

Exercise 1

In the lead-up to the 2017 general election, there was extensive coverage of the Labour Party's proposed water-tax policy. In particular, farmers were concerned that the tax would harm their livelihoods.

Read this article from rural newspaper *The NZ Farmers Weekly* and critically assess the statistics used in it (Scott, 2017).

News

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Tax will cripple the rural sector

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THE Labour Party's proposed water tax will hit regional economies hard by picking on farmers and horticulturalists, industry sector groups say.

Farmers were terrified by the potential impacts on farming families, rural communities and the entire economy, Federated Farmers water spokesman Chris Allen said.

Figures banded around would bankrupt farmers and cripple export competitiveness and regional economies.

Federated Farmers challenged Labour to reveal its numbers.

"Surely, at least they have a starting figure in mind to open negotiations with water users and to give voters a clue on the quantum of tax they envisage."

The federation was strongly opposed to a water royalty when it would essentially be an extra tax on electricity, food and exports.

"If the problem is with bottled water, then let's just fix that problem.

“For a tax to work it must be applied to all sectors and not on the selected targets of officials and politicians.”

Chris Allen
Federated Farmers

"If we're going to go wider, then for a tax to work it must be applied to all sectors and not on the selected targets of officials and politicians.

Irrigation New Zealand chief executive Andrew Curtis said extra costs would be passed on to consumers, meaning higher prices for food, wine, beer and housing.

"How could a water tax possibly be implemented in practice given the differences in weather and water use across the country?"

"It would be a hugely complex administrative nightmare," Curtis said.

"The majority of irrigation is in the east coast areas, are these communities to be penalised because they live in an area with a drier climate that needs more irrigation?"

It was also interesting to see that hydro-electric power users were to be excluded.

"That's hardly the fair and equitable approach Labour said it wanted to take," he said.

DairyNZ chief executive Tim Mackle said future discussion around water use was inevitable and a necessary part of a broader conversation about the sustainability challenges NZ faced.

"I expect a water round-table would build on the existing package of work being carried out under the dairy sectors' Water Accord and the Ministry for the Environment's Clean Water Package.

"Environmental policy and economic policy are very closely linked.

"The dairy sector is already looking at different farming practices and how to balance profitability and productivity with



MONEY TALKS: Economic and environmental policies are closely linked, DairyNZ chief executive Dr Tim Mackle says.

environmental outcomes as part of a climate change action plan.

"We know that environmental sustainability isn't an option, it's a necessity," Mackle said.

But Horticulture NZ said "Let's not do this."

"Extra costs on growers of fresh, healthy fruit and vegetables will make healthy food more expensive," chief executive Mike Chapman said.

"This seems incongruous with policies around alleviating poverty and the benefits of healthy eating to reduce the economic burden of secondary health issues as a result of obesity.

"Horticulture NZ supports

sound, consistent water policy to support efficient use of water but we do not support a blanket tax without due consideration of NZ's water priorities as a nation.

"These priorities must include water for drinking, sanitation and food production," Chapman said.

New Zealand First Leader Winston Peters said a large vegetable grower estimated one cent a litre of water tax equated to a 300% increase in supermarket prices.

"Potatoes could go from just under \$3 a kilogram to just under \$9 and the price of a single cabbage could soar from just under \$6 to just under \$18," he said.

Exercise 2

A TV news report compared population figures from the two most recent New Zealand censuses, 2006 and 2013 (TV3, 2013).

The report noted Auckland had experienced the largest increase in population, followed by Nelson. It also reported that Christchurch had seen a small decline in its population. Finally, it gave the overall population increase for New Zealand.

Below is the graphic used in the report.

Does anything seem odd about this information?

POPULATION CHANGES 2006-2013

AUCKLAND
▲ 110,000 or 8.5% @ 1.4 million

NELSON
▲ 8.3% @ 46,000

CHRISTCHURCH
▼ 2% @ 341,000

NEW ZEALAND
▲ 7,000



▶ 12:46

43:34

Exercise 3

Additional percentages questions

NB Only use figures to one decimal place, unless it makes sense to do otherwise.

1. What is 18 as a percentage of 504?
2. What is 367 as a percentage of 4?
3. What is 15 per cent of 2000?
4. What is 18 per cent of 360?
5. What is 67 per cent of 141?
6. What is 37 per cent of 1483?
7. A farmer has increased the size of a herd of cows by 40, from 200 to 240. What is the percentage increase in the size of the herd?
8. The number of Japanese people emigrating to NZ each year has risen from 400 to 650. What has been the percentage rise in immigrations from Japan?
9. The number of murders in NZ in 1993 was 32, compared with 26 in 1992. What was the percentage increase in the number of murders from 1992?
10. A student spent 40 hours a week at Uni last year, but this year spends only 25 hours at Uni. What has been the percentage fall in the student's hours?
11. Unemployment in Rotorua has fallen from 9500 in the first half of 2013 to 8500 in the first half of this year. What has been the percentage fall in unemployment?
12. The mean size of New Zealand families has fallen from 5.4 people to 3.5 people. Express this decrease as a percentage fall.
13. The price of a bag of carrots has increased by 5 per cent from \$2. What is the new price of a bag of carrots after the price rise?

14. The number of UN troops in a strife-torn country rises 28 per cent from 5000. How many UN troops are now in the country?
15. The price of a litre of unleaded petrol rises 2 per cent from \$2.10. What is the new price of a litre of unleaded petrol?
16. The amount of water in the Waitakere storage lakes has dropped 5 per cent from 40 billion litres. How much water is now in the lakes?
17. Production of cars at a factory has dropped 20 per cent from 600 per day. How many cars are now produced at the factory each day?
18. The corn harvest in Iowa has been cut by 6.2 per cent from 30 million bushels per year. How many bushels are now produced per year?
19. There has been a 20 per cent rise in weekly sales of the book *Accidents in the Home* by Ivor Sorehead, with sales now reaching 3000 copies per week. How many copies were being sold in the week before the rise?
20. The number of children starting at a school this year is 150. This is a 25 per cent up on last year's figure. How many children started at the school last year?
21. The number of volunteers for duty at the shelter has risen 60 per cent in the past year, to 512. How many volunteers were there a year ago?
22. The number of violent crimes this year is 3600. That is 10 per cent lower than in the previous year. How many violent crimes were there in the previous year?
23. The average salary is now \$31,025. That is 14 per cent lower than a year ago. What was the average salary a year ago?
24. A long jumper jumped one metre more than his previous best, an improvement of 20 per cent. What was his previous best?

Exercise 4

Have a read of this report of a survey: <http://adulttoymegastore.co.nz/sealed-section/your-opinion/mega-kiwi-sex-survey-2012-kiwis-talk-sex-and-satisfaction/2012/06/13/>

What do you think about the quality of the survey?