



**Prices & Markets**  
SIM, Semester 2, 2016

**ECON1025 ASSIGNMENT 2**

**Value:** 35% of total course assessment.

**Word limit:** 1300 words, across all questions.

**Assignment due date:** 7 pm, 5<sup>th</sup> September 2016. Please be aware of RMIT's penalties for late submission, as they will apply to you.

**Submission:** This assignment **must be submitted electronically** via Blackboard. As it is RMIT policy that all assignments be submitted electronically, hard copies or emailed copies will **not** be accepted.

When submitting, please make sure you attach and upload your assignment as a **one** file preferable in **.pdf format**. You can also submit in .doc or .docx, but please do not use pages. Please do not paste as text or upload a folder or zipped file.

**IMPORTANT:** Make sure you read and understand the student guide on **How to submit your assignment** on Blackboard before you submit.

**Marking:** Marks will be awarded based on how well you: (a) understand the economic concepts from the lectures; (b) apply the concepts to the question(s); (c) conduct systematic economic analysis using the concepts (this includes the use of appropriate graphs and diagrams); and (d) draw conclusions, if appropriate. Note that general layman discussions do not constitute sufficient economic analysis.

**Presentation:** Assignments should be typed, using 10 – 12 sized font and 1.5 – 2 line spacing. Graphs and diagrams can be hand drawn and scanned in, but must be clearly drawn and clearly labelled.

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Read the news article *Dairy farmers are being 'milked dry', but let's remember the real cost of milk* (theconversation.com, 25/05/16) attached, about the animal welfare and environmental concerns associated with dairy farming.

Then use economic analysis to answer the following questions. In your answers, ensure that you use relevant economic theories, concepts and diagrams covered in this course. Note that general layman or journalistic discussions do not constitute sufficient economic analysis.

### **Question 1**

The article calls for public policy initiatives to address animal welfare and environmental concerns associated with dairy farming. With reference to economic concepts covered in this course, explain why the government might want to intervene in the dairy market.

(10 marks)

### **Question 2**

A tax on dairy products is one public policy initiative the government might consider. Perform appropriate economic analysis to explain how a tax could be used to address the animal welfare and environmental concerns raised in the article. Discuss the pros and cons of using such a tax as a policy initiative.

(10 marks)

### **Question 3**

What other public policy initiatives can the government employ to address these concerns? Discuss the pros and cons of these.

(10 marks)

### **Question 4**

What can we as private individuals do to address these concerns, in the absence of government intervention? Are such private solutions likely to be effective?

(5 marks)

## **Dairy farmers are being ‘milked dry’, but let’s remember the real cost of milk**

**The Conversation, May 25 2016**



The Australian dairy farming industry is in a state of crisis. Cheap dairy products and fluctuations in both the domestic and global markets have taken a financial toll on farmers. Consumers have rallied to help struggling dairy producers.

But this is only half the problem. The true cost of dairy is also paid by dairy cows and the environment.

### **Welfare problems**

Despite the idyllic image of outdoor farming, several industry practices negatively affect dairy cows. To meet production demands, dairy cows are subject to a continuous cycle of impregnation, induced calving and milking.

Tail-docking and horn removal are routinely performed without pain relief. Lameness is another major animal welfare problem, often the result of environmental pressures, such as tracks, herd size and handling. The average lifespan of a dairy cow is six to seven years, whereas generally cows can live for 20 to 25 years.

One of the most controversial issues is young “bobby” calves. A bobby calf is a newborn calf, less than 30 days old, who has been purposely separated from their mother. Immediately after separation, cow and calf call out and search for each other.

Most bobby calves are slaughtered within the first week of their life. Handling and transport pose added problems for young calves who have not developed herding behaviours, are vulnerable to stress, and are forced to go without their mother’s milk. Each year, 450,000 bobby calves are slaughtered.

Advocacy groups frequently uncover the routine abuse of bobby calves in Australian abattoirs and challenge the dairy industry to do something about it.

Yet aside from the wider ethical questions over the use and exploitation of animals, farmers are not legally doing anything wrong. This is because the treatment of animals operates in a legal context where animals are considered absolute property.

What's more, farm animals are exempt from the provisions of anti-cruelty legislation. Codes of practice are practically useless, because they promote low welfare standards and are unenforceable.

### **The environmental impact**

As well as systematic welfare problems, livestock farming is, both directly and indirectly, one of the most ecologically harmful human activities. The Australian livestock sector is worth A\$17 billion and dairy cattle farming is a A\$4.2 billion industry.

In Australia, livestock farming accounts for 10% to 16% of greenhouse gas emissions, with dairy farms contributing 19% of this, or 3% of total emissions. Methane emissions, from digestion and manure, and nitrous oxide from livestock are significant contributors. Globally, the livestock sector is responsible for more greenhouse gases than the world's transport.

Livestock production accounts for 70% of all agricultural land, including the land used to grow crops to feed these animals. Animal agriculture is a key factor in land degradation, deforestation, water stress, pollution, and loss of biodiversity.

Livestock farming will also be affected by climate change, particularly changes in temperature and water. The quantity and quality of pasture and forage crops will also be affected. Diseases may increase due to fluctuating weather and climate.

### **Emissions can be reduced**

Just as the energy sector is attempting to transition to low-carbon energy sources to tackle climate change, the agricultural sector needs to transition to an ethical *and* sustainable alternative.

From the current crisis, there are several opportunities for farmers to seize. Large transitions are possible in land use, production, output and profitability.

Places such as Gippsland in Victoria, which currently produces 19% of Australia's dairy, have the opportunity for agricultural development based on apples and brassicas, such as broccoli, kale, cauliflower, cabbage, turnip and mustard. Some of these crops are already popular in the region. As a result of climate change and increasing temperatures, some areas will be more suitable than others.

While still in the stages of research, perennial grain crops – which store more carbon, maintain better soil and water quality, and manage nutrients better than annuals – have the potential to contribute to sustainable agriculture. New land uses could also include carbon plantings, biofuels and bioenergy crops. Investing into further research for alternatives to livestock farming is needed.

Some have argued that livestock emissions can be technically mitigated by modifying animal feed, better managing pastures, carbon sequestration and manure storage.

## **Welfare issues remain**

But technical mitigation does not address the endemic animal welfare problems in the livestock industry.

Consumer demand is one of the most powerful strategies to combat animal welfare and environmental problems. Research shows that we must reduce food waste and losses in the supply chain and change our diets toward less resource-intensive diets, such as a plant-based diets. Doing so would cut emissions by two-thirds and save lives. It's possible to eliminate animal suffering and reduce carbon emissions by reducing and replacing livestock production and consumption.

Alternatives to dairy milk include soy and almond milk. Soy milk is nutritionally comparable to dairy milk and has a significantly smaller environmental footprint.

Policy initiatives also need to address these issues. The Food and Agriculture Organization's Livestock's Long Shadow report recommends a policy approach that correctly prices natural resources to reflect the full environmental costs and to end damaging subsidies. In the interim, higher taxes on meat and other livestock products will be necessary to improve public health and combat climate change.

Denmark, for instance, is considering proposals raise the tax on meat, after its ethics council concluded that "climate change is an ethical problem".

Governments everywhere need to have a transitional plan for livestock producers and workers – one that helps to cultivate the ethical and sustainable agricultural endeavours of the future.