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93402



Draw a cross through the box (X) if you have NOT written in this booklet

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SCHOLARSHIP EXEMPLAR



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Scholarship 2025 Economics

Time allowed: Three hours
Total score: 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 2–28 in the correct order and that none of these pages is blank.

Do not write in the margins (XXXX). This area will be cut off when the booklet is marked.

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

INSTRUCTIONS: Write an essay in response to EACH of the THREE questions in this paper. Question Two is on page 10, and Question Three is on page 18. There is planning space for each question. Your planning will NOT be marked.

QUESTION ONE: Avocados – a tough season for growers

Use information from **Resource A** and your knowledge of micro-economic theory to answer this question.

Changes in the world market for avocados and in costs for avocado growers directly impact the level of exports and the profitability of New Zealand avocado orchards.

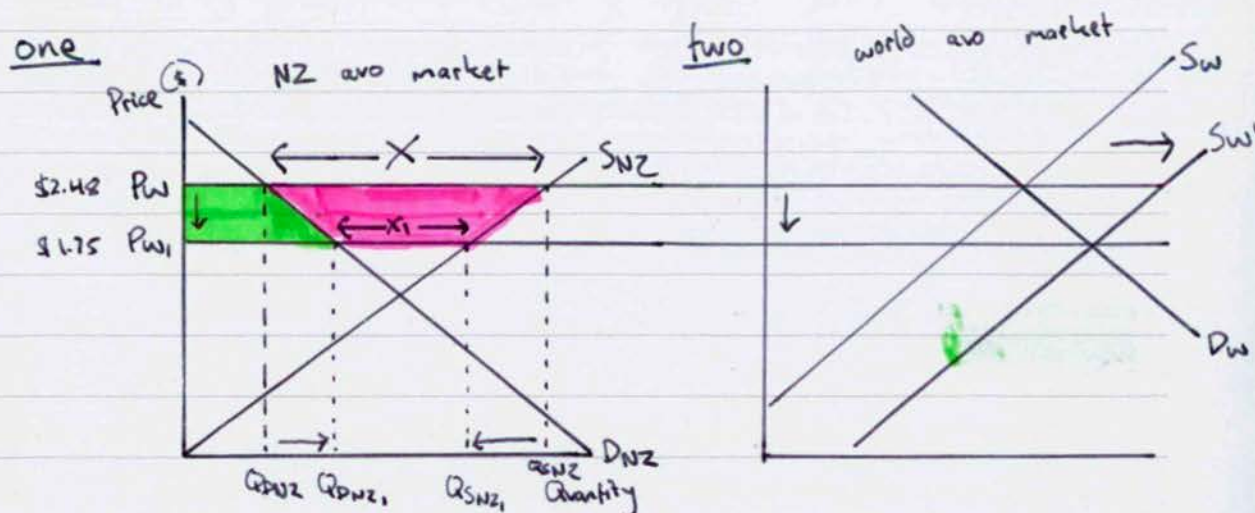
Analyse the impact of changes in the world avocado market on the New Zealand avocado market and on individual avocado growers. Evaluate the short- and long-run effects on avocado growers' output and profitability.

In your answer, using appropriate economic models, you should:

- ✓ explain why New Zealand avocado growers can be considered to be an example of perfect competitors rather than monopolistic competitors
- explain the impact of the change in world price on exports, consumer surplus, producer surplus, and allocative efficiency in the New Zealand avocado market
- use marginal analysis to analyse the impact of:
 - the change in avocado prices and input costs on individual perfectly competitive New Zealand avocado growers in the short run
 - ongoing subnormal profits on firms and the New Zealand avocado market in the long run, and evaluate the influence that the world market price may have on this.

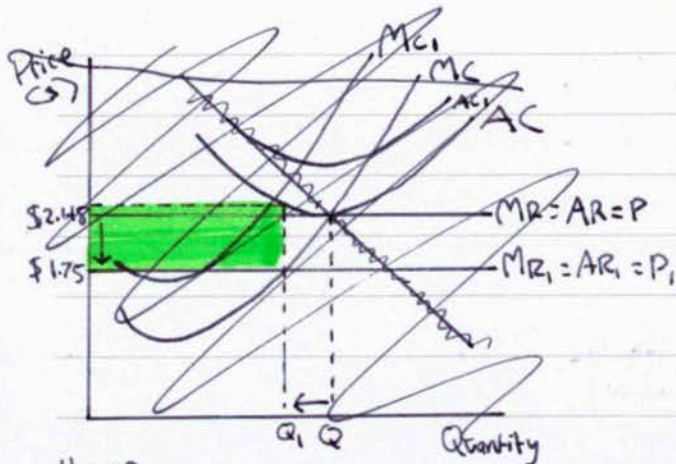
PLANNING

Avocado growers are an example of perfect competition as there are more than 1000 growers in NZ, and they don't produce slightly different products - all avocados are almost identical, meaning growers have no control over the price.

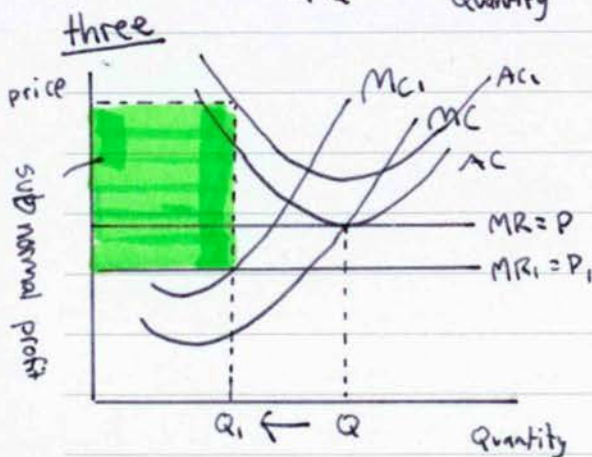


Due to increased supply in the world avo. market (S_W to S_{W1}) ^{graph two} the world price falls from $P_W = \$2.48$ to $P_{W1} = \$1.75$. New Zealand avo market takes this price as NZ is a price taker due to being comparatively small to rest of the world, no change in P_W will change the P_{W1} . ^{graph one} Due to this the price NZ producers/consumers receive/pay decreases by the same amount. $Q_{D_{NZ}}$ increases to $Q_{D_{NZ1}}$ as avos are relatively more affordable to consumers. $Q_{S_{NZ}}$ falls to $Q_{S_{NZ1}}$ as avos are relatively less profitable to produce. This causes consumer surplus to increase by green as the difference between what they are willing to pay, and the actual price is greater - additionally more as Q_D has increased. Producer surplus falls by $\text{green} + \text{pink}$ as the gap between ^{price} what they are prepared to sell & actual price decreased & they are ^{supplying} a lower quantity. Although the loss of producer surplus exceeds the gain to consumer surplus, the market is still allocatively efficient as NZ cannot change P_{W1} , and currently CS & PS are maximised.

resulting in no dead weight loss (DWL). Overall consumers are benefitted as avos are relatively more affordable & they can buy more, producers are negatively impacted as revenue drops due to lower price (P_w) & lower quantity. Exports fall from X to X_1 , so X receipts fall from $(X \times P_w)$ to $(X_1 \times P_w)$

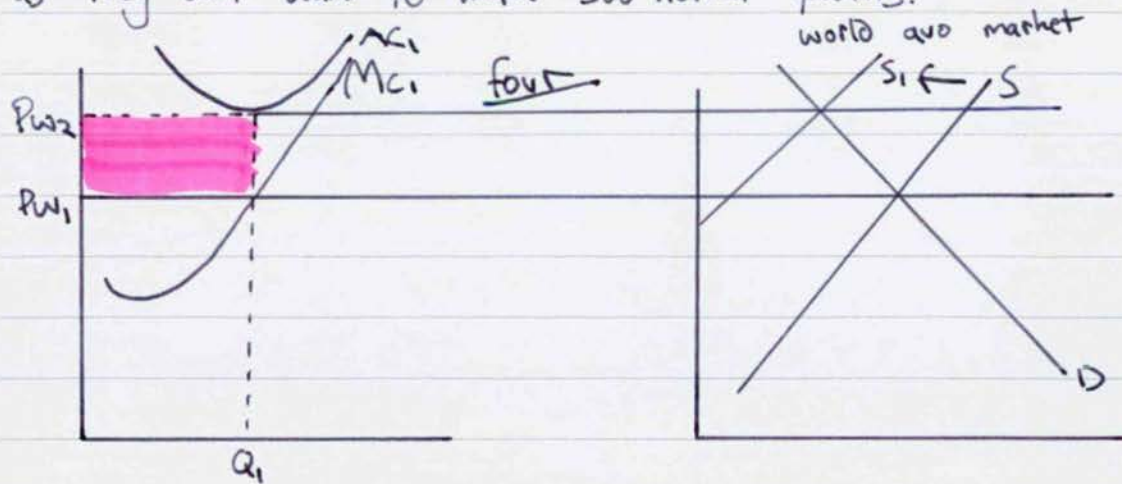


As price falls from P to P_1 , MR falls to MR_1 . Due to rising input costs such as fuel, agri-chemicals labour etc, MC rise to MC_1 and AC (which includes MC) rise to AC_1 . At the original output Q , $MC > MR$ so to continue profit maximising Q falls to Q_1 , this combined with AC increasing creates a large sub normal profit in the short run.



In the long run NZ avo producers exit the market due to this. As NZ is a price taker, this ~~not~~ does not affect the world market for avocados. However, rising input costs such as fuel, agri-chemicals are imported goods for NZ, meaning these costs have ~~as~~ likely risen for all other avo producers in the world market, NZ labour has increased in cost, but it is uncertain whether this is true for other world markets. As costs

rise globally, markets across the world make worse profits, assuming the currently make normal profits (most a/o producers are in perfect competition) globally, firms may leave the market as they don't want to make sub normal profits.



Graph four as international a/o producers leave the market - including some NZ producers (though that is insignificant to the world market) the P_{w1} rises to P_{w2} removing sub normal profits for NZ it is unlikely in the long run inputs costs fall (wages don't fall, costs generally rise with inflation). Long run NZ producers average normal profits, but this could fluctuate with changes in costs relative to the world market (e.g. NZ labour force)

QUESTION TWO: Public goods – Auckland roads and allocative efficiency

Use information from **Resources B to F** and your knowledge of micro-economic theory to answer this question.

Auckland's population is projected to increase to at least 2.2 million by 2045, placing pressure on roads, reducing their performance, and increasing congestion. The Auckland Transport Alignment Project (ATAP) concluded that investment in both infrastructure and demand management tools, such as a congestion charge, are needed to reduce congestion in Auckland.

Analyse the impact of a growing population on allocative efficiency in the provision of Auckland roads. Evaluate the effectiveness and impact on allocative efficiency and equity of government policies designed to reduce traffic congestion.

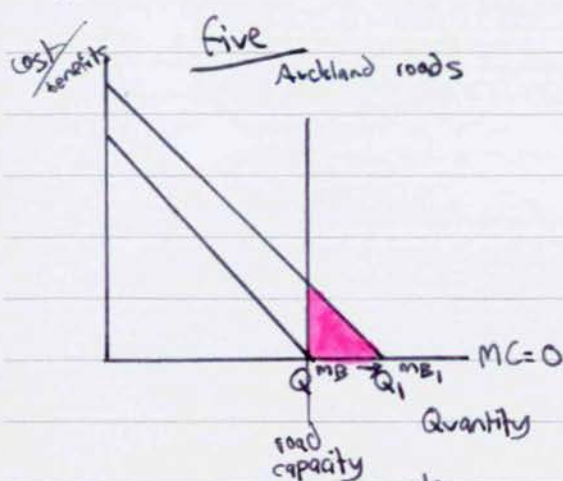
In your answer, using appropriate economic models, you should:

- ✓ explain the extent to which Auckland roads meet the characteristics of a public good
- ✓ using the public goods model, analyse and illustrate the impact of an increase in population on Auckland roads, and explain how this leads to market failure and allocative inefficiency in road provision
- analyse and evaluate the impact on allocative efficiency and equity of the three recommended policies designed to improve traffic flow (Resource D), and recommend which policy / policies would be most effective in the short and long term, taking into consideration allocative efficiency and equity.

PLANNING



A public good is a good that is non-distinguishable by price. Therefore companies cannot charge for it. Auckland roads in general do count as a public good, as it is non-distinguishable by price, as anyone can use it for free.



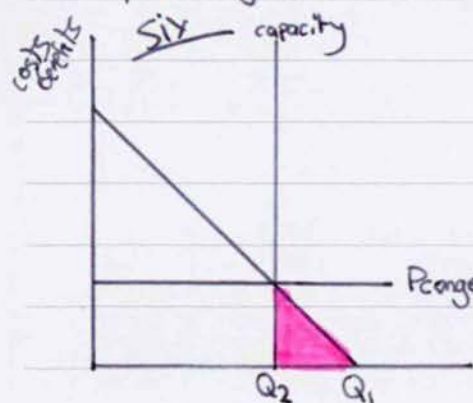
graph five

As Auckland's population increases (to 2.2m in 2024) the marginal benefit of Auckland increases, as more people means more demand for goods especially free public goods such as road usage. However Auckland was already at ~~close~~ or past to full road capacity (Q) so increasing MB to MB_1 results in a DWL as demand exceeds maximum capacity.

This DWL represents the 22 million hours p.a. Aucklanders spend waiting in ~~trav~~ traffic, accounting to \$1.3B in lost GDP output. This means the market is not allocatively efficient, and fails.

Policy one time of use

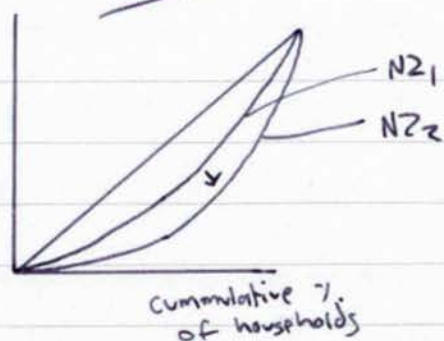
A congestion charge on key roads changes key roads from being a public good to a private/govt. good. Graph six adding a



congestion charge decreases the Q_D from Q_1 to Q_2 eliminating DWL and generating additional revenue for the govt. This however results in increased inequality of income as "wealthy drivers won't find them a ^{burden} problem".

Cumulative % of income

seven

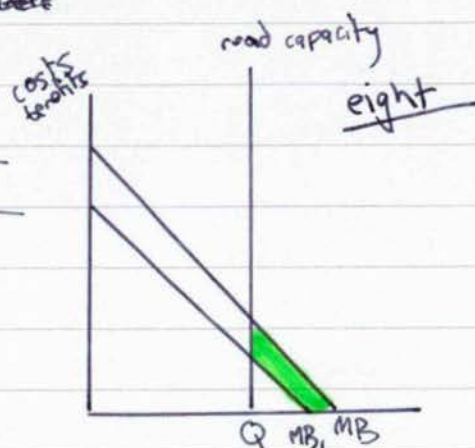
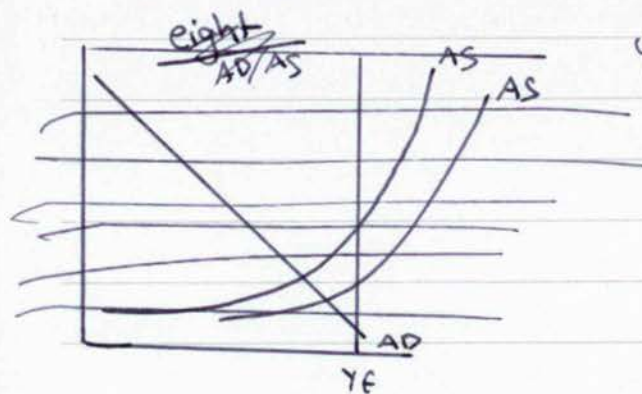


This causes NZ_1 to shift out to NZ_2 representing higher wealth inequality as the poorest can't afford to drive at new costs and may lose jobs or be forced to drive longer (less busy) roads.

Overall allocative efficiency is restored, but a less equitable outcome occurs. This policy works in the short run & long run as drivers immediately ~~can~~ will avoid road charges & travel less or else where.

Policy two

Improving public transport infrastructure such as ~~big~~ buses/trains & cycle ways (graph eight) ~~incre~~



Increasing ~~at~~ substitute good transport decreases MB to MB_1 as drivers take alternative transport methods, this is likely to be effective in medium term as it will take some time to invest & start operating new buses & create new cycle paths, this is partially effective reducing DVL & improving allocative efficiency & congestion this this is fully equitable as all consumers can utilise public transport if they choose.

This

Policy three building new routes & dynamic lanes

New routes & dynamic lanes allow more cars to be on the roads ~~at~~ at one time, & decreases congestion, this increases the total capacity of Auckland's roads, (graph nine) where the capacity increases from Q to Q_1 , ~~reducing~~ ^{removing} DWL by []. This improves allocative



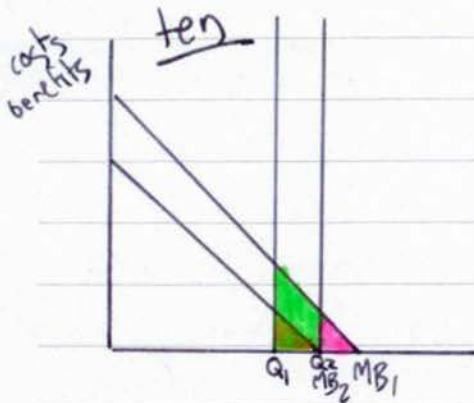
efficiency, but does not fully remove DWL as it is unlikely that new routes & dynamic lanes will completely eliminate congestion.

This policy is equitable as all socio-economic groups have the same access to this investment. This however will only come into effect in the long term as building new

routes & dynamic lanes is costly & planning & building takes a large amount of time.

To solve the congestion problem, the Auckland council will need to incorporate all three policies, to different extents & at different times. In the short term they need to implement policy one, to quickly reduce congestion and restore allocative efficiency, however this is inequitable to lower income groups who can't afford the roads charge & ~~thereby~~ wealthier people "tend to live ~~closer~~ closer to the city so already have better public transport". However this is worth it due to the \$1.3B GDP that can be recovered. If the govt. was concerned about inequality they could use a combination of the congestion charge revenue & the GST on \$1.3B to help lower income groups such as subsidising food banks, reducing the inequality. In the medium/long term the govt. should gradually decrease the charge as policy two & three reduce congestion.

The combination of policy two & three will remove DWL in gradually over the medium/long term as new public transport & roads are built.



~~Both~~ policy

Graph ten uses increased routes & dynamic lanes to increase ^{capacity} Q_1 to Q_2 & uses improved access to public transport to decrease MB_1 to MB_2 , completely removing DWL. Public transport removes infrastructure removes both help remove and fully restore allocative efficiency.

QUESTION THREE: Monetary and fiscal policy to reduce inflation

Use information from **Resources G to J** and your knowledge of macro-economic theory to answer this question.

Tighter monetary policy should be the primary tool for containing inflation, but fiscal policy can play a supporting role.

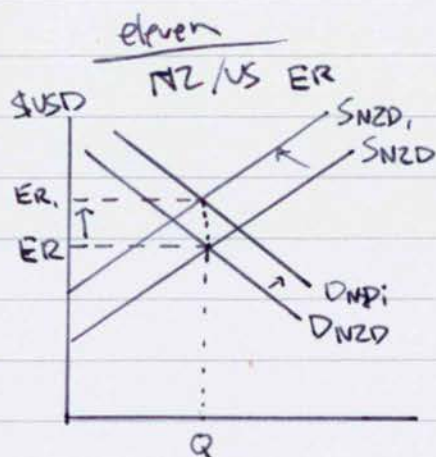
Analyse how monetary and fiscal policies could be used to achieve price stability in the New Zealand economy. Evaluate to what extent a 'fiscally neutral' tax cut policy could support contractionary monetary policy to reduce persistently high inflation rates.

In your answer, using appropriate economic models, you should:

- ✓ explain how the implementation of contractionary monetary policy from 2021 to mid-2024 was used to reduce inflation rates
- ✓ analyse the combined impact on inflation of implementing a 'fiscally neutral' income tax cut policy with a reduction in government spending, and analyse why this result could be uncertain; use multiplier theory to evaluate the likely impact on inflation
- evaluate the overall effectiveness of using a contractionary monetary policy in conjunction with a 'fiscally neutral' income tax policy to reduce high inflation levels.

PLANNING

Contractionary monetary policy was applied from 2021 to 2024 by the reserve bank of NZ increasing the OCR from 0.25% to 5.5%. This leads consumer banks to increase interest rates similarly as they borrow from the reserve bank for their own business. As interest rates rise domestic & international investors prefer to invest in NZ's economy ~~the~~ taking ~~from~~ investments from overseas into NZ banks as interest rates (returns) are relatively more profitable. This means the S_{NZD} drops ^{to S_{NZD1}} & D_{NZD} increases ^{to D_{NZD1}} causing an appreciation in the value of the NZ dollar (graph eleven) relative to another currency such as \$USD from ER to ER_1 .



assuming the change in S_{NZD} & D_{NZD} are proportional no change in quantity occurs.

As the NZD appreciates NZ imports find importing relatively more affordable, as \$1 NZD can buy more of another currency (eg \$USD) relative to before ^{other countries}.

The appreciation. Vice versa, NZ exports suffer $\downarrow$ as ^{other countries} buying NZ exports find the NZD relatively less affordable, so demand less exports ($X-M$) Net exports fall.

Additionally higher interest rates result in consumers spending less, ~~the~~ saving more & borrowing less as saving is more lucrative & borrowing less so consumption spending falls. Business investment falls as borrowing becomes riskier as interest expense is higher.

$$AD = C + G + I + (X - M)$$

$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$

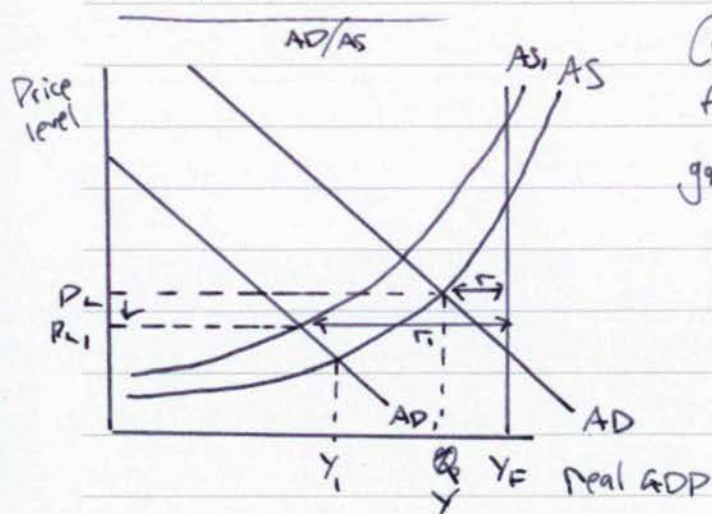
overall results in AD

falling to AD_1 (graph 12)

and this causes disinflation from P_L to P_{L1} . NZ has a negative balance of goods/services $\Rightarrow$ as we import more than we

export, at a higher NZD exchange rate, this means NZ producers who import goods are negatively affected proportionally more than producers who export so overall AS falls to AS_1 (graph 12) offsetting some of the inflationary disinflation, however the change in AS is much less than AD as the NZ ^{producers} ~~exporters~~ supply more as ~~resources~~ demand ~~increases~~ who import resources supply more as importing is relatively more affordable.

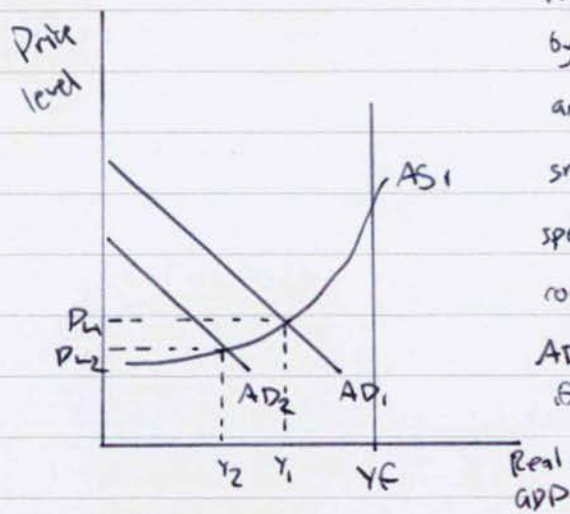
Graph 13



Overall P_n falls to P_{n1} (disinflation) and output falls from Y to Y_1 , recessionary gap increases from r to r_1 .

Whilst the govt. believe funding tax relief from their savings is fiscally neutral, it is not, "funding tax relief" is ~~the~~ govt. spending, coming out of their savings ~~with~~ which they have saved from past contractionary fiscal policy savings. * However, this does not mean that it is not a good idea to implement to help decrease inflation. As "the govt. would've spent 100% of their income but the MPC for consumers is only 0.16, this means every dollar of tax cut given to consumers results in 84% less total spending as govt spending decreases by the ^{full} amount of the tax relief, by consumer spending ^{only} increases by 16% of that amount so AD drops further ~~graph 13~~ this is multiplied

graph 13



by the multiplier effect in reverse as the govt. spending multiplier by $\frac{1}{1-0.16} = 1.2 = 20\%$ increase and this 20% is relatively much smaller on the already small consumer spending 16%. $16\% \times 1.2 = 19\%$ compared to govt. 120% meaning AD decreases significantly compared to if the govt spent their saving elsewhere to ~~tax~~ a tax break.

(graph 13)

~~This~~ This causes AD_1 to decrease again to AD_2 , as real output falls from Y_1 to Y_2 & P_1 drops to P_2 , disinflation.

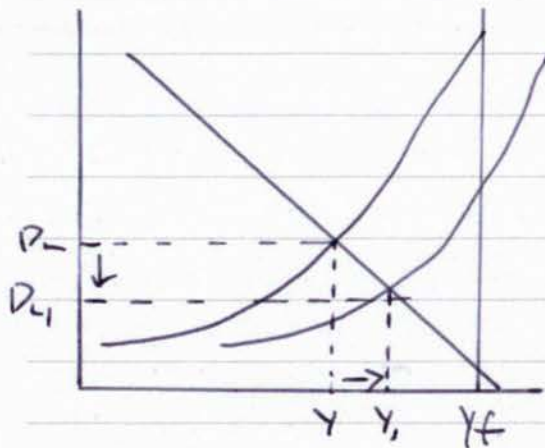
* however fiscal policy is to maintain price stability whilst keeping the govt's debt levels prudent, which the "fiscal neutral" policy achieves, ~~as the savings~~

Overall, the combination of contractionary monetary policy & fiscally neutral tax breaks successfully achieves the govt's goal of price stability by reducing high inflation levels, however, this comes at the expense of significantly reduced output as Y falls to Y_1 falls to Y_2 . To combat this, the govt should invest into supply-side fiscal policies, such as using their savings to ~~subsidise~~ subsidise business start up legislation, reducing overhead & hassle of starting a new business, this would increase AS_1 to AS_2 resulting in a similar drop in inflation P_1 to P_2 , but not

at the expense of ~~a~~ output. (graph 14)

graph 14

added benefit of real gdp rising.



Overall, the govt policies are currently good, but a supply side fiscal policy may bring similar goals in disinflation, without the ~~the~~ negative drop in economic growth.

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Acknowledgements

Material from the following sources has been adapted for use in this assessment:

Question 2

Ministry of Transport. (2021). *The congestion question*. <https://www.transport.govt.nz/area-of-interest/auckland/the-congestion-question>. CC-by-4.0

Question 3

The Treasury. (2022). *FEU Special Topic – Inflation and fiscal policy*. <https://www.treasury.govt.nz/publications/research-and-commentary/rangitaki-blog/feu-special-topic-inflation-and-fiscal-policy>. CC-BY-4.0

Scholarship

Subject: Economics

Standard: 93402

Total score: 15

Q	Score	Marker commentary
1	06	The candidate provided a relatively sophisticated analysis of the avocado market, but some aspects are either very general or limited in detail. On page 3 the candidate provided only a brief description of why the avocado market may be perfectly competitive. For a higher grade this aspect needed to be better analysed, highlighting the difference between a perfectly competitive market and a monopolistically competitive one, incorporating the resource material. On page 3 the candidate provided the correct graph combination showing the effect of the decrease in supply and price in the world market and the effect of this on the New Zealand market. This is followed by a detailed analysis of the changes in the New Zealand market for avocados and the impact on consumer and producer surplus though does not highlight the loss of net social welfare. On page 4 the candidate provided the correct graph to illustrate the changes affecting individual avocado growers. This was supported by a description of the changes and the short and long run impact. For a higher grade this explanation could have included more depth, for example, why the $AR=MR$ curve is perfectly elastic and the significance of a subnormal profit in the short run. On pages 4 and 5 the candidate provided a relatively insightful analysis of the possible long run effect of subnormal profits, recognising the significance of the world market and price.

2	05	On page 11 the characteristics of a public good are incorrectly identified. No credit is given for BP₁. A correct economic model is illustrated with a brief explanation of why the deadweight loss is created at Q₁. The deadweight loss is linked to the resource material. Integrating economic theory to explain the market failure would have elevated this response, for example MB = MC at Q. The three policies are analysed regarding effectiveness, equity, and allocative efficiency at a comprehensive level. The long and short term is also analysed. Critical thinking is evident in the discussion about the time it takes to implement policies. Economic modelling is valid but shows the reduction in deadweight loss rather than the new deadweight loss. Some valid discussion points, demonstrating independent thought, are evident but overall could have been discussed with more depth and clarity. A combination of different policies implemented over time is recommended in the sophisticated evaluation. This demonstrates both insight and perception. Overall, this is a relatively sophisticated analysis of the market failure of Auckland roads, demonstrating a high level of analysis and critical thinking. For a higher grade more accurate economic theory could be integrated.
3	04	The candidate showed strong analysis of contractionary monetary policy and has begun to analyse the 'fiscally neutral' policy. They did not need to discuss any alternative policies the government could use or discuss the impact on growth. Had the candidate focused on the overall effectiveness of the two presented policies to reduce high inflation levels, they could have achieved a higher grade at scholarship level. On pages 19 and 20, the candidate has explained in detail the impact on the exchange of contractionary monetary policy, as well as the impact on all relevant components of aggregate demand. Appropriate models have been included in their analysis. On page 20 they have begun to explain the changes in aggregate demand because of a large decrease in Government spending but a smaller increase in consumer spending. They have calculated the multiplier and could have developed this discussion further by explaining the multiplier in the context of consumer spending becoming another person's income and then circulating through the economy. On page 21 the candidate has stated the combination of policies will successfully achieve the government's goal of price stability. Expanding on this discussion, rather than discussing alternative policies and the impact on output would have improved this part of the response.