

Assessment Schedule – 2024

Scholarship Economics (93402)

Evidence

Question One: Allocative efficiency in the New Zealand market for eggs

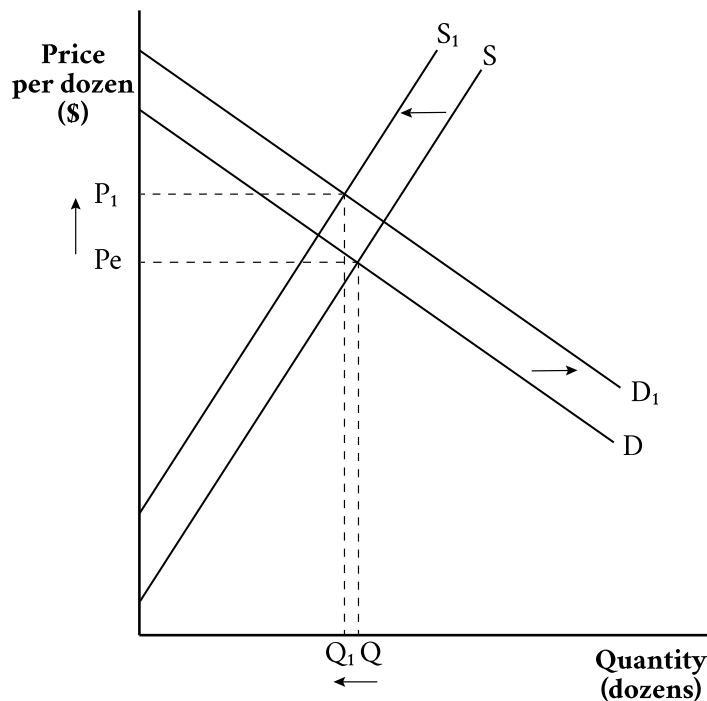
Note: Responses could vary depending on the relative shifts candidates show in the graphs and will be marked accordingly. For example, candidates could illustrate that the demand for eggs is price inelastic.

- Perfect competition occurs when there are many producers, all too small to influence the price (price takers), selling identical products and with no barriers to entry.
- Monopolistic competition occurs when there are many producers, weak control over price, selling differentiated products and with weak barriers to entry.
- Oligopolies occur when there are a few, usually large, firms in the market with strong control over price, a kinked demand curve, and strong barriers to entry.
- Monopolies occur when there is a single firm selling a product with no close substitutes and very strong barriers to entry. They can control either price or quantity in the market.
- The New Zealand egg industry is monopolistically competitive as there are many firms (approximately 130) selling differentiated products (through branding) and with barriers to entry, including the costs of setting up a commercial farm. Egg producers have weak control over the price. It is not perfectly competitive as products are differentiated and firms have some control over prices. It is not an oligopoly as there are many firms rather than a few large firms.
- At the start of 2023, there was a decrease in supply of eggs for two reasons. Firstly, the move away from battery hens, due to the ban, meant that some egg production ceased, while at the same time egg farmers faced an increase in costs of production. Supply shifted to the left from S to S_1 . Further, publicity about shortages of eggs led to an increase in demand for eggs as some people panic bought so demand increased from D to D_1 . As a result, the price increased from P_e to P_1 , and equilibrium quantity decreased from Q to Q_1 (Graph One). *Note that the supply curve is steeply sloped to reflect the inelastic nature of short-term supply.*
- At the original equilibrium price of P_e , the temporary shortage of eggs meant that there was allocative inefficiency and a deadweight loss existed until equilibrium could be restored. At price P_e , quantity Q_s would be supplied but Q_d would be demanded. Until equilibrium could be restored, consumer surplus fell to area $abfP_e$ and producer surplus fell to area $P_e f h$ with a deadweight loss of bdf (Graph Two).
- In response to the shortage (Q_d less Q_s), consumers bid up the price until it increased to P_1 , where quantity demanded equals quantity supplied. At this point, consumer surplus has fallen from the original egP_e to adP_1 . Producer surplus falls to $P_1 dh$. There is no deadweight loss since the market is at equilibrium, though total surpluses have decreased due to the fall in market quantity.
- Price elasticity of supply (PES) refers to the relative responsiveness of quantity supplied to a change in price. In the short run, PES is typically relatively inelastic as some factors of production are fixed, limiting the ability of firms to alter quantity supplied. In contrast, in the long run, PES is relatively elastic as factors of production become variable and firms have greater flexibility to alter production levels in response to a change in price. In the egg farming market, factors such as designing and building suitable egg production spaces will take time and money, so in the short run, farmers would have limited ability to raise production other than increasing chicken numbers (if possible, in the space they currently have). In the long run, they will be able to develop more facilities that meet the new regulations and then further increase the number of chickens to produce eggs.
- In the short run, an increase in demand will have a greater impact on the market price as opposed to the market quantity since inelastic PES limits the ability of producers to respond to demand. As a result, the increase in price from P_e to P_1 (Graph Three) will be proportionately greater than the increase in quantity from Q_e to Q_1 . Consumer surplus will increase from bdP_e to acP_1 as, even though the price has increased, the increase in demand means that the gap between the amount that consumers are willing to pay and the price they actually pay stays relatively similar while the quantity consumed increases. This increases the number of units from which surplus can be gained. Producer surplus increases from $P_e de$ to $P_1 ce$ because the difference between the price received and the price that they would accept has increased, and the number of units sold has also increased.
- In the long run, an increase in demand will have a smaller impact on the market price as opposed to the market quantity because, in the long term with variable factors of production, firms are more able to respond to demand (Graph Four). As a result, the increase in price from P_e to P_1 (Graph Two) will be proportionately less than the increase in quantity from Q_e to Q_1 . Consumer surplus will increase from bdP_e to acP_1 as even though the price has increased, the increase in demand means that the gap between the amount that consumers are willing to pay and the price they actually pay stays relatively similar, while the quantity consumed increases significantly, increasing the number of units from which surplus can be gained. Producer surplus increases from $P_e de$ to $P_1 ce$.

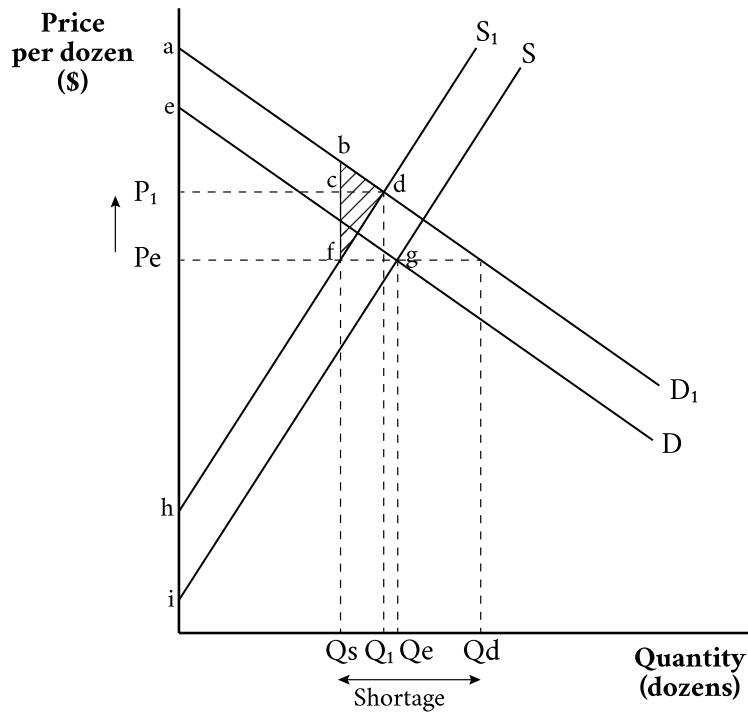
since the difference between the price received and the price that they would accept has increased, and the number of units sold has also increased.

- In the long run, consumer surplus will increase to a greater extent than in the short run because there is a smaller increase in price, (alternatively, the market price may decrease compared to the short-term market price), meaning that the difference between the price consumers pay and the price that they are willing to pay has increased. Also, quantity consumed increases further due to the more variable factors of production so there are more units from which consumer surplus can be gained.
- In the long run, producer surplus will increase however it may be smaller than in the short run because the quantity sold increases to a greater extent but is offset by the relatively smaller increase in price.
- The market for eggs is allocatively efficient in both the short run and long run. The sum of consumer and producer surplus is maximised as the market is producing at the new equilibrium price and quantity of P_1 , Q_1 . There is no deadweight loss. In the short run and long run, there is an increase in net welfare / total surpluses of abcd.

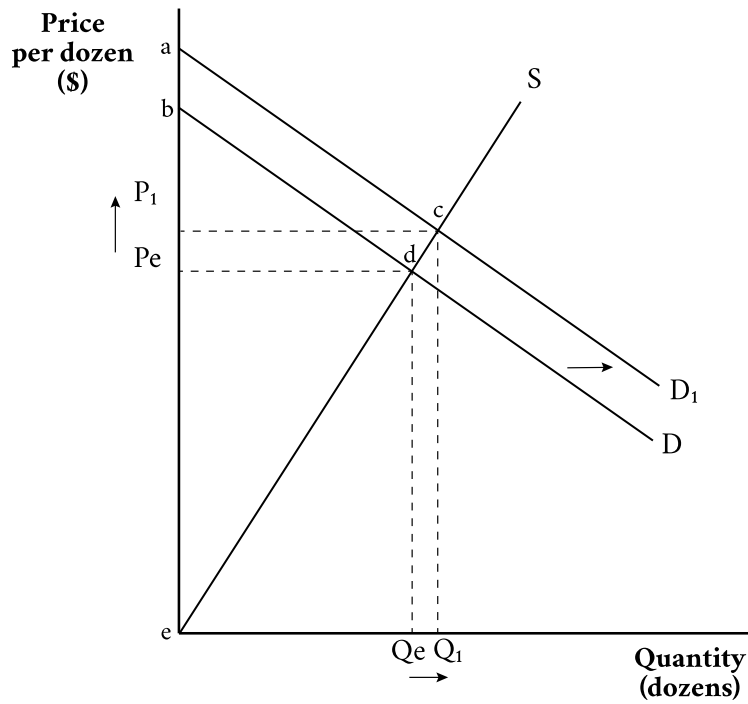
Graph One: The New Zealand market for eggs



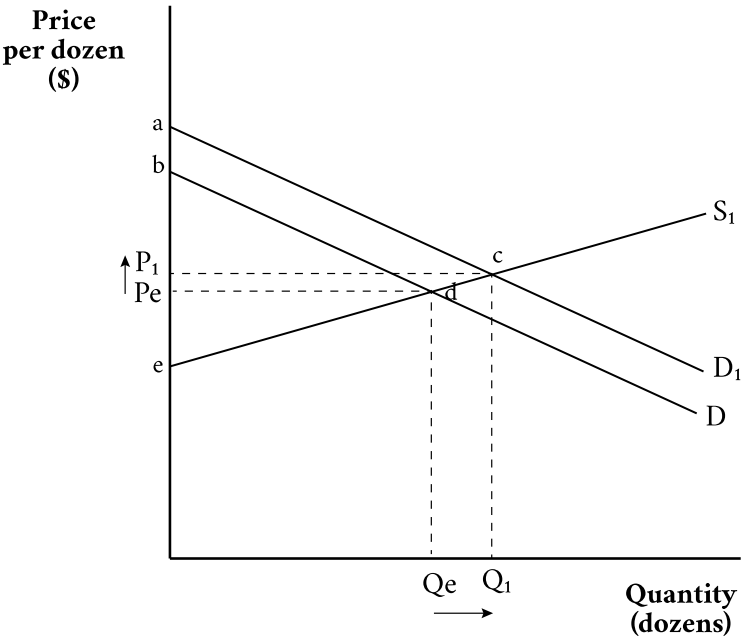
Graph Two: The New Zealand market for eggs



Graph Three: The New Zealand market for eggs (short run)



Graph Four: The New Zealand market for eggs (long run)



Judgment

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of banning battery farming on the New Zealand egg market, and evaluates the impact on consumers, producers, and allocative efficiency in the short and long run. This is complete and demonstrates <i>perception and insight</i>. AND demonstrates <i>sophisticated integration and abstraction</i> of the resource material AND demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of a government policy and its effect on banning battery farming. 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 impact of banning battery farming on the New Zealand egg market, and evaluates the impact on consumers, producers, and allocative efficiency in the short and long run. 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	The candidate produces a comprehensive analysis of the impact of banning battery farming on the New Zealand egg market, and evaluates the impact on consumers, producers, and allocative efficiency in the short and long run. <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
	3	The answer fulfils most of the requirements above but is incomplete <i>OR</i> fails to present a cogent argument or make critical analysis <i>OR</i> does not communicate ideas adequately.
	2	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: Cost of living crisis and the consumers price index

Note: Candidate conclusions may vary and will be marked with reference to relevant, supported, and logical argument.

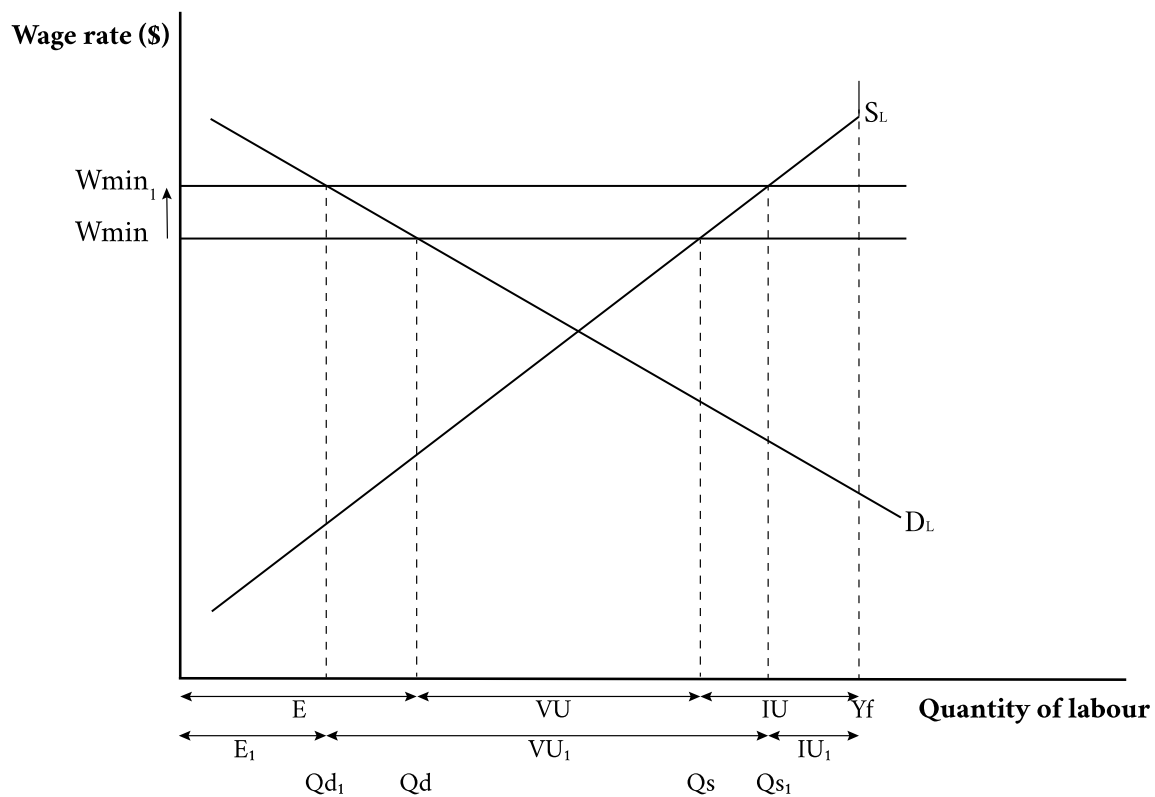
- An increase in the rate of inflation is an increase in the general price level. It is measured by an increase in the consumers price index (CPI). The CPI records the change over time in the price of a basket of goods and services from different categories, for example utilities and food. The increase in the price of a particular good is only the price rise in one good and does not on its own cause inflation. In 2023, some categories increased in price more than others, for example groceries increased by 13.2% but rent increased by 5.1%.
- The cost of living crisis has been caused by a high inflation rate (7.2%), which is rising faster than average wages (4.3%), meaning real wages have decreased. Purchasing power has decreased for the average household. Price rises in essential goods and services have also increased by more than the inflation rate. This means households may have to cut discretionary expenditure as essentials take up a higher proportion of income. Increasing wage rates without increasing tax thresholds (Resource K) means households will experience fiscal drag, further reducing real income.
- High rates of inflation had uneven impacts on household types due to different household spending patterns. Goods which had the highest increase in prices were food (13.2%) and interest repayment costs (28.8%). Households which were most affected by increasing food costs were low-income households, beneficiaries, and superannuitants. This is because they have a high marginal propensity to consume (MPC), spend a higher proportion of income on food and already purchase many budget items. Necessities, such as housing and food, have increased in price more than the rate of inflation. Low-income households may also be more negatively affected as they may be less able to negotiate wage increases. Meanwhile, high-spending households are significantly affected by increasing mortgage costs, particularly for those who purchased in 2021, when house prices were high. Mortgage costs take up a high proportion of income; however, high-income households have different spending patterns. They can switch from luxury brands to buy more normal or inferior goods. With a higher marginal propensity to save (MPS), they may have savings to fall back on and are more able to negotiate an increase in wages to maintain purchasing power.
- Overall high-spending-households have experienced the highest increase in living costs (7.8%) compared to beneficiaries who experienced a lower (6.5%) increase in living costs.

Policy options

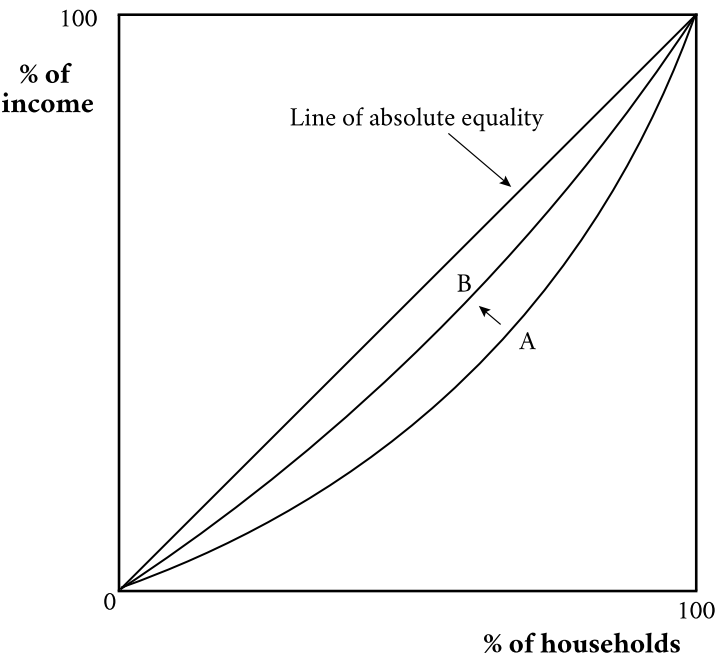
- Minimum wage: will increase wages of low-income households earning minimum wage. As the minimum wage increases, W_{min} to W_{min1} , the wage rate increases for lower earners as it is illegal to pay below W_{min1} . As wages increase, quantity demanded decreases as the cost of labour increases, making it less affordable for producers to employ workers. Quantity supplied increases as it's more profitable for households to provide their labour. The opportunity cost of not working increases. There is an increase in the surplus of labour ($Q_{s1} - Q_{d1}$). However, this could result in some workers losing their jobs due to an increase in involuntary unemployment (IV increases to IV_1 on Graph Five). However, the increase in minimum wage may not be of benefit to other low-income households and may reduce the gap between minimum wage workers and those earning just above the minimum wage.
- The Lorenz curve shows the level of income inequality in a country, by showing the relationship between the cumulative percentage of households and cumulative percentage of income earned (Graph Six). The increased minimum wage results in Lorenz curve shift inwards (A to B) towards the line of absolute equality, as there is a more even distribution of incomes.
- The cost of living payment was paid to all low- and middle-income households, which increased equity, as these households received a higher income in 2022. This results in a shift inward of the Lorenz curve from A to C (Graph Seven). The payment benefits more households, as 1.3 million people were eligible to receive it, but the cost of living payment is only a small proportion of income. Households could choose how to spend it and may receive multiple payments if there are several workers in a household. However, it was paid only in 2022, and paid only to those in employment, so did not improve living standards in the long run. Also, it was not paid to those not in employment, so beneficiaries and superannuitants did not benefit. This makes the policy less effective.
- Raising all tax thresholds by the rate of inflation means that each working household will pay less tax, increasing disposable income. Currently many households are suffering from fiscal drag. All households in employment will benefit, so it is not targeted specifically at low-income households. High-income households will benefit more than low-income households, as the tax paid will decrease by more. For example, those earning over \$180 000 will get proportionally more tax relief. Overall, this will decrease equity as the income distribution becomes more uneven. This is shown by an outwards shift of the Lorenz curve from A to D (Graph Eight).

- All policies will be effective in improving living standards for some household types and reducing the impact of the cost of living crisis. The minimum wage increase improves income for some low-income households, while the cost of living payment was a boost to both low- and medium-income households in the short run. The cost of living payment and increasing the minimum wage both increased equity, shown by the Lorenz curve shifting inwards. The most effective policy to increase living standards for the highest number of households is the policy to increase the tax thresholds by the rate of inflation. All households, except those without income, would benefit from the increase in tax thresholds, but this would decrease equity as higher income households would benefit from a proportionally higher tax cut than lower income households.
- A more favourable option would be to increase the lower tax brackets rather than all tax thresholds. This would help low- and middle-income households more than high-income households, as their income would increase proportionally more. This would be effective in reducing the impact of the cost-of-living crisis on the highest number of households, while also increasing equity.

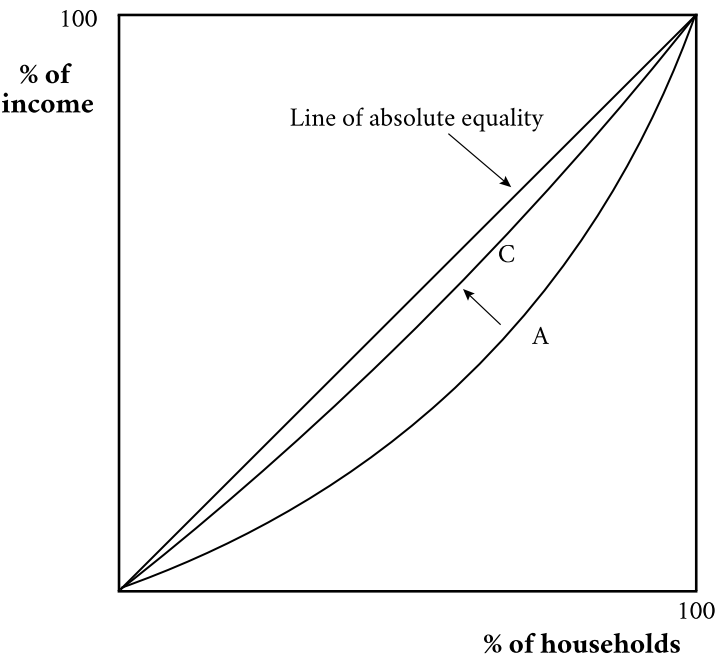
Graph Five: The New Zealand labour market



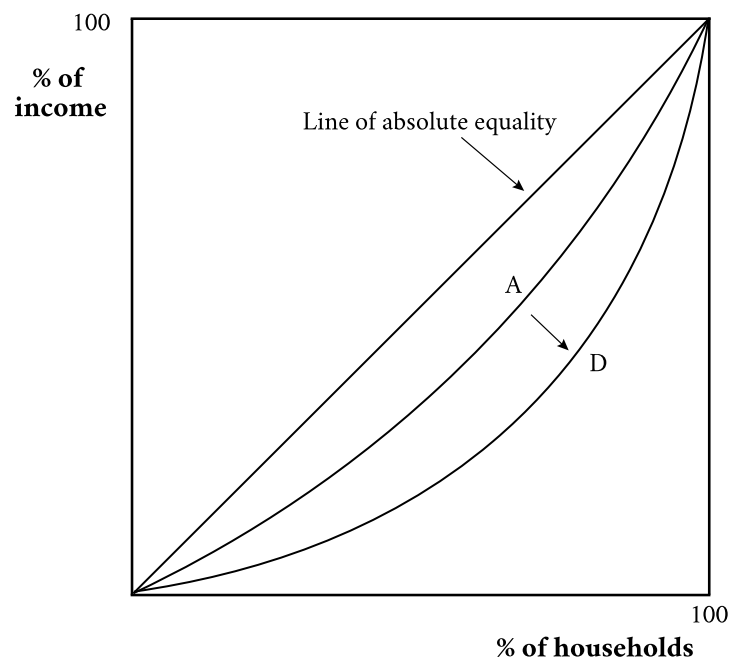
Graph Six: New Zealand income distribution



Graph Seven: New Zealand income distribution



Graph Eight: New Zealand income distribution



Judgment

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of high inflation on different household types in New Zealand and evaluates the effectiveness and equity of policies to resolve the cost of living crisis. This is complete and demonstrates perception and insight <i>AND</i> demonstrates <i>sophisticated integration and abstraction</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 cost of living crisis <i>AND</i> 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) <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> may lack some fluency and/or coherence.
Scholarship	6	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of high inflation on different household types in New Zealand and evaluates the effectiveness and equity of policies to resolve the cost of living crisis. This demonstrates a high level of <i>analysis and critical thinking</i> <i>AND</i> incorporates a <i>competent level of integration and synthesis</i> of the resource material <i>AND</i> the discussion and evaluation are <i>clear, logically developed, and precise</i>.
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No Scholarship	4	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of high inflation on different household types in New Zealand and evaluates the effectiveness and equity of policies to resolve the cost of living crisis. <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
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	2	The answer shows limited understanding relevant to the question. Some information is recalled, but ideas are not explained or analysed.
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	0	No response; no relevant evidence.

Question Three: Increasing net migration at different stages of the business cycle

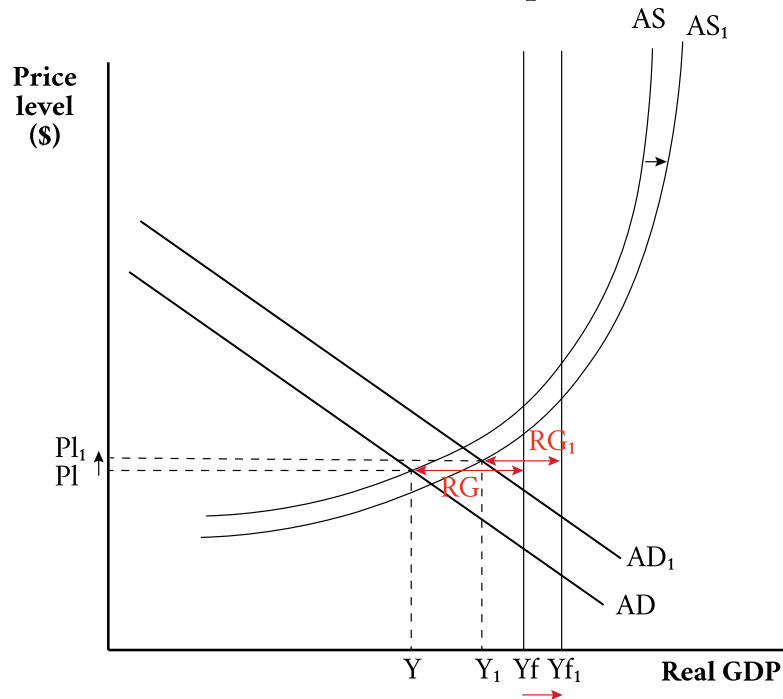
Note: Candidate conclusions may vary and will be marked with reference to relevant, supported, and logical argument.

- Aggregate supply is the total amount of real output supplied by producers at each price level. The AS curve slopes upwards and becomes steeper at higher levels of output / real GDP. This is due to the higher marginal cost of producing output, as resources become scarcer in an economy, for example labour or inputs. At full employment, the labour force is fully utilized so any increase in demand leads to a shortage in the labour market. If firms want to increase output, they will pay higher wages or overtime to attract employees, which increases wage costs. With diminishing returns and higher cost of production, producers raise prices to maintain profit margins. As the economy approaches full capacity, an increase in output will result in a more than proportionate increase in the general price level, shown by a steep AS curve and resulting in a significant increase in the price level and cost-push inflation. In contrast, at low output levels, if producers increase output there will be a small increase in the price level. The opportunity cost of increasing output is less, as there are idle resources, such as unemployed or underemployed workers in the economy.
- Net migration reached a record 110 200 in August 2023. There are several advantages of increasing migration. Migrants are skilled workers, raising productivity and filling vacancies caused by a shortage of labour. Easing labour shortages will put downward pressure on wages. Additionally, with a record outgoing migration of 115 100 people, migrants can replace other workers who have left the labour market and moved overseas. As most migrants are young, they will contribute to the labour force for many years. All these factors should increase productivity and productive capacity, reducing cost of production and cost-push inflation. *Candidates could support these points with a suitable Labour Market model and / or Production Possibility Curve model*
- Disadvantages include the additional pressure put on limited resources of, for example infrastructure and housing, and the impact of increasing consumption spending and increasing demand-pull inflation. This could result in pressure on the Reserve Bank to keep the OCR high. Both the increase in AS and AD would increase real GDP, increasing economic growth.
- An increase in net migration results in an increase in both aggregate demand and aggregate supply. AD increases as consumption (C) increases due to an increase in the number of households ($AD = C + I + G + (X - M)$). AS increases as productivity increases. More skilled workers are joining the New Zealand workforce, resulting in efficiency gains and increased productivity. An increase in labour force can reduce firms' costs of production, as wage costs are bid down. AS increases, as production becomes more profitable at each price level. With an increase in labour resource the full employment line will shift outwards (Y_f to Y_{f1}), representing an increase in productive capacity in the economy. The overall impact of increasing net migration on inflation, economic growth, and unemployment will differ depending on the level of AD.
- When the economy is operating with low levels of AD, the equilibrium lies on the flatter part of AS curve (Graph Nine). The increase in AD and in AS will result in a significant increase in economic growth as both the increase in AD and AS result in an increase in real GDP (Y to Y_1). Employment levels will increase as there is a higher derived demand for labour and new skilled migrants gain employment. Although the impact on unemployment levels is uncertain, as the full employment line will shift outwards, given the large increase in real GDP and the small increase in the overall population (2%), it is likely the recessionary gap will decrease (RG to RG_1). The impact on the price level will depend on the relative shifts of the AS and AD curves. If the increase in AS is more than the increase in AD, the price level will decrease, reducing inflation. If the increase in AD is more than AS, the price level will increase slightly. However, as the AD curve intersects the AS curve at the flatter part, it is likely that any increase in inflation would be minimal.
- When the economy is operating at higher levels of output, the AS and AD curves intersect at the steeper part of the AS curve (Graph Ten). An increase in net migration will result in a smaller increase in real GDP but a larger increase in the price level. As AD increases to AD_1 , there is significant demand-pull inflation. This is offset by an increase in AS, and the overall impact on price level depends on the relative shifts of the two curves. There is a smaller increase in economic growth than at lower levels of output. Economic growth increases by a smaller amount, as the opportunity cost of producing more output increases. Y to Y_1 in Graph Ten is smaller than Y to Y_1 in Graph Nine. The recessionary gap decreases so unemployment increases, but by less than at lower output levels, as the increase in real GDP and derived demand is lower.
- Increased net migration at lower levels of output is more likely to result in the government achieving its goals of increasing economic growth and employment levels. Maximum sustainable employment is the highest amount of employment the economy can maintain without creating more inflation. Real GDP will increase in both situations, but the effect on economic growth and employment levels will be greater when the economy has spare capacity.
- The effectiveness of the net migration policy on reducing high inflation will be determined by the relative shifts of AS and AD curves. If AD increases by more than AS, inflation occurs. This means the government will not achieve their goal of reducing high inflation. If this occurs at high output levels, inflation will rise significantly,

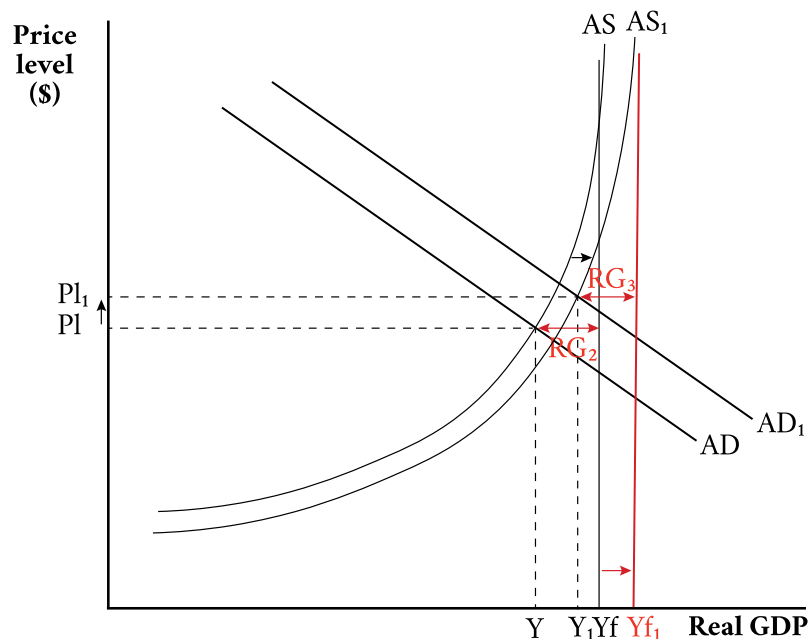
whereas during lower output levels there will be an increase in the price level but the impact on inflation will be smaller.

- Conversely, if AS increases by more than AD, the Government will achieve their aim of reducing inflation in both scenarios. Overall, the most favourable scenario and the most effective reduction in inflation rates would occur when the economy is operating near capacity, as the decrease in the general price level would be proportionally greater than during low levels of output.

Graph Nine: AS / AD model at low levels of output



Graph Ten: AS / AD model at high levels of output



Judgment

Outstanding Scholarship	8	The candidate produces and effectively communicates an outstanding and sophisticated economic analysis of the impact of increasing net migration on the New Zealand economy and evaluates the effect on price stability and other government goals, at low and high levels of output. This is complete and demonstrates perception and insight <i>AND</i> demonstrates <i>sophisticated integration and abstraction</i> of the resource material <i>AND</i> demonstrates <i>independent reflection and extrapolation</i> relevant to the evaluation of the effect on the New Zealand economy <i>AND</i> 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) <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> may lack some fluency and/or coherence.
Scholarship	6	The candidate produces and effectively communicates a sophisticated economic analysis of the impact of increasing net migration on the New Zealand economy and evaluates the effect on price stability and other government goals, at low and high levels of output. This demonstrates a high level of <i>analysis and critical thinking</i> <i>AND</i> incorporates a <i>competent level of integration and synthesis</i> of the resource material <i>AND</i> 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 <i>OR</i> some major point in the discussion is neglected or incomplete <i>OR</i> has some inadequacy in the evaluation <i>OR</i> ideas may not be communicated effectively.

No Scholarship	4	The candidate produces a comprehensive economic analysis of the impact of increasing net migration on the New Zealand economy and evaluates the effect on price stability and other government goals, at low and high levels of output <i>AND</i> produces a <i>clear but undeveloped</i> discussion and evaluation <i>AND</i> demonstrates <i>some level of integration and synthesis</i> of the resource material <i>AND</i> demonstrates <i>some application</i> of economic theory relevant to the discussion.
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	0	No response; no relevant evidence.

Cut Scores

Scholarship	Outstanding Scholarship
13–18	19–24