World Economics Cup

Thinking and Innovation (Sample Questions)

Instructions

This is a sample for the Thinking and Innovation module of the competitive events of the World Economics Cup.

Thinking and Innovation is a creative economics competition that tests students' abilities to solve economics problems and to solve problems by economics. Solving economics problems focus on testing students' economics knowledge in forms of standard questions, while solving problems by economics encourages students to apply economics knowledge to solve specific social or business problems, where are no standard answers.

This is a presentation event. You will have a given topic to solve and present. The topic has a background introduction that gives you a general idea of the topic. Four free-response questions are related to the topic, consisting of **3 short answer questions and 1 problem-solving question**. You need to **answer all the given questions in your presentation**. Participating as a team, **all team members** must participate in the presentation.

The topic with introductions and questions will be given in advance so that you may prepare the presentation. **The presentation time is 15 minutes**. You may use visual aids or equipment in your presentation. You need to submit the presentation video before the due time.

Tutorial

To assist you to achieve better performance in this competitive event, you may want to spend some time reading this brief tutorial.

1. About topics

The topic is not a typical economics issue that you may encounter in your economics exams. Instead, they are more like social issues that you must have heard about. You should carefully read the topic introduction to establish a general idea about the topic, and try to think about it from an economic perspective. Thinking like an economist is the key to success in this event.

2. About short answer questions

The short answer questions are economics questions that you are trained through economics classes and exams in school. These questions are to examine whether you can apply certain economics knowledge or theories to analyze a specific phenomenon or accomplish a specific task. For example, you are asked to identify the equilibrium price by identifying supply and demand in a market.

To solve short answer questions, you should reflect on your economics knowledge that you have acquired in school. In these question descriptions, the specific economic theories that should be used to solve the question are named in the question clearly. Follow the instructions in the question descriptions, and make sure your answers meet the requirements.

3. About problem-solving questions

Different from economics questions, the problem-solving questions focus on examining students' abilities to solve problems by economics. The problem you are going to solve is not an economics problem but a general problem we face. There is no standard economics theory you need to master or learn in order to solve the problem. You just need to develop your own theories (just like those famous economists) and find a solution based on your own explanations and observations. Some existing economics theories may help, but they will not be specifically defined in the question.

For this kind of question, here is a simple three-step process to facilitate problem-solving.

Step 1 – Understand the problem.

Although the problem that you need to solve is clearly defined, you still need to think about factors of the problem. What you should do is to understand the problem from an economic perspective, which will eventually be about how scarce resources should be allocated. While the question is asking you to give solutions to a specific problem, you should never jump to solution statements. A clear and logical analysis about the problem will not only help to organize your thoughts, but also make you a huge plus.

Step 2 – Determine solutions.

As long as you identify the factors of the problem, you can propose possible solutions to deal with one factor or several factors. One of the fundamental mission of economists is to help make better plans, strategies and decisions using economics principles. If you have read any paper or journal in economics, you will always find in the end suggestions from diverse perspectives about how to make things better.

You now should generate as many ideas as possible to solve the problem, and write them down on scratch paper. Let the topic introduction and the previous economics questions inspire you. This is much like a creative thinking process. You can think about the solutions from various perspectives including but not limited to policy making, business practices and consumer behaviors. To make it even simpler, you can ask yourself "what _____ can do to solve the problem?" The blank can be filled with the related parties in the identified problem.

Be careful that the gross ideas should not be delivered before they are evaluated. It means you need to assess whether each idea is logic, reasonable, effective and feasible. Be careful that it is not the case that the more solutions the higher scores. Only sound solutions for different perspectives and with supportive economic explanation will be scored.

Step 3 – Validate your solutions.

This is the most crucial part in your solution statements. You need to support your statement with economic theories, evidences and logical reasoning. Economics theories are accumulated in your in-school study, while evidences may come from your daily life experience. Some very basic and common economic theories include but are not limited to supply and demand in short run and long run, marginal cost/product/benefit/utility, opportunity cost, private and social cost/benefit, profit maximization, etc.

Here are 10 principles of Economics to inspire you when thinking about a specific problem:

1) People face trade-offs, while society also faces trade-off between efficiency and equality.
2) The cost of something is what you give up to get it.
3) Rational people think at the margin.
4) People respond to incentives.
5) Trade can make everyone better off.
6) Markets are usually a good way to organize economic activity.
7) Governments can sometimes improve market outcomes.
8) A country's standard of living depends on its ability to produce goods and services.
9) Prices rise when the government prints too much money.
10) Society faces a short-run trade-off between inflation and unemployment

One important approach to demonstrate logic is to explain in charts. Economists develop diverse charts to demonstrate their theories. So can you. The majority of two-factor relationship can be demonstrated in chart. Just reflect what you learnt in your economics textbooks. Some of the most classical representations of relationship have been taught to you already, including:

- A direct line (descending or ascending) and its steepness (or elasticity)
- A curve and its marginal change
- An intersection or a tangency of lines and curves
- Movement and rotation of lines and curves
- Area that represents the multiplication of the two variables

Here is a suggested thinking map for you to answer the problem-solving questions:

The problems is about … [analysis of the problem] …
…
…
…

Solution 1: _____ [one sentence description]

To solve the problem, we can … [concrete descriptions]
…
…
…

The solution is feasible because … [using economic theories to validate the solution]
…
…
…
[explain in charts]
…
…

Solution 2: …
[same as solution 1]

Solution 3: …
[same as solution 1]

In conclusion, … [conclusion and summary]
…
…
…

4. About the scoring system

The presentation will be scored of 150.

- Scoring short answer questions (maximum 50) will be based on the standard answers.
- Scoring problem-solving questions (maximum 100) will be based on the following dimensions.

Dimensions	Not Demonstrated	Below Expectations	Meets Expectations	Exceeds Expectations
Deep understanding of the problem	No analysis of the problem.	Problem is analyzed but not form an economic perspective.	Problem is analyzed from an economic perspective.	Problem is analyzed from an economic perspective and has a unique point of view.
0-10	0	1-4	5-7	8-10
Diversity of perspectives of solutions	No reasonable solution is provided.	Only one solution or multiple solutions but from one perspective are provided.	Two reasonable solutions from different perspectives are provided.	Three or more reasonable solutions from different perspectives are provided.
0-15	0	1-6	7-11	12-15
Correct application of economic theories	No economic theories are applied.	Only one economic theory is applied or multiple theories are applied but incorrectly.	More than two economic theories are correctly used in analysis or validation.	More than three economic theories are used correctly and naturally in analysis and validation.
0-25	0	1-10	11-20	21-25
Effectiveness of explaining in charts	No explaining in charts.	Only one chart is drawn or multiple charts are drawn but meaninglessly.	More than two charts are correctly drawn and used in analysis or validation.	More than three charts are correctly drawn and used in analysis and validation.
0-25	0	1-10	11-20	21-25
Logic reasoning and evidences	No logic reasoning or evidence.	Superficial logic reasoning analysis and validation.	Both logic reasoning and evidences are used in analysis and validation.	Logic reasoning and evidences are used throughout the answers with a clear structure.
0-25	0	1-10	11-20	21-25

Sample Topic: Increasing Obesity

Topic Introduction

Obesity has significantly increased in recent decades. In the US, nearly 35% of Americans have obesity. Obesity is not just a problem of "girth control", but more seen as a serious public health issue as higher rates of obesity are associated with lower life expectancy and a rise in health issues, such as diabetes, heart disease, stroke and others.

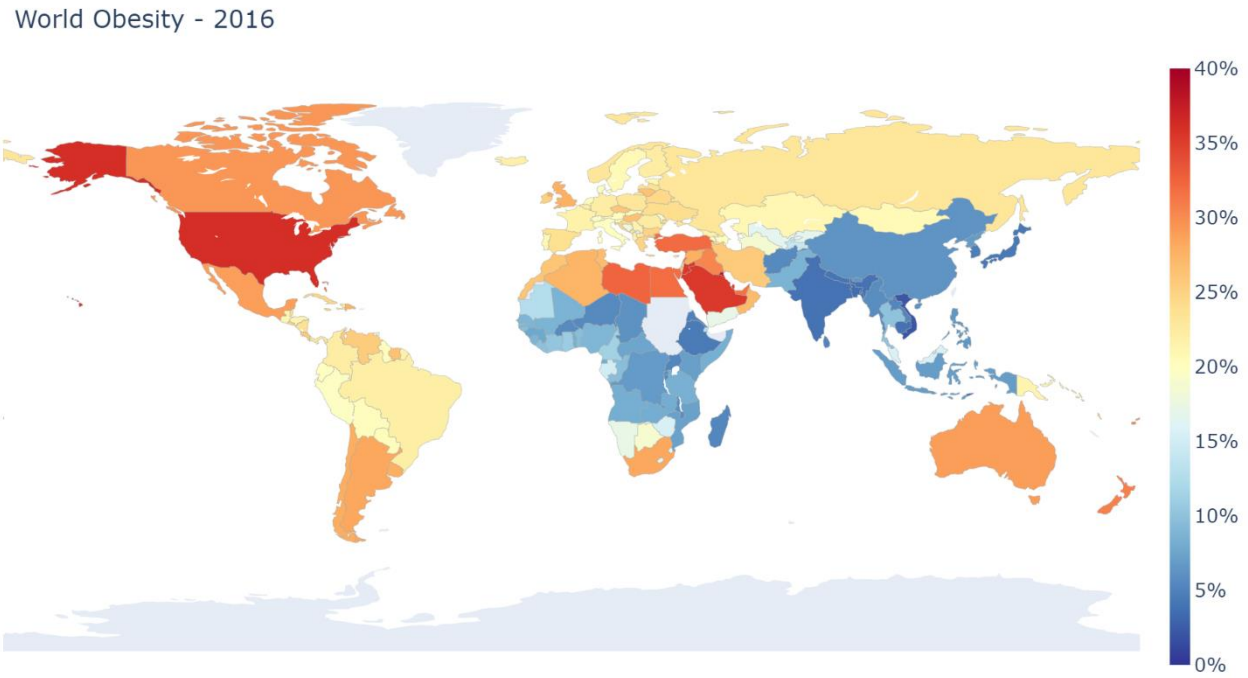

Figure 1: World Map of Obesity in 2016

Common causes of obesity include:

- Genetics
- Physiological influences
- Food intake and eating disorders
- Sedentary lifestyle
- Weight history
- Pregnancy
- Drugs like steroid hormones and drugs used to treat psychiatric conditions

The increasing obesity has caused various negative impacts on society. Obesity has taken a toll on health care costs across the US—estimated between $147 billion and $210 billion in direct and indirect health care costs, as of 2010. Medical costs for individuals with obesity were calculated to be $1429 higher in 2006 than for those of normal weight. Lifetime medical costs for a 10-year-old child with obesity are staggering: about $19,000

compared with a child of normal weight. When multiplied by the number of 10-year-olds with obesity in America, lifetime health care expenses are estimated to be $14 billion.

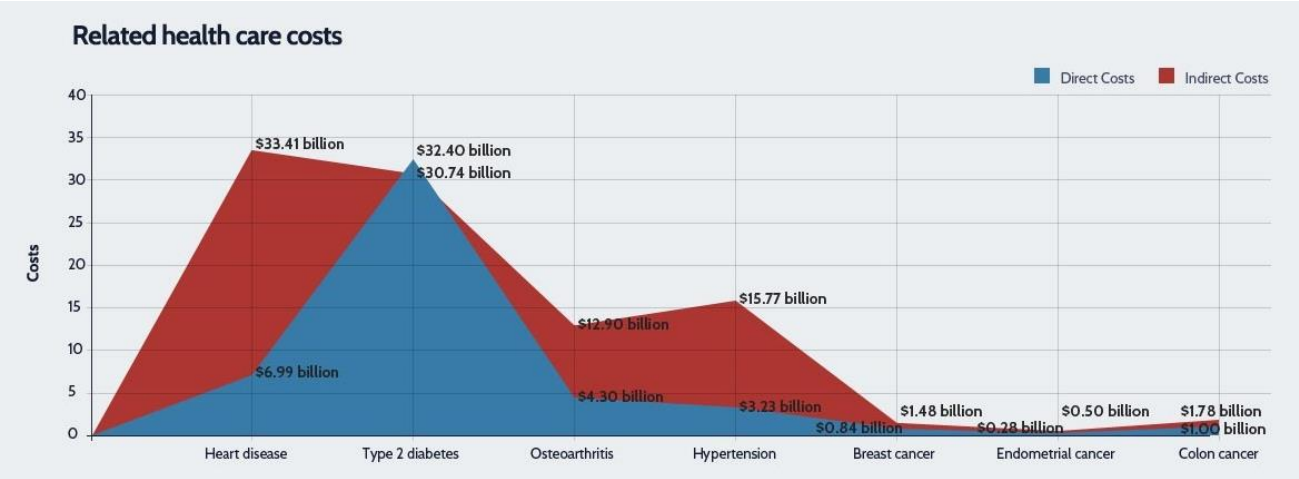

Figure 2: Health Care Costs Related with Obesity in the US

What's more, in the workplace, decreased productivity and increased absenteeism due to overweight and obesity is a huge economic burden on our society. Absenteeism related to obesity costs an estimated $4.3 billion per year, and lower productivity on the job costs $506 per employee with obesity each year. The greater an individual's BMI, the higher the number of sick days and medical claims—and a worker's medical costs also increase with obesity. In addition, employees with obesity have higher workers' compensation claims.

The cost is more than just financial, however. Obesity can lead to early mortality and increased susceptibility to other diseases, and can have an incalculable impact on quality of life, as well as on the family.

Free-Response Questions

[Short answer] 15p

1) **Identify at least three obesity externalities. Be specific and discuss how, and to what extent, they harm society. Demonstrate the social efficiency and welfare loss in the chart.**

[Short answer] 15p

2) In economics, taxing is a common strategy to deal with externalities. In the case of obesity, excess consumption of sugar is linked to increasing obesity problem. In 2018, the UK government placed a tax on sugary drinks, depending on levels of sugar in the drink. After two years, researchers found a clear trend of lower demand for high-sugar drinks. **Explain in the economics perspective of externalities how the tax imposed on sugar drinks works to help against obesity. Demonstrate in the chart how much the sugar tax should be.**

[Short answer] 20p

3) It is well known that obesity does bring about many negative effects both on individuals or on the whole society. Then, why is there still a lot of obese people that well know the downsides but don't like to take actions to lose weight? Behavioral economists, interestingly, call this situation "rational obesity". Peter A. Ubel says in his book, "people are imperfect, but consumer behavior is nearly perfect, so we scientifically assume that consumers make rational choices." **Explain the "rational obesity" with the economic theories of opportunity cost and marginal utility.**

[Problem-Solving] 100p

4) The increasing obesity is becoming a significant public health concern. Countries across the world have come up with different strategies to reduce obesity. **Besides the sugar taxes mentioned above, what else can help to solve the obesity issue? Think from as diverse perspectives as possible. Demonstrate why each strategy can work with economics analysis and logic reasoning.**