AP Macroeconomics Summer Assignment

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This is a mandatory assignment. Students who do not complete the assignment properly and in its entirety should not expect to remain enrolled in the course.

This assignment is designed to introduce students to the subject of economics and help them recognize the value of studying macroeconomics in particular.

All work must be prepared as your own original work in a single document and submitted to Google Classroom no later than 11:59 PM on Monday, August 31, 2020.

Use the following code to join the Google Classroom for AP Macroeconomics - Summer Assignment 2020-2021:

Class Code: 5mh7h2h

Assignment Instructions:

This is a two-part assignment, however all work should be prepared in a single document. Be sure to clearly label Part One and Part Two within your document for clarity.

Part One:

1. Read the article titled "*What's to Love About Economics? Virtues of the Economic Way of Thinking*" from Section 1 Economics by Example of Krugman's Economics for the AP Course, Third Edition. (Note: This is the textbook for the course.) The article is included in this document at the end of these assignment instructions.
2. Type answers to the Critical Thinking Questions at the end of the article. Be sure to answer all four questions, and answer all questions in complete sentences. Your responses should show understanding of the article content and include appropriate examples. Each answer should be an in-depth paragraph. The overall response should be about one page with single spacing.

Part Two:

1. Write an essay on the topic of why studying macroeconomics is important and how knowing this information can help you and the average person in his/her life.
2. Your essay should be in a standard five-paragraph format with an introduction, body, and conclusion and written using proper English grammar. It should be 1-2 pages in length using single spacing.
3. It is not expected that you know much about the subject of macroeconomics at this point, but hopefully you have a general idea of what the course is about and can use that, at a minimum, to formulate a valid response. You will revisit this essay later in the course after having explored the subject in more depth.

SECTION 1 Economics by Example

What's to Love About Economics?
Virtues of the Economic Way of Thinking

Economics is the most popular major at many of America's best colleges. People with training in economics are recruited not only by financial institutions, but also by governments, corporations, international organizations, consulting firms, public utilities, research institutes and intelligence agencies. What makes economics so interesting and relevant that great students want to dive into it and myriad employers angle for workers with economic wisdom? Get ready to wade into some of the many reasons.

Economics is Everywhere

Economics doesn't simply appear in books or lurk in bank vaults. Economics is above you in airplanes, below you in coal mines, behind the fabric content of your clothing, and underpinning the politics of your nation. Economics is the study of limited resources and unlimited wants. The broad scope of this discipline results from the limits on virtually every human want. Beyond money, there are limited supplies of time, information, clean water and air, potential spouses, employers, employees, NCAA Final Four basketball tickets, and everything you would buy if you won the lottery. Economics is behind your choice to go to school, the cinnamon in your latte, your adherence to laws (or lack thereof), and the public policies of your government. Economics is also the lens through which people who seek happiness should look before making decisions.

Suppose you love hot dogs. You know that eating hot dogs causes weight gain, but the first few bites create a lot of pleasure and not a lot of weight. As your hunger is satisfied, the benefit of each additional bite decreases and its cost (in terms of indigestion and excessive caloric intake) increases. You should eat more *until the additional benefit of another bite equals the additional cost*. With the additional benefit falling and the additional cost rising, the next bite, and every subsequent bite, would do more harm than good.

Economists call the additional benefit from one more of something the *marginal benefit* and the additional cost of one more of something the *marginal cost*. Thus, you should eat until the marginal cost equals the marginal benefit. If it's the best hot dog you've ever tasted, the marginal benefit is higher, and you'll take more bites. Sometimes even indigestion is well justified. In 2017, high marginal benefits led Joey Chestnut to eat 72 hot dogs in 10 minutes—he won $10,000 and fame at the Nathan's Hot Dog Eating Contest.

The study of where marginal benefit meets marginal cost leads to the efficient outcomes that economists cherish. How many hours should you spend in the library? How many laps should you swim in the pool? How much time should you spend in the shower? The answer is always the same: Just do it until the marginal benefit equals the marginal cost and you couldn't do any better.

Economic Tools Can Address Weighty Issues

It's no secret that economic theory helps business people make decisions about prices, production levels, and manufacturing methods that maximize profits. The economic way of thinking also applies to the most difficult dilemmas facing society. Economic theory can address troubling problems with poverty, crime, pollution, education, health care, the legal system, child care, transportation systems, water shortages, population growth, biodiversity loss, sustainable development, and energy, to name a few.

Consider the issue of how to punish people who break the law. Suppose that each song illegally downloaded from the internet costs society $1 in lost wages for sound studio employees, advertisers, musicians, music retailers, and others in the music industry. Again, efficiency dictates that each activity should continue until the additional (or marginal) benefit equals the additional (or marginal) cost. For simplicity, assume that the marginal cost to society of illegally downloading a song remains constant at $1 and that the value of the time spent downloading is negligible. If the benefit to the recipient from illegally downloading another song exceeds the cost to society, the download creates a net gain for society and it is efficient (although still illegal) to carry it out.

How can we bring about the efficient level of illegal downloading? One way would be to successfully enforce a penalty of $1 for each illegal download. If music lovers had to pay a $1 fine per download, they would only download songs that were worth at least $1 to them. Inefficient downloads—those worth less than the $1 cost to society—would not occur. The trouble is that it would be very expensive to detect and take legal action against every illegal download.

Economic theory can help with that problem, too. Suppose the levels of policing were such that only half of all illegal downloads resulted in a fine. With a 50% chance of having to pay $2, the expected fine per song illegally downloaded would be ½ × $2 or $1. Music lovers who made decisions on the basis of the expected fine would still download only when their benefit from a song exceeded the cost to society.

The expected fine would also be $1 if there were a 1-in-10 chance of paying $10, a 1-in-100 chance of paying $100, or a 1-in-1,000 chance of paying $1,000. For music lovers who don't have a particular preference for, or aversion to, risk taking, any of these combinations would provide the proper incentive to limit illegal downloads to the efficient number. With this in mind, law enforcement costs can be reduced without altering the incentives to obey the law by raising fines and lowering enforcement levels.

Economic Findings Can Be Specific and Compelling

What special powers do people trained in economics have that allow them to make strong arguments and precise recommendations? They may not be superheroes, but they brandish quantitative tools, detailed methods of reasoning, the high-road goal of maximizing social welfare, and the use of assumptions to leap tall complexities in a single bound. Let's look at each of these powers in turn.

Quantitative Tools

Economists delve deeply into quantitative methods that yield precise answers to important questions. Because economics is about the realities facing each of us on a daily basis, the meatiest topics within economics are concrete and visible and can be discussed without advanced math, as is the case in this book. If this exposition whets your appetite for the rigorous side of economics, you will encounter more mathematical models in advanced textbooks. As you read on about economic findings, you may well become persuaded that the evidence gained by applying quantitative tools provides benefits that far exceed any associated costs.

For example, citizens and legislators in many states are grappling with the appropriate level of support for rooftop solar-power systems. One question is whether households that create more electricity than they need should receive credit for energy they feed into the electrical grid for other households to use. There is concern that, because they pay lower utility bills, households with solar panels might not pay their fair share of the costs of operating the local power utility. On the other hand, by contributing to the local energy supply, those households may help their communities avoid costly upgrades to their power plants. Thanks to quantitative tools, economists can advance this debate from "Gee, we like clean energy, but we want everyone to pay their fair share for the power grid, so we're confused" to "The rooftop solar-power systems in this area will provide an estimated net benefit of $36 million to households with no solar power over the systems' lifetimes" (paraphrased from a 2014 study by Energy

and Environmental Economics, Inc., commissioned by the state of Nevada). Sure, estimates may differ, depending on the research method and the underlying assumptions, but it is useful to obtain objective estimates of the costs and benefits of such decisions as an alternative to acting purely on the basis of gut feelings and stabs in the dark. The quantitative tools of economics make these estimates possible.

Economic Reasoning

The crux of economic reasoning, as you've already read, is that any activity should be continued until the additional benefits from doing so equal the additional costs. Consideration of these costs and benefits can yield estimates of just how loud a sound system should be, how long one should sunbathe on the beach, how low a thermostat should be set, and how far one should go in school. The availability of specific answers to common puzzles is one reason why some people get excited about economics.

For instance, using information on the costs and benefits of going to school for each year, students can pinpoint the best plans for their formal educations. The Bureau of Labor Statistics reports the median earnings of adults working full time in the United States, broken down by levels of educational attainment. In 2017, workers who had finished high school earned $9,516 more than workers with no diploma. Workers with bachelor's degrees earned $23,712 more than high school graduates, and those with advanced degrees earned $16,484 on top of that. The financial benefits of education are augmented by any nonfinancial benefits a particular person would receive from the higher-paying jobs to which education provides access, such as more job security, lighter physical burdens, and cleaner working conditions. For comparison, the direct costs of going to school for another year are readily available—typically about $25,000 for each year of college. These costs can be combined with the cost of forgoing work to attend school and with the nonfinancial burdens of school to determine the appropriate educational goals for a particular student.

Clear and Defensible Objectives

Economic analysis can be applied in myriad contexts to pursue objectives ranging from profit maximization to everlasting bliss. When economists consider public policy, the default goal is the greatest possible net gain to society. This goal is achieved by addressing questions of what, how, and for whom to produce, with an eye on *efficiency*. Think of efficiency as maximizing the size of the "pie" that represents social well-being, profit, personal happiness, or any other particular objective. Efficient outcomes exhaust all opportunities for net gains.

Once the net gains from government policies are maximized, society must grapple with the *equity* consideration of how to divide the pie among potential recipients. For example, public lands could be opened to loggers, sold to developers, maintained as parks for tourists, or donated to the homeless. It would be efficient to use the land for the purpose that provides the greatest overall net benefits, but the most efficient outcome often conflicts with equity considerations. The greatest net benefits might come from a park, but interests in equity point toward helping the homeless. Economists study taxes, subsidies, and entitlement programs that can distribute the gains from efficiency in a more equitable manner. For example, if a particular tract of public land would be more valuable to park visitors than to the homeless, the best solution might be to create a park on the land, impose a tax on visitors, and use the tax revenues to pay for homeless shelters elsewhere.

Simplifying Assumptions

Sometimes less is more. Just as it's easier to follow a map that isn't muddled with markings for every tree, telephone wire, and parking space, researchers find simplifications useful when studying cause and effect. Consider the common assumption of *ceteris paribus*—the Latin phrase meaning that influences other than the one being studied remain unchanged. Suppose Tour de France winner Chris Froome is biking down a mountain at 40 miles per hour and gets a flat tire. How will his speed be affected? Admittedly, many elements might come into play. If the tire blew out as Chris flew over a guardrail and

went into a free fall, his speed would increase. Wet roads, a collision, or fatigue would all reduce his speed and reinforce the influence of the flat tire. Some people might throw up their hands and say it's impossible to determine for sure what would happen to Chris's speed when his tire went flat.

An economist is more likely to say, "*Ceteris paribus*, the bike will slow down." The economist is assuming that, except for the blowout, all elements of the situation—the weather, the biker's upright position, and so on—will remain the same. The *ceteris paribus* assumption allows the economist to address the issue in question without being hampered by complexities. Economists use the *ceteris paribus* assumption when studying, for example, the effect of consumer demand on prices or the effect of labor unions on employee benefits. In reality, demand changes often coincide with changes in production costs that also affect prices, and unionization is one of many determinants of employee benefits; however, it is useful to isolate influences and assess them one at a time. In the end, economists can combine their data on individual influences to determine the result of several simultaneous changes, whereas skeptics who don't like to make assumptions are getting nowhere fast.

Another noteworthy and controversial assumption is that individuals behave rationally. Associated with the rationality assumption are expectations that people prefer more of a good thing, have goals, learn, and are consistent enough in their behaviors to exhibit *transitive preferences*. Suppose you prefer jazz to reggae music and you prefer reggae to classical music. Given a choice between jazz and classical, which type of music would you select? If the answer is jazz, you are exhibiting the rationality of transitive preferences because your response is consistent with your preference ordering of jazz first, then reggae, and then classical music. An answer of classical music would violate that rationality. More generally, economists assume that individuals will make the appropriate decisions to maximize their happiness and that firms will likewise act to maximize their profits.

Is it rational to assume that people behave rationally? Economists think so for several reasons. Without transitive preferences it would be painfully difficult to make common decisions. If you liked cola better than water, juice better than cola, and (in violation of transitivity) water better than juice, you would cycle through these choices endlessly and spend far too much time in the beverage aisle of the grocery store. Firms with managers who behave irrationally are unlikely to last long, and the same could be said of people. Anyone who eats nails and sleeps in swimming pools is unlikely to survive to pass his or her irrational genes on to the next generation. Do business managers study the graphs and equations that indicate profit-maximizing prices and quantities? Sometimes they do, and other times they may use less formal analyses to derive similar conclusions. Likewise, Nobel laureate Milton Friedman noted that although expert pool players don't really measure all the angles and distances between billiard balls on a pool table or make complex mathematical calculations to find the speed and trajectory with which to strike the balls, they often take their shots as if they did.

Of course, all of us have those mornings when we start to brush our hair with a toothbrush and pour orange juice into our cereal. Economic theory can endure a few missteps by individuals or even a few people who never get things right. Economic theory yields useful conclusions as long as, on average, people's decisions are more rational than random, and that's true for most of us even on a bad day.

Conclusion

Thanks for giving economics a try. With these readings and this class under your belt, you will become more adept at making wise decisions, allocating resources, and maximizing the satisfaction of yourself and society. Regardless of whether you choose to devote your professional life to the social science of economics, it's a good bet that the benefits you receive from this class will exceed the costs.

Critical Thinking Questions

1. Do law enforcement agencies really seek an efficient amount of lawbreaking rather than no lawbreaking? Consider some illegal activities that might sometimes create more good than harm. How do the penalties for these crimes compare with the penalties for more serious crimes that are less likely ever to be efficient? How much should people be fined for doing something that society really wants to prohibit from ever happening?

2. Is it common for marginal costs to increase and marginal benefits to decrease? What is the marginal benefit from the first, second, and third practices for the swim team in a day? What is the marginal cost of the first, second, and third swim practices? (It is important to remember that costs and benefits are not strictly financial.) How successful are you at carrying out activities until the marginal cost equals the marginal benefit?

3. How would economists go about analyzing the likely influence of a forecast of heavy snow on the quantity of tickets sold for the *Nutcracker* ballet? What other changes could influence ticket sales? What assumptions should be made? Why?

4. Is it rational for some people to end their formal education with high school degrees, some to finish with college degrees, and some to obtain graduate degrees? Beyond the ability to pay tuition, what are some other reasons why different people stay in school for different lengths of time? How might the nonmonetary cost of college differ among individuals? How might the benefits of attending college differ among individuals?