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# PADM-GP 2442

## Economic Policy Analysis

### Midterm Spring 2020

Please insert your answers below and submit either as is (as a Word document) or as a PDF online on **March 12<sup>th</sup>, 2020, by 11:45 p.m. via NYU Courses**. If all else fails, just email it to me at [gwagner@nyu.edu](mailto:gwagner@nyu.edu).

For the first 45min, through 7:30 p.m., I will also be available via Google Meet to answer any questions you may have: [meet.google.com/xxxxxxxxxxxx](https://meet.google.com/xxxxxxxxxxxx). Please read through all questions by then to make sure everything is clear.

If you have any further questions by ~10:00 p.m., please text me at xxx-xxx xxxx.

This midterm is "open-book." Please consult any and all class materials, including your notes from class discussions.

Feel free to use Excel or any other program you may need, but show *all your work* in the pages below.

Total: 100 points (20% of your course grade)

Think of each point equal to a minute you should be spending on that particular question. Point values for each question are highlighted in **red**.

**You are a well-trained senior policy analyst in the NYC Mayor’s office. Your brief is climate change.**

**Climate is long-term, it’s global, it’s uncertain, and it’s irreversible. It’s what one NYU Wagner prof once called the world’s “most perfect” public policy problem.**

**Now imagine a fast-moving infectious disease—call it “Covid-19.”**

**Much like climate, there is no easy technofix. There is no vaccination.**

**It spares no one. Tom Hanks and Rita Wilson have it. The head of the New York Port Authority and his wife, the head of the Central Park Conservancy, have it. Iran’s Vice President, the UK’s Health Minister, and France’s Culture Minister all have it. Ted Cruz is in self-quarantine. [Note to self: Insert inappropriate political joke here.]**

**Congratulations, you are now in charge of all analytics for NYC’s Covid-19 response.**

**You have until 11:45 p.m. to decide whether to shut down New York City *tomorrow* morning.**

**This is not a drill.**

Let's first get a handle of the size of the problem. As of 5:30 p.m. today, there were [328 confirmed cases](#) in the State of New York. Infections increase by around 33% per day.

1. How long, in days, will it take for infections to double? (5 points)

2. How many cases, without action, can we expect after three weeks? (5 points)

It is now \_\_\_\_\_ p.m. (1 point).

You take a deep breath.

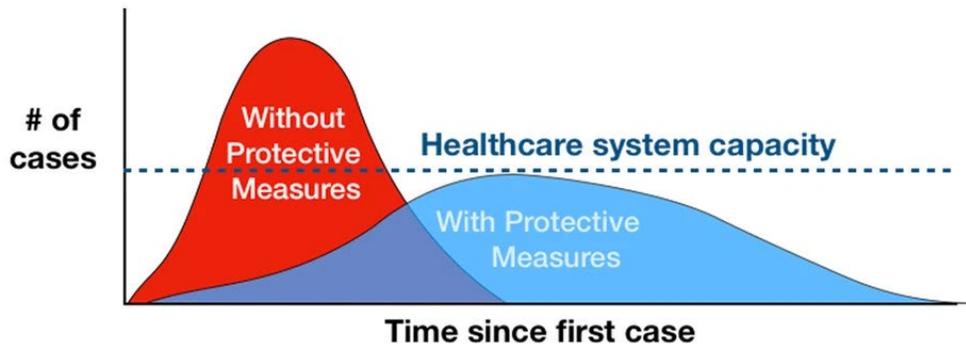
You begin typing a memo to your boss. [Narrator: it's actually me, your prof].

You decide to text him instead. [Still me.]

You text xxx-xxx xxxx, making sure to include your name, your answer to question 2, and either "Yes," for shut down tomorrow, or "Not yet," for not to. (2 points)

[I will respond immediately. A lot of the rest of the exam depends on you getting the answer to question 2 right. I will text you the correct answer either way.]

3. You know well that climate is all about “bending the curve” of emissions. Covid-19 is about “flattening the curve.”



*Adapted from CDC / The Economist*

You begin typing your memo. Please explain what “flattening the curve” means practically. (Hint: Think back to questions 1 and 2; 5 points)

4. OK, time for a quick benefit-cost analysis. (You knew there would be a BCA.) Instead of years or decades, for climate, everything here is in *days*.

The right discount rate for your BCA, thus, is effectively zero. (Phew!)

Write the standard BCA formula for a decision with a zero discount rate. (5 points)

5. Sixty percent of those working in Manhattan work in an office. Working in an office makes them 10% more productive compared with working from home. Otherwise, there is no cost to asking—telling—each of them to stay home for three weeks. Their average annual salary is \$100,000.

Two million people work in Manhattan each day. (Sorry, Manhattan = NYC here.)

What is the cost to *society* for these workers to work from home? (5 points)

6. Forty percent of the 2 million people working in Manhattan are not salaried. If they do not come to work, they don't earn any money. Moreover, the City grinds to a halt. Their average annual salary is \$40,000. What is the total cost to society for these 40% of workers to stay home? Calculate the "direct"/"naïve" costs to society (5 points), and the rough, total cost based on 5 and 6 (2 points).

7. So far we have focused on the (direct/narrow/naïve) costs of a total shutdown of the City. What are the benefits? Explain in words and provide a rough, comprehensive benefit-cost analysis. Help me think through your thought process. Write either an actual memo (aided by your calculations), or simply a bullet point list of the key points to consider. (35 points)

It is now \_\_\_\_\_ p.m. (1 point).

You take another deep breath, and a drink of water.

You text xxx-xxx xxxx, making sure to include your name, and a quick recommendation: either “Yes,” for shut down tomorrow, or “No,” for not to, and a ~140-character explanation as to why (5 points)

Write the explanation here, too:

8. **Why does it take government to step in to decide to shut down NYC (or not to); i.e. why don't individuals or individual businesses make the right decision—right, that is, for society as a whole? (10 points)**

9. We discussed hyperbolic discounting in class. Explain the idea and how it applies here. (10 points)

**10. Will/would you go to work tomorrow? Why? Why not? (4 points)**