

EXAM GUIDELINES HECON 4100 October 8-th 2020

The requirements for a home exam will typically differ somewhat from a standard exam since the questions, in the first case, tend to invite the candidates to undertake more discussion-like answers. This means to provide several arguments and try to discuss their relevance. Furthermore, the answers to the questions raised will to a lesser extent be covered by lectures and textbooks, thus it is not so much about correct or wrong answers. An assessor will typically look for the candidates' ability to apply the basic idea of economics and health economics into analyzing a particular topic (the degree of understanding of the discipline). Furthermore, both the presentation and the structure of arguments become relatively more important than is the case for standard exams. This means that figures and graphs should be carefully presented and commented upon, and the text should be adequately structured.

Below, I will briefly suggest (mainly by presenting some key words) what relevant answers could/should contain. To provide a complete list of "correct" answers is not possible since there are much variation in how to approach most of the questions raised in this particular exam.

Question I: The costs and benefits of Preventive Policy Measures (PPMs) (weight 15%)

a) Give examples of various PPM that are applied to prevent COVID-19

Important examples are;

Testing, routine cleaning and the wearing of masks.

Social distancing (home isolation, quarantine)

Social abstency (school and work place close down, home-office, mass gatherings, routine cleaning)

Lock-down

Sectors: tourism, restaurants, bars and pubs, universities and schools (service sectors).

b) What are the possible social benefits and social costs that follow from the implementation of PPMs.

Benefits: Less illness, less death, reductions in health care costs

Costs: Life-quality reductions, mental health problems (feeling isolated, loneliness), income losses for firms and consumers, higher production costs for firms and organizations (lower efficiency), bankruptcy. PPMs also means that less resources becomes available for health care treatments that not are a consequence of COVID-19 (a lower general treatment capacity) – possibly experiencing an increase in non-related COVID-19 health problems. .

- c) **As concerning the social costs that follow from PPMs, explain how such costs may affect the supply-side and the demand-side of markets (and sectors), respectively.**

Supply – side: Productivity down due to a lower work-force/less effective work force; Higher production costs, a lower access to production inputs (less trade).

Demand side – lower income due to unemployment thus less demand for goods and services.

The impact for services are typically expected to be more significant (personal meetings) than for goods.

A good idea would be to draw a market figure of a market and introduce the relevant shifts in the demand and supply curve. .

Question II: COVID-19 prevention and social efficiency

The first three questions could be answered by using the framework presented in the lectures (on health care quality)

- a) **Explain what will characterize the social optimum level of PPMs**

(tip: present figures that include costs and benefits and let e denote the total amount of effort invested into the activities that prevent the spread of COVID-19 (sum of PPMs) and let e^* denote the social optimal level of such effort.

One possible answer: Marginal benefit equal to the marginal cost (draw figures and explain carefully)

- b) **Describe the social surplus that follows from reaching the social optimal level of effort (e^*), relatively to the case where no such effort is invested ($e = 0$)**

Identify the social surplus (and deadweight losses) in the figure and explain carefully

- c) **Assume an effort level, $\tilde{e}$, that is lower than the optimal level ($\tilde{e} < e^*$) and describe what the deadweight loss will be in this case. Assume an effort level, $\bar{e}$, that is higher than the optimal level ($\bar{e} > e^*$) and describe what the deadweight loss will be in this case.**

Identify the social surplus (and the deadweight losses) in the figure and explain carefully

- d) **Given the absence of governmental intervention (the implementation of PPMs), one would expect that the market itself (consumers and producers) would take voluntary action to reduce the spread of COVID-19. Discuss to what extent one would expect such voluntary actions to realize the social optimal level of PPMs?**

The presence of positive externalities from information and other PPMs may imply that voluntary action will not be optimal. Some people tend to internalize only own risk from own behavior and

not the reductions in risk that occur for others members of society. For example, young people, will not carry much personal risk and may not invest much in PPMs. They need to be constrained.

In order to achieve an optimal investment into PPMs.

Question III: The choice of PPMs

There are numerous types of PPMs that might be implemented to reduce the spread of COVID-19. We also observe variation across countries as concerning the chosen PPMs. As a health economist, when choosing among several possible PPMs, what are desired properties of the PPMs that are to be preferred from an economic point of view.

A good answer would here be to choose the types of PPMs that produce the lowest cost-effect ratios. An alternative would be to say “implement those PPMs for which the social benefits exceed the social costs. Another concern that could be mentioned is distributive issues. Should we focus on PPMs that do not represents a significant burden for the non-wealthiest groups in society.

Question IV: The role of relief packages

Some governments have introduced various transfers (relief packages) to compensate consumers and producers for their expected income losses in connection with the implementation of PPMs (redistributive measures). Discuss if such relief packages are expected to impact the behavior of firms and consumers?

An answer mentioning lower income/lower demand for consumers and/or lower supply/revenues of firms is only partly satisfactory. A more interesting answer would be to say that the behavioral effects will depend on the criteria for receiving a particular relief package.

Depending on the criteria, some producers will prefer to temporary close down instead of finding new ways of meeting demand. Consumers might not have sufficient incentives to search for new jobs.

It would also be possible to discuss whether moral hazard are likely – will a relief package imply that agents know that they will be bailed-out in the future, if new pandemics occur? Or is the future pandemic probability exogenous. Will relief packages (insurance) increase some type of behavioral risks.

An issue that also could be discussed is the incentives for fraud (some will claim benefits).

Question IV: Vaccine development and the prevention of future pandemics (weight 15%)

Other social and economic challenges being related to pandemics (and epidemics) are; (i) the development of effective vaccines, (ii) the distribution of the effective vaccines, and, (iii) the prevention of future outbreaks of pandemics. Discuss if governments should be involved in solving each of these three challenges, or, should they be left to the market alone?

A good way of approaching these questions is to discuss each question separately since the “correct” answer is likely to differ across the three.

The development of effective vaccines – patents might ensure proper market research and development incentives (solving the the public good problem associated with R&D)

The distribution of effective vaccines – to provide access to all, public financing might be necessary. Furthermore, if private wealth is deciding on who get access, the result may not be very effective. Governments might prioritize better between groups (vulnerable groups, health care workers etc.).

The prevention of future outbreaks – this brings “readiness” into the problem. Readiness (or capacity to handle such a problem) is a public good (e.g. surveillance systems) and currently there are no other institutions, except WHO, that may handle such challenges. Another dimension is that such a challenge needs a global solution – thus international cooperation is vital (e.g. the development of global health plans).