flexibility is not required (Koks & Thissen, 2016; Miernyk, 2006).
 - Harris (2019) uses input output modelling to the long term (ten-year time horizon) apparently without altering input output table coefficients.

PPC7 will affect dairy farm debt and viability

- Land value will fall under *PPC7* due to increased operating costs, reduced operating profit, and reduced potential for capital gain (Harris, 2019)
- Lower asset prices adversely affect DARs, increasing the probability of business insolvency
- 70% of dairy farms are paying interest, only on their loans; movement towards a requirement to paying principal



The importance of a staged approach

- A valuable part of *PPC7* is the proposal to implement a staged transition
- The first 10% nutrient reduction is scheduled to occur over a 10-year period, by 2030
- The second 10% nutrient reduction, which has a greater impact on operating profit, occurs over a 5-year period, by 2035
 - This second phase in the nutrient reductions outline in *PPC7* is accelerated in comparison to the first, occurring in half the time, is more costly, likely will impact operating profit to a greater degree, and could flow on to impact dairy farm viability.