

Meaning and measurement of terms of trade

Learning outcomes

- Explain the meaning of terms of trade.
- Explain how terms of trade are measured.
- Calculate the terms of trade using the equation: $\text{index of average export prices} / \text{index of average import prices} \times 100$.
- Distinguish between an improvement and a deterioration in the terms of trade.

If the average price of exports increases relative to the average price of imports, it is called an improvement in the terms of trade. If the reverse occurs and the average price of imports rises relative to the average price of exports, it is called a deterioration of the terms of trade.

One way of understanding the concept is to view it in terms of how much of an average unit of imports you could buy with an average unit of exports. It suggests that if export prices are increasing relative to import prices, the country will find importing goods relatively easy and cheap. More imports can be bought with the previous level of exports. If the reverse were true and import price increased relative to export prices, the average export would buy less in terms of imported goods.

In simplified terms, if Country G's average export prices increase by 10% compared to the average price of imports from Country K, then Country G would be able to buy 10% more of Country K's goods with its export revenue. This suggests Country G now has more buying power, or a more favourable terms of trade relative to Country K. Country K has relatively less buying power, and must sell more of its exports to get the previous level of imports from Country G.

This implies that terms of trade can be directly related to a country's standard of living and potential for economic growth. Specifically, countries that depend on imports for essential consumer goods or critical capital resources have a keen interest in their own terms of trade.



Terms of trade is the ratio of export prices to import prices.



Terms of trade refers to the ratio of a country's average price of exports to the country's average price of imports.

Meaning of terms of trade

The terms of trade ratio compares the prices received for export goods to the prices being paid for imported goods. It is expressed as:

$$\text{terms of trade} = \frac{\text{index of average export prices}}{\text{index of average import prices}} \times 100$$

The export and import averages are calculated in much the same way a consumer or producer price index is calculated, by compiling the weighted averages for export goods and import goods over a period of time.

Calculating terms of trade

Table 25.1 shows how terms of trade can be calculated from year 1 (the base or index year) over a period of six years. The calculation column uses the equation we looked at above.

| TABLE 25.1 CALCULATING TERMS OF TRADE | | | | | |
|---------------------------------------|--------------------------------|--------------------------------|-------------------------------|----------------|-------------------------------|
| Year | Index of average export prices | Index of average import prices | Calculation of terms of trade | Terms of trade | Improvement or deterioration? |
| Year 1 | 100 | 100 | $\frac{100}{100} \times 100$ | 100 | index year |
| Year 2 | 100 | 105 | $\frac{100}{105} \times 100$ | 95.2 | deterioration |
| Year 3 | 109 | 105 | $\frac{109}{105} \times 100$ | 103.8 | |
| Year 4 | 116 | 112 | $\frac{116}{112} \times 100$ | 103.5 | |
| Year 5 | 120 | 110 | | | |
| Year 6 | 120 | 125 | | | |

HL EXERCISES

- 1 Explain what it means to have a 95.2 terms of trade value for year 2.
- 2 What does it mean to have a 103.8 terms of trade value for year 3?
- 3 Complete the rest of the table. What does the ultimate value of the terms of trade for year 6 tell you?

25.2

Changes in the terms of trade

Learning outcomes

- Explain that the terms of trade may change in the short term due to changes in demand conditions for exports and imports, changes in global supply of key inputs (such as oil), changes in relative inflation rates and changes in relative exchange rates.
- Explain that the terms of trade may change in the long term due to changes in world income levels, changes in productivity within the country and technological developments.

Reasons for change in terms of trade

Short-run causes

Demand changes

All of the factors that can affect the demand for both exports and imports can affect their prices as a result. Consumer taste for exports may change. Other countries may see their incomes rise, increasing demand for your exports. If the demand for Country Z's butter increases, Country Z's terms of trade improves. In short, any determinant that shifts the demand for exports or imports outwards increases those prices.



Supply changes

If many countries join a market and create a surplus, then a country's export prices are likely to drop. This was true throughout the late 1980s in the market for coffee, as new producers joined an attractive market and consequently pushed down world coffee prices and depressed their relative terms of trade.

Relative inflation rates

If a country's domestic price levels rise relative to other countries, its terms of trade improves as well. However, this improvement will make those exports less attractive and competitive globally.

Changes in exchange rates

Short-term and long-term changes in the exchange rate can influence the terms of trade. Changes in the exchange rate effectively change the prices paid by foreigners, so the prices of exports and imports fluctuate, affecting the terms of trade.

For example, let's suppose Peru and Chile were trade partners, exchanging Peruvian sweet potatoes for Chilean wine. At the original exchange rate, 1 Peruvian sol might be equal to 200 Chilean pesos. At this rate, let's say it takes 10 Peruvian soles (= 2000 Chilean pesos) to buy a bottle of wine; and for 2000 pesos, Chile can import one kilogram of the best and rarest camotes (sweet potatoes). However, suppose the Peruvian sol rises against the peso to the point where 1 sol buys 250 pesos. For the terms of trade, it means that Peru can sell fewer camotes to get the same amount of wine, and Chile must sell more wine to get the same amount of camotes. Peru's terms of trade has improved. Chile's has declined.

Long-run causes

When global demand is altered by income changes

You will remember that income growth for a country leads to an increase in demand for exports. In particular, income growth tends to increase demand for secondary and tertiary products. This trend favours the terms of trade of developed countries which produce these products, and harms less developed countries (LDCs) which are dependent on primary products. Therefore, as global income is expected to grow over time, the terms of trade of most LDCs will continue to deteriorate.

Productivity changes

Sustained increases in relative productivity can lower a country's export prices and drive down its terms of trade. If a country is somehow able to produce more with the same or fewer inputs, the result is increased productivity. This can be derived from improvements in labour productivity, technological progress, more education or better management techniques. This is a good reason to have a deterioration of the terms of trade. However, if the demand for the country's exports is elastic, the price fall may increase exports sufficiently for total export revenue to increase. Conversely, it is also possible that productivity may decline as a result of high wages or other increased input costs. This may increase the terms of trade, but does so at the expense of productivity and competitiveness. Though the terms of trade increases, it is not good news for the economy.

Monopoly power

In industries where price-setting power is concentrated among a relatively small group of firms (most likely an oligopolistic industry), the increased prices can drive down the terms of trade for LDCs. For example, when producers of manufactured goods with significant oligopoly price-setting power manage to effectively raise prices, this can improve the

terms of trade in countries where the producers reside. If certain producers of food and household goods held such oligopoly power, their ability to hold prices up while penetrating developing country markets would have the effect of increasing the terms of trade of their US and European home countries, while diminishing the terms of trade in less developed countries where they sell their goods. Oil producers, most obviously, when acting as a cartel can exert their monopoly power to drive up prices and enhance their terms of trade in the process.

Trade protectionism

Protectionist policies may have an effect on the terms of trade, but only to the extent to which the country makes up a share of the export or import market. Large market-share countries like the US have greater power to affect terms of trade through trade policy than small-share countries such as Bolivia. The precise effect of such manoeuvres depends on the specific policy. Tariffs and quotas that protect a large domestic market can effectively raise import prices relative to export prices for that country, as well as reducing import competitiveness. This will shift the terms of trade in favour of the large protectionist power.

However, export subsidies work slightly differently, but can still undercut the terms of trade of smaller producer countries. Such subsidies (e.g. EU and US farm subsidies) allow rich countries to promote their exports and lower the effective prices of their agricultural goods. This puts downward pressure on the price of those commodities, lowering prices of primary goods of many poorer countries – goods that make up the major portion of such countries' exports. Thus, even export subsidies tend to drive down the terms of trade for poorer, primary-good-producing countries.

25.3

Consequences of changes in the terms of trade

Learning outcomes

- Examine the effects of changes in the terms of trade on a country's current account, using the concepts of price elasticity of demand for exports and imports.
- Explain the impacts of short-term fluctuations and long-term deterioration in the terms of trade of economically less developed countries that specialize in primary commodities, using the concepts of price elasticity of demand and supply for primary products and income elasticity of demand.
- Explain how changes in the terms of trade in the long term may result in a global redistribution of income.

Whether or not a change in the terms of trade is a positive development depends on a variety of factors, most importantly on the cause of the change and its effect on the balance of payments. These results are affected by the relative elasticities of demands for the goods involved.

Terms of trade and the trade balance

Changes in the terms of trade are not necessarily good or bad. To understand more fully the precise effects of any terms of trade change, it is important to ascertain the likely effect on a country's trade balance. In Chapter 23, you learned that the trade balance consists



primarily of export revenues (an inflow of money) and import expenditures (an outflow of money), as well as other lesser factors. Because the two income flows are forms of total revenue, we can view them in simplified total revenue terms.

$$\text{total export revenue} = \text{average } P_X \times Q_X$$

$$\text{total import expenditure} = \text{average } P_M \times Q_M$$

Therefore, if the price of either imports or exports increases, it could influence the overall total value of either side of the trade balance. We might assume, for example, that an increase in the price of exports would enhance total export revenue and improve the trade balance. However, this would run counter to what we know of the law of demand – as price increases, quantity demanded falls. Therefore, it is possible that an increase in export prices (and thus implicitly an improvement of the terms of trade) might actually result in a decrease in export revenue, and a decrease in the trade balance. That all depends, of course, on the value of the price elasticity of demand for exports in that case. So before we can make any determination about the effect of an improvement of the terms of trade, we would also need to know the elasticity of demand for both exports and imports.



To access Worksheet 25.1 on terms of trade and the current account, please visit www.pearsonbacconline.com and follow the onscreen instructions.

Elasticity of demand for exports and imports

It should be clear that the elasticity of demand for exports is critical to both the balance of payments and the terms of trade. In Chapter 23, you learned that the price elasticity of exports and imports can influence the effectiveness of devaluation through the Marshall–Lerner condition and the J curve.

Price elasticity of demand for exports

With that in mind, let us remember that the price elasticity of demand for exports is the responsiveness in the quantity demanded of exports to changes in the price of exports.

$$PED_X = \frac{\text{percentage change in demand for exports}}{\text{percentage change in average price of exports}} = \frac{\% \Delta Q_X}{\% \Delta \text{avg } P_X}$$

If PED_X is inelastic, then changes in the average price of exports do not significantly affect demand for them. Where export prices are falling, this would lead to a decrease in export revenues. This typically applies to the exports of energy commodities like coal, natural gas and oil. With a PED that is less than one, price drops hurt overall revenue. However, in industries where the demand is actually elastic, price decreases can result in improved revenue.

More explicitly, if the value of $PED_X > 1$, meaning relatively elastic demand, then a decrease in export prices (which corresponds to a decrease in terms of trade) results in an overall increase in export revenue. However, where $PED_X < 1$, relatively inelastic export demand, export price increases (and terms of trade improvement) reduce the total export revenue.

Price elasticity of demand for imports

The price elasticity of demand for imports is the responsiveness of import demand to the changes in the average price of imports. It is shown by the equation:

$$PED_M = \frac{\text{percentage change in demand for imports}}{\text{percentage change in average price of imports}} = \frac{\% \Delta Q_M}{\% \Delta \text{avg } P_M}$$

Where demand for imports is price inelastic, those countries would continue to buy the goods in similar proportions, and thus spend significantly more on imports, if import

prices were to increase. However, decreasing import prices will cause an overall decrease in total import spending when demand for imports is inelastic. While commodities tend to have inelastic demand, most other products tend to be price elastic in the long run.

More explicitly, if the value of $PED_M > 1$, meaning relatively elastic demand, then an increase in import prices (which corresponds to a decrease in terms of trade) results in an overall decrease in import revenue, an outflow from the economy. Conversely, where $PED_M < 1$, relatively inelastic import demand, import price increases (and terms of trade deterioration) increase the total import expenditure.

HL EXERCISES

- 4 Draw the two diagrams, one representing relatively inelastic demand for exports, one with relatively elastic demand.
- 5 On each, show the same increase in price, and draw total revenue boxes that reflect the change in total revenue before and after the price change.
- 6 Draw two more diagrams in the same fashion, now representing inelastic and elastic demand for imports.
- 7 On each show the same increase in price, and draw total revenue boxes that reflect the change in total revenue before and after the price change.

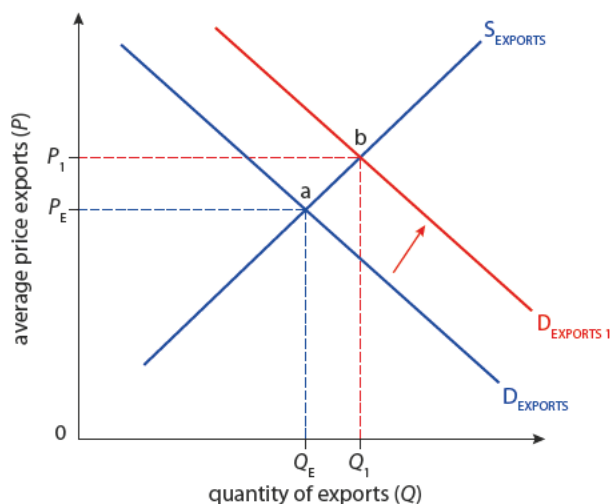
Causes of improvement in the terms of trade

Increase in demand for exports

Demand for exports can increase for all the usual reasons: a change of taste in favour of certain exports, increased prices for a competitor's goods, perhaps rising incomes abroad. If the increased export prices are a result of increased demand, it is likely to improve the balance of payments.

In Figure 25.1, the increased demand for exports has caused price to increase from P_E to P_1 , and quantity to increase from Q_E to Q_1 . Overall total export revenue increases from the area delineated by P_E –a– Q_E –0 to the larger area P_1 –b– Q_1 –0. The increased total revenue for exports, *ceteris paribus*, increases the flow of export revenue to the trade balance as well.

Figure 25.1
Increase in demand for exports.





Decrease in supply of exports

Should domestic production of exported goods decrease, the result would be an increase in export prices that would improve the terms of trade. However, as you might guess, the effect of this change on the total export revenue and the trade balance depends on the price elasticity of demand for exports.

In Figure 25.2, a decrease in the supply of exports increases the price to P_1 . The relatively elastic demand for exports means that a decrease in supply increases prices but actually results in less total export revenue, from area $x + z$ to area $x + y$.

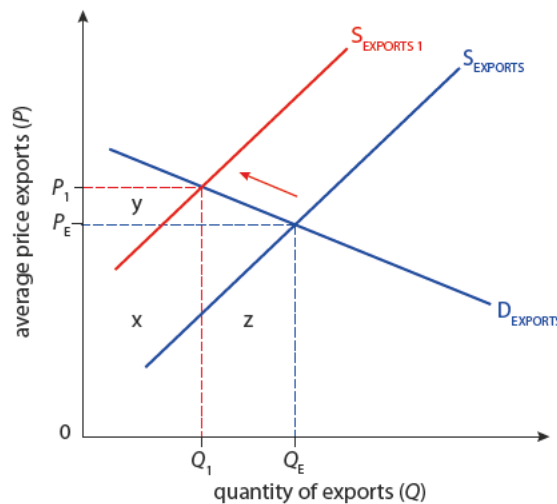


Figure 25.2

Decrease in supply of exports:
elastic demand.

But what if export demand is inelastic? When demand is inelastic (as in the case of an important resource export like petroleum) and the price rises, total export revenue increases (Figure 25.3). In this case, when price increases from P_E to P_1 , the total revenue ($x + y$) is much larger than the previous export revenue ($x + z$). Thus, as the price of exports increases, increasing the terms of trade, the trade balance also improves.

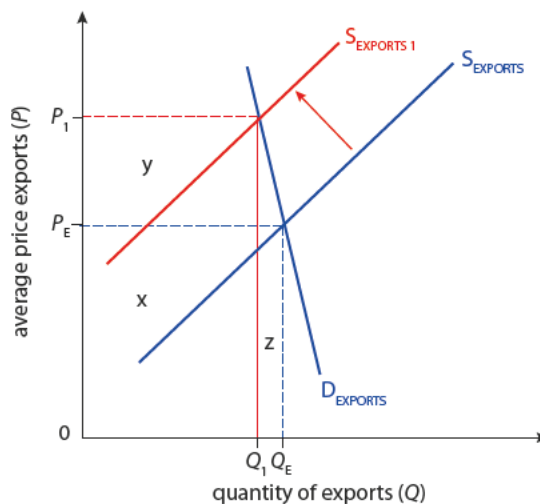


Figure 25.3

Decrease in supply of exports:
inelastic demand.

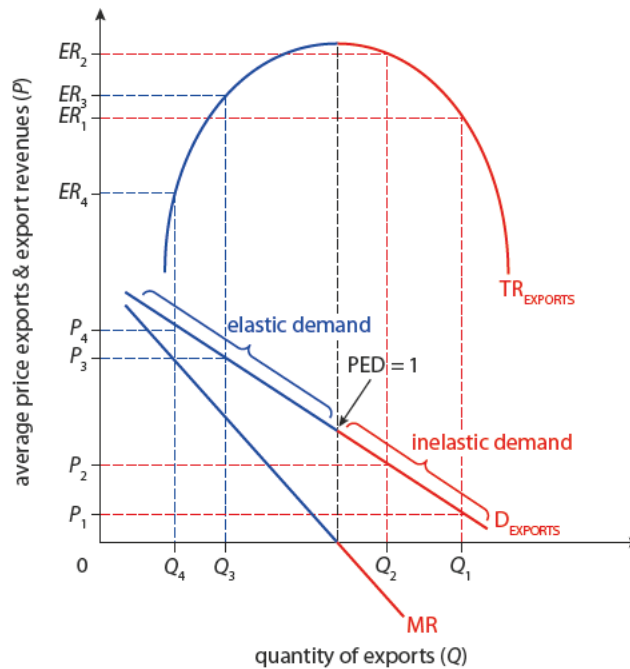
This indicates that a rise in export prices, *ceteris paribus*, improves the terms of trade but that the effective export revenue is conditional on the elasticity of demand for exports. One implication is that countries with inelastic demand for exports (perhaps those exporting energy resources) can enjoy a terms of trade increase with less worry than countries whose export demand is price elastic, in particular those exporting goods such as agricultural commodities.

Domestic inflation raises export prices

High domestic inflation, relative to a country's trading partners, encourages an improvement in the terms of trade. Whether this leads to an improvement in the trade balance depends on the elasticity of demand for the country's exports.

It is also true that the PED of a good varies as the price of the good falls (Chapter 4). PED is high at the higher range of prices, drops as the price drops and eventually reaches a unit elasticity point ($PED = 1$), then becomes relatively inelastic at the lower prices (Figure 25.4).

Figure 25.4
Domestic inflation raises export prices.



As average export prices increase from P_1 to P_2 , where demand is relatively inelastic, the total export revenue grows from ER_1 to ER_2 , which will improve the export side of the trade balance. This continues until the point on the demand curve where $MR = 0$. From that point, any price increase (and, therefore, any improvement in the terms of trade) is in the elastic price range of demand. Therefore, an increase in export prices from P_3 to P_4 results in a decrease in export revenue from ER_3 to ER_4 , and a decrease on the export side of the trade balance.

With this in mind, we can draw the following conclusions.

- Terms of trade improvements caused by inflation improve the trade balance when demand is inelastic. Price rises do little to discourage export consumption and, therefore, export revenue grows.
- Improvements to the terms of trade caused by inflation reduce the trade balance when demand for exports is elastic. In this case, price rises significantly discourage export purchases and cause a lowering of export revenue.

In theory, these instances could be good news for LDCs selling commodities because domestic inflation should improve both the terms of trade and trade balance. In practice, however, LDCs selling commodities can rarely afford to charge higher prices for commodity goods sold worldwide. With ample substitutes on the global market, there is little room for price increases. Thus, there are good reasons for LDCs to keep control of domestic inflation.



Changes in the exchange rate

Depreciation of the exchange rate makes exports more inexpensive, and imports more expensive. Therefore, depreciation effectively decreases a country's terms of trade. Appreciation does the opposite: exports become more expensive to the world while imports become cheaper. Therefore, appreciation effectively increases a country's terms of trade. How does this affect the trade balance? That depends on the price elasticity of demand for exports and imports.

In Figure 25.5, depreciation leads to an effective decline in the terms of trade. From that point, the change in the trade balance depends on the combined price elasticity values for both exports and imports. If elastic, depreciation and worsening terms of trade improve the trade balance by moving it towards a surplus. If inelastic, depreciation and worsening terms of trade hurt the trade balance by moving it towards a deficit.

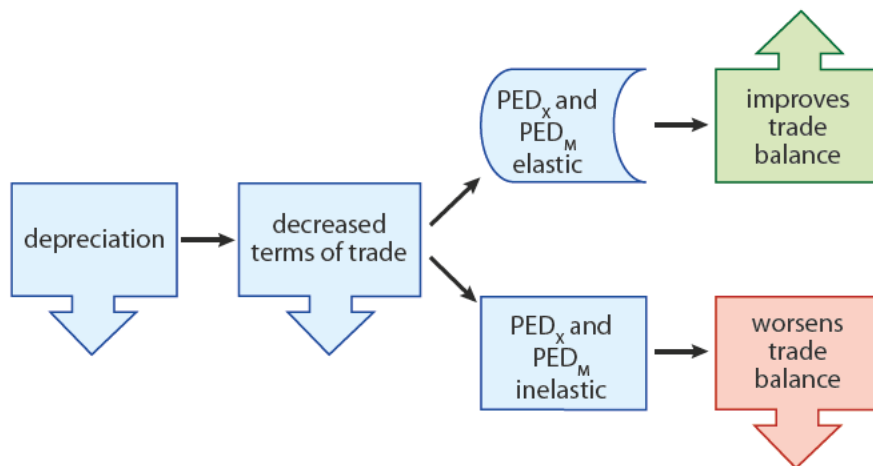


Figure 25.5

Effects of depreciation on the terms of trade.

In Figure 25.6, appreciation leads to an effective improvement in the terms of trade. From that point, the change in the trade balance again depends on the combined price elasticity values for both exports and imports. If elastic, appreciation and improved terms of trade worsen the trade balance by moving it towards a deficit. If inelastic, appreciation and improving terms of trade help the trade balance by moving it towards a surplus.

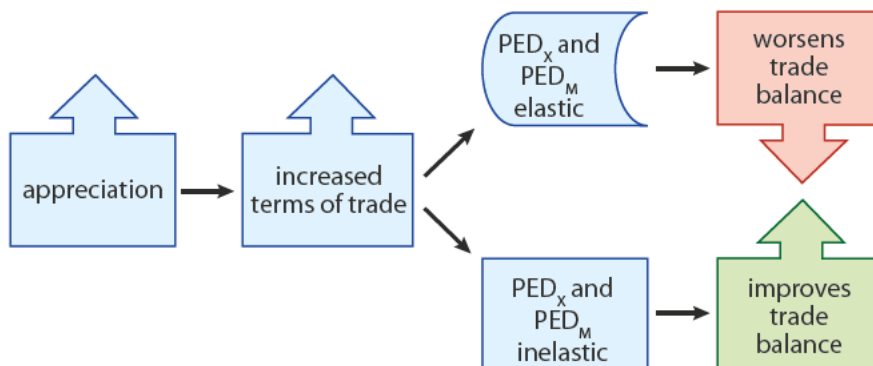


Figure 25.6

Effects of appreciation on the terms of trade.

This result is directly related to the Marshall–Lerner condition, which states that the combined elasticities of demand for exports and imports must be greater than 1 for a currency depreciation (and, therefore, terms of trade deterioration) to improve the trade balance. When the combined elasticities are relatively elastic, then depreciation (implying a terms of trade deterioration) causes more export revenue and reduced import expenditure, improving the trade balance. If the combined elasticities are less than 1, depreciation and the resulting terms of trade reduction worsen the trade balance.

In practice, LDCs are often encouraged by economists and lenders to attempt to depreciate their currency and increase export revenue. They therefore find themselves in the above situation. Not only does this worsen the terms of trade and make the consumption of imports more difficult, it can also hurt the trade balance when the PED of exports and imports is inelastic.

In the reverse scenario, appreciation improves the terms of trade. But it will only improve the trade balance if the combined elasticities of demand for exports and imports is relatively inelastic. Thus, the appreciation results in higher export revenue and reduced import revenue.

Short-term fluctuations in the terms of trade

LDCs are tied to primary goods and commodity goods, and these markets can be volatile. Short bursts of commodity activity can cause sudden increases in some countries' terms of trade. These sudden bursts are called commodity booms; they can occur for a variety of reasons, depending on the particular market. In the years from 2000 to 2008, the prices of many metals, chemicals, fuels and food items rose significantly. A major reason for this boom was increased demand from the growing economies of China and India: as these economies began to more fully exploit their domestic resources, they increasingly sought to import more commodity goods.

Commodity speculation heightened the price increases as speculators bet on ever-higher prices. Also adding to the problem was the interrelated nature of food and fuel. Higher demand for food increased the demand for fertilizers that are made from oil products. This increased the demand for oil, increasing its price. Then, as countries sought substitutes in the form of biofuels (Chapter 6), the demand for biofuel inputs such as corn and sugar grew as well. To grow these required more petroleum-based fertilizers, and so the cycle became self-reinforcing.

Commodity booms affected countries in different ways, depending on whether the country was the beneficiary of price increases or suffered the burden of these increases. Commodity importers of food, in particular, suffered when food prices rose dramatically in 2007. Political unrest from high food prices led to food riots in many countries, including Burkina Faso, Cameroon, Egypt and Morocco. Some buyers resorted to hoarding goods, which pushed prices up further. As a result, countries in this predicament attempted export tariffs and other means to prevent the flow of food out of the country.

For countries getting higher prices for their commodity exports, the increased terms of trade could be an advantage. For food-exporting countries, this may mean a rare rise in their incomes. They can afford to import more and better capital goods, pay down international debts faster, and make brief advances towards a better standard of living. However, these advantages may dwindle fast, if the boom fades, so countries must be quick to take advantage of the short-term gains. The danger is that countries may not see the opportunity and may squander the gains on imported consumer goods.

Whether a country exports or imports commodities during a boom, governments tend to struggle to make effective policies to handle the disruptions. Commodity exporters face decisions about how to manage their sudden increase in income, and worry about the appreciation of their currency. Commodity importers tend to panic at the sudden increase in necessary consumption or production costs, and worry about paying for a spike in the trade deficit.

Long-term deterioration of terms of trade and LDCs

Many LDCs have experienced a long-term trend towards deteriorating terms of trade. We have established that an improving or deteriorating terms of trade is neither unequivocally good nor bad. We have also observed that the degree to which any change in terms of trade helps or hurts a country depends a great deal on the nature of its export and import patterns, specifically the relative price elasticities.

Relatively developed countries experiencing a terms of trade downturn can take solace in the fact that the vast majority of what they produce for export has a relatively elastic demand, and therefore the lower export prices will eventually result in enough overall increased total export revenue to compensate for the initial decreased terms of trade purchasing power. Moreover, these export goods tend to be income elastic, which means that the growth of global income will ensure a growing demand for these goods.

Even middle-income countries are likely to either benefit from an improved terms of trade, or at least suffer less under a deterioration. Because middle-income countries are somewhat diversified, the price of their exports does not change uniformly in one direction, but is likely to vary more randomly. As such, these countries may not suffer such wide fluctuations in the terms of trade.

Developing countries, however, have no such comfort. LDCs often gain most of their export revenue from commodities and, in many cases, these are few for any given country. The market for commodities has relatively low-income inelasticity, meaning that as global income grows, the demand for these goods grows rather slowly, while more advanced and specialized products see their market demand grow much faster. Because the increased demand for higher value goods is likely to outpace the demand for commodities, the terms of trade of poor undiversified countries is likely to deteriorate over the long term. Thus, in simple terms, if the demand for goods produced in developed countries increases 10% over time, and the demand for poor country products increases only 5%, then the terms of trade is likely to continue to move away from LDCs.

As a result, LDCs experience an ever-decreasing share of world output and resources. The consumption of needed imports of capital goods, healthcare items, and necessary resources is more difficult and requires more and more export sales (at lower prices). Without access to the imported goods, economic development is likely to be stifled indefinitely.

To access Worksheet 25.2 on terms of trade and the BoP, please visit www.pearsonbacconline.com and follow the onscreen instructions.

To learn more about terms of trade, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 25.1.

HL EXERCISES

- 8 Consider the table below.

| LOWEST NET BARTER TERMS OF TRADE, 2005–08 | | | | |
|---|------|------|------|------|
| Country | 2005 | 2006 | 2007 | 2008 |
| Pakistan | 75 | 70 | 66 | 58 |
| Bangladesh | 80 | 75 | 68 | 58 |
| Japan | 83 | 75 | 72 | 62 |
| Korea | 79 | 74 | 72 | 62 |
| Haiti | 93 | 90 | 86 | 62 |
| Philippines | 86 | 77 | 76 | 67 |

based on data from the World Bank

- a Explain how the terms of trade have changed for all of the above countries since 2005.
- b Speculate on what may have caused this change.
- c For each country, do you think the decreasing TOT is an advantage or disadvantage? Why?
- d What other information would help you answer part c?

9 Consider the table below.

| HIGHEST NET BARTER TERMS OF TRADE, 2005–08 | | | | |
|--|------|------|------|------|
| Country | 2005 | 2006 | 2007 | 2008 |
| Angola | 172 | 198 | 203 | 255 |
| Brunei | 164 | 198 | 193 | 253 |
| Venezuela | 156 | 184 | 202 | 249 |
| Qatar | 156 | 187 | 188 | 249 |
| Algeria | 164 | 191 | 183 | 239 |
| Niger | 158 | 206 | 322 | 233 |

based on data from the World Bank

- a Explain how the terms of trade have changed for all of the above countries since 2005.
- b Speculate on what may have caused this change.
- c For Venezuela and Brunei, do you think the improving terms of trade is an advantage or disadvantage?
- d For those same countries, what do you expect to be the effect on the trade balance? Why?

To access Quiz 25, an interactive, multiple-choice quiz on this chapter, please visit www.pearsonbacconline.com and follow the onscreen instructions.



PRACTICE QUESTIONS

1 Terms of trade impress – even without dairy spike

The relative purchasing power of New Zealand's exports is the highest it has been since 1974.

The **terms of trade** improved 0.6% in the June quarter, Statistics New Zealand said yesterday, to be 2.4% higher than a year ago and 12.4% higher than five years ago.

And economists expect further gains in coming quarters as higher world prices for dairy products flow through to the data.

'We are still in the midst of a structural shift to higher terms of trade, courtesy of higher soft commodity prices,' said ANZ National Bank chief economist Cameron Bagrie.

'This is a positive development for New Zealand's longer-term economic development and living standards.' The exchange rate climbed 4.7% during the quarter, so both export and import prices fell in New Zealand dollar terms.

But import prices fell 1.7% (despite a 3.1% rise in oil prices), outstripping a 1.2% fall in export prices (despite a 3.4% rise in dairy prices).

The terms of trade have yet to reflect much of the recent surge in world dairy prices. They show dairy prices 4% lower than in the June quarter last year, whereas ANZ's commodity price index recorded a 48% increase, in New Zealand dollar terms, over the same period. Overall sales in terms of volume have increased, as well as prices in the last several months.

Despite the most favourable terms of trade in 33 years New Zealand ran a **trade deficit** of \$5.6 billion in the year ended June. Export volumes rose just 0.4%, as pastoral products and fish all declined even in seasonally adjusted terms.

Import volumes by contrast rose 3.3%, driven by increases in capital goods and motor vehicles.

'Firms have been taking advantage of cheaper capital goods to boost investment spending,' ASB economist Daniel Wills said.

Bagrie said that if there was any comfort for the Reserve Bank it was in the 4.2% fall in imports of consumer goods – an indication that domestic demand was waning. 'In addition a strong 15.9% increase in capital goods import volumes points to more investment by businesses, which will help alleviate some of the capacity constraints in the economy.'

New Zealand Herald, 12 September 2007

a Define:

- i** terms of trade (paragraph 2) (2 marks) [AO1]
- ii** trade deficit (paragraph 8). (2 marks) [AO1]

b Using an appropriate diagram, explain the increase in terms of trade as it relates to the increase in dairy sales. (4 marks) [AO2], [AO4]

c Explain how New Zealand can have a favourable terms of trade and still run a trade deficit. (4 marks) [AO2], [AO4]

d To what extent will the surge in terms of trade be an advantage (or disadvantage) to New Zealand's economy in the short and long run? (8 marks) [AO3]

2 Israel Business Arena: Index shows exporters face tougher times

Israeli exports competitiveness worsened during the first quarter of 2010, due to the ongoing **deterioration in the terms of trade**. The Terms of Trade Index, the ratio between the dollar price of industrial exports and the dollar price of imported raw materials, was 2% lower in the first quarter than in the preceding quarter, the Manufacturers Association of Israel Research Department reports. The decline represents the drop in purchasing power of Israeli exports in terms of imports.

The drop in Terms of Trade Index in the first quarter is a direct continuation in the deterioration in Israel's terms of trade, which resumed in the third quarter of 2009. The terms of trade improved in the fourth quarter of 2008 and first quarter of 2009, thanks to a sharp drop in fuel prices. Israel's terms of trade have been deteriorating steadily since the fourth quarter of 2001 and reached a low point in the third quarter of 2008, after a fall of 40% over seven years. The Terms of Trade Index fell 27% between the end of 2001 and the first quarter of 2010.

In addition to the drop in the Terms of Trade Index since the third quarter of 2009, exporters' competitiveness has also been hurt by the shekel's **appreciation**. Between May 2009 and March 2010, the shekel rose 10% against the dollar, resulting in fewer shekels earned for every dollar in foreign sales.

Globes' correspondent, Israel Business News, 13 April 2010

a Define:

- i** deterioration in the terms of trade index (paragraph 1) (2 marks) [AO1]
- ii** appreciation (paragraph 3). (2 marks) [AO1]

- b** Using a diagram, explain the effect of the shekel's appreciation on the terms of trade (paragraph 3). (4 marks) [AO2], [AO4]
- c** Explain why Israel's terms of trade might have improved with the decrease in fuel prices (paragraph 2). (4 marks) [AO2], [AO4]
- d** Using your knowledge of economics and information from the article, assess the effects of Israel's changing terms of trade on its balance of payments and other key economic indicators. (8 marks) [AO3]