93402

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OUTSTANDING SCHOLARSHIP EXEMPLAR

NZQA

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

Scholarship 2015
Economics

9.30 a.m. Thursday 26 November 2015
Time allowed: Three hours
Total marks: 24

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

Pull out Resource Booklet 93402R from the centre of this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–27 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

This examination consists of three structured essay questions. For each question, use appropriate economic models to illustrate key points, and integrate information from the resource material to support your argument/evaluation.

QUESTION ONE: THE UPS AND DOWNS OF NEW ZEALAND DAIRY FARMING

> Before 2014, many dairy farmers had been earning supernormal profits, with some borrowing heavily in order to expand production. However, rapidly changing prices and costs are impacting on the profitability and future of dairy farms.

Use information from Resources A to G, and your knowledge of micro-economic theory, to answer this question.

Analyse the impact of changes in farm costs and dairy prices on the profitability and production levels of individual dairy farms in the short and long run. Evaluate how these impacts may differ depending on the level of debt of a farm in the short and long run. Use appropriate economic models to support your answer.

In your answer:

- explain why individual dairy farms are considered to be examples of perfect competitors
- discuss how increases in dairy farming production could lead to diminishing returns and rising marginal costs
- analyse and explain the impact of the changes in costs and dairy prices on an individual dairy farm's profitability and profit-maximizing production level in the short and long run
- analyse and evaluate how these changes could affect farms with differing levels of debt in the short and long run.

Use this space for planning your essay. This plan will NOT be marked.

PLANNING

- Perf. comp: homog product - perfect info - small, many - ⇒ price taker (esp. exports) (A) (e)
- Dim. returns - law ↑MC. graph.
- SR: - externalities - debt
  Shutdown/breakeven. AFC AVC
  World prices ~ price taker exports.
  ↑C - subnormal p. - extern
- trade cycle.
- LR: - exit industry - S↓ - P↑ - Normal - Diseconomies of scale.
- Debt: SR: ↑MC costs increase over time price below
  LR: exit industry. — higher debt exits first.

☆ However a small degree of differentiation may be achieved e.g. with organic brands.

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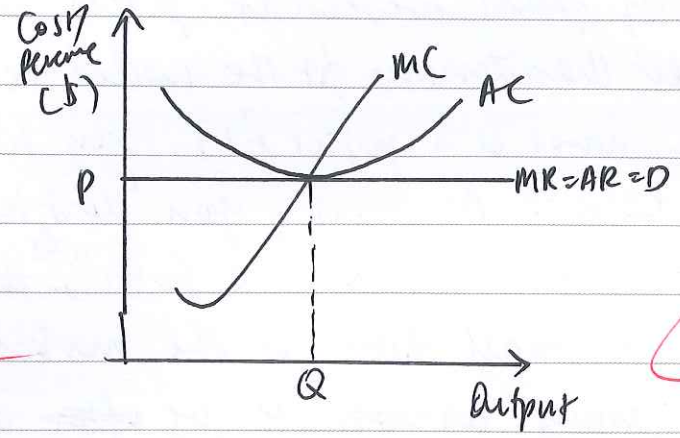
New Zealand dairy farms are seen as pefect competitors because their characteristics fit the model well (though obviously there cannot be a pefect fit). They sell a homogenous product; as Resource A states, you "don't know or care whose dairy farm (your) milk came from" ☆ and there are many small firms in the market due to the nature of NZ farms as we generally have a large amount of localised smaller scale farms. Furthermore, there is alot of transparency about milk prices in New Zealand (it is often in the media and easy comparisons can be made in supermarket aisles) so there is essentially pefect information and freedom of choice and consume sovereignty is achieved. In addition, the fact that many NZ dairy farmes expot milk as a large part of their revenue means that on the expot markets they are price takes too due to the small scale and volume of NZ dairy trade compared to the overall world dairy market. As in Resource E, the world market is "intensely competitive". ~~All these factors combined see NZ dairy farms individualy as pefect competitors and they would achieve, in the long run, normal profits~~ However factors may not be as mobile as is pefect theoretical competition due to the illiquidity of farmland; yet overall the dairy farms in NZ individualy function adequately as pefect competitors. In the long run, then, they would make normal profits as shown, as they are price takes:



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increases ~~in costs, it~~ in scale, then, in the short run, lead to increasing costs. Because short run there are fixed inputs that cannot be changed such as land, the increased production in the short run will mean "increasing production per hectare" not "increasing number of hectares" as in Resource B. ~~This way~~ As production increases, so does marginal cost due to the law of diminishing marginal returns as successive units of a variable input (such as labour or fertilise) added to a fixed input (such as land), ~~with~~ the ~~increase~~ additional output will eventually begin to fall. This is due to a variety of reasons: for example, the increased environmental costs that likely would increase per unit in order to limit units of milk produced, and thus environmental impact, would add to the increased marginal cost of each unit. Furthermore, with a fixed input like land, there is only a limited amount of extra productivity that can be generated in the short run despite increased variable inputs due to the constrained capacity, so as units produced increases, the cost of each extra unit rises, so "marginal cost" rises.

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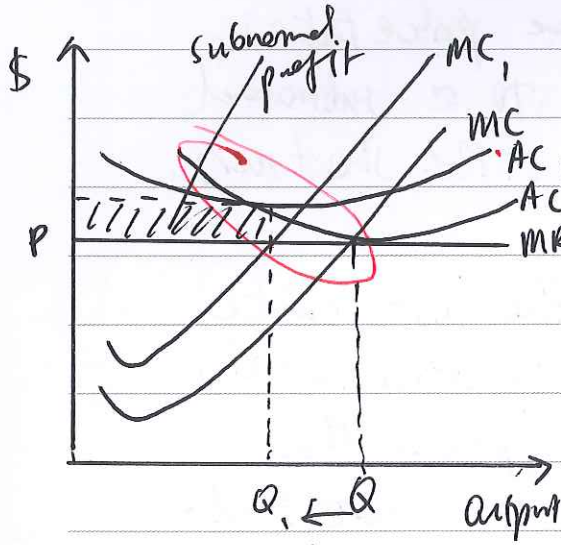
When these costs of production fluctuate, this will impact the dairy farmer's profitability and production levels, assuming profit maximising targets, in the short run. As costs such as "environmental protection legislation" in Resource B and "supplementary feeding ... wages, fertilise, fuel" as in Resource D, increase, this pushes up MC (marginal cost) and thus AC (average cost) ~~this can lead to a subnormal pr~~ If the negative externalities of production like the environmental damage is internalised through government intervention in the form of regulation this adds to the cost. This can lead to a short run subnormal profit:



As shown, the increased cost decreases the profit maximising (where MR=MC) level of output and causes a subnormal profit if prices stay the same. If the output price ~~drops~~ below average variable cost (AVC), then they are below the shut down point and are making an increasing loss on each unit of milk sold, so should drop out of the market. However even if they are above AVC, they are not breaking even and this damages profitability.

If dairy prices fluctuate alongside this, it also has repercussions in the short run, particularly as the firm is a price taker in a perfectly competitive

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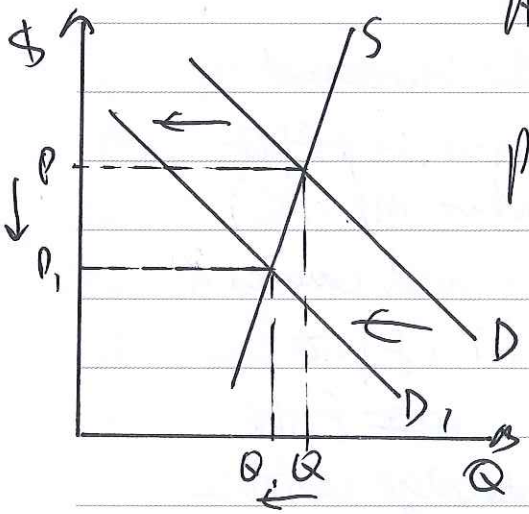
market. Indeed, the "volatility" of the world market, as Resource E mentions, decreases business confidence of farmers and damages the value of the dairy industry as people become reluctant to invest or expend. The "dramatic effects" of the changes in international supply and demand can be partly attributed to the inelasticity of supply of dairy milk as there is substantial capacity constraints, particularly with short-term fluctuations giving little room for response and a long production time of milk. This means if demand decreases, the impact on prices is immense as shown.



And since they are price takers, this also leads to a subnormal profit in the short run.

In the long run, the costs can be associated with diseconomies of scale. It appears that some dairy farmers tend to individually be producing beyond the optimum level of output where productive efficiency in the long run is achieved, as in some parts "further intensification or extension will not be physically possible" (Resource B), ~~and operating costs "proportionately increase with farm size" though some other farms have costs "proportionately increase with farm size" and are producing at where there aren't increasing returns to~~

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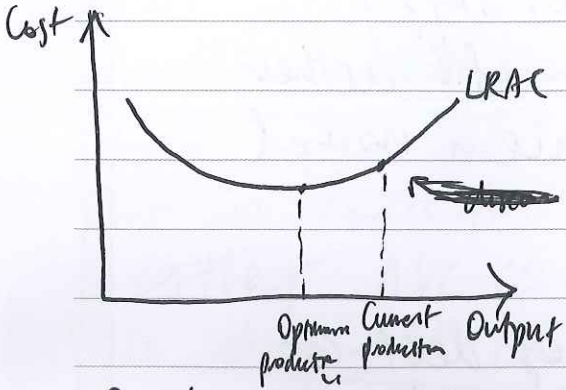
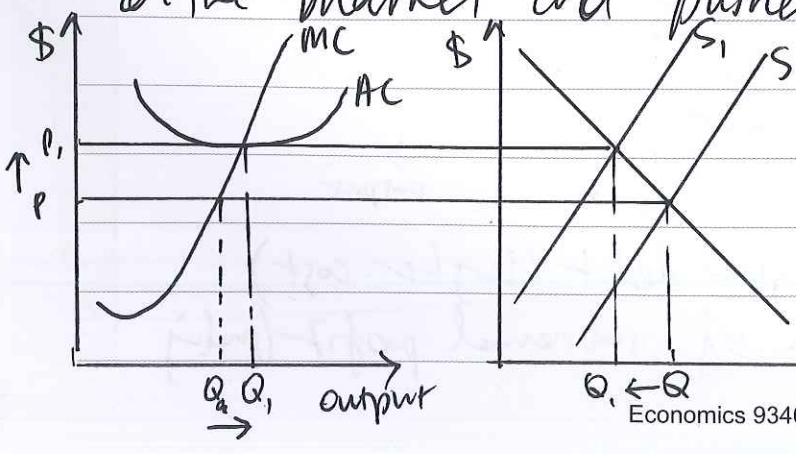
✱ as firms move factors to a more profitable market



where they produce beyond optimum production, diseconomies of scale sets in as costs increase disproportionately to output ~~production~~ B here, external factors such as environmental stresses contribute to this. Thus in long run it is wise to scale back production in order to ~~minimise~~ maximise productive efficiency and minimise costs.

Due to the perfectly competitive model of the individual firm, in the long run if costs persistently are too high or prices too low ~~for a~~ and a subnormal profit is achieved, firms will move out of the industry due to perfect factor mobility and perfect information — theoretically. Though mobility and information may not actually be perfect, it can be assumed that it is adequate enough to model on perfect competition and analyze the effects of subnormal profit. This exit from industry ✱, particularly of those firms operating below shut down point, decreases the supply of milk on the market and pushes up prices until ~~the~~ a normal profit is made; ~~and the market as~~ in perfect competition a normal profit will always be made in the long run.



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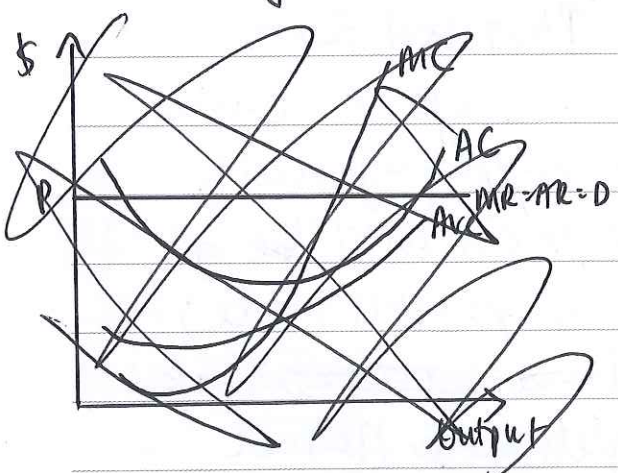
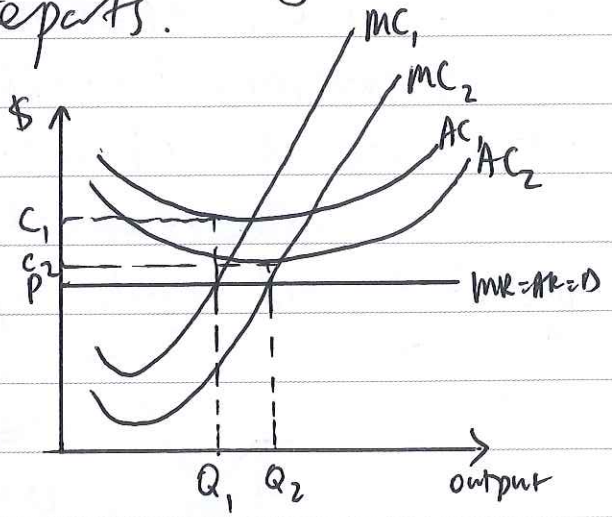
As shown, though the overall market supply decreases, the firms which stay benefit as their optimum output level increases and they make a normal profit. ~~[illegible]~~

The firms with higher amounts of debt are likely to suffer instead of benefit ~~[illegible]~~ however. In the shot run they will have higher costs due to "mortgage repayments" (Resource D) which, if large than that of their competitors, increases their costs while they all take the same price. ~~so their subnormal profit is larger~~. Indeed, this applies to many who are "unprofitable at current long run payout levels." (Resource F). This means that they in the shot run make a large subnormal profit and are more likely to be operating below minimum AVC, and thus below shut-down point. This negatively affects profitability more than that of their counterparts.





As seen, the firm with higher debt (higher cost) firm 1, has a large region of subnormal profit (making

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it (less profitable) and are producing less so also have a smaller market share. In the long run, those firms with high debt are likely to exit the industry first as they're first to accept a price below shut down point as their AVC curve is higher due to higher debt, so they exit while the less indebted firms stay and reap the benefits of an increased market share and normal profit.

It is clear that the price volatility (particularly the decreases) and cost increases are negatively impacting our farmers and we may see a decrease in the value of our dairy industry in the future. This will particularly affect those with the highest debts.

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QUESTION TWO: EXTERNALITIES AND SUGAR-SWEETENED DRINKS

There has been increasing evidence published relating to the negative effects of sugar on the human body, and discussion of whether some form of government intervention is necessary to address these issues. Sugar-sweetened drinks are particularly noted for their part in raising the sugar intake in people's diets.

Use information from Resources H to K, and your knowledge of micro-economic theory, to answer this question.

Analyse the externalities associated with the consumption of sugar in sugar-sweetened drinks. Evaluate the case for government intervention in this market, and possible options for intervention as a means of addressing these externalities. Use appropriate economic models to support your answer.

In your answer:

- explain the externalities associated with excess dietary sugar consumption, and how market failure occurs in the market for sugar-sweetened drinks
- evaluate the case for government intervention in the market for sugar-sweetened drinks, including the place of consumer sovereignty
- explain and analyse different types of government intervention possible in the market for sugar-sweetened drinks to reduce sugar consumption
- evaluate the effectiveness of these government interventions in achieving efficiency in the market for sugar-sweetened drinks, and make a justified recommendation.

Use this space for planning your essay. This plan will NOT be marked.

PLANNING

- MEC. ☒
  DWL - market failure.
  Cost borne third party.
- Hospitals (taxpayer), ↓lab. productivity (sick leave), ↓ age.
- Govt intervention
  Price signals ← consumer sov.

Y	N
- Tax revenue	- inefficient.
- intervene	- costs
- ↑ life quality	- regressive

- Possible intervention
- Tax — regressive
- Subsidise healthy (sub. effect ↓D for sugar)] - DWL
- Min price. — DWL.
- Awareness ↓D (wasted costs)
- Regulations (limits)
- Ref. info (labels).

- addictive - inelastic demand - small effect on Q.
  PED varies.
  - effects diff. segments.

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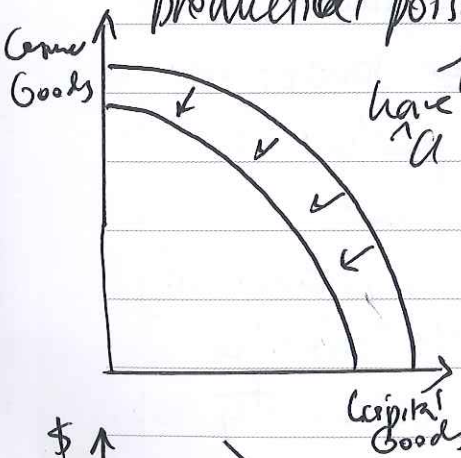
The consumption of sugar can be seen as a negative externality of ~~good~~ consumption, which ~~is~~ or makes it a mixed good as its costs are borne by third parties not involved in the economic decision-making process. This is because sugar consumption leads to adverse health effects that costs the health system of the country as more people are diagnosed with "obesity, type 2 diabetes, cardiovascular disease" (Resource I) as a result of "high sugar intakes". Because hospitals are usually publically funded, this means much of the burden is placed on tax-payers who did not cause the consumption, but must pay for more needy treatment. Furthermore, the sickness that results decreases the labour productivity of our workforce as people take more sick leave and also decreases ~~the~~ the ages that we live to - negatively impacting the size of our labour force and thus our production possibility curve shifts inwards. ~~The~~



The characteristics of sugar make it have "a negative externality of consumption so ~~the market~~ ~~overproduces~~ overconsumes in the market the sugary products ~~and overconsumes~~ (as Q, is larger than Q which is the socially desirable equilibrium quantity) ~~where all costs and benefits are borne by those involved in decision making i.e. MSC = MSB~~ and overprices them.

This leads to market failure as allocative efficiency is not achieved which is where all costs and benefits are borne by those making the decisions i.e MSC = MSB. A dead weight loss is incurred (area of ~~allocative~~ benefit lost).

Government intervention to correct and internalise this externality may then be desirable. Because the price of sugary drinks functions as a rationing and signalling mechanism, they need to be altered to reflect the socially desirable price and quantity. Presently, in the free market, the price is too high. So too many inputs are rationed to the production of sugary ~~foods~~ drinks. Also the signalling mechanism of price means that producers (who aim to maximise profit) move into the sugary drinks market due to the attraction of higher prices ~~and~~ which again means too much consumed and produced, as consume sovereignty (the ability of consumers to choose their purchases) ~~was~~ means that their wants and needs are reflected in the price. In most cases this is beneficial, as it causes allocative efficiency with the 'invisible hand' of market forces, but due to the externality this is not the case here. The government could intervene for a number of benefits. Most obviously, the internalization of the externality would lead to this market failure being corrected and the strain on hospitals and our workplaces

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would decrease. Furthermore, ~~if the government were to~~ the quality of life for those previously consuming too many sugary drinks would increase as their consumption decreases, which increases New Zealand's standard of living overall, something the government should be considering. Notwithstanding this, but if a tax were to be imposed at 20%, "up to $30 million revenue per year"; according to Resource 1, could be generated. This increased revenue can be used to improve other areas such as housing, roads, hospitals or education which can have positive externalities (e.g. education which benefits society as a whole) that should be subsidised. However, government intervention may also have negative outcomes that need to be evaluated. ~~This imposition~~ Costs will be incurred, such as ~~administrative~~ with administration of intervention policies, which will increase wastage and allocative inefficiency. Different intervention strategies also have their unique drawbacks (and benefits) that need to be considered in a cost-benefit analysis (where ~~if~~ if the benefit of intervention outweighs the cost, then the strategy may be successful — due to the Kaldo-Hicks criterion, theoretically those who benefit can compensate those who lose out).

Intervention can ~~act~~ involve a target on ~~reduce~~ reducing supply of the drinks. Possible intervention strategies include a 'sugar tax' on sugary drinks to reduce consumption. This indirect tax would decrease supply as producers' costs increase, as shown.

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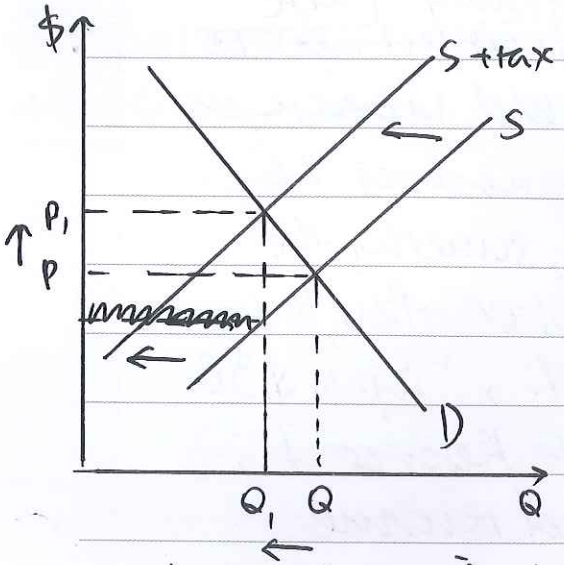
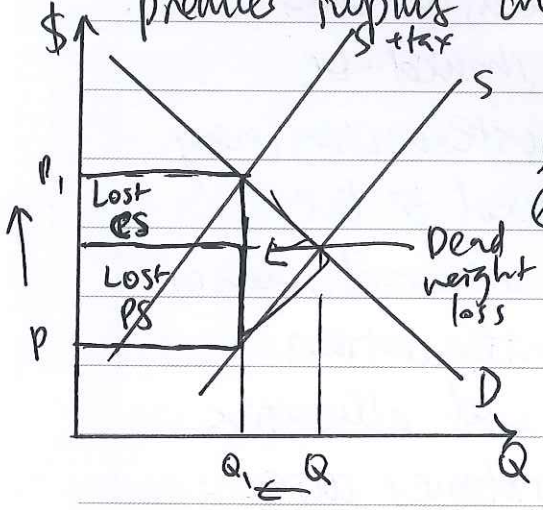


In addition to raising revenue to government, this would decrease the quantity of drinks consumed, and raise the price to consumers, achieving the aim of reduced consumption. However, a tax would be costly to both the government and to society, particularly if it is at 20% which is quite high and would shrink supply considerably, causing a large decrease in consumer and producer surplus and a significant deadweight loss, decreasing efficiency. Furthermore, a regressive tax has indirect effects because the lowest ~~income~~ earning people spend a large proportion of their income on the same sugary drinks, so increases inequality within New Zealand. ~~Redistributive~~



~~the impact~~

Additionally, the price elasticity of demand must be considered for this policy of reducing supply, and for the policies of reducing demand that we will later analyze. Because sugar is "addicting" as Source H says, its price elasticity of demand is likely to be low. This is compled with the small proportion of income (i.e. less expensive ~~nature~~ nature) that drinks take up ~~which~~ which indicates lack of durability, which is likely to make it inelastic. ~~software, sugary drinks~~ It is also not durable, decreasing elasticity of demand.

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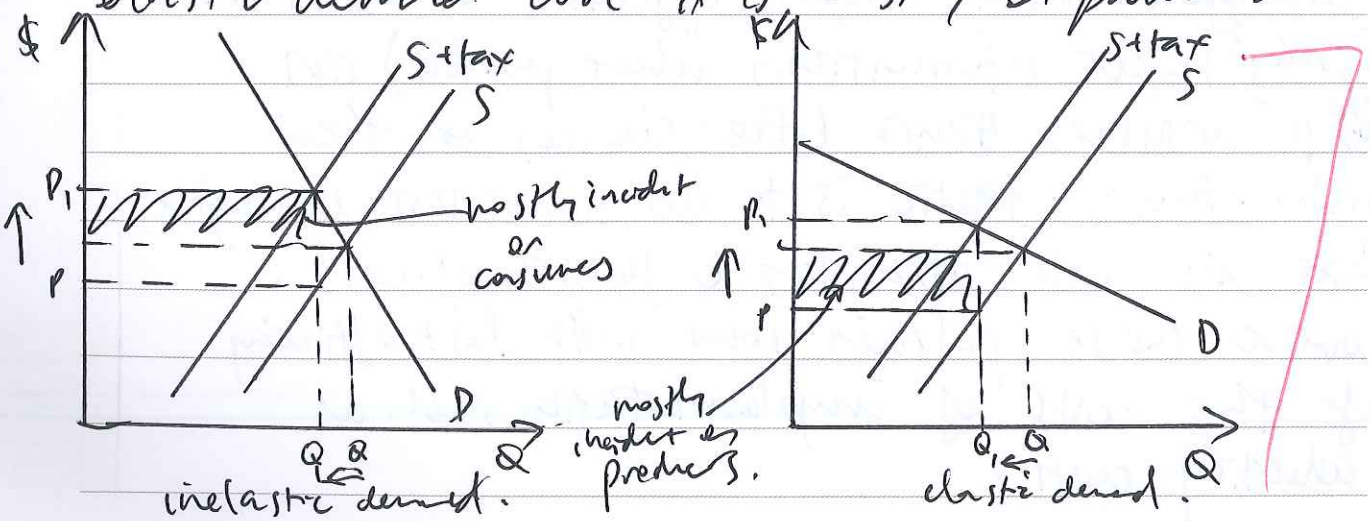
* and could be substituted with sugary foods, or just healthy food and drink,

~~However, it can be noted that sugary drinks are~~ Sugary drinks also have few substitutes (as they are a broad category in themselves) — it is ~~extremely~~ difficult to find other drinks that will taste as good. However it can be noted that they are not technically a necessity and can be forgone when the price rises, which increases elasticity of demand. Indeed, estimates have varied between "0.8 to 2.4". This is calculated on the basis of this formula:

$$PED = \frac{\text{~~Midpoint Change in P~~} \quad \frac{\Delta QD}{\text{midpoint of QD}} \times /.}{\frac{\Delta P}{\text{midpoint of price}} \times /.}$$

And as shown, the estimates have varied from an inelastic demand, where the change in demand has been less than proportionate to change in price (i.e. at lower end of 0.8 – 1 PED) to ~~the~~ very elastic demand of up to 2.4 PED. This affects the effectiveness of policies as for taxes, with an inelastic demand curve the incidence of tax is mostly on ~~producers~~ consumers, while with an elastic demand curve it is mostly on producers:



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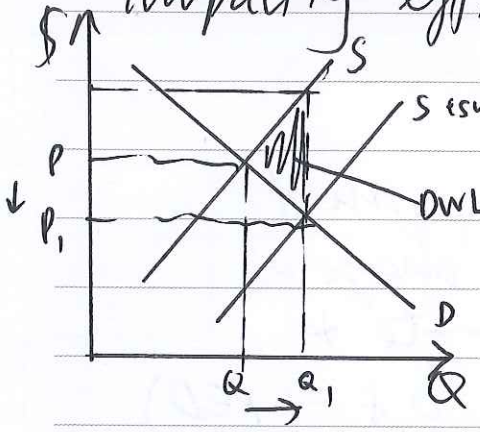
Another possible policy is subsidy of healthier foods and drinks like vegetables and fruit and tea. This subsidizing would lead to a decreased price for consumers due to an increased supply which increases consumption of these goods. Thus, as the cross elasticity of demand for substitutes is negative, the demand for sugary drinks decrease as consumers substitute towards the relatively cheaper healthier goods. However a dead weight loss is also incurred impacting efficiency just like taxes. This also costly to the government ~~as well~~.



One strategies to limit demand for sugary ~~goods~~ drinks includes regulation — of "restricting sales and advertising" or "sugary drink free policies". These would decrease demand out of necessity due to legal bans. Furthermore, increasing the information on labels available about sugar's effects / harms (i.e. improving to perfect information where possible) can help consumers make better choices on their health. Another tactic is to do awareness campaigns that also call attention to health effects. However these policies come with lost efficiency of the costs of implementation such as advertising costs.

The effectiveness of policies will vary depending on PED. For some markets e.g. Maori/Pasifika, PED is elastic (Resource I) so will be more effective for them as quantity demanded decreases disproportionately with price increases, and the burden of taxation on them is lowered. ~~For other markets that are~~ For other markets, such as those who see sugary drinks as a much smaller proportion of income (i.e. wealthier people less affected by taxes) the effectiveness may decrease.

Overall however, the benefits of interventions outweigh costs as the health of our country leads to a number of positive effects that outweigh ~~the costs~~ to the losses.

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QUESTION THREE: MIGRATION AND THE NEW ZEALAND ECONOMY

Economists are unsure about the effect on the New Zealand economy of the record level of positive net migration. An important question is the likely impact that positive net migration might have on the economy's level of potential output, and therefore the extent of and the type of output gap. This will challenge policymakers in determining the most appropriate monetary policy settings in order to control inflation in the near future.

Use information from Resources L to S, and your knowledge of macro-economic theory, to answer this question.

Analyse and evaluate the impact that a high level of positive net migration might have on New Zealand's output gap and inflationary pressures, and how this might impact on the Reserve Bank's monetary policy decisions in 2016. Use appropriate economic models to support your answer.

In your answer:

- describe an economy's potential output, and outline why this is not easy to determine
- use the aggregate demand/aggregate supply model to illustrate the connection between output gaps and inflationary and recessionary gaps
- explain why New Zealand has experienced a record level of positive net migration, and discuss how this might affect the economy's potential output
- analyse why the effect of positive net migration on inflation is described as 'ambiguous' or uncertain
- evaluate how positive net migration and other current economic factors might influence the Reserve Bank's monetary policy settings for 2016 and beyond.

- employment
- inflation.
- BoP
- price stability.

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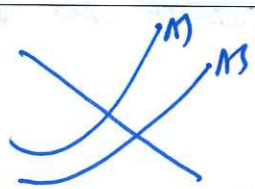
PLANNING

- Open economy
- AD/AS.



↑AS — labour market

- ↑ output

exports ten to imports.

- Strain on capacity ← Inflation
- ↑ imports
- ↑ house prices
- Capacity
- AD ↑.

Labour. Upped mobile. ↑PPC.

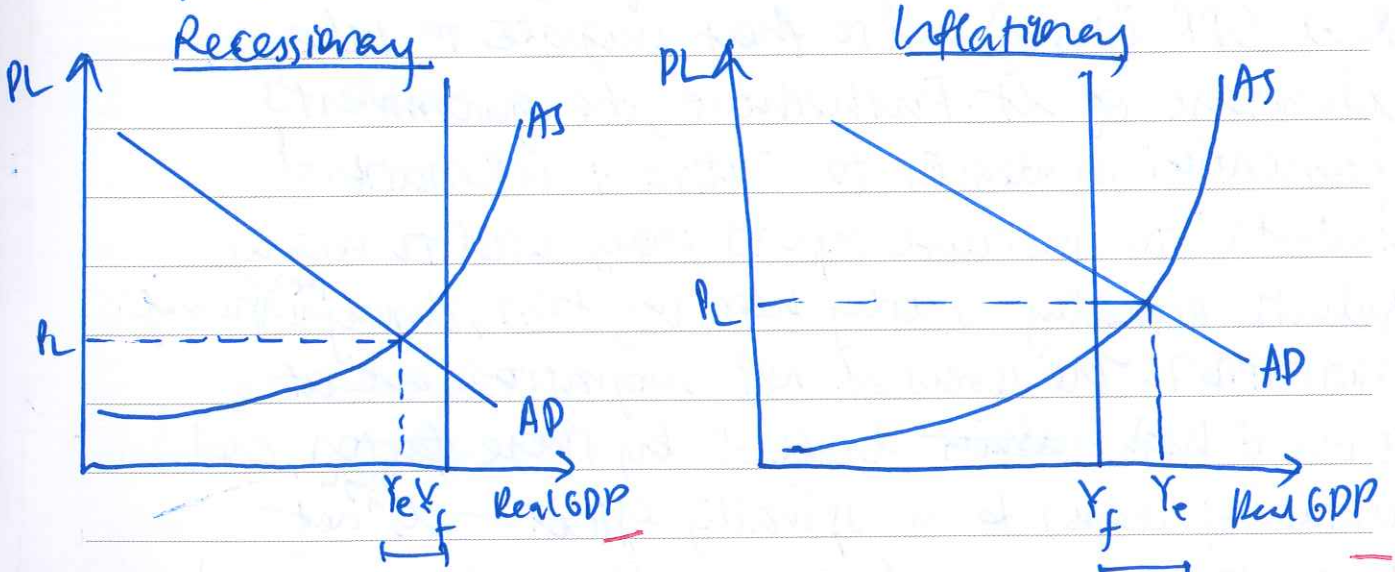
unsustainable growth

- Mon. policy
  - tight. (↑OCR).
  - Bad for X.

Finding

An economy's potential output is a key step in analysing effects of actions such as positive net migration. However in an open economy such as NZ, ~~where~~ where international trade is constant, this is hard to determine as it is hard to estimate how much outsourcing of production will occur in future or how much the net migration flows will change which affects the productive potential of NZ. Also the unpredictability of the position on our trade cycle we are at (as noted in Resource N) makes it difficult to estimate.

The output gap may be inflationary or recessionary that is, where the equilibrium level of output is above or below full employment (Y_f) in the economy. This is determined by the intersection of AD and AS:



~~NZ is at an inflationary gap which is enabled~~
NZ is at a 'positive output gap' i.e. actual output is greater than potential output (Resource M)

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So that we are actually producing beyond full employment of our resources (or what we feel to be our potential output), so $Y_e > Y_f$. Likewise, a negative output gap is reflected in a recessionary gap as the production below the full employment level indicates that not all of potential output and employment is actually utilized. ~~This is often the natural state for economies due to NZ's position~~

~~NZ's positive output gap is pretty much means inflationary pressures that can be~~ NZ also has a positive net migration mainly to Resource M, and this is due ~~to~~ in large part, to our 'burgeoning economy' (Resource P) as people are attracted to the economic growth and prosperity of the country which means higher incomes (as Real GDP grows) and so they migrate to take advantage of it. Furthermore, the government's intervention strategies to "attract international students" to increase exports may lead to many students actually settling here long term, during the inflow of migration. The levels of net migration are at a record high ~~which~~ enabled by these factors, and actually leads to a spiralling effect - as net migration is enabled by growth, so the increased labour supply ~~and~~ and spending by migrants increases AS and AD further leading to even more growth and inflationary pressure. This would

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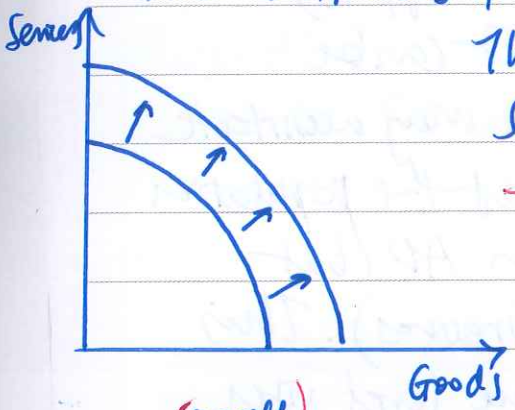
also increase the economy's potential output as the "more economically active" immigrants (Source Q) are upwardly mobile and provide a boost to the labour force ~~that~~ in productivity and numbers, overall increasing our productive possibility and shifting the PPC outwards to NZ:



Thus, our potential output increases so that Y_f shifts outwards.

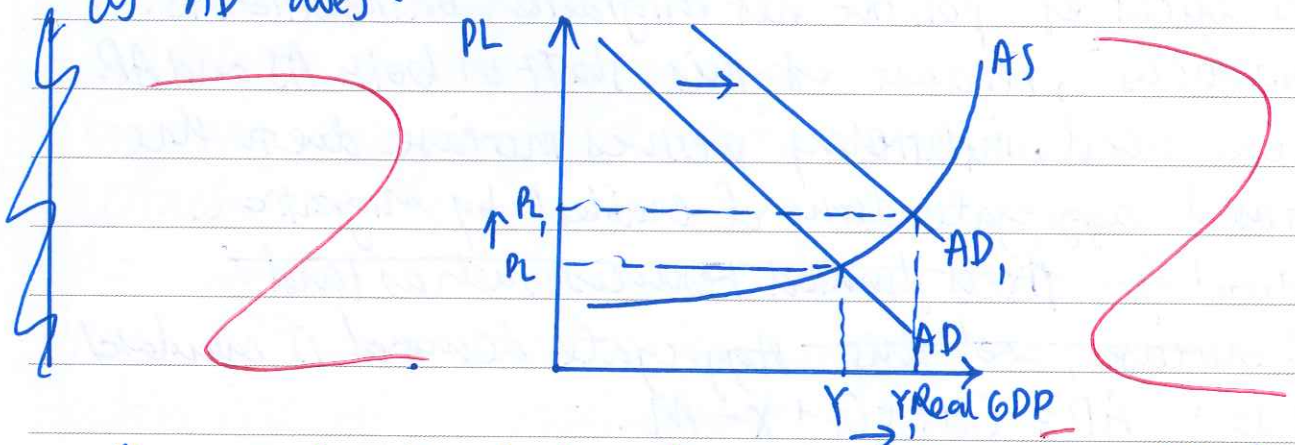
The (overall) effect of positive net migration on inflation is "ambiguous", because of this shift in both AS and AD. On one hand, inflationary pressures increase due to the increased aggregate demand enabled by migration. ~~Demand for fixed, limited resources such as land will increase, and this~~ Aggregate demand is calculated like so: $AD = C + I + G + X - M$.

Migration increases consumption spending (C) as the migrants add to the economic activity by their purchases. Particularly, the increased demand for fixed resources like land (which has a very inelastic supply as houses take a long time to build and land is scarce) will push up prices of houses considerably, adding to inflationary pressures (though admittedly the relationship is not completely "straightforward" as Reserve P states). We can see this partly in the "13.2%" increase in Auckland median house prices

(Resource S) partly enabled by "migrant gain". Furthermore, migrants who are economically active may start small businesses or invest, boosting (C) investment (I) and this can lead to a multiplied rise in Real GDP or Income (Y):

$k = \frac{1}{1-mpc} = \frac{1}{mpw}$ (multiplier effect).

~~Additionally, If migrants are~~ However it can be noted that the increased population may necessitate increased imports ~~to~~ cover demands of the population which does have a downwards effect on AD (but not likely to outweigh the upwards pressures). This combined could lead to inflation as price level rises as AD does:



The ambiguity of the effect on inflation is added to by the need to determine where on the AS curve NZ is at, as this impacts the extent of inflation caused by increased AD. If NZ is nearing full capacity (and it seems that we are) the steeper slope of the AS curve means that the expected impact on inflation will be greater while the increased income gained (Y) will not be as significant.

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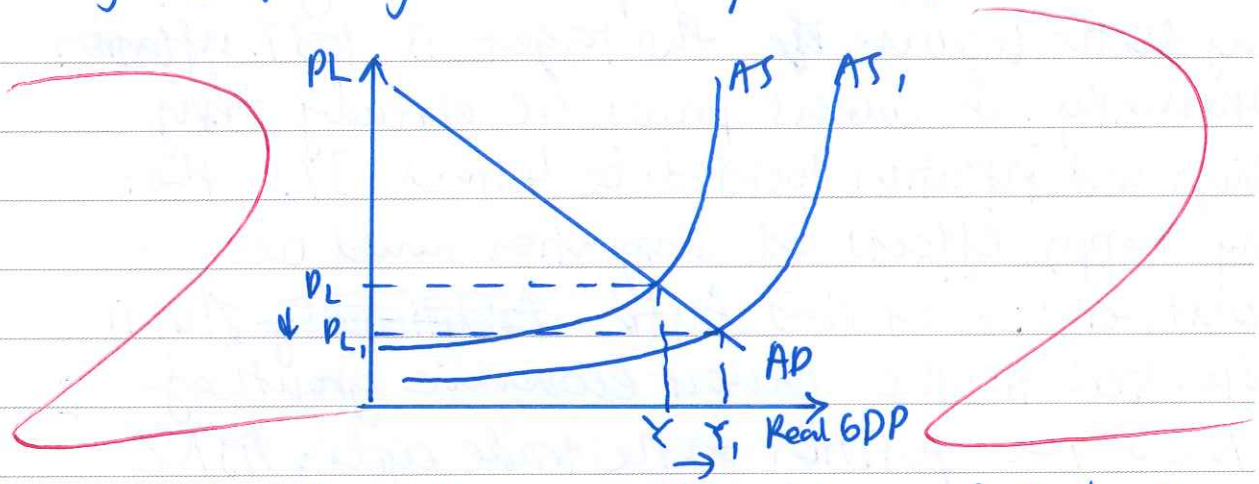
This ambiguity is weighted by the effects that net positive migration has on the AS curve. Again, the upwardly mobile immigrants increase both the ~~quality~~ productivity and size of the labour force, ~~increasing~~ and often are "paid less" (Resource Q) which decreases costs of production for those firms employing migrants. This shifts AS curve to the right as costs decrease due to an increased supply of labour ($\uparrow S_L$) and the willingness of migrants to be paid less.



As seen, this has the opposite effect of the higher AD on ~~GDP~~ inflation, decreasing the price level. However ~~decreasing~~ an actual decreased price level is unlikely ~~due to the stronger eff~~ deflation is uncommon especially with NZ's growing economy, but it can be seen to have disinflationary effects. Thus the overall impact on ~~AS~~ inflation indeed is determined by which effect is stronger - AS or AD. However, it is likely that $\uparrow$AD is stronger and inflationary pressures rise ~~due to~~ in the short term due to the longer term ~~shift of AS~~ nature of the AS curve shift.

* This involves increasing the OCR to increase cost of borrowing and delay spending (C↓, I↓) and increases the exchange rate so that X↓ and M↑, overall decreasing AD and inflationary pressure.

The Reserve Bank must factor this into its monetary policy settings for 2016 and beyond. ~~Other factors AD~~ As in Resource R, if demand effects dominate, then the increased pressure on inflation which threatens price stability will likely result in a 'tight' monetary policy to curb inflation*. If supply effects dominate then a 'loose' monetary policy may be adequate due to the downward effect on inflation. Yet other factors need to be accounted for. The existing price stability is a key factor because the target is 1-3% inflation annually. If current prices are already very high and inflation looks to be beyond 3%, then any supply effects of migration would be outweighed by this factor. ~~Additionally~~ This is often tied to the current economic growth of NZ or the position on the trade cycle. As NZ is likely to continue to 'register above average growth for the next two years' (Resource S) this would definitely ~~not~~ call for more of a tight monetary policy to ensure more sustainable and steady ~~not~~ growth. Furthermore, the employment rate is a key economic factor that needs to be considered — if employment is low then a more 'loose' policy may be ~~good~~ beneficial in order to boost economic activity and employment (however with the positive output gap this seems unlikely). Additionally, the country's balance of payments needs to be

accounted for. The current account measures the balance on goods, services, income and transfers. If the current account is in deficit this indicates a lagging export industry and high imports (though export prices are currently 'high' (Resource N)). In any case, increasing the OCR to increase interest rates to curb inflation can lead to a conflict of interest if exports are hurt because the demand for NZD increases and the exports become less competitive. These factors need to be weighed up but it seems that a tight monetary policy would be beneficial.

Overall, the impact of migration seems to be an inflationary one and given our existing positive output gap we need to seriously consider a tight monetary policy to move sustainable growth.

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7.

Outstanding scholarship
Total mark: 20/24

Question One

Overall, this answer meets the criteria of Scholarship, providing a relatively sophisticated economic analysis and a reasonably high level of analysis and critical thinking. To gain a higher mark, the candidate needed to more fully and precisely explain the economic analysis in terms of the effects of rising costs and falling milk prices on dairy farms, as described below.

The candidate provides a sound explanation of why dairy farmers may be considered to be perfect competitors, highlighting the main factors that are relevant and relating them to the dairy farming environment while also showing independent thought by highlighting characteristics that may not meet the perfect competition criteria (though there is some confusion about the difference between raw milk produced on a dairy versus the processed milk product sold in supermarkets) – page 3.

The candidate correctly explains the concept of diminishing returns – page 4 – and is able to relate it generally to dairy farming, though more specific examples could have been given as to the variable inputs that would be constrained by the fixed quantity of land available in the short run.

The candidate accurately describes and illustrates the impact of rising costs on a perfectly competitive dairy farm – page 5; however, greater depth could have been provided by explaining specifically:

- why both marginal costs and average costs increase
- why the profit-maximising output falls using marginal analysis and
- why a subnormal profit occurs as a result.

On page 6, the candidate provides only a vague description of the impact of falling dairy prices on dairy farms. The candidate could have provided far greater detail in combination with the impact of rising costs and also illustrated the overall effect.

On page 7, the candidate accurately outlines the effect of subnormal profits in the long run on the perfectly competitive dairy farm, including showing critical thinking, in raising the likelihood of perfect mobility of resources and perfect information.

The candidate correctly identifies the difference in cost structures caused by the different debt levels held by dairy farmers – page 8 – though incorrectly implies that this could affect average variable costs, and highlights the likely impact of high-debt farms leaving the industry.

Question Two

The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of externalities associated with sugar-sweetened drinks and of possible government interventions to address these. This demonstrates perception and insight.
The candidate explains the externalities associated with excess dietary sugar consumption – page 11 – and how market failure occurs in the market for sugar-sweetened drinks, linking to both the burden on taxpayers of publically funded healthcare and to a decrease in labour productivity.

The candidate evaluates the case for government intervention, including the place of consumer sovereignty – page 12 – by recognising the failure of the price mechanism to achieve allocative efficiency and the impact of this on resource allocation. They explain the advantages of government intervention and the internalisation of externalities by actualising the outcome. The candidate also provides disadvantages of government intervention – page 13 – and references appropriate economic theory.

Explanation and analysis of different types of government intervention and their effectiveness in achieving efficiency in the market included:

- a tax on sugar, on pages 14 and 15, including a detailed explanation of the impact of differences in Price Elasticity of Demand
- a subsidy for healthy food options, on page 16
- other strategies that influence demand, on page 16, such as restricting advertising and increasing information on labels.

Overall, the essay is judged to have reached outstanding scholarship standard, being awarded a mark of 7 because the analysis was convincing and economically literate, and the resource material was integrated effectively. A more thorough evaluation of the other demand strategies and greater fluency and coherence would have led to a higher grade.

Question Three

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. The essay contains most of the requirements for Outstanding Scholarship but deals inadequately with one essential point.

The introduction is adequate; however, the candidate did not describe an economy's potential output. An explanation of why an economy's potential output is difficult to determine is provided – page 19.

Aggregate demand/aggregate supply models are drawn that illustrate a recessionary and inflationary gap. A description of recessionary and inflationary gaps is also provided – page 19.

An explanation of why New Zealand has experienced positive net migration is given. The reasons include relatively high economic growth and the government attempting to attract international students. The candidate has integrated the resource material into the explanation – page 20.

How the positive net migration will lead to an increase in the economy's potential output due to more labour resources and more productive immigrants is discussed. A correctly drawn production possibility curve is drawn which illustrates an increase in potential output – page 21.

An analysis is given that covers why the positive net migration could have an uncertain impact on the price level. This analysis includes a detailed explanation of why aggregate demand would increase (increased consumption and investment pages 21–22) and an increase in aggregate supply (decreased costs of production and higher productivity). These explanations are also illustrated by correctly drawn aggregate demand and aggregate supply models. The candidate could have drawn an aggregate demand/aggregate supply model that showed the combined effect of an increase in aggregate demand and an increase in aggregate supply showing how the impact on the price level would be uncertain.

The candidate explains reasons why they believe that the impact of positive net migration will have an inflationary effect. They also link this explanation to the slope of the aggregate supply curve – page 22. This explanation demonstrates economic literacy.

The candidate has written a convincing conclusion (pages 24–25) in which they weigh up the different factors that would contribute to a decision for monetary policy. This conclusion demonstrates independent reflection and extrapolation relevant to the evaluation of monetary policy. They have also integrated the resource material in a sophisticated manner.

Overall, the essay was judged to have met the criteria for Outstanding Scholarship. A stronger essay would have included a description of the potential output of an economy and a more detailed explanation of the uncertainty around the relative size of the shifts of the aggregate demand and aggregate supply curves.