JOURNAL OF ECONOMICS TEACHING

COVID-19 Teaching Modules for Principles of Economics

Our Principles of Economics (Mateer and Coppock, 2020) textbook is now in its third edition. Like other textbook authors, the publication cycle drives our content decisions and makes the real-time treatment of emerging issues and fresh content impossible to incorporate in most cases. However, the immense changes brought about by the global pandemic are so significant that we began work on a special edition of our textbook in March 2020. This special edition will be available in the summer of 2021. In the interim, we have prepared eight COVID-19 modules as plug-ins for any principles course.

This note briefly explains the eight modules and includes one image from each module to make the content more relatable. The modules can be downloaded through the Journal of Economics Teaching website. It is our hope the profession will benefit from these teaching resources.

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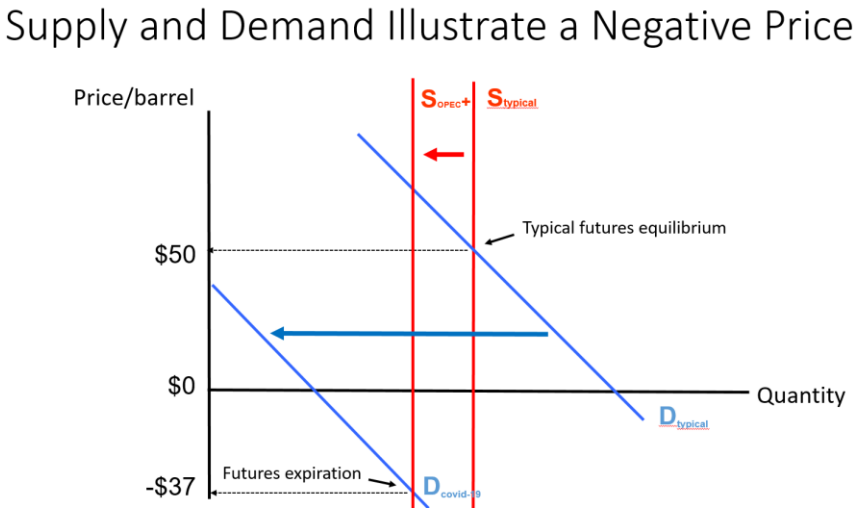
1. Module 1: Negative Prices for Oil. How is that Even Possible?

A. Recommended Timing: Applications of Supply and Demand

This module begins with a clickable link to the FRED data on crude oil price history. Even your weakest students will immediately wonder how the price of oil can be negative. To prompt discussion, ask your students if they know of any other good with a negative price. Ask them to explain their answers. The key point you want to drive home is that a "good" ordinarily has a positive price but that a "good" can become a "bad." During COVID-19, oil became a "bad." The next slide explains how futures contracts work. Without this background information, your students will not gain a full appreciation for how this market typically functions and how it is possible for the price to become negative. The third slide explains the drivers of the supply and demand for oil. After this careful build-up, we explain the mechanics that caused demand to contract so strongly that it overwhelmed the efforts of OPEC+ to cut supply – leading to a -$37 price for oil.



2. Module 2: Externalities and Public Goods

A. Recommended Timing: Market Inefficiencies

We start this module with a table that describes how COVID-19 created negative and positive externalities. On the next slide, we note that in normal times, a vaccine would be available and the most vulnerable parts of the population would be strongly incentivized to get vaccinated to protect themselves. However, in COVID-19 times, no vaccine exists so the virus can more easily spread throughout the population and also disproportionately affect vulnerable groups. Therefore, the social equilibrium is NOT achieved through a vaccine. Instead, society is forced to combat the spread of the virus using measures that have higher economic costs (physical distancing, masks, shut downs, and travel restrictions). The third slide provides an interesting thought experiment about wearing masks and "free-riding". This means that wearing a mask is a public good. Non-mask wearers gain all the benefits of others wearing masks without any of the costs. We end this module with advice from Elinor Ostrom on the value of shared social norms and how intuitional arrangements might naturally arise to address

common-resource dilemmas.

Negative and Positive Externalities

Virus-related	Type of Externality	Solution/Consequence
Contagion	Negative	Physical distancing
The environment	Positive	Reduced pollution levels due to lower emissions from factories and automobiles.
Economic output	Negative	High fear levels led to reduced demand and business shutdowns, closures, and furloughs.
Shelter-in-place orders	Positive/Negative	Positive for those who enjoy time with family, used the time reflect on life goals, and complete DIY projects; Negative for those who are alone, depressed, and suicidal.

3. Module 3: Game Theory and Strategy

A. Recommended Timing: Oligopoly and Strategic Behavior

We present three payoff matrices covering dominant strategies, the Prisoner's Dilemma, and Nash equilibrium. The first payoff matrix examines what happens when one person tries to maintain social distance but the other does not. The second payoff matrix examines what happens when one country has tracing technology but the other does not. The third payoff matrix examines why restaurants might have dominant strategies to open for dine-in and how this leads to lower profits than if all the restaurants had opened for takeaway/takeout only. We wrap up this module with a discussion of The Evolution of Trust (Axelrod, 1984) and how persons engaged in long-run cooperative relationships would naturally socially distance and wear masks. But, without trust, people would be less likely to "copycat" another person's behavior.

Should Donald and Jinping Physical Distance?

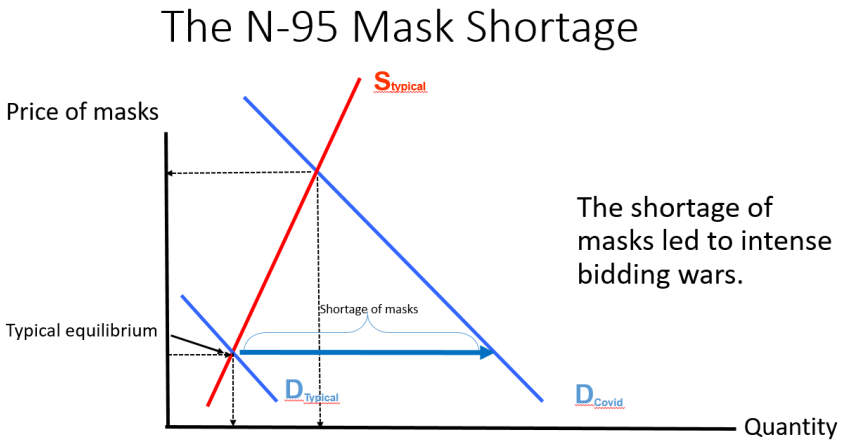
- What is Donald's dominant strategy?
- What is Jinping's dominant strategy?
- What is the Nash equilibrium in the game?

		Donald: Keep distance	Donald: Close Contact
Jinping: Keep distance		No symptoms (0) / No symptoms (0)	Mild symptoms (-2) / Mild symptoms (-2)
Jinping: Close Contact		Mild symptoms (-2) / Mild symptoms (-2)	More severe symptoms (-8) / More severe symptoms (-8)

4. Module 4: A Shock to the Health Care System

A. Recommended Timing: Supply and Demand Applications or Health Economics

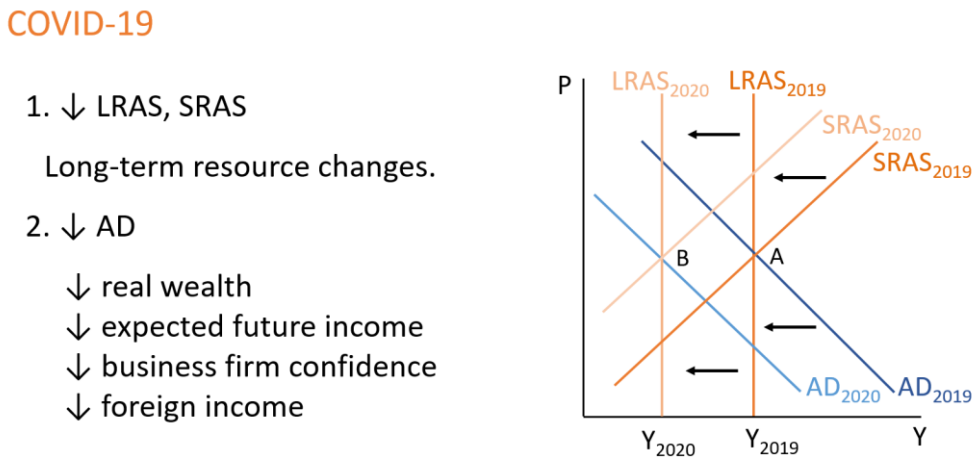
The health production function is subject to diminishing returns in normal times and this is also true with COVID-19. We provide a graphic that illustrates various medical interventions and the costs and benefits of each. Vaccines provide a huge health benefit at a low cost. Social distancing is next best (in the absence of a vaccine), followed by wearing masks, more hospital beds, and ventilators. Next, we look at the unintended consequences the lockdown created for small rural hospitals. We follow this up with a graphic that shows the drop in demand for non-essential medical care (some of the most profitable procedures offered by hospitals.). Lastly, we illustrate how the N-95 mask shortage in the early stages of the pandemic led to intense competition, drove up the price, and triggered price gouging legislation.



5. Module 5: COVID-19 and the Economy

A. Recommended Timing: Aggregate Demand-Aggregate Supply Applications

We begin by framing the discussion with a typical pandemic, like the SARS pandemic in 2002-2003. During SARS, the effects were primarily on the supply side of the economy and the pandemic was not as severe. We show a typical pandemic using the AD/AS model using two graphics. Then, we discuss the COVID-19 pandemic. We model COVID-19 as affecting LRAS and AD in addition to SRAS. COVID-19 turned out to be more serious than a typical pandemic and is best viewed now as a long run shock that changes resources permanently. Two additional graphics are used to model the impact of COVID-19.



6. Module 6: Fiscal Policy in the COVID-19 Era

A. Recommended Timing: Fiscal Policy Applications

In March and April of 2020, the U.S. Congress and the President passed three significant pieces of legislation to deal with the Coronavirus. In this module we look at the fiscal policy theory behind this legislation. Taken together, the fiscal policy responses focused on both changes to aggregate demand and aggregate supply. We cover these in order and then bring them together in the AD-AS Model. The goal of Fiscal Policy in the COVID-19 era was to shift both AS and AD curves. This lengthy module ends with an admonition that now is not the time to focus on the national debt.

Fiscal Policy in COVID-19 Era

A. Demand-Focused Policy

B. Supply-Focused Policy

7. Module 7: Monetary Policy in the COVID-19 Era

A. Recommended Timing: Monetary Policy Applications

In 2020, in the face of the economic shutdown from COVID-19, the government used standard monetary policy tools but also used "Crisis-Era Tools." Some of these crisis-era tools were used in the Great Recession in 2008 but some are also brand new. After reviewing the new tools we complete this module with a graphic that illustrates the difference between standard monetary policies that focuses on shifting AD and these new monetary policy tools that are best seen as shifting short- and long-run AS because the lending is targeted to specific key industries (suppliers).

Monetary Policy in COVID-19 Era

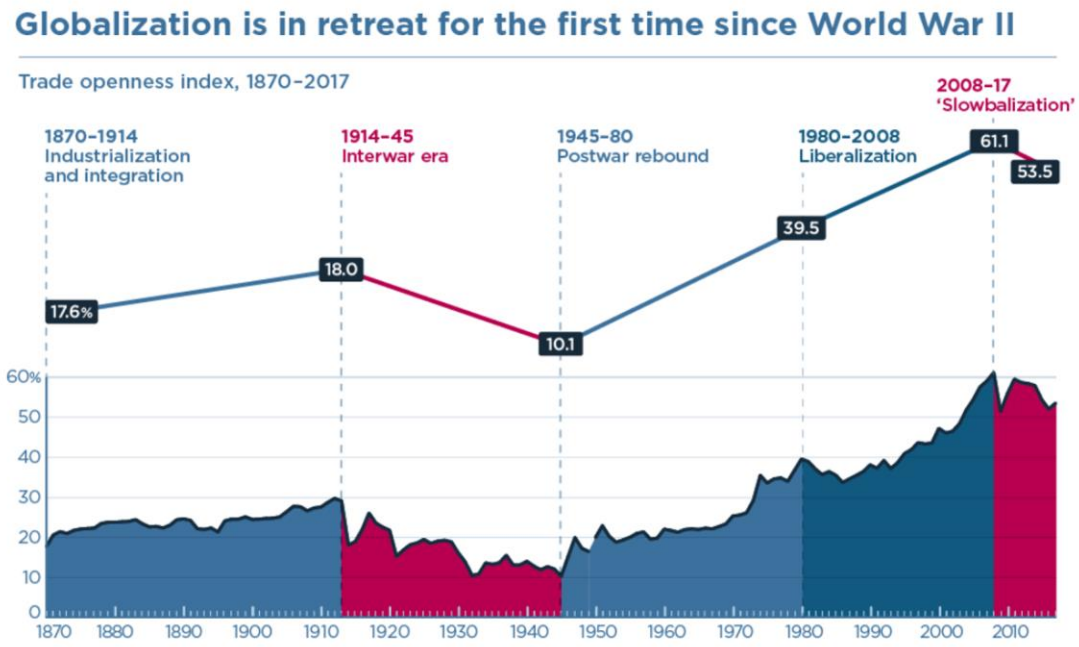
A. Standard Tools

B. Crisis-Era Tools

8. Module 8: Trade Restrictions that Affected the COVID-19 Response

A. Recommended Timing: International Trade Applications

In this module we examine the impact of tariffs on medical imports. Tariffs ranging from 7.5-25% were levied by the Trump Administration on protective gloves, clothing, headwear, x-ray equipment, hand sanitizers, oxygen concentrators, CT scanners, and more were placed on China in the years leading up to the COVID crisis. This limited our ability to import important equipment once the crisis hit. More generally, tariffs are accelerating the movement away from integrated global markets.



Conclusion

The slides we describe here offer resources for instructors to address COVID-19 topics in class immediately. The special edition of our textbook will consider these and other COVID-19 topics in greater detail. However, students are curious now and want to learn what economics has to say about COVID-19. We encourage all instructors to actively deploy COVID-19 examples while the topic is fresh.

References

Axelrod, R. (1984). The evolution of cooperation, Basic Books.

Mateer, G. D., & Coppock, L. (2020). Principles of economics, W.W. Norton Publishers.