

Assessment Schedule – 2015

Scholarship Economics (93402)

Evidence

Question One – Dairy farming

- Dairy farms are an example of perfect competition because there are many small producers, they have no control over the price so are price takers, products are homogenous, farmers have (virtually) perfect information, and there are no barriers to entry or exit. (Credit will be given for the argument that dairy farming is not an example of perfect competition (e.g. due to barriers to entry), subject to economic justification.)
- Diminishing returns occur in the short run, as more of a variable factor is added to a fixed factor – as more cows and fertilizer are added to land in an effort to boost production, farmers may get smaller increases in total production, as there are limits to the amount of grass available per cow and to the amount of productivity that fertilizer can add. As a result, marginal costs will rise, as the extra cost of producing another unit of milk will increase. This is reflected in the marginal cost curve for dairy farmers.
- Resource D highlights the increase in many types of farm costs during the past 10 years. This would see both marginal and average costs increasing and, therefore, the profit-maximizing output level falling.
- Varying dairy prices would make production decisions difficult, as the profit-maximizing level of output is determined by the intersection of price and marginal cost. As can be seen from Resource E, dairy prices have fallen substantially, which should result in a fall in milk production on individual farms to where $P = MR = MC$. If farmers continued to produce at the original output levels, the farm would then be making marginal losses with $MC > MR$ so production levels would be reduced to maximise profits. According to Resource D, many farmers need a price of \$6 per kg to cover their costs but Fonterra is forecasting the payout price falling to \$4.40. Farmers who were earning supernormal profits may now be earning normal or subnormal profits.
- Graph of perfectly competitive farmer with falling price and rising marginal and average costs leading to falling levels of output and profit levels changing from supernormal to subnormal.
- In the short run, so long as farms are earning an average revenue greater than their average variable costs, they will continue to operate, as they are covering variable costs and making a contribution to fixed costs. If average revenue is less than average variable costs, then the farmer should cease production to minimise losses and pay only fixed costs. Note that farms cannot leave the industry in the short run, as at least one factor is fixed.
- In the long run, if prices do not return to a payout level above \$6, then it would make economic sense to leave the industry and switch to production that will earn a normal profit.
- With rising costs and highly variable prices, dairy farmers will have a difficult time determining the profit-maximizing level of production. It would make sense to focus on the longer term rather than short-term costs and prices in planning. It would not make sense to continually expand production, as diminishing returns and rising marginal costs will at some point make extra production unprofitable, even if higher prices should come about. In the long run, low dairy prices should, in theory, result in some farmers leaving the industry (perhaps switching to alternative types of farming), resulting in lower supply and, thus, rising prices, returning the remaining farmers to normal profit levels.
- Farmers with differing debt levels will face differing levels of fixed and average costs, as those with high levels of debts will have higher levels of interest payments compared to those with little or no debt. If interest rates increase, this will have a greater effect on the fixed costs of those farmers with high debt levels, affecting their profitability. Comparative graphs of a perfectly competitive farmer with high compared to low average costs and, therefore, differing levels of profitability would be appropriate. As a result, those farms with high levels of debt are more likely to struggle to return to normal profit levels in the long run. The candidate should include comparative

graphs – low debt farmers with lower AC and normal profits, while high debt farmers have higher AC and subnormal profits.

Outstanding Scholarship	8 Marks	<p>The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of changes in dairy prices and dairy farming costs on production and profitability in the short and long run. This is complete and demonstrates <i>perception and insight</i></p> <p><i>AND</i></p> <p>demonstrates <i>sophisticated abstraction and integration</i> of the resource material</p> <p><i>AND</i></p> <p>demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the impacts in the short and long run.</p> <p><i>AND</i></p> <p>is <i>convincing</i> and economically literate.</p>
	7 Marks	<p>The essay fulfils most of the requirements above for 8 marks, but contains minor factual inaccuracies (when this affects a statement or opinion)</p> <p><i>OR</i></p> <p>deals inadequately with an essential point</p> <p><i>OR</i></p> <p>lacks sufficient abstraction or integration of the resource material</p> <p><i>OR</i></p> <p>has some minor failure in the evaluation</p> <p><i>OR</i></p> <p>may lack some fluency and/or coherence.</p>
Scholarship	6 Marks	<p>The candidate produces and effectively communicates a sophisticated economic analysis of the impact of changes in dairy prices and dairy farming costs on production and profitability in the short and long run. This demonstrates a high level of <i>analysis and critical thinking</i></p> <p><i>AND</i></p> <p>incorporates a <i>competent level of integration and synthesis</i> of the resource material</p> <p><i>AND</i></p> <p>the discussion and evaluation are <i>clear, logically developed, and precise</i>.</p>
	5 Marks	<p>The essay fulfils most of the requirements above for 6 marks, but has some unsupported generalisations</p> <p><i>OR</i></p> <p>some major point in the discussion is neglected or incomplete</p> <p><i>OR</i></p> <p>has some inadequacy in the evaluation</p> <p><i>OR</i></p> <p>ideas may not be communicated effectively.</p>

	4 Marks	The candidate produces a comprehensive analysis of the impact of changes in dairy prices and dairy farming costs on production and profitability in the short and long run <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
	3 Marks	The answer fulfils most of the requirements above for 4 marks, but is incomplete <i>OR</i> fails to present a cogent argument or make critical analysis <i>OR</i> does not communicate ideas adequately.
	2 Marks	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
	1 Mark	The answer contains a minimal amount of relevant evidence.
	0 Marks	No response; no relevant evidence.

Question Two – Sugar-sweetened drinks

- Excess dietary sugar consumption leads to many negative health effects, including obesity, type 2 diabetes, and heart disease. These generate extra health costs for society and productivity losses, which are negative externalities of consumption – negative spillover effects on third parties from consuming the product. Market failure results because, at a free market equilibrium, marginal social cost will be greater than marginal social benefit so that society would prefer less sugar to be consumed and at a higher price. (A suitable MSB/MSC graph showing DWL with MSB below MSC should be included.)
- Based on the research provided, there appears to be a case for government intervention, as the existence of negative externalities and the resulting deadweight loss represent market failure because the full cost to society of high sugar intake is not being reflected in the market and due to the potential to save lives in the future.
- Consumer sovereignty is the idea that consumer preferences determine what should be produced in an economy. Government intervention would override consumer sovereignty; however, since the negative externalities created by sugar-sweetened drinks are not currently reflected in the market price, intervention can be justified.
- Possible interventions include a per-unit tax on sugar-sweetened drinks, negative advertising, marketing bans, or improved education and exercise promotion.
- A per-unit tax would increase the price of sugar-sweetened drinks, resulting in a fall in the quantity demanded towards the socially desirable quantity and reducing the deadweight loss. The effectiveness of the tax would depend on the price elasticity of demand. If demand is price elastic, then a tax would be effective, as demand would fall by a more than proportionate amount relative to the increase in price. If demand is price inelastic, then demand would fall by a less than proportionate amount relative to the increase in price so will be less effective but will, nevertheless, still have some effect in reducing demand. Resource I suggests that the groups for whom society would most seek to reduce consumption would have more elastic demand, so a tax could be effective. (Appropriate MSB/MSC graphs illustrating the effect of a per-unit tax depending on the price elasticity of demand

should be included.) The tax is a price incentive to consumers to alter behaviour; however, it does not alter consumer knowledge or perception regarding sugar-sweetened drinks.

- Negative advertising would have the effect of decreasing demand, causing the marginal benefit curve to move towards the MSB curve and, thereby, reduce the quantity consumed. This approach is likely to require a longer period of time to be effective. (Appropriate MSB/MSD graph should be provided.) Any negative advertising campaign will be competing with the marketing campaigns of the soft drink companies, so the overall effect could be substantially reduced.
- Education and exercise promotion would have an effect similar to that of negative advertising, aimed at changing long-term behaviour. This is unlikely to have an effect in the short term, as it takes time to change consumer perception and choices. However, this strategy could result in better decision-making and health.
- A justified recommendation should be provided. For example: Overall, it is likely that a per-unit tax would have the most impact on consumption and consumer behaviour in the short term, as other policies involve changing people's decision-making processes, which will take some time, especially if soft drink companies are able to continue to market to their target markets. However, in the long term, it could make sense to also fund the education and exercise promotion so that consumers are fully informed and, therefore, better able to make suitable consumption decisions.

Outstanding Scholarship	8 Marks	<p>The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the externalities associated with sugar-sweetened drinks and of possible government interventions to address these. This is complete and demonstrates <i>perception and insight</i></p> <p><i>AND</i></p> <p>demonstrates <i>sophisticated abstraction and integration</i> of the resource material</p> <p><i>AND</i></p> <p>demonstrates <i>independent reflection and extrapolation</i> relevant to the analysis and evaluation of possible government interventions</p> <p><i>AND</i></p> <p>is <i>convincing</i> and economically literate.</p>
	7 Marks	<p>The essay fulfils most of the requirements above for 8 marks, but contains minor factual inaccuracies (when this affects a statement or opinion)</p> <p><i>OR</i></p> <p>deals inadequately with an essential point</p> <p><i>OR</i></p> <p>lacks sufficient abstraction or integration of the resource material</p> <p><i>OR</i></p> <p>has some minor failure in the evaluation</p> <p><i>OR</i></p> <p>may lack some fluency and/or coherence.</p>

Scholarship	6 Marks	<p>The candidate produces and effectively communicates a sophisticated economic analysis of the externalities associated with sugar-sweetened drinks and of possible government interventions to address these. This demonstrates a high level of <i>analysis and critical thinking</i></p> <p><i>AND</i></p> <p>incorporates a <i>competent level of integration and synthesis</i> of the resource material</p> <p><i>AND</i></p> <p>the discussion and evaluation are <i>clear, logically developed, and precise</i>.</p>
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	3 Marks	<p>The answer fulfils most of the requirements above for 4 marks, but is incomplete</p> <p><i>OR</i></p> <p>fails to present a cogent argument or make critical analysis</p> <p><i>OR</i></p> <p>does not communicate ideas adequately.</p>
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	1 Mark	The answer contains a minimal amount of relevant evidence.
	0 Marks	No response; no relevant evidence.

Question Three – Migration

- Potential output is defined as the level of real output that could be achieved when all resources are employed in an economy. It is equivalent to the full employment level of output. It is equivalent to the economy's production possibilities frontier (PPF) or the full employment level of income commonly drawn as Y_f on the AD/AS diagram. The level of potential output is not easy to determine, as it is based on estimates of the level of investment occurring in the New Zealand economy, the level of available resources, and changes to productivity.
- Included should be a suitably labelled AD/AS diagram showing an inflationary gap equating to a positive output gap and a recessionary gap equating to a negative output gap.
- The positive net migration could be because people living overseas see the level of optimism and growth in New Zealand as attractive, and fewer New Zealanders are emigrating because economic conditions are improving in New Zealand relative to Australia. Residents will choose to stay, or migrants will choose to come, when conditions in New Zealand are more favourable than those in Australia and elsewhere. In addition, international student numbers are rising.
- Immigrants are more likely to be of working age, so there will be an increase in human resources, therefore potential output will expand. This may be illustrated as an outward shift in the PPF or Y_f /LRAS.
- RBNZ recognises that positive net migration will increase both AS and AD. AS rises because an increase in labour supply will result in a fall in nominal wages and/or labour productivity may increase because of the nature of migrants; and AD rises because positive net migration will increase the population, and consumption and investment spending will increase. The problem (ambiguity) arises because it is unclear as to whether the rise in AS is greater than the rise in AD. Thus, it remains unclear whether the extent of the output gap will increase or decrease, and as a consequence what will happen to the size of the inflationary gap. As a consequence, the Reserve Bank will be challenged when forecasting macro-economic conditions. This increase in AD and AS should be illustrated with a suitable AD/AS graph.
- Whether monetary policy settings need to be tightened will depend on the Reserve Bank view of the effect of positive net migration on the output gap. Whether the supply effects or demand effects will dominate will, therefore, influence the size of the inflationary gap. Positive net migration is generally seen as being pro-cyclic; therefore, it is most likely to increase the level of consumption and investment spending, thereby increasing AD to a greater extent than labour supply and AS. If this is the case, then monetary policy will need to be tightened, and thus the Reserve Bank will increase OCR in order to constrain AD and the forecast changes in inflation. The Reserve Bank will need to be mindful of the time lags and other factors such as the movements in the exchange rate. Thus, good forecasting is important. The candidate might also bring in other factors that could be important in the Reserve Bank's forecasting, such as changes in the economies of New Zealand trading partners, changes in dairy and oil prices being disinflationary, the peak of the post-quake construction in Christchurch, etc.

Outstanding Scholarship	8 Marks	<p>The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact that a high level of positive net migration might have on the output gap and inflationary pressures, and the reasoning the Reserve Bank will use in determining the most appropriate monetary policy settings in the near future. This is complete and demonstrates <i>perception and insight</i> AND demonstrates <i>sophisticated abstraction and integration</i> of the resource material AND demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the monetary policy settings in the near future AND is <i>convincing</i> and economically literate.</p>
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