**Chapter 7 Economic Indicators**

Content

1. Explain the difference between Real GDP and Real GNP (4)

2. Explain how the economists assess the economic performance of a country. (10)

3. Explain how economic indicators can be used to assess the standard of living of a country. (10)

4. Discuss how the standard of living between countries can be accurately compared. (10)

5. Explain how the economic growth of a country affects the level of standard of living of a country. (15)

6. CSQ Practice 1

7. CSQ Practice 2

8.CSQ Practice 3

9. Essay Practice 1

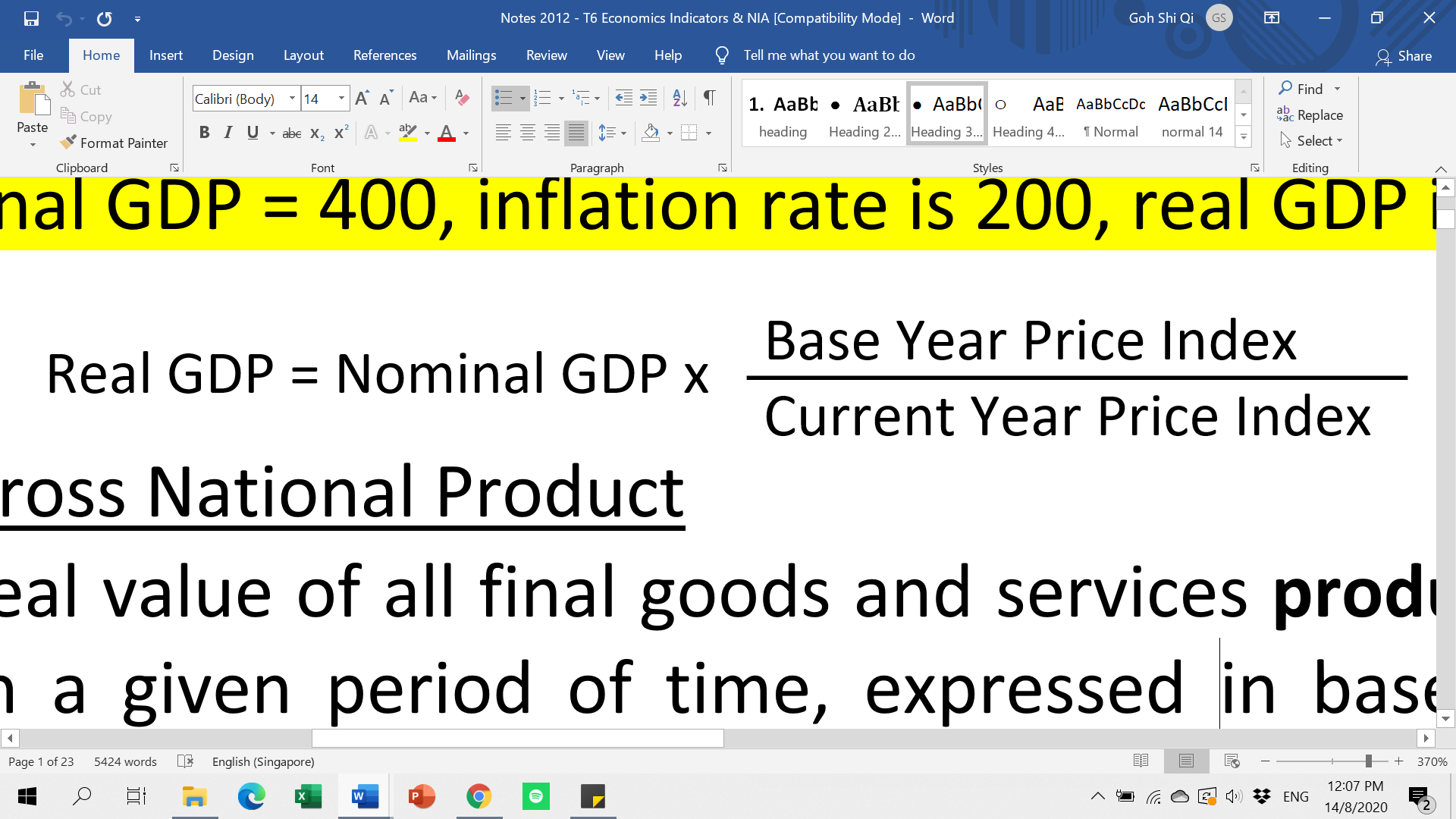
10. Essay Practice 2

**1. Explain the difference between Real GDP and Real GNP**

1.1 Real Gross Domestic Product (GDP)

- The real value of all final goods and services produced within a country within a period of time, expressed in base year price level after it is corrected for inflation.

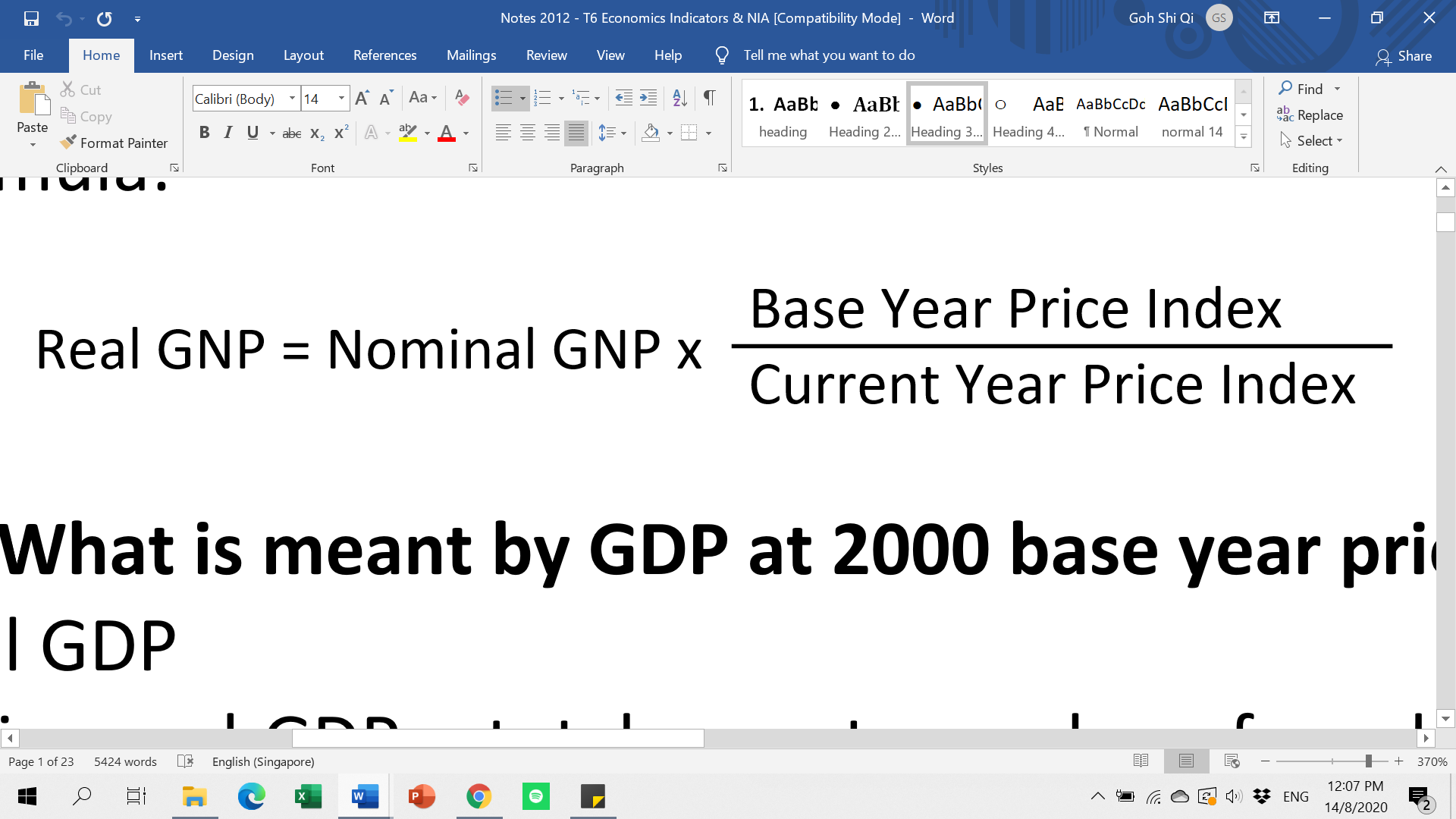
Formula:



1.2 Real Gross National Product (GNP)

- The real value of all final goods and services produced by nationals within a given period of time, expressed in base year price level after it is corrected for inflation.

- Formula:



**2. Explain how the economists assess the economic performance of a country.**

Economic Indicators to assess the economic performance of a country

- Economic Performance is analysed by showing the positive or negative effects of the indicators

- The GDP growth rate or the value of the GDP will reflect the level of production capacity which measures the monetary level of the total goods and services produced within the economy. This will reflect the productivity of the economy as the comparison is made over a previous year.

- The sectoral performance analysis which will reveal the scope of economic development as it will reveal the areas of specialization of the economy and its extent of depth of the development of the economy. This can be seen by examining the percentage of contribution of the sectors to the GDP and the extent of growth the sector over time→ significance of industries to the state

- Growth of capital-intensive industries raise GDP but provide very little to employment.

- The unemployment rate will determine the rate of utilization of resources seen in terms of labour in employment. A full employment utilization of resources will mean that the economy has made attained the production efficiency as it has produced on the production possibility curve. Determines the wage rate as high UN+ rate will mean an excess labour supply and thus, the wage rate will be lowered.

- The consumer price index will reflect the level of price stability in the economy as the rise in CPI would mean the economy is experiencing inflation and it may undermine the economy from attaining sustainable economic growth as the economy will experience rising cost condition.

- The level of investment in the economy, especially the foreign direct investment will raise production, leading to higher level of national income and employment. Higher level of investment in the areas of infrastructural development and research and development will expand the mobility of resources and efficiency in production and thus, expanding potential growth and raising actual production.

**3. Explain how economic indicators can be used to assess the standard of living of a country.**

3.1 Standard of living (SOL)

- Measures the average quality of life of a population (well-being) which includes the material and non- material aspects of life.

3.2 Quantitative Standard of living (Material SOL)

- SOL measured in terms of the purchasing power which will reflect the level of material comforts and this is commonly represented by the real per capita income/ real GDP per capita

- Only real per capita income/ GDP can be used as the economic indicator that directly determine the quantitative value of Sol

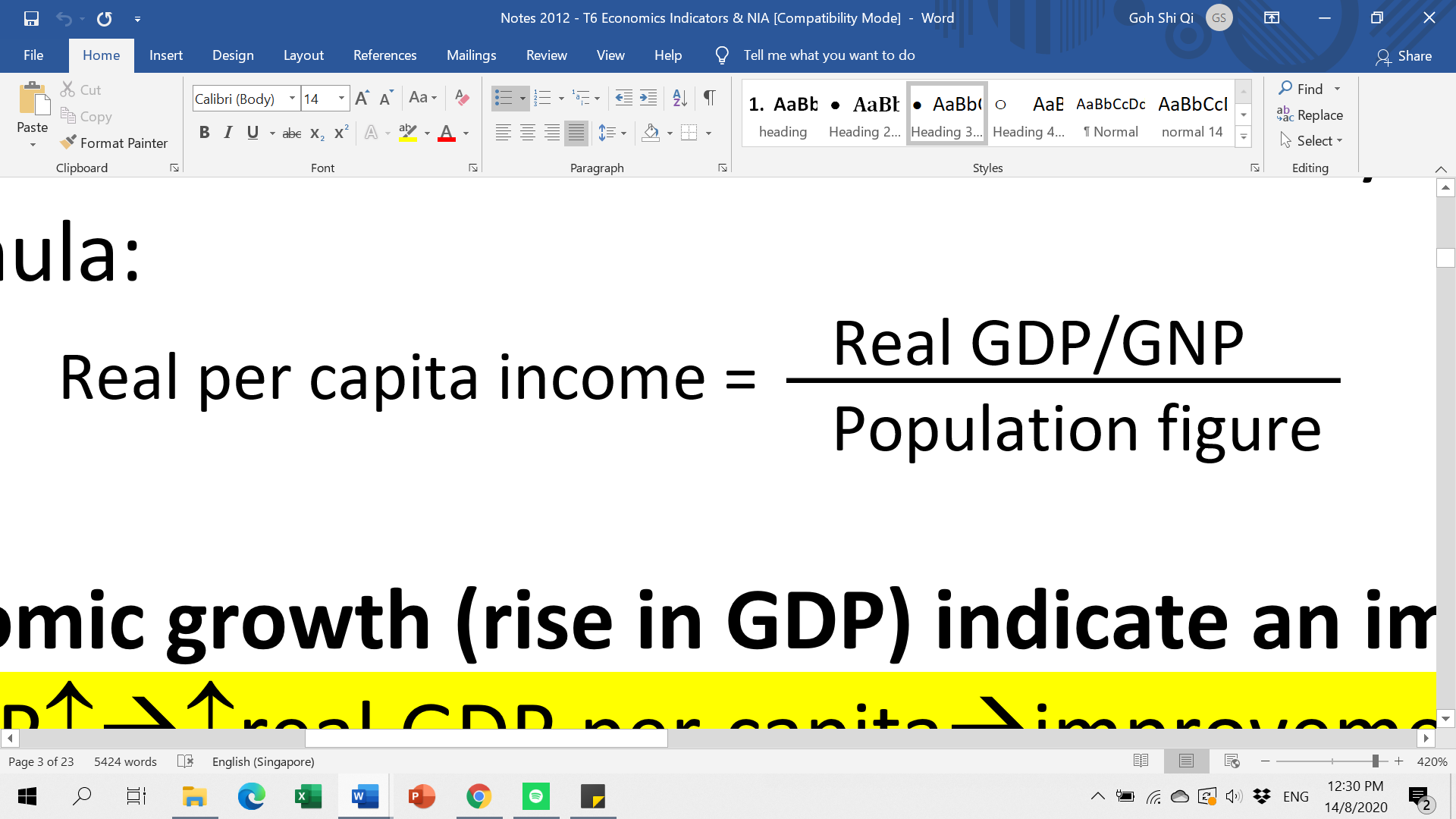
3.3 Qualitative Standard of living (Non-material SOL)

- SOL measured in terms of the quality of life, which will reflect the intangible aspect of comfort of the life of the people and this is commonly represented by the mortality rate, birth rate, level of working hours and stress and the level of externalities in the country consumption and production.

3.4 Real per capita income

- real income of an individual in an economy

- formula:



3.5 Human Development Index

- Measured the standard of living in terms of the progress of the well-being of the individuals

- Includes:

→ Life expectancy at birth

→ Adult Literacy

→ Adjusted reap per capita income

3.6 Measurement of Economic Welfare

- Measured the standard of living in terms of the monetized value of the qualitative aspect of SOL- Green GDP (GDP - negative externalities + positive externalities)

- Includes:

→ Discounting for externalities (traffic jam, pollution)

→ Adding of non-marketed activities (subsistence activities)

→ Adding the value of leisure

- Problems with the measure associated with the difficulty in assigning values to non-marketing activities and leisure. Both MEW and HDI are indicators of the qualitative aspect of SOL.

3.7 Limitations of Human Development Index as a measurement of SOL

1) Quality of improvement in the well-being is difficult to quantify as the standard of education may be different at different level

2) Lack of a common yardstick to measure for countries against countries – value of leisure (movie ticket is $12 in SG but 30 cents in the village of India)

3.8 Limitations of Measurement of Economic Welfare as a yardstick for SOL

1) The value of monetization of the qualitative variable of SOL may vary due to the quality of services as seen in the form of leisure like cinema.

2) Price level of goods and services that determines the value of leisure will experience inflation and distort the values of leisure

**3.9 Difficulties in using national income to derive a country’s SOL (Problems of Time Comparison) problems in comparing SOL of one country over 2 time periods**

A. Changes in the Price Level

### - Affect the value of real per capita income since increase in price level would mean a fall in the purchasing power of the citizens

- Inaccuracy of price index

### B. Growth of the Population

- The real per capita income will fall as the total income is distributed over larger population

### - If percentage increase in GDP or economic growth rate is lesser than the percentage increase in population growth rate and inflation rate, the real per capita income will not increase – SOL has not improved

- E.g. EG (4%) < pop. growth (3%) and inflation rate (2%) – real GDP per capita will not rise – as the gain in NY is shared lesser by the citizens

### 

### C. Distribution of Income Not reflected in National Income Figures

- If the distribution of the national income is not even, the actual average income will not be a good reflection of the average citizen’s income. This means that the increase in national income is only enjoyed by a small group of the citizens.

### 

### D. Lack of the consideration of the composite of expenditure

### - If the increase in national income does not lead to greater production of more merit and public goods, it does not generate an improvement in standard of living

### E. Lack of consideration of the quality of products and goods and services

### F. Length of working hours and conditions of work not shown

### G. Unrecorded and undeclared items. (moon lighting)

### H. Social costs and benefits not accounted for

- It may be higher due the presence of externalities which may undermine the welfare of the consumers.

**4. Discuss how the standard of living between countries can be accurately compared**

Difficulties in using national income to derive the SOL of two countries for comparisons (Problems of space comparison) (difficulties in comparing SOL between two countries)

### 

### A. Different Structure of Prices (how inflation rate is determined)

- Due to differences in price index – may undermine the calculation of real per capita income

- Difficulty to derive a similar basket of goods for comparison

### 

### B. Different Rates of Foreign Exchange (Use PPP)

- The value of real per capita income may be over-valued or under-valued due to the fluctuation of the exchange rate

- Purchasing Power Parity determined exchange rate is used to denote the denomination rate

### 

### C. Different Treatment of Some Items Coverage of Items in National Income Estimates

- Different countries have different ways on how the value of an item is calculated, contributing to diversity in calculation and interpretation of the values

- Interest payment from Singapore is not considered taxable income but it is considered taxable in US

### 

### Different Sources of Statistical Data

### D. Lack of the Consideration of the Composite of Expenditure

- If the increase in national income does not lead to greater production of more welfare goods, it does not generate an improvement in standard of living

### 

### E. Distribution of Income is Not the Same

- If the distribution of the national income is not even, the actual average will not be a good reflection of the average citizen’s income. This means that the increase in national income is only enjoyed more by a small group of the citizens in one country than another

### 

### F. Difference in Quality of Goods

- The consumption of the good and services may be the same but the quality of the services of consumption will differ lack of consideration of qualitative aspect of SOL

**5. Explain how the economic growth of a country affects the level of standard of living of a country.**

Qn: Can GDP growth rate (rise in GDP) be used as an indicator that the standard of living has improved?

Since the real capita per income will be determined by the rise in GDP, it implies that the economy is experiencing actual economic growth, and thus, the rise in economic growth will lead to an improvement in SOL.

5.1 Explain how rise in GDP will lead to improvement in SOL

A. Explain how real GDP per capita is derived

To derive the real GDP per capita, the GDP is first deflated into real GDP using the deflator which converts the value of the total monetary value of goods and services produced in a year by the residents of the country into real term. This is further divided by the size of the population which reflects the average value of the national income shared by one resident expressed in real term.

In another way, the real GDP per capita is higher if the economic growth rate is higher than the inflation rate and the population growth rate as the share of the total monetary value of goods and services produced is greater. This implies that the residents in the nation have a higher purchasing power and enjoy a higher level of material comfort.

B.The rise in GDP will mean that there is a higher level of real per capita income which implies that the purchasing power of the people has improved. This will lead to a higher level of material comforts and enjoyment and this implies that their SOL has improved.

C. The increase in GDP would also imply that there is an increase in the total production capacity of goods and services for the citizens and residents to consume, implying that there is a higher level of material comfort.

D. A higher level of national income will enable the nation to attain a higher level of tax revenue and this will provide more funds for the government to embark on infrastructural and institutional development. This will make their lives more convenient and comfortable and thus raise the SOL.

5.2 Problem of inaccuracy of NY figures

However, the rise in national income may not lead to a rise in SOL if the value of NY figures is not accurate due to weak administrative system, double-accounting and under-declared income.

Singapore – presence of illegal activities/pirated transactions

**CSQ – NIA/Economic Indicators**

**Table 1: Economic Indicators: China**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010** |
| Real GDP growth | 12.7 | 14.2 | 9.6 | 9.2 | 10.4 |
| Unemployment rate (%) | 4.1 | 4.0 | 4.2 | 4.3 | 4.1 |
| Inflation (%) | 1.5 | 4.8 | 5.9 | -0.7 | 3.3 |
| Government budget (% of GDP) | -0.8 | 0.6 | -0.4 | -2.3 | -1.7 |
| Exchange rate (Yuan/US$) | 7.97 | 7.60 | 6.95 | 6.83 | 6.77 |
| Mortality, infant (0-1),  per thousand live births | 20 | 19 | 18 | 17 | 16 |
| Expected Years of Schooling | 10.9 | 11.2 | 11.4 | 11.6 | 11.6 |

**Table 2: Economic Indicators: Japan**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2006** | **2007** | **2008** | **2009** | **2010** |
| Real GDP growth | 1.7 | 2.2 | -1.0 | -5.5 | 4.4 |
| Unemployment rate (%) | 4.1 | 3.9 | 4.0 | 5.1 | 5.1 |
| Inflation (%) | 0.3 | 0.1 | 1.4 | -1.4 | -0.7 |
| Government budget (% of GDP) | -0.9 | -2.4 | -2.9 | -7.6 | -6.7 |
| Exchange rate (Yen/US$) | 116.3 | 117.8 | 103.4 | 93.6 | 87.8 |
| Mortality, infant (0-1),  per thousand live births | 3 | 3 | 3 | 2 | 2 |
| Expected Years of Schooling | 15.0 | 15.1 | 15.1 | 15.1 | 15.1 |

*Source: United Nations Statistics Division*

Discuss whether the data provided are sufficient to assess changes in the economic performance and standard of living in Japan and China over the period. [10]

6. CJC H1 Prelim 2019 Question 2

**Macroeconomic Issues in the U.S and Singapore**

**Table 1: Data on Living Standards for Selected Countries, 2018**

|  |  |  |  |
| --- | --- | --- | --- |
| Rank Order | Country | Human Development Index (HDI) | GNI per Capita (in USD at PPP) |
| 1 | Norway | 0.953 | 68,012 |
| 2 | Switzerland | 0.944 | 57,625 |
| 3 | Australia | 0.939 | 43,560 |
| 4 | Ireland | 0.938 | 53,754 |
| 5 | Germany | 0.936 | 46,136 |
| 6 | Iceland | 0.935 | 45,810 |
| 7 | Hong Kong, China (SAR) | 0.933 | 58,420 |
| 8 | Sweden | 0.933 | 47,766 |
| 9 | Singapore | 0.932 | 82,503 |
| 10 | Netherlands | 0.931 | 47,900 |

*Note: Table 1 shows the top 10 countries based on HDI, in rank order.*

Source: *Human Development Report Office,* accessed 7 July 2019

(a) (i) Using Table 1, compare the material living standards and overall living standards between Singapore and Hong Kong. [2]

Answer

I. Singapore has a higher **material** living standards as compared to Hong Kong, as our GNI per capita is higher as the GNI per capita is giving Singaporean a higher purchasing power than Hong Kong Citizens

II. Hong Kong has higher **overall** living standards than Singapore as their HDI value is higher which reflects the progress of well being of the citizens. The citizens are able to receive a higher level of education and better living environment that promotes the intangible aspects of living.

Accept: Singapore and HK have similar overall living standards as the HDI values are similar.

(ii) Explain possible reasons for the above observations. [4]

I. Singapore might have higher GNI due to **better export performance/better government policies to attract inward FDI**. It is able to raise production of goods and services and this would increase Singapore’s AD, increase RNY and hence GNI per capita, ceteris paribus. With higher GNI, Singapore would have higher material living standards.

II. For overall living standards, Hong Kong may have better overall living standards due to **better quality of healthcare /higher educational attainment** on average, possibly due to the **government investing more resources in these areas.** This would contribute to a higher quality of life, accounting for the higher non-material living standards and hence the higher overall living standards in HK.

7. HCI H2 Prelims 2019 Question 2

**Internet Connectivity and Lifelong Learning**

**Extract 4: Benefits of the Internet**

The internet is a pervasive, fundamental part of daily life that continues to deliver massive economic and social benefits around the world. Yet some 3.9 billion people – more than 52% of the world’s population – are still not online. Although much progress has been made in closing the digital divide, the challenge remains huge, complex and multidimensional. Multiple studies by The Boston Consulting Group have detailed the internet’s macroeconomic benefits to Gross Domestic Product (GDP), the broad economic and job impact of the digital economy’s rapid growth in online retail and advertising and infrastructure, and the big impact of information and communications technology (ICT) on small-business revenue growth and job creation. Most studies have verified the positive impact of greater broadband penetration on the growth in GDP. One of the first, by the World Bank, concluded that every 10 percentage point improvement in broadband penetration increases GDP by 1.3%.

Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered internet usage including social networking sites as one type of leisure activities. The internet is also increasingly a source of high-quality educational content and online courses, which can increase the availability of formal instruction to underserved population segments. Already a fixture in developed nations, educational institutions and for-profit universities are expanding their online offerings in emerging countries, where rapid economic growth has increased the demand for skilled workers.

Source: World Economic Forum, *White Paper: Internet for All*, April 2016

(b) Using the information in Extract 4, explain how the internet would affect standard of living. [4]

Answer

Positive impact on material SOL [2m]

Ext 4: internet’s macro benefits to GDP…

Every 10 percentage point improvement in broadband penetration increases GDP by 1.3%

Analysis: Internet spurs growth in on-line retailing and advertising and hence boosts C and I leading to increase in AD and GDP levels (AD-AS analysis not required; as long as there’s some explanation and link to material SOL e.g. in terms of amount of goods & services available for consumption)

-> raise RGDP per capita, cp

- > raise material SOL

Positive impact on intangible or non-material SOL [2m]

Ext 4: Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered Internet usage including social networking sites as one type of leisure activities

Analysis: The availability on the internet of social networking as a form of leisure and high quality on-line educational courses which improves skills and literacy levels enables the average resident to enjoy a better quality of life

-> raise non-material SOL

8. HCI Prelim H1 Economics 2019 Question 2

**Economic growth and digital transformation**

**Table 2: Selected economic indicators for China and Singapore (2015-2017)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **2015** | **2016** | **2017** |
| **China** |  |  |  |
| Real GDP annual growth rate (%) | 6.9 | 6.7 | 6.7 |
| Rate of unemployment (%) | 4.1 | 4.0 | 3.9 |
| Annual rate of inflation (%) | 1.4 | 2.0 | 1.6 |
| Consumption (% of GDP) | 52.8 | 54.0 | 53.2 |
| X+M (% of GDP) | 36 | 37 | 38.1 |
| Gini Coefficient | 0.462 | 0.465 | 0.467 |
| Human Development Index (Ranking) | - | 86 | 86 |
|  | | | |
| **Singapore** |  |  |  |
| Real GDP annual growth rate (%) | 2.9 | 3.0 | 3.7 |
| Rate of unemployment (%) | 1.8 | 1.9 | 2.2 |
| Annual rate of inflation (%) | -0.5 | -0.5 | 0.6 |
| Consumption (% of GDP) | 47.3 | 46.8 | 46.0 |
| X+M (% of GDP) | 329.4 | 304.5 | 318.8 |
| Gini Coefficient | 0.463 | 0.458 | 0.459 |
| Human Development Index (Ranking) | - | 8 | 9 |

(e) (i) From Table 2, identify and explain one indicator that is most useful in assessing standard of living. [2]

(e)ii Based on the table, assess which country has a better economic performance and improvement in standard of living from year 2015 to 2017. (8)

Answers

The Human Development Index (HDI). *[1m]*

HDI is a composite index of life expectancy, education, and per capita income indicators. Thus HDI is the most useful indicator for SOL as it encompasses both material and non-material indicators for standard of living. *[1m]*

9. GCE A Level H2 Economics 2014 Paper 2 Qsn 5

In 2011 Singapore's GDP at 2005 prices grew at 4.9%, the total population grew by 2.5%, inflation (as measured by the consumer price index) was 5.2% and overall unemployment stood at 1.9%.

Source: https://www.singstat.gov.sg/stats/latestdata.html, accessed 30 January 2013

Discuss the limitations of these statistics in both assessing the change in the standard

of living in the Singapore economy in 2011 and comparing it with that of other economies. [25]

Introduction

Definition of Standard of Living

State that the assessment of the improvement in standard of living of Singaporeans can be done with the given figures of GDP growth rate, total population, inflation rate and unemployment rate to prove if the standard of living will rise. From it, we can assess the limitations in using them to assess the level of standard of living and compare with other countries.

Main Body

1. Explain how the standard of living can be measured with the derivation of real GDP per capita with the given data of GDP, population figure and inflation rate to show that SOL is higher than previous years and other countries

* Explain how real GDP per can be derived
* Explain why real GDP per capita denote standard of living
* Explain how real GDP per capita is used to show that Singapore’s real GDP per capita is higher than other countries

1. Explain the limitations in using real GDP per capita to measure the extent of improvement in SOL

* Problems of accuracy of the data
* Limitations of the information

3. Explain the limitations in using real GDP per capita to compare SOL with other countries

The above complexity

Other factors

4. Analysis - What are the main considerations?

Conclusion

10. VJC Prelim 2019 Qsn 4

The goal of many central banks is to achieve price stability.

(a) Explain the key determinants of price stability. [10]

(b) Discuss the view that achieving price stability is the most important determinant of a country’s success in improving its standard of living. [15]