LEVEL 1: ECONOMICS

Reading 11 (4th out of 7): BUSINESS CYCLES

Difficulty: **easy**

Benchmark Study Time: **2.5h**

2022

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THIS E-BOOK:

- is a selective summary of the corresponding Reading in your CFA® Program Curriculum,
- provides place for your own notes,
- helps you structure your study and revision time!

How to use this e-book to maximize your knowledge retention:

1. **Print** the e-book in duplex and bind it to keep **all** important info for this Reading **in one place.**
2. **Read** this e-book, best twice, to grasp the idea of what this Reading is about.
3. **Study** the Reading from your curriculum. **Here add** your notes, examples, formulas, definitions, etc.
4. **Review** the Reading using this e-book, e.g. write your summary of key concepts or revise the formulas at the end of this e-book (if applicable).
5. **Done?** Go to your study plan and change the Reading's status to **green**: (it will make your Chance-to-Pass-Score™ grow ☺).
6. **Come back** to this e-book from time to time to **regularly review for knowledge retention!**

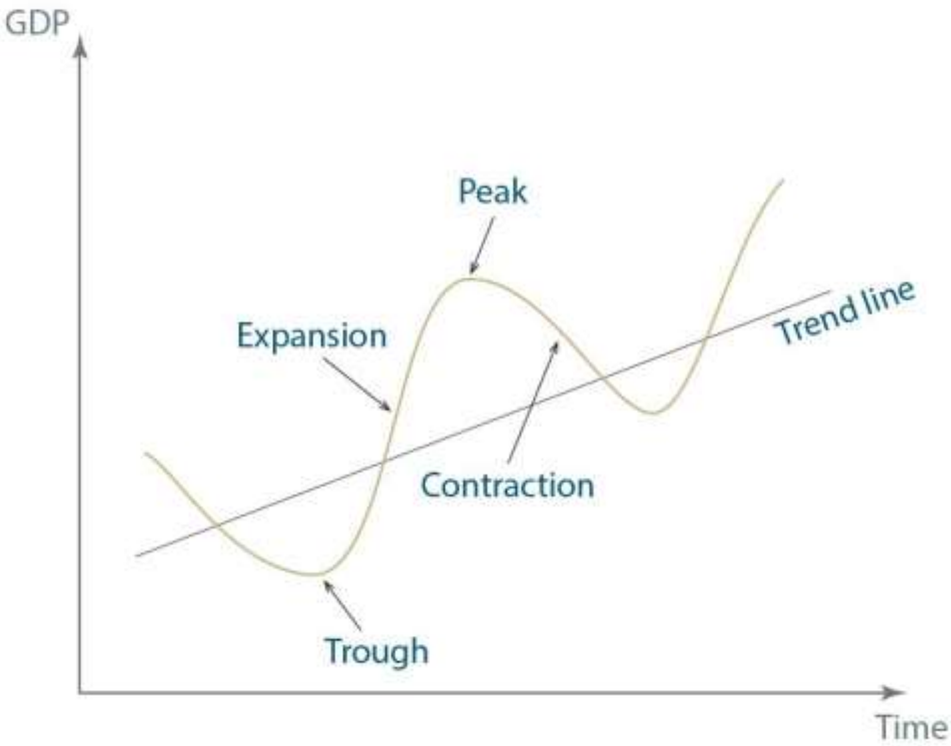
NOTE: While studying or reviewing this Reading, you can use the tables at the end of this e-book and mark your study/review sessions to hold yourself accountable.

PHASES OF THE BUSINESS CYCLE

A business cycle is characterized by short-term deviations from the trend of production.

A business cycle consists of 4 phases:

1. contraction,
2. trough,
3. expansion,
4. peak.



Full business cycle – description

Let's discuss a full business cycle. Assume that we are starting at the **peak**. At this very point, both the production and spending are expanded too much and inflation is high. There is an excess of supply in comparison with the effective demand that comes as a result of uncontrolled investment processes. In consequence, the market can't absorb everything that is produced and enters the **contraction** phase. In the contraction phase, which can be called a **recession** or even **depression**, the production, investment, and employment are gradually reduced. People use fewer resources, investment is limited, and real GDP falls. Also inflation starts to fall.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

This phase is followed by the **trough**, which is characterized by a relative economy stabilization at the lowest level. Those companies that survived harsh conditions and are still able to make a profit even with low prices stay in the market. In this phase, the strongest entrepreneurs who survived the crisis take advantage of unfavorable economic conditions and start restoring their capital, that is from this point they begin to increase employment and investment.

So, the **expansion** phase begins. The ratio of prices to production costs starts to improve, which leads to increased profits. Funds accumulated in commercial banks seek commercial estuary, which results in lower interest rates. And, as we know, cheaper loans allow greater investments. In the beginning, inflation is still falling or remains constant but as the expansion is speeding up – inflation also starts to accelerate. Prices of equities and bonds are rising.

The recovery affects new areas of economic life more and more until it reaches a new peak. At this phase of the business cycle, investments reach their highest levels and stop growing. Sooner or later, new tensions in the economy put an end to the expansion of investment and trigger mechanisms of transitional economic downturn. The contraction phase begins anew. And so the story continues.

THEORIES OF THE BUSINESS CYCLE

Main schools of thought:

- Neoclassical school,
- Austrian school,
- Keynesian school,
- Monetarist school,
- New Classical school.

Neoclassical school

Neoclassical school:

- based on Say's law,
- business cycles are sporadic because changes in the aggregate supply and demand are very quickly compensated by changes in interest rates and wages,
- business cycles may be caused by changes in technology,
- the economy tends to return to general equilibrium very fast without the help of the government because of Say's law.

Say's law = supply creates demand

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Austrian school

Economists:

- Friedrich August von Hayek
- Ludwig von Mises

Austrian school focuses on:

- the role of money,
- the role of the government.

According to the Austrian school, the business cycle results from the wrong timing of government interventions. So, no intervention is what's best for the economy.

Keynesian school

Economist:

- John Maynard Keynes

According to Keynesian school:

- during a serious recession, the government should introduce the expansionary fiscal policy (i.e. increase government spending and cut taxes) because without the intervention it is often impossible to go back to equilibrium in the short run; and… "in the long run we are all dead." (Keynes in *'A Tract on Monetary Reform'*)
- government interventions are good and usually necessary for the economy to return to equilibrium.

Monetarist school

Economist:

- Milton Friedman

According to monetarists (the opposite of the Keynesian school):

- we should focus on money supply that should increase at a stable and low rate,
- the business cycle is either a result of government interventions or exogenous shocks,
- we cannot forget about the long run and focus only on the short run (as Keynes suggested) because the long-run cost of government interventions (e.g. increasing government debt) may be high,
- also, bad timing of government intervention may lead to more harm than cure.

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New Classical school

Economist:

- Robert Lucas

Models of this school very often show that changes in the economy can be derived from the behavior of a single market participant. If we assume that all market participants are rational and maximize their utility functions and have budget constraints, based on this assumption, we can model the behavior of the economy as a whole.

According to the New Classical school, business cycles are natural market responses to external shocks.

New Classical models:

- real business cycle models,
- models with money.

UNEMPLOYMENT

Unemployment - definitions

employed = those who have job, excluding people working in the informal sector, e.g. illegal workers

unemployed = a person able to work who is actively seeking employment but is currently without a job

labor force = all people who are employed and unemployed

activity ratio = the labor force divided by the number of all people in the country who are at working age (18-64 years old)

unemployment rate = ratio of the unemployed to the labor force

underemployed = those who have qualifications to work in a much better-paid job but cannot find it

discouraged worker = someone who has given up looking for a job (he/she is not counted as the labor force)

voluntarily unemployed = those who don't want to work even if they have the opportunity and those who retired early

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Types of unemployment

Types of unemployment:

- frictional unemployment,
- structural unemployment,
- cyclical unemployment.

Frictional unemployment is associated with a natural movement of people across regions and their voluntary job change.

Structural unemployment is caused by a mismatch between workers' skills and the type of work offered in the market.

Cyclical unemployment occurs when the aggregate demand for labor is low as a result of downturns in overall business activity.

INFLATION

- **Inflation** is a rise in the general level of the prices of goods and services over a period of time.
- Inflation is measured by the inflation rate:

$$i = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$$

Where:

- P_t – value of a price index at a given period
- P_{t-1} – value of this price index at the previous period

Inflation – definitions

disinflation = the inflation rate falls in a given period but remains above 0%

deflation = the level of prices falls in a given period, the inflation rate is below 0%

hyperinflation = very large inflation (e.g. 100%/year)

stagflation = stagnation + inflation

core inflation index = inflation index that doesn't include food and energy prices, i.e. products with very volatile prices

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Price indices

To measure an inflation rate for a given year, we need to know the value of the **price index** (that represents the average prices of a basket of goods and services) at the end of the year and the value of the price index at the beginning of the year. To obtain a reliable inflation rate, the key factor is to define a price index and measure its value accurately.

Most popular price indices:

- the consumer price index,
- the producer price index.

The consumer price index measures the price of a particular basket of goods and services over a period of time.

The producer price index measures inflation from the perspective of producers.

Constructing the price index

Ways of constructing the price index:

- the Laspeyres price index (most popular in the world),
- the Paasche price index,
- the Fisher price index.

The Laspeyres price index is based on a fixed basket of goods and services (fixed composition, aka. weights) representing the base level of consumption. We compute the value of the index in the consecutive periods and the inflation rate will be equal to relative changes in the value of the index.

Using the Laspeyres price index may result in a situation when inflation measure is distorted because of **(i)** the emergence of new products, **(ii)** changes in the quality of the products or **(iii)** the substitution of certain goods or services. To take into account new products, the consumption basket is updated over time. Also, the consumption basket is updated over time to take into account the changes in the quality of the products (so-called hedonic pricing practice).

To eliminate the limitations associated with the substitution of goods, the Paasche price index is used as an inflation index. For the base period and a given consecutive period, the index takes the current consumption composition (weights) into account. If we have the Laspeyres index and the Paasche index, we can compute the Fisher index, which is the geometric mean of the Laspeyres index and the Paasche index.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Cost-push inflation vs Demand-pull inflation

Economists distinguish between:

- cost-push inflation, and
- demand-pull inflation,

Cost-push inflation is the result of a reduced level of aggregate supply, which in turn is caused by an increase in real prices of factors of production, for example by the cost of labor, energy or oil.

Cost-push inflation

real prices of factors of production increase

↓

aggregate supply decrease

↓

cost-push inflation

Demand-pull inflation is the result of the steady growth of aggregate demand, which translates into higher prices and wages and a temporary increase in the volume of production in the economy above its potential, which causes inflation.

Demand-pull inflation

steady growth of aggregate demand

↓

higher prices and wages

↓

temporary increase in the volume of production
above potential production

↓

demand-pull inflation

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

ECONOMIC INDICATORS

Economic indicators help evaluate the state of the economy.

Economic indicators:

- leading indicators,
- lagging indicators,
- coincident indicators.

Leading indicators are used to predict an economy's future state.

Lagging indicators are used to analyze the past condition of an economy.

Coincident indicators are used to analyze the current activity of an economy.

The Conference Board indicators

Composite indicators in the USA provided by the Conference Board:

- the Index of Leading Economic Indicators,
- the Index of Lagging Economic Indicators,
- the Index of Coincidence Economic Indicators.

Composite indicators are used because:

- it is easier to follow one composite indicator than a lot of single indicators.
- it can be misleading to use only a few single indicators.
- not all indicators carry the same weight.

Index of Leading Economic Indicators

Index of Leading Economic Indicators:

1. Average weekly hours, manufacturing,
2. Average weekly initial claims for unemployment insurance,
3. Manufacturers' new orders, consumer goods, and materials,
4. ISM Index of New Orders,
5. Manufacturers' new orders, nondefense capital goods excluding aircraft orders,
6. Building permits, new private housing units,

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

7. Stock prices, 500 common stocks,
8. Leading Credit Index,
9. Interest rate spread, 10-year Treasury bonds less federal funds,
10. Average consumer expectations for business conditions.

Index of Lagging Economic Indicators

Index of Lagging Economic Indicators:

1. Average duration of unemployment,
2. Inventories to sales ratio, manufacturing, and trade,
3. Labor cost per unit of output, manufacturing,
4. Average prime rate,
5. Commercial and industrial loans,
6. Consumer installment credit to personal income ratio,
7. Consumer price index for services.

Index of Coincidence Economic Indicators

Index of Coincidence Economic Indicators:

1. Employees on nonagricultural payrolls,
2. Personal income less transfer payments,
3. Industrial production,
4. Manufacturing and trade sales.

HERE KNOWLEDGE RETENTION HAPPENS | WRITE: notes, examples, formulas, definitions, relations, etc.

Summarizing key concepts:

☐ Phases of the business cycle

My summary:

☐ Theories of the business cycle

My summary:

☐ Unemployment

My summary:

☐ Inflation

My summary:

☐ Price indices

My summary:

☐ Cost-push inflation vs Demand-pull inflation

My summary:

☐ Economic indicators

My summary:

Keeping myself accountable:

TABLE 1 | STUDY

When you sit down to study, you may want to **try the Pomodoro Technique** to handle your study sessions: study for 25 minutes, then take a 5-minute break. Repeat this 25+5 study-break sequence all throughout your daily study session.

✔ Tick off as you proceed.

POMODORO TIMETABLE: study-break sequences (25′ + 5′)													
date		date		date		date		date		date		date	
25′		25′		25′		25′		25′		25′		25′	
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TABLE 2 | REVIEW

Never ever neglect revision! Though it's not the most popular thing among CFA candidates, regular revision is what makes the difference. If you want to pass your exam, **schedule & do your review sessions.**

REVIEW TIMETABLE: When did I review this Reading?													
date		date		date		date		date		date		date	
date		date		date		date		date		date		date	