14 Aggregate demand

By the end of this chapter, you should be able to:

- distinguish between demand and aggregate demand (AD)
- define and illustrate aggregate demand
- define and describe the components of AD
- explain the determinants of the components of AD
- illustrate shifts of the AD curve
- explain how governments can use monetary and fiscal policy to alter the level of AD in an economy
- explain the nature of a government budget.

"Developing countries like India must make sure that their integration in the global economy helps lead to an increase in jobs, a more equitable distribution of income, and decreased poverty. The most important way of doing this is for the government to maintain as high a rate of aggregate demand as possible."

webIndia123.com, January 8, 2006

Aggregate demand (AD)

If you are confident in your understanding of the microeconomic concepts of demand and supply, then you have the necessary groundwork to understand the macroeconomic concepts of aggregate demand and aggregate supply.

In this chapter we begin our macroeconomic analysis by examining the concept of aggregate demand. By definition, aggregate demand is the total spending on goods and services in a period of time at a given price level. On a diagram it looks very much like the demand curve in the sense that it is downward-sloping as shown in Figure 14.1.

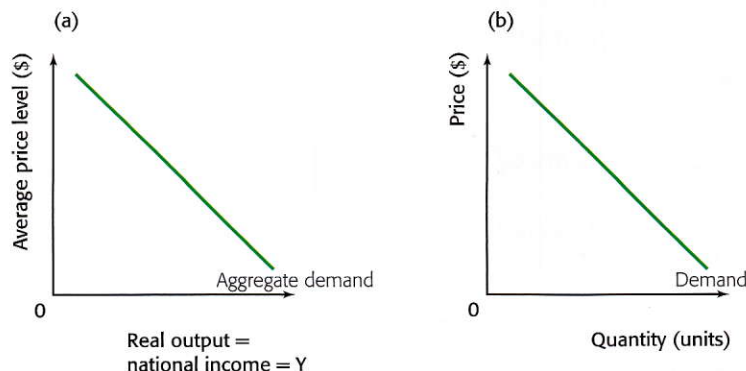


Figure 14.1 (a) Macroeconomic aggregate demand curve; (b) microeconomic demand curve

However, the demand curve shows the relationship between the price of one good, e.g. soccer balls, and the demand for that one good. The fact that it is a demand curve for one market makes it a microeconomic concept. Macroeconomics considers the working of the whole economy, including all the goods and services demanded. Where the microeconomic demand curve has the "price" of the one good on the y-axis, the macroeconomic aggregate demand curve has a measure of the average price level of all goods and services. Where the microeconomic demand curve has the "quantity" of the one good

on the x-axis, the macroeconomic aggregate demand curve has the total quantity of all goods and services, which is national output. Given what you learned in Chapter 13, you will also realise that national output is equivalent to national income and national expenditure. In macroeconomic analysis the x-axis is commonly labelled "real output" (the value of national output adjusted for inflation) or national income (Y). Thus the aggregate demand curve shows the relationship between the *average price level* and *real output*. The two different diagrams are shown to help you see and learn the difference between the microeconomic concept of demand and the macroeconomic concept of aggregate demand.

The AD diagram illustrates the inverse relationship between the average price level and the total real output demanded; at a lower average price level, a higher quantity is demanded. Essentially, this is the Law of Demand on an aggregate level. The word "aggregate" means "total". Therefore, in constructing an aggregate demand curve, we look at the demand from all possible sectors within the economy. This gives us the components of aggregate demand described in the next section.

Consumption

Consumption (C) is the total spending by consumers on domestic goods and services. In looking at consumer demand for goods we look at two categories of goods—durable goods and non-durable goods. Durable goods are goods such as cars, computers, mobile phones, and bicycles that are used by consumers over a period of time (usually more than one year). Non-durable goods are goods such as rice, toilet paper, and newspapers that are used up immediately or over a relatively short period of time.

> **Student workpoint 14.1**
>
> **Be reflective**
>
> Make a list of five durable goods and five non-durable goods used in your household.

Investment

Investment (I) is defined as the addition of capital stock to the economy. Investment is carried out by firms. Firms have two types of investment.

- Replacement investment occurs when firms spend on capital in order to maintain the productivity of their existing capital.
- Induced investment occurs when firms spend on capital to increase their output to respond to higher demand in the economy.

The economy's capital stock includes all goods that are made by people and are used to produce other goods or services such as factories, machines, offices, or computers. Investment is not to be confused with buying shares or putting money in a bank—we tend to call this "investment" in everyday English, but it is, in fact, "saving" as it is a leakage from the circular flow.

Government spending

Governments at a variety of levels (federal, state/provincial, municipal/city) spend on a wide variety of goods and services. These include health, education, law and order, transport, social security, housing, and defence. The amount of government spending (G) depends on its policies and objectives.

Net exports (X–M)

Exports are domestic goods and services that are bought by foreigners. When the firms in a country sell exports to foreigners, it results in an inflow of export revenues to the country. Imports are goods and services that are bought from foreign producers. When imports are bought it results in an outflow of import expenditure. The net trade component of AD is actually export *revenues* minus import *expenditure*, but it is simplified by noting it as exports minus imports (X−M). The figure can be either positive, whereby export revenues exceed import expenditure, or negative, whereby import expenditure exceeds export revenues. If the net figure is positive it will add to AD but if the net figure is negative it will reduce AD.

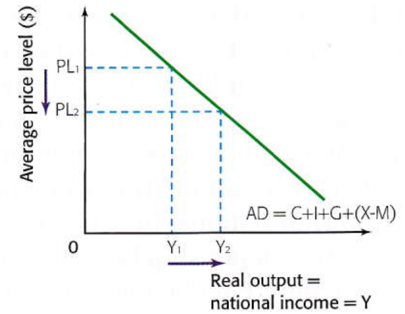


Figure 14.2 The aggregate demand curve

Aggregate demand can be presented as a formula, **C + I + G + (X − M),** and as a diagram, as shown in Figure 14.2.

The shape of the AD curve

When the average price level in the economy falls from PL_1 to PL_2, the level of output demanded by consumers (C) plus firms (I) plus governments (G) and the net foreign sector (X–M) increases from Y_1 to Y_2.

Note: You will find that different books use different labels for the x-axis. You may find any of national income (Y), national expenditure, national output or real output. Whichever one you choose, be sure that it is distinct from simply quantity or Q, which would indicate a single market in a microeconomic analysis.

Changes in AD

A change in the price level will result in a movement along the AD curve, from one level of real output to another. A change in any of the components of aggregate demand will cause a shift in the demand curve as shown in Figure 14.3.

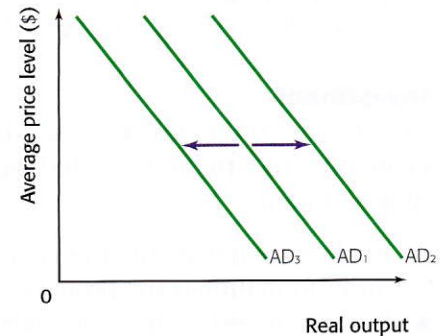


Figure 14.3 Shifts in aggregate demand

An increase in any of the components of aggregate demand will result in an increase in aggregate demand and a shift of the AD curve to the right from AD_1 to AD_2. A decrease in any of the components of aggregate demand will result in a fall in aggregate demand and a shift of the AD curve to the left from AD_1 to AD_3.

Changes in the components of aggregate demand

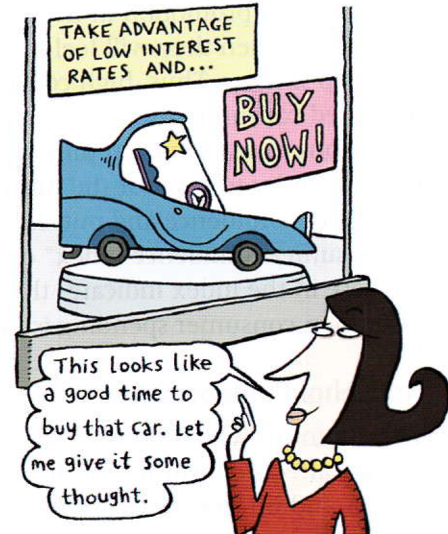
What causes changes in consumption?

Changes in income

The most significant determinant of consumption is income. As incomes rise people have more money to spend on goods and services, so consumption increases. In a growing economy where national income is rising, there will be an increase in consumption and therefore an increase in aggregate demand.

Changes in interest rates

Spending on non-durable goods is carried out with the day-to-day money that people earn (their income). But some of the money that is used to buy durable goods comes from money which people borrow from the bank. When people borrow money they must pay for the borrowed money by paying interest to the bank. If there is an increase in interest rates, which is essentially the price of borrowed money, then there is likely to be less borrowing (because it is more expensive to borrow). Therefore consumption will fall, resulting in a fall in AD.



For example, borrowed money is usually used to buy houses. To buy a house, most consumers get a loan for housing called a mortgage. If interest rates increase then this loan becomes more expensive on a month-to-month basis. This means that people will have less money to spend on other goods and services, so consumption will fall. Also, a rise in the interest rate makes saving more attractive; people would prefer to put their extra income in the bank to earn money rather than spend it on goods and services. This is another reason why changes in interest rates affect consumption.

Overall, an increase in interest rates leads to a fall in consumption. On the other hand, a fall in interest rates will lead to an increase in consumption, *ceteris paribus*, as it becomes more attractive to borrow money to spend on durable goods and services. In addition, if interest rates fall then mortgage repayments may fall, leaving more money to spend on goods and services, and it becomes less appealing to save money in the bank when the return on the savings (the interest earned) is relatively low.

> ***Student workpoint 14.2***
>
> **Be a thinker**
>
> Identify five goods or services that people might need a bank loan to purchase.

Changes in wealth

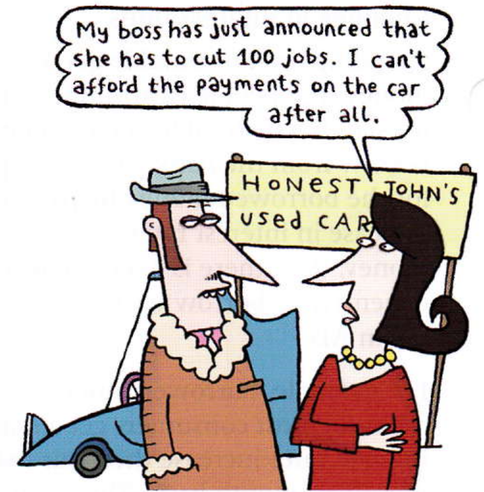
The amount of consumption depends on the amount of wealth that consumers have. It is very important not to confuse the concepts of "income" and "wealth". Income is the money that people earn. Wealth is made up of the assets that people own. This includes physical assets, such as houses, art, antiques, or jewellery, and monetary/financial assets, such as shares in companies, government bonds, or bank savings. There are two main factors that can change the level of wealth in the economy.

- *A change in house prices:* When house prices increase across the economy, consumers feel more wealthy and are likely to feel confident enough to increase their consumption by saving less or borrowing more.
- *A change in the value of stocks and shares:* Many consumers hold shares in companies. If the value of those shares increases then people feel more wealthy. This might encourage them to spend more. Alternatively, they might sell those shares and then use the earnings to increase consumption.

Changes in expectations/consumer confidence

If people are optimistic about their economic future then they are likely to spend more now. For example, if they think that they are

likely to get a promotion in the future due to a booming economy and strong sales then they will feel more confident about taking a loan or using up savings. Thus, high consumer confidence is likely to lead to increased consumption. However, if people expect economic conditions to worsen then they are likely to reduce their consumption today in order to save for the future. Economists regularly measure consumer confidence and put the information together in the form of a "consumer confidence index" or "consumer sentiment index". An increase in the index indicates that confidence is rising; if this is the case, then consumer spending is likely to rise as well.



Household indebtedness

The extent to which households are willing and able to borrow money affects consumption. If it is easy to borrow money (easy credit) and interest rates are low then it is likely that households will take on more debt by getting loans or using their credit cards and spending on goods and services will rise. However, if interest rates then rise, then households will have to spend more to re-pay their loans and mortgages (the original amount borrowed plus the interest). In the short run they might simply continue to borrow but ultimately the debt will have to be paid and this may well leave consumers with less money to spend on goods and services.

Rising household debt threatens recovery

Bloated levels of household debt threaten to dampen Canada's economic rebound as consumers focus on paying their bills rather than spending freely.

Household debt has more than doubled from 1989 levels and now stands at a record $1 trillion – or $1.47 for every dollar of disposable income. With the Bank of Canada expected to raise interest rates, perhaps as early as next week, vulnerable Canadians could soon find themselves emptying their pockets to cover higher interest payments.

"The high rate of household indebtedness is a source of risk [to the Canadian economy]", the Organization for Economic Co-operation and Development cautioned in a report on Wednesday.

The combination of higher interest rates and large amounts of debt could reduce consumer spending—a cornerstone of the Canadian economy and an essential component of the country's recovery from the recession. High levels of debt also leave consumers financially vulnerable if they fall ill or lose their jobs.

Many Canadians are very concerned about their finances. One physiotherapist in Ottawa spends 50 per cent of her income to pay back the credit card debt and student loans she accumulated while building her business and is already feeling short on cash. Even a small boost in interest rates would force her to revisit her plans to attend school to become a chiropractor.

"It really sucks that I had to spend a lot of money to get set up and now I'm kind of trapped in a cage if rates go up too much," she said. "I've already cut back on expenses—I don't buy fancy clothes, I don't eat out. I don't want to be in a situation where these debts are just impossible to pay off."

Source: Adapted from *The Globe and Mail*, Thursday May 26, 2010

Student workpoint 14.3

Be a thinker

Read the short text below and answer the questions that follow.

Use the data from the text to support your answers.

Mexico's Consumer Confidence on the Rise

Consumer confidence among Mexicans rose in June to its highest level since prior to the global economic crisis in 2008, the National Statistics Institute said Monday.

The June (2010) survey put consumer confidence at 87.5 points versus 84.6 points in May, said the institute. The index was at 81 points in June 2009. It reached its lowest level of 77 points in October 2009.

The survey consists of five questions: two about the household financial situation, two concerning the overall economy in the present and future and one question concerning consumers' ability to purchase durable goods.

In June 2009 Mexico was at the low of the 2008-2009 recession, in which gross domestic product dipped 10% at its weakest point. The economy was also badly hurt by the outbreak of the A/H1N1 influenza virus, which scared off tourists and caused authorities to close restaurants, clubs and other public venues in some cities.

GDP began its recovery late in the second quarter of 2009 and showed its first year-on-year growth in the first quarter of this year (2010), rising 4.3%.

While consumer confidence has shown an overall gain in the last eight months, it remains below the levels of 2008, when it started the year above 100.

Labour Minister Javier Lozano recently said that the formal labour market over the past year has recovered almost to pre-crisis levels. During the crisis many people sought work in the informal economy, such as selling goods on the street, which tends to give them less job security and therefore less consumer confidence. With this improvement in the formal labour market some optimism is returning.

1. Using numbers from the text, explain the difference in consumer confidence in Mexico from:
   - **a** May 2010 to June 2010
   - **b** June 2009 to June 2010
   - **c** June 2009 to October 2009
   - **d** 2008 to 2010 (approximately).
2. Why do you think that the Mexican survey asks a separate question about consumers' willingness to buy durable goods. Use a definition of durable goods in your answer.
3. Using a diagram, explain how the change in consumer confidence from 2009 to 2010 might be expected to affect Mexican AD.
4. Suggest reasons for the change in consumer confidence from 2009 to 2010.

Student workpoint 14.4

Be an inquirer

Consumption makes up most of the aggregate demand in most countries. Consider the national income data in workpoint 13.1 and note the percentage of aggregate demand that comes from consumption in Canada. You will find that this is rather typical of the developed countries.

Investigate the distribution of AD for the country that you chose in workpoint 13.2.

"The entire world economy rests on the consumer; if he ever stops spending money he doesn't have on things he doesn't need—we're done for."

Bill Bonner

What causes changes in investment?

Interest rates

In order to invest, firms need money. The money that firms use for investment comes from several sources. For example, they can use their "retained profits" or they can borrow the money. Both of these are affected by the interest rate. If the money is to be borrowed, then an increase in the cost of borrowing may lead to a fall in investment. If interest rates are high, then firms may prefer to put their retained profits in the bank to earn higher returns as savings, rather than use them to invest. Therefore there is an inverse relationship between interest rates and the level of investment, as shown in Figure 14.4.

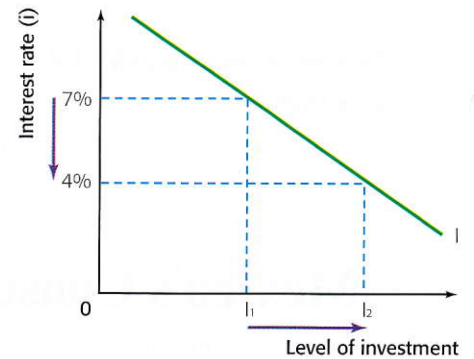


Figure 14.4 The relationship between investment and the interest rate

A decrease in the interest rate, from 7% to 4%, will decrease the incentive to save and decrease the cost of borrowing, so is likely to lead to an increase in borrowing that is likely to result in an increase in the level of investment from I_1 to I_2. An increase in the interest rate will have the opposite effect.

Changes in the level of national income

As national income rises this leads to an increase in consumption, as discussed above. If national income and consumption are rising rapidly there will be pressure on the existing capacity of firms. This is likely to encourage firms to invest in new plant and equipment to meet the increase in demand. This is what we refer to as induced investment. We say that investment accelerates when national income rises.

To meet the growing demand for cars in a booming economy, firms may need to invest in factories and transportation facilities

Technological change

In any dynamic economy there is likely to be a quick pace of technological change. In order to keep up with advances in technology and to remain competitive firms will need to invest.

Expectations/business confidence

Businesses make decisions about the amount of investment they should make based to a large extent on their expectations for the future and their confidence in the economic climate. There would be little point in investing to increase the potential output of a firm if consumer demand is likely to fall in the future. If businesses are very confident about the future of the economy and expect consumer demand to rise then they will want to be ready to meet the increases in consumer demand by investing to increase potential output and productivity. Economists regularly measure the confidence of businesses and publish data in the form of a business confidence index.

Student workpoint 14.5

Be a thinker

Read the following article adapted from *The Financial Times* and answer the questions that follow:

German business sentiment at three-year high

A remarkable upturn in German economic sentiment was confirmed on Friday by a surge in business confidence, which reached the highest level for three years in July, as employers reported a steady recovery in order books and cuts in the numbers on short-time working.

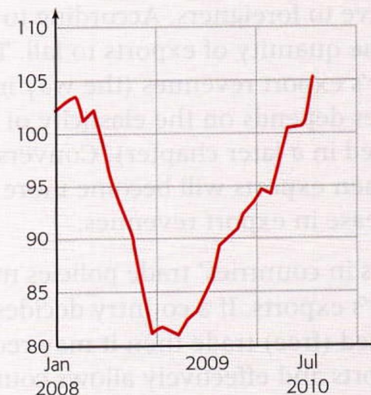
The business climate index produced by the Munich-based Ifo institute rose to 106.2, from a level of 101.8 in June, the sharpest increase recorded since German unification in 1990. "The German economy is in a party mood," said the president of the Ifo institute.

The monthly survey of 7,000 German business executives reported expectations for the coming half year were also more optimistic than in June, contrary to general concern about a renewed economic slowdown.

In manufacturing, "the business outlook has brightened strongly", said Professor Sinn, with improved capacity utilisation of plant and machinery, and export opportunities seen to be as positive as in June. "Firms' employment plans are more favourable and point towards slight increases in staff levels."

The export-led recovery of the German economy also seems to be spreading gradually into the domestic economy with wholesale, retail and construction sectors all reflecting the improved business climate.

"These are fantastic numbers," said Andreas Scheuerle of Deka bank. "It's incredible what is going on." He said that there were reports of some German factories shortening summer holiday breaks to deal with growing demand.



Source: Adapted from *The Financial Times*, July 23, 2010 (author Quentin Peel)

1. With reference to the graph, state the extent of the increase in business confidence since the worst of the recession in late 2008-early 2009.
2. Outline the reasons for the improvement.
3. Use a diagram to show how the change in business expectations might influence aggregate demand.

What causes changes in government spending?

The amount and nature of government spending depends on a vast range of factors and the goals of the government. For example, we looked at government subsidies in Chapter 5. If the government has made a commitment to financially support a given industry, then government spending will rise. If governments are obliged to spend to correct market failure, then government spending will rise. A new education or health policy might require increased public spending on schools or hospitals. We look at government policies to affect AD shortly.

What causes changes in net exports?

Exports

Exports are goods or services that are bought by foreigners. If foreign incomes rise then their consumption of imported goods and services

will rise. For example, as the Chinese national income rises, Chinese people are more willing and able to buy imported goods and services from Europe. Thus, European exports rise as the Chinese economy grows. Similarly, as China grows, investment in China expands. This is likely to involve some measure of imported capital. Thus, as China grows, German exports of capital equipment may also rise.

Other than changes in the national income of trading partners, changes in the value of a country's currency (its exchange rate) can also affect a country's exports. If a country's exchange rate becomes stronger, then this makes the country's exports relatively more expensive to foreigners. According to the law of demand, this will cause the quantity of exports to fall. This will have an effect on the country's export revenues (the way in which it affects the export revenues depends on the elasticity of demand for exports; this will be addressed in a later chapter). Conversely, if the exchange rate falls in value then exports will become more competitive and may result in an increase in export revenues.

Changes in countries' trade policies may also affect the value of a country's exports. If a country decides to adopt a policy of more liberalized (free) trade then it may reduce the tariffs that it charges on imports and effectively allows countries to export more to that country. On the other hand, if a country adopts more protectionist policies to reduce the level of imports then it will reduce the exports of other countries.

The last broad factor to affect export revenues is the relative inflation rates among trading partners. For example, if inflation in the US were relatively higher than in Canada then US goods would be less competitive in Canada and may reduce the export revenues which the US earns from its exports to Canada. On the other hand, if the inflation rate in the US were relatively lower than the Canadian rate then American goods would be more competitive in Canadian markets, and so American export revenues might be expected to rise, *ceteris paribus*.

Imports

It has already been established that when a country's national income is growing there is likely to be an increase in consumption. As people consume more goods and services it will necessarily be the case that some of these goods and services will be imported. Similarly, as national income rises there is likely to be greater investment. Part of the capital goods that are purchased will be imported capital goods and/or components. Thus, as national income rises so does spending on imports. If national income falls there will be reduced spending on imports.

Using the same analysis as we used above, you should be able to see how changes in a country's exchange rate would be expected to change the level of spending on imports. An increase in the exchange rate would make imported goods less expensive and, depending on the elasticity of demand for imports, could reduce import expenditure. A decrease in the exchange rate would make imported goods more expensive and thus affect the level of import expenditure.

The type of trade policies that a country adopts will affect its level of import spending. If a country decides to adopt a more liberalised trade policy by, say, reducing tariffs (taxes) on imports, then import expenditure would be expected to rise. However, if a more protectionist set of policies were to be adopted then import expenditure would fall, *ceteris paribus*.

If the inflation rates of trade partners were to vary notably then this might also affect the level of import spending as noted above.

Thus, net exports (the difference between export revenues and import expenditure) depends on domestic national income (affecting the demand for imports), foreign national incomes (affecting the demand for exports), changes in exchange rates, changes in trade policies, and relative inflation rates. We spend much more time discussing changes in trade policies and exchange rates in later chapters.

Student workpoint 14.6

Be knowledgeable

Situation favourable in Germany, but the outlook is not bright

"For years Germany lagged the rest of the eurozone", says Wirtschaftswoche. "Now we're leading it." Analysts reckon that German **GDP** grew by up to 1.5% in the second quarter alone. That's an annualised rate of 6%—twice the figure expected for America this year.

The rebound in **aggregate demand** is being driven by exports, which account for a comparatively hefty 40% of GDP. They jumped by 9.2% month-on-month in May, an annual rate of 22.9%, the strongest growth since the early 1990s. IHS Global Insight expects exports to climb by 10% this year, compared to 6%–7% in other major European economies. Germany's high-end capital goods are especially sought-after in booming emerging economies. There, Germany has a stronger presence than its European rivals.

With exports and now domestic investment picking up, the labour market is improving. The unemployment rate is at an 18-month low of 7.7%. The missing piece of the puzzle is consumption. So far, at least, households have shown little inclination to open their wallets. Retail sales are still 2.4% below last year's recession-hit levels. Consumer confidence is also under its long-term average.

Wage growth is also slow, due to the previous rise in unemployment, and fiscal tightening is on the way next year. Given all that, analysts argue that the outlook for consumer spending is not encouraging.

Domestic demand is "the Achilles' heel of the German recovery", says one analyst. The trouble is that the global outlook is deteriorating as company restocking slows and government fiscal stimulus programmes fade. The deepening mess in the eurozone periphery doesn't help either. The eurozone still accounts for 45% of Germany's exports.

The German economy is highly geared to global growth. And with growth everywhere slowing, it looks likely to struggle over the next few months.

Source: Adapted from *Money Week*, July 16, 2010

1. Define the following terms identified in bold in the text:
   - **a** GDP
   - **b** Aggregate demand.
2. Explain why *"Germany's high-end capital goods are especially sought-after in booming emerging economies"?*
3. Using information from the text, try to explain changes to any of the components of AD.

Government policies affecting aggregate demand

Governments have two broad categories of policies available to affect the level of aggregate demand in the economy. These are known as fiscal policy and monetary policy.

Fiscal policy

Fiscal policy is defined as the set of a government's policies relating to its spending and taxation rates. Direct taxes (taxes on income) and indirect taxes (taxes on goods and services) can be raised or lowered to alter the amount of disposable income consumers have. Governments use expansionary fiscal policy to increase aggregate demand and contractionary, or deflationary, fiscal policy to reduce aggregate demand.

Expansionary fiscal policy

- If a government would like to encourage greater consumption, then it can lower income taxes to increase disposable income. This is likely to increase AD.
- If a government would like to encourage greater investment, then it can lower corporate taxes so that firms enjoy higher after-tax profits that can be used for investment. This is likely to increase AD.
- Governments have major investment projects themselves and may increase their spending in order to improve or increase public services. This directly impacts upon AD.

Theory of Knowledge

In this chapter you have read two articles about the German economy. The articles were written within one week and they come from different sources. The articles are not completely contradictory, but they do highlight different views about the prospects for the German economy. Why do you think that the articles present these different views? What does this tell you about the nature of knowledge in economics?

The government budget

When we refer to government or public spending, we are speaking about the total spending by all levels of government in a country, including the central (e.g. federal or national) government, regional (e.g. state or provincial) governments, and local (municipal) governments.

Broadly speaking, there are three categories of public spending. Capital expenditures include any spending that adds to the capital stock of the economy, such as the spending on the up-grading of a national highway or the building of schools and hospitals. Current expenditure tends to be on-going spending such as the purchases of textbooks in schools or the payment of wages to public sector employees. The last category is transfer payments, which include any benefits paid to people in the economy for which no goods and services are produced in return. These include payments such as unemployment benefits, child support payments, disability payments, and pensions.

Governments receive their income from different sources. These include the payment of income taxes and social security payments by households, social security payments and corporate taxes by firms, indirect taxes paid on expenditure on goods and services, and tariffs paid on the purchase of imported products. Other than income from taxes, governments also earn money from the profits of government-owned (nationalized) businesses or if they sell nationalized industries. Income is also earned when governments rent out government-owned buildings or land.

Each year governments issue their national budgets, where they lay out their expected spending and revenues for the coming year. This is known as the "fiscal stance". If they expect to earn more than they spend it is called a budget surplus. If they plan to spend more than they earn it is a budget deficit and if expected revenues are equal to expenditures then it is a balanced budget.

To finance a budget deficit (or to "run a budget deficit") the government will have to borrow money, either from the households and firms within the country or by borrowing from abroad. The government does this by selling government bonds. People buy the bonds as a form of saving; they lend money to the government and are eventually paid back, along with extra payment which is the interest paid by the government. When a government runs a deficit in one year this is added to the total debt accumulated by the government. Therefore, in any given budget, the government has to allocate some money to paying back the loans and the interest on the loans taken in the past. If a government has a budget surplus in a given year this can be used to pay back the government debt.

Monetary policy

Monetary policy is defined as the set of official policies governing the supply of money in the economy and the level of interest rates in an economy. The level of money supply in an economy is an advanced topic that is not dealt with in the IB Diploma Programme syllabus. However, you must be aware of how changes in interest rates can affect the level of AD in an economy.

In any economy, there is a vast array of different interest rates. Advertisements offering low mortgage rates or "competitive financing" are examples of the interest rates offered by private profit-making businesses such as commercial banks. Although banks are regulated by the government, they are mainly free to set these rates themselves. When we talk about interest rates as a tool of monetary policy we are talking about the *base rate* (or *discount rate* or *prime rate*) that is set by a country's central bank. The central bank is not a private profit-making bank but is essentially the government's bank and the ultimate authority in control of the money supply in an economy. In some countries the government controls the central bank, but in most industrialized countries these days the central bank is an independent body with the primary responsibility of maintaining a low and stable rate of inflation in the economy. Changes in the central bank's base rate ultimately impact upon all borrowing and lending in the economy and are an important signal of a country's monetary policy. Even though the central bank may be largely independent we usually consider its activities as part of government monetary policy.

Changes in the central bank's base rate can affect the level of AD in the economy. To increase aggregate demand the central bank might lower the base rate. This ultimately reduces the cost of borrowing and can lead to increases in both consumption and investment. This would be known as expansionary or "loose" monetary policy. To operate a contractionary or "tight" monetary policy to reduce aggregate demand, the central bank would increase the base rate.

EXAMINATION QUESTIONS

Paper 1, part (a) questions

1. Using a diagram, explain the differences between an increase in demand and an increase in aggregate demand. *[10 marks]*
2. Explain three factors that could cause an increase in the level of consumption in an economy. *[10 marks]*
3. Using a diagram, explain how the government can use fiscal policy to alter the level of AD in the economy. *[10 marks]*
4. Using a diagram, explain how a change in interest rates is likely to affect the level of investment in an economy. *[10 marks]*

Assessment advice: analysis and evaluation

We will save questions that involve more analysis and evaluation until we have taken the vital step of looking at the interaction between aggregate demand and aggregate supply.

Student workpoint 14.7

Be a thinker

Explain the elements that would be included in a contractionary fiscal policy. Illustrate the effects of a contractionary fiscal policy on AD.

Student workpoint 14.8

Be a thinker

Draw an aggregate demand diagram to illustrate an increase in AD, and one that shows a decrease in AD. Be sure to label the axes accurately. Decide whether each of the following factors would lead to an increase or a decrease in AD and write out the point beneath the appropriate diagram. In each explanation, explain which component(s) of AD is likely to be affected and why.

Example: A fall in income tax is likely to lead to an increase in AD because consumers' disposable incomes will rise, leading to an increase in consumption, *ceteris paribus.*

1. a fall in house prices
2. a rise in consumer confidence
3. an increase in foreign incomes
4. a fall in the consumer confidence index
5. a decrease in interest rates.