Teaching Principles of Microeconomics with Crime Examples

Overview

The following examples can be used in introductory, college level Principles of Microeconomics class to introduce students to topics in the area of crime economics. I primarily use these examples in three ways:

1) Out of class assigned reading and comprehension questions to introduce a new topic. Reading and reflection questions are later discussed in class after the topic has been covered.

2) Group discussion questions at the beginning of each week to review a topic covered in the previous week. These are more challenging questions asking students to apply an already learned economic theory to explain a finding in the economic literature.

3) Exam questions. These are typically relatively easy questions to make sure students are paying attention in class and taking the out of class reading assignments seriously.

Occasionally, I also use additional crime examples within lectures to help students connect the topic to the overall theme of the course.

I additionally use non-crime examples throughout the class to highlight current events or important applications, such as pandemic policies, the minimum wage debate, and cap and trade. These examples are not included in this document. I also assign students out of class reading and comprehension questions from a standard Principles of Microeconomics textbook that includes many non-crime examples.

Throughout the course, I also use these examples to highlight what exactly economic research entails and what type of projects someone with a career in economics, policy analysis, or data analysis might work on.

Finally, I also try to highlight the challenges of conducting economic research in the area of crime – particularly with regard to determining causal effects and informing policy development when studying complex problems with many different costs and benefits and the potential for unintended consequences.

I always welcome feedback and suggestions on these examples. In addition, if you use these examples or find this document helpful, I would love to hear from you.

Suggested citation: Spencer, Melissa K. (2023). Teaching Principles of Microeconomics with Crime Examples. https://melissakspencer.com/CrimeEcon101.pdf

Table of Contents

Adolescent e-cigarette use

Concepts: Incentives, unintended consequences

Source 1: McMinn, Sean and Hanzhang Jin, Connie. (2019). More Teens Than Ever Are Vaping. Here's What We Know About Their Habits. *National Public Radio.* https://www.npr.org/sections/health-shots/2019/11/06/776397270/more-teens-than-ever-are-vaping-heres-what-we-know-about-their-habits

Source 2: Tuchman, A. E. (2019). Advertising and demand for addictive goods: The effects of e-cigarette advertising. *Marketing Science*, 38(6), 994-1022. https://doi.org/10.1287/mksc.2019.1195

Classroom Use:
After introducing the idea that people adjust behavior in response to incentives, propose to students the following scenario: "The governor of your state is concerned about the increase in use of e-cigarettes (vaping) among teenagers. What are some policies you might suggest to decrease teen vaping?" The instructor can motivate the question using graphs from Source 1 documenting the rise in teen vaping in recent years. The goal of this discussion is to encourage students to think about how various policies create incentives.

After the students brainstorm a list of policies, the instructor can explain how an economist might analyze real-world data to assess the effectiveness of the various policies, and conduct a cost-benefit analysis to advise the governor on the policy options. Part of the costs that should be considered are possible unintended consequences.

Ask students if they can think of any unintended consequences from the various policies. One potential unintended consequence is that teens switch to cigarettes if vaping becomes more costly due to policy interventions. The instructor can reference Source 2, a study finding that cigarette use increases in the absence of e-cigarette advertising.

Street lighting and crime

Concepts: Correlation versus Causation

Source 1: Van Dam, Andrew. (2019) Economists conducted a $5 million experiment to (literally) shed light on crime. *The Washington Post.* https://www.washingtonpost.com/business/2019/05/14/economists-conducted-million-experiment-literally-shed-light-crime/

Source 2: Chalfin, A., Hansen, B., Lerner, J., & Parker, L. (2022). Reducing crime through environmental design: Evidence from a randomized experiment of street lighting in New York City. *Journal of Quantitative Criminology*, 38(1), 127-157. https://link.springer.com/article/10.1007/s10940-020-09490-6

Assignments:
Assign Source 1 and the following short answer question as an out of class assignment for students to complete prior to class: "According to the Washington Post article, "Economists conducted a $5 million experiment to (literally) shed light on crime," what is one reason it is difficult for economists to measure the effects of street lights on crime?"

Classroom Use:
Begin the discussion by asking students why street lighting, in theory, might affect crime rates. Encourage them to frame their discussion in terms of costs versus benefits and people responding to incentives.

While economic theory may suggest that street lighting deters criminal activity, economists and policymakers would also need information on the magnitude of this deterrence effect in order to determine if adding street lighting to reduce crime is a cost-effective policy.

Propose to students a scenario in which you collect real-world data on street lights per block and crimes per block. This data shows a negative correlation between street lighting and crime. Ask students if this means street lighting *causes* a reduction in crime rates. Ask students to brainstorm other factors that are correlated with both street lighting and crime rates and could be driving effects.

Once students understand the issue of correlation versus causation in this setting, the instructor can describe the experiment detailed in Sources 1 and 2 and how random assignment of street lighting allowed economists to determine a causal effect. Give students an opportunity to discuss Source 1 and what they learned from their reading of the article.

Notes:
It may be helpful to provide a concrete example to help students see why the correlation between street lights and crime rates does not show a causal relationship. In my class, I propose hypothetical data showing that the University of Richmond (a suburban, relatively isolated university) has both more street lights and less crime than a nearby urban university in the city center. I ask the class if they think the lower crime rate at UR is *caused* by the street lighting. Usually, students can easily see the problem with such a conclusion.

Legal status and criminal recidivism

Concepts: Cost-benefit principle, opportunity cost, correlation versus causation

Source 1: Hyde, Tim. (2016) "Are immigrants less likely to commit crimes when they gain legal status? Evidence from a mass prisoner release in Italy." AEA Research Highlights. https://www.aeaweb.org/research/are-immigrants-less-likely-to-commit-crime-legal-status

Source 2: Mastrobuoni, G., & Pinotti, P. (2015). Legal status and the criminal activity of immigrants. *American Economic Journal: Applied Economics,* 7(2), 175-206. https://pubs.aeaweb.org/doi/pdfplus/10.1257/app.20140039

Classroom Use:
Share the following text on a slide and give students 5 to 10 minutes to discuss in small groups:

> August 2006: A new policy in Italy led to the release of 22,000 incarcerated people, more than 9,600 of whom were non-Italian foreigners.
>
> January 1, 2007: Romania and Bulgaria are admitted into the European Union. Given the open-borders policy of the EU, formerly undocumented immigrants from Romania and Bulgaria in EU countries (such as Italy) immediately gain legal status (including legal work status).
>
> Economists Mastrobuoni & Pinotti (2015) find that Romanian and Bulgarian immigrants released from prison in 2006 were less likely to recommit crimes upon release than other immigrants from non-EU countries in southeastern Europe.
>
> How can the economic theories discussed thus far in class explain this finding? (Hint: opportunity cost)

Ask students to share their answers and discuss the following explanations with the class:
Cost-benefit analysis: "Rational Crime Hypothesis holds that criminal activity is determined in part by a comparison of a person's opportunities in the legitimate and criminal sectors." (Source 1).

What is the cost of committing a crime versus the benefit? Cost includes opportunity cost. Economic Theory: Opportunity cost of crime is lower if cannot work. Gaining legal status improves work opportunities, increases opportunity costs of crime (lose job & earnings if incarcerated or convicted), and decreases crime.

The instructor can also share the figure from Source 1 to illustrate the research findings.

This example can also use used to further discuss the concept of correlation versus causation. Explain to students why the two policy changes (release of incarcerated people corresponding

with EU changes) are critical for determining the cause and effect relationship. Share on a slide the following quote from Source 1:

> "Ordinarily, a straight comparison of crime rates for the undocumented and legal immigrant populations *isn't that informative.*
>
> The two groups tend to have different demographics; one study found that *the undocumented immigrant population in Italy was disproportionately comprised of young men with less education and few family attachments – all risk factors for crime.*
>
> Setting demographic differences aside, the people who came to Italy without legal residency might be different in subtle ways from those who were able to get sponsored for a work visa, perhaps less able to navigate confusing bureaucracies or more willing to take risks.
>
> Additionally, the police or judicial system might treat these two groups differently, clouding the interpretation of arrest or conviction rates."

Exam Question:
An economic study in Italy analyzed the effects of Bulgaria and Romania entering the European Union. The study found than Bulgarian and Romanian immigrants who had recently been released from prison were less likely to commit another crime because they now had legal work status. What economic concept can explain this finding? Explain.

Speeding and incentives

Concepts: Incentives, cost-benefit principle

Homework Question:
The economic models of decision making discussed thus far in class can be applied to the analysis of crime. For example, consider the choice of whether to violate the speed limit while driving. What are the costs and benefits associated with this choice? How does the government intervene to increase the expected costs of speeding and incentivize people to follow the speed limit?

Solution:
The costs of speeding are that you could get caught and have to pay a speeding ticket, or perhaps even face other more severe consequences like losing your driver's license or getting in a car accident. (Note: Economic theory tells us that people weigh the expected costs of committing a crime verses the benefits. The expected costs are the potential consequences multiplied by the probability each consequence occurs. In other words, you take into account the fact that you may or may not get caught when speeding.)

The benefits of speeding are your value of time saved by driving faster and any intangible benefits, such as enjoying driving fast.

The government intervenes in multiple ways to incentivize people to follow speed limits: ticketing, radar, speed bumps, making roads narrower or curvier, and driver education. All of these interventions enter into the cost-benefit analysis drivers' conduct when they decide whether or not to speed.

State marijuana legalization

Concepts: Demand shifts and interdependence between markets, correlation versus causation, complementary versus substitute goods

Source 1: Rosalsky, Greg. (2021) The Data on Legalizing Weed. *Planet Money, National Public Radio* https://www.npr.org/sections/money/2021/03/16/976265525/the-data-on-legalizing-weed

Source 2: Anderson, D. M., & Rees, D. I. (2021). The public health effects of legalizing marijuana (No. w28647). National Bureau of Economic Research.
https://www.nber.org/system/files/working_papers/w28647/w28647.pdf

Assignments:
Assign Source 1 and the following short answer question as an out of class assignment for students to complete prior to class: "The Planet Money article, "The Data on Legalizing Weed," discusses the economic evidence on the effects of marijuana legalization. List two ways that marijuana legalization has spillover effects on other markets."

Classroom Use:
Display a map showing current state-level marijuana policies. Explain how economists view variation in state policies as natural experiments that can be used to distinguish correlation from causation. States that legalize marijuana for medical or recreational use are the treatment group, and similar states that do not legalize are the control or comparison group. Summarize the findings of Source 2 for students, with a particular focus on the effects of marijuana legalization on use of other substances and crime. Ask students to draw two graphs: one showing the effect of marijuana legalization on other substances if the two goods are substitutes and one if the two goods are complements.

Exam Question:
Economists have studied the effects of marijuana legalization on multiple outcomes, including youth marijuana use, crime, and use of other substances. The key characteristic of these studies is that individual states set their own marijuana policies, allowing economists to:
a. Estimate the opportunity cost of legalization
b. Distinguish correlation from causation
c. Determine the size of the illegal market for marijuana
d. Calculate the deadweight loss

Notes:
I also like to share with students' recent opinion poll data on marijuana legalization and the economic research studying the effects of adult marijuana legalization on adolescent marijuana use. I also highlight Virginia's current policies and clearly indicate that recreational legalization only legalizes marijuana use for people 21 and older.

Inflation and beer/cigarette consumption

Concepts: Demand shifts, normal versus inferior goods

Source 1: Maloney, Jennifer and Harring, Alex. (2022) Cheaper Beer, Cigarettes Gain Favor as Inflation Pinches Shoppers. *The Wall Street Journal.*
https://www.wsj.com/articles/cheaper-beer-cigarettes-gain-favor-as-inflation-pinches-shoppers-11658655001?mod=hp_lead_pos8&utm_source=substack&utm_medium=email

Classroom Use:
Display the headline and the following quote from Source 1 on a slide.

> "Consumer prices in the U.S. rose at a 9.1% annual rate in June, the fastest pace in nearly 41 years, as strong consumer demand has collided with persistent supply shortages."

Display the following question along with the graph from Source 1 on a slide and give students 5 to 10 minutes to discuss the following question in groups:

> "Using the theory of consumer demand, explain (with a graph), why inflation might increase purchases of cheaper beer and cigarette brands."

Ask students to explain their answer. Remind them that changes in income shift the demand curve. Introduce the concept of purchasing power and how inflation creates a decrease in purchasing power. Draw two graphs. One showing the effect of inflation on cheaper brands (inferior goods) and one showing the effect on premium brands (normal goods).

The effects of gun buyback programs

Concepts: Supply and willingness to sell, equilibrium

Source 1: Ferrazares, T., Sabia, J. J., & Anderson, D. M. (2021). Have US Gun Buyback Programs Misfired? (No. w28763). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w28763/w28763.pdf

Classroom Use:
Display the following summary of Source 1 and discussion question on a slide. Give students 5 to 10 minutes to discuss the following question in groups:

> "Gun buyback programs (GBPs) aim to reduce gun violence by using public funds to purchase civilians' privately-owned firearms.
>
> Even though cities often buy hundreds of guns at GBPs, researchers have found that GBPs have no effect on the rate of gun crime.
>
> Using the theory of supply and equilibrium, brainstorm possible explanations for why GBPs are ineffective."

Ask students to share their answers. This is a challenging question for students, so after hearing a few ideas, the instructor might directly ask students to consider who is willing to sell their guns at low prices. Students might also need additional information on gun buyback programs (for example, that the guns are purchased by localities with no questions asked).

Use a supply graph to illustrate heterogeneity in willingness to sell. Using a different graph, illustrate a market in equilibrium and discuss the implications of cities offering prices at gun buyback events that are below equilibrium.

Finally, display the following quote from Source 1 on a slide to describe economists' findings on the effects of gun buyback programs.

> "We conclude that GBPs are an ineffective policy strategy to reduce gun violence, a finding consistent with descriptive evidence that:
>
> (i) firearm sales prices are set too low by cities to appreciably reduce the local supply of firearms
>
> (ii) most GBP participants are drawn from populations with low crime risk
>
> (iii) firearms sold in GBPs tend to be older and less well functioning than the average firearm."

Elasticity and the market for cocaine

Concepts: Price elasticity of demand

Source 1: Smith, Robert and Blumberg, Alex. (2020) Profit & Cocaine. *Planet Money Podcast, National Public Radio.* https://www.npr.org/2020/07/22/894368822/summer-school-3-profit-cocaine

Assignments:
Assign the podcast in Source 1 and the following short answer question as an out of class assignment for students to complete prior to class: "The Planet Money podcast, Profit and Cocaine, explains that the demand for cocaine is inelastic. What does this mean? Why is the demand for cocaine inelastic?"

Classroom Use:
After reviewing elasticity and the effects of elasticity on the magnitude of price and quantity changes in equilibrium, give students the following practice problems to work on in groups.

"These questions refer to the Planet Money podcast, Profit and Cocaine.

1. Discuss in groups: What did you find interesting or surprising in the podcast?

2. In the podcast, Profit and Cocaine, Freeway Rick explains that the price of cocaine would decrease dramatically if cocaine was legal. Illustrate this on a supply and demand graph and explain using the concept of price elasticity of demand.

3. Using supply and demand graphs and the concept of price elasticity, discuss which of the following policies will likely have the largest effect on the equilibrium quantity of cocaine.

    Policy One: Harsher punishment (i.e., jail time, fees, etc.) for people convicted of selling cocaine.

    Policy Two: More education for school children about the dangers of cocaine use."

Review answers with students. For question 3, be sure to highlight that these are the predictions of economic theory and analysis of real-world data is needed to prove these predictions. For example, studies of the effects of programs like "Just Say No to Drugs" have found that they are often ineffective.[1]

---

[1] https://www.scientificamerican.com/article/why-just-say-no-doesnt-work/

Exam question:
Economic theory predicts that the price of cocaine would decrease dramatically if cocaine were legalized. Explain why this is the case and illustrate this scenario using a well-labeled supply and demand graph.

Notes:
In solving these problems, I direct students to consider legalization as a supply shifter. Students often predict that legalization would increase both supply and demand. We discuss why this is a reasonable prediction and which shift they think will be larger – the increase in demand or the increase in supply.

Female officers and law enforcement quality

Concepts: Quantity regulations, correlation versus causation

Source 1: Newman, Caroline. (2018) Study: Hiring Female Police Officers Helps Women Report Violence, Sexual Assault. https://news.virginia.edu/content/study-hiring-female-police-officers-helps-women-report-violence-sexual-assault

Source 2: Miller, A. R., & Segal, C. (2019). Do female officers improve law enforcement quality? Effects on crime reporting and domestic violence. *The Review of Economic Studies*, 86(5), 2220-2247. https://doi.org/10.1093/restud/rdy051

Assignments:
Assign Source 1 and the following short answer question as an out of class assignment for students to complete prior to class: "In the news article, "Study: Hiring Female Police Officers Helps Women Report Violence," why did police departments start hiring more female police officers between the 1970s and 1990s? What type government intervention is this an example of? What were the effects of this intervention?"

Classroom Use:
Ask students to discuss in small groups what they found interesting from their reading of Source 1 and how the study described was able to distinguish correlation from causation. Ask a few students to volunteer to share their thoughts on the reading.

Explain how legal changes in the 1960s and 1970s allowed for police departments to be sued for employment discrimination, with many of these lawsuits resulting in a legal mandate that the police department hire more women. This is an example of a quantity mandate in a market. In the absence of this quantity mandate, it would be difficult to determine the causal effect of hiring more women police departments, since departments that voluntarily choose to hire more women are likely different in other, unobservable ways. Summarize the findings of Source 2 – more female police officers led to an increase in reporting of gender-based violence and, as a result, a subsequent decline in domestic violence and intimate partner homicide.

Exam question:
Economists have studied the effects of affirmative action policies that required police departments to hire women. The key characteristic of this study is that the hiring of women police officers was court-mandated and unrelated to other characteristics of the police department, allowing economists to:
a. Distinguish correlation from causation
b. Determine the size of the gender wage gap in police departments
c. Calculate the deadweight loss
d. Estimate the labor supply of women

The economics of online crime

Concepts: Specialization

Source 1: Moore, T., Clayton, R., & Anderson, R. (2009). The economics of online crime. *Journal of Economic Perspectives*, 23(3), 3-20.
https://www.aeaweb.org/articles?id=10.1257/jep.23.3.3

Classroom Use:
Display the following quotes from Source 1 on a slide:

> Prior to 2004 – "Much of the online nuisance came from amateur hackers who defaced websites and wrote malicious software in pursuit of bragging rights."

> "A typical card fraudster ran a vertically-integrated small business. For example, he might buy a card-encoding machine, get a job in a shop where he could copy customers' cards, and then go out at night to steal cash from automatic teller machines (ATMs)."

Ask students what they predict happened following 2004, given their knowledge of the economics of trade. Display Table 1 from Source 1, showing prices for specialized online crime services. Display the following quote from Source 1 describing the specialization in online crime.

> "The collection of bank passwords has also become specialized:
>
> (1) "Phishermen" operate copies of genuine bank websites that encourage the unwary to log on so that their bank account numbers, passwords, and other credentials can be copied.
>
> (2) These phishermen hire "spammers" to drive bank customers to their fake websites by sending e-mails that purport to come from their bank. Both the spammers and
>
> (3) the phishermen use malicious software, or "malware," which is designed to infect the computers of people who run it; victims are duped into running it when they download a seemingly innocuous program or visit one of approximately three million infected websites"

The emissions cheating scandal

Concepts: Public goods, negative externalities, correlation versus causation

Source 1: Econimate. 2019. The Emissions Cheating Scandal and the Health Effects of Car Pollution. https://www.youtube.com/watch?v=9_B1I-i95FA

Source 2: Alexander, Diane and Hannes Schwandt. (2022) The Impact of Car Pollution on Infant and Child Health: Evidence from Emissions Cheating. *The Review of Economic Studies*. https://doi.org/10.1093/restud/rdac007

Classroom Use:
Display the video from Source 1 in class. Give students the following questions to follow along with the video.
> 1. What type of good is clean air? Explain.
> 2. Why is it difficult to determine the causal effect of air pollution on health?
> 3. What kind of externality results from diesel cars? Illustrate this using a supply and demand diagram. Indicate the competitive equilibrium, the socially optimal quantity, and the deadweight loss.
> 4. In the video, how does the described economic study determine the causal effect of air pollution generated by diesel cars?
> 5. What are some of the external costs of diesel cars that are measured in this economic study?

Following the video, give students 5 to 10 minutes to work on the questions in groups. Review the answers with students. Students will often need help with question 4 in particular. For question 5, highlight that these external costs are represented on the negative externality graph as the vertical distance between private marginal cost and social marginal cost.

Notes:
Thus far in class, crime examples have mostly focused on individual behaviors. I like to highlight the emissions cheating scandal as an example of a corporation partaking in illegal activity. Volkswagen faced both civil and criminal sanctions for the emissions cheating scandal.

The economics of policing and public safety

Concepts: Public goods, positive externalities, efficiency

Source 1: Owens, E., & Ba, B. (2021). The economics of policing and public safety. *Journal of Economic Perspectives*, 35(4), 3-28.
https://www.aeaweb.org/articles?id=10.1257/jep.35.4.3

Classroom Use:
Display the following quote and discussion questions on a slide:

> *"The efficiency of any police action depends on the relative magnitude of its crime-reducing benefits and legitimacy costs. Policing strategies that are socially efficient at the city level may be harmful at the local level…In the United States, the local misallocation of police resources is disproportionately borne by Black and Hispanic individuals."*
>
> What type of good is public safety? What type of externality?
>
> Draw one graph showing the effects of under-policing on economic surplus. Draw another graph showing the effects of over-policing on economic surplus."

Give students 5 to 10 minutes to work on the questions in small groups. Students often need extra guidance in solving these questions. Encourage them to draw a graph of a positive externality from public safety. Think about the optimal quantity and what happens if the quantity is below or above that level.

Draw a graph with a positive externality. Summarize the above quote using the graph – a city may achieve, in net, the socially optimal quantity of policing, but this quantity may not be allocated efficiently within the city. The result is that some neighbors will have a quantity below the socially optimal amount, and some neighborhoods (disproportionally Black and Hispanic neighborhoods) will have a quantity above the socially optimal amount. Both over policing and under policing decrease efficiency (show the deadweight loss from each on the graph).

Notes: I also provide additional context to help students think about what the efficiency loss shown on these graphs mean in the real world. Under policing can increase the rate of violent crime. Over policing can result in too many resources being used to deter petty crime and decreased trust in police and government. This is also a good opportunity to highlight that economic theory suggests there is a socially optimal level of crime that is greater than zero. Provide an example of a store trying to deter shoplifting. The store should only invest in deterrence so long as it costs less than the profit loss from shoplifting. The instructor can also note that the socially optimal level will differ for different crimes - with the optimal level of severe violent crime likely being zero or close to zero.

The demand for drugs and child labor

Concepts: Derived demand, labor markets, correlation versus causation

Source 1: 2022. Demand for drugs caused a surge in child labour in Peru. *The Economist.* https://www.economist.com/graphic-detail/2022/10/13/demand-for-drugs-caused-a-surge-in-child-labour-in-peru

Source 2: Sviatschi, M. M. (2022). Making a narco: Childhood exposure to illegal labor markets and criminal life paths. *Econometrica*, 90(4), 1835-1878. https://doi.org/10.3982/ECTA17082

Classroom Use:
Display the headline from Source 1 on a slide. Give students 5 to 10 minutes to work in groups to answer the following question: "Explain the headline using the theory of labor markets. (Draw two graphs)."

Ask students to share their answers. Provide additional context from Sources 1 and 2 to describe the effects of the price increase on labor demand. Display the following text on a slide and draw the accompanying graphs.

> "In late 1990s, Colombia launched a campaign against drug gangs and the country's coca output fell.
>> Less supply but no change in demand = increase in prices

> In neighboring Peru, increase in prices led to an increase in labor demand.
>> But adults could be arrested for farming coca leaves destined for illegal use
>> Solution: Delegate labor to children too young to be prosecuted"

Display quotes from Source 1 and discuss how the study determine the causal effect of the increase in cocaine prices.

> "In 1997-2003, as coca prices surged, the child-labour rate in coca-growing areas rose by 30% and the share of children set to begin secondary school who dropped out increased by 26%.'

>> These rates did not rise as much in other parts of Peru. (Causal effect: Non-coca growing regions are comparison or "control" group)

> "In regions where the price of coca doubled, the share of children then aged 11-14 who went on to be imprisoned for murder between the ages of 18 and 30 rose by 30%."

Employment of formerly incarcerated people

Concepts: Positive externalities, Labor markets, human capital, discrimination

Source 1: Council of Economic Advisors. 2022. Expanding Economic Opportunity for Formerly Incarcerated Persons. https://www.whitehouse.gov/cea/written-materials/2022/05/09/expanding-economic-opportunity-for-formerly-incarcerated-persons/

Assignments:
Assign Source 1 and the following short answer questions as an out of class assignment for students to complete prior to class:

> The CEA blog post writes, "Employment is a key ingredient in avoiding recidivism. What economic concepts discussed thus far in class can explain this statement?
>
> What are some of the factors that limit labor market opportunities for formerly incarcerated people? How do these factors relate to those described in the textbook chapter on wage determinants?

Classroom Use:
First, ask students why employment is related to recidivism. This is a review question if the instructor previously covered the example on legal status and criminal recidivism (pg. 5).

Explain how this concept can also be explained using a positive externality in the labor market for formerly incarcerated people (FIPs). If employers internalized the crime-reducing benefits of employing FIPs, then labor demand would be higher. Show this on a graph.

Give students a few minutes to discuss the reading in small groups and identify examples from the reading of wage determinants covered in class.

Display the following text and quote from the reading on a slide:
> Disparate burden since Black, Hispanic, American Indian, and Native Alaskan communities are overpoliced
>
> "There is substantial evidence of labor force discrimination against formerly incarcerated persons, both due to:
> - Concerns about recidivism and gaps in work experience
> - As well as a general stigma above and beyond productivity-related factors
> - This discrimination is at times codified in restrictions that keep them from working in certain sectors; a number of States deny occupational licenses to those with a prior arrest or conviction."

This quote includes a number of examples including discrimination via prejudice ("general stigma"), human capital theory ("gaps in work experience") and market power ("occupational licenses").

Review with students the economic literature on Ban the Box described in the reading. Highlight the following text from the reading as an example of statistical discrimination:

> "In private sector jobs, BTB policies are found to have an unintended consequence: large decreases in employment among young Black men with low educational attainment, the demographic with the highest fraction of FIPs."

The economics of private prisons

Concepts: Firm costs and market structure

Source 1: Mumford, M., Schanzenbach, D. W., & Nunn, R. (2016). The economics of private prisons. The Hamilton Project at the Brookings Institution. https://www.hamiltonproject.org/papers/the_economics_of_private_prisons

Assignments:
Assign Source 1 and the following short answer questions as an out of class assignment for students to complete prior to class:

> Why is it a problem if market concentration increases in the private prison industry?
> Why is it difficult to compare costs across private and public prisons?
> Does the available evidence support the assertion that private prisons have lower costs? Explain.

Classroom Use:
Give students a few minutes to discuss the reading in small groups. In addition to the assigned out of class reading, ask students to share what they found interesting or surprising about the reading. Ask students what kind of market structure seems to best characterize the private prison industry. Discuss the reading and assigned questions as a class. This discussion is also a good time to highlight how difficulty accessing data can be a barrier to research in crime economics.

Exam Questions: Describe two reasons why it is difficult to compare costs across private and public prisons.

The antitrust case against Facebook

Concepts: Market power and government intervention

Source 1: The Case Against Facebook. (2020) Planet Money. National Public Radio.
https://www.npr.org/2020/12/16/947160910/the-case-against-facebook

Assignments:
Assign Source 1 and the following short answer questions as an out of class assignment for students to complete prior to class:

> Why was there antitrust case against Facebook?
> What was the determining factor in whether Facebook violated antitrust law?
> Do you think Facebook has too much market power? Explain.

Classroom Use:
Prior to discussing Source 1 in class, provide a brief additional background for students (either via textbook reading or lecture) on the history of antitrust law in the U.S. and relevant examples (i.e., Standard Oil, etc.). Give students a few minutes to discuss the podcast in small groups. Specifically ask them to discuss (a) whether they think Facebook is a monopoly and (b) whether they think Facebook engaged in anticompetitive behavior to increase their market power. Hold a class vote on whether students' think Facebook violated antitrust law. Call on students with differing votes to discuss their reasoning. Time allowing, ask students to discuss whether they think other tech companies have too much market power (i.e., Google, Apple, TikTok, etc.).

Exam Questions:
What factors affect the government's decision of whether to use antitrust laws to limit a firm's market power?
Why was there an antitrust case against Facebook?

Collusion and price fixing

Concepts: Market structure and market power

Source 1: Just One More Fix. (2014). *The Economist.*
https://www.economist.com/business/2014/03/28/just-one-more-fix

Classroom Use:
After introducing the concept of collusion and providing some recent real-world examples, I lead a class discussion using quotes and tables from Source 1. We first discuss whether collusion is common, displaying the table from Source 1 of largest cartel fines.

I then display the following quote: ""Cartels have historically tended to form in industries with standardized products that inspire little customer loyalty, such as industrial components or road-building. Studies suggest that two-thirds of cartels are in industries in which the top four firms have 75% or more of the relevant market. Their median duration is five years, but some last decades."

I ask students to discuss in small groups why these industry characteristics seem to increase collusion. Students should identify that lack of product differentiation increase competition and decreases firm profits, increasing the incentive to collude. Further, maintaining a cartel is easier with few firms. However, each firm has an incentive to deviate and capture a greater share of the market, so cartels do not last long.

Lastly, I display quotes from the article describing why it is difficult to determine if firms are colluding and, as a result, the government creates incentives for firms to provide information on other firms in the cartel.

Notes: When I cover game theory, I build on this introduction of price collusion and students solve a game to see that colluding is not a Nash equilibrium. This is consistent with Source 1's descriptions of firms spying on each other to ensure continual cooperation with the collusive agreement.

Speeding deterrence: monitoring vs. penalties

Concepts: Risk and uncertainty

Classroom Use:
After learning about expected utility and risk, students are given the following practice problem.

Suppose you are driving home for winter break. If you speed throughout your trip home, you could cut one hour off your driving time, increasing your utility by 10 utils. However, there is a 10 percent chance you get caught and are issued a speeding ticket. A speeding ticket will decrease your utility by 80 utils and you will not get to your destination any faster. Suppose if you don't speed, your utility is 0 utils.

      a. Will you decide to speed? Why or why not?
      b. What would be the minimum probability of getting caught such that you would decide not to speed?
      c. What would be the minimum amount of utility decrease from the ticket such that you would decide not to speed?
      d. Consider your answers to parts c and d. What are two ways the government can disincentivize speeding? Do you think one way is preferable?

In working through parts b, c, and d, students should realize that to deter speeding the government can either increase monitoring (increase the probability of a speeding ticket) or increase the penalty (fee/charges associated with speeding). Theoretically, the outcome of both policies would be the same. This can then lead to a class discussion of which deterrence method is preferable/less costly to the government.

Exam Question: Generally speaking, what are two ways the government can deter drivers from speeding?