



GCE AS

B520U20-1



S23-B520U20-1



MONDAY, 22 MAY 2023 – MORNING

ECONOMICS – AS component 2
Exploring Economic Issues

2 hours

B520U201
01

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a calculator and a WJEC pink 16-page answer booklet.

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

Answer **all** questions.

1. Rise of Palm Oil

Palm oil is an edible oil made from the fruit of a palm tree. Three-quarters of all palm oil output is used as a cheaper alternative to rapeseed or soybean oil in cooking or in processed foods, with the rest used in cosmetics, cleaning products and biofuels (fuel produced from living plant matter rather than fossil fuels).

Indonesia and Malaysia are the world's leading palm oil producers. Although palm oil production has brought jobs to remote rural areas, it has also created issues, with local communities losing access to land and resources as land is sold to private businesses for palm oil production.

Indonesia and Malaysia % of world supply of palm oil in 2018	85%
Value of palm oil industry to Indonesia and Malaysia 2018	\$40 bn
Indonesia and Malaysia palm oil employment (direct) 2018	5 million jobs
Indonesia and Malaysia employment related to palm oil production (indirect) 2018	11 million jobs
Contribution to Malaysian GDP of palm oil production 2018	4% of annual GDP nearly 50% of all agricultural output
Structure of the Malaysian economy	• Agricultural output 9% of GDP • Industry output 38% of GDP • Services 53% of GDP

More than half of Indonesia's rainforest, the third largest in the world, has been burnt to make way for oil palm tree plantations. Scientific reports suggest that at their peak the forest fires released approximately 11.3 million tons of carbon dioxide per day, exceeding the 8.9 million tons of carbon dioxide per day in the European Union which are partly controlled by tradeable pollution permits.

Permission has been granted to convert up to 70% of Indonesia's remaining forest into palm plantations. These forests are also home to some of the most threatened species in the world, including the orangutan. As such palm oil can be said to have a negative impact, but if it is replaced by much larger areas of rapeseed, soy or sunflower fields, a greater amount of different species may suffer. If palm oil didn't exist, there would still be the same increasing global demand for vegetable oils.

Land (hectares) required to produce 1 tonne of different oils

Figure 1

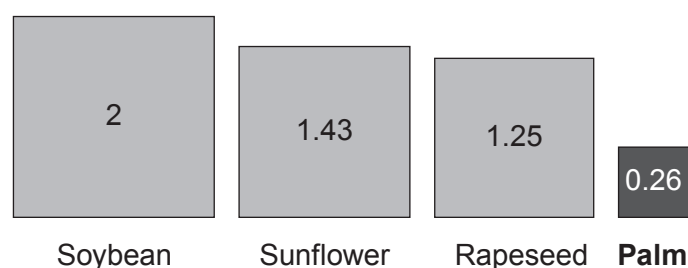
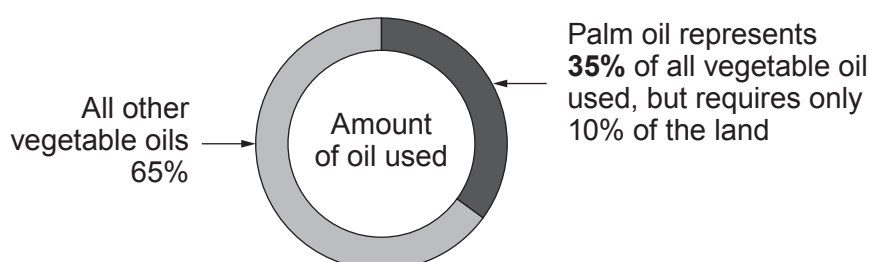


Figure 2



Various certification schemes have been set up in recent years for palm oil producers in order to make the industry more sustainable by imposing clear standards and criteria for rainforest clearance and employee rights. The most widely used scheme is the Roundtable on Sustainable Palm Oil (RSPO). 35% of its members have been inspected and certified as sustainable producers, an outcome that had a cost to the business. The other members pay a fee to RSPO but have not been inspected or certified as sustainable as it is not a legal requirement. These 'second class' members gain by not having to pay high costs of achieving sustainability status but are still able to claim to be members. However, they lose in that they are not able to sell to businesses who have high standards of ethics which are becoming more important as customers increasingly demand goods from ethical businesses. Inspections are carried out by inspectors who are independent (not employed by RSPO).

In the European Union (EU) the fight against climate change is a priority. The EU wishes to reduce its reliance on palm oil by banning palm oil from biofuels in 2020, which would eliminate around half of EU palm oil imports. The EU is Malaysia's third largest market for palm oil exports after India and China. Malaysia's Government threatened retaliation against the EU if palm oil imports for biofuel are banned, threatening that free trade negotiations would be negatively affected. Malaysia has also threatened to cancel the purchase of expensive European fighter jets, stating that it would instead look to trade palm oil reserves with Russia, China or Pakistan in exchange for new military equipment. The EU and Indonesia are also in conflict over Indonesia's decision to subsidise biofuel production using palm oil, with the EU threatening to impose tariffs on Indonesian biofuel imports. Demand for biofuels in the EU is price elastic due to its substitutes.

Malaysia signed the 12-nation Trans-Pacific Partnership (TPP) free trade agreement in February 2016, although the future of the TPP remains unclear following the US withdrawal from the agreement. Malaysia is also a member of the Association of Southeast Asian Nations (ASEAN) economic community along with nine other Asian countries which aims to promote regional economic integration through free trade and intergovernmental cooperation.

- (a) (i) Define the meaning of a subsidy. [2]
(ii) Using the data and a diagram, outline the likely impact of the subsidy on biofuel on the producer and consumer. [6]
- (b) Explain a possible external benefit of agricultural production. [4]
- (c) Analyse how a decrease in the price of tradeable pollution permits could lead to increased carbon dioxide (CO₂) emissions. [5]
- (d) Consider whether converting up to 70% of Indonesia's remaining forest into palm plantations is an efficient allocation of resources. [8]
- (e) Discuss whether sustainability regulations for palm oil should be made compulsory rather than being left to voluntary schemes such as the RSPO. [6]
- (f) To what extent do you think the EU's move to reduce its use of palm oil will harm Malaysian GDP, employment and trade? [9]

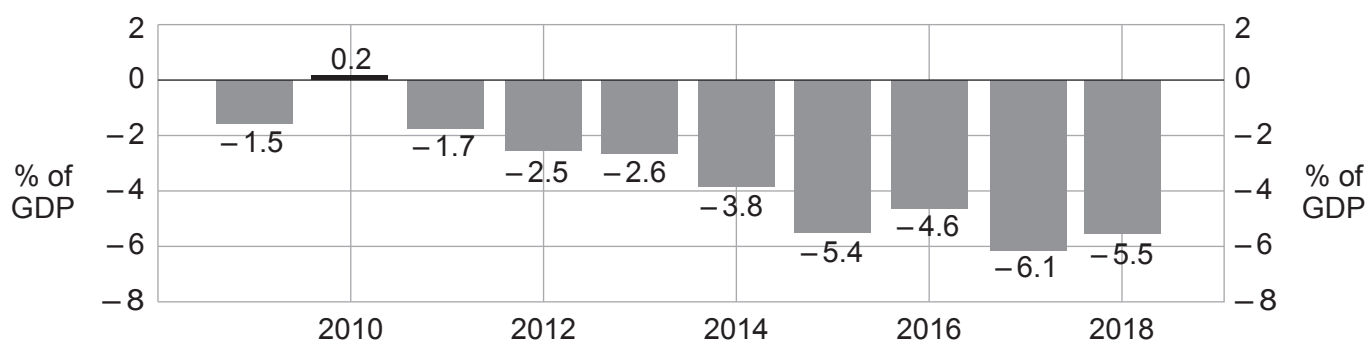
2. Woes of Argentina

Mauricio Macri began his Argentinian Presidency in December 2015. A former businessman, he was a moderniser and his election was hailed as proof that Argentina, once Latin America's richest economy, was recovering after the economic policies of previous President Cristina Kirchner. Kirchner's economic policies had included:

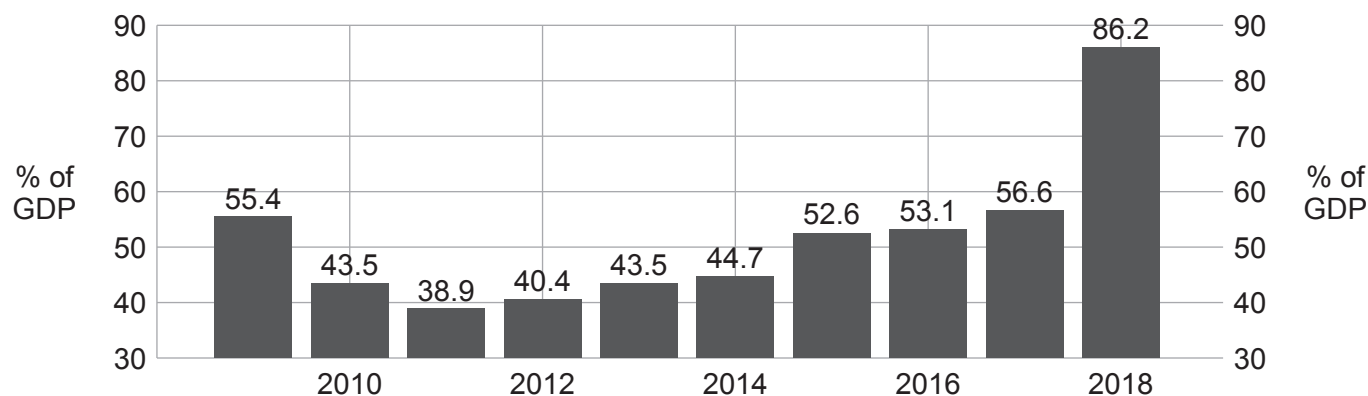
- Stopping price rises by private sector firms in utilities including gas, electricity and water in 2002. This resulted in a collapse in investment by those utility firms, leaving the country's power networks in disrepair. From being an exporter of energy, Argentina became an importer.
- Energy subsidies to households.
- Reforms to pensions. Before Kirchner came to power, social security pay-outs, including pensions, took around one-third of the government's budget. By the end of her presidency they had increased to nearly half of the budget.
- Currency controls to stop the exchange rate of the peso (Argentina's currency) from falling.
- Protectionist policies and tariffs.

Macri promised to improve the economy. His first decision was to change the measurement of the country's official statistics, which had been distorted badly to hide the weak state of the economy. He then reduced tariffs on imports. Macri believed that the public finances were weak and decided to introduce cuts to government spending to reduce the budget/fiscal deficit.

Argentina's Government Budget (% of GDP)



Argentina's Public Sector Debt as % of GDP (GDP measured in \$ US Dollars)



The government borrowed successfully by issuing bonds in June 2017 with an extended repayment period to finance its budget/fiscal deficit. International investors backed Macri's decisions by buying these government bonds, which was impressive for a country with a reputation for not repaying its public sector debt.

Initially there was some evidence that Macri's policies were working. Following periods of negative GDP growth between 2014 and 2016, Argentina's GDP grew continuously in the period between 2016 and 2018.

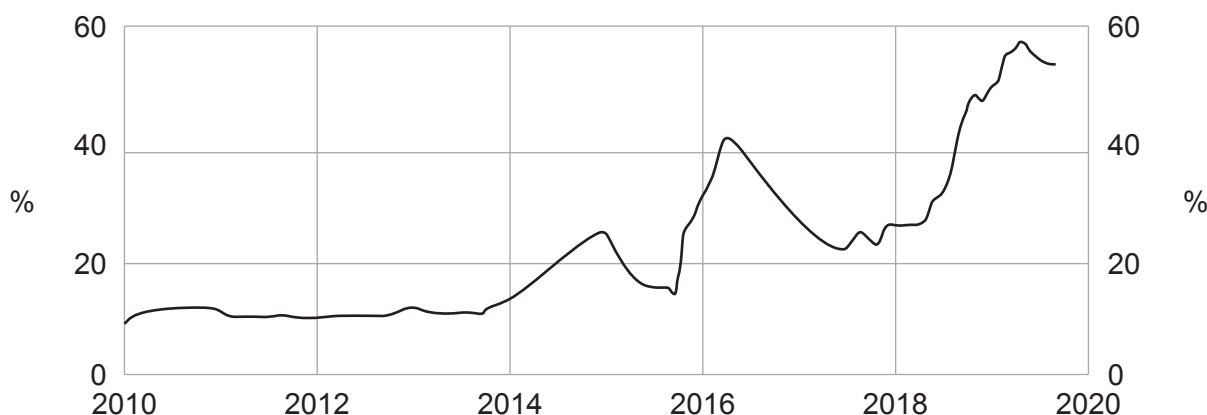
In early 2018 the economy started to face difficulties. Trade unions started resisting reforms to labour laws. The reforms which aimed to help businesses gain productivity and competitiveness made it easier for firms to sack workers. Historically the labour laws had been employee friendly and left employers facing high costs as a result of the strong protection afforded to employees.

Also in 2018, a drought affected some of Argentina's main exports due to a smaller harvest reducing production of processed plums and peaches, key agricultural exports. This worsened Argentina's current account balance.

After previous currency controls were lifted by Macri, the peso weakened against the US dollar. In August 2018 the peso lost nearly one-fifth of its value despite the central bank raising its interest rate to 60%, the 4th interest rate increase since May 2018 when interest rates were 27.5%. Interest rates were around 10% between 2008 and 2013.

A significant part of the Argentinian Government's borrowing is in US dollars. An estimated \$100bn of public sector debt was borrowed by the Argentinian Government during 2017 and 2018.

Argentina's Inflation Rate



A period of relatively moderate inflation during the 2000s was followed by an increased inflation rate from 2010 and an acceleration from 2014 onwards. In April 2019, trying to control continued inflation, Macri launched price controls on 60 essential products including food. Critics say that previous price control mechanisms failed, though the government insists that these price controls are different from previous controls as the prices were agreed with producers.

- (a) Explain **one** reason for a drop in investment by utility firms during Kirchner's Presidency. [3]
- (b) Using a diagram, explain the likely impact of the Argentinian drought on the price of processed plums and peaches. [4]
- (c) (i) Explain the impact of a decrease in the exchange rate of the peso against the US dollar on the cost of Argentina's public sector debt. [4]
- (ii) Given the increase in interest rates, discuss whether the change in the exchange rate of the peso in August 2018 is surprising. Use a diagram in your answer. [7]
- (d) Using the data, consider whether Macri was right to cut government spending in order to improve the budget/fiscal deficit. [7]
- (e) Using a labour market diagram, discuss the likely impact on wages of reforming labour laws. [6]
- (f) Using a demand and supply diagram, discuss the extent to which price controls on the 60 essential products will be an effective tool to control inflation in Argentina. [9]

END OF PAPER

Surname *StemUp Model Solution*

Answer booklet

Write the question number in the left-hand margin at the start of each answer.

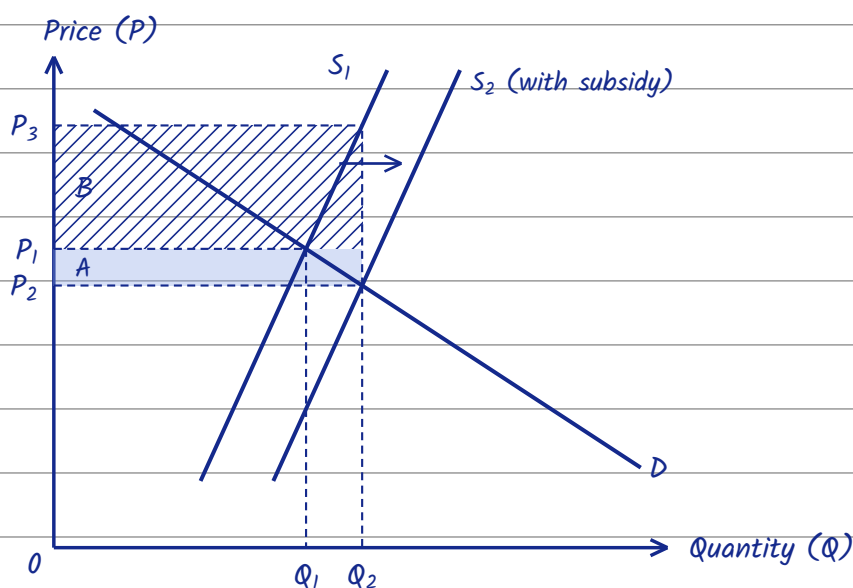
Question
number

1(a)(i)

A subsidy is a payment from the government to producers which reduces their costs of production, increasing supply, so that the lower costs can be passed on to consumers as lower prices, encouraging demand.

1(a)(ii)

Indonesia subsidises biofuel production using palm oil. The subsidy lowers producers' costs, so supply of biofuel increases and shifts down vertically by the subsidy per unit, from S_1 to S_2 in the diagram below. Price falls from P_1 to P_2 and quantity rises from Q_1 to Q_2 .



Consumers gain because they now pay P_2 instead of P_1 (area A, the consumer incidence). Producers receive the market price P_2 plus the subsidy, so they get P_3 per unit instead of P_1 (area B, the producer incidence). The total subsidy is P_3 to P_2 multiplied by Q_2 .

The extract states that demand for biofuels in the EU is price elastic due to its substitutes, such as fossil diesel and biofuels from rapeseed or soy. With elastic demand, a small fall in price leads to a proportionately larger rise in

quantity demanded, so only a small part of the subsidy needs to be passed on as a lower price. Supply of palm oil is also likely to be price inelastic, as oil palm trees take years to grow. As the diagram shows, area B is larger than area A, so Indonesian producers benefit more than consumers. However, if the EU imposes its threatened tariffs on Indonesian biofuel, the price to EU consumers would rise and the producers' gain would be reduced.

1 (b)

An external benefit is a benefit received by a third party who is not directly involved in the production or consumption of a good, so social benefit is greater than private benefit.

Palm oil production employs 5 million workers directly in Indonesia and Malaysia, many in remote rural areas. The workers receive wages (a private benefit) which they spend in local shops, restaurants and other businesses. These firms were not part of the original transaction, but they gain higher demand, revenue and profit and may take on more staff, helping to explain the 11 million indirect jobs. The government also gains higher income tax revenue from the workers, which can reduce the budget deficit or fund public services such as schools, benefiting the wider community.

1 (c)

Tradeable pollution permits give firms a legal right to emit a set amount of CO_2 , for example 100 tonnes a year, with the total number capped by the regulator, as in the EU. Firms that emit less than their allowance can sell their spare permits, while firms that want to pollute more must buy extra permits from other firms or the government, so a market for permits is created with the price set by demand and supply. The aim is to give firms a market incentive to cut emissions: a profit-maximising firm will invest in cleaner capital if the cost of reducing a tonne of CO_2 is less than the price of a permit, as it avoids buying permits and can sell its spare ones.

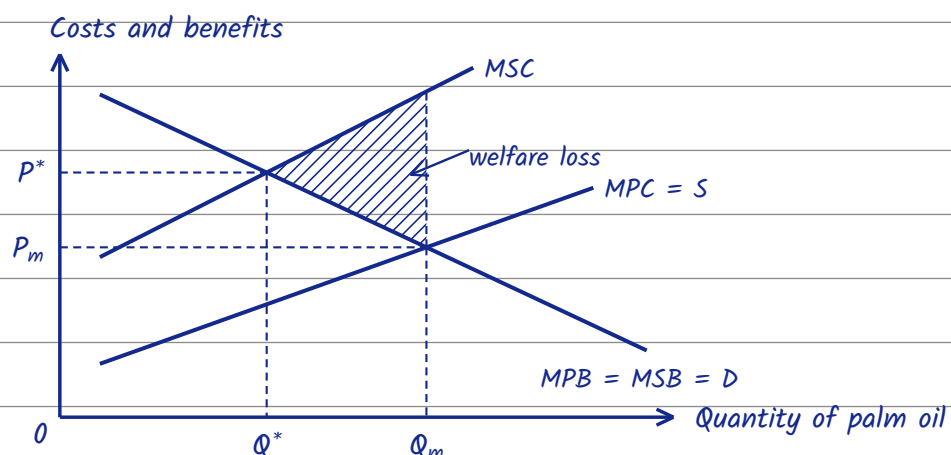
If the price of permits falls, it becomes cheaper to buy permits than to invest in reducing pollution. Fewer firms find it profitable to cut emissions and sell

their permits, so there is less incentive to introduce new low-emission technology. Polluting firms also face lower costs of production, so they can afford to buy more permits and still make a profit, raising output and emissions. Therefore more CO_2 is released than if the price of permits had been higher, and emissions such as the EU's 8.9 million tons per day would fall more slowly or even rise.

1 (d)

An efficient allocation of resources (allocative efficiency) occurs when resources produce the combination of goods that best meets society's wants, where marginal social cost equals marginal social benefit ($MSC = MSB$), so social welfare is maximised.

Converting the forest is likely to be inefficient because palm oil production creates large negative externalities. At their peak the forest fires released about 11.3 million tons of CO_2 a day, more than the 8.9 million tons a day emitted by the whole EU, adding to global warming. It also destroys the habitat of threatened species such as the orangutan, and local communities lose access to land and resources. Producers ignore these external costs, so MSC is above MPC . As the diagram below shows, the free market produces at Q_m , where $MPC = MSB$, instead of the social optimum Q^* , so too much land is allocated to palm oil and there is a welfare loss (shaded). Converting up to 70% of the remaining forest would make this over-allocation worse, and rainforest is very hard to replace for future generations.



However, palm oil is a very land-efficient crop. Figure 1 shows it needs only 0.26 hectares to produce 1 tonne of oil, compared with 1.25 for rapeseed, 1.43 for sunflower and 2 for soybean, and Figure 2 shows it supplies 35% of all vegetable oil using only 10% of the land. As global demand for vegetable oils will keep rising anyway, replacing palm oil would need much larger areas of land, harming even more species. The industry also employs 5 million workers directly and 11 million indirectly, using labour that might otherwise be unemployed, which moves the economy towards its PPF, and specialising according to comparative advantage earns \$40 bn a year.

Overall, palm oil is the most efficient way of meeting the demand for vegetable oil, but converting up to 70% of the remaining forest is unlikely to be an efficient allocation, because the external costs of burning irreplaceable rainforest are so large. It would only move closer to efficiency if the land is cleared without fire and managed sustainably, for example under RSPO certification.

1 (e)

Regulation is the imposition of legal rules by the government, backed by penalties such as fines, to change the behaviour of firms.

Sustainability rules should be compulsory because the voluntary RSPO scheme is weak: only 35% of its members have been inspected and certified as sustainable, while the other 65% simply pay a fee and still claim to be members. Certification is costly and not a legal requirement, so profit-maximising producers have an incentive to avoid it and deforestation continues. A legal requirement enforced with fines would make all producers meet clear standards on rainforest clearance and employee rights, reducing the negative externalities of burning forest.

However, voluntary schemes create market incentives: certified members can sell to businesses with high ethical standards, and as customers increasingly demand ethical goods, more producers may choose to certify without regulation. The inspectors are independent, so certification is credible. Compulsory regulation would be costly to enforce across remote plantations, government inspectors

could be open to corruption, and with many different schemes the government would have to choose which standard to enforce. Governments also gain from the \$40 bn industry, so they may not enforce it strictly.

Overall, I think regulation should be compulsory, because the voluntary approach has failed to cover most producers and the damage to rainforest is irreversible, but only if it is properly enforced, perhaps using the existing independent RSPO inspectors.

1 (f)

The EU plans to ban palm oil from biofuels in 2020, which would eliminate around half of EU palm oil imports. The EU is Malaysia's third largest market for palm oil exports, after India and China, so Malaysian exports would fall.

Trade: lower exports (X) worsen Malaysia's trade balance ($X - M$) and current account. GDP: since $AD = C + I + G + (X - M)$, lower net exports reduce aggregate demand, so real GDP falls. Palm oil contributes 4% of Malaysia's annual GDP and nearly 50% of all agricultural output (agriculture is 9% of GDP), so the direct effect could be noticeable. Plantation owners and workers then earn and spend less, so through a negative multiplier effect GDP falls by more than the initial fall in exports. Employment: the demand for labour is a derived demand, so lower output means fewer workers are needed, leading to redundancies among the 5 million direct workers and some of the 11 million in related jobs such as transport and processing, mainly in rural areas with few other jobs.

However, the harm is likely to be limited. Only biofuel use is banned, so only about half of EU imports are affected, and the EU is only the third largest market. Palm oil is only 4% of GDP, while industry is 38% and services 53%, so Malaysia's economy is diversified, and the job figures are for Indonesia and Malaysia combined, so Malaysia's share is smaller. Global demand for vegetable oils is rising and palm oil is the cheapest and most land-efficient oil, so Malaysia could redirect exports to India, China, ASEAN and TPP partners, or trade palm oil with Russia, China or Pakistan for military equipment. Its threats

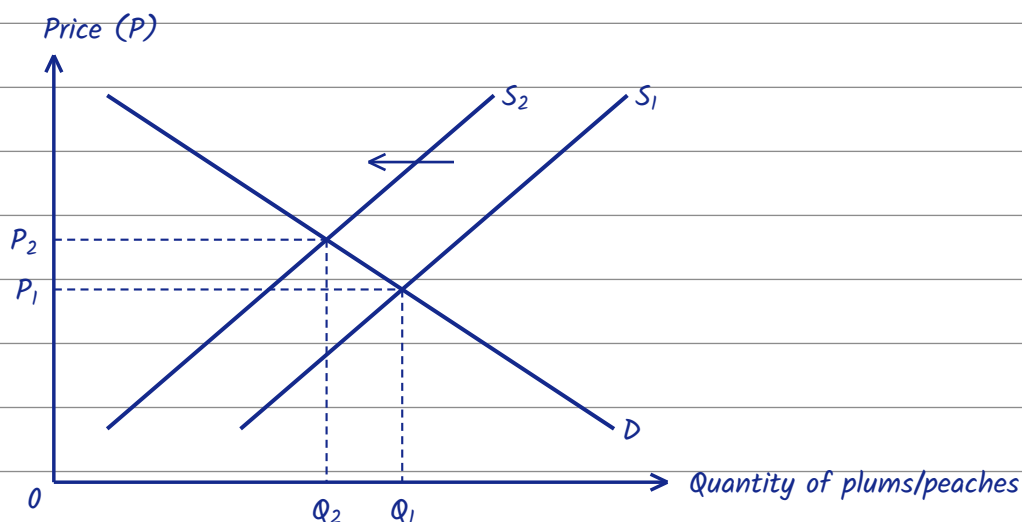
to cancel the European fighter jets and to harm free trade negotiations may also persuade the EU to soften the ban, although the EU is a far larger market, so Malaysia probably needs EU access more than the EU needs Malaysia. Overall, the move is likely to harm Malaysian trade, GDP and employment a little in the short run, especially in rural palm oil areas, but the long run harm will be small because the economy is diversified and there are other growing markets. The extent depends on whether the EU goes ahead with the ban and how quickly exports can be redirected.

2 (a)

Investment depends on expected profit: firms only invest in expensive capital if the expected return covers its cost, and retained profit is a main source of finance. In 2002 Kirchner stopped utility firms raising the prices of gas, electricity and water, even though their costs were rising with inflation. This squeezed their profits, so they had less retained profit to finance investment and the expected return on new capital fell, so investment collapsed and the power networks fell into disrepair.

2 (b)

The 2018 drought led to a smaller harvest, so fewer plums and peaches were available to process. Supply of processed plums and peaches decreases, shifting left from S_1 to S_2 , as less is supplied at every price.



At the original price P_1 there is now excess demand, so consumers compete for the limited output and the price is bid up. This contracts demand and extends supply until a new equilibrium is reached. As the diagram shows, price rises from P_1 to P_2 and quantity falls from Q_1 to Q_2 . As demand for food is fairly price inelastic, the price rise is likely to be large.

2(c)(i)

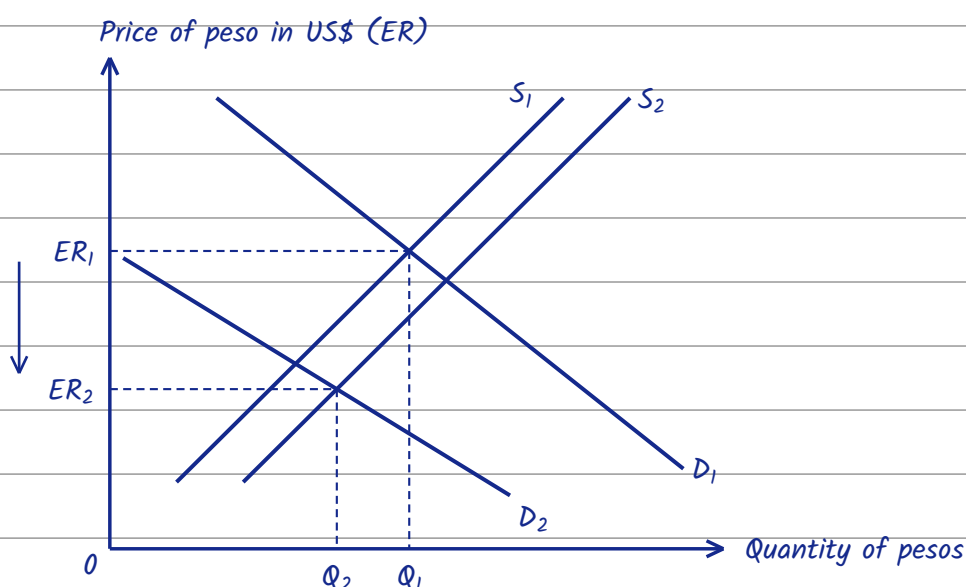
An exchange rate is the price of one currency in terms of another. A fall in the peso means more pesos are needed to buy each US dollar. A significant part of the government's borrowing, an estimated \$100 bn in 2017 and 2018, is in US dollars, so the interest and repayments must be paid in dollars, while tax revenue is collected in pesos. The government must therefore exchange more pesos for the same dollars. For example, 5% interest on \$100 bn is \$5 bn; at 1 peso = \$1 this costs 5 bn pesos, but if the peso loses one-fifth of its value (\$1 = 1.25 pesos) it costs 6.25 bn pesos. The cost of the debt in pesos rises, worsening the budget deficit.

2(c)(ii)

Higher interest rates normally make a currency appreciate. Argentina raised its interest rate four times, from 27.5% in May 2018 to 60% in August 2018, far above the 10% of 2008 to 2013. Higher rates give a higher return on peso savings and bonds, so in theory "hot money" flows in: foreign investors buy pesos, increasing demand for the peso and raising the exchange rate. Higher rates also reduce consumption, including spending on imports, so fewer pesos are supplied. On this basis, the peso losing nearly one-fifth of its value is surprising.

However, given Argentina's problems it is not surprising. Inflation accelerated from about 25% to around 45% during 2018 (graph), so the real interest rate was much lower than 60%. High inflation makes Argentina's exports less competitive, reducing demand for pesos, and makes imports more attractive, increasing the supply of pesos. The government had borrowed about \$100 bn, mostly in dollars, and has a reputation for not repaying its debt, so investors

feared default and lost confidence, and the drought worsened the current account. Speculators expecting the peso to fall sold pesos to buy dollars, so capital flowed out despite the higher rates. As the diagram shows, demand for pesos falls from D_1 to D_2 and supply rises from S_1 to S_2 , so the exchange rate falls from ER_1 to ER_2 .



Overall, in theory the fall is surprising, but given rising inflation, the large dollar debt and the loss of investor confidence, it is not surprising that the peso kept falling. The rate rises were partly a reaction to the falling peso.

2 (d)

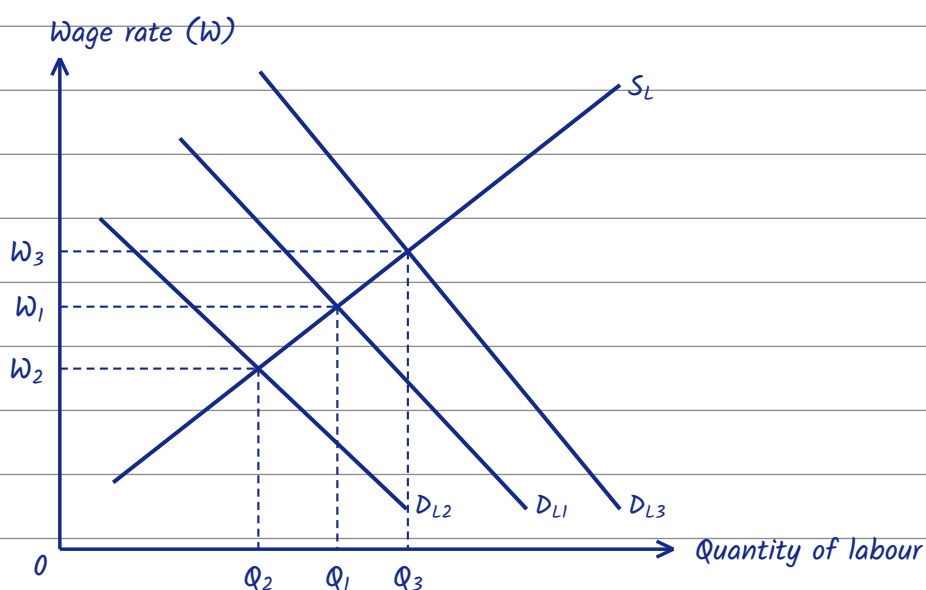
A budget deficit is when government spending is greater than tax revenue ($G > T$) in a year. Argentina's budget moved from a surplus of 0.2% of GDP in 2010 to a deficit of 5.4% in 2015, and public sector debt rose from 38.9% of GDP in 2011 to 52.6% in 2015. Spending was high because of energy subsidies to households and social security payments, which rose from one-third to nearly half of the budget. Cutting G while taxes stay the same reduces the deficit, so less has to be borrowed by issuing bonds and debt grows more slowly. This lowers the opportunity cost of interest payments, reduces crowding out and improves the country's credit rating. The deficit did fall to 4.6% of GDP in 2016, and international investors backed Macri by buying bonds in June 2017, suggesting the cuts raised confidence.

However, the deficit then worsened to 6.1% in 2017 and was still 5.5% in 2018, while debt jumped from 56.6% to 86.2% of GDP in 2018. Cutting spending reduces AD and, through the negative multiplier, lowers GDP and tax revenue, so the deficit may not improve and debt as a % of GDP can rise. Removing energy subsidies raises households' bills, reducing their spending on other goods, and cutting pensions harms vulnerable elderly people. Much of the rise in debt was also due to the falling peso, as debt is in dollars, which spending cuts cannot control.

Overall, Macri was right to cut wasteful spending such as energy subsidies, as the deficit and debt were rising unsustainably, but the data shows the cuts had not reduced the deficit by 2018. Gradual cuts while GDP was growing would have been more effective.

2 (e)

The reforms made it easier and cheaper for firms to sack workers. With fewer penalties for firing, firms can reduce their workforce whenever demand falls, and in 2018 the economy faced difficulties, so firms are likely to decrease their demand for labour from D_{L1} to D_{L2} . At w_1 there is an excess supply of labour, so the wage falls to w_2 . Weaker job protection also reduces the bargaining power of trade unions, which were resisting the reforms, so real wages may fall.



However, before the reforms employers were reluctant to hire because strong

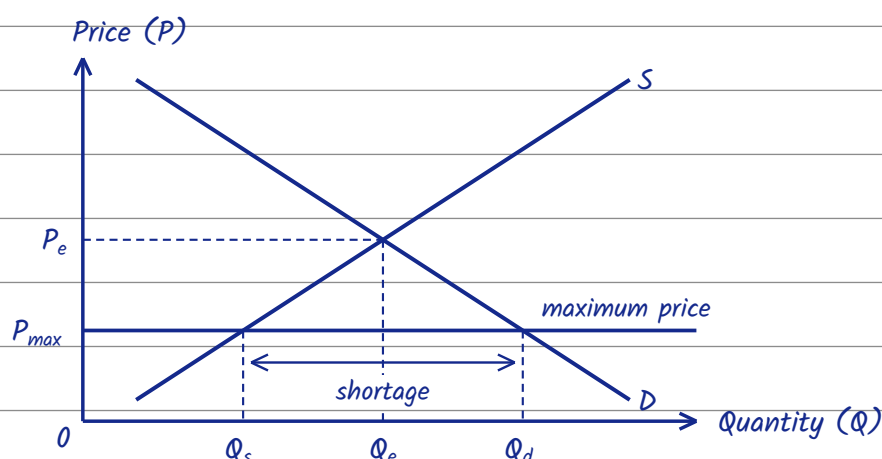
employee protection meant high costs if demand fell. With lower employment costs and higher productivity, firms may be more willing to take on workers, knowing they can let them go later, so demand for labour increases from D_{L1} to D_{L3} and wages rise to W_3 .

Overall, the impact depends on the extent of the reforms and on firms' confidence and the demand for their goods. In the short run, with the economy struggling in 2018, wages are likely to fall, but in the long run, if productivity and competitiveness improve, demand for labour and wages could rise.

2 (f)

A price control is a maximum price: a legal ceiling set below the equilibrium price, so firms cannot charge more than P_{max} . Inflation is a sustained rise in the general price level, measured by the % change in a price index such as the CPI.

In April 2019 Argentina set price controls on 60 essential products including food. As the diagram below shows, the free market price is P_e , but firms cannot legally charge more than P_{max} , so the prices of these goods cannot rise. Food and other essentials carry a large weight in the price index, so holding down their prices directly reduces measured inflation, which had risen to almost 60% in 2019 (graph). Firms that use these goods as inputs, such as food manufacturers, have stable costs, reducing cost-push inflation, and stable prices may lower inflation expectations and wage demands. The rise in interest rates to 60% had failed to stop inflation rising, so another approach was needed.



However, at P_{max} quantity demanded rises to Q_d and quantity supplied falls to Q_s , creating excess demand (a shortage of $Q_d - Q_s$). Firms that cannot cover their costs at P_{max} cut output, leading to empty shelves, queues and black markets with higher prices, and critics say previous price controls failed. Only 60 products are covered, so the prices of the many other goods in the index can still rise, and firms may raise these prices to compensate. The causes of inflation are not tackled: the falling peso makes imports and imported raw materials dearer (cost-push), and the large budget deficit adds to demand. When the controls are removed, prices may jump.

On the other hand, the prices were agreed with producers, so they may be close to equilibrium, making shortages and black markets less likely. The graph shows inflation falling slightly from its peak in 2019, although this may be due to the high interest rates or a better harvest after the 2018 drought.

Overall, price controls may reduce measured inflation in the short run, but they are unlikely to be an effective long term tool, as they cover only 60 products and do not deal with the falling peso or the budget deficit. Success depends on producers still supplying at the agreed prices.