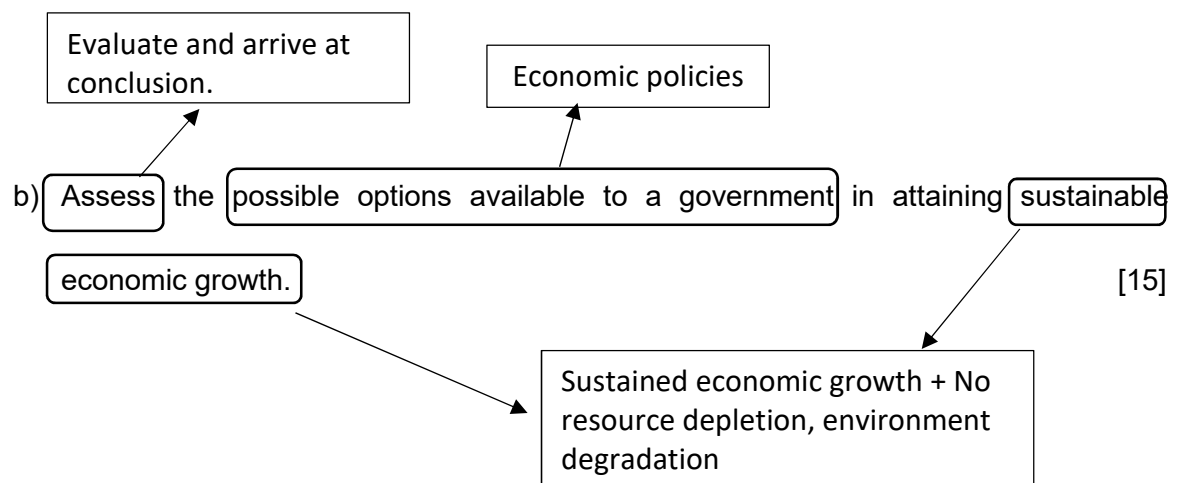


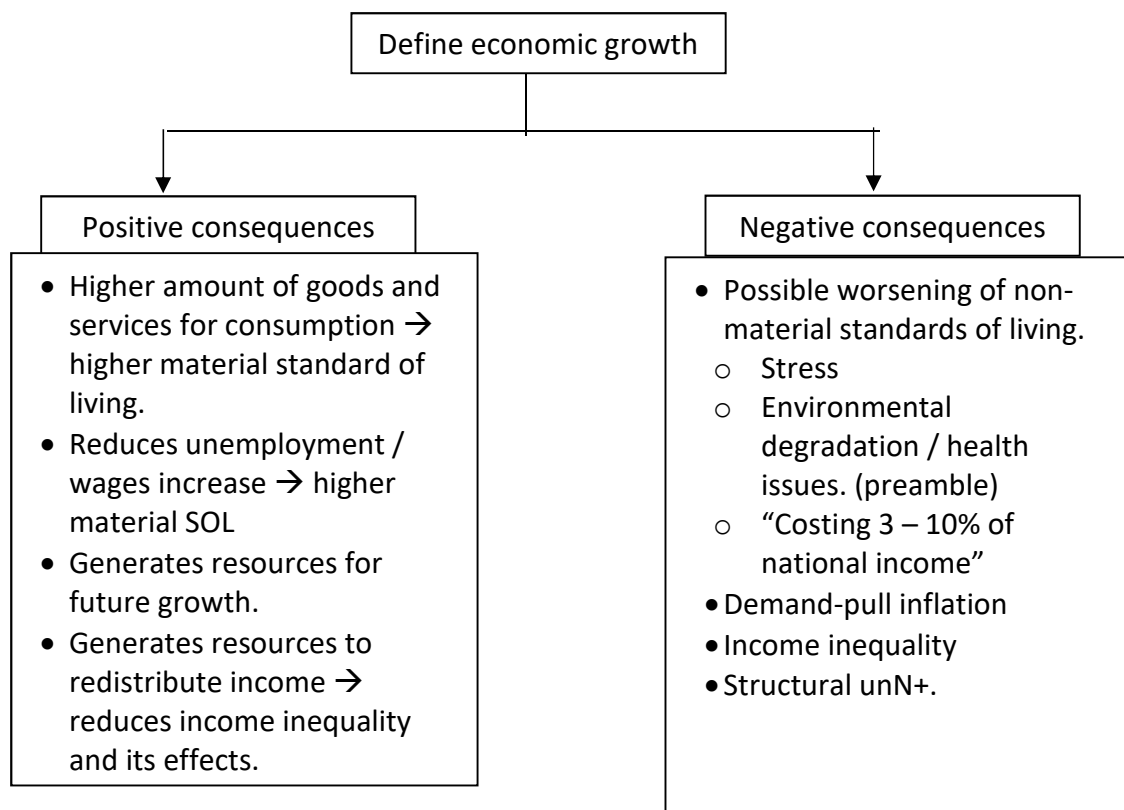
a) Explain the likely consequences of rapid economic growth.

[10]



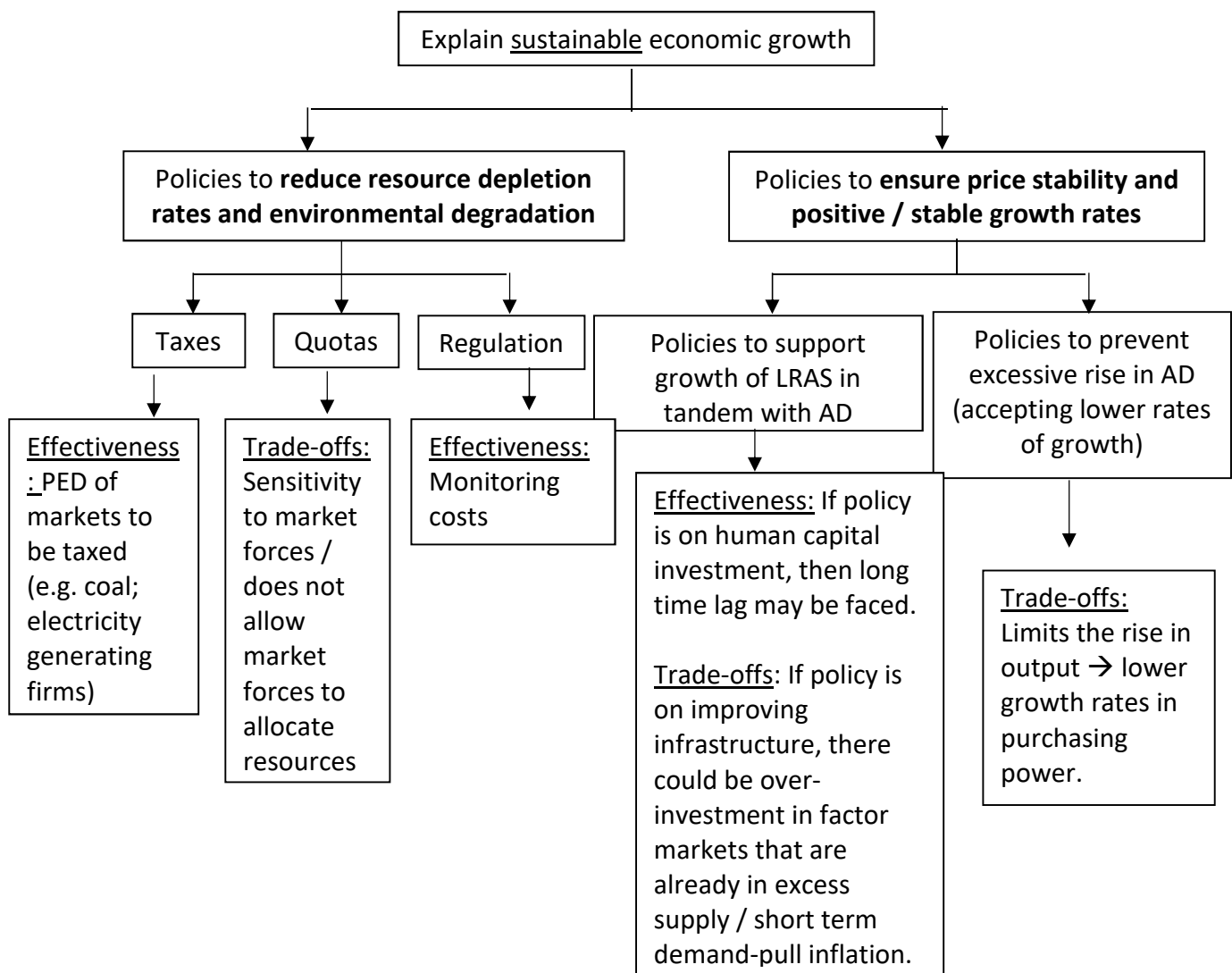
[15]

Part (a)



*Focus on RAPID. Answers must consider this adjective.

Part (b)



Conclusion

Main observations:

Due to the breadth of the notion of sustainable development, a broad range of microeconomic and macroeconomic policies are required.

Macroeconomic policies tend to be supply-side centric. However, these must be well-targeted on the right factor markets.

Governments might also face trade-offs in short term economic growth rates or "sacrifice" the interests of particular groups.

Implications: Therefore, governments need to conduct extensive studies and research to reduce the imperfect information faced when implementing the policies. This might increase the effectiveness of the policies and reduce the unintended consequences, realising the goal of sustainable growth.

Suggested Answer for Part (a)

<p>Economic growth occurs when the real output of a country increases. It is commonly measured by the percentage increase in real gross domestic product (GDP) annually. GDP is defined as the value of all output produced by factors located within the geographical boundary of the country, regardless of the ownership of factors of production, over a given time period. Many countries have gone through rapid rates of economic growth, such as China's double digit growth of about 10 per cent over the last decades. Rapid rates of economic growth brings about both positive and negative consequences.</p>	<p><i>Introduction</i></p>
<p>One of the positive consequences of rapid rates of economic growth is that the amount of goods and services for consumption will grow very quickly. This increases the material standard of living of households and individuals living the country. For example, rapid rates of economic growth in East Asia for most of the second half of the 20th century helped many households and individuals out of poverty, leading to a general rise in material standards of living.</p>	<p><i>Positive consequence 1</i></p>
<p>To support an increase in output, a higher number of labour is required in production processes. The derived demand for labour thus increases. As a result, more labour is being employed, resulting in a fall in unemployment rates. As more individuals are receiving wages, their purchasing power increases, leading to improvements in material standards of living. Furthermore, an increase in the demand for labour could push up the average wage rates, also contributing to higher purchasing power, ceteris paribus. Again, this contributes to higher material standards. For example, Singaporeans have experienced higher incomes over the years due to rapid rates of economic growth in the 1970s through to 1990s.</p>	<p><i>Positive consequence 2</i></p> <p><i>(Note that consequences 1 and 2 can be lumped together in a more succinct way)</i></p>
<p>Furthermore, rapid rates of economic growth means that national income is increasing rapidly. As a result, tax revenue could increase rapidly, providing the government with more financial resources to conduct transfers to the needy groups of the population. The tax revenue can also be used to fund government investments in areas such as infrastructure, education and healthcare. Success in doing so might improve the capital stock of the country, as well as productivity of human capital. These lead to higher productive capacity and long term economic growth.</p>	<p><i>Positive consequence 3</i></p>

<p>However, there are downsides to economic growth rates that might occur at too rapid a rate.</p> <p>Firstly, economic growth that occurs due to indiscriminate usage of natural resources and high level of pollution will create the problem of unsustainable growth. When natural resources such as arable land are used excessively to achieve the rapid economic growth, the land might lose its fertility, causing productive capacity of the economy to fall. Pollution of land and water due to discharge of industrial and household wastes could cause the land and water to be unusable. Again, this leads to a fall in productive capacity of the economy. Hence, while growth rates could be rapid currently, if it happens due to excessive use of or through damaging natural resources, then the high growth rate might not sustain into the future or even fall significantly. High rates of pollution also causes individuals to incur healthcare costs. As mentioned in the preamble, the high levels of pollution had created healthcare problems and environmental damage, costing the country about 3 – 10% of the GDP. This amount will be used by the government to fund restorative projects for the environment and to subsidise the higher individual healthcare costs, leaving less funds available to tackle the economic problems in the country.</p> <p>Secondly, rapid rates of economic growth could be due to a rapid expansion of the components of the aggregate demand. This creates a situation where prices of factors of production and goods are bid up. This creates the problem of demand-pull inflation. This occurred widely in Asia before the Global Financial Crisis of 2008/09, where inflation due to strong demand exceeded 5 per cent in most countries.</p> <p>Last but not least, rapid rates of economic growth could increase income inequality. If the economic growth is based on rapid economic restructuring, then workers in the “sunrise” industries could receive higher levels of wages due to increasing levels of demand. Conversely, workers in “sunset” industries could receive lower wages due to lower levels of demand, hence widening the income gap. One example of this is in Singapore, where high-skilled, white collar jobs in export-oriented business services are paid highly while low-skilled jobs such as those in construction sectors tend to be lowly paid.</p> <p>At the same time, if economic restructuring sees an expansion of the high-skilled industries and a contraction of low-skilled industries, then low skilled workers who are retrenched may not be able to find jobs in the high-skilled sector due to occupational</p>	<p><i>Negative consequences</i></p> <p>(1)</p> <p><i>Link to preamble where suitable</i></p> <p>(2)</p> <p>(3)</p>
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<p>immobility. Hence, these low-skilled workers are likely to lose their wages. As such, rapid rates of economic growth due to economic restructuring could cause income inequality to worsen.</p> <p>While trying to reap the benefits of economic growth, governments try to avoid running into problems caused by growth rates that are too rapid. This then calls for the “right” policies that bring about “sustainable growth”.</p>		<p><i>Quick conclusion to part (a) – link to part (b)</i></p>
	Knowledge, Application / Understanding and Analysis	
L3	<p>Rigorous analysis of <u>both</u> positive and negative consequences of rapid economic growth rates.</p> <p>Sufficient scope: At least 2 positive consequences that are of different nature, and at least 1 negative consequence (or 1 positive + 2 negative).</p>	8 – 10 (9)
L2	<p>Either a rigorous analysis but with insufficient scope, Or sufficient scope but with some errors in terms of rigour.</p> <p>Answers in this range are likely to be characterised by:</p> <ul style="list-style-type: none"> - Lacking in some accuracy, - Cover only two impacts of economic growth, - Fail to capitulate on the word “rapid rates” - Focus only on the positive or negative consequence but with sufficient rigour on either side. 	5 – 7 (6)
L1	<p>Descriptive and superficial answer. Answers in this range are likely to make assertions about the consequences of economic growth without substantial economic analysis.</p>	1 – 4 (3)

Part (b)

<p>Sustainable growth indicates a rate of growth that can be maintained without creating other significant economic problems (e.g. resource depletion, environmental degradation, and rapidly rising prices), particularly for future generations. It implies a positive and stable growth rate over an extended period of time. Because the pursuit of self-interest by households and private firms need not necessarily take into account of these economic problems and the welfare of future generations, governments frequently have to intervene in order for economic growth to be sustainable. This essay assesses the policies to serve two different outcomes. One set of policies are targeted at reducing resource depletion and preventing excessive environmental degradation. The other set of policies seek to ensure price stability and long term growth rates that are positive and relatively stable.</p>	<p><i>Introduction – explanation of the notion of sustainable growth.</i></p> <p><i>Direction of essay briefly provided due to breadth and potential complexity.</i></p>
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Many governments turn to the use of taxation to reduce resource depletion and environmental degradation. For example, Singapore plans to tax the emission of greenhouse gases via a new carbon tax scheme. The tax will likely cost between \$10 and \$20 per tonne of emissions. It will generally be applied on the largest emitters of greenhouse gases, such as power stations and direct emitters. With this tax, the marginal private cost of these firms increase from S_0 to S_1 (Fig. 1). As a result, the quantity of industrial output reduces from Q_0 to Q_1 , thereby reducing the pollution caused by carbon-intensive mode of productions.

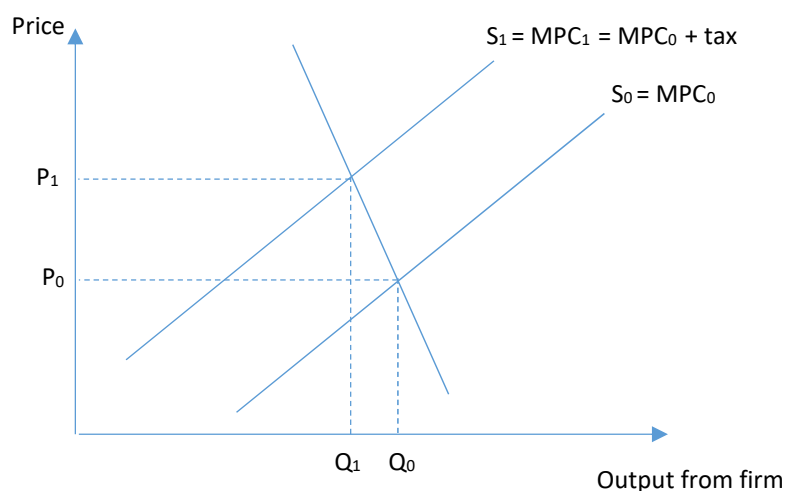


Fig. 1: Market for power generation

One drawback of the use of tax is that one unit of tax may not effectively in industries where the demand is price inelastic. Power plants produce electricity – a good that has very little substitutes. The demand tends to be price inelastic. The power generators could easily pass on the higher cost of production to consumers as higher electricity bills without suffering a substantial fall in quantity demanded. As such, the output of carbon-intensive goods might not fall substantially. Although the government could arguably impose a substantially high tax to “force” a big fall in output, this might have other implications such as raising the industrial cost of production, thereby eroding the economy’s competitiveness.

Furthermore, the imposition of carbon taxes may result in greater inequity. Unfortunately, necessities, for which consumers have the lowest sensitivity to prices, would see the largest price increases as households do not have the option of going without them. In addition, the lowest-income households spend the largest proportion of their income on necessities. Therefore, carbon taxes may result in the largest erosion of the purchasing power of the poorest households. Hence, the impact on low-income households

Policy objective 1: controlling output that are associated with high pollution and resource exhaustion.

Example taken from:

<http://www.straitstimes.com/singapore/environment/singapore-budget-2017-6-things-to-know-about-the-new-carbon-tax-tweaked>

Assessing (discussing) taxation tool to achieve policy objective 1

Local evaluation – implement complementary policies to mitigate unintended consequences

must be assessed carefully and the government may introduce a separate rebate to deal with the consequent inequity, if necessary.

Other tools that governments may use are quotas and regulation. Quotas restrict the amount of production by firms that cause pollution and environmental degradation. For example, China restricts the amount of harvesting of wild plants that are grown in the semi-arid areas. This reduce the output of herbs and food that are produced using these wild plants as ingredients. Many northern Chinese cities also set regulation on the amount of greenhouse gases that might be emitted by firms, particularly the energy generators. This aims to reduce the amount of external costs incurred by the society brought about by these industrial activities.

The problem with the use of administrative tools such as quotas and regulation is that they require high levels of monitoring and policing. In China, many firms and individuals are caught and penalised every year for breaching the quotas and regulation. The need for administration and policing, particularly in a big country like China might cost the government substantial operating costs. The opportunity cost of this is the other aspects of government expenditure that could be made, such as in education and healthcare, although arguably, the control of pollution and environmental degradation might reduce the need for publicly financed treatment on related diseases.

Another set of strategies frequently associated with supporting sustainable growth is to avoid “growth-at-all-cost” approach. In Figure 2, while aggregate demand could potentially increase to AD_1 from AD_0 through the aggressive use of expansionary demand management policies such as fiscal and monetary tools, the government is willing to allow a slower rate of growth in AD, to AD_1' instead. The outcome of this is that growth is slower, but avoids the strong rise in general price level (GPL) as associated with the rise in AD to AD_1 (to P_1' rather than P_1). The economy is also not at full employment of output, which indicates that natural resources are utilised to the point exhaustion – a situation frequently associated with high rates of pollution. Some resources are left available for future generations.

Other tools to support policy objective 1.

Discussing other tools to support policy objective 1.

Policy objective 2: avoid growth at all cost. Leave some resources for future. Avoid demand-pull price instability.

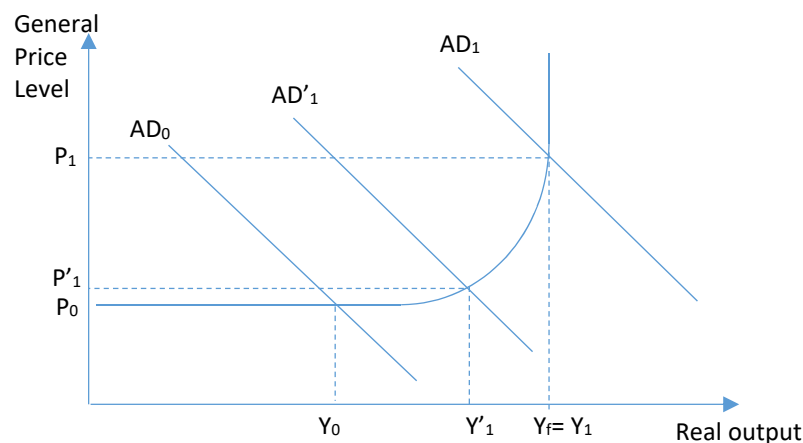


Fig 2

An example of the adoption of this approach can be seen in today's China, which chooses the "new normal" economic growth rate of about 6%. The "new normal" is indicative of the Chinese government's anticipation of slower but perhaps more sustainable economic growth. This means that the government may abstain from taking broad stimulus measures despite slowing growth. The central government could hold back on tools that are associated with trying to increase AD – fixing the Chinese renminbi at a low rate to promote export growth, and offering cheap loans to public and private firms to carry out investment expenditure.

In adopting this approach however, governments have to settle for a lower rate of economic growth, which might mean that the demand for labour might increase at a slower rate relative to the growth in size of the labour force, thereby potentially allowing unemployment rates to rise. Wages may also increase more slowly or be seen as stagnating. This might cost the government some political credits.

Thirdly, there are the policies to support the growth of the economy's productive capacity. Many governments, such as Singapore's, tries to achieve this by spending on physical infrastructure such as transport facilities, as well as social infrastructure such as education and healthcare. By spending on education, the quality of education could improve, resulting in more productive workers. By spending on healthcare, general health levels could improve, again leading to a more productive workforce that calls in sick less. The above therefore contribute to sustained increase in the productive capacity, causing AS_0 to increase to AS_1 , shifting full employment level of output from Y_f to Y_{f1} (Figure. 3).

Good to have diagrams. With them explained, you will not miss out on points for analytical rigour.

Not forgetting examples. Taken from contextual knowledge.

Discussing policy objective 2.

Policy objective 3: Increase LRAS to sustain growth and lower inflationary pressures.

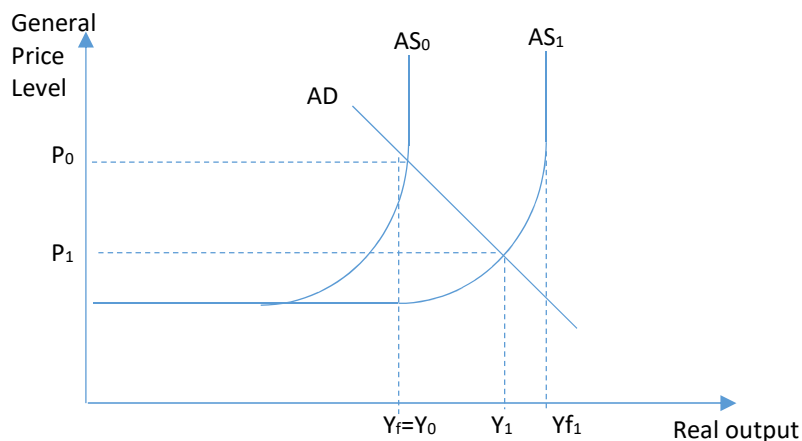


Fig. 3

As shown in Fig. 3, if the policies are successful, the full employment level of output demarcated by Y_f increases from Y_f to Y_{f1} . As a result, output could increase from Y_0 to Y_1 , and general price levels decrease from P_0 to P_1 . This reflects economic growth that is supported by increase in productive capacity, as well as lower pressures on inflation.

The drawbacks on these policies is that they require high amounts of government spending. While they generally pose less problems for government that run budget surpluses such as Singapore, governments such as those in the US might have less ability to do so as they incur a budget deficit. Borrowing to finance these spending might then “crowd out” private consumption and investments as the price of loanable funds gets pushed up. This might therefore adversely affect households’ material standards of living and private entrepreneurship.

Due to the breadth of the notion of sustainable economic growth, a broad range of microeconomic and macroeconomic policies is required to bring about sustainable economic growth.

What is first necessary, is for the government to be willing to take into account the full consequences of the pursuit of rapid economic growth. While it has its positives, it is undoubtedly a double-edged sword that can result in irreversible damages to both the economy as well as the environment, as seen in the case of China. As such, long term microeconomic and macroeconomic policies that look beyond mere short term benefits are important.

Discussing policy objective 3.

Conclusion: Quick summary.

Insight on government’s perspective, with reference to the preamble.

<p>The microeconomic policies of preventing excessive environmental degradation could have macroeconomic implications, where resources are preserved for use in future generation. The macroeconomic policies must then be targeted at the supply-side of the economy (i.e. the factor markets) in order for growth to be sustainable in the long term.</p> <p>The challenge, however, is that the right factor markets must be identified, amidst the uncertainty of outcomes. For example in Singapore, despite years of investing in what is perceived as high quality education, productivity gains had been mediocre. Controlling of output and factor income might also cause governments to incur political costs that they are able to absorb.</p> <p>All in all, sustainable economic growth requires a whole-society's approach that is long term in nature. As seen in this essay, while many policies are relevant, they each have their drawbacks and unintended consequences. The implication is that governments need to undergo a sound cost-benefit analysis backed up by robust market research to overcome the imperfect information they face.</p>	<p><i>Further insights on policies.</i></p> <p><i>Evaluation: insights on the difficulty in increasing LRAS.</i></p> <p><i>Overall conclusion and implications on governments as the decision makers for economic policies.</i></p>
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	Knowledge, Application / Understanding and Analysis	
L3	<p>Answer that evaluates policies targeted towards achieving sustainable economic growth.</p> <p>Analyses of policies are rigorous and accurate, supported by suitable examples.</p> <p>Scope-wise, policies span across <u>both</u> macroeconomic policies to:</p> <ul style="list-style-type: none"> - achieve positive growth over an extended period of time and - microeconomic policies to reduce the problems of resource depletion or environmental degradation. 	8 – 10 (9)
L2	<p>For an answer that is lacking in scope. Analyses that cover only macroeconomic policies to achieve sustained, rather than sustainable economic growth will be capped in this range.</p> <p>For an answer that contains some errors, leading to an inaccurate and incomplete analysis.</p>	5 – 7 (6)
L1	For a superficial and descriptive answer, or where there are substantial conceptual errors.	1 – 4 (3)
E3	For the top range of evaluation marks, answers could contain:	4 – 5

	<ul style="list-style-type: none"> - Recognition of assumptions that must hold in order for the policies to work. - Weighing of which policies might work better to achieve sustainable economic growth. - Further insights on the formulation of policies or decision making process that helps a government achieve its objective of sustainable economic growth. 	
E2	<p>Random and brief evaluative comments that appear incidentally rather than systematically crafted to support the analysis. There is no evaluative conclusion to answer the question.</p> <p><u>OR</u> where evaluative skills are demonstrated only in the conclusion where a systematic evaluation of the policies is conducted.</p>	2 – 3
E1	For unsupported and brief evaluative comments that appear in silo in the analysis or as the conclusion.	1