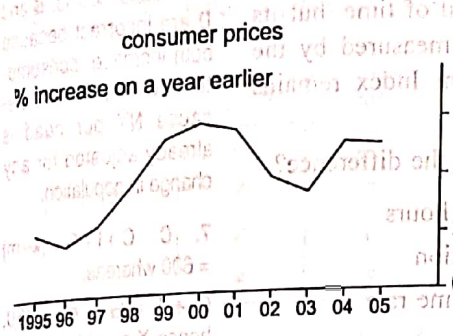
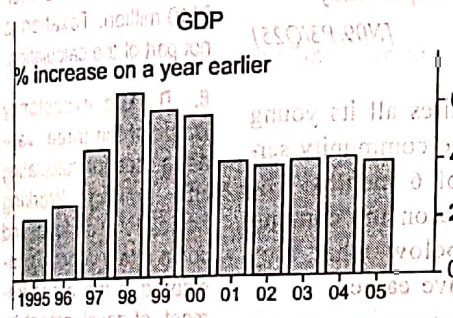
TOPIC 3.1

National Income Statistics

MCQ Section

1. The graphs show how consumer prices and real GDP changed in a country between 1995 and 2005.





Which conclusion may be drawn from the graphs?

A Living standards remained roughly constant between 1995 and 2005.

B The country experienced continuous economic growth between 1995 and 2005.

C The level of GDP was lower in 2005 than in 2000.

D The price level fell between 2000 and 2003.

[J08/P3/Q16]

2. During a year, a country's national income in money terms increased by 8 %, prices increased by 4 % and total population increased by 2 %.

What was the approximate change in real income per head?

A a decrease of 2 %

B nil

C an increase of 2 %

D an increase of 4 %

[J08/P3/Q17]

3. The table shows data on a country's gross domestic product at market prices and on domestic spending.

	year 1 ($m)	year 2 ($m)	year 3 ($m)
GDP at market price	630	650	680
private consumption	480	470	480
government consumption	160	160	150
gross investment	20	30	40

In which of these years will the country be faced with a balance of trade deficit?

	year 1	year 2	year 3
A	no	no	yes
B	yes	yes	no
C	no	yes	yes
D	yes	no	no

[J08/P3/Q18]

4. During a year, a country's national income in money terms increased by 6 %, prices increased by 4 % and total population increased by 2 %.

What was the approximate change in real income per head?

A a decrease of 2 %

B nil

C an increase of 2 %

D an increase of 4 %

[N08/P3/Q14]

HELPS to MCQ

1. **B** Option A cannot be concluded from the given information. Options C and D are incorrect because the tables show % changes in both GDP and price level. Both have increased during the period in absolute values.

2. **C** Out of 8% increase in national income 4% is adjusted for increase in prices and 2% for increase in population. The net effect on real income per head is an increase of 2%.

3. **B** GDP $= C + I + G + (x - m)$. When sum of $C + I + G <$ GDP, $x - m$ is positive (trade surplus). On the contrary, when sum of $C + I + G >$ GDP, $x - m$ is negative (trade deficit).

4. **B** After adjusting for inflation the increase in real NY is 2%. Increase in population by same % would completely offset increase in real income, therefore, no change in real income per head.

5. The table shows some data for an economy.

investment $m	exports $m	government expenditure $m	savings $m	imports $m	taxation $m	national income $m
200	100	50	50	120	100	700
200	100	50	60	140	150	800
200	100	50	75	160	200	900
200	100	50	100	180	275	1000

What is the equilibrium level of national income?

A $700 m **B** $800 m
C $900 m **D** $1000 m

[N08/P3/Q16]

6. A country's national income per head increases.

What could explain why this is accompanied by a fall in households' standard of living?

A an increase in personal taxes
B an increase in the trade deficit
C an increase in population
D a rise in the exchange rate

[J09/P3/Q15]

7. The information in the table is taken from a country's national income accounts.

	$ million
national income	600
consumer spending	400
investment spending	80
government spending on goods and services	100
taxation	90
imports	120

What is the value of exports?

A $100 million
B $120 million
C $140 million
D $230 million

[N09/P3/Q15]

8. An economy's GDP per capita grows over a certain period of time, but its development when measured by the Human Development Index remains unchanged.

What could explain the difference?

A longer working hours
B increased pollution
C an increased crime rate
D a decline in life expectancy

[N09/P3/Q25]

9. A government requires all its young citizens to undertake community service for a period of 6 months. The wages paid to those on the community service are below what they would otherwise have earned.

What effect will this have on recorded GDP and on national welfare?

	effect on GDP	effect on national welfare
A	reduction	increase
B	reduction	uncertain
C	unchanged	increase
D	unchanged	uncertain

[J10/P3/Q13]

10. Between 2008 and 2009 a country's national income at current prices increased by 15 %. At the same time the country experienced 5 % inflation.

Which index number most closely represents the country's national income in 2009 at 2008 prices (2008 = 100)?

A 103 **B** 110
C 115 **D** 120

[J10/P3/Q14]

HELPS to MCQ

5. B Where the sum of leakages is equal to the sum of injections, NY is said to be in equilibrium i.e. I+G+X = S+T+M

6. A An increase in personal taxes i.e. more than the increase in income per head reduces disposable income. **B** and **D** are incorrect because both increase consumption. **C** is incorrect because NY per head is already adjusted for any change in population.

7. C C+I+G+(x-m) = 600 whereas,
C + I + G − m = 460,
hence X must have been $140 million. Taxation is not part of the calculation.

8. D Life expectancy is one of the three variables used for calculating HDI ranking. Working hours, pollution level and crime rate are not considered in the measurement of development by HDI.

9. B Lower wages paid would reduce GDP but effect on national welfare cannot be measured.

10. B Index of GDP at 2008 prices

$$= \frac{\left(\text{Index of GDP at 2009 prices}\right)}{\left(\text{Price Index of 2009}\right)} \times 100$$

$$\Rightarrow 110 = \frac{115}{105} \times 100$$

11. The table shows data on a country's gross national product at market prices and on domestic spending.

	year 1 ($m)	year 2 ($m)	year 3 ($m)
GNP at market prices	420	440	560
private consumption	200	260	300
government consumption	120	120	140
gross investment	90	80	130

In which of these years will the country be faced with a deficit on the current account of the balance of payments?

	year 1	year 2	year 3
A	×	✓	✓
B	×	✓	×
C	✓	×	✓
D	✓	×	×

[J11/P3/Q13]

12. The table shows some data for an economy.

investment $m	exports $m	government expenditure $m	savings $m	imports $m	taxation $m	national income $m
200	100	50	125	62.5	62.5	600
200	100	50	150	75	75	700
200	100	50	175	87.5	87.5	800
200	100	50	200	100	100	900

What is the equilibrium level of national income?

A $600m B $700m
C $800m D $900m

[N11/P3/Q19]

13. Which change would directly affect a country's Human Development Index?

A a change in average hours worked by the labour force
B a change in life expectancy of the population
C a change in the level of carbon dioxide emissions
D a change in the size of the population

[N11/P3/Q16]

14. A government uses real personal disposable income per head as a measure of the standard of living.

What does this measure **not** take into account?

A the distribution of income
B the level of national income
C the size of the population
D the average price level

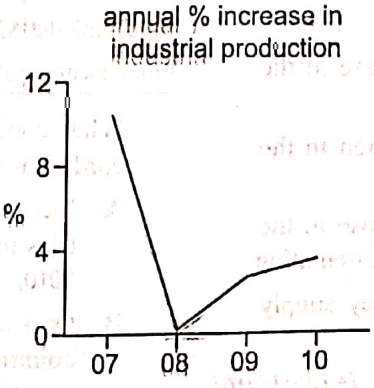
[J12/P3/Q17]

15. Which represents an injection into an economy's circular flow of income?

A a balance of trade surplus
B a government budget surplus
C the retained profits of private companies
D household saving

[J12/P3/Q19]

16. The graphs indicate economic performance in a country between 2007 and 2010.



HELPS to MCQ

11. A GNP – domestic expenditure (C+I+G) = current account surplus/deficit.

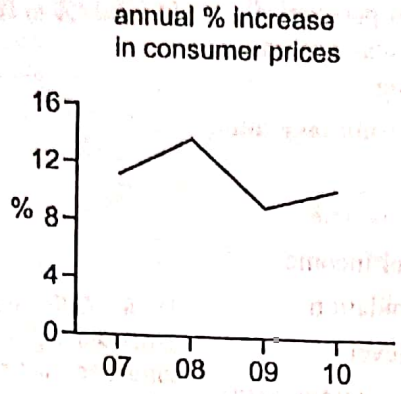
year	Current account surplus/deficit
1	+10
2	–20
3	–10

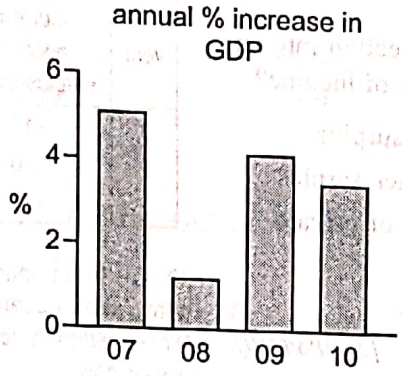
12. C In an open economy with government NY equilibrium level is achieved when S+T+M=I+G+X.

13. B Life expectancy is one of the three components of HDI. Number of working hours, levels of pollution and the size of population are not considered in constructing HDI.

14. A Per head income is an average measure, therefore it does not take account of distribution of income.

15. A A positive net exports (X – M) acts as injection. Other options refer to saving - a leakage.





Which conclusion may be drawn from the graphs?

A Between 2007 and 2008 industrial production and GDP fell but prices rose.

B Between 2008 and 2009 the rates of growth of industrial production, GDP and prices all increased.

C GDP and industrial production were at their lowest in 2008.

D At no time did industrial production, GDP or prices fall.

[J12/P3/Q18]

17. Over a given period, the nominal value of a country's national income increased by 20% and the rate of inflation was 10%.

What can be deduced from this information?

A There was an increase in the volume of output.

B There was a reduction in the demand for money.

C There was an increase in the income velocity of circulation.

D The country's money supply increased by 10%.

[N12/P3/Q16]

18. National income statistics show that real GDP per head is 25% higher in country X than in country Y.
Why might this difference exaggerate the gap in average living standards between the two countries?

A Country X has a larger population than country Y.

B Country X has a higher rate of inflation than country Y.

C The proportion of services people provide for themselves is higher in country Y.

D The proportion of the country's industry which is owned by foreign firms is higher in country Y.

[J13/P3/Q17]

19. What might cause the growth of measured GNP to overstate the 'true' rate of economic growth in an economy?

A People move from unpaid housework to paid employment.

B The exchange rate is overvalued according to purchasing power parity.

C There is a reduction in environmental pollution.

D There is a reduction in the rate of investment in physical capital.

[N13/P3/Q17]

20. The table shows the annual income thresholds per person used by the World Bank to classify countries according to their nominal Gross National Income (GNI) in 2000 and 2010.

	2000	2010
low income	$755 or less	$1005 or less
lower middle	$756 to $2995	$1006 to $3975
upper middle	$2996 to $9625	$3976 to $12 275
high income	$9266 or more	$12 276 or more

What could explain the changes recorded in the table?

A Income inequality between countries increased between 2000 and 2010.

B On average, real GNI in low income countries increased by roughly one third between 2000 and 2010.

HELPS to MCQ

16. D Percentage change in all three variables remained positive that suggests increase in the absolute values.

17. A MV = PY, in the equation PY indicates the nominal value of NY. If PY rises by 20% and P alone rises by 10% then Y must have increased by 10%.

18. C Services people provide for themselves are not included in GDP, therefore may understate standard of living. Question statement uses the term real GDP per head that rules out all other options.

19. A Output, not counted previously, now becomes the part of GNP, therefore GNP rises without any real increase in output .

C On average, world prices increased by roughly one third between 2000 and 2010.

D Some of the countries in the upper middle income category in 2000 were re-classified as high income countries in 2010.

[J14/P3/Q24]

21. During a year, a country's national income in money terms increased by 8%, total population increased by 2% and real income per head remained constant.

What was the approximate change in the average price level?

A a decrease of 4%
B an increase of 4%
C an increase of 6%
D an increase of 10%

[N14/P3/Q20]

22. Which change would cause an increase in a country's Human Development Index?

A a decrease in gender inequality
B a decrease in income inequality
C an increase in the mean years of schooling
D an increase in the retirement age

[N14/P3/Q25]

23. The information in the table is taken from a country's national income accounts.

	$ million
national income	600
consumer spending	400
investment spending	80
government spending on goods and services	100
exports	140

What is the value of imports?

A $100 million
B $120 million
C $140 million
D $240 million

[N15/P3/Q18]

24. Which represents an injection into a country's circular flow of income?

A corporate taxes
B interest payments on government bonds
C the payment of dividends to foreign shareholders
D the repayment of bank loans

[N15/P3/Q19]

25. Over one year the money income in an economy increased by 6%. In the same period prices rose by 4%.

What can be concluded from this?

A Real incomes decreased by 2%.
B The velocity of circulation decreased by 2%.
C The money supply increased by 10%.
D The volume of output increased by 2%.

[N15/P3/Q20]

26. Gross Domestic Product (GDP) per head is an indicator sometimes used to compare living standards of various countries. GDP is converted into a common currency at market exchange rates.

What might cause this indicator to **exaggerate** the relative position of an individual country?

A a high level of female participation in the labour force
B a high level of foreign ownership in domestic industry
C a high level of subsistence farming
D relatively low hours worked by the labour force

[N15/P3/Q23]

HELPS to MCQ

20. C Nominal GNI is unadjusted for inflation, therefore a classification based on nominal GNI may be misleading because it does not factor in the changes in price level.

21. C $NY = P \times Y$. Since real income per head remains unchanged therefore 2% increase in population must have been offset by 2% increase in real income (Y). Thus P must have increased by 6%.

22. C Out of the four indicators HDI takes only educational attainment into account.

23. B $C + I + G + X - M = 600$, and $C + I + G + X = 720$, therefore, $M = 120$.

24. B By definition, options A, C & D are withdrawals from the circular flow of income.

25. D Money value of income = PY, where P is the average price level and Y output, so if PY rises by 6% and P alone rises by 4% then Y must have increased by 2%.

26. B Foreign ownership of the country's resources will cause part of its GDP to be transferred abroad therefore the country's GDP will no indicate the actual level of income available to the people of this country.

27. What would cause estimates of the money value of the 'Measure of Economic Welfare' for a country to be greater than the value of 'Gross National Product'?

A negative externalities such as pollution

B property income received from abroad

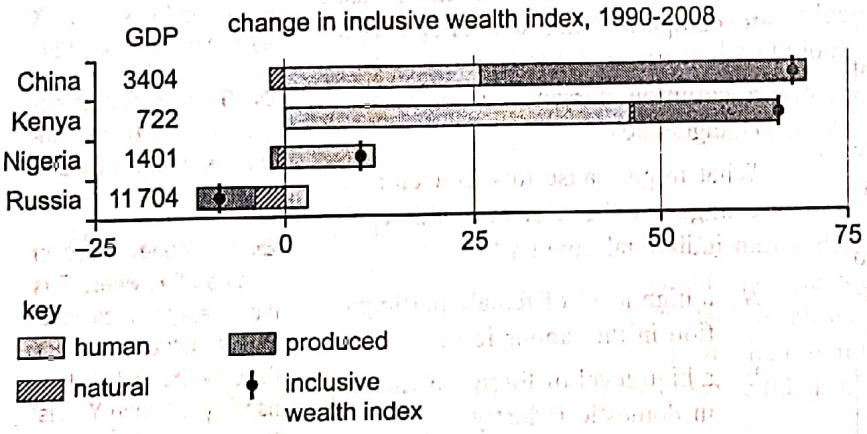
C regrettable necessities

D the value of non-marketed activities and leisure

[J16/P3/Q19]

28. In 2012 a United Nations report calculated the stock of wealth of 20 countries in terms of human, natural and produced resources. This was measured as the Inclusive Wealth Index (IWI).

The diagram shows the annual percentage (%) change in the IWI between 1990 and 2008 of the economies with the fastest and the slowest growth in IWI. It also shows their 2008 GDP per head ($).



What can be concluded from the diagram?

A A low level of GDP per head meant an inability to build stocks of wealth.

B No country was able to prevent depletion of its natural resources.

C The faster the growth in a country's IWI the higher was its GDP.

D There was an increase in human resources in all four countries.

[J16/P3/Q20]

29. During a certain period, a country with a constant population expands its output per head. It also experiences a significant increase in river and atmospheric pollution.

In the absence of any other changes, which measure would show a decrease in living standards?

A Gross Domestic Product per head

B Gross National Product per head

C Human Development Index

D Measure of Economic Welfare

[J17/P3/Q21]

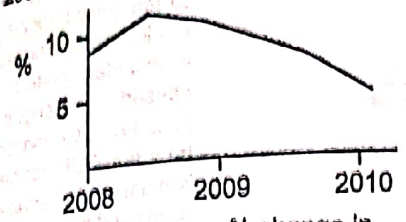
HELPS to MCQ

27. D Money value of MEW is higher than GNP because we add an allowance for leisure, for various non-marketed goods and services such as housework and underground activities, for the services of various public amenities such as parks and roads, and for private durable goods such as furniture and jewellery to GNP.

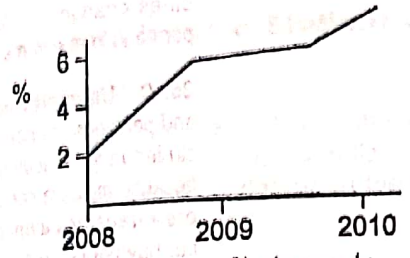
28. D A positive percentage change of growth in human resources can be noted in all four countries.

29. D Out of all these measures only MEW takes pollution into account.

30. The graphs below show percentage changes in money GDP and consumer prices in a country between 2008 and 2010.



% change in money GDP



% change in consumer prices

Which conclusion may be drawn from the graphs?

A Between 2009 and 2010 money GDP fell but consumer prices continued to rise.

B Consumer prices and money GDP both continued to rise throughout the period.

C In real terms GDP grew throughout the period.

D When consumer prices rose, money GDP fell.

[J17/P3/Q22]

31. Which could cause the official statistics for the national income per head of a developing country to overstate the true level of economic well-being of its inhabitants?

A if there is dependence on barter in internal trade

B if subsistence agriculture dominates total economic activity

C if services are an important component of exports

D if there is extreme income inequality

[J17/P3/Q25]

32. How might real GNP per head be adjusted to make it a more reliable indicator when comparing standards of living in different countries?

A adjustments to allow for differences in population size in different countries

B adjustments to allow for differences in rates of inflation in different countries

C adjustments to allow for differences in the relative size of the hidden economy in different countries

D the use of market exchange rates rather than purchasing power parity exchange rates

[N17/P3/Q19]

33. To combat a rising crime rate, the government decides to recruit additional police officers who are paid a wage equal to that which they previously earned in the private sector.

As long as their previous jobs remain unfilled, what effect will the recruitment of the additional police officers have on the national income and on economic welfare?

	effect on national income	effect on economic welfare
A	increase	unchanged
B	uncertain	decrease
C	unchanged	decrease
D	unchanged	uncertain

[N17/P3/Q21]

34. Growth rates can be calculated using changes in the value of GDP from year to year.

Why is real GDP per head considered to be a better indicator than nominal GDP per head for this calculation?

A Real GDP adjusts for price changes by using a base year.

B Real GDP ignores the effects of fluctuations in exchange rates on purchasing power.

HELPS to MCQ

30. B Since growth in money GDP and prices remain positive therefore both of them increased. This rules out options A & D. Option C is incorrect because growth in money GDP remained less than the % change in prices.

31. D It leads to majority of people earning less than what national income per head suggests. Options A & B would understate NY per head while C would have no impact on it.

32. C Generally Hidden or black economy is not accounted for in real GDP per head. If it can be adjusted it will make real GDP per head a more reliable indicator of living standard. Per head means population is taken care of while real means price level has been adjusted, therefore A & B are incorrect. Option D makes it less reliable because the use of purchasing power parity exchange rate would make it a more reliable measure.

33. D Since the level of earnings remains unchanged, therefore NY does not change. The term Welfare suggests value judgment, therefore it is uncertain.

C Real GDP includes changes in the size of the population.

D Real GDP measures GDP at factor cost rather than market prices.

[J18/P3/Q21]

35. The information in the table is taken from a country's national income accounts.

income	US $ (millions)
wages	8000
salaries	7000
unemployment benefit	1000
pensions	1000
rent	3000
interest	2000

What is the value of national income?

A 17 000 **B** 19 000

C 20 000 **D** 21 000

[J18/P3/Q23]

36. Country X's living standards were compared with country Y's living standards using real GNP per head converted into US dollars. Country X was ranked above country Y.

Which factor might have caused this ranking to be **incorrect**?

A Actual market exchange rates were used rather than purchasing power parity rates.

B Government spending on transfer payments was higher in country Y than in country X.

C Inflation was higher in country X than in country Y.

D The distribution of income was more unequal in country X than in country Y.

[N18/P3/Q22]

HELPS to MCQ

34. A Nominal GDP per head is measured at current prices; therefore it is less reliable because it includes distortions caused by changes in price level. On the contrary real GDP per head is measured at constant prices and hence it eliminates those distortions in incomes, it therefore indicates changes in GDP per head in real terms.

35. C Unemployment and pensions are not included in NY calculation because they are considered transfer payments i.e. payments received without any corresponding output.

36. A Actual exchange rate does not reflect purchasing power within the economy. Real GNP per head measured in US dollars, therefore misrepresents living standard.

TOPIC 3.1

National Income Statistics

ESSAY Section

LIST OF QUESTIONS

3.1 National Income Statistics

Q1 (J08/P4/Q6)

(b) Discuss whether a fall in the level of national income is a good indicator that there has also been a decline in the standard of living in the country. [15]

Q2 (N09/P4/Q5)

(a) In some countries there has been fear of economic recession in recent years. Explain the main characteristics of an economic recession. [10]

(b) Discuss the policies that might be used to bring an economic recession to an end. [15]

Q3 (N10/P4/Q5)

National income statistics are used to calculate a country's GDP. The table shows the GDP for five countries for 2008.

Country	GDP $m
USA	14 580 000
India	3 319 000
Singapore	244 000
Mauritius	14 060
Swaziland	5 626

Discuss how far the table might be used to determine whether one country has higher living standards than another. [25]

Q4 (J12/P4/Q5)

(b) As part of the measurement of GDP governments calculate the level of investment expenditure.

Assess the difficulties of using GDP as an economic indicator. [13]

Q5 (J14/P4/Q5)

It was reported in 2012 that consumers should not be encouraged to save more and reduce their debts. Increased saving would result in a Keynesian 'paradox of thrift' which would not help economic growth. Instead consumers should spend money on new purchases.

(Source: The Times. 2011)

(a) Explain and comment on what is meant by 'the paradox of thrift'. [12]

Q6 (J14/P4/Q7)

(b) Discuss whether GDP is a reliable measure of the difference in living standards between developing and developed economies. [13]

Q7 (N14/P4/Q7)

(a) How effective is the measurement of economic growth as an indicator of how a developing country's standard of living compares with other countries? [12]

Q8 (N15/P4/Q5)

The government of your country wants to know how the economy compares with other countries' economies.

Discuss which economic indicators it should obtain and how reliable they might be as a basis for such a comparison. [25]

Q9 (J16/P4/Q6)

Imagine you have been asked to produce a report about the quality of life in your country. Discuss what would be important to include in your report and what economic indicators you would use in order to reach a conclusion. [25]

Q10 (N18/P4/Q7)

(a) Conventional estimates of national income indicated that average income per head between 2009 and 2013 was US $98 780 in Norway and US $36 900 in New Zealand. Consider whether this means that the standard of living in Norway is nearly three times as high as in New Zealand. [12]

Q11 (N18/P4/Q5)

(b) Robots are increasingly used in various areas of production.

Discuss whether GDP is always a good measure of living standards. [13]

Question 1

Discuss whether a fall in the level of national income is a good indicator that there has also been a decline in the standard of living in the country. [15]

[J08/P4/Q6 (b)]

Essay

National income figure is the traditional benchmark for interpreting changes in standard of living in a country over time. For this purpose, economists have used Real GNP per head.

Real GNP is a monetary measure of economic activity generated from all national resources both at home and abroad minus the rate of inflation. Real GNP per head can be measured by the following formulae:

$$\frac{\text{RGNP}}{\text{Total population}} = \text{RGNP per head}$$

RGNP per capita is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is widely held that there should be a strong positive correlation between RGNP per capita and standard of living; that is, greater production should move society towards "the good life" and vice versa. Therefore, economists view levels and rates of growth of "real" per capita GNP, as a useful indicator of living standard.

The critics, however, believe that the numbers cannot capture our true overall well-being as a nation. For instance, in many cases an increase in national income may be the result of longer working hours, inferior working conditions, longer journeys to work, payments for services necessitated by the stress of modern living e.g. anti-depressant drugs, and higher social costs such as pollution. They point out that many aspects of quality of life such as leisure, happiness and health cannot be measured simply in terms of income, output or expenditure. Also, there are some inherent problems with the measurement of NY which make it less reliable indicator of living standard.

A decrease in national income does not necessarily results in a decline in standard of living for various reasons. A rise in the proportion of black economy may reduce national income without causing a decline in the living standard. Similarly, when reduction in national income is the result of a decrease in number of hours worked in accordance with the preferences of workers then people would have less to consume but more leisure time may increase their level of happiness. Furthermore, if national income falls due to a reduction in defence related expenditure as nation may particularly feel more secure from any foreign aggression then quality of life would improve. Failure to account quality improvement is another serious shortcoming of national income.

Economists point out that many qualitative changes could make a country better off without necessarily achieving higher RGNP per head, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse. Similarly, rising RGNP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort comparison of well-being of a nation over time.

Thus, we must understand that GNP is not a complete measure of economic welfare; nor is it meant to be. It is a measure of output or income, and should be seen in that context.

We can use a range of alternative indicators to assess changes in living standard of a country.

The most well-known measure of quality of life is The Human Development Index (HDI) that has been developed under the United Nations Development Programme.

The Human Development Index (HDI) is the average of three indicators

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI is to 1, the closer the country is to achieving the maximum values defined for each of the three indicators.

The advantage of using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available to them but also by their ability to lead a long and healthy life and to acquire knowledge, a combination of both qualitative and quantitative factors.

As mentioned above income is an integral component of quality of life but not the only factor, we also need to consider the data on some important economic variables which determine the over all outlook of an economy.

Question 2

(a) In some countries there has been fear of economic recession in recent years. Explain the main characteristics of an economic recession. [10]

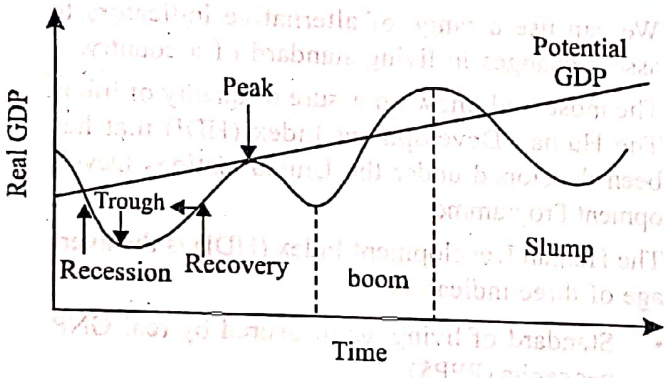
(b) Discuss the policies that might be used to bring an economic recession to an end. [15]

[N09/P4/Q5]

Essay

(a) Nations seek economic growth, full employment, price stability and favourable trade balance as their major macroeconomic goals. But the long run economic growth has not always been steady; it is frequently interrupted by periods of economic instability. On various times growth has given way to recession and depression, that is, to declines in employment and real output. These fluctuations in economic activities are associated with business cycles.

Recurrent ups and downs over a period of years in the level of economic activity are attributed to business cycles as shown in the figure below.



Real GDP measures the total production of goods and services for the whole economy over a year and is an indicator of the level of economic activities. Real growth is measured by the annual rate of change of real GDP.

Although the phases of business fluctuations are described by a series of commonly used terms, no two cycles are the same. Starting from a lower turning point, a cycle goes through a phase of recovery (expansion), reaches an upper turning point, and then enters a period of recession. Cycles differ from one another in the severity of their troughs and peaks, and in the speed with which one phase follows another. Sometimes the entire rising half of the cycle is loosely referred to as a boom and the entire falling half is called a slump.

Common usage defines a recession as a fall in real GDP for two quarters in succession. This downturn is marked by the widespread contraction of business in many sectors of the economy. Demand falls off, and, as a result, production and employment also fall. As employment falls, so do personal incomes. Profits drop, and some firms encounter financial difficulties. Business prospects are poor. Confidence is low therefore investment remains low. The effects on capital goods industry may thus be severe. Firms, finding their stocks of goods rising, cut back on production. Where cuts in production are very large then aggregate demand actually falls and there is a multiplied fall in national income. But because many prices are downwardly inflexible, the price level is likely to fall only if the recession is severe and prolonged. In historical discussion, a recession that is deep and long lasting is often called depression.

Lower economic activities are expected to result in decline in both the government tax revenue and the level of imports. Hence, the budget deficit of the government is likely to rise but the trade balance is expected to improve because decreasing incomes result in declining imports.

(b) It is possible for the governments to deal with the cyclical fluctuations. However, governments may not be as efficient as desired. In dealing with an inflationary or recessionary situation, there are factors that undermine government measure. There are also time lags. I shall deal with the problem of a downturn (recession) in the economy

The essence of the Keynesian model is that a country will come out of a recession with sufficient injections of demand into the economy. An injection of money through multiplier effect leads to a multiple increase in national income. Prices will rise and employment will be increasing in order to meet the rising demand. Eventually the country comes out of recession.

The government can maintain a high level of aggregate demand through expansionary fiscal policy, and monetary policy or else government can use some direct controls.

An expansionary or inflationary fiscal policy will involve raising government expenditure and/or lowering taxes this will have the effect of either increasing the budget deficit or reducing the budget surplus. It is where the government alters the balance between government expenditure (G) and taxation (t), and thereby alters the balance between injections and withdrawals. In this way it controls aggregate demand. Faced with a recession, it should raise G and/or lower T. In other words, the government should run a budget deficit rather than a balanced budget. There will then be a multiplier effect as shown by the sequence below:

$\uparrow G$ or $\downarrow T \rightarrow J > W \rightarrow Y \uparrow \text{-->>} \uparrow W$ until $J = W$. The eventual rise in aggregate demand and hence output would rise.

In the case of fiscal measures, the government may lower taxes in order to reduce the fall in disposable income. For unemployed, the government as part of welfare policy gives unemployment handouts. Both these measures at least help to keep demand from falling further.

On the expenditure side, the government maintains all public projects and obligations. The government may even embark on new public projects for the purpose of providing jobs in order to keep aggregate demand strong.

On the monetary side, various quantitative and qualitative tools can be used in order to increase the money supply and lower interest rate. This will boost consumer expenditure and business investments The central bank can lower its lending rate, buy up government securities and relax regulations on reserve ratios and special deposits. All controls on mortgage, deferred payments and hire purchases can be relaxed in order to stimulate demand.

In case of direct controls compulsory savings contributions by employees and employers can be reduced, the government can allow a lower age for compulsory pension funds withdrawals. The consumption of certain goods and services can be made compulsory. Examples are estate, cars and machinery maintenance must be done regularly.

However getting out of a recession may not be that simple. A recession prevails because of negative expectations. Consumers and producers believe that the situation in near future can get even worse. Demand, therefore falls further, leading to more stocks accumulation and more retrenchment. Thus they would save even more to last out the bad times. The increase in money supply brought about by the government's expansionary policy is, therefore, simply leaked away.

Leakages may also come in the form of imports and capital outflows. The former is unlikely but the latter happens because the rich seeks their fortune in other countries where economics are booming.

In order to bring its economy out of a recession, the government has to convince people that conditions are favourable for investment and consumption. The government would have to cap all leakages. This can be done by reassuring the public that the economy is picking up. Publishing economic indicators would convince the business class of rising demand. The government may also have to ban the outflow of capital.

Another problem is that production may not be able to expand, if the infrastructure of the economy has deteriorated or if there are still labour management problems. The government would have to remove all such 'bottle-necks' by intervening directly into the markets.

Perhaps the more serious problem facing the government is financing a budget deficit. How is a government going to spend more than it collects? It will have to borrow, which would be difficult domestically (Incomes have already fallen). If it borrows externally, it has been argued that, the recession has been postponed to a later date. This is because the government will have to pay back even more in the future. The increases in taxes and reduction in expenditure in the future may bring back the recession.

Thus the government has to adopt a variety of different quantitative and qualitative measures in order to pull the economy out of recession.

Question 3

National income statistics are used to calculate a country's GDP. The table shows the GDP for five countries for 2008.

Country	GDP $m
USA	14 580 000
India	3 319 000
Singapore	244 000
Mauritius	14 060
Swaziland	5 626

Discuss how far the table might be used to determine whether one country has higher living standards than another. [25]

[N10/P4/Q5]

Essay

The standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real GDP. This is the value of total output produced from all the resources located within the political borders of a country over one year time period. Real GDP figures can be used to make cross-country comparisons. But this requires converting GDP data into a common currency (normally the dollar or the Euro) which has been given. But we

also need to make an adjustment to reflect differences in the average cost of goods and services in each country to produce data expressed at 'purchasing power parity' standard and therefore need information on cost of living in all five countries which has not been provided.

Apart from this it must be remembered that GDP on its own is both an inaccurate and insufficient indicator of true living standards both within and between countries. Thus the information provided in the question is of limited value for comparing living standard. The GDP figures would have been more useful if the figures of population of each of the countries were given because all countries have different sizes of population. For example, India's GDP needed to be divided by a population of approximately 1.2 billion to arrive at a GDP per capita or per head figure whereas the GDP of Mauritius only needed to be divided by a population of approximately 1.2 million. The result in terms of GDP per head can be different from that of GDP figure alone.

Therefore higher GDP does not necessarily imply that the citizens of the country enjoy higher living standard. Real GDP per head is calculated by dividing GDP on the population of the country. It is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is believed that there should be a strong positive correlation between RGDP per capita and economic well being; that is, greater production should move society toward" the good life" Therefore economists view levels and rates of growth of "real" per capita GDP, expressed in common currency, as a better indicator of comparing economic well being internationally than GDP figures alone.

However it is widely held that RGDP per head is also of limited value for inter-country comparison of living standard. Firstly, income distributions between the countries may be different also national income accounts will have varying degrees of inaccuracy, caused, for instance, by different sizes of the informal economy in each country. The informal or black economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. National income accounting conventions may also be different in different countries making it impossible to compare the two.

There is also the problem of what rate of exchange to use when comparing one country's GDP with another. The day-to-day market exchange rate can bear little relation to relative prices in different countries. So prices in some countries, like Switzerland or West Germany, can be much higher at official exchange rates than in France or Italy. Therefore if national income statistics are to be used to compare living standards between countries it is important to use an exchange rate which compares the cost of living in each country. These exchange rates are known as purchasing power parities. For instance, if a typical basket of goods costs 10 francs in France and £1 in the UK, then national income should be converted at an exchange rate of 10 francs to the £1 - even if the market exchange rate gives a very different figure.

Even this is not accurate enough. In some countries, consumers have to purchase goods which in others are free. For instance, Sweden spends a greater proportion of its national income than Italy on fuel for heating because of its colder climate. But this extra expenditure does not give the Swedes a higher standard of living. Again, countries are different geographically and one country might have higher transport costs per unit of output than another because of congestion or having to transport goods long distances. In practice, it is almost impossible to adjust national income figures for these sorts of differences.

It is believed that the numbers cannot capture our true overall well-being as a nation in comparison with other countries. Economists point out that many qualitative changes could make a country better off than other countries without necessarily achieving higher RGDP per head, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse. Similarly, rising RGDP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort comparison of well-being between nations.

Measure of economic welfare (MEW) is one of the alternative measures developed to overcome these problems. This starts with GNP and NNP. To this was added an allowance for leisure, for various non-marketed goods and services such as housework and underground activities, for the services of various public amenities such as parks and roads, and for private durable goods such as furniture and jewellery.

On the other hand, various items were subtracted. These included regrettables' such as expenditure on defense and commuting to work, and various 'bads' such as pollution. Also various intermediate items such as the benefits of education were subtracted.

The big problem with using MEW is in obtaining reliable estimates of all the additional items it includes. As a result it has not been adopted by governmental statistical agencies around the world.

The most well-known measure of quality of life is The Human Development Index (HDI) that has been developed under the United Nations Development Programme.

The Human Development Index (HDI) is the average of three indicators:

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI is to 1, the closer the country is to achieving the maximum values defined for each of the three indicators.

The advantage of using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available but also by their ability to lead a long and healthy life and to acquire knowledge, a combination of both qualitative and quantitative factors. Clearly, this index gives us a better way of estimating standards of living than just GDP taken on its own. However, it is still far from perfect. Economists have recently been looking at ways to include other factors in the measurement, such as income distribution, gender inequalities, and inequalities by region or by ethnic group. As a result they have developed The Human Poverty Index (HPI) that focuses on four basic dimensions of human life - longevity, knowledge, economic provisioning and social inclusion.

Thus it follows from the discussion above that GDP is an integral part of any measure comparing quality of life between nations but on its own it proves to be insufficient. A fair comparison of living standard must consider the data on other important quantitative and qualitative factors.

Question 4

As part of the measurement of GDP governments calculate the level of investment expenditure.

Assess the difficulties of using GDP as an economic indicator. [13]

[J12/P4/Q5(b)]

Essay

In order to assess how well an economy has performed in comparison to other countries or over a period of time, we must have a means of measuring the value of the nation's output. The measure that economists widely use for this purpose is called GDP. We define GDP as the monetary value of total output produced within the country over a twelve month period.

GDP is used to compare performance of an economy compared to other countries. Also GDP is used to calculate the rate of economic growth. Most common usage of GDP is to determine living standard between countries and over time. For governments GDP figures provide the basis to formulate their economic policies.

If we are to make sensible use of GDP figures, we must take inflation and size of population into account. Increasing price level, for instance, may increase the GDP figure more than the increase in output while ignoring the changes in the size of population could make an unreal comparison of living standard over a period of time or between countries.

However, even after making these adjustments economists question the reliability of GDP as an economic indicator for various reasons.

Firstly, national GDP figures hide significant regional variations in output, employment and incomes per head of population. Within each region there are also areas of relative prosperity contrasting with unemployment black-spots and deep-rooted social and economic deprivation. Also, GDP figures on their own do not show the distribution of income and the uneven spread of financial wealth. Incomes and earnings may be very unequally distributed among the population and rising national prosperity can still be accompanied by rising relative poverty.

Furthermore, rising national output might have been accompanied by an increase in pollution and other negative externalities which have a negative effect on economic welfare. Output figures also tell us little about the quality of goods and services produced. Also rising national output might have been achieved at the expense of leisure time if workers are working longer hours

Moreover, we need to analyse the balance between consumption and investment. If an economy devotes too many resources to satisfying the short run needs & wants of consumers, there may be insufficient resources for investment needed for long term economic development. Faster economic

growth might improve living standards today but lead to an over-exploitation of scarce finite economic resources thereby limiting future growth prospects.

GDP figures might understate the true living standards because of the existence and growth of black or informal economy. Black economy includes illegal and undeclared transactions while informal sector is the non-monetised part of the economy, It includes output that is not sold at market prices but involves barter trade, and self-consumed products. The Economist's latest estimate for the total value of the black economy throughout the world is $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. According to their survey, Nigeria and Thailand have the world's largest black economies, both accounting for more than 70% of official GDP.

Lastly, GDP figures are calculated from millions of different returns to the government. Inevitably mistakes are made- returns are inaccurate or simply not completed. Therefore the figures are not exact and accurate and do not provide a precise and accurate account of economic activities.

Compared to GDP figures the composite measures of economic development namely Human Development Index and the Human Poverty Index may provide a better assessment. Both are simple composite measures of the extent to which living standards vary across countries.

HDI is an alternative measure of a country's economic standard of living that has been developed under the United Nations Development Programme. HDI is the average of three indicators

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI is to 1, the closer the country is to achieving the maximum values defined for each of the three indicators.

The Human Poverty Index (HPI) measures the proportion of people not expected to meet specified target levels for given economic and quality of life indicators:

HPI data seeks to provide a "multidimensional measure of poverty". It focuses on four basic dimensions of human life – longevity, knowledge, economic provisioning and social inclusion.

From the discussion above it follows that GDP figure alone is insufficient and inaccurate economic indicator.

Question 5

It was reported in 2012 that consumers should not be encouraged to save more and reduce their debts. Increased saving would result in a Keynesian 'paradox of thrift' which would not help economic growth. Instead consumers should spend money on new purchases.

(Source: The Times. 2011)

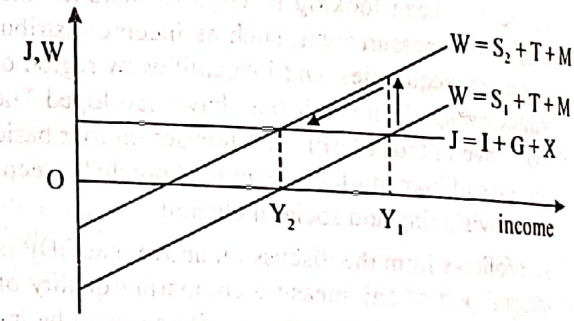
Explain and comment on what is meant by 'the paradox of thrift'.

[12]

[J14/P4/Q5(a)]

Essay

In times of uncertainty in an economy it is normal for individuals to become thrifty. It is therefore the case at macro level that an increase in savings by all individuals may actually lead to a fall in equilibrium level of national income and therefore to a reduction in savings. Following graph can be used to illustrate the paradox of thrift.



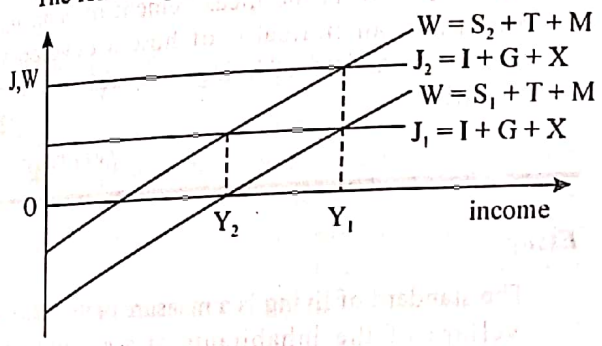
The graph relates to a four sector economy. The economy is initially in equilibrium at Y_1 where withdrawals equal injections. If all individual then seek to increase their saving, the withdrawals function will shift from W to W_1. The increased thriftiness on the part of individuals will cause planned withdrawals to exceed planned injections by AB at the initial equilibrium level of national income Y_1. Also, if everyone saves more as a consequence they spend less. Increased saving and low spending affects businesses. Less spending means less demand for goods and services and therefore lost orders for firms. Firms will cut back production and lay off workers. So the income of household will fall.

We know from the multiplier that the resulting fall in national income will be greater than the fall in

spending because this means reduced injections into the economy as people spend less. As national income falls planned savings will also decline. Income will continue to fall until withdrawals once more equal planned injections and this occurs at national income Y_2. Saving now will fall back to the initial level. Thus an attempt to save more will actually result in a fall in national income and a fall in saving to the same level.

Thus extra saving and less consumption would only make matters worse by lowering income and increasing unemployment. In fact if rising savings are not offset by increase in injections then national income is likely to decrease by a higher proportion due to the multiplier effect.

A rise in saving, for instance, could mean more funds available to lend which might result in a fall in interest rate. Lower interest rate may allow investment to rise and hence injections to increase thus offsetting the impact of reduction in saving. The following graph illustrates this;



A rise in injections from J_1 to J_2 completely off sets the impact of rising saving and maintains equilibrium at Y_1 and the economy successfully escapes the paradox. Similarly a fall in demand resulting from a rise in saving may be compensated by a rise in exports or government may plan to increase its spending with the view to avoid a deficiency in AD at Y_1.

Therefore it follows that a paradox may develop when people become thrifty however there is a possibility that the level of injections rises and partially or completely offsets the effects of rise in saving.

Question 6

Discuss whether GDP is a reliable measure of the difference in living standards between developing and developed economies. [13]

[J14/P4/Q7(b)]

Essay

In order to assess the level of development, we must have a means of measuring the value of the nation's output. The measure that economists widely use for this purpose is called GDP. We define GDP as the monetary value of total output produced within the country over a twelve month period.

GDP is used to compare performance of an economy compared to other countries. Also GDP is used to calculate the rate of economic growth. Most common usage of GDP is to determine the levels of development of different economies. However, if we are to make sensible use of GDP figures, we must take inflation and size of population into account. Increasing price level, for instance, may increase the GDP figure more than the increase in output. While ignoring the changes in the size of population could give a wrong indication about the level of development.

However, even after making these adjustments economists question the reliability of GDP as an economic indicator of development for various reasons.

Firstly, national GDP figures hide significant regional variations in output, employment and incomes per head of population. Within each region there are also areas of relative prosperity contrasting with unemployment black-spots and deep-rooted social and economic deprivation. Also, GDP figures on their own do not show the distribution of income and the uneven spread of financial wealth. Incomes and earnings may be highly unequally distributed among the population and rising national prosperity can still be accompanied by rising relative poverty.

Furthermore, higher GDP might have been accompanied by an increase in pollution and other negative externalities which have a negative effect on economic welfare. Output figures also tell us little about the quality of goods and services produced. Also, rising national output might have been achieved at the expense of leisure time if workers are working longer hours.

Moreover, we need to analyse the balance between consumption and investment. If an economy devotes too many resources to satisfying the short run needs & wants of consumers, there may be insufficient resources for investment needed for long term economic development. Faster economic growth might improve living standards today but lead to an over-exploitation of scarce finite economic resources thereby limiting future growth prospects.

GDP figures might understate the level of development because of the existence and growth of black or informal economy. Black economy includes illegal and undeclared transactions while informal sector is the non-monetised part of the economy, it includes output that is not sold at market prices but involves barter trade, and self-consumed products. The Economist's latest estimate for the total value of the black economy throughout the world is $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. According to their survey, Nigeria and Thailand have the world's largest black economies, both accounting for more than 70% of official GDP.

Lastly, GDP figures are calculated from millions of different returns to the government. Inevitably mistakes are made- returns are inaccurate or simply not completed. Therefore the figures are not exact and accurate and do not provide a precise and accurate account of economic activities.

It is believed that the numbers cannot capture our true overall well-being of a nation. Economists point out that many qualitative changes could make a country better off without necessarily achieving higher GDP, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse.

Compared to GDP figures the Measure of economic welfare (MEW) reflects the state of development more accurately. MEW is one of the alternative measures developed to overcome the problems of using GDP as an indicator of development. This starts with GNP and NNP. To this was added an allowance for leisure, for various non-marketed goods and services such as housework and underground activities, for the services of various public amenities such as parks and roads, and for private durable goods such as furniture and jewellary.

On the other hand, various items were subtracted. These included regrettables' such as expenditure on defence and commuting to work, and various 'bads' such as pollution. Also various intermediate items such as the benefits of education were subtracted. The big problem with using MEW is in obtaining reliable estimates of all the additional items it includes. As a result it has not been adopted by governmental statistical agencies around the world.

By far human development index (HDI) is considered the best indicator of a country's economic standard of living. HDI is the average of three indicators

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI is to 1, the closer the country is to achieving the maximum values defined for each of the three indicators.

Thus it can be concluded that GDP is not a reliable measure of differences of living standard between developed and developing countries. Instead other composite measures such as MEW or HDI are more reliable.

Question 7

How effective is the measurement of economic growth as an indicator of how a developing country's standard of living compares with other countries? [12]

[N14/P4/Q7(a)]

Essay

The standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real GDP. This is the value of total output produced from all the resources located within the political borders of a country over one year time period. Growth in real GDP figures can be used to make cross-country comparisons. But this requires converting GDP data into a common currency. Besides this we need to make an adjustment to reflect differences in the average cost of goods and services in each country to produce data expressed at a 'purchasing power parity' standard and therefore need information on cost of living in countries. However, even after making these adjustments economists question the reliability of growth in real GDP as a means of comparing living slandered of a developing country with other countries.

In the first place it must be remembered that GDP on its own is both an inaccurate and insufficient indicator of true living standards both within and between countries. Therefore higher growth in real GDP does not necessarily imply that the citizens of a developing country enjoy higher living standard. Also, ignoring the changes in the size of popula-

tion could give a wrong indication about the level of development. To counter this economists use real GDP per head to compare living standard between countries. Real GDP per head is calculated by dividing real GDP on the population of the country. It is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is believed that there should be a strong positive correlation between growth in RGDP per capita and economic well being; that is, greater production should move society toward" the good life" Therefore economists view levels and rates of growth of "real" per capita GDP, expressed in common currency, as a better indicator of comparing economic well being internationally than GDP figures alone. However it is widely held that even RGDP per head is of limited value for inter- country comparison of living standard. Firstly, income distributions between the countries may be different also national income accounts will have varying degrees of inaccuracy, caused, for instance, by different sizes of the informal economy in each country. The informal or black economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. National income accounting conventions may also be different in different countries making it impossible to compare the two.

There is also the problem of what rate of exchange to use when comparing one country's GDP with another. The day to day market exchange rate can bear little relation to relative prices in different countries. So prices in some countries, like Switzerland or West Germany, can be much higher at official exchange rates than in India or China. Therefore if national income statistics are to be used to compare living standards between countries it is important to use an exchange rate which compares the cost of living in each country. These exchange rates are known as purchasing power parities. For instance, if a typical basket of goods costs 10 Yuan in China and £1 in the UK, then national income should be converted at an exchange rate of 10 Yuan to the £1 - even if the market exchange rate gives a very different figure.

Even this is not accurate enough. In some countries, consumers have to purchase goods which in others are free. For instance, Sweden spends a greater proportion of its national income than India on fuel for heating because of its colder climate. But this extra expenditure does not give the Swedes a higher standard of living. Again, countries are different geographically and one country might have higher transport costs per unit of output than another because of congestion or having to transport goods long distances. In practice, it is almost impossible to adjust national income figures for these sorts of differences.

It is believed that the numbers cannot capture our true overall well-being as a nation in comparison with other countries. Economists point out that many qualitative changes such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse could make a country better off than other countries without necessarily achieving higher growth in RGDP per head. At the same time, rising RGDP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do undermine the welfare and therefore distort comparison of living standard between nations.

Question 8

The government of your country wants to know how the economy compares with other countries' economies.

Discuss which economic indicators it should obtain and how reliable they might be as a basis for such a comparison. [25]

[N15/P4/Q5]

Essay

A cross-country-comparison of standard of living would help the government of a country to judge how the economy is compared with other countries' economies. Standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real GDP. This is the value of total output produced from all the resources located within the political borders of a country over one year time period adjusted for any changes

in the price level. A cross-country comparison, however, requires converting the real GDP data into a common currency normally the dollar or the Euro.

Despite making these adjustments it must be remembered that real GDP on its own is both an inaccurate and insufficient indicator of true living standards both within and between countries. The GDP figures would become more useful if the figures of population of each of the countries is taken into account because all countries have different sizes of population. India's GDP, for example, needed to be divided on a population of approximately 1.25 billion to arrive at their GDP per head figure. On the other hand the GDP of Mauritius only needed to be divided on a population of approximately 1.2 million. The result in terms of GDP per head can be different from those of flat GDP figure.

As real GDP per head is calculated by dividing GDP on the population of the country therefore it is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is believed that there should be a strong positive correlation between RGDP per capita and economic well being; that is, greater production should move society toward" the good life" Therefore economists view levels and rates of growth of "real" per capita GDP, expressed in common currency, as a better indicator of comparing economic well being internationally than GDP figures alone.

Economists, however argue that higher GDP per head does not necessarily imply that the citizens of a country enjoy higher living standard. It is widely held that RGDP per head is also of limited value for inter- country comparison of living standard for a number of reasons.

Firstly, income distributions between the countries may be different also national income accounts will have varying degrees of inaccuracy, caused, for instance, by different sizes of the informal economy in each country. The informal or black economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. National income accounting conventions may also be different in different countries making it impossible to compare the two.

There is also the problem of what rate of exchange to use when comparing one country's GDP with another. The day to day market exchange rate can bear little relation to relative prices in different countries. So prices in some countries, like Switzerland or West Germany, can be much higher at official exchange rates than in France or Italy. Therefore if national income statistics are to be used to compare living standards between countries it is important to use an exchange rate which compares the cost of living in each country. These exchange rates are known as purchasing power parities. If, for instance, a typical basket of goods costs 10 Euro in France and £ 7 in the UK, then national income should be converted at an exchange rate of 10 Euro to the £ 7 even if the market exchange rate gives a very different figure.

Even this is not accurate enough. In some countries, consumers have to purchase goods which in others are free. Sweden, for instance, spends a greater proportion of its national income than Italy on fuel for heating because of its colder climate. But this extra expenditure does not give the Swedes a higher standard of living. Again, countries are different geographically and one country might have higher transport costs per unit of output than another because of congestion or having to transport goods long distances. In practice, it is almost impossible to adjust national income figures for these sorts of differences.

It is believed that the numbers cannot capture our true overall well-being as a nation in comparison with other countries. Economists point out that many qualitative changes could make a country better off than other countries without necessarily achieving higher RGDP per head, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse. Similarly, rising RGDP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort comparison of well-being between nations.

Understanding the fact that the data on real GDP per head is of limited value for comparing living standard between countries economists have developed many alternative measures. Measure of economic welfare (MEW), for instance, was developed to overcome these problems. This starts with real GNP and NNP. To this we added an allowance for leisure, for various non-marketed goods and services such as housework and underground activities, for the services of various public amenities such as parks and roads, and for private durable goods such as furniture and jewellery. On the other hand, various items are subtracted. These include regrettables' such as expenditure on defence and commuting to work, and various 'bads' such as pollution. Also various intermediate items such as the benefits of education are subtracted.

The big problem with using MEW is in obtaining reliable estimates of all the additional items it includes. As a result it has not been adopted by governmental statistical agencies around the world.

The most well-known measure of quality of life is The Human Development Index (HDI) that has been developed under the United Nations Development Programme. HDI is the average of three indicators:

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI value to 1, the nearer is the country to achieving the maximum values defined for each of the three indicators. The advantage of using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available but also by their ability to lead a long and healthy life and to acquire knowledge, a combination of both qualitative and quantitative factors. Clearly, this index gives us a better way of estimating standards of living than just the real GDP per head. Though it is considered to be a superior measure to others yet it is still far from being perfect.

Economists have recently been looking at ways to include other factors in the measurement, such as income distribution, gender inequalities, and inequalities by region or by ethnic group. As a result they have developed The Human Poverty Index (HPI) that focuses on four basic dimensions of human life – longevity, knowledge, economic provisioning and social inclusion.

Thus it follows that a government can adopt various measures in order to determine how an economy is compared to other economies. Each of those measures, however, has its own inherent weaknesses as none can actually produce a perfectly accurate cross- country comparison of economic well being. For a cross country comparison of economic well being the popular opinion, however, is more in favour of HDI.

Question 9

Imagine you have been asked to produce a report about the quality of life in your country. Discuss what would be important to include in your report and what economic indicators you would use in order to reach a conclusion. [25]

[J16/P4/Q6]

Essay

Quality of life generally refers to the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real GDP. This is the monetary value of total output produced from all the resources located within the political borders of a country over one year time period minus the rate of inflation.

It is widely held that there should be a strong positive correlation between real GDP and economic well being; that is, greater production should move society toward" the good life" and vice versa. Thus economists view levels and rates of growth of "real GDP, as a useful indicator of quality of life.

It can, however, be argued that higher GDP does not necessarily imply that the citizens of the country enjoy a better quality of life. This is because it ignores the size of its population. GDP per head, therefore, can be more useful than that of GDP figure alone. Real GDP per head is calculated by dividing real GDP on the population of the country. It is a measure of how much of real goods and services is available to the average citizen for consumption and investment. Economists, therefore, view levels and rates of growth of "real" per capita GDP, as a better indicator of quality of life.

It is, however, widely held that even RGDP per head is of limited value for indicating quality of life for a number reasons. Firstly, RGDP figures can obscure inequalities in the distribution of income and wealth. Wages and earnings may be unequally distributed among the population and rising national prosperity can co-exist with rising relative poverty. In addition to this national income accounts may have a significant degree of inaccuracy, caused, for instance, by a significant size of the informal economy in the country. The informal or nonmonetized economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and over 33% of national output for emerging economies. Moreover, higher GDP per capita might have been achieved at the expense of leisure time if workers are working longer hours. This has an inevitable impact on the quality of family life.

Furthermore, it is believed that the numbers cannot capture true overall well-being of a nation. Economists point out that many qualitative changes could improve quality of life in a country without necessarily achieving higher RGDP per head, such as reduction of crime and violence, greater equality of opportunity, improved

racial harmony, and reduction of drug and alcohol abuse. Similarly, rising RGDP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort the real well-being of a nation.

Measure of economic welfare (MEW) is one of the alternative measures developed to overcome these problems. This starts with GNP and NNP. To this was added an allowance for leisure, for various non-marketed goods and services such as housework and underground activities, for the services of various public amenities such as parks and roads, and for private durable goods such as furniture and jewelry. On the other hand, various items were subtracted. These included regrettables' such as expenditure on defence and commuting to work, and various 'bads' such as pollution. Also various intermediate items such as the benefits of education were subtracted. The big problem with using MEW is in obtaining reliable estimates of all the additional items it includes. As a result it has not been adopted by governmental statistical agencies around the world.

The most well-known measure of quality of life is The Human Development Index (HDI) that has been developed under the United Nations Development Programme. The Human Development Index (HDI) is the average of three indicators

- Standard of living, as measured by real GNP per capita (PPP$)
- Life expectancy at birth, in years
- Educational attainment, as measured by a weighted average of adult literacy (two-thirds weight) and enrolment ratio (one-third weight)

The closer the HDI is to 1, the closer the country is to achieving the maximum values defined for each of the three indicators.

The advantage of using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available but also by their ability to lead a long and healthy life and to acquire knowledge, a combination of both qualitative and quantitative factors. Clearly, this index gives us a better way of estimating quality of life. However, it is still far from perfect.

Economists have recently been looking at ways to include other factors in the measurement, such as income distribution, gender inequalities, and inequalities by region or by ethnic group. As a result they have developed Multidimensional poverty index (MPI). The MPI assesses poverty at the individual level. If someone is deprived in a third or more of ten (weighted) indicators, the global index identifies them as 'MPI poor', and the extent — or intensity — of their poverty is measured by the number of deprivations they are experiencing. The MPI has three dimensions: health, education, and standard of living. These are measured using the following 10 indicators.

Education

1. Years of Schooling: deprived if no household member has completed five years of schooling
2. Child Enrolment: deprived if any school-aged child is not attending school in years 1 to 8 2.

Health

3. Child Mortality: deprived if any child has died in the family
4. Nutrition: deprived if any adult or child for whom there is nutritional information is malnourished

Standard of Living

5. Electricity: deprived if the household has no electricity
6. Drinking water: deprived if the household does not have access to clean drinking water or clean water is more than 30 minutes walk from home
7. Sanitation: deprived if they do not have an improved toilet or if their toilet is shared
8. Flooring: deprived if the household has dirt, sand or dung floor
9. Cooking Fuel: deprived if they cook with wood, charcoal or dung
10. Assets: deprived if the household does not own more than one of: radio, TV, telephone, bike, or motorbike, and do not own a car or tractor

While both HDI and MPI use the 3 broad dimensions health, education and standard of living, HDI uses only single indicators for each dimension of poverty while MPI uses more than one indicator for each one. Therefore HDI has been criticized for ignoring other development parameters. In comparison to HDI the MPI creates a more vivid picture of people living in poverty within a country. It is the first international measure of its kind, and offers an essential complement to income poverty measures because it measures deprivations directly.

The above discussion leads us to the conclusion that, MPI is by far the most comprehensive measure of indicating quality of life in a country.

Question 10

Conventional estimates of national income indicated that average income per head between 2009 and 2013 was US $98 780 in Norway and US $36 900 in New Zealand. Consider whether this means that the standard of living in Norway is nearly three times as high as in New Zealand. [12]

[N16/P4/Q7(a)]

Essay

The standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real national income (NY) per head. It is calculated by dividing real NY on the population of the country. Real NY per head is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is believed that there should be a strong positive correlation between NY per capita and economic well being; that is, greater production should move society toward" the good life" Therefore economists view levels and rates of growth of "real" per capita NY expressed in common currency, as a valid indicator of comparing economic well being internationally.

So NY per capita can be used to make cross-country comparisons. But this requires converting NY data into a common currency (normally the dollar or the Euro) which has been given. But we also need to make an adjustment to reflect differences in the average cost of goods and services in each country in order to produce data expressed at a 'purchasing power parity' standard. It therefore needs information on cost of living in both countries which has not been provided.

Apart from this it must be remembered that NY per head on its own is both an inaccurate and insufficient indicator of true living standards. Therefore the information provided in the question is of limited value for comparing living standard. Thus higher NY per head in Norway does not necessarily imply that the citizens of the country enjoy higher living standard than the citizens of New Zealand.

So it is widely held that NY per head is of limited value for inter- country comparison of living standard for a number of reasons. Firstly, income distributions between the two countries may be different also national income accounts will have varying degrees of inaccuracy, caused, for instance, by different sizes of the informal economy in each country. The informal or black economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies.

Moreover national income accounting conventions may also be different in the two countries making it impossible to compare the two. There is also the problem of what rate of exchange to use when comparing one country's GDP with another. The day to day market exchange rate can bear little relation to relative prices in different countries. So prices in some countries, like Switzerland or West Germany, can be much higher at official exchange rates than in France or Italy. Therefore if national income statistics are to be used to compare living standards between countries it is important to use an exchange rate which compares the cost of living in each country.

Even this is not accurate enough. In some countries, consumers have to purchase goods which in others are free. For instance, Sweden spends a greater proportion of its national income than Italy on fuel for heating because of its colder climate. But this extra expenditure does not give the Swedes a higher standard of living. Again, countries are different geographically and one country might have higher transport costs per unit of output than another because of congestion or having to transport goods long distances. In practice, it is almost impossible to adjust national income figures for these sorts of differences.

It is believed that the numbers cannot capture our true overall well-being as a nation in comparison with other countries. Economists point out that many qualitative changes could make a country better off than other countries without necessarily achieving higher NY per head, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse. Similarly, rising NY per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort comparison of well-being between nations.

Thus it follows that NY per head is central to any measure of comparing quality of life between na-

tions but on its own it proves to be insufficient. A fair comparison of living standard must include the data on other important quantitative and qualitative factors.

Question 11

Robots are increasingly used in various areas of production.

Discuss whether GDP is always a good measure of living standards. [13]

[N18/P4/Q5(b)]

Essay

The standard of living is a measure of the material welfare of the inhabitants of a country. The baseline measure of the standard of living is real GDP. This is the monetary value of total output produced from all the resources located within the political borders of a country over one year time period minus the rate of inflation.

It is widely held that there should be a strong positive correlation between real GDP and economic well being; that is, greater production should move society toward" the good life" and vice versa. Therefore economists view levels and rates of growth of "real GDP, as a useful indicator of comparing economic well being of a country over time.

However it must be remembered that GDP on its own is both an inaccurate and insufficient indicator of true living standards. The higher real GDP, for instance, does not necessarily indicate a higher living standard particularly if the size of country's population is quite large. For example, India's GDP needed to be divided by a population of approximately 1.2 billion to arrive at a GDP per head whereas the GDP of Mauritius only needed to be divided by a population of approximately 1.2 million. The result in terms of GDP per head can be different from that of GDP figure alone.

Real GDP per head is calculated by dividing GDP on the population of the country. It is a measure of how much of real goods and services is available to the average citizen for consumption and investment. It is believed that there should be a strong positive correlation between RGDP per capita and economic well being; that is, greater production should move society toward" the good life" Therefore economists view levels and rates of growth of "real" per capita GDP, expressed in common currency, as a better indicator of determining economic well being than real GDP figure.

However it is widely held that RGDP per head is also of limited value for determining living standard. Firstly, income distributions between the countries may be different also national income accounts will have varying degrees of inaccuracy, caused, for instance, by different sizes of the informal economy in each country. The informal or black economy includes economic activity that goes unrecorded. The non-monetised sectors of the economy include output that is not sold at market prices but involves barter trade, and self-consumed products. Economist's latest estimates for the total value of the black economy throughout the world are $9 trillion. The scale of the underground economy is estimated to average 15% of national output for rich economies and 33% of national output for emerging economies. National income accounting conventions may also be different in different countries making it impossible to compare living standard using real GDP per head.

There is also the problem of what rate of exchange to use when comparing one country's GDP with another. The day to day market exchange rate can bear little relation to relative prices in different countries. So prices in some countries, like Switzerland or West Germany, can be much higher at official exchange rates than in France or Italy. Therefore if national income statistics are to be used to compare living standards between countries it is important to use an exchange rate which compares the cost of living in each country. These exchange rates are known as purchasing power parities. For instance, if a typical basket of goods costs €2 in France and £1 in the UK, then national income should be converted at an exchange rate of €2 to the £1 — even if the market exchange rate gives a very different figure.

Even this is not accurate enough. In some countries, consumers have to purchase goods which in others are free. For instance, Sweden spends a greater proportion of its national income than Italy on fuel for heating because of its colder climate. But this extra expenditure does not give the Swedes a higher standard of living. Again, countries are different geographically and one country might have higher transport costs per unit of output than another because of congestion or having to transport goods long distances. In practice, it is almost impossible to adjust national income figures for these sorts of differences.

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many qualitative changes could make a country better off without necessarily achieving higher RGDP per head, such as reduction of crime and violence, greater equality of opportunity, improved racial harmony, and reduction of drug and alcohol abuse. Similarly, rising RGDP per head is usually accompanied by rising external cost, such as pollution, noise and accidents. These are not officially measured within national income but they do affect welfare and distort comparison of well-being between nations.

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The advantage of using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available but also by their ability to lead a long and healthy life and to acquire knowledge, a combination of both qualitative and quantitative factors. Clearly, this index gives us a better way of estimating standards of living than just GDP taken on its own. However, it is still far from perfect. Economists have recently been looking at ways to include other factors in the measurement, such as income distribution, gender inequalities, and inequalities by region or by ethnic group. As a result they have developed The Human Poverty Index (HPI) that focuses on four basic dimensions of human life — longevity, knowledge, economic provisioning and social inclusion.

Thus it follows that GDP is an integral part of any measure of standard of living. However on its own it proves to be inaccurate and insufficient. A good measure of living standard therefore must compliment other qualitative factors with real GDP per head.