

Q1.

Population = 100000 [living nearby to Mount St John]

Reduction of chance of risk to life = from 2% to 1% = 1% = 0.01

Monetary value = $100000 / 0.01 = \text{£ } 10,000,000 = \text{£}10\text{m}$

Which is about $\text{£ } 10,000,000 / 100000 = \text{£}100$ per person to reduce the risk from 2% to 1%.

If we consider the $\text{£}100,000,000$, then it comes to $\text{£}100,000,000 / 100000 = \text{£}1000$ per person.

To prevent the loss of life through natural disaster governments has to spend money on preventative actions. As the risk to life is only 2% and in order to reduce it to 1%, $\text{£}10,000,000$ [£10m] is a justifiable amount.

Q2.

A risk of a fatal crash 5 in 100000 to reduce to 4 in 100000

We could save 1 statistical life

Assuming that people are willing to pay £100 to reduce a fatal accident

The cost to reduce number of deaths from 5 to 4 = $100000 / (5-4) \times 100 = \text{£}10\text{m} / 1$ saved life
= **£10m per statistical life**

The estimated VSL would depend on the assumptions which are based on the surveys about hypothetical decisions. For instance the questions the respondents are asked with such as how much they would be willing to pay to reduce risks of fatal accidents.

UK's figure of VPF is £1, 800,000 and according to P J Thomas and G J Vaugton's 2001 figures the VPF should be around £1,000,000.

As such the assumption of £100 that people are willing to pay to reduce death in road accidents looks to be too costly.

Q3.

There will be problems in determining precise values of risk reductions people are willing to pay. Some people might put very low values depending on their financial situations than others. Also people doing higher risk work would want more value to safeguard their lives. On the other hand people do not really know what risks they are taking when they make their choices, and then it may not give a good estimate.

Contrastingly if we use absolute figures it might not be correct, as some people do not report accidents to authorities. Also the figures might be misleading to people as the absolute figures might be confusing without a certain population base rate.

Q4.

Human capital approach = 40 years x £25000 = £1000000 = £1m

In human capital approach is based only on work and no other variables are considered.

Through Q2 = £10m [this figure could change with the assumption of amount people are willing to pay to reduce risk. If we consider this as £10, $100000/5-4 \times 10 = £1m$]

This depends on the answers to the hypothetical questions given to a selection of people and their attitudes towards risk and the amounts they are willing to pay.

The human capital approach amount of £1m vastly differs from my answer of £10m, as my assumption of the amount a person willing to pay to reduce risk of £100; the UK widely use VPF of £1.8m is closer to £1m, irrespective of the criticism of the method.