## TOPIC 1: BUSINESS CYCLE COMPOSITION AND REASONS

! Learner Note: The business cycle shows what happens to the value of the domestic output (GDP) of the economy over time. The time series shows the values of a variable over time.

SECTION A: TYPICAL EXAM QUESTIONS: TOPIC 1: BUSINESS CYCLE COMPOSITION AND REASONS

QUESTION 1:　　9 minutes　　　　　　　　　　　　　*(Taken from DoE Nov 2008)*

1.1 Study the diagram below and answer the questions that follow.
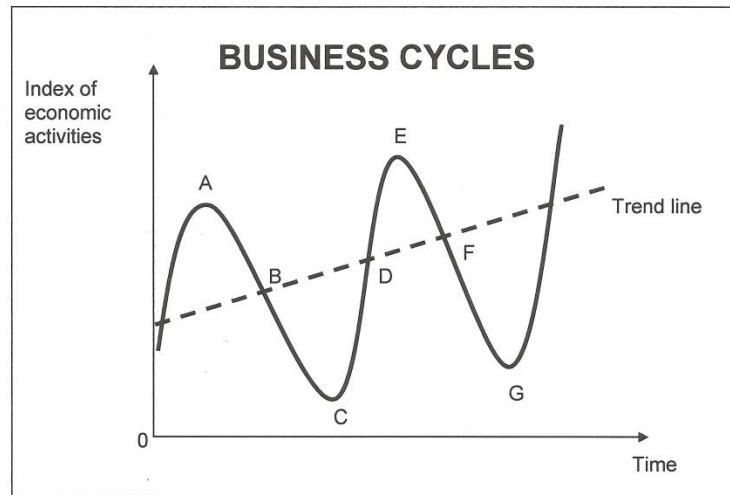
1.1.1　Define a *business cycle.*　　　　　　　　　　　　　　　　　　　　　(3)

1.1.2　Identify the labels for the following periods in the business cycle as
　　　　indicated in the above diagram:
　　　　(a)　　Upswing or expansion
　　　　(b)　　Length or duration of a cycle　　　　　　　　　　　　　(2 x 3) (6)

1.1.3　At which point/phase in the above diagram will unemployment be at its
　　　　highest?　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2)

1.1.4 Name ONE exogenous factor that gives rise to business cycles.　　　(3)
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[14]

QUESTION 2:　　10 minutes　　　　　　　　　*(Taken from DoE Feb-March 2010)*

2.1　Differentiate between *exogenous* and *endogenous* reasons for business cycles.
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(8 x 2)[16]

QUESTION 3:　　5 minutes　　　　　　　　　　　*(Taken from DoE Nov 2010)*

3.1　Discuss the Monetarist approach as a cause of business cycles.　　　[8]

QUESTION 4:　　18 minutes　　　　　　　　　　*(Taken from Feb-March 2009)*

4.1　Write an essay briefly analysing the composition and features of business cycles.
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[30]

　　　　(Remember this question is part of an essay question)

TOPIC 2: GOVERNMENT POLICY AND FORCASTING FOR BUSINESS CYCLES

!

Learner Note: Remember that in periods of expansion, income, output and employment all increase; government does not welcome this. Therefore, they use two policies to influence the business cycle. Together with that, Government and economic agents also want to know what is going to happen in the economy.

QUESTION 1:   4 minutes   *(Taken from DoE Nov 2008)*

1.1.1 Explain how Government can stimulate economic activity in an effort to smooth
         out cycles.   (3)

1.1.2 Name the method of predicting future business cycles based on the patterns of
         previous ones.   (3)
                                                                                    [6]

QUESTION 2:   4 minutes   *(Taken from DoE Nov 2010)*

2.1 List the THREE economic indicators used in forecasting of business cycles.
                                                                            (3 x 2) [6]

QUESTION 3:   6 minutes   *(Taken from DoE Feb-March 2009)*

3.1   Explain how authorities use certain policies to smooth out business cycles.
                                                                                    [10]
         (This is part of an essay question that usually counts 50 marks)

QUESTION 4:   30 minutes   *(Taken from DoE Nov 2009)*

4.1   Explain, with the aid of an appropriately labeled diagram, how the various business
   cycle indicators can be used in forecasting.   [50]
        (Remember that only the second part of the question is based on this session)

SECTION B: ADDITIONAL CONTENT NOTES

TOPIC 1: BUSINESS CYCLE COMPOSITION AND REASONS

Introduction

- Fluctuations in the level of economic activity are part of our daily lives and influence all of us in some way or another.
- When the economic activity increases, households have more money to spend.
- When the economic activity decreases, people struggle to get jobs.

COMPOSITION AND FEATURES OF BUSINESS CYCLES

- **Business cycles**: Are successive periods of increasing or decreasing economic activity. They are also known as economic fluctuations, and they relate to changes in business conditions.
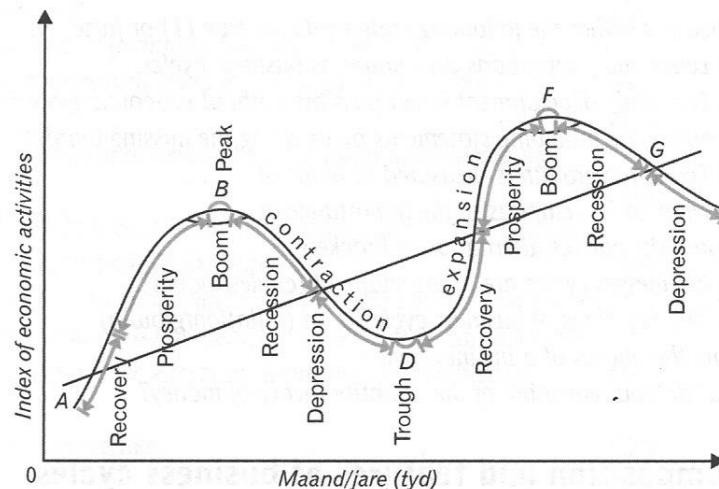
Source: "Enjoy economics" p24

- The key variable in business cycles is *real* GDP.
- No two cycles are exactly the same or follow exactly the same course.
- All business cycles have the following:
    - Two periods, i.e. contraction (downswing) and expansion (upswing).
    - Two turning points, i.e. trough and peak.
- The upward and downward periods divide into the following phases:
    - prosperity phase (boom)
    - recession
    - depression
    - recovery
- The expansion period:
    - Level of economic activity increases
    - More goods and services are being produced
    - Household expenditure increases
    - Interest rates decrease
    - Inflation increases
- Peak:
    - The economy is using most of its resources, such as skilled labour and capital
    - There is an upward pressure on prices and the balance on the current account worsens as a result of higher imports.
- Contraction period:
    - Level of economic activity decreases
    - Less goods and services are being produced
    - Spending declines
    - Interest rates increase
    - Inflation decreases

- Trough:
    - Turning point at the end of the contraction period.
- Actual business cycles:
    - In the table below we can see the business cycles for South Africa since World War II.

Upswings	Duration in months	Downswings	Duration in months
Post war – July 1946	7	August 1946 – April 1947	9
May 1947 – November 1948	19	December 1948 – February 1950	15
March 1950 – December 1951	22	January 1952 – March 1953	15
April 1953 – April 1955	25	May 1955 – September 1956	17
October 1956 – January 1958	16	February 1958 – March 1959	14
April 1959 – April 1960	13	May 1060 – August 1961	16
September 1961 – April1965	44	May 1965 – December 1965	8
January 1966 – May 1967	17	June 1967 – December 1967	7
January 1969 – December 1970	36	January 1971 – august 1972	20
September 1972 – August 1974	24	September 1974 – December 1977	40
January 1978 – August 1981	44	September 1981 – March 1983	19
April 1983 – June 1984	15	July 1984 – March 1986	21
April 1986 – February 1989	35	March 1989 – May 1993	51
June 1993 – November 1996	42	December 1996 – August 1999	33
September 1999 -			

Source: South African Reserve Bank, Quarterly Bulletin, December 2005

Explanations

- There are two main reasons for the existence of business cycles: Exogenous and Endogenous.

A. Exogenous explanations

- Monetarist view.
- Factors or events that influence the economy from outside the market system.
- E.g. Weather conditions, shocks (e.g. 911), structural changes (technology), etc.

B. Endogenous explanations

- Keynesian view or interventionists.
- Factors or events that influence the economy from inside the market system.
- E.g. consumer expenditure, production, etc.

Kinds of cycles

- Kitchin cycles:
    - last between 3 and 5 years
    - caused by businesses adapting their inventory levels
- Jugler cycles:
    - last between 7 and 11 years
    - caused by the changes in net investments by businesses and government
- Kuznets cycles:
    - last between 15 and 20 years
    - caused by the changes in the building and construction industry
    - also known as the building cycle
- Kondratief cycles:
    - last 50 years and longer
    - caused by technological innovations, wars and discoveries of new deposits of resources

Remember shorter cycles occur within long cycles.

TOPIC 2: GOVERNMENT POLICY AND FORECASTING FOR BUSINESS CYCLES

Business cycles and government policy

- Governments' primary aim with business cycles is to achieve the best possible growth rates.
- During periods of expansion income, output and employment increase.
- During periods of contraction income, output and employment decrease.

What can government do during these two periods?
- Fiscal policy:
    - It's about government's budget, how it raises money and how it spends money.
    - When the economy is in an expansion, Government can increase taxation (leakage) and decrease expenditure (injection).
    - When the economy is in a contraction, Government can increase expenditure and decrease taxation.

- Monetary policy:
  - o It focuses on the money supply and interests rates, and is controlled by the Reserve Bank.
  - o When the economy is in a contraction, the central bank can increase the money supply by decreasing the interest rates.
  - o Instruments the Reserve bank can use:
    - Interest rates
    - Cash reserve requirements
    - Open-market transaction
    - Moral suasion
    - Exchange rate policy (free-floating policy (supply and demand determine currency) or managed policy (central bank intervenes))
- It's best for Government to use its policies in combination with one another.

The new economic paradigm (smoothing of the cycles)

- In the new economic paradigm, Government focuses less on fine-tuning and more on eliminating uncertainties with regard to fiscal and monetary policy.
- The new economic paradigm is embedded in demand-side policy and supply-side policy.

A. Demand-side policy

- Traditional monetary and fiscal policies focus by their nature on aggregate demand.
- It will have an effect on:
  - o Inflation
  - o Unemployment

B. Supply-side policy

- It is possible for Government to arrange things in the economy in such a way that supply is more co-operative to changes in demand.
- Government does it by doing the following:
  - o reducing production costs
  - o improving the efficiency of inputs
  - o improving the efficiency of markets

Features underpinning forecasting

- Forecasting is the process of making predictions about changing conditions and future events that may significantly affect the economy.
- Two major measuring methods are used:
  - o Quantitative methods: based on historical tie series data
 - o Judgemental methods: based on opinion and understanding

A. Indicators

- Most basic forecasting is done by studying changes in the numerical values of indicators, i.e. time series data.
- Indicators predict what the economy is likely to do.
- There are many different indicators.
- There are three main groups:
  - Leading indicators
  - Co-incident indicators
  - Lagging indicators

Leading indicators	Coincident indicators	Lagging indicators
Net gold and other foreign reserves	Registered unemployed	Employment in non-agricultural sectors
Gold ore milled	Real GDP (excluding agriculture)	Hours worked in construction
Physical volume of mining production (excluding gold)	Physical volume of manufacturing production	Wholesale sales of metals, machinery and equipment
Number of new motorcars sold	Real retail sales	Number of commercial vehicles sold
Real merchandise exports (excluding gold)	Real merchandise imports	Real investment in machinery and equipment
Net new companies registered	Utilisation of capacity in manufacturing	Unit labour costs in manufacturing

Source: "Enjoy Economics" p36

B. Leading indicators

- They show you in advance what is going to happen.
- They are before the aggregate economic activity.
- E.g. in table above.
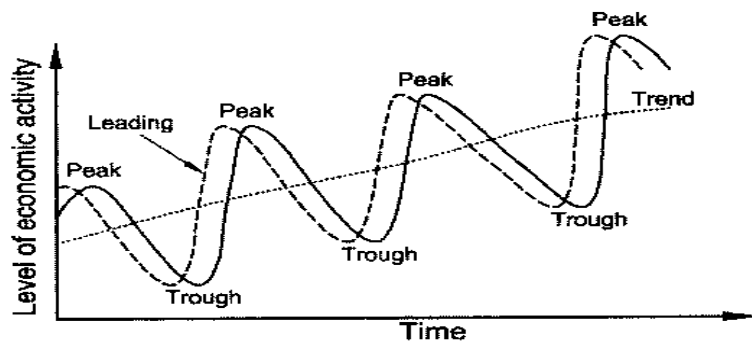
Source: "Economics for all" p34

C. Co-incident indicators

- They move together with the aggregate economic activity.
- Provide us with current information on the state of the economy.
- E.g. in table above.

D Lagging indicators

- They are behind the aggregate economic activity.
- They serve to confirm what has happened.
- E.g. in table above.

E The length of a business cycle

- The length is measured from peak to peak or from trough to trough.
- Longer cycles show strength.

F Amplitude

- **Amplitude**: The maximum departure from average vibration or oscillation (the range between peak and trough values).
- It's not only the length but also the intensity of the contraction and expansion.
- The amplitude demonstrates two things:
  - the power of the underlying forces
  - the extent of change

G The trend

- **Trend:** Indicates the general direction in which the indexes that were used in the business cycle, move.
- The trend line usually has a positive slope because the production capacity of a country increases over time.

H Extrapolation

- **Extrapolation:** Means to estimate something unknown, from facts or information that is known.
- E.g. estimate a nation's population 5 years from now, by using current data.
- You can apply extrapolation to the following:
  - the trend line
  - the trend of a curve

I Moving averages

- Moving averages: This is a method of repeatedly calculating a series of different average values along a time series to produce a smooth curve.
- Four main concepts of the average:
  - Arithmetic: e.g. $7 + 3 + 8 + 6 = 24 \div 4 = 6$
  - Geometric: e.g. $2 \times 3 \times 4 \times 5 = 120 \sqrt{120} = 10{,}95$
  - Median: e.g. $1 + 2 + \underline{3} + 4 + 5$ the median is 3
  - Mode: the number that occurs most often

SECTION C: HOMEWORK

TOPIC 1: BUSINESS CYCLE COMPOSITION AND REASONS

QUESTION 1   **20 minutes**   *(Source: The Answer series)*

    1. Discuss the features and compositions of business cycles.   (16)

    2. Discuss the causes of business cycles with reference to the exogenous and
        endogenous factors.   (16)
                                                                              [32]

TOPIC 2: GOVERNMENT POLICY AND FORCASTING FOR BUSINESS CYCLES

QUESTION 1   **20 minutes**   *(Source: The Answer series)*

    1. Explain how the monetary policy can be used to dampen an overheated economy.
                                                                        (8)

    2. Explain how the fiscal policy is used to stimulate a depressed economy.   (8)

    3. Discuss the economic indicators used in forecasting.   (16)
                                                                              [32]

SECTION D: SOLUTIONS AND HINTS TO SECTION A

TOPIC 1: BUSINESS CYCLE COMPOSITION AND REASONS

QUESTION 1:   **9 minutes**   *(Taken from DoE Nov 2008)*

1.1.1   Refer to successive periods ✓ of increasing (expansion/upswing) and decreasing
       (contraction/downswing) ✓ economic activities ✓
       OR
       Successive periods ✓ of economic ✓ fluctuations ✓   (3)

1.1.2   (a) CDE / CE ✓✓✓
       (b) CG / AE✓✓✓   (2 x 3) (6)

1.1.3   Point C / point G / trough ✓✓   (1 x 2) (2)

1.1.4   • inappropriate government policies / interventions ✓✓✓
       • change in money supply ✓✓✓
       • climate conditions (sunspot theory) ✓✓✓
       • shocks (e.g. war, major increase in fuel price) ✓✓✓
       • structural change to the economy ✓✓✓
       • technology ✓✓✓
       (*accept any other relevant factor from an approved resource*)   (1 x 3) (3)
                                                                            [14]

QUESTION 2:   10 minutes   *(Taken from DoE Feb-March 2010)*

Exogenous reasons (explanations)
- The monetarist school of thought started in 1960 by Professor Milton Friedman. ✓✓
- The classical economists believed that the markets were inherently (naturally) stable. ✓✓
- They then presented exogenous explanations (conditions that originate outside of the market system) for periodic recessions and revivals. ✓✓
- They saw these fluctuations in economic activity as temporary due to external factors. ✓✓
- (E.g.) inventions, technological innovations, natural causes etc. ✓✓
- These fluctuations can also occur because of ineffective government policy. ✓✓
- This results in fluctuations in the rate of increase in the money supply, which causes changes in the rate of increase in prices, production and employment. ✓✓

Any (4 x 2)

Endogenous reasons (explanations)
- Also known as the interventionist approach. ✓✓
- The Keynesians hold the view that markets are inherently unstable. ✓✓
- These economic fluctuations are caused by endogenous (Internal) causes. ✓✓
- There is a self-correcting mechanism in the market system that acts to correct any economic boom or recession. ✓✓
- (e.g.) If business conditions improve, there will be an increase in economic output, resulting in increased interest rates, increase in imports and a fall in foreign exchange. ✓✓
- All of these factors combine to dampen the economic growth and curb the boom ✓✓
- The reverse is also true; interest rates and import rates can decrease and foreign exchange can increase, leading to a recession. ✓✓
- The Keynesians believe that these fluctuations are part of the market economy and governments have a duty to use monetary and fiscal policy to intervene. ✓✓
- When the government intervenes, this brings stability to the economy and helps to smooth out the peaks and troughs in the business cycles. ✓✓ **Any (4 x 2)**

[16]

QUESTION 3:   5 minutes   *(Taken from DoE Nov 2010)*

- Also called the sunspot theory / exogenous approach ✓✓
- Believe markets are inherently stable. ✓✓
- Departures from the equilibrium state are caused by factors outside of the market system. ✓✓
- Market forces (supply and demand) kick in and bring the economy back to its natural state or equilibrium route. ✓✓
- These interferences are not part of the normal forces operating in the market. ✓✓
- Governments should not interfere in the markets. ✓✓
- Major cause (examples) of economic fluctuations are inappropriate government policies ✓✓, undesirable increases and decreases in money supply ✓✓ weather conditions ✓✓ shocks (September 11) ✓✓ structural changes✓✓ severe increases in the price of fuel ✓✓and wars✓✓
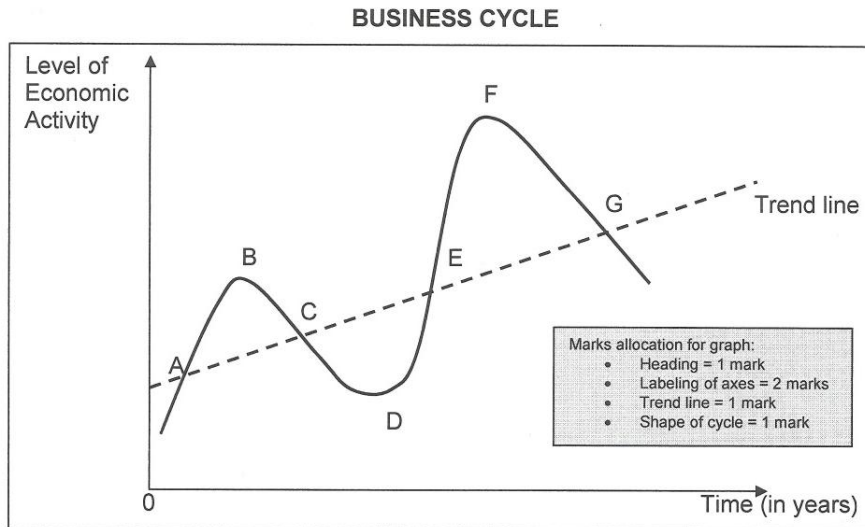 (Maximum 4 marks for examples)   **(Any 4 x 2)   [8]**

QUESTION 4:   18 minutes   *(Taken from Feb-March 2009)*

INTRODUCTION

Business cycles refer to continuous periods of expansion✓ and contraction✓ of economic activity. ✓   (Max. 3 marks)

BODY

Discussion of Graph:

NB. Do not credit for the heading if already credited in diagram.

1. Period of Recession (BC) ✓

• During a recession, *jobs are lost* and there is a feeling of *pessimism* ✓✓
• *Employment levels drop*, and there is a decrease in *economic activity*, and the economy *slows down* ✓✓   (Max. 5 marks)

2. Period of Depression (CD) ✓

•   During a depression *money is in short supply* leading to a further *decline in spending* ✓✓
•   There is a negative impact on *investment* spending ✓✓
•   When economic activity is at its lowest, a *trough* is reached at point D ✓✓
•   There is *competition for jobs* and the *cost of production decreases* ✓✓
•   This *encourages foreign trade* and leads to a *recovery.* ✓✓   (Max. 5 marks)

3. Period of Recovery (DE) ✓

• During a recovery, *production increases* and *more jobs* are created ✓✓
• *Business confidence* rises and there is *increased spending* by firms ✓✓
• There is increased economic activity and the country enters into a period of *prosperity* ✓✓   (Max. 5 marks)

4. Period of Expansion (AB/EF) ✓

- During a period of expansion there is a great degree of _optimism_ ✓✓ Employment levels rise, salaries and wages rise and spending increases ✓✓
- A _peak_ is reached at point B/F ✓✓
- A larger amount of money is in circulation and this leads to an _inflationary_ situation ✓✓

(Max. 5 marks)

5. Trend ✓

- The _cycle continues oscillating along a trend line_ and in-between upper and lower limits ✓✓
- The trend line that _rises gradually_ represents the average effect on the economy over time ✓✓
- _Positively sloped_: show that GDP is rising over time on average ✓✓

(Max. 5 marks)

[30]

TOPIC 2: GOVERNMENT POLICY AND FORCASTING FOR BUSINESS CYCLES

QUESTION 1:   **4 minutes**   _(Taken from DoE Nov 2008)_

1.1.1   • Using expansionary monetary policies ✓✓✓
         • Reducing interest rates ✓✓✓
         • Expansionary fiscal policies ✓✓✓
         • Reducing tax ✓✓✓
         • Increased government expenditure ✓✓✓
         (_Any other relevant examples_)   (max 3) (3)

1.1.2   Extrapolation ✓✓✓   (1 x 3) (3)
                                                                        [6]

QUESTION 2:   **4 minutes**   _(Taken from DoE Nov 2010)_

2.1   • Leading ✓✓
         • Lagging ✓✓
         • Coincident ✓✓   (Any 3 x 2) **[6]**

QUESTION 3:   **6 minutes**   _(Taken from DoE Feb-March 2009)_

POLICIES USED BY THE GOVERNMENT TO SMOOTH OUT BUSINESS CYCLES

- The _new economic paradigm_, results in the state using monetary policy and fiscal policy to smooth out the business cycle ✓✓

Fiscal policy
- It has been successfully used to _stimulate a depressed economy_ ✓✓
- _e.g._ by reducing taxes or by increasing the government expenditure ✓✓
- By reducing taxes households have _more disposable income_ which increases consumption spending and stimulates economic activity ✓✓
- _Increasing government spending_ leads to a further injection in the circular flow which stimulates economic activity ✓✓

Monetary policy
- It can be utilized more effectively to _dampen an overheated economy_ with severe inflationary pressures ✓✓
- _e.g._ reduce money supply or by increasing interest rates ✓✓
- This will cause _total spending to decrease_ and the level of economic activity to decline ✓✓   (Max. 10 marks)

[10]

QUESTION 4:   30 minutes   _(Taken from DoE Nov 2009)_

BODY

BUSINESS CYCLE INDICATORS:

1. LEADING ECONOMIC INDICATORS ✓✓

- These are indicators that change before the economy changes ✓✓
- They give consumers, business leaders and policy makers a glimpse of where the economy might be heading ✓✓
- When these indicators rise, the level of economic activities will also rise in a few months' time. ✓✓
- E.g. job advertising space/inventory/sales ratio ✓✓   (Max 6)

2. LAGGING ECONOMIC INDICATORS ✓✓

- They do not change direction until after the business cycle has changed its direction. ✓✓
- They serve to confirm the behavior of co-incident indicators. ✓✓
- E.g. the value of wholesalers' sales of machinery ✓✓ if the business cycle reaches a peak and begins to decline then we are able to predict the value of new machinery sold✓✓
                                                        (Max 6)

3. CO-INCIDENTAL ECONOMIC INDICATORS ✓✓

- They simply move at the same time as the economy moves ✓✓
- It indicates the actual state of the economy. ✓✓
- E.g. value of retail sales. If the business cycle reaches a peak and then begins to decline, then the value of retail sales will reach a peak and then begin to decline at same time ✓✓
                                                        (Max 6)

4. LENGTH ✓✓

- Is the time it takes for business cycle to move through one complete cycle (measured from peak to peak) ✓✓
- E.g. Useful to know the length because the length tends to remain relatively constant over time ✓✓
- If a business cycle has the length of 10 years it can be predicted that 10 years will pass between successive peaks or troughs in the economy ✓✓
- Longer cycles show strength ✓✓
- Cycles can overshoot ✓✓ (Max 6)

5. AMPLITUDE ✓✓

- It is the difference between the total output between a peak and a trough ✓✓ / Measures the distance of the oscillation of a variable from the trend line ✓✓
- A large amplitude during an upswing indicates strong underlying forces – which result in longer cycles ✓✓
- The larger the amplitude the more extreme the changes are that may occur. ✓✓
  E.g. During the upswing inflation may increase from 5% to 10%. (100% increase) ✓✓
  (Max 6)

6. TREND ✓✓

- A trend is the movement in a general direction of the economy ✓✓
- It usually has a positive slope because production capacity of the economy increases over time. ✓✓
- E.g. The diagram above illustrates an economy which is growing – thus an upward trend ✓✓
- Trends are useful because they indicate the general direction in which the economy is moving – indicate the rate of increase or decrease in level of output ✓✓ (Max 6)

. EXTRAPOLATION ✓✓

- Forecasters use past data e.g. trends and by assuming that this trend will continue, they make predictions about the future ✓✓
- E.g. if it becomes clear that the business cycle has passed through a trough and has entered into a boom phase, forecasters might predict that the economy will grow in the months that follow ✓✓
- It's also used to make economic predictions in other settings e.g. prediction of future share prices ✓✓ (Max 6)

. MOVING AVERAGE ✓✓

E.g. the moving average could be calculated for the past three months in order to smooth out any minor fluctuations ✓✓
- They are calculated to iron out small fluctuations and reveal long-term trends in the business cycle ✓✓ (Max 6) Body max: 40

CONCLUSION

Business cycles will continue to have an effect on the economic well-being of South Africa in future. Although we may understand the causes of business cycles and how the economy may respond to certain policies, accurate prediction of business cycles is beyond us. ✓✓(2)

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