6 The business cycle and policy

Multiple choice questions

6.1 Business cycles with a duration of three to five years (the 'Kitchin cycles') are especially important for the Dutch business community. The main reasons behind these cycles are:

a Stock investment.

b Investment in major product and process innovation.

c Investment in machinery.

d Investment in buildings.

6.2 If there is a major breakthrough in product or process technology:

a It will trigger the upturn phase of a long business cycle because production capacity will grow faster than production.

b It will trigger the upturn phase in a long business cycle because the new technology will increase productivity in the economy.

c It will trigger the upturn phase in a long business cycle because investment in stocks will increase.

d It will trigger the downturn phase in a long business cycle because the costs per product unit will decrease.

6.3 The economic boom phase is characterised by the following (assuming that all other factors remain the same):

a An increase in labour productivity.

b A rise in inflation.

c An increase in the interest rate.

d An increasing surplus on the current account of the balance of payments.

Which of these is not the case?
During an apparent tendency towards a growth of 3% and a cyclic fluctuation of 2%, production in the cyclical low will:

a. Decrease by 2%.
b. Decrease by 1%.
c. Increase by 1%.
d. Increase by 3%.

The government and industry try to predict the business cycle by using indicators. These are:

a. Variables that can explain the growth of production capacity.
b. Variables that precede the actual movements in expenditure and production.
c. The expenditure categories of consumption, investment and exports.
d. Domestic and foreign indications relating to the business cycle and the tendency.

Which of the following businesses will develop during the early part of a cycle?

a. A producer of foodstuffs and beverages.
b. A producer of machinery.
c. A producer of trucks.
d. A producer of chemical products.

Inflation is measured in terms of:

a. The general price increase.
b. The general monetary depreciation.
c. Producer price index figures.
d. Consumer price index figures.
6.8  Labour costs will contribute to inflation if:

a  Wages have increased.

b  Labour productivity has decreased.

c  The labour costs per unit have increased.

d  Labour productivity increases more rapidly than wages.

6.9  Which of the following groups of people are best served by inflation?

a  Employees.

b  Debtors.

c  People who are dependent on a pension.

d  Creditors.

6.10 If the real wages increase faster than the real interest rate, what is likely to happen:

a  Labour will be replaced by capital.

b  Investment will be exchanged for labour.

c  Consumer goods will become more expensive than raw materials.

d  Entrepreneurs will not be able to pass on the increased costs in their prices.

6.11 A high inflation rate can cause the balance sheet ratios of companies to deteriorate because:

a  Interest rates rise along with inflation.

b  Foreign capital becomes very cheap.

c  Profits will drop because of lower sales prices.

d  Banks will no longer provide credit as readily.
6.12 The redistributive function of the public sector is especially noticeable in:

a. The joint tax and social security contribution burden.

b. The proportion of public expenditure.

c. Social levies and the payment of social benefits.

d. The production of public goods and services.

6.13 The government serves a number of economic process functions. If a government builds a bridge, this can be regarded as:

a. A government regulatory duty.

b. A government allocative duty.

c. A joint tax and social security contribution burden.

d. A government redistributive duty.

6.14 The imposition of indirect taxes can affect competition on the markets because of:

a. Differences in the taxation rates of substitute goods.

b. Differences in the taxation rates of domestic and import goods.

c. The fact that some businesses are better able to pass on costs in their prices than other businesses.

d. Fierce competition on industrial markets.

6.15 Tax avoidance and tax evasion are ways of not paying taxes. Avoidance is:

a. Legal, which evasion is not.

b. Allowed, just like evasion, but against the spirit of the law.

c. Sometimes condoned by the law-makers, though are often against the spirit of the law.

d. Just like evasion, a way of making a responsible contribution to social security.
6.16  Greater sales expectations have a positive effect on production. The resulting increase in the interest rate:

a  Will have a downward effect on consumption and investment.

b  Will be the result of increasing demand-pull inflation.

c  Will occur especially when there is a positive output gap.

d  Will only occur during a recession.

Which of these statements is not true?

6.17  An increase in exports can lead to decrease in:

a  Unemployment.

b  Labour productivity.

c  Production capacity.

d  Labour supply.

6.18  An increase in the interest rate:

a  Will cause production capacity to decrease because consumption growth diminishes.

b  Will cause growth in the GDP to decrease because consumption growth diminishes.

c  Will cause production capacity to increase because investment increases.

d  Will cause the business cycle to improve because a high interest rate is associated with an economic boom.

6.19  During an upturn in the business cycle the negative output gap does not become much more negative than it was. This is because of the fact that:

a  Capacity increases because of the rise in investment.

b  Expenditure decreases because of the rise in the interest rate.

c  The government lowers taxes during an upturn.

d  Labour productivity decreases during an upturn.
6.20 Sales of durable consumer goods are vulnerable to cyclical trends because:

   a. Purchase of these goods cannot be postponed.
   b. The price elasticity of this type of goods is low.
   c. The income elasticity of this type of goods is high.
   d. The purchase of this type of goods is not vulnerable to changes in consumer confidence.

6.21 Company profits become more vulnerable to the general economic situation:

   a. The lower the income elasticity of sales on the targeted end market.
   b. The higher the proportion of fixed costs in the total costs.
   c. The stronger the market position of the company.
   d. The lower the capital intensity of production.

6.22 By farming out the printing process a publisher can reduce its vulnerability to macroeconomic trends because in doing so:

   a. The proportion of fixed costs in the total costs is reduced.
   b. The income elasticity on the end market of the publisher increases.
   c. The income elasticity on the end market of the publisher decreases.
   d. The capital intensity of the firm is increased.

6.23 Which of the following management decisions will make company profits more vulnerable to cyclical trends?

   a. To take over a company in one of the first phases of the production chain.
   b. To increase product differentiation.
   c. To farm out capital intensive activities.
   d. To increase the geographical spread of activities.
Open questions

§6.1

6.24 Current and forward looking indicators\(^1\)

\(^1\)Not all economies are included in the regional aggregations. For some economies, monthly data are interpolated from quarterly series.

\(^2\)In SDR terms.

\(^3\)Argentina, Brazil, Bulgaria, Chile, China, Colombia, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Romania, Russia, South Africa, Thailand, Turkey, Ukraine, and Venezuela.

\(^4\)Australia, Canada, Czech Republic, Denmark, euro area, Hong Kong SAR, Israel, Japan, Korea, New Zealand, Norway, Singapore, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and United States.

\(^5\)Japan's consumer confidence data are based on a diffusion index, where values greater than 50 indicate improving confidence.

Source: IMF, *World Economic Outlook*, October 2010, p.3
a What are economic indicators? Show how one of these indicators can be used to predict future production.

b What are the business cycle expectations for 2011?

6.25

| Table 1 Inflation indicators in the Euro zone 2010–2012 |
|-----------------|-------|-------|-------|
|                 | 2010  | 2011  | 2012  |
| Output gap      | −4.1  | −3.5  | −2.7  |
| GDP             | 1.7   | 1.7   | 2.0   |
| Price of crude oil (cif, $ per bl) | 77.8  | 80    | 80    |
| Prices of other raw materials (2005 = 100) | 168   | 184   | 184   |
| Unit labour costs in the business sector | −0.7  | 0.3   | 0.2   |
| Labour productivity in the business sector | 2.2   | 1.3   | 1.4   |
| Wages per employee in the business sector | 1.7   | 2.1   | 2.0   |
| Unemployment    | 9.9   | 9.6   | 9.2   |
| Inflation       | 1.5   | 1.3   | 1.1   |

Source: OECD, *Economic outlook*, December 2010

a What is inflation? How many types are there? What variable is an indication of inflation?

b What are inflation indicators? How can the indicators in Table 1 predict inflation? What are the expectations in relation to inflation in the Euro zone in 2013?

c What negative effects does high inflation have on the economic process?

d Could extremely low inflation pose a threat to the economy?

►§6.3

6.26 a Explain using figures why the government plays such an important role in the economy.

b Explain briefly what economic roles the government plays.

c 'Taxes buy civilisation'. Comment on this saying.

d What effect do government policies have on the economic process?

e Some countries aim to have a small but nevertheless effective government. For what reasons?
6.27  

a Briefly describe the effect that government expenditure has on the business cycle. Make use of the notion of 'automatic stabilisers'.

b What active role could a government play in reducing business cycle fluctuations? How has this been done in the past with this and what conclusions have been drawn from the experience?

c What norm was included in the Stability Pact in relation to government deficits in the euro countries? Why would this norm have been introduced?

d During 2003 the IMF considered allowing deficits to mount to above 3%. What could have been its reason for doing this?

6.28  

An airline company uses 14 planes to fly tourists who are mainly German to popular holiday destinations all over the world. The company also carries cargo. Just before the annual summer holidays the company converts seven planes to allow them to carry passengers and in autumn these planes are converted back into cargo planes. The planes are all fully owned by the company, although, of course, partly financed with borrowed capital. The managing director is set against leasing, because there would be too many in-between links absorbing part of the profit margin. Margins in the airline industry are very narrow because of the many airlines that have been kept alive artificially in some countries for decades. Investment in new planes is only feasible in a period when the profit margin is reasonable. Until now the company has been able to fill the planes reasonably well because of contracts with travel agencies. However, the big problem with using travel agencies is that consumers tend to choose their holiday destination in April and May, and flight destinations should already have been planned by February or March.

a Using the criteria for cyclical sensitivity determine whether this company is vulnerable or not.

b Do you think this company can readily pass on their increases in costs?

c Which variables from Table 6.5 (textbook) could be used as an indicator of sales by the company in 2011?

d What variables from Table 6.5 could be used as an indicator of costs in 2011?

e What would you expect profitability in 2011 to be like?

f Apart from business cycle fluctuations, what other variables is the company sensitive to?
Case study questions

► §6.1

C6.1 The business cycle

World Real GDP growth

Source: CPB

a Which variable is the criterion for cyclical development?

b Economic growth consists of a growth trend and a growth cycle. Explain.

c What conclusions about the output gap in 2008 and 2009 could be drawn from the figure?

d Discuss the global business cycle in terms of the Juglar and Kitchin cycles.

e How do the global and the EU-27 business cycles affect each other?

f Discuss the business cycle in terms of volume and price cycles.

► §6.1

C6.2 The answers to the following questions should be based on Figures 6.8 and 6.9 in the textbook.

a Describe the effect a rise in consumer confidence has on unemployment.

b Describe the effect sales expectations have on the interest rate and on interest on investment.
How do expenditure, production and income affect each other?

C6.3

A company expects to close off the year with the following profit and loss account:

<table>
<thead>
<tr>
<th>Profit and loss account (amounts x €1 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
</tr>
<tr>
<td>Purchases</td>
</tr>
<tr>
<td>Labour costs</td>
</tr>
<tr>
<td>Depreciation</td>
</tr>
<tr>
<td>Total business costs</td>
</tr>
<tr>
<td>Business result</td>
</tr>
<tr>
<td>Interest obligations</td>
</tr>
<tr>
<td>Business result before tax</td>
</tr>
<tr>
<td>Tax</td>
</tr>
<tr>
<td>Net profit</td>
</tr>
</tbody>
</table>

Management requires a prognosis for the coming year (2011) from the financial department. The financial department bases its prognosis on the management objectives supplemented with data from the table *Main economic indicators* (Table 6.5 in the textbook).

The following is known about management's objectives:

**Turnover**

Currently 25% of the turnover comes from the domestic market. In the past a quantity change in turnover could be approximated by the change in the GDP of the Euro zone and the price change by the consumer index.

75% of the turnover comes from foreign markets. In the past the quantity exported and the export prices could be relatively accurately deduced from the export volume of Germany goods and services and the global trading price for goods.

a Calculate the turnover for 2011 and the ratio of domestic to foreign turnover.

**Purchases**

The volume of purchases will be proportional to the volume of turnover, while price changes can be approximated most accurately by using the percentage change in the exchange rate of the dollar (see the table with the basic data).

b Calculate the purchase costs for the next year.
The company has just been through a period of staff shortages. Management would like to keep staff numbers at a constant level. The increase in labour costs per employee is equal to the increase in recompense for labour per Euro zone employee (businesses).

c Calculate the increase in the total wage costs, the wage costs per unit and labour productivity.

The financial figures show that a 1% rise in the long-term interest rate leads to an increase in interest expenses of €5 million. Depreciation and tax expenses remain the same.

d Calculate the interest and taxation expenses.

e Calculate next year's results.

f What is the main reason for the increase in net profits?

C6.4

Royal Philips Electronics

General description of the company
Philips is one of the world's biggest companies in the field of lighting and electronics. The firm, founded in Eindhoven in 1891, has grown from a small light bulb factory to a greatly diversified global company. The growth of the Philips company has largely been achieved through its own research and development.

Every year Philips spends around 6% of its turnover on research and development. The result of these efforts is that the company possesses about 100,000 patents at present. Some important innovations by Philips include the analogue and the digital compact cassette, CD and CD-i and QL induction lighting (used in lighting city centres).

In the year 2008 Philips achieved a turnover of €26.4 billion and at the end of the year had 121,398 people employed. Because of restructuring of the company, staff numbers at Philips in Western Europe have been declining for a number of years.

Philips' divisional structure
In 2008 Philips consisted of three product sectors.

The Lighting Division is responsible for the manufacture and sale of lights (also for cars), light fittings and lighting systems for buildings, airports, and the like. The Lighting Division is the global leader and the original sector is still making solid profits.

The Consumer Life Style product sector includes all television, audio and video products and products related to shaving, oral hygiene, personal grooming, food preparation, clothing care and floor cleaning that are marketed under the Philips brand name. In the main market for audio and video appliances Philips is globally among the top three. There is a strong competition in the audio and video market because of market saturation.
and the great number of providers. The profit margins are consequently low. The strong competition and the low profit margins make it imperative for the company to exercise cost control and to develop new products, with all the risks that that involves. Philips occupies a dominant position in the market for personal and household care. In the field of electric shaving and hair removal products Philips is even the market leader.

The Healthcare product sector provides customers in health services with a wide variety of imaging systems for x-ray techniques, ultrasound and the like. As well as this, Philips supplies health products such as tooth brushes directly to consumers. In the field of medical diagnostic imaging Philips is one of the three largest companies in the world.

Lastly, Philips includes the 'Miscellaneous' sector in its financial report. This sector includes the activities of the central research and technology centres.

The following table shows turnover and staff per sector.

| Turnover, operating profit and staff according to product sector as a percentage of the total in 2008 |
|-------------------------------------------------|----------------|----------------|
| Turnover | Operating profit | Staff |
| Lighting | 27.4 | 31.9 | 51.9 |
| Consumer Life Style | 43.0 | 16.7 | 15.8 |
| Healthcare | 29.6 | 51.4 | 32.3 |

Source: Philips Electronics, Annual Report 2008

Geographic distribution of activities
Philips operates in all parts of the world. The company has branches in more than 60 countries and sells its products in more than 150 countries. The following table shows the key figures for the main countries.

| Turnover and total assets of Philips as a percentage of the total in 2008 (in brackets 1999) |
|-------------------------------------------------|----------------|----------------|
| Turnover | Total assets |
| Netherlands | 3.8 | (4.9) | 28.9 | (22.4) |
| United States | 26.6 | (21.7) | 43.3 | (16.8) |
| Germany | 7.8 | (9.6) | 2.9 | (8.4) |
| France | 6.4 | (7.3) | 1.6 | (6.3) |
| United Kingdom | 3.9 | (6.0) | 2.2 | (4.2) |
| China | 6.6 | (5.6) | 4.0 | (5.9) |
| Other countries | 44.9 | (44.9) | 17.1 | (36.0) |

Source: Philips Electronics, Annual Report 2008

Because of the geographic distribution of production and sales, Philips' results are sensitive to fluctuations in the US dollar. This is due to the fact that the share of the dollar in the turnover is far greater than the share of the dollar in costs.

Source of the data: Philips Electronics, Annual Report 2008
You are working for the Economic Research department of Philips and are responsible for the macro-economic and financial-economic analyses for the benefit of management decision-making. Using the figures of the CPB and the Central Bureau of Statistics for your analyses, advise the various operating companies on company policy formulation.

Sales planning

a The management team of the Consumer Electronics Division will soon be drawing up its sales plan for the Netherlands. Provide a brief description of the macro-economic developments which you believe will affect the sales of consumer electronics in the Netherlands.

b In your opinion, which division is the most sensitive to cyclical trends?

Procurement planning

c Which expense trends should Philips Netherlands expect in the coming year? Concentrate on macro-economic variables that impact for instance on the cost of raw materials, labour costs and financial expenses.

Factors determining international location decisions

d Philips' long-term aim is to drive strong sales growth in Asia. What are the main macro-economic arguments in favour of this policy objective? Would you also increase manufacturing output in Asia?

e The Philishave is manufactured in the Netherlands. Its main export market is the United States. In your opinion, are there any macroeconomic reasons for shifting manufacturing (temporarily) to the United States?

Policy on employment conditions

f Philips Nederland will soon be entering into wage negotiations with the trade unions for the coming year. You have been instructed by the HR department to prepare these negotiations. HR has requested information on the following:

- in the past, the trade union has based its negotiations on macro economic scope for wage increases to determine its wage demands. What wage demands can the HR expect the union to make?
- what trends are anticipated in employment, unemployment, profitability and tax burden and social security contributions? What role could these concepts play in wage negotiations?

Financial policy

g The US dollar

- What exchange rate fluctuations do you expect in the coming year?
- Which factors did you take into account when drawing up your
• forecast (how unpredictable is this forecast)?
• What effect will the forecast value of the dollar have on Philips' profits in the coming year?
• What measures can Philips take to hedge its exposure to the US dollar? Also mention a few counter-arguments against these measures.

h Interest rate Suppose, hypothetically, that Philips wanted to repay several short-term loans (expressed in dollars). To repay these loans, the company needs to attract funds from outside the Philips Group. Philips is considering two currencies for its refinancing project, namely:
  • A US dollar loan
  • A loan in Euros In your opinion, which macro-economic variables play a role in the decision-making process? Substantiate your preference for the Euro or dollar.

i The share price Are Philips stocks 'cyclical' or 'defensive'? Given the macro-economic expectations for the coming year, how can we expect the Philips share price to perform?