

Name: _____ Index Number: _____ Class: _____



DUNMAN HIGH SCHOOL
Preliminary Examination
Year 6

Higher 3 Economics

Paper 1

9809/1

26 September 2017

Additional Materials:

Writing Papers

String

0830 – 1145

3 hours 15 minutes

READ THESE INSTRUCTIONS FIRST.

Write your name and Civics Class on all pieces of work handed in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.

Section B

Answer **two** questions.

Write your answers on the separate writing paper provided.
Please start on a **fresh** sheet of paper for a new question.
The number of marks is given in brackets [] at the end of each question or part question.
At the end of the examination, fasten all your work securely together, using the string provided.

This document consists of **7** printed pages including this cover page.

[Turn over

Section A

Answer **all** questions in this section.

Question 1 Economics of Terrorism

Extract 1: Is the Fear Rational?

Americans are more afraid of terrorism than they are of guns, despite the fact that guns are 3,210 times more likely to kill them. Baruch Fischhoff, a decision scientist at Carnegie Mellon, said that the unpredictability of terrorism can make it scarier than something like a car crash. "Terrorism is not like motor vehicle accidents, where past performance predicts future performance," he said. "Terrorism could change and it's not irrational for people to react differently to an uncertain risk."

Rothschild, emeritus professor at the University of Wisconsin, blamed politicians for overstating the terrorist risk. Media saturation is also to blame. Having ready access to images of every atrocity known to mankind makes us prone to what behavioral scientists call "availability bias," the tendency to give weight to what comes to mind most easily. The blanket coverage of the September 11 attacks successfully seared the images of terrorism on our brains; shootings, which happen every day and—with the exception of a few mass shootings—are largely ignored, have less of an effect.

"We over-react to visible threats," said Max Bazerman, co-director of the Center for Public Leadership at the Harvard Kennedy School, and an expert on decision-making. "When there is someone out to get you, it is more visible than when you are silently dying in a hospital."

Adapted from Quartz (2017), <https://qz.com/898207/the-psychology-of-why-americans-are-more-scared-of-terrorism-than-guns-though-guns-are-3210-times-likelier-to-kill-them>. Accessed on 11 August 2017.

Figure 1: Various Lifetime Risks (US Population only)

Cause of death	Lifetime risk
Heart disease	1 in 7
Any injury	1 in 21
Suicide	1 in 98
Any motor vehicle incident	1 in 113
Murder (Criminal homicide)	1 in 249
Airplane and spaceship incidents	1 in 9738
Animal attack	1 in 30,167
Foreign-born terrorist (all forms)	1 in 45,808
Tornado	1 in 60,000
Shark attack	1 in 8,000,000

Sources: National Safety Council (2016), National Center for Health Statistics (2013), Cato Institute (2016).

Extract 2: Economic Impact of Terrorism on Business

In the 15 years since the 11 September terrorist attacks, terrorism and its tragic consequences have become transnational in nature and in impact. Terrorism moved from an unquantifiable uncertainty to a risk.

There have been 5,367 so-called “effective” attacks recorded by the Global Terrorism Database since 2001 directly targeting businesses, with or sometimes without loss of human life. This equals, on average, 1.1 terrorist attacks each day on business by what is recorded as global terrorism.

For example, an attack on a Tunisia hotel in the Port El Kantaoui in 2015 was estimated to cost the business about £32m, and its effects are ongoing. These attacks also impact the local, national, and often international economy.

Value Chain Impacts

In a globalised world companies can move and reconfigure production and most other components of the value chain from one country to another. Corporate investment and contracting tends to migrate to less risky countries and suppliers or partners based there because of terrorism. Terrorism causes high friction and transactions costs, warehouse risks, disruptions in logistics, costs of border control and governmental regulations and much more. This makes fragmented production across borders more vulnerable.

The price paid by businesses (and society) is vast. A US Trade estimate report calculated that shipping delays associated with terrorism were equivalent to a tariff rate of 2% by 2006.

Sales, Marketing and Brands Management

Customers fear uncertainty. Consumers of global brands react to terrorism by going local and avoiding brands originating from the countries where the attacks occur. The consumer is not prepared to pay the premium for such a brand in such contexts.

Local feels safer, though only in the short to medium term. Adapting a brand to account for these reactions from consumers takes time and significant resources. The more global terrorism strikes, the harder it gets. The more resilient the consumer and the brand is, the better.

Because companies are victim to terrorism unwittingly, a move from lean to diversified brand strategies supports resilience. One example is Toyota. Its Land Cruiser SUVs and Hilux pickup brands and products have been prominently used by some terrorist groups, so the company switched to rely on its other brands for revenue growth.

The Winners and Losers in Business

Terrorism brings advantage to some business sectors. Some corporations have become resilient enough, often through diversification, to get some competitive advantage from their

capacity to handle terrorism shocks. These companies can thrive despite (and sometimes within) hostile environments, or to cope with the costs of supply chain expansion.

Businesses increasingly want to set up operations with the ability to shift production. Firms locate into hostile environments to gain knowledge on how to manage people in such contexts. For example, tech companies have entered countries such as South Sudan, Yemen and Afghanistan through direct investment, such as those made by the Swedish telecoms firm TeliaSonera.

Terrorism might shock developed and well-resourced organisations, but it primarily kills the weaker ones. Larger firms are able to assess and manage terrorism as a risk. However, small and medium sized enterprises suffer most, as they are dependent on value chains to function well and include them in the long term. These businesses also often have scarce resources.

Adapted Economia (2016), <http://economia.icaew.com/en/features/september-2016/calculating-the-economic-impact-of-terrorism-on-business>. Accessed 6 August 2017.

Extract 3: Game Theory and Counter-Terrorism

Most definitions of terrorism agree that this phenomenon is designated as an act of violence applied to achieve the aims through intimidation and fear. Research on application of methods of game theory on terrorism began in the 80s of the last century. Game theory can be used in designing future anti-terrorism policies.

An example is the implementation of security measures among countries. Sandler and Arce use Game Theory to describe what they call "races in intimidation" among countries. There are two potentially vulnerable countries by one terrorist group. If one country increases security costs, costs associated with the terrorist attacks are increasing. But it also represents a negative externality of the other country, because the costs of terror attack in the other country is relatively declining. Consequently, the second country increases its security costs, because it wants to reduce probability of being attacked as an alternative target. If the other country will increase security measures (and associated costs) above the first country, the negative externality is poured on the first one. Such a scenario suggests that countries overestimate the costs necessary to ensure their safety.

Adapted from Fuka, et al (2012), *Game Theory Application on Terrorism* in Advance in Economics, Risk Management, Political and Law Science. Available at <http://www.wseas.us/e-library/conferences/2012/Zlin/EPRI/EPRI-37.pdf>. Accessed on 10 August 2017.

Extract 4: Responsible Counterterrorism Policy

Terrorism is a hazard to human life, and it should be dealt with in a manner similar to that applied to other hazards—albeit with an appreciation for the fact that terrorism often evokes extraordinary fear and anxiety. Although allowing emotion to overwhelm sensible analysis is both understandable and common among ordinary people, it is inappropriate for officials charged with keeping them safe. To do so is irresponsible, and it costs lives.

At present, the decision making for counter-terrorism is exceptionally risk averse. Decision makers appear to be overly fearful about negative reactions to any relaxations of security

measures that fail to be cost-effective. If other uses of the funds available would more effectively save lives, a government obliged to allocate money in a manner that best benefits public rather than recklessly waste resources.

Cost Per Saved Life

United States spends about \$100 billion per year seeking to deter, disrupt, or protect against domestic terrorism. If each saved life is valued at \$14 million, it would be necessary for the counterterrorism measures to prevent or protect against between 6,000 and 7,000 terrorism deaths in the country each year. The total number of people killed by terrorists within the United States fewer than 2 per year.

Acceptable Risk

Another way to approach the issue is to compare the annual fatality rates caused by terrorism with those caused by other hazards (see Figure 1). It leads to a consideration of the central analytic issue of acceptable risk. Is the likelihood of being killed by the hazard unacceptably high, or is it low enough to be acceptable? That is, just how safe is safe enough? In general, risks are deemed unacceptable if the annual fatality risk is higher than 1 in 10,000.

Applying conventional standards, then, terrorism under current conditions of threat and security spending presents a hazard to human life in the Western world that is, in general, acceptable, and efforts, particularly expensive ones, to further reduce its likelihood or consequences are scarcely justified.

Cost-Benefit Analysis

Cost-benefit analysis brings the issues of acceptable risk and the value of a saved life together and puts them into a broader and fuller framework. The conventional approach compares the costs of a security measure with its benefit as tallied in lives saved and damages averted. The benefit of a security measure is a multiplicative composite of three considerations: (1) the probability of a successful attack absent the security measure, (2) the losses sustained in a successful attack, and (3) the degree to which the security measure reduces the risk by lowering the probability and/or the consequences of a successful attack.

We assume that homeland security measures in place before the 9/11 attacks continue, and we evaluate the cost-effectiveness of the additional funds that have been allocated to homeland security. By 2009 that increase totalled some \$75 billion per year. That is a very conservative measure of the degree because it excludes such items as hidden and indirect costs of implementing security-related regulations, and costs of the terror-related wars in Iraq and Afghanistan.

Putting it all together, we find that, for added homeland security expenditures of \$75 billion per year to be deemed cost-effective under our approach—1,667 successful attacks comparable to the one attempted on Times Square in 2010 would have to happen each year without any security measures in place—that is, more than 4 per day. If the added measures managed to deter, disrupt, or protect against 45 percent of them (two a day), they would begin to become cost-effective. That hardly seems plausible.

In an important sense, the most cost-effective counterterrorism measure is to refrain from overreacting. 9/11 not only led to considerable indirect costs as people avoided flying and traveling for a time, but the attacks were also used to propel the United States and its allies into costly overseas wars. This (self-inflicted) part of the cost of the terrorist attack, do far more damage to the attacked than the effort of the terrorists. These reactions are considered to increase the costs of counterterrorism, they are likely to render almost any counterterrorism security measures cost-ineffective: if an increase in counterterrorism spending of \$75 billion per year fails to be cost-effective as we have suggested, an increase of several times that amount will be even less cost-effective

Risk Communication

Officials who seek to expend limited funds in a manner that best enhances public safety should be risk neutral: insofar as that can be determined, they should deal with the objective likelihood that the hazard will occur and should rely on that in their decision making. Although we understand that people are often risk averse when considering issues like terrorism, we follow the Office of Management and Budget requirement that governments expending tax money in a responsible manner need to be neutral when assessing risks, something that entails focusing primarily on mean estimates in risk and cost–benefit calculations, not primarily on worst-case or pessimistic ones.

The willingness to accept risk, however, is influenced not only by its objective likelihood but also by a considerable variety of psychological, social, cultural, and institutional factors. These factors (non-exhaustive) include the uncontrollability of the risks, the inequitable distribution of risk, whether the risk is increasing or not observable, the dread they inspire, and their involuntary nature or catastrophic potential.

It is important, then, for officials to communicate risk objectively. If they can convince their constituents to adopt a risk-neutral perspective, they will be in a far better position to expend public funds in ways that most enhance public safety. Yet although there is a fundamental responsibility to inform the public honestly and accurately of the risk that terrorism presents, the emphasis has been on exacerbating fears.

Adapted from Mueller and Stewart (2014) *Responsible Counterterrorism policy in Policy Analysis*, no. 755. Cato Institute.

Questions:

- (a) Explain, using a relevant concept, why the fear of death due to a terrorist attack is irrational. [6]
- (b) Discuss how terrorism has affected the strategic decisions of MNEs. [8]
- (c) Explain how Prisoner’s Dilemma theory contributes to the understanding of counter-terrorism policies. [6]
- (d) Using relevant economic concepts on decision making, discuss whether US counter-terrorism expenditure is justified. [10]

Section B

Answer **two** questions from this section.

2. Decision making does not necessarily need to be rational, as long as it is predictably irrational. Discuss. [35]

3. “The idea of any business being truly independent is simply untrue. Success in business doesn’t come by setting your organisation apart from customers, employees, partners, suppliers, communities and, yes, the environment.” – R. Bruer. [35]

Discuss how firms are interdependent and the strategies they can take to sustain competitive advantage.

4. Uncertainty, risk and asymmetric information affect how markets operate. Evaluate how they affect incentives and optimal choices as well as the counter-measures that can be taken. [35]

5. “Something has gone badly wrong in the emerging economies that were supposed to be shaping, even dominating, the future of the world. The search for culprits is under way: commodity prices, fracking, U.S. interest rates, El Nino, China, these and others lead the field. But the answer is simpler and more traditional. The main determinants of an emerging economy’s ability to emerge, sustainably, are politics, policy and all that is meant by the institutions of governance.” – Project Syndicate [35]

Discuss the extent to which institutions is the main determinant for the sustainable growth of economies.

6. Explain the benefits derived by host countries of MNEs and evaluate the different conflicts that arise in emerging and advanced countries due to the presence of MNEs. [35]

End of Paper