

Question 5

- 5 It is the economy-wide productivity consequences of technological improvement, not technological improvement per se, that lifts standard of living.

Assess the extent to which higher labour productivity are likely to improve standard of living in Singapore. [25]

Rephrasing the Question (i.e. Unpacking the **ISSUE** of the question)

How far does rising labour productivity **affect** the SOL in Singapore?

Question Requirements:

- Explain the 2 different types of SOL namely material and non-material SOL.
- Explain what is meant by labour productivity.
- Explain how higher labour productivity could lead to higher material and non-material SOL in Singapore. [i.e. the **effects** of higher labour productivity on SOL in Singapore]
- Explain how higher labour productivity may not lead to higher material and non-material SOL in Singapore.
- Explain how **other factors** could be responsible for improving SOL in Singapore.
- **Evaluate** how far higher labour productivity would affect the SOL.

Suggested Introduction

What is labour productivity?

- Labour productivity is measured as output per unit of labour input in a given time period.
- Higher labour productivity could be achieved through either
 - (1) a decrease in the quantity of labour to produce the same amount of output or
 - (2) an increase in output through increasing the quantity and quality of capital, land and entrepreneur as well as the quality of labour while ensuring that the number of labour employed remains unchanged or
 - (3) a combination of both.

Definition of SOL

- The standard of living refers to both the **material** and **non-material** aspects of life.
 - The **material** SOL measures the **quantity** and **quality** of goods and services accruing to each person in the country. Real GDPpc is usually use as a statistic.
 - The **non-material** SOL measures the **intangibles** and focuses on the **quality of life**. This includes the environment, literacy rates etc

Suggested Body

THESIS: Higher labour productivity can help to improve SOL

Suggested Body 1: Using **AD – AS diagram**, explain how higher labour productivity could increase real national income through an increase in SRAS, LRAS and AD which in turn increases in material SOL.

Effects of higher labour productivity on **material SOL**

Higher **economy – wide** labour productivity through an increase in the efficiency of labour (e.g. Singapore's electronic manufacturing firm Feinmetall trained its workers are also trained to do more than one task, for instance, in both soldering and needle bending¹.) and increase the quantity of capital to complement its labour (e.g. In 2015, Feinmetall designed and introduced a machine that slashed the time taken by more than half to bend needles used in the manufacturing of probe cards.)

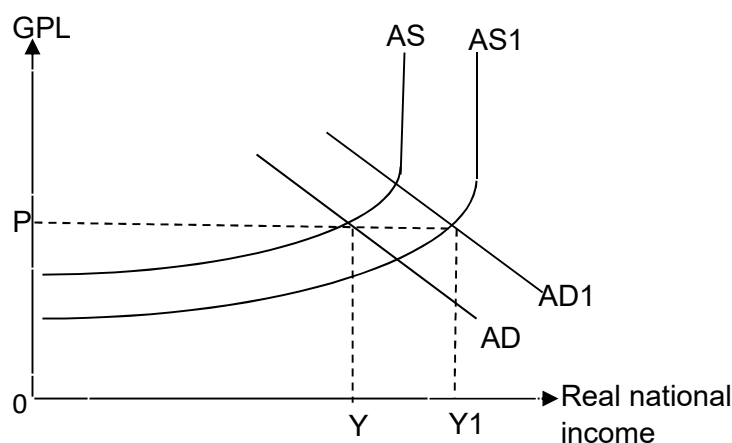
This **economy-wide** labour productivity consequences of technological improvement (as seen from the preamble) results in a more efficient work force in Singapore where the labour productivity could be higher than the corresponding increase in wages. In turn, the short-run AS curve shifts to the right, because the average cost of production is lower as the same level of output can be produced with less resources.

At the same time, higher labour productivity also enables more output to be produced with the same amount of labour. Thus, this increases the Singapore's productive capacity. The long-run AS curve shifts to the right and thus result in higher potential economic growth.

With higher labour productivity, foreign investors will be more willing to invest in Singapore as they are able to produce more output with a given amount of resources, given that labour is now more skilled and efficient. This increases the expected profitability from investment which increases FDI inflow which constitutes large component of Singapore's investment expenditure. The increase in AD due to FDI inflow will lead to a multiplied rise in real national income, promoting actual economic growth of Singapore.

The subsequent increase in capital stock and foreign direct investments attracted due to improvement in labour productivity will further improve the AS in the long run as there are more spending on capital goods.

With simultaneous shifts in both AD and AS curves, this would result in the increase in real national income. This can improve material SOL because higher real national incomes improve households' ability to purchase more goods and services, improve housing and education. A rise in real income over time indicates presumably higher material SOL because of the greater output of goods and services available for consumption.



Effects of higher labour productivity on **narrowing income inequality**

Higher labour productivity through productivity improvement schemes that are accessible to lower-skilled groups (SPUR and Skills Future Scheme), this can also help to improve income mobility of lower income groups where they could move to higher skilled jobs that are paid with

¹ <http://www.todayonline.com/singapore/automation-helps-manufacturing-firm-improve-productivity-10-cent>

higher wages and thus narrow income disparity (**Use labour market diagram to explain and illustrate these effects**) → improve material SOL of lower skilled workers
Suggested Body 2: Explain how higher labour productivity could increase real national income which in turn increases in **non – material SOL**.

Higher labour productivity may also increase the work-life balance of workers in Singapore. If more output can be produced with the same amount of labour hours, workers in Singapore may be able to work less hours and have more leisure time to spend with their family, increasing their non-material SOL.

[Students could discuss other positive effects of higher labour productivity on non-material SOL such as higher expectancy due to higher quality of healthcare, etc]

ANTI-THESIS: Higher labour productivity may not help to improve SOL

Suggested Body 3: Explain how higher labour productivity may not lead to higher material and non-material SOL in Singapore.

Effects of higher labour productivity on widening income inequality

Higher labour productivity may not accrue to all types of labour equally. As the Singapore economy restructure and transform to become a more knowledge-based economy, there will be a segment of workers that may not be as well-trained. These unskilled and semi-skilled workers may also not be able to command high wages and hence may widen the income inequality in society, as shown by the rising Gini coefficient in Spore from 2009 to 2012 (See Figure 1 in Annex A).

Effects of higher labour productivity on structural unemployment in the SR

Higher labour productivity could prompt firms to adopt labour-saving technologies or more capital-intensive production methods for innovation or forced to utilise less labour so as to “economise” on the use of labour which is now relatively more expensive than capital. Higher wages and lack of workers may cause labour intensive firms, especially firms in the retail and construction sectors, to shut down. Technological and structural unemployment will rise as the economy restructure to a more productivity-based economy.

All the above may lead to a fall in real incomes due to the rise in structural unemployment. Hence, the material SOL of the various segments of Singaporeans may be adversely affected.

Effects of higher labour productivity on negative externality in production

If higher labour productivity is achieved by greater use of physical capital that emit negative externalities in production, there could be more noise and air pollution.

Health of the workers may also deteriorate due to rise in stress levels as they could be working harder in the same amount of time in order to be efficient. All these can contribute to a fall in non-material SOL.

Suggested Body 4: Other considerations :

- Government’s commitment to correct negative externalities in production (i.e. carbon tax in Singapore). Although this could improve the non material SOL, it may worsen the material SOL as COP rises with the imposition of taxes
- The methods/policy adopted by the government to achieve higher productivity may have short term pains.
- 1. The Singapore government has been actively implementing policies that are intended to boost economic wide labour productivity like increases in foreign labour levy since 2011 to encourage firms to innovate instead of relying on low wage foreign labour. This would

initially lead to rising COP and hence falling Material SOL. It could have also led to higher price as cost increased. This would lower the real GDPpc. Although it may have helped Singaporeans to have better employment opportunities.

2. Productivity Innovation Credit in year 2014 to promote automation of firms may have led to the rising unemployment as machines replaced labour. This may lead to greater income inequality as well as falling disposable income for labour whose job have been lost to machines.
3. Skills Future Scheme in year 2015 to improve the skills and qualifications of workers through training can help workers obtain better jobs as well as improve their employability. However, most employees would have to take up these courses while working. This may reduce their leisure time as well as add stress and hence worsen their non material SOL.

Suggested Conclusion

In conclusion, higher labour productivity plays an important role in improving SOL in Singapore in the **long run** given the characteristics of the Singapore economy where labour resource is scarce and FDI takes up a large proportion of investment expenditure.

Whether higher labour productivity is able to improve SOL in Singapore depends on a number of factors. If the increase in labour productivity largely come from the use of more machines and technology, there may be rise in structural unemployment as seen in today's context which can hurt SOL of some segments of the population. In addition, SOL in Singapore may also not increase as much if other economies are able to attract FDIs away from Singapore when their productivity rates are relatively higher.

In addition the impact on SOL is difficult to measure as SOL comprise of both material and non-material components. It is important to use a statistic like the Happiness Index that measures the holistic change in SOL to come to a better conclusion of the impact of higher labour productivity on SOL.

Marking Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> For a comprehensive and well-balanced answer that clearly explains how and analyses whether higher labour productivity can help Singapore to improve its SOL, and Excellent rigour in economic analysis and development. Excellent diagrams drawn which are well explained. Excellent attempts at contextualisation. 	15 – 20m
L2	For an answer that explains how higher labour productivity may help to improve SOL in Singapore without either <ul style="list-style-type: none"> discussing how labour productivity may not raise SOL or sketchy explanation of both lines of arguments but with limited application to Singapore context. 	9 – 14m
L1	For a one-sided answer that briefly explains how higher labour productivity can or cannot help Singapore to raise SOL OR A sketchy two sided answer.	1 – 8m

Evaluation	
For an answer that arrives at an <u>analytically well – reasoned judgment</u> from various perspectives (i.e. firms, government) supported by economic analysis (i.e. Decision Making Model Considerations or Cost Benefit Analysis) on the extent to which higher labour productivity is able to improve SOL in Singapore.	4 – 5
An <u>unexplained judgment</u> (i.e. list out all the possible factors that could determine the extent to which higher labour productivity is able to improve SOL in Singapore) that is <u>not supported by economic analysis</u> .	2 – 3
For an answer that takes a stand on whether higher labour productivity is able to improve SOL in Singapore.	1