2024 JPJC JC2 Prelim H2 P1 Suggested Answer

Question 1: Winners and losers in the coffee market

(a) (i) From Table 1, account for the change in the consumption of coffee bean between 2020 to 2022. **[2]**

Suggested answer:
Consumption of coffee bean has increased from 2020 to 2022.
Future price of coffee bean is expected to rise and hence, countries are stocking up now causing demand to increase. This will lead to an increase in the demand of coffee bean which in turn increase the consumption.

(ii) Using a supply and demand diagram, explain why the price of coffee bean is expected to increase when 'consumption of coffee bean is estimated to exceed production' (Extract 1). **[2]**

Suggested answer:
When consumption of coffee bean is estimated to exceed production, this will lead to a shortage situation as quantity demanded (Qd) exceed quantity supplied (Qs).

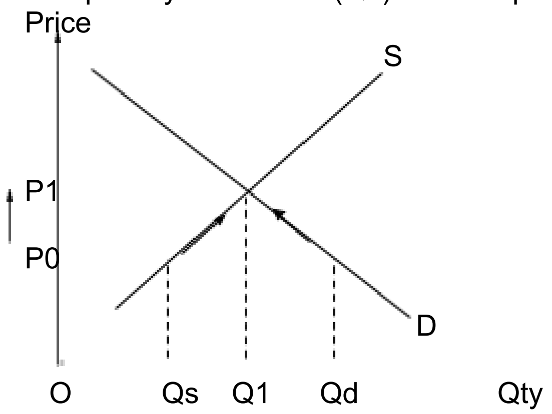


Figure 1: Coffee Bean market

Due to a shortage of coffee bean, there will be an upward pressure on price. This causes the quantity demanded to fall from Qd to Q1 while quantity supplied to rise from Qs to Q1. The price will rise until P1 where a new equilibrium is reached.

(b) Explain why many small-scale farmers in countries such as Burundi, Uganda, and Honduras exit the market when faced with low prices and higher production costs in the short-run. **[2]**

Suggested answer:
A firm should shut down and leave the market immediately in the short run when average revenue (Price) falls below the average variable cost. Thus, when faced with higher production costs, a firm cannot even cover its AVC and it will minimise its loss by shutting down immediately.

(c) Explain one measure used by economists to determine the level of competition in the coffee roaster industry. **[2]**

Suggested answer:

One measure used by economists to determine the level of competition is the concentration ratio of the industry.

The smaller the value of concentration ratio, the higher the level of competition in the industry.

(d) (i) With reference to Extract 2, explain how coffee bean production using the sun-grown method would lead to an inefficient allocation of resources in the coffee bean market. **[4]**

Suggested answer:
Coffee bean farmers can opt to use the sun-grown method of coffee bean production.

The MPC would be the additional cost of production for coffee bean which include labour costs, rental and etc. The MPB for the coffee bean producers would be the revenue gained from the selling of an additional unit of coffee bean. In this case, sun-grown method depletes the nutrients in the soil and coffee farmers have to clear more land resulting in more deforestation. This contributes to global warming and climate change where farmers' suffer from falling income due to lower crop yields and harvests, or people around the world would fall sick more often and incurs more medical costs.

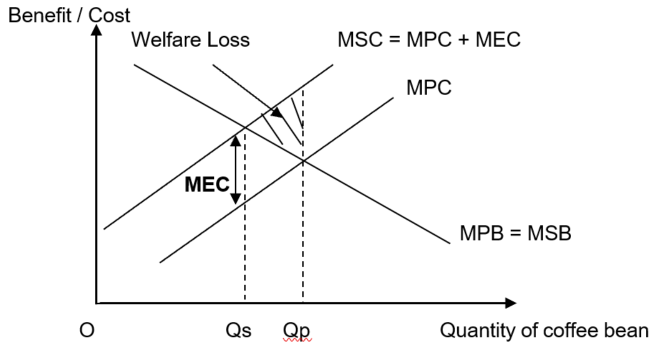


Figure 2: Market Failure due to Coffee bean production using sun grown method

Due to the presence of negative externalities, it leads to the divergence between the marginal social cost (MSC) and the marginal private cost (MPC). Assume that there are no positive externalities (MSB=MPB). When left to the free market, producers pursuing their self-interest considers only their own private costs and benefit, ignoring external costs. Producers will produce at Qp where MPB=MPC. However, the socially optimum level of output occurs at Qs where MSC=MSB. Since Qp is greater than Qs, it means that the price mechanism on its own cannot achieve an efficient allocation of resources. There is over-production of coffee bean, leading to market failure. Between Qp and Qs, the social cost of an additional unit of coffee bean produced is higher than the social benefit gain, resulting in deadweight loss or welfare loss to the society as shown by the shaded area.

(ii) Discuss whether the EU landmark law would improve the efficiency of resource allocation in the coffee bean market. **[8]**

Suggested answer:
The EU landmark law required coffee roasters to only buy coffee bean from coffee bean sources that does not relates to deforestation. Coffee roasters have to now produce a due diligence statement proving their goods are not contributing to the destruction of forests (Extract 3) As such, coffee roasters will not buy coffee bean from farmers using the sun-grown method. This would reduce the demand for coffee bean from farmers

using the sun-grown method and more farmers will stop using the sun grown method and switch to using shade grown method due to the lower revenue gained from sun-grown coffee. This will reduce deforestation and reduce the MEC generated from sun-grown coffee. At the same time, there is higher cost of production as the shade grown method is more expensive. MSC will now fall while MPC will rise, and they will coincide at MSC1=MPC1.

With reference to the diagram, with the fall in MSC, there is a new socially optimal level of production at Qs1 while producer will now choose to produce at Qp1 which is also Qs1. There is no more overproduction of coffee bean and hence, no deadweight loss.

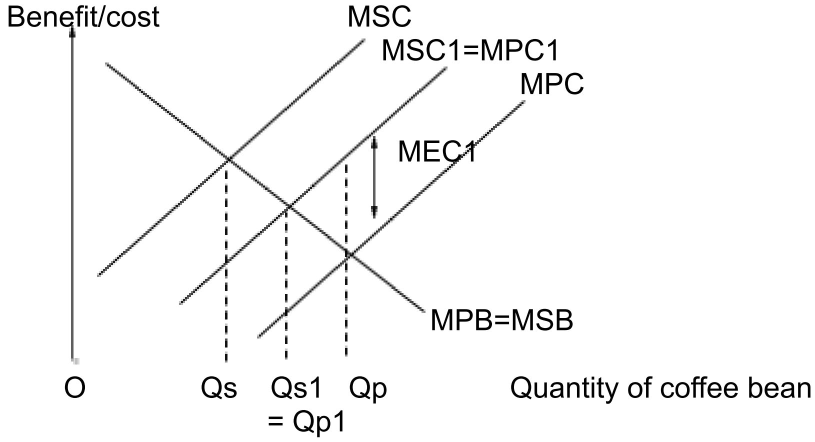


Figure 3: EU Landmark law

However, there are 2 main limitations of this policy.

Firstly, for small farmers from lowly developed countries such as Ethiopia and Uganda, they lack the infrastructure to use the shade grown method. Hence, these small farmers may suffer and shut down. This will worsen unemployment issues. Furthermore, supply of coffee bean will fall and worsen the shortage problems causing coffee bean prices to increase further. Another possible scenario is that these coffee bean farmers can still choose to sell their coffee bean to other region beside the EU, and the deforestation problem will still persist.

Secondly, there is low traceability for coffee bean, and this means that it would be difficult to trace and check if the coffee bean is grown using the sun grown or shade grown method. The EU government may incur high enforcing and monitoring cost. Thus, it would make the policy ineffective in improving allocative efficiency in the coffee bean market and market failure will still exists and may even worsen.

<u>Conclusion</u>
In conclusion, the EU landmark law is unlikely to improve the efficiency of resource allocation in the coffee bean market due to the limitations discussed which cannot be easily resolved.

As the issue of climate change is a global issue, EU would need the cooperation of other countries to also implement similar laws for the policy to be effective. It is not sufficient for EU to be the only countries to be implementing the landmark law to fully resolve the issue.

A better policy instead would be to provide subsidies to the farmers in the lowly developed countries to aid them in moving away from the sun grown method to lower the problems of deforestation.

(e) Discuss whether new entrants to the coffee roaster industry without the bulk buying power of large-scale roasters will find it increasingly difficult to compete (Extract 4). **[10]**

Suggested answer**:**
The coffee roaster industry is highly competitive and dominated by a few large firms, such as Lavazza and Nestlé. These large firms is responsible for roasting 35% of world's coffee which is a significant share of the market as seen in Extract 4. This oligopolistic structure creates high barriers to entry for new entrants due to economies of scale enjoyed by the large scale roaster. As a result, new entrants often struggle with higher costs and may find it hard to compete. However, new entrants to coffee roasters can succeed through differentiation and non-price competition strategies.

As explained above, the coffee roaster market is dominated by a few large companies that allows them to benefit from internal economies of scale. Internal economies of scale refer to the cost advantages that firms experience when they increase production. For example, firms like Lavazza, Nestlé, and Starbucks can purchase enormous quantities of coffee beans at lower prices per unit due to their bulk buying power. This ability to buy in bulk at discounted rates significantly lowers their average costs of production. As a result, these large firms can pass on these cost savings in the form of lower prices to consumers while maintaining their level of profits. In contrast, new entrants, who cannot achieve such internal economies of scale, face higher per-unit costs. This disparity in cost structures makes it increasingly difficult for new entrants to compete on price, as they cannot afford to lower their prices without compromising profitability.

In addition, if new entrant firms decide to compete via predatory pricing and price their coffee lower than marginal cost (pricing competition), the large-scale roasters will likely react to it and also lower the prices of their coffee. This may give rise to price war and new entrant may likely be forced to exit the market as they are likely to not withstand losses better than the large-scale roasters. This is because large-scale roasters are likely to have large supernormal profits to withstand these losses.

However, new entrants to the coffee roaster industry can still compete effectively without the bulk buying power of large-scale roasters by engaging in non-price competition to increase their total revenue. Differentiation is a powerful strategy that allows smaller firms to carve out a niche in the market. By focusing on quality, branding, and storytelling, new entrants can create unique value propositions that resonate with consumers. Highlighting aspects such as the quality of the beans, direct-to-farmer relationships, and the origin of the coffee can make the demand of their coffee bean more price elastic and attract a dedicated customer base willing to pay a premium for these attributes. This means that new entrants can increase the price of the coffee bean such that quantity demanded will fall less than proportionate allowing them to earn a higher revenue. In addition, there can be an increase in demand of the coffee bean as consumers perceived the coffee bean to be of higher quality or more exclusive. Furthermore, small roasters can leverage their agility and innovation to respond quickly to market trends and consumer preferences, reducing their reliance on price competition.

Stand: In conclusion, while new entrants to the coffee roaster industry without the bulk buying power of large-scale roasters face significant challenges, they may not find it increasingly hard to compete. The dominance of large-scale roaster and their ability to achieve economies of scale create substantial barriers to entry and competitive pressures. However, by focusing on differentiation and engaging in non-price competition, new entrants can find ways to compete effectively.

Constraints: Ultimately, the ability of new entrants to succeed will depend on their constraints and capacity to offer unique value propositions to engage in non-pricing competition. If new entrants do not have the sufficient funds to engage in differentiation then they may still find it increasingly difficult to compete. Catering to evolving consumer tastes and trends is also another significant constraint. If consumer preferences shift rapidly, new entrants may struggle to adapt quickly, potentially leading to a loss of market share and relevance. Therefore, while non-price competition offers viable strategies, the funds available and ability to remain flexible and responsive to changing consumer demands is crucial for long-term success in the industry.

[Total: 30]

Question 2: Navigating Economic Turbulence

(a) With reference to Figure 1 and Table 2, what can you conclude about the economic performance of India in 2022? **[4]**

Suggested answer:
Figure 1 shows that India experienced an **increase in real GDP in 2022**, with a positive growth rate. This positive growth reflects an increase in the production of goods and services in the economy, resulting in an increase in overall economic output for the year.

From Table 2, inflation rates rose from 5.1% to 6.7% indicating high inflation. High inflation could bring about higher cost of living and economic uncertainty, deterring investments in India. [1] Unemployment rate remained high at 6.4% in 2022, indicative of an increase in the underutilisation of labour resources.

Overall, the economic performance of India was uncertain due to the lack of indicator of balance of payments.
Or
Overall, the economic performance of India was poor due to the slowdown in economic growth, high inflation and unemployment rates.

(b) With reference to Extract 6 and using an AD/AS diagram, explain how international sanctions and supply chain disruptions can affect Russia's growth rate in 2022. **[4]**

Suggested answer**:**
In response to Russian invasion of Ukraine, many countries and international organisations have imposed sanctions on Russia. These sanctions included restrictions on trade (X-M) and investment (I). This led to a fall in export demand for Russian exports and foreign direct investments. Sanctions and the resultant economic instability have also affected the consumers' confidence, which in turn reduces consumption (C). Together, a fall in C, I and X leads to a fall in AD and through the reverse multiplier process, leads to a multiplied fall in Russia's real GDP.

International sanctions and geopolitical tensions also disrupted global supply chains, making it harder for Russian firms to import necessary raw materials, technology, and equipment. The difficulties in accessing imports led to higher production costs which reduces short-run aggregate supply (SRAS). Restrictions on high-tech exports limited Russia's access to advanced technologies needed for various industries, further constraining the economy's productive capabilities. This leads to a shift in both SRAS and LRAS curve to the left.

Together a fall in AD from AD_1 to AD_2 and AS from AS_1 to AS_2, it will lead to a fall in real GDP from Y_1 to Y_2 and hence explaining the negative growth in 2022 for Russia.

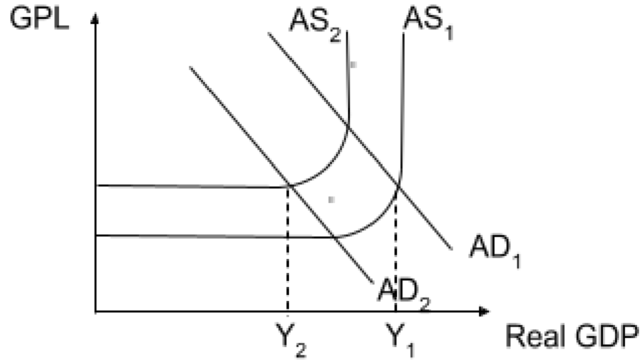


Figure 1: Russia Economy

(c) Extract 7 states that as automation and artificial intelligence adoption picks up pace, many roles in IT are becoming redundant - a phenomenon that's not restricted to India. **[4]**

Explain why automation and artificial intelligence in India may benefit some groups of workers more than others.

Suggested answer:
High-skilled workers with high-level skills in technology, data analysis, and software development are likely to benefit the most. This is because automation and AI create new opportunities in tech-driven sectors, causing an increase in demand for high-skilled workers, offering higher wages and advanced career prospects for these professionals.

Low-skilled workers on the other hand are disadvantaged. Low-skilled workers, especially those in manual and routine jobs, are at risk of displacement due to automation. Jobs in sectors like manufacturing, retail, and agriculture might be particularly vulnerable as they are easier to automate, and these workers may have fewer opportunities to transition into new roles without additional training or education. The fall in demand for low-skilled workers causes a fall in wages.

d Assess the extent to which monetary policy centred on exchange rate would dampen price pressures from domestic and external sources in Singapore. **[8]**

Suggested answer
As mentioned in Extract 8, for Singapore to brace itself for the 'troubled environment' of persistently high inflation, she must tighten her exchange rate. The extent monetary policy centered on exchange rate can dampen price pressure depends on the root cause of price pressure.

Adopting a tight monetary policy in Extract 8, which leads to an appreciation of the Singapore dollar, can have significant economic effects. As the Singapore dollar strengthens, the price of exports in foreign currency rises, making Singapore's goods and services more expensive for foreign buyers. Conversely, the price of imports in domestic currency falls, making foreign goods cheaper.

Assuming both the price elasticity of demand (PED) for exports and imports are elastic, this appreciation will likely result in decreased export revenue and increased import expenditure. Consequently, net exports will fall, which reduces aggregate demand (AD). If the economy is near or at full employment, this reduction in AD can help mitigate demand-pull inflation originating from external sources.

However, given the current global economic context, including weaker global growth, the primary focus of a tight exchange rate policy should be on addressing imported cost-push inflation. This is due to the ongoing global energy crisis and disruptions in food supplies. A stronger Singapore dollar will lower the cost of imports in local currency, thereby reducing the cost of imported raw materials. This reduction in input costs decreases production expenses for domestic firms, leading to an increase in short-run aggregate supply (SRAS) and a subsequent reduction in general price levels (GPL).

Given Singapore's heavy reliance on imported raw materials due to its lack of natural resources, a strong exchange rate is particularly effective in alleviating inflationary pressures from external sources.

However, an exchange rate (ER) policy cannot address price pressures stemming from domestic sources, such as increases in consumer spending (C) and business investment (I), since it primarily targets net exports (X). Additionally, the ER policy cannot mitigate domestic cost-push inflation caused by rising wages and rental costs. In addition, while a strong exchange rate can help reduce the impact of imported inflation by making foreign goods cheaper, it does not resolve underlying global supply constraints or fully counteract global price increases, such as those resulting from the Ukraine-Russia conflict.

In conclusion, while the exchange rate can help manage inflation from external sources, it has limitations in addressing other types of inflation. Effective inflation management typically requires a mix of policies to comprehensively tackle various sources of inflation. Therefore, it is only to a small extent that the exchange rate alone can dampen inflationary pressures from both domestic and external sources.

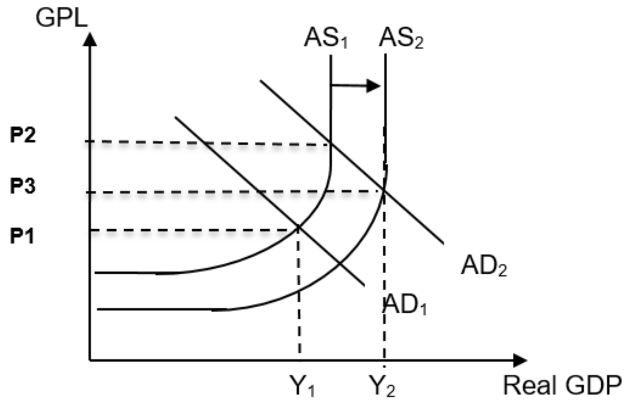
e Discuss how fiscal measures can be used to achieve inclusive growth in light of the 'troubled environment' faced by Singapore (Extract 8). [10]

<u>Suggested answer</u>
In light of 'troubled environment' (Extract 8) such as the Russia-Ukraine crisis, high inflation, and tightening global monetary policies, Singapore faces significant economic pressures such as rising cost of living and weakening economic growth. The rising cost of living, exacerbated by global disruptions to energy and food supplies, and weakening growth, require robust fiscal measures to achieve inclusive growth. Inclusive growth indicates a rate of growth that is sustained over a period of time, is broad-based across economic sectors, and creates productive employment opportunities for the majority of the country's population.

Given the global energy crunch and disruption to food supplies, the Singapore government can increase government investments in local food production and energy efficiency programs. Fiscal measures could include government spending on subsidies for energy projects and incentives for firms to adopt energy-efficient practices. This will lead to an increase in G and I, increasing aggregate demand (AD), leading to a rightwards shift of AD from AD1 to AD2 and via the multiplier effect, real GDP rises, achieving actual growth.

In addition, the Singapore government can implement fiscal measures focused on skills development (Extract 8), particularly targeting low- and middle-income workers. By investing in training programs, providing incentives for companies to upskill Singapore's workforce, and supporting technological adoption in businesses, the government can better adapt to a rapidly transforming economy. These fiscal measures can enhance labour productivity, which in turn reduces the unit cost of production and increases the economy's productive capacity. This will in turn increase in aggregate supply (AS), leading to a rightward shift of AS from AS_1 to AS_2, achieving potential growth in the long-term.

With higher actual and potential growth as seen in the diagram below, this allows the Singapore economy to achieve non-inflationary sustained economic growth, reducing GPL from P_2 to P_3, lowering cost of living and increasing real GDP from Y_1 to Y_2, strengthening economic growth in Singapore.



As mentioned in Extract 8, the Singapore government's implementation of the Cost-of-Living (COL) Special Payment, along with Public Transport Vouchers and Community Development Council (CDC) vouchers, serves as a strategic fiscal response to persistent inflation, targeting lower- to middle-income households. It is particularly important for the lower-income households as these measures not only provide immediate financial relief but also play a critical role in addressing income inequality, lowering cost of living and fostering inclusive economic growth in Singapore.

The reliance on such fiscal support can lead to budget constraints. As the Singapore government spending increases to provide these subsidies and payments, the opportunity costs increase for other critical investments such as infrastructure, education, and healthcare. Over time, sustaining these expenditures without corresponding increases in revenue or economic growth could lead to higher deficits or require cuts in other essential services, potentially undermining inclusive growth in Singapore.

Moreover, as mentioned in Extract 8, while fiscal measures like the Cost-of-Living (COL) Special Payment and vouchers provide immediate relief to lower and middle-income households, their effectiveness may be limited in the long term. These short-term interventions address the symptoms of rising prices but do not tackle the underlying structural issues driving inflation, such as higher energy and food prices.

In conclusion, while fiscal measures are essential for providing support to achieve inclusive growth, however they must be balanced against the risks caused by the 'troubled environment' due to Singapore's nature of being small and open.

Unlike larger countries that can rely on domestic markets to mitigate external shocks, Singapore's small, open economy necessitates a different approach. Singapore must also remain globally competitive by staying open to trade and investment, continuously developing new capabilities, and enhancing economic resilience through strengthening their free trade agreements in other economies in times of 'troubled environment'.

However, it is still important while achieving inclusive growth in Singapore, the Singapore government continues to build a stronger, more resilient labour force that can thrive in an increasingly volatile global landscape. By improving the labour force through retraining of skills, it can allow the economy to achieve a broad-based economic growth with employment opportunities for the majority.

[Total: 30]