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SCHOLARSHIP EXEMPLAR

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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

Tick this box if you have NOT written in this booklet

Scholarship 2022
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 any cross-hatched area (▨). This area may 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.

QUESTION ONE: Protectionist trade policies and allocative efficiency

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

Cheap imports have some domestic producers asking the government for protection from the unfair competition of subsidised overseas-produced goods. Anti-dumping duties (tariffs) have been imposed on a range of imported goods, including canned peaches from South Africa and galvanised wire from Malaysia.

Explain the changes in the European market that lead to surplus goods that could be dumped on other markets. Analyse the impact of dumping these cheaper surplus goods on the New Zealand market. Evaluate the extent to which protectionist policies would impact participants and allocative efficiency in the New Zealand market.

In your answer:

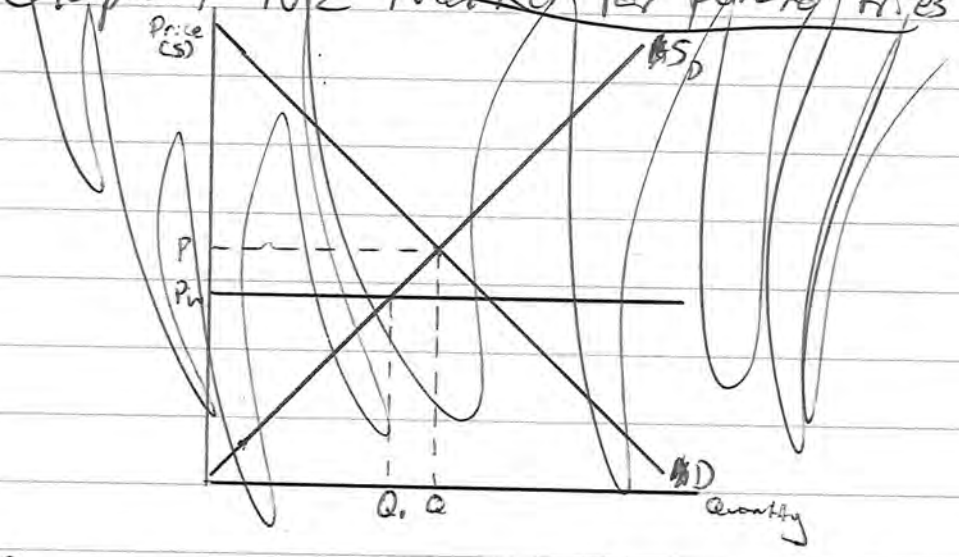
- use appropriate economic models throughout
- illustrate and explain the changes in the European market for EITHER potato fries OR specialty cheese that have resulted in dumped goods
- analyse New Zealand's position as a price taker for imported goods, and the impact of lower-priced imports on producer revenue and allocative efficiency in EITHER the potato fries OR specialty cheese market
- analyse the impact of the TWO protectionist policies suggested in **Resource D** on producer surplus, consumer surplus, the government, and allocative efficiency in the New Zealand market
- evaluate which policy would be most effective in protecting New Zealand producers from unfair competition, whilst minimising the impact on consumers and allocative efficiency.

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

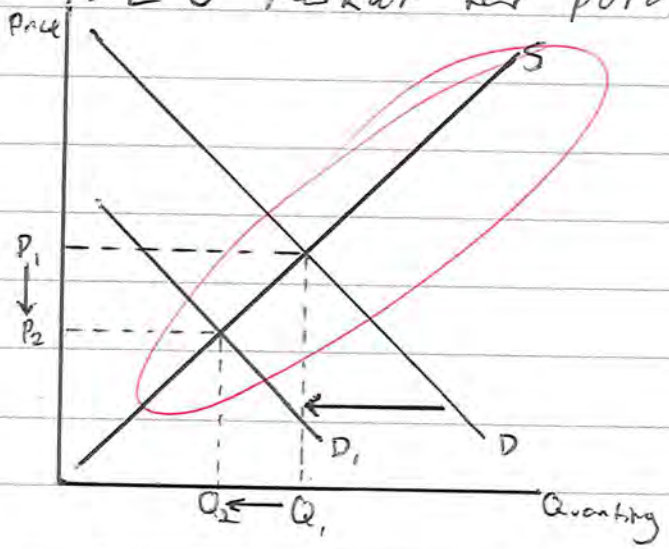
PLANNING

With the dumping of excess product into New Zealand markets threatening New Zealand potato farmer's livelihoods, it is important to ~~consider the~~ analyse the effect of this dumping, and consider whether protectionist or supply-side policy is best in ~~order~~ protecting domestic producers and consumers.

Graph 1: NZ market for potato fries



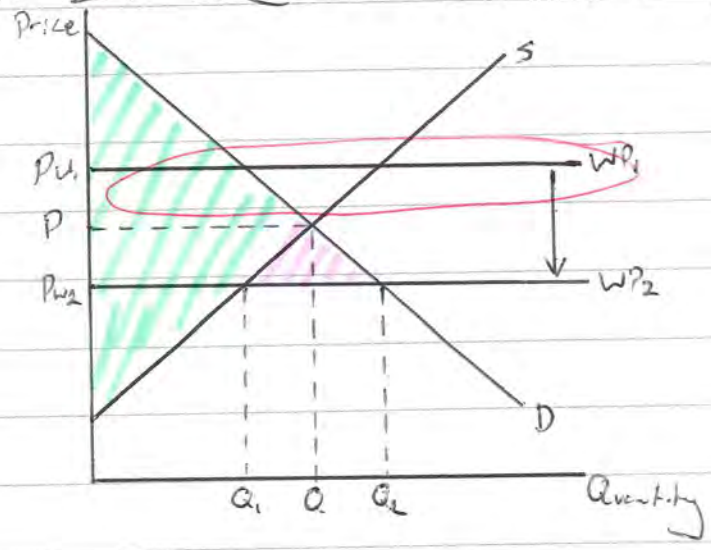
Graph 1: EU market for potato fries



Graph 1 above shows the decrease in demand for potato chips in the EU market, ~~and~~ from D to D1, and the subsequent decrease in quantity demanded from Q1 to Q2, ~~the~~ and decrease in price from P1 to P2.

This decrease in quantity has meant that the EU producers now have very large stockpiles of unsold potato chips, and the decrease in price means it is now relatively more profitable to dump them on overseas markets. The effect this has on New Zealand is seen below in graph 2.

Graph 2: NZ market for potato chips



The decrease in ~~price~~ world price of potato chips sees NZ begin to import potato chips from overseas, as the world price drops below the domestic equilibrium price. As such, consumption of domestically produced potato chips falls to Q_1 from Q, and consumption of european potato chips increases from 0 to ~~Q1 Q2~~ $Q_2 - Q_1$. These lower priced imports see domestic producers revenue fall from P x Q to $P_{W2} \times Q_1$. This loss of revenue may threaten some of these producer's (profits.) and as such result in them shutting down. Though producer's revenue, or surplus, is lost, it is more than compensated

by the increase in consumer surplus. As consumers are now buying more potato chips at a lower price, they are paying less and buying more units from which to gain a surplus. This sees consumer surplus increase, offsetting the loss of producer surplus, and increasing allocative efficiency as a whole by the pink shaded area in graph 2.

One policy designed to protect domestic producers of potato chips is to supply them with R&D grants in order to boost productivity. This would see supply increase, and give domestic producers a greater share of the sale of potato chips. This is seen below in graph 3.

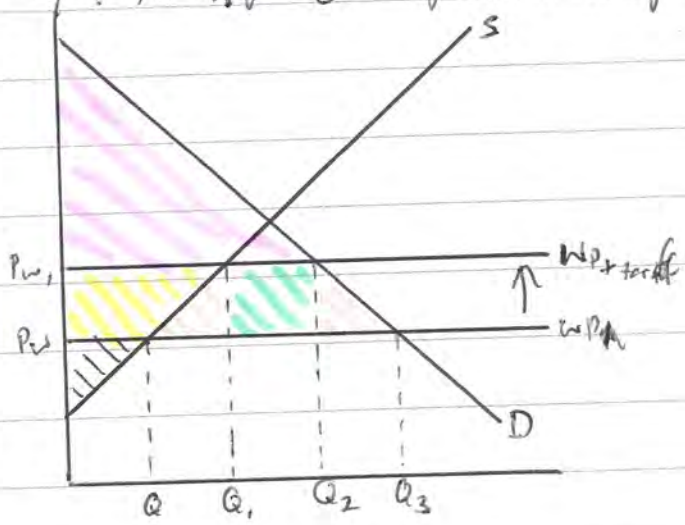
Graph 3: NZ market for potato chips w/ domestic grants.

Providing R&D grants to domestic producers of potato chips would allow them to increase productivity and therefore supply. This would, depending on the size of the increase in supply, allow the domestic

producers to recover a share, or the entirety of the potato chip supply to NZ. As they would then produce a greater quantity of units from which to gain surplus, their PS would increase by the areas shaded in yellow and orange in graph 3, and their revenue would increase from $P_w \times Q$ to $P_w \times Q_1$, or $P_w \times Q_2$. As such producer surplus increases, and domestic producers revenue increases, and therefore these protectionist measures will be successful in aiding the protection of domestic potato chip producers.

An introduction of a tariff would see the world price increase, then giving back a greater share of the market for potato chips to domestic producers. This is seen below in graph 4.

Graph 4: Tariff on potato chip imports



A tariff on potato chips will see the world price rise from W_p to W_p + tariff, decreasing consumption from Q_3 to Q_2, and increasing

consumption of domestic product ~~XXX~~ from Q to Q.
domestic
As producers are selling more at a higher price, PS increases as well as revenue, and as such this policy is effective in supporting domestic producers of potato chips.

Overall however, R&D grants are better in protecting NZ producers of potato chips, as they assist the producers without seeing a decrease in CS or consumer surplus allocative efficiency. R&D grants see an increase in producer surplus and revenue, but do not result in a decrease in consumer surplus, as is seen in graph 3. On the other hand, a tariff will see consumer surplus shrink, as seen in graph 4, from those areas highlighted in pink, yellow, orange, and green, to only the pink area, showing a decrease in CS. As such, consumer welfare decreases as a result of a tariff inducing higher prices. A tariff also sees a DWL appear, as is highlighted in orange in graph 4, which as representative of a loss in allocative efficiency shows a loss in allocative efficiency. As such, R&D grants are seen to be more effective in protecting domestic producers of potato chips //

QUESTION TWO: Reducing smoking incidence and inequities in New Zealand

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

> In 2011, the Government set a target for a Smokefree Aotearoa – that by 2025 fewer than 5% of the population would be smokers. The goals include eliminating inequities in smoking rates and smoking-related illnesses. Policy options identified have been categorised into three themes – affordability, availability, and addictiveness of tobacco.

Analyse the market failure in the New Zealand cigarette market. With reference to allocative efficiency and equity, evaluate the effectiveness of three policies suggested by the government on different groups in society.

In your answer:

- use appropriate economic models throughout
- explain and illustrate the externalities associated with smoking cigarettes, and why market failure occurs
- explain and analyse THREE government policies from **Resource H** and their impact on allocative efficiency and equity for different groups in society
- evaluate which policy or policies would be most effective, and allocatively efficient, for the government to pursue to achieve its goals in the short-and long-term.

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

PLANNING

Intro

↓

MSB graph

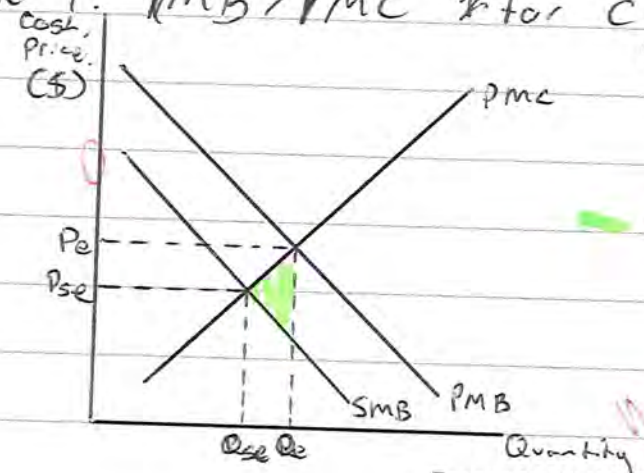
↓

Over consumed, underpriced

With the consequences of smoking being a leading cause of health issues and addiction, it is important to analyse its negative effects, and evaluate the effectiveness of policies designed to reduce smoking.

The consumption of cigarettes entails many negative externalities, and as such causes harm to third-parties not involved directly with the act of smoking. This can be seen in Resource F, with the deaths of 4500 NZers every year due to tobacco consumption, with these individuals then taking up hospital beds that could then no longer be used for other ill people. Second-hand smoke may cause health issues in smokers children, as would the consumption of cigarettes by pregnant mothers. As such, it can be seen in these examples the negative externalities that the consumption of cigarettes has upon individuals who do not consume tobacco. This is illustrated in the below graph, graph 1, showing the effect on society due to smoking.

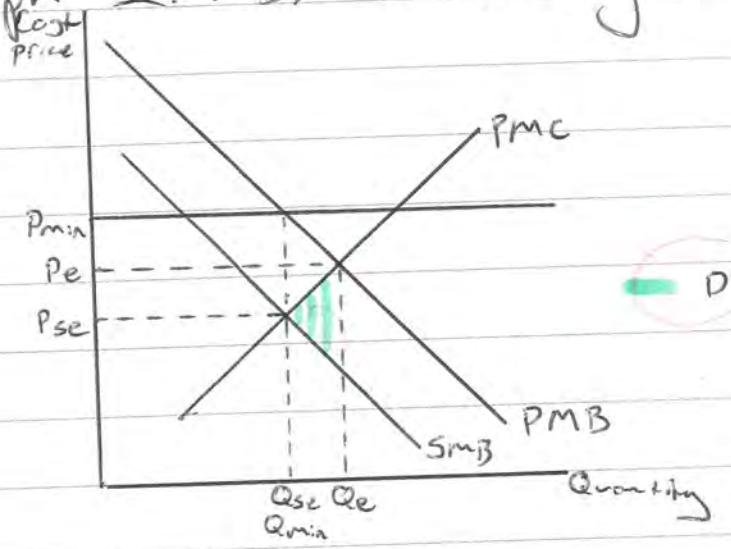
Graph 1: PMB/PMC for cigarettes



In Graph 1, the difference in Private marginal benefit (PMB) and social marginal benefit (SMB) shows the ~~external~~ negative externalities incurred upon society due to cigarette consumption, and the DWL shows the loss in social allocative efficiency due to these negative externalities. Market failure occurs at this point, as ~~the~~ under the free market cigarettes are overconsumed, and as such the negative spillover effects cause more harm to society than is gained by their sale.

One solution proposed by the govt. is the introduction of a minimum price on cigarettes, as this would see consumption decrease with a higher mandatory price. This policy is displayed below in graph 2.

Graph 2: MB/MC for cigarettes w/ min price



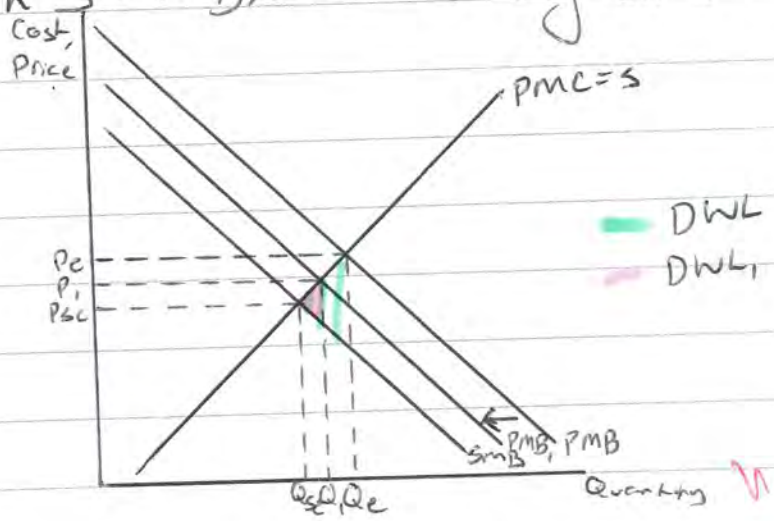
The introduction of a minimum price, as displayed in graph 2, ~~[illegible]~~ dependent on it's price, can eliminate the DWL and achieve social allocative efficiency. This is seen in graph 2, as

With the introduction of a minimum price, P_{min}, Q_d reduces to Q_{min}, which is equal to the social equilibrium quantity. At this point, ~~the~~ the DWL has been removed with the decrease in quantity consumed, and as such the market has achieved social allocative efficiency. This shows an increase in overall efficiency following the introduction of a minimum price.

A minimum price may, however, see negative effects upon equity. As those in lower socio-economic groups ~~are~~ comprise the largest proportion of smokers, these people will be most harmed by this. As nicotine is addictive, they may continue to buy cigarettes and instead forego necessities, such as food. This harms equity, as it ~~benefits~~ harms those in lower socio-economic groups the most, as ~~the~~ spending on cigarettes makes up a larger portion of their disposable income. As such, a minimum price harms poorer smokers more than ~~richer~~ wealthier smokers, a policy that is not equitable.

Another solution may be to reduce the nicotine content within tobacco products, which would then reduce demand as they are not as potent. This is shown subsequently in graph 3.

Graph 3: MB/MC for cigarettes w/ nicotine reduction



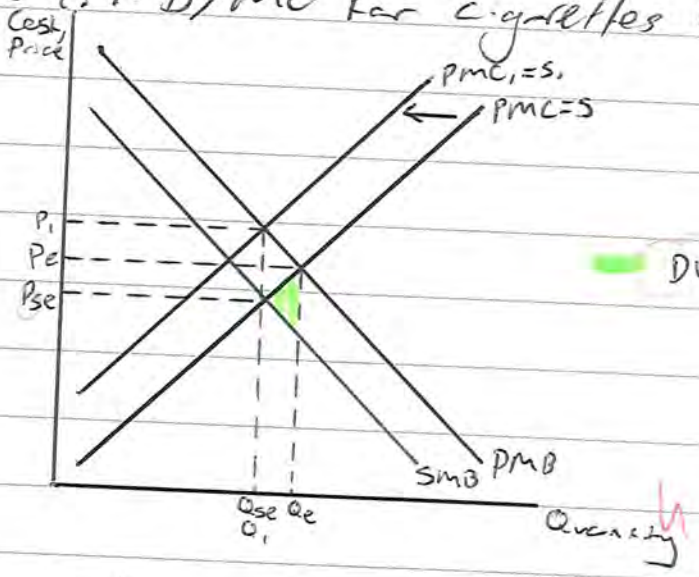
Graph 3 shows a decrease in demand for cigarettes following a reduction in their nicotine content, from PMB to PMB1. This sees a decrease in consumption, from Qe to Q1, and as such a decrease in the dead weight loss, from the green shaded DWL to the pink shaded DWL1. This shows the increase in efficiency as with a DWL showing a loss of allocative efficiency its reduction shows an increase in social allocative efficiency.

Reducing the nicotine content of cigarettes is an equitable policy, as it effects all tobacco consumers equally across the board. No specific groups are unfairly targeted by this policy, as such making it equitable.

One final approach to decreasing cigarette consumption can be found in reducing the number of outlets selling cigarettes from 5000 to 300. This would decrease the supply of cigarettes, as such

making it harder to attain them, and driving up the price. This is displayed below in graph 4.

Graph 4; MB/MC for cigarettes w/ reduced stocks



In graph 4, it is shown that a decrease in the supply of cigarettes from S to S1 sees an ~~decrease~~ increase in the price of cigarettes from Pe to P1, which then results in a decrease from Qe to Q1 in the consumption of cigarettes. With this comes an elimination of the DWL, as Q1 = Qse, showing an increase in social allocative efficiency. The decrease in consumption of an over consumed product and the ~~decrease~~ elimination of a DWL shows an improved efficiency.

This policy is unlikely to be equitable, as it will likely mean that individuals who live in remote locations, such as in rural districts, will have to drive much further to buy cigarettes. With this then wasting both time and fuel for them, this will not equitably affect all cigarette smokers. As such, this policy is not equitable in decreasing smoking.

The policy most likely to be effective in achieving the governments goal of reducing the harm of smoking will be the reduction of nicotine in cigarettes. This is because it is a blanket policy that will affect all smokers equitably, where other policies harm certain groups, while still achieving the goal of reducing cigarette consumption. The other two policies revolve around increasing the price of cigarettes and making them less attainable, which may then inspire crime against these stores selling them as they have a higher value now. Though it could be argued that reducing nicotine content may see an increase in the black market sale of high-nicotine content tobacco, the same could be said for any other policy that is restrictive upon cigarettes, as black markets tend to pop up surrounding restricted goods.

Over the long-term, a reduction of nicotine content will continue to decrease the harm caused by cigarette consumption, as decreased nicotine content will minimise the addictive qualities of the substance. As such, smokers will be less, and less likely to be addicted to cigarettes, meaning that it will be easier to quit smoking, or not become addicted in the first place all of which decreases smoking. Comparatively, a minimum price

would only see a short-term decrease in cigarette consumption, with this decrease stagnating in the long-term, and a reduction in the number of stores would do the same. As such, a reduction in nicotine content is the best presented policy in decreasing the harms caused by smoking in both the short and long term.

QUESTION THREE: Inflationary pressures and the New Zealand economy

Use information from **Resources I** to **M**, and your knowledge of the New Zealand economy and macroeconomic theory, to answer this question.

The consumers price index (CPI) increased [redacted] with many other OECD countries experiencing higher inflation than in recent decades.

Analyse the factors causing inflation that were impacting the New Zealand economy in early 2022. Evaluate the impact of implementing a contractionary monetary policy on the New Zealand economy and macro-economic goals.

In your answer:

- use appropriate economic models throughout
- analyse the aggregate demand and aggregate supply factors that led to increasing inflation in New Zealand in early 2022
- explain why price stability is an important macroeconomic goal
- evaluate the effect of an increasing Official Cash Rate on the New Zealand economy and key macroeconomic goals, given the position of the New Zealand economy in early 2022.

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

PLANNING

Trade - balance on trade

I Inflation

G Growth

E

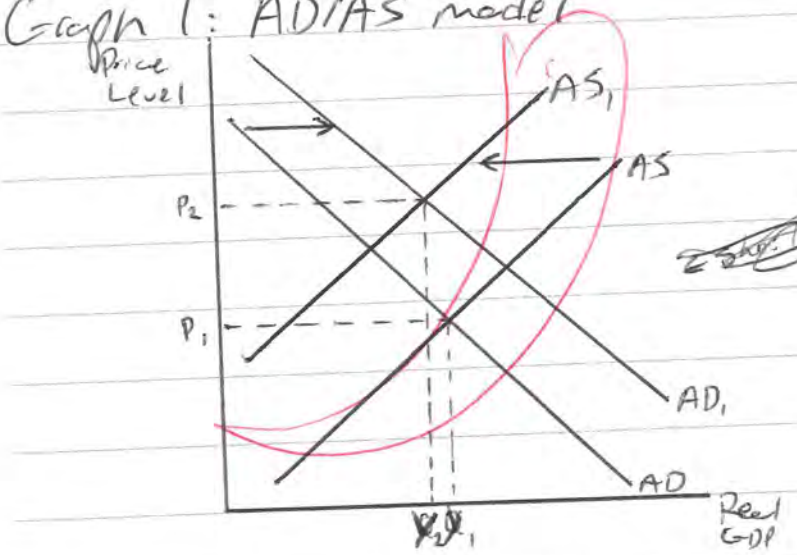
R

Sustainability

With price stability being a major goal of gov. it is important to analyse the factors causing inflation, and evaluate how monetary policy can be used to ensure this goal is met.

With increasing aggregate demand, and an injured aggregate supply, New Zealand's price level has increased substantially over the past several years. Largely due to COVID-19, and various military conflicts, shipping delays are prevalent and costs high. This means imported raw materials are more expensive, and NZ businesses importing these goods struggle to produce at the level they may desire. As such, aggregate supply (AS) has decreased substantially in recent years. In the same time, with the easing of travel restrictions and expansionary fiscal policy, New Zealand's AD has increased also significantly. NZ's net exports (X-M) have increased with the opening of borders, as as a tourist destination there are many people coming to the country, driving consumer spending (C) and exports of services. NZ's expansionary fiscal policy sees increased government spending (G), all of which drives AD forwards (AD = C + G + I + (X-M)). As such, it is seen that overall, AD increases and AS decreases in the current economic climate, displayed below in graph 1.

Graph 1: AD/AS model



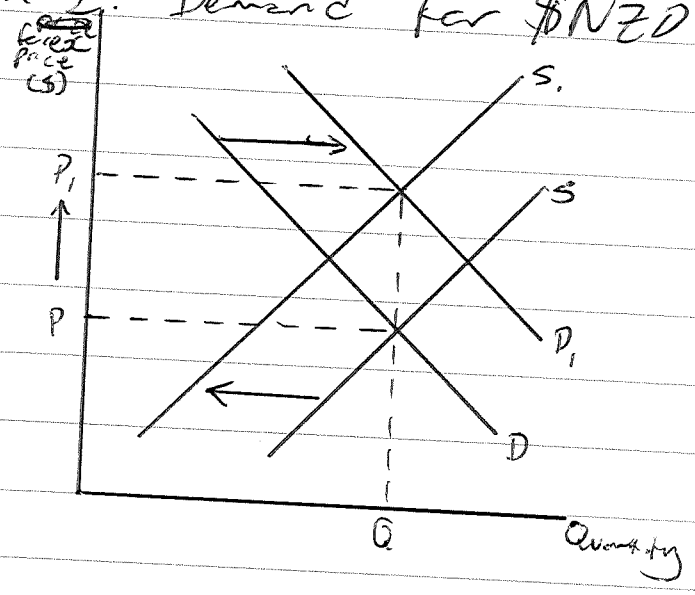
Graph 1 shows the effect of increasing AD and decreasing AS, with these changes driving the price level from P_1 to P_2. Though upwards, showing an increase in inflation. The graph shows a decrease in Real GDP, from Y_1 to Y_2, the real change in real GDP is positive, as forecasted is highlighted is resource K, with an increase of 3.9% in real GDP in 2022.

Price stability is the goal of the government to keep inflation between 1-3% annually, as is mandated by the RTA. This is an important goal of the government, as one of the main functions of money as a medium of exchange is that it is a store of value. If inflation is too high, money loses value too quickly, and money that is saved is lost if inflation exceeds interest rates. It is also an important macroeconomic goal, as increasing inflation means an increase in the cost of living, and if this is greater than increases in income then people will be unable to afford necessities in the

long term. As such, price stability is an important goal and target, as without price stability money ceases to serve one of its purposes as a medium of exchange, and people will be unable to afford necessities to live comfortably.

An increase in the OCR will see ~~[illegible]~~ interest rates also increase, which would see the NZ dollar appreciate, as demand from overseas investors wanting to take advantage of high interest rates would increase, and supply from investors selling $NZD would decrease, as they would instead take advantage of the high interest rates. This is shown below in graph 2.

Graph 2: Demand for $NZD



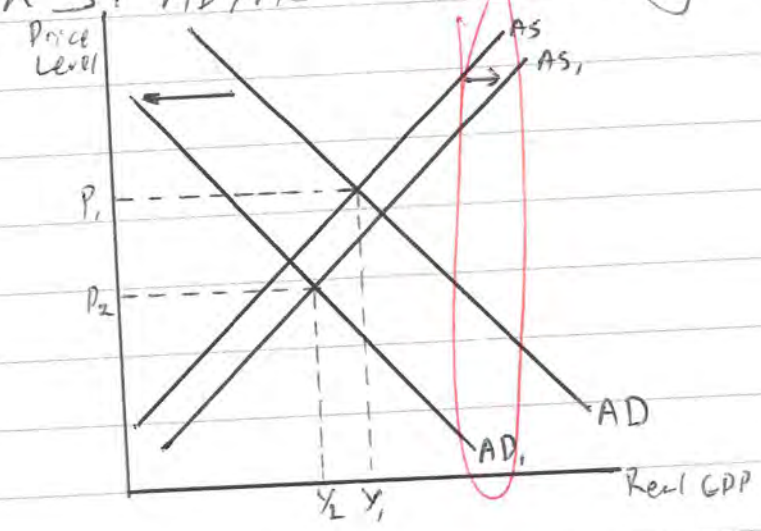
The ~~[illegible]~~ appreciation of the $NZD would result in lower import costs for raw materials and any other goods, as such decreasing the cost of doing business and increasing AS. It would also see our exports become relatively less Price

competitive in global markets, as such decreasing our exports. As such, with exports decreasing and imports increasing, the value of NZ's net exports (X-M) decreases, and as this is a component of AD, AD also decreases.

An increase in the OCR and interest rates will also see consumer spending and investment (I) decrease, as the cost of borrowing increases, and leaving your money in the bank with higher interest rates becomes more appealing. As such, with consumer spending and investment decreasing, both components of AD, AD decreases.

With AD decreasing and AS increasing due to the increase in OCR, and subsequent effects on the appreciation of the $NZD and consumptive spending habits, this will see the price level decrease significantly, as displayed below in graph 3.

Graph 3: AD/AS after increasing OCR



Graph 3 shows the impact of the increase in OCR, with the price level increasing from PL_1 to PL_2, and real GDP decreasing from Y_1 to Y_2. Real GDP is likely to decrease, as the decrease in AD is likely to be of a greater magnitude than the increase in AS, as the effect that currency appreciation has is likely to be much less than the effect that the conservative spending habits has on AD. With economic growth being a goal of the govt, this policy then comes in to conflict with this goal as it sees a decrease in real GDP.

The decrease in national income may then see some businesses forced to let some of their workers go, also due to low investment and consumer spending in an effort to reduce costs in the face of low revenue. This again comes into conflict with a major governmental goal, which is full employment, as it will see employment decrease, and unemployment increase.

Another governmental goal affected by contractionary monetary policy is the desire to have a balanced current account. Appreciation of the $NZD will see exports decrease and imports increase, which will see a worsening of the current account. Depending on the current state of the current account, whether it is positive or negative, this may positively or negatively affect the governments goal of keeping

a balanced current account.

Overall however, an increase in the OCR will see inflation combatted to a certain extent, and though other macroeconomic goals are worsened or unintentionally affected the process, inflation is a pressing issue within the current economic climate, and is in need of a solution. Though having some other goals as a consequence, contractionary Monetary Policy sees inflation decrease, and the cost of living more attainable.

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

Question One
https://www.customs.govt.nz/about-us/news/important-notices/update-imposition-of-provisional-anti-dumping-duties-on-galvanised-wire-from-china-and-goods-currently-subject-to-anti-dumping-duties
https://www.newshub.co.nz/home/rural/2020/07/new-zealand-specialty-cheesemakers-call-for-tariffs-on-eu-imports.html

Question Two
https://www.health.govt.nz/our-work/preventative-health-wellness/tobacco-control/smokefree-aotearoa-2025

Question Three
https://www.stats.govt.nz/news/annual-inflation-reaches-30-year-high-of-6-9-percent

93402

Scholarship Exemplar 2022

Subject	Economics	Standard	93402	Total score	15

Q	Score	Annotation
1	4	The candidate used the resource material to identify that there would be a decrease in demand for the EU market for fries resulting in a surplus. There was no explicit reference to this material, however. They did not identify nor illustrate that due to increased plantings there would also be an increase in supply, resulting in an even larger surplus (also in the resource material). On page 4 the candidate illustrates that NZ is a price taker and that the world price is represented by a perfectly elastic supply curve; however, the Wp was incorrectly drawn above New Zealand's equilibrium price. Credit was given for identifying that Wp does indeed decrease due to EU wanting to sell their surplus stock before it spoils. Areas of CS and PS were incorrectly shaded. Impact on producer revenue was analysed in reference to the graph. On Page 5 the impact of these changes was correctly analysed on consumer surplus, with both price and quantity demanded reasoning given. To gain a higher mark reference to QD and Price should be incorporated. The fall in PS was compared to the gain in CS, again referencing the areas in the model here would have rewarded the candidate with a higher mark. The R&D Policy was correctly illustrated with the Wp drawn horizontally. The candidate correctly identified that both producer revenue and surplus will increase but does not explain why. To gain a scholarship for this question both analysis of price and quantity are required to justify impacts on PS and CS. On page 6 the tariff intervention was illustrated and shaded correctly with areas of CS / PS / DWL and government revenue. This policy was commonly completed and analysed correctly for scholarship. The evaluation on page 7 incorporated some of the originally missing analysis on PS / CS and DWL from the two policies, but still not enough detail or reasoning *why* to gain a scholarship overall for this question.
2	6	On page 11 the market failure is identified as a negative externality of consumption and the impact on third parties is explained in depth using examples such as second-hand smoke and the taking up of hospital beds. The candidate went beyond the resource material to explain the externality which demonstrates critical thinking. An SMB / SMC graph is used to illustrate the market failure, but the economic theory explanation is limited. Reference to specific points on the graph (Ps, Pe, Qs, We) and linking these to the overconsumption and under-pricing of cigarettes would have added more depth. (Note Ps is marked incorrectly on the graph.) On page 12 a more sophisticated SMB / SMC model (rather than the basic demand / supply model) illustrates the impact of the minimum price policy. The analysis links the new equilibrium to the social equilibrium quantity, the removal of the deadweight loss and the impact of allocative efficiency. An explanation of the impact on equity is provided, however the opportunity to discuss the inelastic demand for cigarettes and therefore the differing impact on price, quantity and equity was missed. On page 14 an accurate SMB / SMC model is used to illustrate the decrease in demand for cigarettes following a reduction in nicotine. The explanation includes a reason for the curve shift, whilst the decrease in deadweight loss is clearly illustrated and linked to improved allocative efficiency. A brief comment on equity is given, but this is not discussed at a sophisticated level. On page 15 an accurate SMB / SMC model is used to illustrate a decrease in supply for cigarettes following a reduction of sales outlets. The analysis correctly links the decrease in PMC to PMC1, the increase in price to P1 and

		the decrease in Ad to Qs, eliminating the deadweight loss. However further economic theory could be integrated, for example the law of demand. The evaluation on page 16–17, compared the three policies in terms of effectiveness and equity over both the short and long term. The impact on different groups is also integrated into the evaluation and a justified policy recommendation is given. However, the impact of allocative efficiency is not discussed in the evaluation. For a higher grade a comparison of the impact on allocative efficiency, using changes to the deadweight loss of each policy, would also be included. Furthermore, for a grade of 7 an equity / efficiency trade off model could have been integrated into the evaluation to justify the candidate's choice of the nicotine reduction policy, which was not the most allocatively efficient. Overall, a grade of 6 was awarded. The candidate's explanation of the externality and use of economic models was at a sophisticated level. The response was precise, logically developed and the analysis of the impact on allocative efficiency of the three policies gave evidence for a grade of 6, rather than a grade of 5. However, the discussion on equity would need to be more convincing for an outstanding grade.
3	5	The candidate has produced an essay that in places communicates a sophisticated economic analysis, but which also includes a lack of depth of explanation in parts. On pages 19 and 20 the candidate produces a limited explanation of the factors that have led to inflation. This would have been improved by explaining each of the key factors affecting AS and AD in detail. On page 20 the candidate has provided an AD / AS graph with the correct shifts however this lacks sophistication in that the AS curve is not curved, and no Yi line is shown to reflect the impacts of capacity constraints on the economy. In addition, the graph shows real GDP falling even though the resource material shows that the New Zealand economy grew over the 2021 / 22 period. On pages 20 and 21 the candidate provides a competent explanation of the economic importance of price stability by highlighting some of the negative consequences of high inflation. On page 21 and 22 the candidate provides a competent, though not sophisticated, explanation of the effect of an increase in the OCR. On pages 23 and 24 the candidate provides a relatively sophisticated evaluation of the impact of contractionary monetary policy on other macroeconomic goals, including a justification of the trade-offs apparent between achieving price stability and increased unemployment and lower economic growth. This essay provides evidence towards a 5 rather than a 4 through the quality of evaluation and analysis of the impact of an increasing OCR on the economy and the key macroeconomic goals. To gain a higher mark, greater sophistication and depth was needed in explaining the various factors that have caused inflation and in the use of appropriate economic models.