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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 2 Economics 2024

91222 Analyse inflation using economic concepts and models

Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Analyse inflation using economic concepts and models.	Analyse inflation in depth using economic concepts and models.	Analyse inflation comprehensively using economic concepts and models.

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 attempt ALL the questions in 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 2–16 in the correct order and that none of these pages is blank.

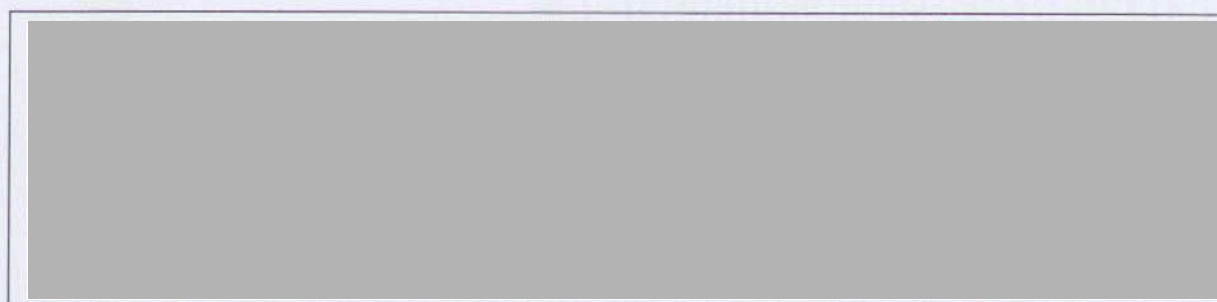
Do not write in the margins (// // //). This area will be cut off when the booklet is marked.

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Excellence

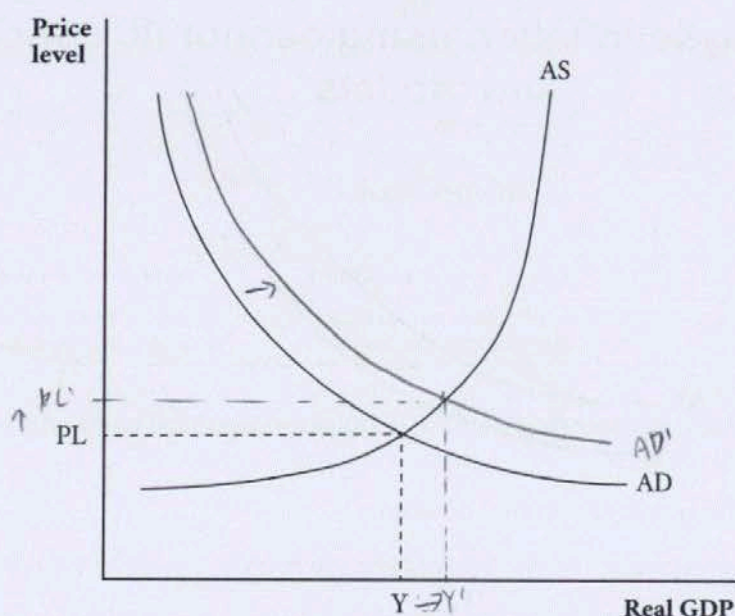
TOTAL 23

QUESTION ONE: Causes of inflation



- (a) On Graph One below, show the impact on aggregate demand of the Fieldays event being held in the Waikato region in 2024.

Graph One: AS/AD model of the New Zealand economy

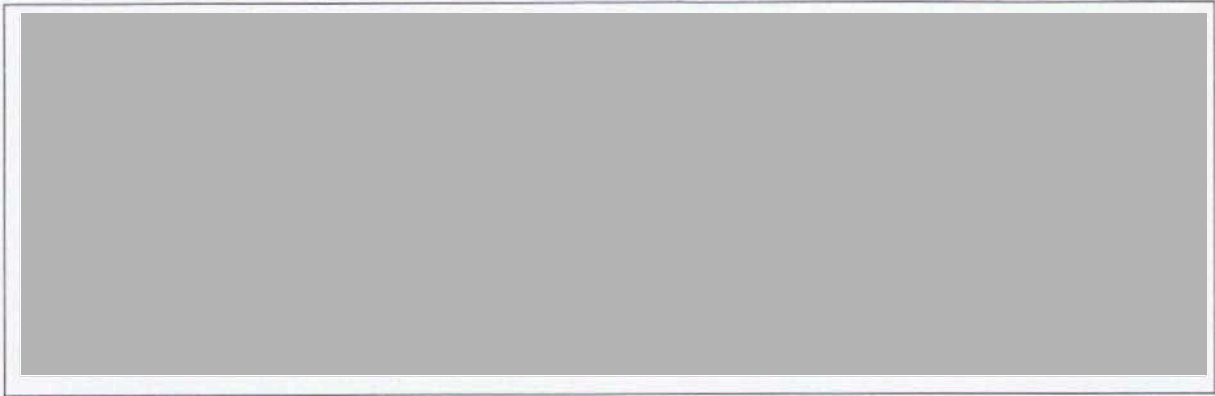


- (b) Explain the impact on inflation of the Fieldays event being held in the Waikato region in 2024. Refer to Graph One in your answer.

Fieldays events produces 2000 full-time jobs. There is now more employment in the economy which increases households income. There is more disposable income that households can spend on goods and services. This increases consumer spending (C). There is also an increase in export receipts as Fieldays events attract overseas guest. They will convert overseas currency to New Zealand Dollars to spend during their time in New Zealand on accommodation and food. This increases export receipts (X)

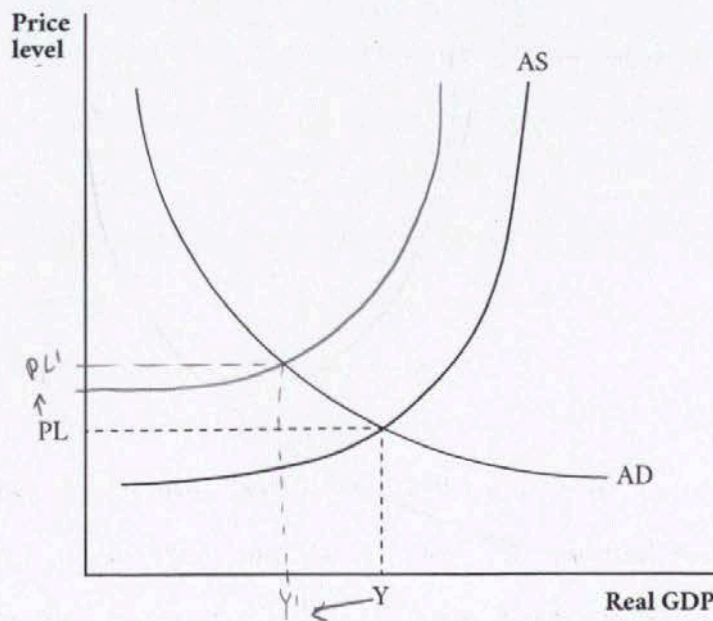
$AD = C + I + G + (X - M)$. Since C and X increases, aggregate demand increases.

The aggregate demand curve will shift right from AD to AD' . This results in price level increasing from $(PL$ to $PL')$. This is demand-pull inflation.



- (c) On Graph Two below, show the impact on aggregate supply of Cyclone Gabrielle and the higher production and insurance costs for New Zealand businesses.

Graph Two: AS/AD model of the New Zealand economy



- (d) Explain the impact on inflation of Cyclone Gabrielle and the higher production and insurance costs for New Zealand businesses. Refer to Graph Two in your answer.

cyclone gabrielle resulted in destruction of apple crops and key infrastructure. ~~Because to P Apple~~ Businesses will have to spend ~~more~~ extra money to fix the infrastructure to produce ^{crops} ~~apple~~ again. This ~~to~~ causes the cost of production to increase for farmers. Moreover, other primary sector businesses also have increased insurance cost^{after the destruction caused by the cyclone}. This also increases the cost of production for business. The increase in cost of production ~~makes the~~ reduces profit margins for businesses and makes the business less profitable. ~~Then~~ Aggregate supply decreases ~~from the original~~ causing the aggregate supply curve to shift ~~to~~ left from AS to AS' . ~~This results in~~ To maintain profit margins, business raises prices ~~causing~~ causing price level to increase from $(PL$ to $PL')$. This is cost-push inflation.

- (e) Discuss whether Fieldays or Cyclone Gabrielle is likely to have had the more significant impact on New Zealand's current inflation rate. Refer to Graphs One and Two in your answer.

The cyclone Gabrielle is likely to have a more significant impact.

~~this is because it affects more businesses than in the event~~

- The increase in aggregate demand^(AD) from Fieldays is caused by increased spending for the event by local and overseas individuals.

Only 2000 jobs more are ~~a~~ created by the event which is not a significant number. The increase in consumer spending caused by the increase in employment by the event would not be that large either. ~~spending by~~ ~~spending by~~ overseas guests is only a small part of our export receipts. ~~also~~ The number of overseas guests coming to New Zealand because of the event is also not going to change ~~the~~ ~~or~~ the number of tourists visiting New Zealand significantly. This results in a small increase in export receipts due to the ~~the~~ ~~the~~ relatively small increase in tourist in New Zealand because of the event. The ~~total~~ ~~consumption~~ ~~consumption~~ spending ~~by the event~~ ~~by the event~~ for the New Zealand economy is 250m. ~~this is small compared to the~~ ^{around} the Fieldays event is ~~held~~ held annually so it will only generate ^{around} 250m ~~once~~ ^{once} off every year. ~~the shift in AD is small~~ This causes a small ^{increase in AD from AD to AD'} ~~shift in AD~~ and hence a smaller increase in price level from PL to PL' ^{relatively}.

whereas the ~~big~~ cyclone gabrielle affords a major export (apples) that generates \$900m in export receipts. A major exporter of apples (Hunter's Bay) ~~has~~ has suffered a 25% destruction in crops and damage to key farming infrastructure. This

~~significantly reduces the supply of apples that are~~. It takes a lot of money to

fix that farming infrastructure as they are often expensive. This increases the cost of

~~production significantly~~. The cyclone does not just affect the ~~farm~~ ^{farm} ~~industry~~ ^{industry}, ~~it causes~~ ~~the~~ ~~other~~ ~~primary~~ ~~sector~~ ~~to~~ ~~experience~~ ~~a~~ ~~rise~~ ~~in~~ ~~insurance~~ ~~cost~~. This affects ~~a~~ ~~wide~~ ~~range~~ ~~of~~ ~~businesses~~ ~~and~~ ~~firms~~ ~~as~~ ~~they~~ ~~have~~ ~~to~~ ~~raise~~ ~~prices~~ ~~to~~ ~~cover~~ ~~the~~ ~~costs~~ ~~of~~ ~~production~~. The cyclone affects a major

~~source~~ ~~of~~ ~~export~~ ~~receipts~~ and a rise in ~~the~~ ~~cost~~ ~~of~~ ~~production~~ in ~~a~~ ~~many~~ ~~other~~ ~~business~~. Thus the decrease in aggregate supply ~~is~~ ~~significant~~ from (AS to AS')

in graph 2 is much more than the increase in AD ~~from~~ ^{is significant} from (AD to AD').

The increase in price level caused by cyclone ~~is~~ ~~significant~~ from PL to PL'.

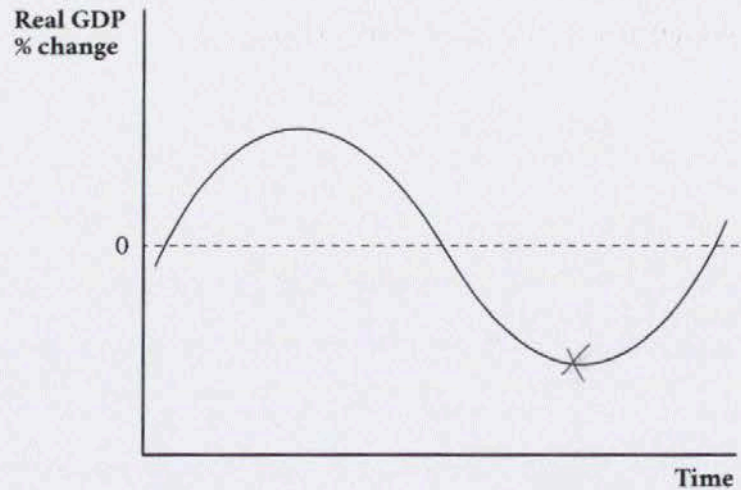
There is a significant

Hence the cyclone had a more significant impact on inflation.

QUESTION TWO: Quantity theory of money and a recession

- (a) Identify and mark with an X the point on Model One that best represents a recession.

Model One: The business cycle



- (b) State the components of the quantity theory of money.

M: money supply

V: Velocity of circulation

P: price level

Q: real output

- (c) Explain why the velocity of circulation is likely to decrease during a recession.

During recession, consumer and businesses are less optimistic ~~and~~ about the future ^{and experience reduced consumer and business confidence.} Consumers are less optimistic in future wages and job security while businesses are less optimistic about future sales and profits. Velocity of circulation is the rate in which money is spent in the economy. Since consumers and businesses are less confident, they are more careful about expenditure resulting in a decrease in velocity of circulation. ~~there~~

- (d) Assuming all other variables remain constant, use the quantity theory of money to explain how a decrease in the velocity of circulation will impact inflation.

Quantity theory of money states that $MV = PQ$. When all other variables remain constant, a decrease in velocity of circulation results in a proportionate decrease in the price level. This causes deflation which is a general decrease in price level.

Some experts argue that the New Zealand economy could experience a recession across the next two years, with a significant decrease in output predicted.

- (e) Use the quantity theory of money and the business cycle to explain how a recession may impact overall inflation.

In your answer, include:

- why real output may decrease during a recession
- how the change in velocity of circulation as well as real output will impact the price level in the economy.

During a recession, less goods and services are produced by the economy leading to a decrease in Real GDP, hence output. ~~During a recession~~ consumer and business confidence is low and they are less willing to spend money on unnecessary goods and services. This results in reduced sales and revenue for businesses that sell those goods and services. ~~The business may have~~ Due to lower demand, they may have to lay off workers ~~have to~~ produce lesser goods and services ~~and the business~~ contract and lay off workers. ~~This results in a decrease in real output~~ Businesses are less willing to invest and expand. ~~real output decreases~~ real output decreases due to lower demand for goods and services.

~~At~~ $MV = PQ$. During a recession, velocity of circulation decreases due to lower

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consumer and business confidence. ~~there will also be a significant decrease in real output~~
 this will cause a decrease in price level since there is less demand for goods and services in the economy.

The ~~decrease~~ decrease in real output will cause inflationary pressure as the same amount of money is chasing fewer goods ~~and~~ since money supply is assumed to be constant.

The ~~change in~~ decrease in V and Q affects the price level depending on the magnitude of the decrease. ~~if~~ if the decrease in velocity of circulation is more than the decrease in output, this will cause ~~a~~ a decrease in price level. It is not a proportionate decrease ~~because~~ because some of the input is absorbed by the decrease in real output.

Whereas ~~a~~ a smaller decrease in V than Q will result in an increase in price level for the equation $MV = PQ$ to hold ~~the~~ true.

If velocity of circulation decrease by 2% and real output decrease by 5%, the price level have to increase by 3% for ~~the~~ $MV = PQ$ to hold true

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QUESTION THREE: Impacts of inflation

New Zealand's annual inflation rate in 2023 was 4.7 per cent. This is a decrease from the annual rate in 2022, when it was 7.2 per cent.

- (a) Define inflation.

Inflation is the general increase in price level.

- (b) Explain whether workers on the minimum wage would prefer a lower or higher inflation rate.

Workers on minimum wage would prefer a lower inflation rate. Inflation erodes the purchasing power of money. Those that are on minimum wage will experience a decrease in the purchasing power of their wage ~~and reducing~~. Their 'real' wage reduces during inflation. ~~They are~~ They are able to buy lower goods and ~~at~~ services than before. They will ^{experience} a decreased standard of living if ~~this is not~~ the minimum wage is not raised to maintain the purchasing power of their income. ~~They~~ Those on minimum wage are from low income households ^{that have little savings} and may ~~spend~~ ^{spend} out on essential goods and services if ~~the~~ inflation rate is too high.

- (c) Explain whether savers would prefer a lower or higher inflation rate.

Savers will prefer a low inflation rate. Inflation erodes the purchasing power of money. Savers will ~~experience~~ find ~~that~~ the 'real' value of their savings ~~decrease~~ decreasing during inflation. The same amount of money is able to buy less goods and services than before. The higher the inflation rate, the ~~the~~ higher the reduction of purchasing power of their savings.

New Zealand's annual inflation rate of 4.7 per cent in 2023 was higher than all of our major trading partners. Annual inflation was 4.0 per cent in the United Kingdom and 3.1 per cent across the European Union.

- (d) Compare and contrast the impact of New Zealand's higher inflation rate on New Zealand importers and exporters to the United Kingdom and the European Union.

New Zealand has the highest inflation rate ~~for~~ of 4.7%. ~~then~~ followed by United Kingdom at 4.0% then European Union at 3.1%. ~~then~~

Exporters will suffer as they face ^{high} increased cost of production relative to the producers in United Kingdom ^(UK) and the European Union. ~~As~~ New Zealand Exporters ~~will raise~~ ^{will raise} prices ~~to~~ of the exports to maintain profit margins. The rise in prices of our exports are higher than those produced in ~~the~~ the UK and European Union. This makes ^{New Zealand} ~~our~~ exports less price competitive overseas. ~~Less~~ ~~consumers~~ overseas consumers are less willing to buy ~~our~~ New Zealand products resulting in reduced sales and profits. If exporters ~~do not~~ not raise prices, they will ^{have to accept} ~~experience~~ a cut in profit ~~margin~~ margin. ~~and~~ The exporting business is less profitable. Since inflation rate is higher in the UK than the ~~the~~ European Union, exporters that export to the UK will be slightly better off as their exports are more price competitive there. The inflation rate of the UK ~~is~~ with New Zealand is smaller than the gap between New Zealand and the European Union. This causes the gap in prices to be ~~the~~ smaller in the UK market than the European Union market. There still is reduced sales but less ~~significant~~ significant when exporting to the UK due to the price levels of New Zealand exports being more price competitive with the UK's goods and services.

Importers benefit. Since New Zealand experiences the highest inflation rate, the prices of goods and services domestically produced will have a greater rise in prices ^{than} ~~the~~ the imports from UK and the European Union. This makes the imports ~~to~~ more price

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competitive in New Zealand and New Zealand consumers will be more willing to buy those ~~products~~ imports than ~~local~~ local goods. This means sales and ~~revenue~~ revenues to importers. Similarly, the European Union will benefit the most due to the lowest inflation rate in Europe. They will have the least ~~that~~ ^{importers that import} increases in price levels and ~~the~~ products made in the European Union will be more price competitive than before.

Acknowledgements

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

Question One

University of Waikato. (2019). *2019 Fieldays in New Zealand: Economic impacts for Waikato region and New Zealand*. https://www.hugheseconomics.com/_files/ugd/8f4bb1_d963cabb753b4d7c8aab6f89908b32fd.pdf

Uys, G. (2022, March 15). *Fieldays' new November date will come with big economic cost*. Stuff. <https://www.stuff.co.nz/business/farming/128046830/fieldays-new-november-date-will-come-with-big-economic-cost>

Ministry of Foreign Affairs and Trade. (2023, March). *Cyclone Gabrielle's impact on the New Zealand economy and exports - March 2023*. <https://www.mfat.govt.nz/en/trade/mfat-market-reports/cyclone-gabrielles-impact-on-the-new-zealand-economy-and-exports-march-2023>. CC-BY-4.0.

Question Three

Stats NZ. (2024, January 24). *Consumers price index: December 2023 quarter*. <https://www.stats.govt.nz/information-releases/consumers-price-index-december-2023-quarter/>. CC-BY-4.0.

Subject: Economics

Standard: 91222

Total score: 23

Q	Grade score	Marker commentary
One	E7	<p>The AD and AS explanations referred to components of AD and producers increasing prices to maintain profit margins respectively.</p> <p>The candidate provided a detailed explanation of why the increase in costs of production would be wider ranging and impact inflation more than the localised / one-off increasing in spending by comparing the effects of each event and specifically referring to relative changes in both graphs.</p>
Two	E8	<p>The candidate explained a reason for the decrease in consumer spending that decreases velocity of circulation.</p> <p>They used the quantity theory of money equation to explain that a decrease in velocity of circulation would decrease inflation by a proportional amount.</p> <p>They provided a thorough explanation of how both a decrease in the velocity of circulation and a decrease in real output affects inflation, using the quantity theory of money, including reference to proportional changes of the variables.</p>
Three	E8	<p>The candidate explained why minimum wage earners and savers both prefer lower inflation rates with reference to purchasing power.</p> <p>They explained, with reference to price competitiveness, that New Zealand importers benefit, and exporters are worse off, from New Zealand having relatively higher inflation rates compared to trading partners.</p>