H

St Andrew's Junior College
JC2 Preliminary Examinations for General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 1

9570/01
23 Aug 2024
2 hours 30 minutes

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

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

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Question 1: Chemical fertilisers, yay or nay?

Extract 1: The Fertiliser Trap

The US$ 200 billion global fertiliser market is controlled by a handful of companies — just four of these companies control 33% of all nitrogen fertiliser production. For example, the National Farmers' Union in the UK has expressed concern about CF Fertilisers' monopoly over the UK fertiliser market. Meanwhile in the US, Mosaic is estimated to control over 90% of the domestic phosphate fertiliser market.

Fertiliser corporations are using their market power to capture mega profits, while farmers and governments are scrambling to try and cope with the added costs. High fertiliser prices are putting food production at severe risk in many places. Prices are driven by the rising cost of natural gas, which is a key raw ingredient for nitrogen fertilisers. Some chemical fertilisers are not made from gas but from mineral deposits, such as potash and phosphate. However, the mining and production of fertilisers using these minerals is highly energy intensive and, therefore, still affected by the price of gas. Given that fossil fuels prices are expected to become more volatile and their supplies more constrained as measures to fight climate change are implemented, prices of fertilisers are likely to remain high for years to come.

In early October 2022, the United Nations warned that, if immediate action is not taken, there could be a global shortage of food. The response so far from many governments is to look for ways to increase chemical fertiliser production. Some G20 countries, such as the US, have suggested that the solution to the fertiliser crisis is to increase supplies of natural gas and develop more production facilities at home and in developing countries. European fertiliser companies are lobbying hard for actions by their governments to ensure they have "affordable" access to natural gas at a time when supplies within Europe are severely constrained. They say this is necessary to protect domestic production from imports and to keep their factories in operation.

But increased production of chemical fertilisers will not resolve this crisis. The era of cheap fertilisers is over, and the costs have become too much to bear — both in terms of the financial burden for farmers and public budgets, the severe environmental and health impacts, and the long-term risks to food security. While some short-term actions can be taken to cut waste and address excess profit taking by fertiliser companies, it is critical that governments focus on reducing consumption in the long-term, including programmes to support farmers to transition towards environmentally-sound and more cost-effective alternatives, such as agroecology.

Agroecology incorporates traditional knowledge with science. Instead of chemical fertilisers, farmers restore nutrients and fertility to soils through the use of manure or through the cultivation of plants that absorb nitrogen from the atmosphere. These farming practices also do less damage to soils in the first place. In many places, farmers are already demonstrating that they can transition away from the use of chemical fertilisers as part of a broader transition to agroecology, without sacrificing their yields.

To make a transition away from chemical fertilisers, farmers need public support. Abrupt, top-down bans on chemical fertilisers, such as those in Sri Lanka in 2021, invite failure.

Source: Adapted from The Institute for Agriculture and Trade Policy, "The Fertiliser Trap", 8 Nov 2022

Extract 2: Soaring fertiliser prices force farmers to rethink how they farm

It's a tough time to be a farmer. Just ask Rachael Sharp, a third-generation farmer in the US state of South Carolina, who grows a varied mix of soybeans, corn, wheat, cotton, peanuts and oats. She saw fertiliser prices for her crops soar 320% last year - the sharpest rise that she, or her father, can remember.

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Ms Sharp says some of her fellow farmers aren't planting anything due to the rising costs. Around the world, prices of fertilisers have been breaking records over the past year, amidst extreme weather, transport disruptions, and now the Russian invasion of Ukraine. Russia, which is contending with Western sanctions, produces large quantities of key chemicals used in the production of fertilisers. It also supplies much of the natural gas used to produce ammonia – a major component of nitrogen fertilisers.

The conflict is making other countries aware of their dependency on Russia for fertiliser. The US government has responded by investing in innovative, domestically made fertilisers, but it will take time for those investments to pay off.

Fertiliser overuse is an enormous problem. Excess use of fertilizers causes environmental pollution as their residual and unused amounts will become pollutants for air, water, and soil. It's been estimated that globally, crops use only 35% of the nitrogen and 56% of the phosphorus applied to them; the remainder settles in the environment. This varies widely, of course. Low-income farmers may be grappling with too little fertiliser, not too much. But overall, substantially more fertiliser is being added to fields than is needed – increasing costs and environmental damage. Overuse "is a huge challenge in our field," says Bhupinder Farmaha, a nutrient management specialist at Clemson University in the US, as well as an agricultural extension agent who works with farmers like Ms Sharp. Overuse is due in part to tradition, and in part to outdated recommendations for fertiliser application that does not take account of specific environmental conditions.

Sri Lanka came up with a radical solution to the problem: the government abruptly banned chemical fertilisers in April 2021. The effects of the ban were catastrophic. Farmers who had depended on chemical fertilisers were suddenly scrambling for organic alternatives, with little time to prepare. Very few Sri Lankan farmers were accustomed to organic fertilisers, which in any case were in short supply.

A measured approach involves using technology like soil spectroscopy, which quickly assesses soil nutrient and pH levels, enabling targeted fertiliser application. Precision techniques like microdosing and slow-release fertilisers also reduce fertiliser use. Dr. Dharmakeerthi advocates for utilizing organic waste, like fermented fish waste, as a promising alternative, highlighting the need for cost-effective nutrient extraction technologies. The fertiliser crisis has sparked increased interest in eco-friendly fertilisers, prompting a surge in research, according to Dr. Dharmakeerthi.

Source: Adapted from BBC, May 2022

Extract 3: The botched Sri Lankan fertiliser ban

Sri Lanka's economy is in free fall. Runaway inflation reached 54.6 percent last month, and the South Asian country is now headed towards bankruptcy. Nine in 10 Sri Lankan families are skipping meals, and many are standing in line for days in the hope of acquiring fuel.

In April 2021, Sri Lanka's President Gotabaya Rajapaksa imposed a complete ban on the import and use of chemical fertiliser, becoming the first and only country in the world to impose a blanket ban on chemical fertiliser overnight. Citing health risk presumably caused using and the exposure to chemical fertiliser, the president stressed that lives are more important than high yield.

Despite concerns raised by various quarters on the impracticality of an overnight blanket ban, the government proceeded with the plan. It demanded an increase in domestic organic fertiliser manufacturing to meet the required need by September. The overnight ban plunged the farmer community into distress. Chemical fertilisers and pesticides traders and companies continued to hoard the already available fertilisers, creating a shortage in the country.

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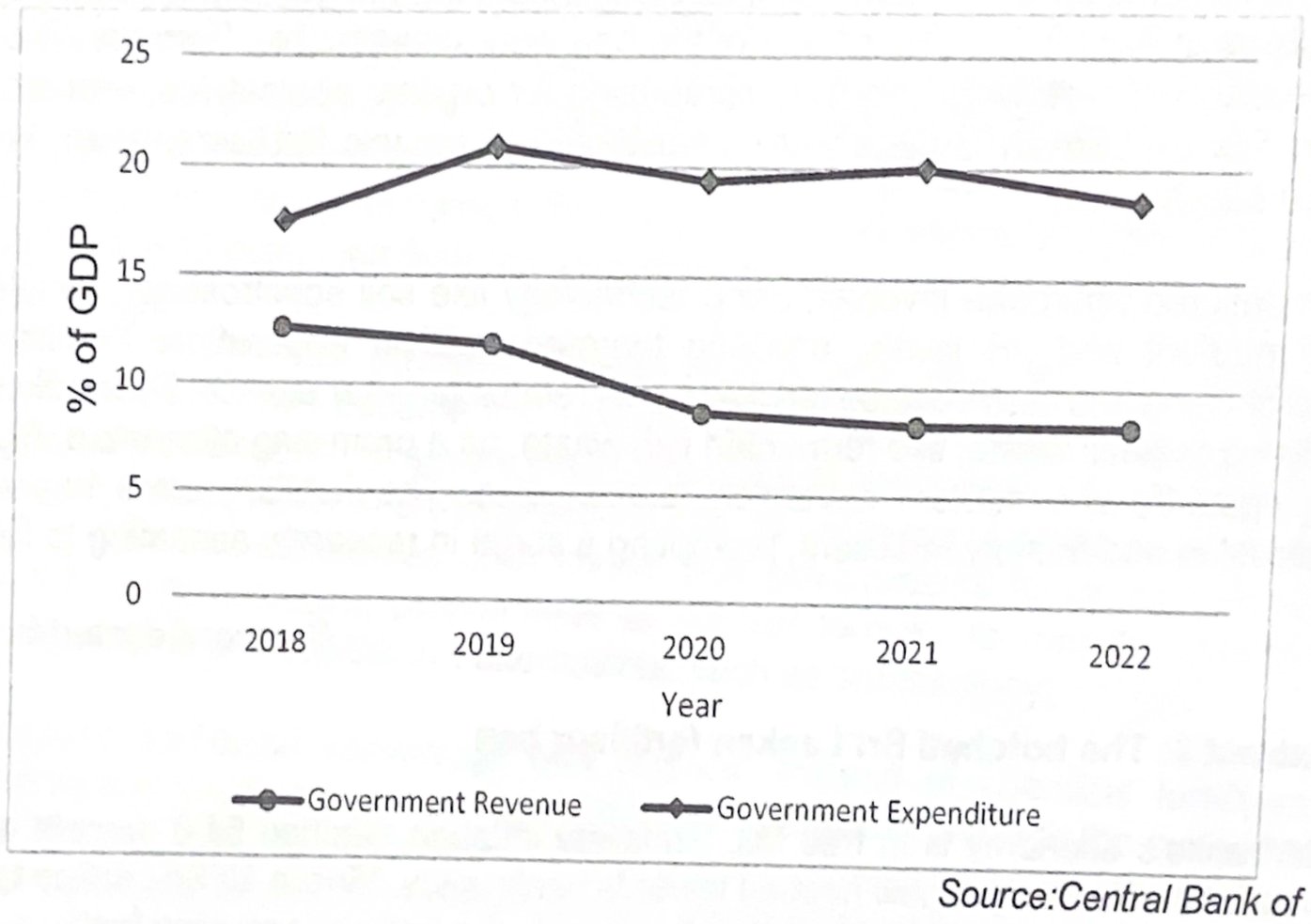
Most farmers did not have the knowledge and skills to successfully implement organic farming practices, and in protest, many refused to plant altogether. The result is a dramatic fall in crop yields. Rice, Sri Lanka's dietary staple that it used to produce adequately and even exported, saw average yields slashed by some 30%. For the first time in decades, Sri Lanka had to import rice. The production of tea, the country's prime export, fell by 18%, crimping its foreign exchange earnings.

This farming disaster could not come at a worse time for the island nation of 22 million people. Previous Covid-19 lockdowns devastated Sri Lanka's tourist industry, which generates one-tenth of the country's economic output and provides a major source of foreign currency. The domestic currency, the rupee, has lost about one-fifth of its value, limiting Sri Lanka's ability to import even essentials like food, medicine and fuel. That added to lingering problems like its huge debt load, including on high-interest loans from Chinese state banks that required it to take out still more loans.

The breaking point came when fuel prices skyrocketed with the eruption of the Russia-Ukraine war. Drowning in $51 billion in foreign debt, Sri Lanka was not even able to meet its interest obligations. In May this year the country defaulted on debt, for the first time in its history.

Source: Adapted from Time, July 2022, Reuters, Mar 2022 and Greenpeace, Dec 2022

Figure 1: Sri Lanka's Government Revenue and Expenditure (2018 – 2022)



Source:Central Bank of Sri Lanka

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(a) (i) Explain the likely market structure that global chemical fertiliser companies are likely to be operating in. [2]

(ii) Explain how the type of market structure identified in a(i) has allowed these firms to "capture mega profits" (Extract 1). [2]

(b) In the light of the current and potential challenges faced by chemical fertiliser firms, discuss whether firms should consider expanding their production of fertilisers. [8]

(c) Using a demand and supply diagram and Extract 3, account for the inflation in food prices in Sri Lanka. [6]

(d) Describe the Sri Lankan government's fiscal position from 2018 – 2022. [2]

(e) Assess the microeconomic and macroeconomic impact of the Sri Lankan government's decision to ban the use of chemical fertilisers. [10]

[Total: 30]

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Question 2: Singapore and the global economy

Table 1: Singapore's Inflation Rate

Year	Consumer Price Index
2019	0.57%
2020	-0.18%
2021	2.31%
2022	6.12%
2023	5.47%

Source: International Monetary Fund, World Bank and OECD Inflation CPI indicator

Extract 4: Strong Demand and Constrained Supply in the Global Economy

Inflation in Singapore has generally been low, with headline inflation averaging 1.8 percent over the last four decades (1981–2021).

However, 2022 was one of the years that bucked the trend. Consumer prices in Singapore went up by 6.1 percent in 2022 compared to the previous year, the fastest rate of increase since 2008. The dramatic rise in inflation was driven by several shocks to demand and supply in the global and Singapore economies.

Similar to the global situation, demand in Singapore grew strongly as the impact of the pandemic waned. The Singapore economy staged a robust rebound in 2021, expanding by 8.9 percent after the 3.9 percent contraction in 2020.

As safe management measures and other restrictions were gradually eased over 2021 and into 2022, Singaporeans were eager to resume shopping and dining out in larger groups. Households were able to draw on the savings they accumulated during the pandemic. *At the same time, countries started to re-open their economies over the course of 2021.*

At the same time, many businesses had let go of workers during the pandemic needed time to hire again. As a result, wages rose in almost all sectors due to strong demand for workers amid these labour shortages. Pandemic-related restrictions had to be re-imposed from time to time in many countries to contain new infection waves. As a result, operations at factories, ports, and stores continued to be disrupted. This affected logistics, transportation, and production supply chains across the world, resulting in delays and shortages. The demand-supply imbalances in the global economy had a significant impact on Singapore, a very open economy that is highly reliant on imported goods and services.

As global commodity prices and inflation in our trading partners rose in late 2021 and over the first half of 2022, the prices of Singapore's imports also increased. Key inputs like energy and raw food, that go into the production of goods and services sold in Singapore, became much more expensive. This droves up cost-push inflation.

Source: Monetary Authority of Singapore, www.mas.gov.sg

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Extract 5: The impact of US Interest Rate hikes on Singapore

The impact of US interest rate hikes on the Singapore dollar (SGD) exchange rate is multifaceted and can be influenced by various factors.

When the US Federal Reserve raises interest rates, it typically strengthens the US dollar (USD) relative to other currencies. This can make USD-denominated assets more attractive, leading to capital outflows from Singapore.

US interest rate hikes can affect inflation and monetary policy in Singapore. Higher US interest rates may lead to increased borrowing costs and inflationary pressures, which can influence the SGD exchange rate. The impact of US interest rate hikes on the SGD exchange rate is also influenced by global economic conditions. For instance, a relatively stronger USD compared to other currencies can affect the SGD's performance in the foreign exchange market.

Source: Various

Extract 6: The Importance of Fiscal Sustainability

Fiscal sustainability is the ability of a government to maintain public finances at a credible and serviceable position over the long term. It is also a requirement for macroeconomic stability and sustainable long-term growth.

High and increasing debt levels are harmful to governments' fiscal positions and can cause a vicious cycle of growing debt, reducing the potential for economic growth as funds are diverted away from productive investments. Governments will either need to divert spending away from other public services, increase taxes, sell assets or further increase debt as a result of higher borrowing today. There are extensive and significant implications because of elevated levels of government spending. It creates multiplier effects through the economy. It could also crowd out private sector investment and use up labour in a capacity-constrained economy. There are also implications for inflation as expansionary fiscal policy is working against the Reserve Bank's contractionary monetary policy.

Governments implemented extensive fiscal support during the COVID-19 pandemic and these measures are now taking a toll on public finances around the world. In Australia, the public sector continues to grow as a share of the economy and will be a significant contributor to growth over the next few years. Also, as interest rates rise, the interest bill for governments is increasing as a share of expenditure and diverting resources away from key spending priorities. Record high levels of public sector investment in a capacity constrained economy, creates further competition for private sector investment in materials and labour, pushing costs higher.

Long-term structural deficits are the crux of the fiscal problem. If the issue is not tackled, this could lead to a further rise in taxes. The solution is to ensure more value for money is achieved on current spending as well as cutting spending or making long overdue reforms to the tax system to make it more efficient and help drive productivity.

High debt levels and large deficits also impact on governments' ability to weather an economic downturn or future crisis such as a pandemic or financial shock. Government spending is one of the main defenses in times of crisis, and being in a more fiscally sustainable position is an important part.

To do this, we believe governments must do three things. Firstly, limit additional spending without at least offsetting the spend elsewhere – ensuring to maximise the use of taxpayer funds – while also re-evaluating current spending plans. Secondly, change existing policy to lower spending and find new or more efficient revenue that will persist over time such as raising the GST and reshaping

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our corporate and personal tax system. And finally, putting in place policies to assist the private sector to maximise its productivity and improve our potential growth, which doesn't necessarily require significant government investment.

Source: Adapted from ey.com, 24 October 2023

Extract 7: Singapore Shifts Focus

In a surprising shift, Singapore's Ministry of Trade and Industry recently stated that "growth needs to depend less on structural policies but rely more on international cooperation." This marks a potential turning point in Singapore's approach to economic development, emphasizing the evolving nature of global economics and the increasing importance of regional and international partnerships.

Traditionally, Singapore has relied heavily on structural policies to fuel its economic growth, implementing regulatory reforms to attract foreign investment, emphasizing education to create a skilled workforce, and investing in infrastructure to boost productivity. However, the city-state now recognizes that in an interconnected world, international cooperation plays a crucial role in sustaining economic growth. This shift aligns with broader trends in Southeast Asia, where countries are increasingly looking beyond their borders for economic opportunities.

Singapore's commitment to international cooperation is evident in its strong support for the ASEAN Economic Community, which aims to create a single market among member states. The country has actively pursued free trade agreements, such as the EU-Singapore Free Trade Agreement and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, providing businesses with preferential access to key markets. Additionally, Singapore plays a vital role in regional initiatives like the Initiative for ASEAN Integration, which seeks to narrow development gaps within the region.

While Singapore's announcement signals a greater emphasis on international cooperation, it does not diminish the importance of structural policies. Instead, it suggests a more balanced approach that leverages both domestic reforms and international partnerships. This dual strategy is likely to resonate with other Southeast Asian nations, which are also recognizing the benefits of integrating structural reforms with regional economic integration efforts.

As the global economic landscape continues to evolve, the interplay between structural policies and international cooperation will be crucial for sustained growth. Singapore's shift in focus may set a precedent for other nations in the region, highlighting the need for a collaborative approach to economic development in the 21st century. This balanced strategy could prove key to unlocking sustainable economic growth in an increasingly interconnected world.

Source: Various

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(a) (i) Identify the trend in Singapore's general price level from 2019 to 2023. [1]

(ii) Using AD/AS analysis, account for the change in Singapore's inflation rate in 2022. [4]

(b) (i) With the help of a supply and demand diagram, explain how the rise in the US interest rate is expected to affect the value of Singapore's currency against the USD. [3]

(ii) State the components of the current account. [1]

(iii) Given the change in the value of Singapore's currency in b(i), explain how it might affect Singapore's balance of trade. [3]

(c) Discuss whether fiscal sustainability for an economy (Extract 6) can be achieved via raising the GST and reshaping corporate and personal tax. [8]

(d) Extract 7 states 'Growth needs to depend less on structural policies but rely more on international co-operation'.

Discuss the validity of this statement. [10]

[Total: 30]

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