J2 June Intensive Revision

**CSQ – Lesson 2 – Market Failures Q1**

**Flooding: the problem that will not go away**

**Table 1: Commodity Prices, 2005 – 2014**

The table below shows an index of the world commodity prices over the period 2005-2014.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Index | 70.2 | 75.7 | 85.0 | 99.4 | 92.6 | 100 | 111.6 | 106.4 | 100.2 | 97.0 |

Source: World Bank, 2016

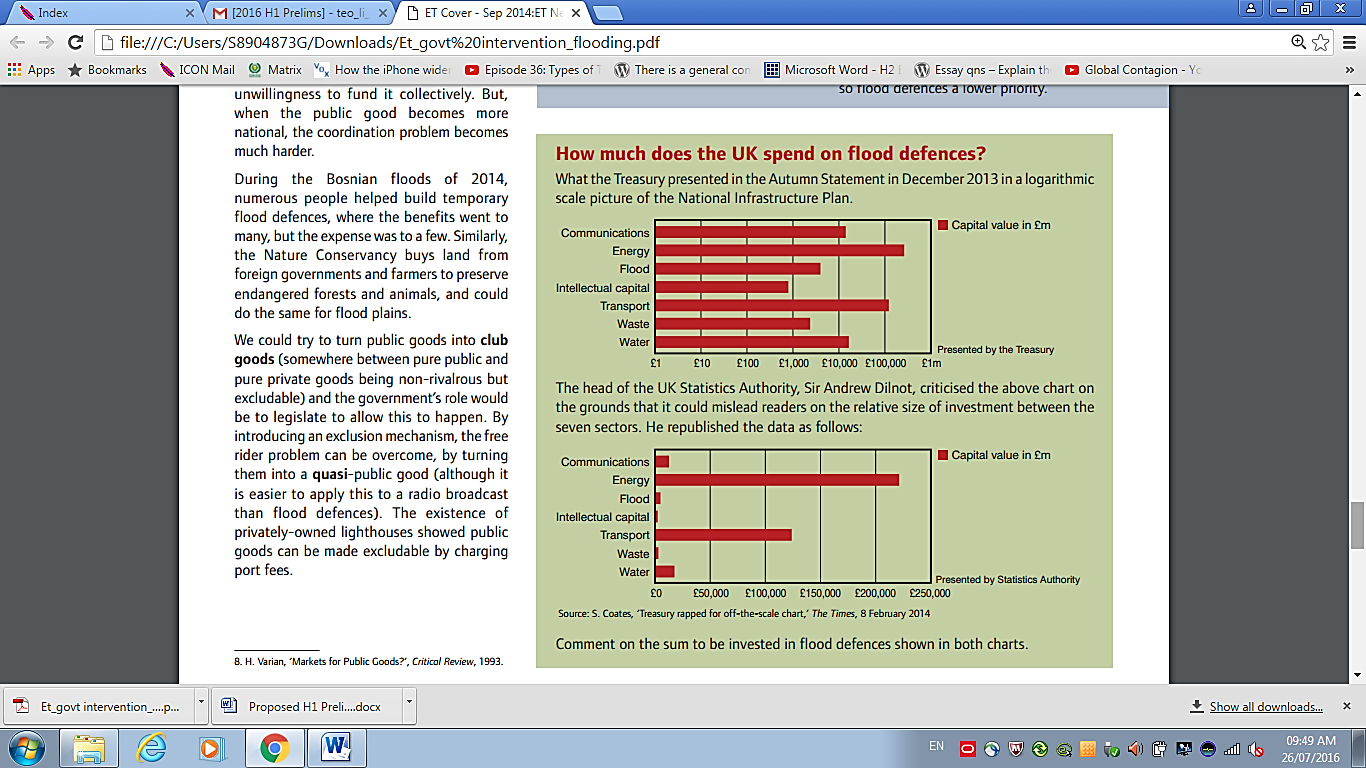
**Extract 1: U.S. grain prices soar as floods shut waterways, threaten crops**

U.S. grain farmers scrambled to find shelter for their crops and handlers hunted for alternative transportation routes, as widespread floods shut waterways from Illinois to Missouri and spurred a surge in physical prices of corn and soybeans.

Cash premiums for soybeans in the U.S. market, jumped to as high as 70 cents per bushel, their loftiest since mid-November as the rapidly rising waters forced the Coast Guard to shut a five-mile section of the Mississippi River. Surcharges for corn hit 49 cents on Wednesday, up almost a third from 37 cents a week ago and the highest in nearly three weeks.

Source: Reuters, 31 December 2015

**Figure 1: Government spending on UK infrastructure (2013) presented by Statistics Authority**



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Adapted from *The Times,* 08 February 2014

**Extract 2: Budget 2014 – Key climate and energy announcements**

Chancellor George Osborne today delivered his fifth budget. Among a few pre-election treats for voters were some important changes to the government’s energy and climate policies.

The chancellor was widely expected to freeze the UK’s carbon tax imposed on firms at £18 per tonne of carbon dioxide emitted until the end of the decade. He hopes that will cut industry energy costs, and help the UK’s manufacturing sector.

Energy intensive industries will not have to pay the costs of two policies designed to support renewable energy generation. This could save companies £50,000 per year on their energy bills, the chancellor claimed. The chancellor hopes that the measures are enough to stop companies moving abroad, where operation costs are lower – which would be bad for the economy overall, he argues. In doing so, Osborne prioritised the UK’s short term “economic security” over curbing the manufacturing industries’ considerable greenhouse gas emissions – with the latter potentially providing economic benefits in the long run.

Osborne today announced £140 million of new funding to go towards flood repairs and maintaining existing flood defences. The announcement comes months after Prime Minister David Cameron told parliament that the UK could expect more of the same in coming years.

Source: Carbonbrief.org, 19 March 2014

**Extract 3: Does flood defence merit government intervention?**

Annual flood damage in the UK costs around £1.1 billion, and could rise to £27 billion by 2080. In 2014, the Balkans saw the worst floods in 120 years, with over 4 months rainfall in one day, and flood water rising to over 7 metres. Over 40% of Bosnia and Herzegovina was flooded causing huge landslides (raising fears of old landmines being triggered). Over a quarter of the population in the country were displaced, with at least 100,000 homes now uninhabitable. In 2005, Hurricane Katrina in the United States caused the flood system to be breached at more than 50 places in New Orleans, killing more than 1,800 people; others stranded for days without food.

Livelihoods are destroyed as agricultural land is abandoned. 80% of New Orleans was underwater for weeks. The areas hit by floods in the UK in 2013/14 accounted for 13% of the UK’s economic output, hitting key economic heartlands, wiping up to £14 billion off GDP. Disruption to transport links harms productivity. There is a danger that the Balkan floods will risk power shortages and rising electricity prices.

Flooding causes more payouts by insurance firms, which lowers profits, and thus raises insurance premiums for everyone. In 2012, flooding caused damage worth £4 billion. The loss of property value for those living in flooded areas has knock-on effects on banks who have offered mortgages. As the value of their collateral plummets, negative equity issues arise with the wealth of households being wiped out.

Adapted from *Economics Today,* September 2014

**Extract 4: The cost of inaction vs. the cost of action**

In 2009 the Environment Agency (EA) published a study warning £20 billion of investment was required over the next 25 years to address rising flood risks. However, the UK government has been prioritising fiscal austerity.

Government provision of public goods is but one solution. Government provision has its dilemmas – even if we agree that out of all the market failures, public goods is the biggest, we still have to decide whether flood defences are the most important public good to finance, and even then every decision has an opportunity cost. The Chairman of the EA, Lord Smith, stated: “Flood defences cost money; and how much should the taxpayer be prepared to spend? There’s no bottomless purse, and we need to make difficult choices about where and what we try to protect.”

It has been estimated that maintaining existing levels of flood defences would require flood defence spending to increase to £1 billion per year by 2035. Is this a good use of the government’s scarce money and resources? The benefits of providing the flood defences must exceed the costs of provision.

A cost-benefit analysis (CoBA) is important in this regard. CoBA allows different flood defence projects to be ranked according to those that provide the highest expected net gains in social welfare. But CoBA assume that the correct costs and benefits have been identified, as well as what discount rates to use for future uncertain costs and benefits. The distribution of them must be taken into account too. Flood defences by their nature are only a pure public good on a localised level, whilst on a national level, the benefits and costs are unequally distributed. And it’s not as simple as just building flood defences – what type of flood defence system should the government use? Flood defences or flood water storage areas: In the Netherlands, water management is incorporated into urban planning, taking into account parks and wetlands that could function as safety reservoirs.

Crucially, government provision is not the only solution. There are cost savings from large scale state provision but a subsidy to the private sector is another approach. However some areas could get more subsidies if their members of parliament are more aligned with the EA (some scope for political lobbying). The conclusion that free markets fail to provide public goods stems from the key assumption that people adhere to *homo economicus* or self-interested individualistic behaviour. But there is evidence that in small communities people can agree to split the cost of public goods. It is not inconceivable that if the government decides to commit to not providing flood defences, local communities will contribute to their own flood defences. The fact that the government is often willing to provide these for free at the point of consumption at least, encourages irresponsible behaviour and an unwillingness to fund it collectively. But, when the public good becomes more national, the coordination problem becomes much harder.

Adapted from *Economics Today,* September 2014

**Questions**

|  |  |  |  |
| --- | --- | --- | --- |
| **(a)** | Using Table 1, compare the overall change in world commodity prices between 2005 and 2010 with that of 2010 and 2014. | | [2] |
| **(b)** | With the help of a diagram, explain how floods caused the prices of grains like corns and soybeans to soar in Extract 1. | | [4] |
| **(c)** | Explain how the freeze on the carbon tax and more savings for polluting industries might benefit the UK economy in Extract 2. | | [6] |
| **(d)** | Comment on how the climate and energy initiatives highlighted in Extract 2 could affect the UK’s budget position. | | [4] |
| **(e)** | **(i)** | With reference to the data, to what extent do you agree with the statement that “out of all the market failures, public goods is the biggest”? | [6] |
|  | **(ii)** | Flood defence should be directly provided by the government. Discuss. | [8] |

[Total: 30]