**Question 2: Sustainable and inclusive economic growth in Asia**

**Table 2: Singapore’s macroeconomic indicators**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 2016 | 2017 | 2018 | 2019 |
| GDP  (in current millions US$) | 318,652 | 341,863 | 373,217 | 372,062 |
| Inflation rate (%) | -0.53 | 0.58 | 0.44 | 0.57 |
| Unemployment (%) | 4.08 | 4.2 | 4.02 | 4.11 |
| GINI coefficient  (before taxes and transfers) | 0.458 | 0.459 | 0.458 | 0.452 |

Sources: *WorldBank* and *Singstat*

**Extract 6: Robots to wipe out 20 million jobs around the world by 2030**

The use of robots will see a significant boost to productivity and economic growth and some new types of job we can't even yet foresee,” said Mr Lambert, Director of Economic Consulting for Asia at Oxford Economics. However, up to 20 million manufacturing jobs will be lost globally to robots by 2030. And the displacement of jobs will not be evenly spread around the world, or within countries, according to a study published by Oxford Economics, a UK-based research firm. Lower-skilled regions, which tend to have weaker economies and already-high unemployment rates, are much more vulnerable to the job losses.

When asked about the impact of automation in Singapore, Mr Lambert said that it was well positioned to benefit from this new generation of robotics as it has a modern and upgradeable infrastructure, a supportive regulatory framework and a strong investment environment. “Those workers in Singapore that are displaced by technology will have to adapt their skills to the evolving demands of the future economy but the government already has put in place schemes to help to retrain workers displaced by technology,” he said. “Singapore also has an ageing population (more so than most) and restraints on inward migration, so robots may be particularly helpful in keeping the economy growing,” Mr Lambert noted.

Source: *The Straits Times*, 26 June 2019

**Extract 7: Singapore can achieve steady, sustained growth**

Singapore’s economy must continue to grow, and that is why the government is pressing on with its economic transformation plans, said Prime Minister Lee Hsien Loong. Speaking at the biennial People's Action Party conference, he pointed out that there are already some early successes, and “companies big and small are restructuring themselves, embracing technology and training workers.” He noted that high-tech industries such as robotics, aerospace engineering and digital farming have taken root in Singapore.

Mr Lee added that Singapore has also attracted some unexpected investments of late, singling out British technology company Dyson's announcement that it will manufacture electric cars here. This means that, for the first time in more than 40 years since the old Ford Factory shut down, cars ― and electric ones, at that ― will be made in Singapore again. “We are back in the same industry but a different level, in a modern high-tech form. It will create jobs for Singaporeans,” said Mr Lee. “It shows that with technology and a skilled workforce, we can overcome our traditional constraints of scarce land and higher labour costs, and create new and exciting opportunities for Singaporeans,” he added.

Source: *The Business Times*, 12 November 2018

**Extract 8: China to focus on sustainable growth, not GDP targets**

China's growth will no longer be a numbers game, signalling Beijing's intention to move away from annual growth targets. This will allow China to focus on high-quality growth over the long term, said Mr Yang Weimin, deputy director of the Office of the Central Leading Group on Financial and Economic Affairs. Mr Yang said: “China's economy has transitioned to a high-quality development stage, as the lack of capacity is no longer the most acute problem of our economic development.” Instead, the more pressing issue is sustainable growth, where growth is not derived at the expense of the environment.

Mr Xi Jinping, President of the People’s Republic of China, outlined a two-stage goal – to become a top innovative nation by 2035 and a global leader in comprehensive national strength and international influence by 2050. Other targets Mr Xi hopes to achieve by 2035 includes the meeting of air-quality targets. Analysts said that a shift away from hard growth targets will be good for China's economy if it means less reliance on debt-fuelled investment.

Source: Adapted from *The Straits Times*, 27 October 2017

**Extract 9: Why does inclusive growth matter?**

In the wake of the global financial crisis, growth has been elusive and many economies are still battling weak demand, stubborn unemployment and rising levels of inequality. In the last few years, global GDP has averaged around 3.5%.The World Bank cut its global growth projection to 2.9% in 2016 from its estimate of 3.3% in June.

But the challenge here isn't just about reviving global economic growth – it's also about doing it in a way that is more inclusive than in the recent past. In order to boost growth and counter the slowdown in countries, we need to step up efforts around the world to accelerate economic activity and to ensure that its benefits reach everybody in society.

A growing body of research also suggests that rising income inequality contributes to a range of macroeconomic and social consequences. Income inequality deprives the ability of lower-income households to stay healthy and accumulate physical and human capital. This leads to under-investment in education for such households as poor children end up in lower-quality schools and are less able to go on to college. As a result, labour productivity could be lower than it would have been in a more equitable world.

Furthermore, extreme inequality may damage trust and social cohesion and thus is also associated with conflicts, which discourage investment. Conflicts are particularly prevalent in the management of common resources where, for example, inequality makes resolving disputes more difficult. More broadly, inequality affects the economics of conflict, as it may intensify the grievances felt by certain groups or can reduce the opportunity costs of initiating and joining a violent conflict.

Source: *World Economic Forum* and *International Monetary Fund*, 18 January 2016

**Extract 10: Singapore to increase labour force productivity to counter ageing demographics (supply-side policy – shift in SRAS and LRAS)**

According to Singapore’s Ministry of Manpower (MOM),labour productivity refers to real output per worker. Within the changing economic landscape, coupled with challenges posed by an ageing population, Singapore needs to correctly position its labour force moving forward. With the transformation of industries, new job scopes requiring new skills would also become available, and residents would only be able to harness these opportunities if they receive the right training. This is because a jobs-skills mismatch has been identified by the MOM as a continuing structural challenge in face of the economic restructuring.

The Singapore government has allocated a portion of its budget to launch the Professional Conversion Programs in 2016 to develop specialised skillsets needed, with the aim of increasing labour productivity in 23 fields. This year, new programs will be launched in the areas of internet audit and building information modelling, among other knowledge fields. Employees are recommended to be trained in the areas of science, the use of technology and automation to increase their employability and productivity at work. Meanwhile, it is also crucial to ensure that there are mechanisms in place for older Singaporeans to be retrained in new skills.

“Ultimately, I think it is important for our employers and also the older workers to recognise one thing. That in this day and age of rapid development globally, I think companies and workers will have to rejuvenate themselves; reinvent themselves, to be able to compete effectively, globally,” said Sam Tan, Minister of the State for Manpower.

Source: Adapted from *The Asean Post*, 29 January 2018

**Questions**

|  |  |  |
| --- | --- | --- |
| **(a)** | **(i)** | Explain the expected relationship between GDP and unemployment rate in an economy. [3] |
|  |  |  |
|  | **(ii)** | Explain one reason why the data in Table 2 may not support the above expected relationship. [2] |
|  |  |  |
| **(b)** | **(i)** | With reference to Extract 6, explain how automation is likely to change the price elasticity of demand for labour. [3] |
|  |  |  |
|  | **(ii)** | Using the marginalist principle, explain how firms decide on the number of robots to employ. [5] |
|  |  |  |
| **(c)** | With reference to Extract 7 and using AD/AS analysis, assess the consequences of the ‘unexpected investments’ on Singapore’s unemployment. [8] | |
|  |  | |
| **(d)** | With the aid of a Production Possibilities Curve diagram, explain how the ‘Professional Conversion Programs’ (Extract 10) will impact Singapore’s economic growth **both** in the short run **and** long run. [5] | |
|  |  | |
| **(e)** | Some countries prioritise sustainable growth, while others focus on inclusive growth.  Discuss the view that in pursuing economic growth, countries should prioritise sustainable growth. [9] | |
|  |  | |
| **(f)** | Discuss the extent to which inclusive growth in Singapore can be achieved through improving labour productivity. [10] | |

[Total: 45]

**Question 2 Suggested Answers – CSQ 1 – Inclusive growth / Sustainable Growth**

**(a)(i) Explain the expected relationship between GDP and unemployment rate in an economy. [3]**

* GDP and unemployment is expected to share an inverse or negative relationship. [1]
* When the GDP of an economy rises, there would be an increase in the production of goods and services. As a result, firms would increase their derived demand for labour. [1]
* Consequently, this would represent a fall in demand-deficient unemployment. [1]

**(a)(ii) Explain one reason why the data in Table 2 may not support the above expected relationship. [2]**

*From Table 1, while GDP rose from 2016 to 2017, the unemployment rate rose as well in the same time period. Likewise, while the GDP fell from 2017 to 2018, the unemployment rate fell as well.*

* The data in Table 1 may not support the expected inverse relationship as, in reality, there are time lags between the increase in production and employment. [1]
* As firms may take time to hire appropriate workers, the increase in employment (and hence the fall in unemployment) may not be entirely in sync with the increase in GDP. [1]

OR

* The Singapore government could have achieved the increase in GDP (actual growth) by involving restructuring of its economy. When restructuring occurs, a mismatch of skills possessed by labour and skills demanded by firms occurs and hence structural unemployment results. [1]
* While an increase in GDP may result in a fall in demand-deficient unemployment, the rise in structural unemployment may have exceeded the fall in demand-deficient unemployment, resulting in an overall increase in unemployment rate. [1]

**(b)(i) With reference to Extract 6, explain how automation is likely to change the price elasticity of demand for labour. [3]**

*Price elasticity of demand (PED) of labour is defined as the degree of responsiveness of the quantity demanded of labour in response to a change in its own price (wages), ceteris paribus.*

* Extract 6 mentioned that ‘up to 20 million manufacturing jobs will be lost globally to robots’ [1] OR ‘workers … displaced by technology’.
* This means that with automation, the degree of necessity of utilising labour in firms’ production process is likely to be lower. [1] OR with automation, the availability of close substitutes to labour in firms’ production process have increased. [1]
* Therefore, automation is likely to make the demand for labour more price elastic. [1] OR Automation will increase the value of PED for labour.

**(b)(ii) Using the marginalist principle, explain how firms decide on the number of robots to employ. [5]**

* The marginalist principle involves the weighing of the marginal benefit and marginal cost of any activity in the pursuit of maximising self-interest. [1]
* The marginal benefit to firms of using robots would be the marginal revenue to firms from each additional robot contributes to the “boost to productivity” (Extract 6) [1] OR the additional output each additional robot produces.
* The marginal cost to firms of using robots would be the additional cost of purchasing each additional robot. [1]
* In deciding the final number of robots to use, firms would employ to the point where the marginal revenue is equal to the marginal cost [1] to maximise profits [1].

**(c) With reference to Extract 7 and using AD/AS analysis, assess the consequences of the ‘unexpected investments’ on Singapore’s unemployment. [8]**

*Explain how ‘unexpected investments’ as mentioned in Extract 7 could have both positive and negative consequences on Singapore’s demand-deficient and structural unemployment. The evaluation requires a judgement on the overall impact on Singapore’s unemployment.*

*Introduction*

* The ‘unexpected investments’ (Extract 7) refers to British technology company Dyson’s announcement of its investment in Singapore.
* This response aims to explain how such an investment would positively and negatively affect Singapore’s unemployment, before examining its overall impact.
* Unemployment here is defined as the situation where people of legal working age are not working but are actively looking for a job and are available for work.

*Thesis: There are positive consequences of ‘unexpected investments’ on Singapore’s unemployment.*

* **The ‘unexpected investments’ by Dyson would positively affect Singapore’s through a reduction in demand-deficient unemployment.**
  + Dyson’s investment in Singapore represents an increase in foreign direct investment (FDI) into Singapore. This can be seen as an increase in investment expenditure (I), which increases the aggregate demand (AD).
  + Assuming that there is spare capacity, this increase in I would trigger the multiplier effect, which will increase AD and real GDP by a multiplied amount. The AD curve will shift rightwards from AD1 to AD2 in Figure 1 below. Real GDP increases from Y1 to Y2.
  + As output increases, firms increase their production, they will increase their derived demand for labour as a factor of production.
* This therefore has a positive consequence on Singapore’s unemployment as the demand-deficient unemployment reduces from (Yf – Y1) to (Yf – Y2) in Figure 1.

**Figure 1: Impact of unexpected investments on Singapore’s unemployment**

Real Output

GPL

0

P1

AD2

Y2

Y1

AS

AD1

P2

Yf

*Anti-thesis: There are negative consequences of ‘unexpected investments’ on Singapore’s unemployment*

* **The ‘unexpected investments’ by Dyson would negatively affect Singapore through an increase in structural unemployment.**
  + As Prime Minister Lee mentioned in Extract 7, Dyson’s investment in Singapore represents Singapore’s return to the automobile manufacturing industry, “but on a different level, in a modern high-tech form”. This means that, the jobs required by Dyson would require workers to be skilled in the operation of technology and automation.
  + Unemployed workers who do not possess the relevant skillsets would not be able to fill these vacancies would be structurally unemployed.
* The increase in structural unemployment would therefore represent a negative consequence of the unexpected investments into Singapore.

*Evaluative Conclusion (stand + 1 well-reasoned ATMS evaluative angle)*

* **[Stand]** Overall, the ‘unexpected investments’ is likely to result in positive consequences on Singapore’s unemployment.
* **[Magnitude]** This is because, while there had been an increase in such unexpected investments into Singapore as noted in Extract 7, it is likely that only a few firms are increasing their investment and therefore the negative consequence of structural unemployment in Singapore is likely to be insignificant.
* **[Alternative + Time Frame]** Moreover, the Singapore government had been focusing their attention on training and reskilling of workers “in the areas of science, the use of technology and automation to increase their employability and productivity at work” (Extract 10). This is likely to be able to reduce the negative consequence of structural unemployment, especially in the long run.
* Thus, the overall impact is likely to be a positive one, where demand-deficient unemployment is reduced as a result.

**(d) With the aid of a Production Possibilities Curve diagram, explain how the ‘Professional Conversion Programs’ (Extract 10) will impact Singapore’s economic growth both in the short run and long run. [5]**

* The ‘Professional Conversion Programs’ (Extract 10) represents an increase in government developmental expenditure (G) which will increase real output in the short run, achieving actual growth. [1]
  + This is shown as a movement from within PPC0 (Point A) to a point nearer to PPC0 (Point B) in Figure 2. [1]
* Since the programs also increases ‘labour productivity in 23 fields’, it would increase the quality of labour and increase Singapore’s productive capacity and achieve potential growth in the long run. [1]
  + This is shown as an outward shift of the PPC from PPC0 to PPC1. [1]

**Figure 2: Singapore’s Production Possibilities Curve**

Consumer goods

Capital goods

0

PPC0

PPC1

A

B

**(e) Some countries prioritise sustainable growth, while others focus on inclusive growth.**

**Discuss the view that in pursuing economic growth, countries should prioritise sustainable growth. [9]**

|  |  |
| --- | --- |
| Discuss the view | This question requires students to present a comparative analysis on the benefits and costs of prioritising sustainable growth over inclusive growth before coming to a reasoned judgement. |
| Sustainable growth  Inclusive growth | Sustainable growth – a rate of economic growth that can be sustained without creating other significant economic problems, particularly for future generations.  Inclusive growth – 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 population. |

*Introduction*

* Sustained economic growth refers to a positive and stable, non-inflationary growth rate over an extended period of time. It can occur when the economy’s AD and AS increase in tandem, causing an increase in real output without significant upward pressure on the general price level.
* In the pursuit of sustainable or inclusive growth, sustained growth needs to be first attained.
* This answer will discuss the benefits of sustained growth before discussing the benefits and costs of countries which focus on either sustainable or inclusive growth.

*Thesis: Explain why countries should focus on sustainable growth by explaining the benefits of sustainable growth*

* **Prioritising sustainable growth could bring about benefits, but could however mean that inclusive growth is not achieved**
* Prioritising sustainable growth means that there is first sustained economic growth, and this raises citizens’ material living standards.
  + With sustained growth, there is higher output and income. Without inflationary pressures, households’ disposable income increases. Thus, households have higher purchasing power to consume more and better quality goods and services, leading to higher material living standards.
  + At the same time, households also experience higher savings as they spend only a proportion of their additional income on consumption. The increase in savings can allow consumers to maintain their consumption levels when the economy may not be doing as well in future, such as during a recession. This leads to higher future material living standards.
* Sustainable growth indicates a rate of economic growth that can be sustained without creating other significant economic problems, particularly for future generations.
  + When sustainable growth is prioritised, the level of pollution and resource depletion is minimised, reducing the extent of negative externalities and fall in citizens’ non-material standards of living.
  + In Extract 8, it was mentioned that, “China’s economy has transitioned to a high-quality developmental stage” and “the more pressing issue is sustainable growth, where growth is not derived at the expense of the environment”.
* This reflects the need for some countries like China to prioritise sustainable growth ahead of other types of growth.

*Anti-thesis: Explain why countries should focus on inclusive growth by explaining the costs of non-inclusive growth and the benefits of focusing on inclusive growth*

* **However, prioritising sustainable growth could mean a neglecting the attainment of inclusive growth. When there is non-inclusive growth, there would be an uneven distribution of income between the rich and the poor, resulting in rising income inequality. This brings about costs to the economy.**
  + In Extract 9, it was mentioned that “rising income inequality contributes to a range of macroeconomic and social consequences”.
  + Rising income inequality could reduce future material standard of living for low income households, as the children of these households are unable to “stay healthy and accumulate human capital”, and they “end up in lower-quality schools and are less able to go on to college” (Extract 9). They are thus unable to secure higher paying jobs and it restricts their future material living standards.
  + Furthermore, non-inclusive growth may also lead to political instability and a fall in non-material living standards as it “damages trust and social cohesion” (Extract 9).
* Therefore, inclusive growth, 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 population may be the focus for some countries.
* **Prioritising inclusive growth could bring about benefits, but could however mean that sustainable growth is not achieved.**
* The attainment of inclusive growth is beneficial as it prevent the costs on future material living standards as analysed earlier.
* However, if sustainable growth is neglected at the expense of prioritising inclusive growth, the impact on the environment would be often ignored and this often results in unsustainable growth because of the depletion of natural resources and environmental degradation.
  + For instance, the burning of fossil fuel to generate electrical energy for various recreational and industrial activities have been identified as a main reason behind global warming and the development of infrastructure which requires land may involve the clearing of forest and the loss of natural wildlife.
  + Negative externalities such as pollution and waste as well as depletion of finite resources are common outcomes. Thus there is a need to focus on sustainable growth as well.

Ultimately the type of economic growth that a country decides to prioritise, be it sustainable and/or inclusive growth, depends on each countries’ unique economic circumstances.

* In most developed economies, like China and Singapore for example, the attainment of sustained economic growth is often accompanied by income inequality and negative consequences on the environment.
  + The GINI coefficient in Singapore before taxes and transfers is consistently high at around 0.45 (Table 2), and the rapid economic growth rates in Singapore had also been accompanied by rising pollution and congestion levels, lowering citizens’ living standards.
  + Thus, countries like Singapore that faces the above mentioned issues should prioritise both sustainable and inclusive growth.
* In developing economies, whereby citizens have not yet achieved a basic level of living standards, it is crucial that the government focuses on achieving sustained economic growth instead, before moving on to sustainable or inclusive growth.

**(f) Discuss the extent to which inclusive growth in Singapore can be achieved through improving labour productivity. [10]**

|  |  |  |
| --- | --- | --- |
| **Command word/phrase** | Discuss the extent | This question requires students to present a balanced analysis on the extent to which inclusive growth could be achieved through the mentioned policy of improving labour productivity. |
| **Content** | Inclusive growth  Improving labour productivity | 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 population.  Increases in real output per worker through skills training and the use of technology to complement labour in the production process. |
| **Context** | Singapore | Answer has to be anchored with examples in Singapore context |

*Introduction*

* Inclusive growth refers to 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. It is economic growth that takes income distribution into consideration and does not contribute to worsening income inequality.
* Labour productivity is defined as the real output per worker (Extract 10).
* While improving labour productivity may be used to achieve inclusive growth in Singapore, there are limitations to its effectiveness, which will be discussed in this essay.

*Thesis: Explain how improving labour productivity can help to achieve sustained growth and hence inclusive growth*

* **Improving labour productivity through skills training and the adoption of technology to complement labour can help to achieve sustained growth, and hence inclusive growth.**
* Extract 10 mentioned that labour productivity could be improved through two ways: “developing specialized skillsets needed” and “the use of technology and automation” to complement labour.
* The Singapore government has allocated a portion of its budget to launch the Professional Conversion Programs in 2016 to achieve this improvement in labour productivity. This represents an increase in the government’s developmental expenditure (G).
* An increase in government expenditure (G) would lead to a direct increase in AD since G is a component of AD. If there is spare capacity, this increase in G would trigger the multiplier effect, which will increase AD and real GDP by a multiplied amount. The AD curve will shift rightwards from AD1 to AD2 in Figure Y below. Actual growth is achieved when real GDP increases from Y1 to Y2.
* In the long run, improvement in labour productivity also increases the productive capacity of the economy. Long-run AS therefore increases, as shown by the rightwards shift of the AS curve from AS1 to AS2, thus achieving potential growth.
* As a result, sustained growth is achieved, with a further increase in real GDP from Y2 to Y3, and only a slight increase in GPL to P3 instead of P2.

P2

Real GDP

General Price Level

0

Y1

AS1

AD1

P1

AS2

Y2

AD2

Y3

P3

**Figure 3: Sustained growth due to improving labour productivity**

* **Beyond achieving sustained growth, improving labour productivity can also reduce income inequality, thus allowing the government to achieve inclusive growth.**
* The Professional Conversion Programme launched by the Singapore government “helps to retrain workers displaced by technology” (Extract 9). This has the effect of increasing the occupational mobility of the workers as they are equipped with the relevant skills to transit into jobs in expanding industries.
* This is especially the case for lower-skilled workers whose skills have been rendered obsolete due to such technological advancements. If they are not equipped with the necessary skills to work in the other industries, they would end up structurally unemployed.
* Providing retraining for these workers to “develop specialised skillsets” can enable them to find employment and earn an income, thus reducing income inequality and achieving inclusive growth.

*Anti-thesis: Explain why improving labour productivity may not achieve inclusive growth*

* **Improving labour productivity may not achieve inclusive growth as it may worsen structural unemployment, leaving groups of workers unemployed instead.**
* While improving labour productivity may help some groups of unemployed workers find employment and transit into sunrise industries, others who do not “receive the right training” (Extract 10) may be unable to do so.
* While workers may receive training, there may still be some level of jobs-skills mismatch (Extract 10), thus preventing them from being able to successfully transit into job vacancies in other fields.
* This may mean that such workers would remain unemployed, therefore not achieving the goal of inclusive growth.
* **Moreover, improving labour productivity may be limited in achieving inclusive growth as it takes a long time for the effects to be seen and these effects may be uncertain.**
* While the measures outlined by the government has the aim of improving labour productivity in mind, there is an impact time lag for the effects of improving labour productivity to be realised.
* Furthermore, the effects of the training courses to improve labour productivity may be uncertain, and it is contingent on the willingness of the workers to take on new skills and improve their productivity.
* Therefore, the effectiveness of improving labour productivity in achieving inclusive growth may be limited.
* Improving labour productivity is likely to be able to achieve inclusive growth to a large extent. However, the impact is largely dependent on the receptiveness of the workers and the training that they eventually receive.
* If the increase in workers’ productivity comes in the areas of need like science, the use of technology and automation (Extract 10), then it is highly likely that these workers would be able to secure better paying jobs and therefore achieve inclusive growth.
  + In addition, their ability in securing new job scopes is also dependent on their willingness to learn and the receptiveness in upgrading their skillsets to suit the needs of the new job vacancies. Without which, the improving of labour productivity as a measure would be ineffective in achieving inclusive growth.
* Beyond improving labour productivity, the Singapore government could also provide targeted career advice and support for displaced workers, together with the use transfer payments to help unemployed workers and to achieve inclusive growth more effectively.