

In 2015, Singapore's GDP at 2010 Market Prices grew by 2%, the total population grew by 0.8%, inflation was -0.5% and overall unemployment stood at 2%.

Discuss the limitations of these statistics in both assessing the changes in the standard of living in the Singapore economy in 2015 and comparing it with that of other economies. [25]

Essay outline:

- Explain the uses of Singapore's GDP at 2010 Market Prices to measure material SOL. Explain the relationship why there is a need to use real GDP per capita to measure material SOL.
- Discuss the uses of inflation and unemployment data to measure SOL.
- Discuss the limitations of using real GDP per capita to measure SOL over time.
- Discuss the limitations of using inflation and unemployment data to measure SOL over time.
- Explain why and how real GDP per capita is used to measure SOL over space.
- Explain PPP with reference to measuring SOL over space
- Conclude with some discussion about the relevance/importance of statistics in assessing changes in the SOL.

Introduction:

Definition: Standard of living includes both material and non-material well-being of an individual or household. The material well-being consists of quantity and quality of the goods and services available for consumption while the non-material well-being include quality of life such as the quality of the environment, leisure hours.

Direction: As standard of living embraces both material and non-material well-being of the population, we need to consider statistics such as GDP growth, inflation and unemployment rate to assess the change in standard of living of a country as well as a basis of comparison with that of other economies.

Thesis:

P1: GDP data can be used to assess the material SOL of Singapore.

From the data given, Singapore's GDP at 2010 Market Prices grew by 2%. It means that there is an increase in the value of real output (qty or volume of goods) by the country after taking inflation into consideration. With the rise in real incomes, people are better off because more goods and services have been produced and made available for consumption. More wants are satisfied, thus increasing the material standard of living of its people.

However, an increase in real GDP may not reflect an improvement in the standard of living of an average Singaporean. It does not necessarily mean that the *average* citizen is able to enjoy 3% more goods and services. This depends on the rate of population increase. If the population grows faster than national income, the individual's share of real national income will be falling. Hence, standard of living might be under or overstated if population growth is not taken into consideration. Hence, a more accurate indicator of changes in standard of living over time is real GDP per capita.

Since population growth is 0.8% which is lower than the growth of real GDP of 2%, this means that real GDP per capita is 1.2%. Thus, a real GDP per capita growth of 1.2% could mean that on average, each person has 1.2% more goods to consume now. Overall, there is an improvement in material SOL in Singapore.

P2: Inflation data can be used to assess the material SOL of Singapore.

Inflation rate is the percentage change in price level from year to year. Price changes are measured by CPI, which gives the change in the price of fixed basket of goods and services commonly purchased by households in specific period of time. Any changes in the index reflect solely price changes. An inflation rate of -0.5% mean that prices on average decreased by 0.5%. This means that there is a decrease in the cost of living (how much it cost to buy a common basket of goods – basket of goods refer to goods consumed by the average household) in the country. This could translate to a higher material SOL in Singapore as with the same money income, purchasing power increase.

P3: Unemployment data can be used to assess non- material SOL of Singapore.

Unemployment rate is a key indicator of the state of the labour market. The statistics given is 2% which is considered low in the international standard. The low unemployment rate indicates that Singapore is experiencing high employment continuously. This means that majority workers who are looking for work are able to find work. The stress of getting employed in Singapore is lesser compared to another country with high unemployment rate. Low unemployment could also be linked to having lower crime rates and social issue given that majority of people are employed and have less tendency to commit crimes. Overall, there should be a rise in non-material well-being of an average person in Singapore \.

[Transition statement] Limitations of the indicators:

Real GDP, inflation and unemployment rate appear to be useful in assessing the level of standard of living across time. However, there are some limitations in using the statistics especially when it is used to measure SOL over time.

P4: GDP data might not be a good measure of material SOL in Singapore over time.

Real GDP per capita is a statistical mean (average) and it does not reflect the income distribution among the people in the country. An increase in real GNP per capita does not mean that all individuals benefit equally from economic growth since there is bound to be inequalities in the distribution of income. In fact, the distribution of income may become more unequal when the country enjoys economic growth. The rich experience a faster rise in income as they usually have the skills that employers are looking for. For the poor, they experienced difficulty in getting employed as they often lack the skills required. Thus, they will have to settle for low-paying job, worsening income inequality. To make meaningful comparisons of standards of living over a period of time, we have to make use of supplementary indicators such as the Gini coefficient when assessing the change in material SOL in Singapore. Gini coefficient helps to assess if there is equity in the distribution of the increased output. This will give us a better overview how equitable the income distribution. A fall in the Gini coefficient value reflects an improvement in the income distribution in Singapore and hence higher SOL for the average person.

[Optional point] Real GDP per capita does not take into account the type of output produced. A country's output includes both consumption and investment good. If the increase in Singapore's real GDP per capita is due to an increase in investment in capital goods, consumers are no way better off in their current standard of living given that current living standard depends on the level of consumption goods. Moreover, if the production of capital good is at the expense of consumers' goods, it will worsen the current level of standard of living but improve future standard of living. Thus, additional information on the real consumption per capita would be more useful.

P5: Inflation data might not be a good measure of material SOL in Singapore over time.

In the earlier paragraph, it is the changes in the price of the fixed basket goods and services commonly purchased by households in specific period of time will reflect the changes in price as measure by CPI. The statistics gave inflation rate as -0.5%. However, it does not necessary means that the fall in price has been broad-based, resulting in an increase in material standard of living.

The complication lies with how the CPI basket is constructed. CPI is computed by combing the prices for different items and groups according to their weight in their basket. Thus, price changes in items with larger weights will have a greater impact on the CPI than those with smaller weights. Accommodation and private road transport together account for more than a third of the CPI index in Singapore. Given the implementation of macro-prudential measures on housing and car purchases in 2015, it has a significant impact on the prices of both accommodation and car purchases. That explains why there is negative inflation of -0.5%.

Moreover, CPI is based on the consumption pattern of the average household, it may not reflect the inflation experience of individual households with different consumption patterns. For those who are not purchasing cars or housing would not be able to experience an increase in material standard of living.

P6: Unemployment data might not be a good measure of material SOL in Singapore over time.

Unemployment rate excludes workers who are not actively seeking for a job and therefore they are not part of the labour force. So if there are many unemployed workers who are discouraged from looking for a job due to a prolonged recession, the unemployment rate falls because they are not considered as unemployed and they are also not considered as part of the labour force. The unemployment rate also does not separate those who have full time jobs and part time jobs. So even though the unemployment rate is low it may hide the fact that many could be just part timers and therefore, SOL could be lower than what the data show as part timer normally earns less. In the case of Singapore, we have many foreign workers. A more accurate data is the unemployment rate of Singapore workers rather than all workers. There are many other limitations of the unemployment rate. As such it is necessary to have other information to supplement data on unemployment to get a more accurate picture of SOL.

P7: GDP data might not be a good measure of non-material SOL in Singapore over time.

Moreover, real GDP per capita figure is quantitative rather than qualitative. They do not reflect changes in the quality of goods and services nor the non-material standard of living. While output in quantitative terms has improved over the years, the *quality* of life may have suffered due to the faster pace of life resulting in higher stress, lesser leisure time for friends and families, congestion and environmental degradation. Eg, A U.S. Bureau of Labour Statistics report indicates that of the 20 countries covered, average annual hours worked were highest in Singapore at well over 2000 hours, in 2011. In contrast, Singapore was ranked 20th in terms of GDP per hour worked (an indicator of a country's productivity). The longer hours spent at work means that fewer hours are available for leisure, for family and friends. Hence, the non-material standard of living in Singapore, or the quality of life may suffer as people experience a higher level of stress.

Therefore, taking into account of these limitations, we would have to consider supplementing with other indicators such as Human Development Index (HDI). HDI will provide a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in

education). This will give us an overview of how material and non-material standard of living could be assessed over time.

Synthesis: Usefulness of indicators to measure standard of living over time.

To assess whether material standard of living has improved over time in Singapore, indicators such as Singapore's GDP at 2010 Market Prices, inflation and unemployment are useful as they do give an overview of the material standard of living. However, for non-material standard of living, it is hard to determine as the indicators given do not touch on non-material standard of living. Although non-material standard of living could be inferred via unemployment indicator, it is still hard to determine unless there is further supplementary data such as HDI to support unemployment data.

Comparison of standard of living across different countries:

Transition statement:

Real GDP per capita is used to measure standard of living over time in Singapore. It is also used as a yard stick to compare standard of living across different countries especially since population growth is different for different countries. Moreover, real GDP per capita has already factor in inflation, the inflation data stated in the preamble would become irrelevant when we are comparing standard of living across countries.

P8: The use of GDP data as measure to compare SOL of Singapore with other countries might be limited due to difference in cost of living.

Real GDP per capita is used as a basis to compare the relative economic strengths of different countries. To facilitate comparison between countries, the GDP estimates of countries need to be converted into a universally accepted currency (e.g. US dollars) at the current market exchange rate.

However, the exchange rate may not reflect the internal purchasing power of the country's currency. Eg, Singapore's GDP per capita is 5 times larger than Malaysia but it does not mean that Singapore standard of living is 5 times greater than Malaysia as we would need to consider the cost of living in Malaysia. If the cost of living is lower in Malaysia, then Singapore's standard of living based on the exchange rate is overstated.

Therefore, purchasing power parity (PPP) is a better alternative compared to exchange rate. It ultimately equalize the purchasing power of two differing currencies by accounting for differences in inflation rates and cost of living. PPP is a rate of exchange that would allow a given amount of money in one country to buy the same amount of goods in another country after exchanging it into the currency of another country. Eg, if a basket of goods costs S\$100 and RM250 in Singapore and Malaysia respectively, then the purchasing power parity between the 2 currencies is S\$1: RM2.50. This will ensure that cost of living has been taken into account. Converting real GDP per capita to real GDP (PPP) per capita will be a more appropriate measure to measure material standard of living across countries compared to using just exchange rate.

[Optional] P9: The use of GDP data as measure to compare SOL of Singapore with other countries might be limited due to difference in accounting method and accuracy of estimates of GDP.

There is no internationally agreed method of measuring national income as not every country uses the same basis for their figures. In some countries, due to different accounting convention adopted, self-consumed items grown by farmers are classified under non-marketable items. In undeveloped countries, self-sufficiency is common and it is not recorded whereas in a

Singapore, this would be included in the NY statistics. However, in undeveloped countries, it could not be said that the well-being of undeveloped country is lesser simply because it is not reflected in the statistics.

Furthermore. It is difficult to compare living standard between developed and developing countries as due to varying accuracies in data collection. Especially the varying degrees of underground economy activities between countries. It is difficult to capture the data as they are usually illegal transaction are not computed in national income accounting. Hence, comparing the relatively more accurate estimates of Singapore with a third world countries will yield misleading results.

Conclusion:

To use these statistics to assess the changes in the standard of living in Singapore and across countries is challenging as there are limitations involved. One of the greatest challenge is to obtain accurate information especially when it is across space, such as developing countries. Most of the data collected may not be accurate due to the sampling size. Most of the information collected are through surveys and from a relatively small number of companies and establishments to ensure timelessness and also to reduce respondent burden. However, as a result, due to the limited pool of sample, the data collection may not be accurate.

Despite the above limitations of the statistics, real GDP per capita and unemployment rate are useful indicator to measure standard of living across time and space. However, other indicators such as literacy rates, patients per doctor, types of housing, pollution level must be taken into account when comparing the standard of living across time and space to account for non-material standard of living.

Level	Knowledge, Application, Understanding and Analysis
<p>High L3</p>	<p>Thorough knowledge about the facts and theory with an excellent ability to describe and explain the statistics in a precise, logical and reasoned manner.</p> <ul style="list-style-type: none"> • Excellent understanding of the uses and limitations of the statistics given. • Were able to assess both the standard of living in Singapore and in comparison with other countries using the statistics given. • Explain why purchasing power parity is used for international comparison. <p>Relevant and real-life examples were given to showcase the ability to apply to relevant current situation.</p>
<p>Low L3</p>	<p>Expect a good knowledge of the facts and theory of the question. Clear evidence of the ability to use fact and theory with accurate reference to the question.</p> <ul style="list-style-type: none"> • Good understanding of the uses and limitations of the statistics given. • Were able to assess both the standard of living in Singapore and in comparison with other countries using the statistics given. • Explain why purchasing power parity is used for international comparison. <p>Hypothetical Examples were given to showcase the ability to apply to relevant current situation</p>
<p>High L2</p>	<p>There should be evidence of an ability to identify facts. Answer is relevant to the question but the theory may be incompletely explained.</p> <ul style="list-style-type: none"> • Adequate use of indicators to measure material and non-material SOL. • One sided comparison over time or space.

	<ul style="list-style-type: none"> • Cap at L2 if the student did not go beyond explaining the purpose of unemployment rates and inflation rate indicators. .
Low L2	<p>Expect an accurate although undeveloped explanation of the facts relating to the question. Do not expect a clear logical presentation.</p> <ul style="list-style-type: none"> • Some use of indicators to measure SOL • Presentation may not be clear. • Not much evidence to support the assumption • Could not organise ideas properly
High L1	<p>Answer shows some knowledge it does not indicate the meaning of the question has been properly grasped. Basic errors of theory or an inadequate development of analysis may be evident</p> <ul style="list-style-type: none"> • Some explanation of the indicators without much reference to the question.
Low H1	<p>Answer is mostly irrelevant and only contains a few valid points in an irrelevant context.</p>
E3	<p>Well-reasoned/explained judgment Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as in a good summative conclusion</p>
E2	<p>Largely unexplained judgements Some attempt at evaluation or a summative conclusion Relevant to the question but does not explain the judgement or base it on relevant analysis</p>
E1	<p>Unsupported evaluative statement or judgement One that lacks explanation</p>