

Assessment Schedule – 2022

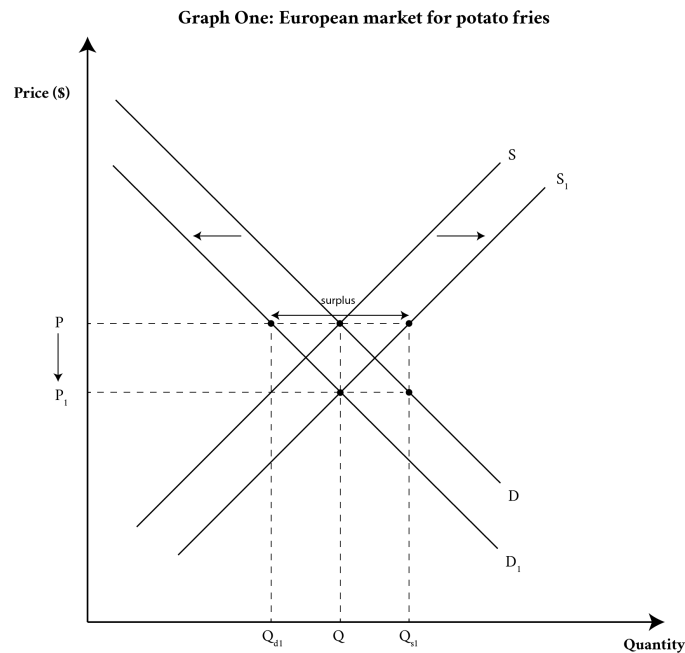
Scholarship Economics (93402)

Evidence

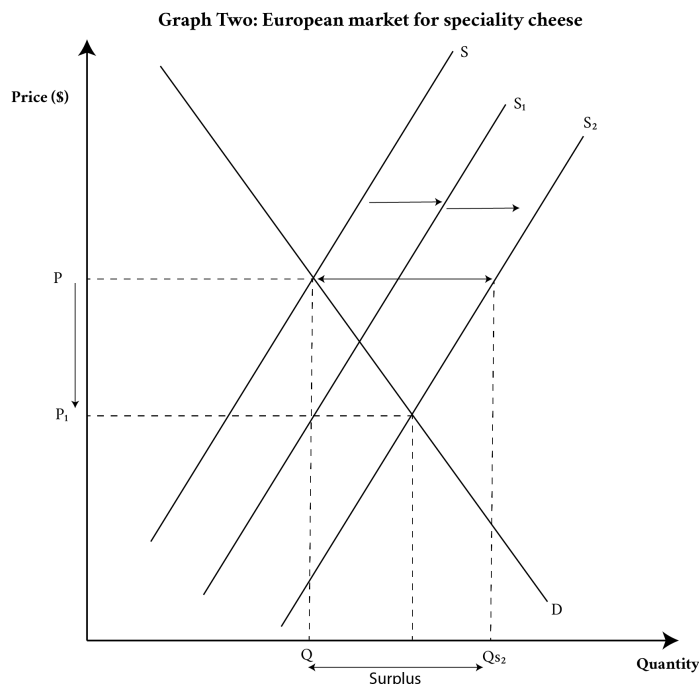
Question One: Protectionist trade policies and allocative efficiency

Key points

- European market for potato fries – increase in supply from S to S_1 due to increased plantings and decrease in demand D to D_1 caused by fewer restaurant meals consumed (decrease in taste and preference) (Graph 1). Both increase in supply ($Q_{s1} > Q_d$) and decrease in demand ($Q_{d1} < Q_s$) result in a surplus at original price P .

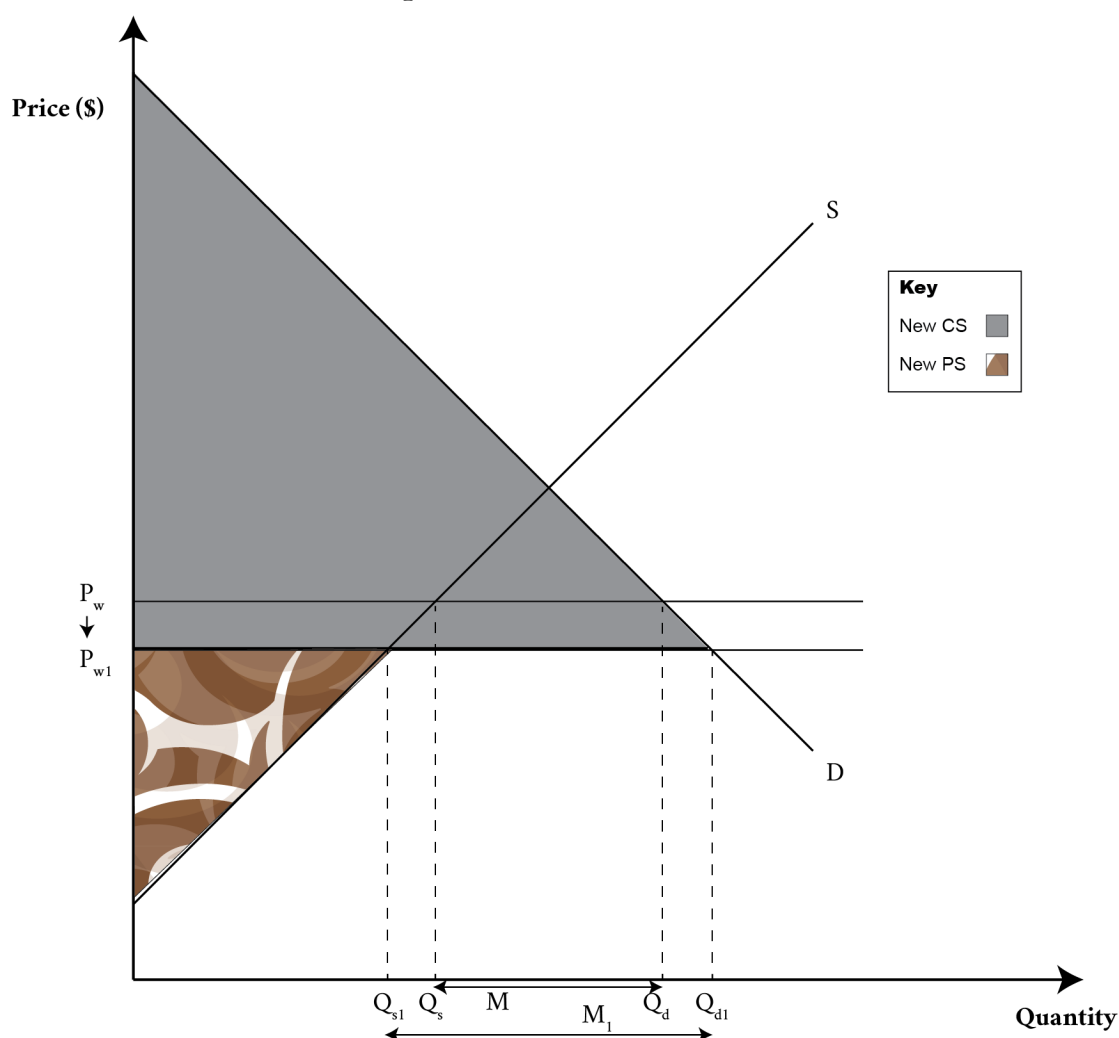


- European market for specialty cheese – increase in supply from S to S_1 to S_2 as subsidy from government to producers and increase in productivity (Graph 2). Surplus at original price P as $Q_{s2} > Q_d$.



- Candidates may argue producers reduce price to clear excess stock, Q_d increases and Q_s decreases, *ceteris paribus*, new equilibrium at lower price P_1 and Q_1 . (Quantity may vary due to relative shifts.)
- NZ is a price taker – it must accept the price set on the world market. The production of potato fries and specialty cheese in NZ is too small a proportion of world production to influence the world price for these goods. Therefore the price in NZ for imports is set at the world price, as shown by horizontal world supply curve.
- NZ price for potato fries and specialty cheese decreases to new lower world price, P_w . (Graph 3) Q_s decreases to Q_{s1} as relatively less profitable to produce, *ceteris paribus*, Q_d increases to Q_{d1} as relatively more affordable for consumers to buy, *ceteris paribus*. The larger shortage is met by higher imports (M to M_1) as consumers substitute some domestically produced goods for imports. NZ producers' revenue decreases, (from $Q_s \times P_w$ to $Q_{s1} \times P_{w1}$). Case for protectionist policies as NZ producers are suffering 'material injury'. At P_w the market was allocatively efficient at the equilibrium point Q_d . The market remains allocatively efficient as the sum of PS and CS is maximised, at Q_{d1} . PS has decreased to shaded area, and CS has increased to shaded area. As the increase in CS outweighs the decrease in PS there is an increase in net welfare.

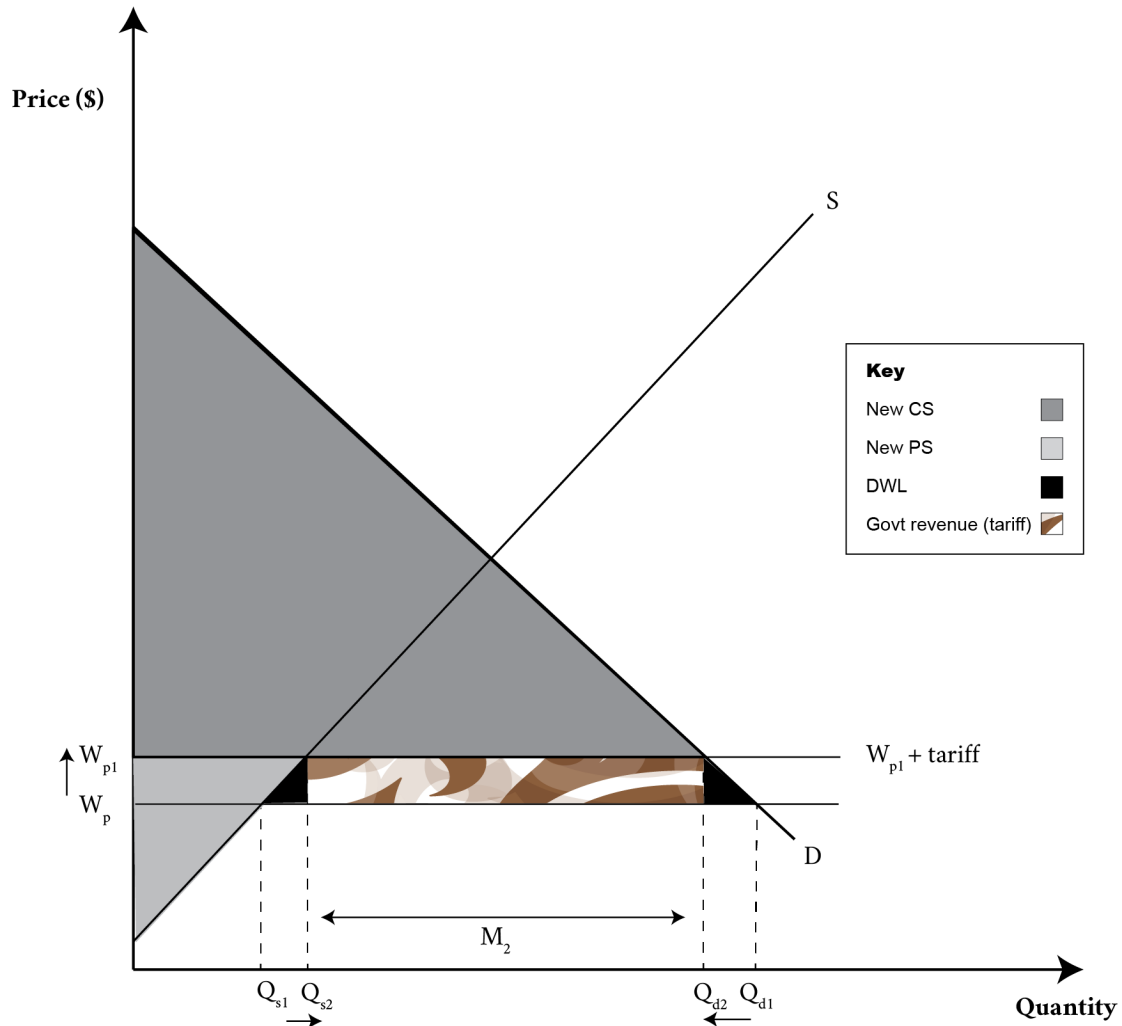
Graph Three: New Zealand market



Tariff

- A tariff is a tax on imports. It raises world price to $W_{p1} + \text{tariff}$ (Graph 4). Q_s increases from Q_{s1} to Q_{s2} and Q_d decreases from Q_{d1} to Q_{d2} , *ceteris paribus*. Shortage decreases so quantity of imports decreases to M_2 .

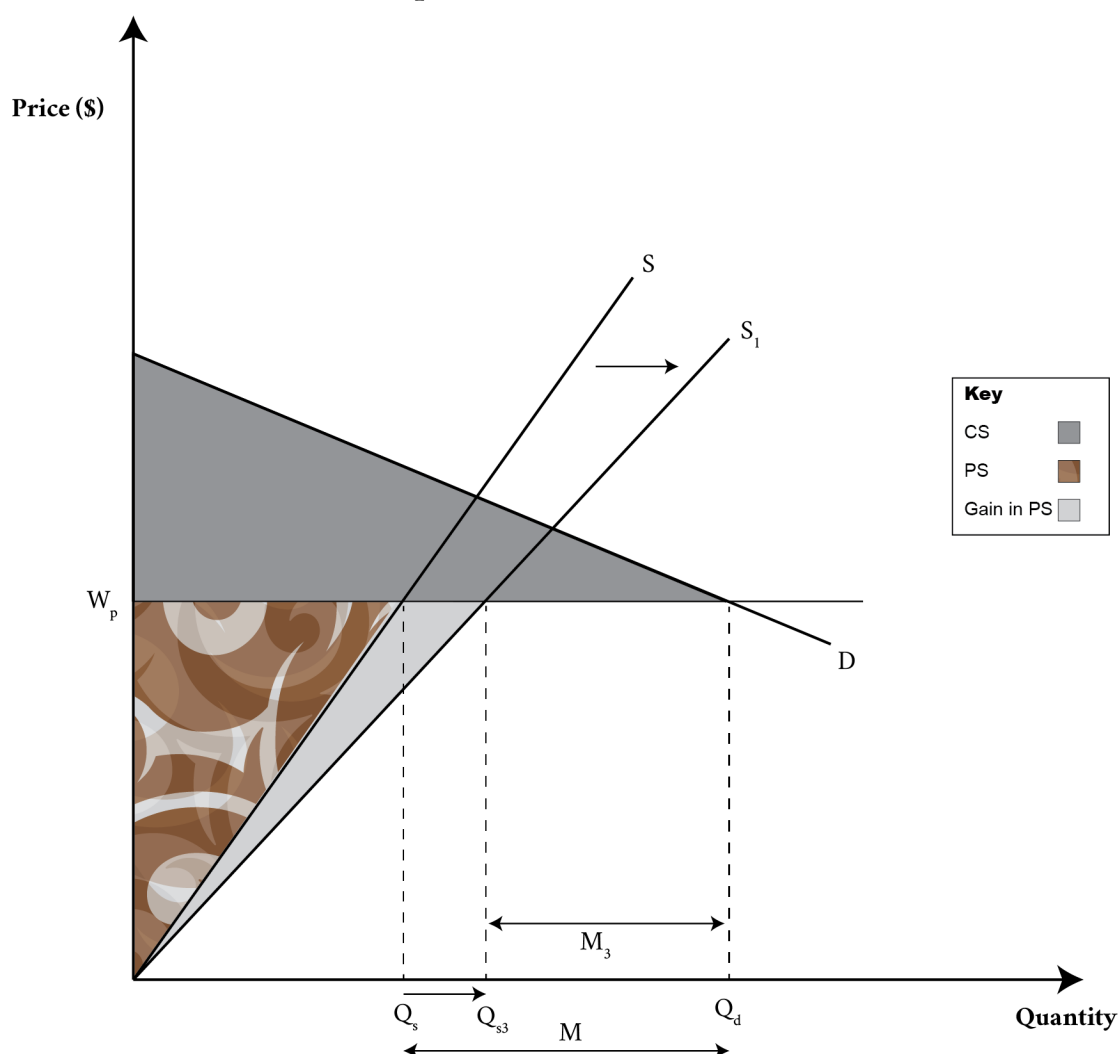
Graph Four: New Zealand market



- NZ producers do not pay tariff so receive a higher price. Price increases to W_{p1} , so surplus per unit increases. NZ producers take over some of the market previously met by imports (Q_s increases from Q_{s1} to Q_{s2}) as relatively more profitable *ceteris paribus*. There are more units sold on which to make a surplus. PS increases to shaded area.
- Consumer surplus decreases to shaded area, due to higher price and less potato fries / cheese sold. Consumers are worse off. NZ government receives revenue from the tariff (shaded area) but will have costs of implementation and may have political consequences for imposing protectionist measures. Allocative efficiency decreases as the sum of surpluses has decreased, creating a dead weight loss (shaded triangles). The decrease of CS outweighs the area transferred to PS and tariff revenue.

Research and development (R & D) grant

- An R & D grant to producers will increase productivity, resulting in a shift of the supply curve S to S_1 to the right (Graph 5). Investing in new technology will reduce cost of production per unit, and make supply more elastic over time, resulting in a higher Q_s at the world price (Q_{s3}). Imports decrease from M to M_3 as shortage decreases.
- Producers receive the same price (W_p) but produce a higher equilibrium quantity Q_{s3} , as they take over part of the market for imports. PS increases as more units on which to gain a surplus.
- Consumers surplus remains the same. Consumers are paying the same price and buying the same quantity, but with fewer imports. Consumers substitute some of imported potato fries / cheese for domestically produced goods. There is a cost of the grant to the government which has an opportunity cost. The market remains allocatively efficient as the sum of CS and PS surpluses is maximised. Overall net welfare has increased as PS increases, and CS remains the same.

Graph Five: New Zealand market

Policy evaluation

A policy evaluation that is consistent with the candidates' explanation and changes to models should be given and marked accordingly. For example:

It is recommended the government offer an R & D grant to invest in technology and increase efficiency for potato and cheese producers competing with dumped products. By reducing the cost of production, domestic firms are more willing to supply a greater quantity at the world price. This policy will also result in productivity gains in the long run, making them more able to compete with overseas products in the future. This policy results in producers receiving higher revenue, higher producer surplus and the market remains allocatively efficient. Imports decrease, however consumers still pay the same price, and so CS remains the same. With the tariff policy consumer surplus decreases by more than the increase in PS and government revenue, so there is a decrease in allocative efficiency.

Judgement

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the causes and impact of lower priced imported goods, analyses the impact of TWO protectionist policies, and evaluates their effectiveness on participants and allocative efficiency in the New Zealand market. This is complete and demonstrates perception and insight AND demonstrates <i>sophisticated abstraction and integration</i> of the resource material AND demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of government policies and their effectiveness in protecting New Zealand producers AND is <i>convincing</i> and economically literate.
	7	The essay fulfils most of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion) OR deals inadequately with an essential point OR lacks sufficient abstraction or integration of the resource material OR has some minor failure in the evaluation OR may lack some fluency and / or coherence.
Scholarship	6	The candidate produces and effectively communicates a sophisticated economic analysis of the causes and impact of lower priced imported goods, analyses the impact of TWO protectionist policies, and evaluates their effectiveness on participants and allocative efficiency in the New Zealand market. This demonstrates a high level of <i>analysis and critical thinking</i> AND incorporates a <i>competent level of integration and synthesis</i> of the resource material AND the discussion and evaluation are <i>clear, logically developed, and precise</i> .
	5	The essay fulfils most of the requirements above but has some unsupported generalisations OR some major point in the discussion is neglected or incomplete OR has some inadequacy in the evaluation OR

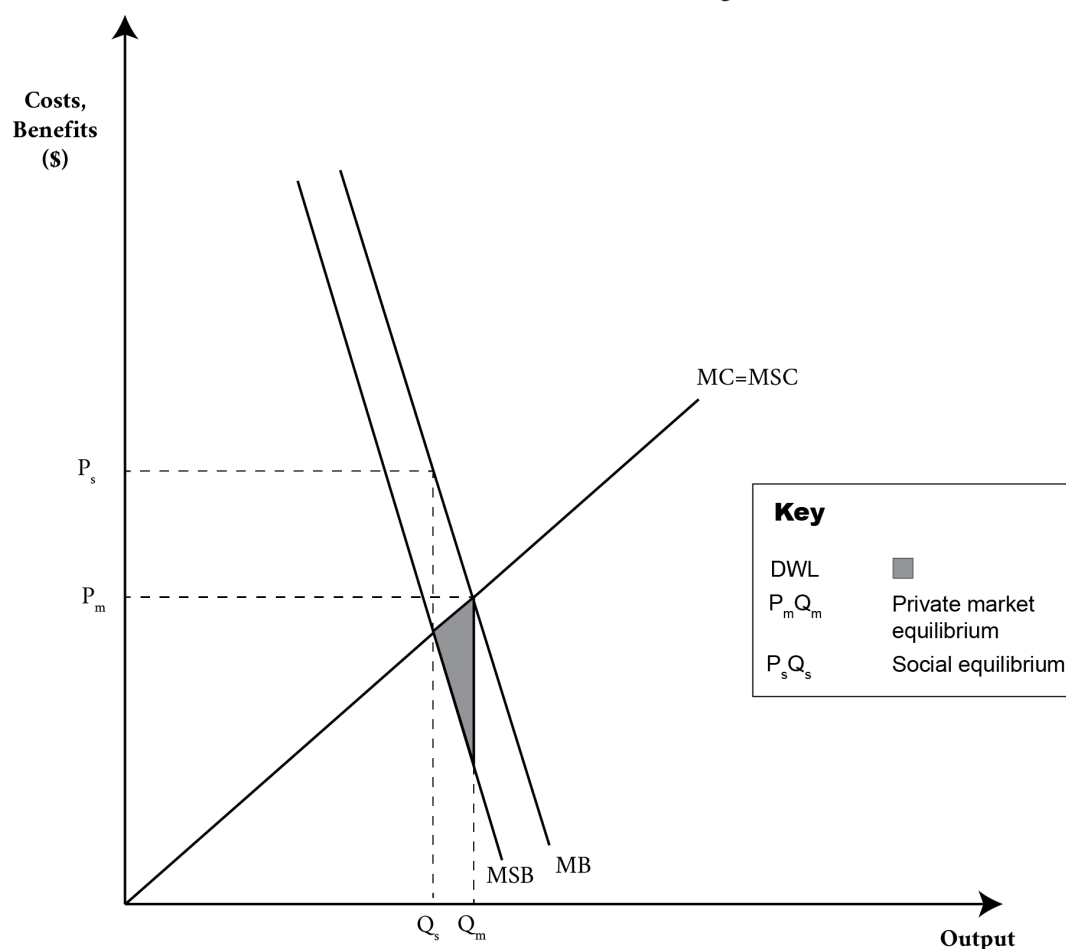
		ideas may not be communicated effectively.
No Scholarship	4	<p>The candidate produces a comprehensive analysis of the causes and impact of lower priced imported goods, analyses the impact of TWO protectionist policies, and evaluates their effectiveness on participants and allocative efficiency in the New Zealand market.</p> <p><i>AND</i></p> <p>produces a <i>clear but undeveloped</i> discussion and evaluation</p> <p><i>AND</i></p> <p>demonstrates <i>some level of integration and synthesis</i> of the resource material</p> <p><i>AND</i></p> <p>demonstrates <i>some application</i> of economic theory relevant to the discussion.</p>
	3	<p>The answer fulfils most of the requirements above but is incomplete</p> <p><i>OR</i></p> <p>fails to present a cogent argument or make critical analysis</p> <p><i>OR</i></p> <p>does not communicate ideas adequately.</p>
	2	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
	1	The answer contains a minimal amount of relevant evidence.
	0	No response; no relevant evidence.

Question Two: Reducing smoking incidence and inequities in New Zealand

Key points

- A negative externality of consumption exists in the market for cigarettes. Consumption of cigarettes causes spill over costs to third parties – people not directly involved in the consumption process. Spill overs can be the impact of second-hand smoke on other people, loss of productivity and cost of sick pay for producers, and healthcare costs on government / taxpayers for treating smoking-related illnesses. Spill overs reduce the private MB, so $MSB < MB$. The private market equilibrium occurs where $MB = MC$, at P_m , Q_m . However, the private market does not consider the spill over costs on third parties, so cigarettes are overconsumed (Q_m) and under-priced (P_m) compared to socially desirable equilibrium. Social equilibrium takes account of all the costs of consumption, ($MSB = MB + \text{spill over}$) occurring at the lower quantity Q_s and higher price P_s . At Q_m , $MSC > MSB$ creating a DWL – market failure exists. (Model 1).
- To eliminate the DWL, the market needs to operate where $MSC=MSB$. (Candidates could argue that society would be better if Q_m was at 0 and that cigarettes are already taxed.) In addition, as the negative impact of smoking falls disproportionately on certain groups (low socio-economic, Māori, and Pacific peoples), the market can be seen as inequitable. Market failure occurs as the cigarette market is not delivering an efficient or equitable outcome.

Model 1: New Zealand market for cigarettes

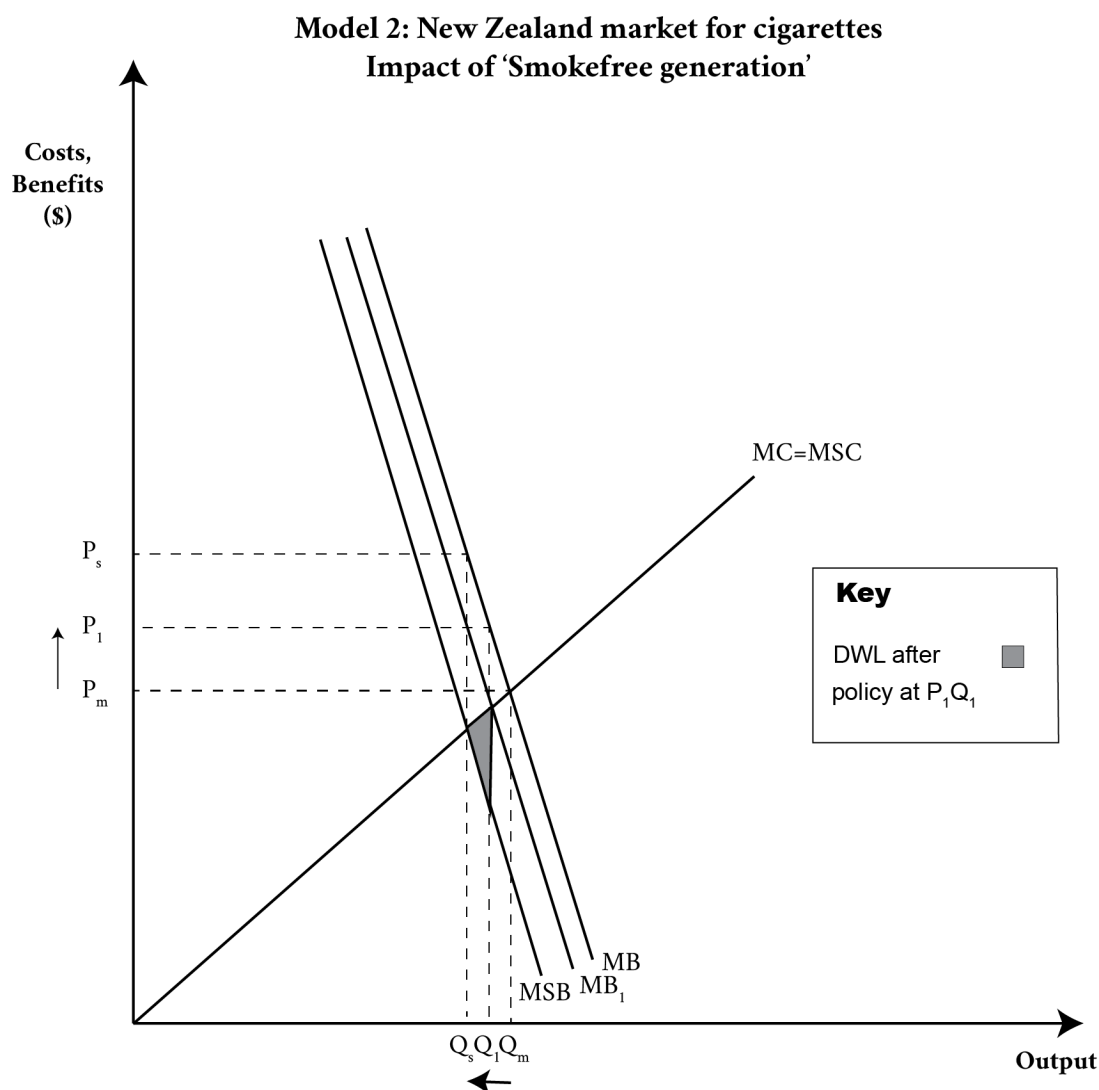


- The demand for cigarettes is inelastic ($PED < 1$) as for adult smokers the $PED = 0.4$ and 0.7 for younger smokers. A change in price will result in a less than proportionate decrease in quantity. (MB and MSB curves should be drawn as inelastic.)
- However, due to the spill over impact on society of smoking, and its impact on equity, there is a case for the government to intervene to reduce the market failure. This is achieved by reducing the quantity of cigarettes consumed from Q_m to the allocatively efficient level of Q_s .

Policy Options

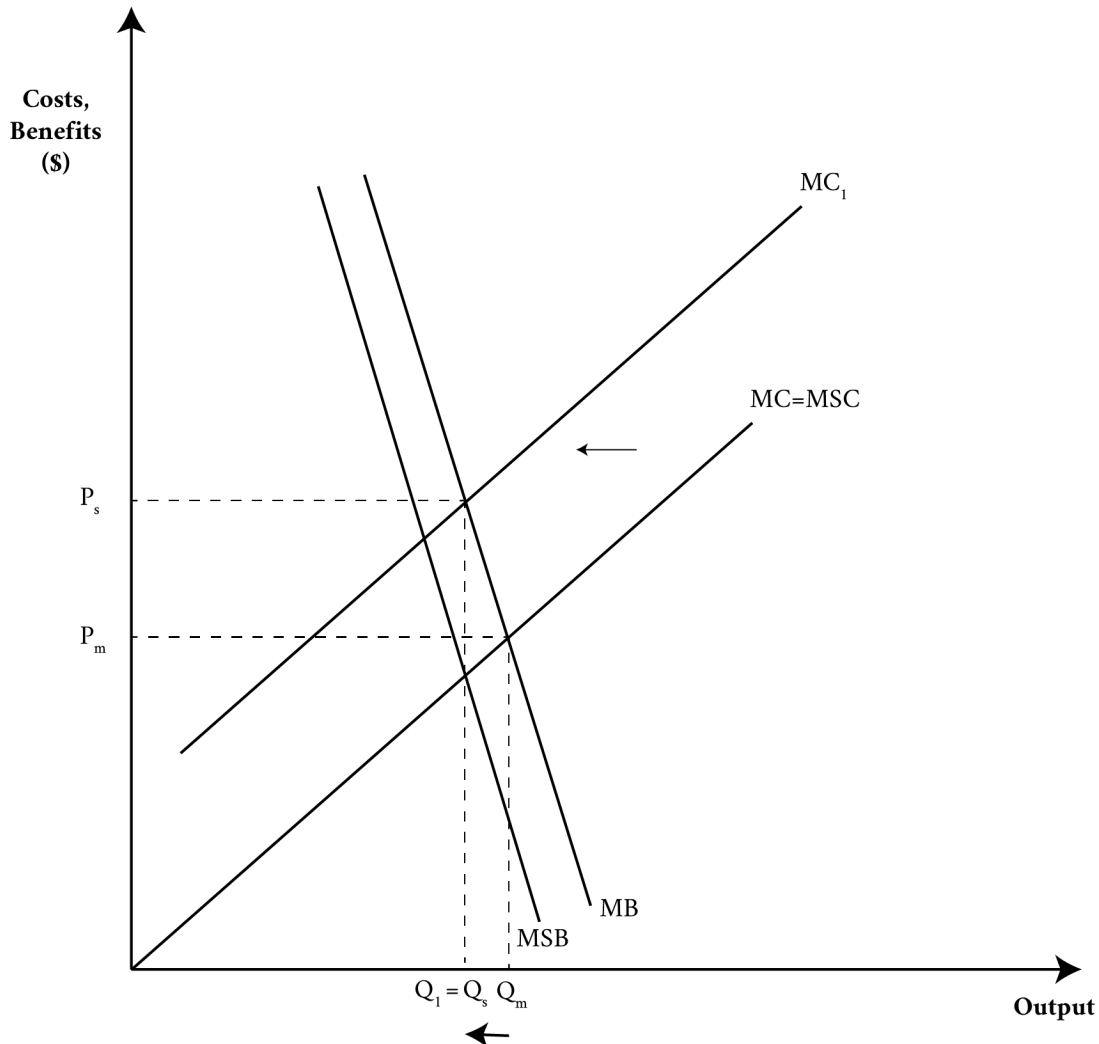
'Smoke-free generation'

- This policy means it is illegal for anyone born after 2004 (which has been pushed forward), to buy cigarettes. This will decrease the demand for cigarettes as younger smokers will not join the market, and older smokers leave the market. MB slightly decreases to MB_1 , closer to MSB curve (Model 2). Realistically this policy will take many years to have a significant impact on reducing smoking and young people can still get older buyers to purchase their cigarettes. It also does not do anything to reduce demand in existing smokers, so MB_1 does not shift all the way to MSB. Quantity decreases to Q_1 , closer to Q_s , but it is not very effective in the short run due to the length of time it will take to reduce number of smokers. It will be more effective in the long run. Allocative efficiency increases as DWL is smaller, but as $MB_1 > MSB$ a DWL still exists. Policy is equitable in that all young people are treated the same, however it conflicts with 'freedom of choice' and does not improve equity in existing smokers.



Outlet reduction

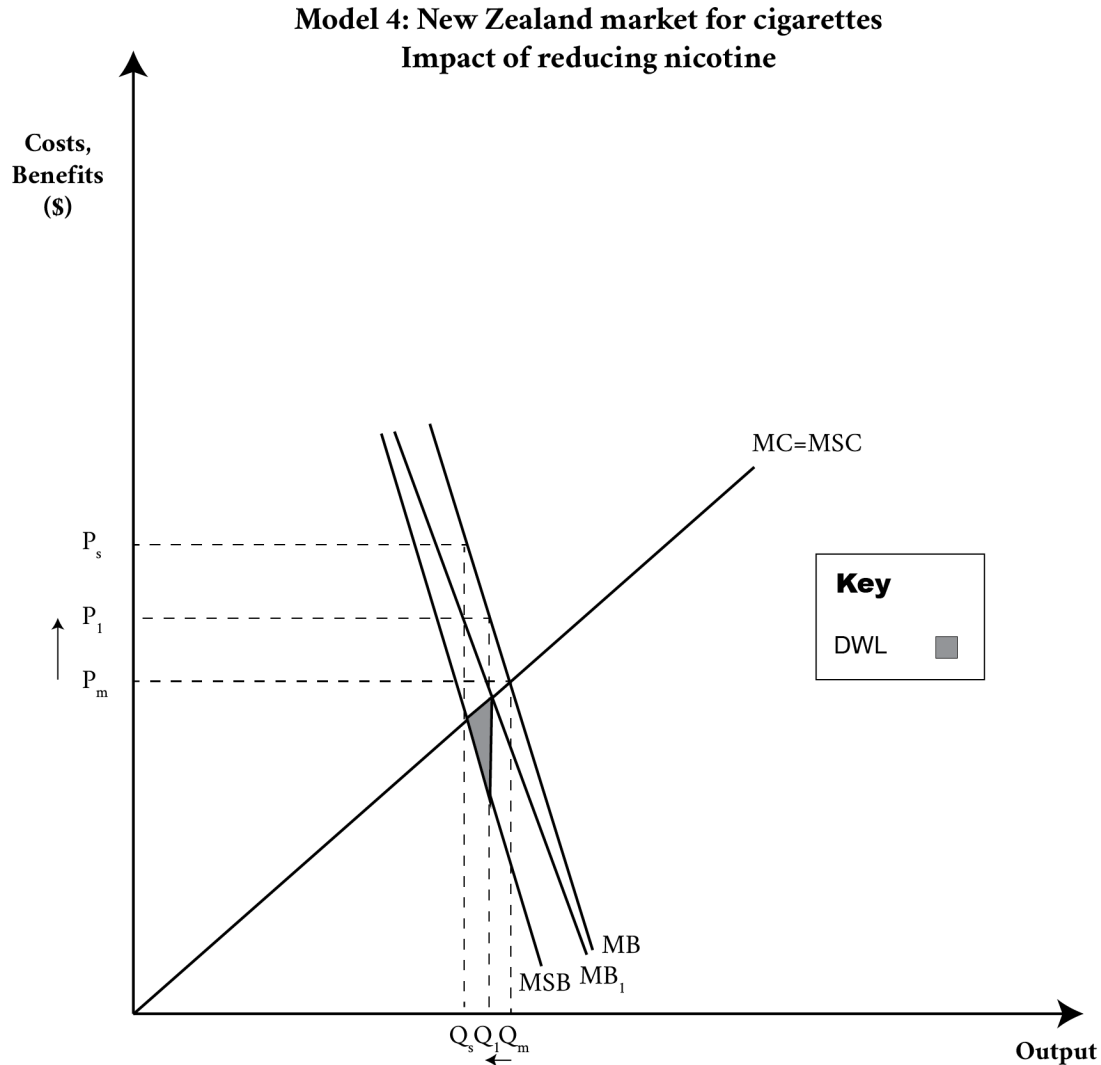
- This policy aims to reduce number of outlets, from 5 000 to 300, reducing the number of producers selling cigarettes. Decrease in supply, shown by a significant shift to left of supply curve from $MC = MSC$ to MC_1 , resulting in new equilibrium of $Q_1 = Q_s$, P_s (Model 3). The effect on allocative efficiency will depend on how close Q_1 is to Q_s . If the new quantity sold is at Q_1 , the DWL is eliminated, as the price P_s results in quantity of Q_s .

Model 3: New Zealand market for cigarettes

- Equity should improve as it is harder to buy cigarettes, so consumption decreases. The Government could reduce the number in low socio-economic areas and near schools to discourage younger smokers. This will further increase equity. However, some smokers may have higher transport costs and inconvenience to purchase cigarettes, and so this policy may be unfair to rural or low-income smokers. Many producers and small shops will lose revenue and may go out of business. This policy may result in increased black market and crime.

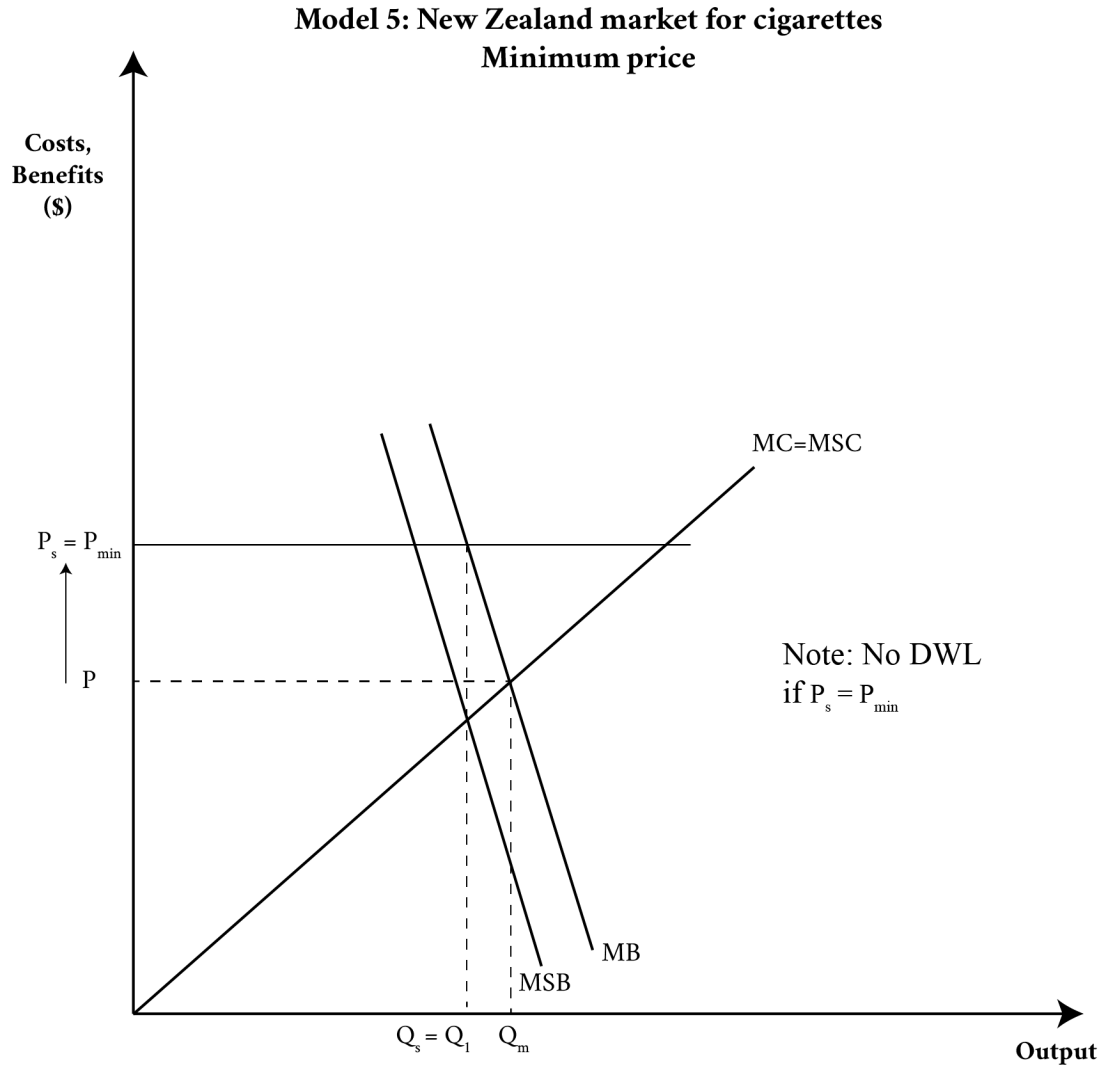
Lower nicotine levels

- This policy aims to reduce the desirability of cigarettes by making them less addictive. It results in a decrease in demand for cigarettes, shown by shift to the left of the demand curve from MB to MB₁, due to a decrease in taste and preference. Results in new equilibrium of P₁, Q₁, and a smaller DWL as Q₁ closer to Q_s. DWL still exists as at Q₁, MB₁ > MSB. Demand for cigarettes will become more elastic over time as they become less addictive, shown by MB₁ being more elastic than MB (Model 4). It will be effective in both the short-and long-term. Both new smokers and existing smokers will be affected equally, however government will have compliance costs to monitor implementation. It is equitable as all smokers are treated the same, but conflicts with freedom of consumer sovereignty.



Minimum price

- This policy makes it illegal for producers to sell cigarettes for a price below the minimum price. If P_{\min} is set at P_s (Model 5), the quantity demanded for cigarettes decreases to Q_1 as cigarettes are relatively less affordable, *ceteris paribus*. As $Q_1 = Q_s$, and $MSC = MSB$, the DWL associated with the negative externality is eliminated making the policy allocatively efficient. However, it is inequitable for lower income households as it is effectively a regressive policy, which falls unfairly on lower income households. Cigarettes are already highly taxed. Producers gain higher price and due to inelastic price elasticity, their revenue increases. (Increase in price outweighs the decrease in quantity sold.) However, minimum price may encourage a black market in illegally imported cigarettes and increase in crime / dairy robberies.



Recommendation

A variety of relevant policy recommendations could be valid and should be marked accordingly. However, the policy recommendation should be appropriate to the economic model changes the candidate has already illustrated and discussed. For example:

- All policies will increase allocative efficiency by moving market closer to socially desirable equilibrium and reducing or eliminating spillover costs. Third parties, such as passive smokers and the taxpayer, will benefit as the market failure is reduced. Any policy which decreases smoking rates will increase equity, as the numbers of smokers in Māori, Pacific peoples, and low socio-economic households decreases.
- Setting an appropriate minimum price and reducing the number of outlets will reduce smoking in the short run. Both policies result in a price increase to P_s , decrease quantity sold to Q_s , and remove the DWL, and achieve allocative efficiency. However, due to smoking being addictive and having inelastic demand, a large increase in price would be required to reduce the quantity of cigarettes sold, which is inequitable for lower socio-economic groups and rural smokers.
- Reducing nicotine levels will decrease the addictiveness of cigarettes, making it less likely that young people will start smoking and easier for existing smokers to give up. It is equitable in that all smokers are treated the same. However, it will take time to implement and have an impact on reducing smoking numbers. Allocative efficiency increases but is not eliminated.
- Creating a 'smoke free generation' will be more effective in the long run as it could prevent whole generations ever taking up smoking. However, it is less allocatively efficient in the short run due to existing smokers being unaffected.
- To achieve their goals of increasing equity and reducing smoking numbers the government could use a combination of policies.

Judgement

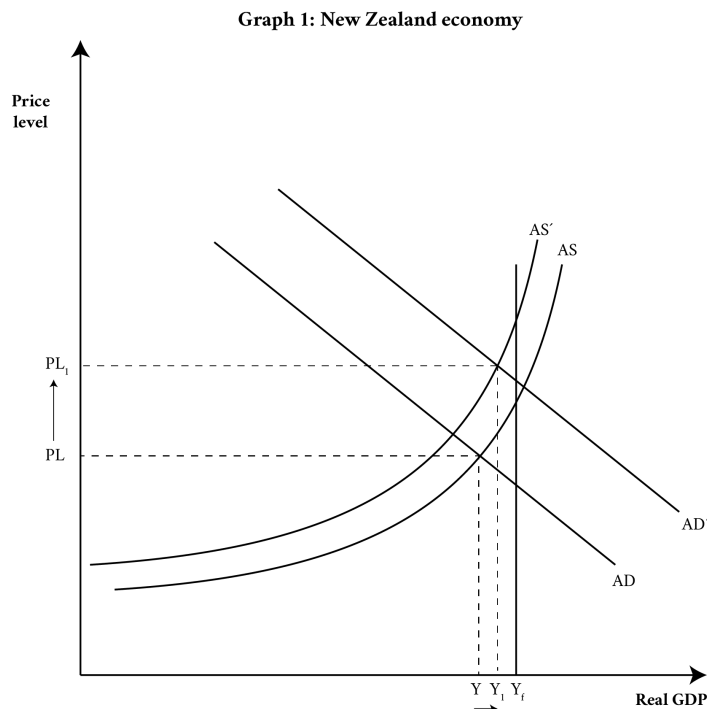
Outstanding Scholarship	8	<p>The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of market failure within the NZ cigarette market, explains and analyses the impact of three government policies on allocative efficiency and equity, and evaluates the likely effectiveness of policies in reducing smoking and inequalities in the short- and long-run.</p> <p>This is complete and demonstrates perception and insight <i>AND</i> demonstrates <i>sophisticated abstraction and integration</i> of the resource material <i>AND</i> demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of possible policies to address the negative externalities associated with smoking <i>AND</i> is <i>convincing</i> and economically literate.</p>
	7	<p>The essay fulfils most of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion) <i>OR</i> deals inadequately with an essential point <i>OR</i> lacks sufficient abstraction or integration of the resource material <i>OR</i> has some minor failure in the evaluation <i>OR</i></p>

		may lack some fluency and / or coherence.
Scholarship	6	<p>The candidate produces and effectively communicates a sophisticated economic analysis of market failure within the NZ cigarette market, explains and analyses the impact of government policies on allocative efficiency and equity, and evaluates the likely effectiveness of policies in reducing smoking and inequalities in the short-and long-run.</p> <p>This demonstrates a high level of <i>analysis and critical thinking</i></p> <p>AND</p> <p>incorporates a <i>competent level of integration and synthesis</i> of the resource material</p> <p>AND</p> <p>the discussion and evaluation are <i>clear, logically developed, and precise</i>.</p>
	5	<p>The essay fulfils most of the requirements above but has some unsupported generalisations</p> <p>OR</p> <p>some major point in the discussion is neglected or incomplete</p> <p>OR</p> <p>has some inadequacy in the evaluation</p> <p>OR</p> <p>ideas may not be communicated effectively.</p>
No Scholarship	4	<p>The candidate produces a comprehensive analysis of market failure within the NZ cigarette market, explains and analyses the impact of government policies on allocative efficiency and equity, and evaluates the likely effectiveness of policies in reducing smoking and inequalities in the short-and long-run.</p> <p>AND</p> <p>produces a <i>clear but undeveloped</i> discussion and evaluation</p> <p>AND</p> <p>demonstrates <i>some level of integration and synthesis</i> of the resource material</p> <p>AND</p> <p>demonstrates <i>some application</i> of economic theory relevant to the discussion.</p>
	3	<p>The answer fulfils most of the requirements above but is incomplete</p> <p>OR</p> <p>fails to present a cogent argument or make critical analysis</p> <p>OR</p> <p>does not communicate ideas adequately.</p>
	2	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
	1	The answer contains a minimal amount of relevant evidence.
	0	No response; no relevant evidence.

Question Three: Inflationary pressures and the New Zealand economy

Key points

- New Zealand's inflation rate has increased due to both cost-push and demand-pull factors. Aggregate demand increased due to several factors including:
 - strong consumer confidence due to low unemployment, leading to increasing consumer expenditure
 - expansionary fiscal policy through rising government spending to support the economy post-COVID
 - improved terms of trade (export prices rising faster than import prices) and strong export sales leading to increasing net exports
 - low OCR and interest rates, encouraging consumer and business borrowing and spending
 - $AD = C + I + G + (X - M)$ As C , I , G , and X increase, AD increases.
- Since the economy is operating close to full employment (as evidenced by the very low unemployment rate) and on the steep part of the AS curve, any increase in AD will mainly increase the price level rather than increasing Real GDP, so the effect is inflationary.
- Aggregate supply has also decreased due to rising costs, especially increasing transport costs (due to high oil and petrol prices) and rising wages due to labour shortages. Capacity constraints are also increasing due to low unemployment and increased capacity utilisation, further increasing costs. Rising costs cause producers to seek higher prices at every level of national output, decreasing aggregate supply.
- The result of both increasing AD and a decrease in AS is an increase in the price level from PL to PL_1 and an increase in Real GDP from Y to Y_1 (Graph 1).

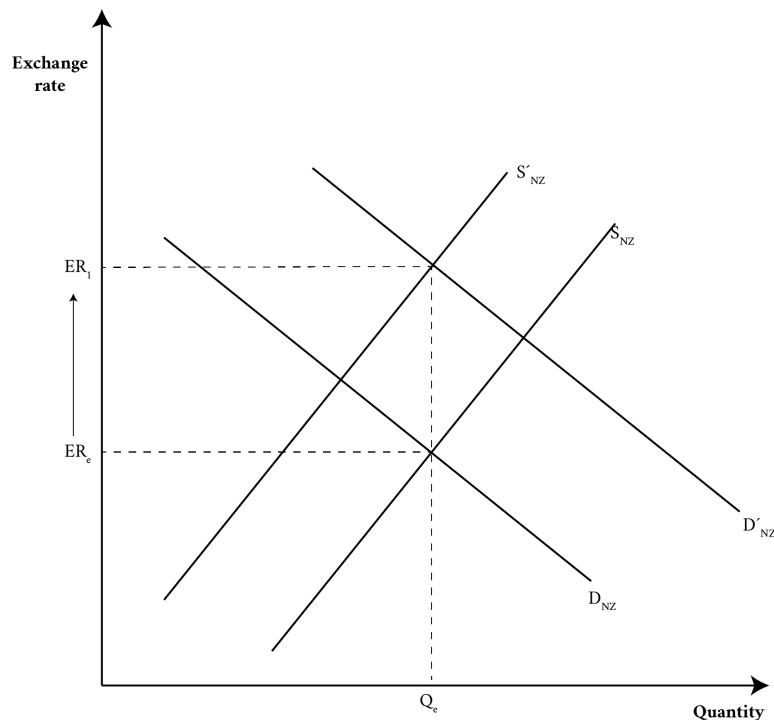


- There are a number of benefits to maintaining price stability. The goal for price stability as stated in the Policy Targets Agreement is to keep inflation between 1 and 3% on average over the medium term, with a focus on keeping future average inflation near the 2% target midpoint. For consumers, the benefit of price stability is that savings retain their value so saving is encouraged, and the cost of living is relatively stable. Price stability particularly benefits those households on fixed incomes or in low-skilled jobs as income maintains its purchasing power when prices are stable. For producers, price stability provides greater certainty for future planning, encouraging investment. Price stability also aids exporters in maintaining their price competitiveness overseas. Economically, price stability also discourages speculative investment and promotes more productive investment.
- Increases in the Official Cash Rate cause bank interest rates to rise on both loans and deposits. These higher interest rates have the effect of raising the cost of borrowing for both households and businesses while

encouraging saving. Those who already have loans find that they have less discretionary income to spend on other goods and services, while potential borrowers may be put off borrowing because the interest costs are now higher. As a result, both consumer spending and investment spending will decrease, causing aggregate demand to fall.

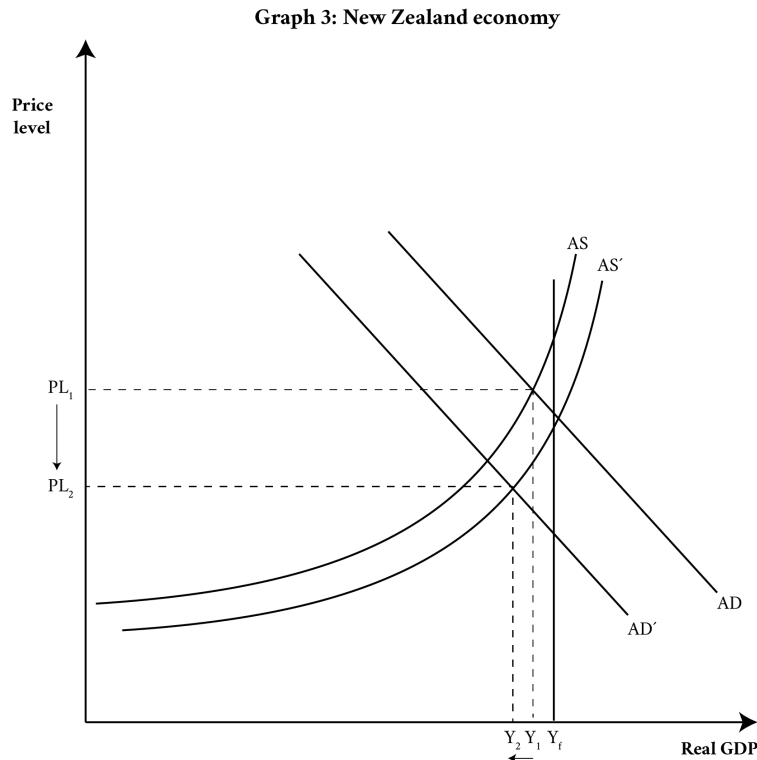
- Increases in the Official Cash Rate will also impact the foreign exchange market, causing an increase in the demand for the New Zealand dollar from D_{NZ} to D'_{NZ} as overseas investors look to save their money in NZ, attracted by the higher interest rates, while the supply of the New Zealand dollar will fall from S_{NZ} to S'_{NZ} as fewer investors take money out of New Zealand to invest. This results in an appreciation of the New Zealand dollar (Graph 2). As a result of this appreciation, export receipts in New Zealand dollar terms will fall as exports become less price competitive overseas, whereas import prices in NZ will decrease resulting in an increase in import payments as demand for imports increases (assuming elastic demand for imports). Net exports therefore fall, causing a further decrease in aggregate demand.

Graph 2: New Zealand foreign exchange market



- In addition, as a result of the appreciation of the New Zealand dollar, the cost of imported materials will decrease, causing an increase in aggregate supply.

- The net effect of these changes (Graph 3) will be a decrease in real GDP from Y_1 to Y_2 as the decrease in aggregate demand (AD) will outweigh the increased aggregate supply (AS) since consumer spending (C), investment spending (I), and net exports (X-M) are all being affected in aggregate demand, whereas imported raw materials are a proportion of imports. Since real GDP falls, production is also decreasing so unemployment will increase due to lower derived demand with the gap between Y_2 and Y_f increased, increasing the recessionary gap.
- Overall, the effect of the increasing Official Cash Rate on economic growth and employment is negative, although starting from a point of very low unemployment and strong growth at the end of 2021 (i.e. on the steepest part of the AS curve). Resource I states that the economy is operating beyond maximum sustainable employment, so this will help to return the economy to a more sustainable level.



- The macroeconomic goal of a balanced current account will also be impacted since net exports will fall as a result of the appreciation of the New Zealand dollar. Consequently, the current account deficit is likely to worsen.
- Conversely, the increase in the Official Cash Rate will have a disinflationary effect on prices as the price level falls from PL_1 to PL_2 . This reflects reduced inflationary pressures both from a demand side and supply side point of view. This will be a positive effect as inflation decreases and returns to the PTA inflation range of 1–3%.
- In the long term, it is expected that stable prices will support future economic growth and enable more price competitive exports, which will offset the short-term reduction in economic growth, employment, and exports.

Judgement

Outstanding Scholarship	8	<p>The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the factors causing inflation in the New Zealand economy in early 2022, explains the importance of price stability, and evaluates the impact of an increasing OCR on the NZ economy and macro-economic goals.</p> <p>This is complete and demonstrates perception and insight</p> <p><i>AND</i></p>
-------------------------	---	--

		<p>demonstrates <i>sophisticated abstraction and integration</i> of the resource material</p> <p>AND</p> <p>demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the effect on the New Zealand economy</p> <p>AND</p> <p>is <i>convincing</i> and economically literate.</p>
	7	<p>The essay fulfils most of the requirements above but contains minor factual inaccuracies (when this affects a statement or opinion)</p> <p>OR</p> <p>deals inadequately with an essential point</p> <p>OR</p> <p>lacks sufficient abstraction or integration of the resource material</p> <p>OR</p> <p>has some minor failure in the evaluation</p> <p>OR</p> <p>may lack some fluency and / or coherence.</p>
Scholarship	6	<p>The candidate produces and effectively communicates a sophisticated economic analysis of the factors causing inflation in the New Zealand economy in early 2022, explains the importance of price stability ,and evaluates the impact of an increasing OCR on the NZ economy and macro-economic goals.</p> <p>This demonstrates a high level of <i>analysis and critical thinking</i></p> <p>AND</p> <p>incorporates a <i>competent level of integration and synthesis</i> of the resource material</p> <p>AND</p> <p>the discussion and evaluation are <i>clear, logically developed, and precise</i>.</p>
	5	<p>The essay fulfils most of the requirements above but has some unsupported generalisations</p> <p>OR</p> <p>some major point in the discussion is neglected or incomplete</p> <p>OR</p> <p>has some inadequacy in the evaluation</p> <p>OR</p> <p>ideas may not be communicated effectively.</p>
No Scholarship	4	<p>The candidate produces a comprehensive analysis of the factors causing inflation in the New Zealand economy in early 2022, explains the importance of price stability, and evaluates the impact of an increasing OCR on the NZ economy and macro-economic goals.</p> <p>AND</p> <p>produces a <i>clear but undeveloped</i> discussion and evaluation</p> <p>AND</p> <p>demonstrates <i>some level of integration and synthesis</i> of the resource material</p> <p>AND</p> <p>demonstrates <i>some application</i> of economic theory relevant to the discussion.</p>
	3	<p>The answer fulfils most of the requirements above but is incomplete</p> <p>OR</p> <p>fails to present a cogent argument or make critical analysis</p>

		<i>OR</i> does not communicate ideas adequately.
	2	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
	1	The answer contains a minimal amount of relevant evidence.
	0	No response; no relevant evidence.

Cut Scores

Scholarship	Outstanding Scholarship
13 – 18	19 – 24