June Intensive Revision

## Demand and Supply – Q2 (H2 A Level 2012)

**The Market for Cotton**

**Table 1: Cotton in selected economies (million bales)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Production (supply)** | | **Consumption (demand)** | |
|  | **2008/09** | **2009/10** | **2008/09** | **2009/10** |
| **Brazil** | 5.4 | 5.3 | 4.2 | 4.4 |
| **China** | 36.7 | 32.0 | 44.0 | 48.5 |
| **India** | 22.6 | 23.2 | 17.7 | 19.5 |
| **Pakistan** | 8.7 | 9.6 | 11.3 | 11.0 |
| **United States** | 12.8 | 12.2 | 3.6 | 3.5 |
| **World total** | 107.1 | 101.2 | 109.9 | 117.2 |

*Source: United States Department of Agriculture*

**Extract 1: Brazil's cotton growers seek to boost output as India restricts exports (increase in local supply / by selling less overseas – increase in local supply)**

Cotton prices have soared 73% in the past year and reached a 15-year high of US$1,064 on 28 September 2010 after India, the world's second-biggest exporter after the United States, said it would limit exports. The Indian government will limit exports to 5.5 million bales in 2011, compared to 2010 when exports were 8,3 million bales. The price of cotton is expected to stay above US$1 until June 2011.

Cotton growers in Brazil, the world's fifth-largest exporter of the fibre, plan to increase output in 2011 after the rise in world prices. Planting for the 2011 harvest may rise to 1.1 million hectares from 830 000 hectares in 2010.

Brazil's government may consider increased financial support for cotton growers to encourage them to raise output in 2011, according to the Brazilian Agriculture Ministry. A four-month drought hurt the quality of the crop this year in Brazil, causing output to fall. In September the government temporarily eliminated a 10% tariff on cotton imports as domestic supplies fell short of demand.

*Source: Bloomberg, 1 October 2010*

**Extract 2: UK retail clothing firms far from cheerful about future of cheap fashion**

It was a sign of the times; fashion so cheap it became "disposable’ as globalisation brought container-loads of low-cost clothes to the UK. But clothes retailers are now warning that the era of constantly falling prices is coming to an end and that prices could rise in 2011. A huge rise in the price of cotton to a 15-year high could not be ignored, they said. At the same time, retailers are facing higher labour costs in Asia, the impact of a weaker pound and a rise in Value Added Tax (VAT) from 17.5% to 20% from January 2011.

The chief executive of clothes retailer Next predicted that the prices of Next's clothes were going to rise by up to 8% in 2011. He said that he suspected that shoppers would have to cut back on the number of new outfits they buy: 'Our best guess is that if prices do rise by 8%, then volume of sales will be down by 10%. The clothing retail industry hasn't experienced price increases for 15 years and the truth is we don't really know what the response will be.’

The director of a leading research company said consumers are facing what could be a permanent change in the clothing market: 'Prices can't keep failing forever: they reach a floor, and we are now at a point where retailers' profits are really quite low. Because of the recession they are finding it difficult to maintain sales. This means that when costs rise, they have to be passed on to the consumer.'

Primark, a clothing company known for its ability to emulate designer looks at rock-bottom prices, has been at the forefront of the disposable fashion movement. Its breathtaking prices - this autumn you can still buy jeans for £8 and a top for £4 - caused a stampede when its first store opened, on London's Oxford Street in 2007, Another company. Asda, sold its cheapest pair of own brand jeans for £14.97 in 2000; now the price is down to £4.

Some have argued that the increase in the cotton price has its roots in the financial crisis of 2008, when farmers stopped planting low-value cotton and switched to higher-value crops such as corn and soya, When retail sales picked up, demand for cotton also rose and prices shot up - just at a time when major cotton-producing regions such as China and Pakistan were suffering devastating floods, and India, the second largest producer, was limiting exports.

The deputy chief executive of a well-known department store explains that 60% of the cost of clothing is in the fabric and about 30% of the fabric cost is in the raw materials: ‘The approach we are taking is to pass it on to customers and we think most other retailers will have to do the same.’ He says its prices will rise, like Next's, by up to 8%, He also points to Increased labour costs all around the world’, less spare capacity in Chinese factories, rising freight costs and the unfavourable impact of foreign exchange movements as other pressures being faced by retailers.

Some analysts argue, however, that the gloom is being overdone. The chairman of the department store John Lewis Partnership, which last week reported a 20% increase in fashion sales, certainty thinks the future is brighter than some of his peers say. ‘Prices may rise a little but tough competition will take some of the heat out of these rises.’

*Source: The Observer, 19 September 2010*

**Questions**

(a) (i) Why might the changes shown in Table 1 have led to an increase in the world price of cotton? [1]

(ii) Given the information contained in Table 1, identify the country that has had the greatest impact on world prices. Justify your answer. [3]

(b) What can you conclude from the evidence in Extract 1 about the price elasticity of supply of cotton in Brazil? [2]

(c) Explain the likely reason why the Brazilian government eliminated the 10% tariff on cotton imports and the Indian government restricted cotton exports. [3]

(d) In Extract 2, the chief executive of Next considers the effect of an 8% rise in the price of Next’s clothes. With reference to the concept of price elasticity of demand, explain the expected impact of this price rise on the firm's total revenue. [3]

(e) With reference to the data where appropriate, discuss the view that supply factors are likely to be more important than demand factors in explaining changes in the price of cotton. [8]

**[Total: 30]**

**Suggested Answers**

**(a) (i) Why might the changes shown in Table 1 have led to an increase in the world price of cotton? [1]**

There was an increase in world demand from 109.9 million bales in 2008/09 to 117.2 million bales in 2009/10 while there was a fall in supply from 107.1 million bales in 2008/09 to 101.2 million bales in 2009/09. As a result, an excess (shortage) demand condition occurred in the world market for cotton, contributing to the increase in world price of cotton.

**(a) (ii) Given the information contained in Table 1, identify the country that has had the greatest impact on world prices. Justify your answer. [3]**

China. It is the country with the largest production in the cotton market and the largest consumer market. As the production capacity of cotton in China has decreased from 2008/09 to 2009/10 while its consumption capacity has increased from 2008/09 to 2009/10. This will create an excess demand condition in China’s market which will raise the price of cotton in China. This is likely to influence China to resort to import more from other countries, such that there will be an increase in demand for cotton in the world market while it cuts down the export of cotton to the world market.

Furthermore, China is a significant importer in the world market, given that her consumption is greater than her production and this difference between the consumption and production capacity has widened which will raise her import demand more significantly. As a result, China’s demand in the world market for cotton will rise, contributing to an extensive rise in world price for cotton.

**(b) What can you conclude from the evidence in Extract 1 about the price elasticity of supply of cotton in Brazil? [2]**

The price elasticity of cotton is price-inelastic as there is a limited capacity of production in Brazil and the source of supply is restricted. As cotton is an agricultural product, it is limited in production due to long gestation and limited supply of resources like land. At the same time, the imposition of 10% tariff will mean that the supply is also limited by high imported price of cotton.

Determinants of PES  
- time period for production and gestation

-Cost of resources  
- availability of resources  
- cost of storage and degree of perishability  
- technological impact – raise efficiency – lower cost of production – enable increase the supply – PES becomes price elasticity

**(c) Explain the likely reason why the Brazilian government eliminated the 10% tariff on cotton imports and the Indian government restricted cotton exports. [3]**

The Brazilian government eliminated the 10% tariff to lower the price of import of cotton so as to ensure that there is an increase in the supply of cotton to meet the rising demand. As seen from table 1, Brazil has an increase in production of cotton by 0.1 million bales from 08/09 to 09/10 while the demand for cotton increases by 0.2 million bales for the same time period.

As for India, it has restricted cotton export as there is greater increase in the local consumption which is greater than the increase in production of cotton in India. This will mean that it may have shortage in the local market, indicating that it may need to increase in import. To avoid importing more cotton, which will push price of cotton higher compared to the local market, leading to higher cost of living, it will prompt India to reduce export of cotton to ensure that there is sufficient supply in the local market. Furthermore, the higher degree of import expenditure will lead to outflow of currency, leading to depreciation. This will mean higher price of import in local value, undermining the cost of living of India, which is very import-dependent on resources like oil.

**(d) In Extract 2, the chief executive of Next considers the effect of an 8% rise in the price of Next’s clothes. With reference to the concept of price elasticity of demand, explain the expected impact of this price rise on the firm's total revenue. [3]**

As considered by Next’s chief executive, the effect of an 8% rise in the price of Next’s clothes will lead to a reduction in quantity demanded of Next’s clothes. If as projected, the fall in quantity demanded is about 10%, which has more than proportionate decrease in quantity demand in response to increase in price and this will contribute to a fall in total revenue.

Price of Next’s Clothes

P1

Gain

Fig. 1 – Price-elastic demand for Next’s Clothes

P0

SS

Loss

Qty of Next’s Clothes

Q0

Q1

As seen from the diagram, there will be a fall in the total revenue for Next’s clothes as the gain in revenue due to the rise in price of Next’s clothes is lesser than the loss in revenue due to the fall in quantity demanded of Next’s clothes, given that the demand is price-elastic, given that the price elastic demand for clothing is price-elastic.

It is likely that the demand is price-elastic since there are extensive substitutes like Primark and Asda and other stores, given its high degree of competition. As clothes are durables, which means there is low degree of necessity of demand for the good, shaping it to be price-elastic in demand.

**(e) With reference to the data where appropriate, discuss the view that supply factors are likely to be more important than demand factors in explaining changes in the price of cotton. [8]**

In the determination of the price of cotton, the forces of demand and supply will affect the price of cotton. Whether the supply or demand is more influential, there is a need to consider the nature of the good based on the understanding of the market forces influencing the demand and supply and the factors affecting the price-elasticity of demand and supply.

It is likely that supply is more significant in influencing the change in price of cotton as cotton is an agricultural product. This means that the production is affected by factors like weather factors and lack of resources like land. As stated in the Extract 2, major cotton-producing regions such as China and Pakistan were suffering devastating floods’, implying that cotton can be reduced extensively in the short run by weather conditions. In addition, as an agricultural product, it has long gestation and is limited by the availability of land for planting. This would mean that the supply is price-inelastic since the production capacity cannot be increased easily within a short period of time. Consequently, if there is an increase or decrease in demand, the price will fluctuate more extensively for cotton as the supply is price-inelastic.

The control by the government as seen in the measures adopted by India and Brazil (export restriction and tariff imposition) will also add on the cost of goods sold in the world market, leading to reduction in supply of the goods persistently and this will imply that supply can affect extensively the change in price of cotton.

Although the percentage increase in demand is at 6.6% which is greater than the percentage reduction of 5.6% for the world market for cotton as calculated from the table over the two time periods, the demand factor still has a less significant influence on the price of cotton. The demand for cotton seemed to increase only from developing countries which has lower purchasing power and may not have a sustainable demand in the long run. Furthermore, the demand is price-elastic as there are many other forms of materials which can be manufactured synthetically to substitute cotton as a raw material for clothing, implying that the change in price is less extensive, given a reduction in supply when demand is price-elastic.

In sum, the supply factor is the persistent and pivotal factor influencing the price of cotton. However, in short run, a rise in demand may also affect the price of cotton. The key factors to consider in this demand and supply analysis would be the nature of agricultural products and the growth of population.