

# THE PANDEMIC ECONOMY: ANALYSIS, CHALLENGES, AND OPPORTUNITIES

## TENTATIVE SYLLABUS

Glenn Hubbard and Amit Khandelwal  
Spring 2021, B-term

### Why this Course?

The COVID-19 pandemic is a searing event for the economy and society, with implications likely deeper, broader, and longer-lasting than those from the global financial crisis of 2007-2009. As an event that transcends areas of the economy and business, it offers a focal point for reconsidering many topics students encounter throughout their courses at CBS, especially in economics. While the pandemic forces us to examine the economic, business, and social challenges, it also offers the chance to imagine future opportunities.

### Why this Course as an *Economics* Course?

Some critical-thinking classes draw instructors from multiple disciplinary areas, and one could take that approach in considering implications of the COVID-19 pandemic. But many pandemic topics, ranging from healthcare innovation and delivery, fiscal and monetary responses, increasing power of large tech/online platforms, education and inequality, and beyond, are topics core to economic analysis. These topics draw on the policy-focused research of the Economics Division's faculty and will demonstrate the power of economic tools and ideas in honing business critical-thinking skills.

### Course Structure

Each session would feature presentations from one or two faculty members from the Economics Division. It would begin with the Professors Hubbard and Khandelwal framing the issue and end with a discussion among the presenting faculty and students, facilitated by the course organizers.

### Course Synopsis

The course begins by laying the foundations to analyze how a global health crisis triggers a global economic crisis. We discuss the basic workhouse framework that epidemiologists use to study how a virus spreads and explains how economists have integrated those frameworks with the basic economic models you learned in GEE. In doing so, we examine how to assess the economic costs and benefits of social distancing policies designed to stop the virus spread.

The next class discusses the fiscal and monetary policy responses to the pandemic. As during the 2008 Global Financial Crisis, economic policy was implemented at great speed and in a highly uncertain environment. We offer an assessment of these policies *expost*, but also discuss how policymakers acquired and responded to real-time information from the public health community, the financial sector, and the corporate sector.

The third session covers the immediate fallout on the corporate sector, with particular attention to the healthcare sector and global supply chains. A simultaneous negative supply

shock in China, coupled with a large demand shock in the global market for personal protective equipment, made it clear that many supply chains were not as resilient as companies thought. What are the implications for the future of global supply chains? We examine the large-scale global effort to create a vaccine and discuss the interplay among NGOs, government, public health experts, and pharmaceutical companies. We analyze how companies deployed innovations to deliver healthcare during large-scale social distancing, and what this means for the future of healthcare delivery.

Session 4 looks at the lasting implications of the pandemic for the corporate sector. We analyze opportunities and challenges for technology platform companies and consumer financial services.

Session 5 examines the broader economic impacts of the pandemic. The pandemic has reinforced trends in economic and social inequality, and we discuss economic policies that could mitigate these trends. As one major policy response across the globe has been to increase support to citizens, we examine the future challenges of managing the increased debt levels in the U.S. and other countries.

In the last session, we look to the long run. The pandemic will re-shape the future of work. How can companies maintain productivity levels through virtual teams? How will work-from-home policies reshape the spatial structures of economies. We then discuss the implications for climate change. While seemingly unrelated, there is a close connection between the way humans interact with the natural world and the likelihood of pandemics. We also discuss the implications for climate change if the pandemic causes long-lasting changes in human behavior, such as telecommuting.

The course a roundtable discussion with the teaching team on how the pandemic makes us rethink the purpose of work and the role of business in society.

**When/Format?**

Spring 2021, B-term

Once a week for 3 hours

**Evaluation**

50% participation

50% paper

Students would be required to submit a 10-page paper analyzing a policy area or business opportunity area covered by the course.

## Course Schedule

1. *Economics of Pandemic*
  - a. Framing: The pandemic as 'lens' for economic challenges, opportunity and policy; introduction of topic areas and course plan (Glenn Hubbard and Amit Khandelwal)
  - b. Macroeconomics of a Pandemic: Evolution of economic variables; SIR models and beyond (Pierre Yared)
  
2. *Fiscal and Monetary Policy Responses*
  - a. Fiscal Policy: Pandemic as a supply shock and demand shock; goals and tools of fiscal policy; policy design for resilience going forward; evaluation of policy effectiveness, where possible (Glenn Hubbard)
  - b. Monetary Policy: Expanded actions by the Federal Reserve and other central banks; political economy questions; assessing policy effectiveness where possible; questions about 'exit' from expanded policies (Rick Mishkin)
  
3. *Immediate Fall-Out — Health Care and Trade*
  - a. Health Care: Health Care Delivery and Innovation (Ashley Swanson, Frank Lichtenberg)
  - b. Global Supply Chains (Amit Khandelwal)
  
4. *Broader Challenges and Opportunities in Business and Finance*
  - a. Technology: Opportunities and challenges for large tech firms and online platforms; regulatory challenges (Matt Backus)
  - b. Consumer Finance: Opportunities in fin-tech for payments, credit, and insurance; regulatory challenges (Steve Zeldes)
  
5. *Broader Economic Challenges*
  - a. Inequality and Opportunity: Focus on and acceleration of trends in inequality in the pandemic aftermath; opportunity policy (Nachum Sicherman, John Donaldson)
  - b. Government Finance: Challenges of high debt levels in the United States and other industrial economics (Jesse Schreger)
  
6. *The Long-Run, Wrap Up*
  - a. The Future of Work: What is the future of how organizations re-structure their workplace? (Ann Bartel)
  - b. Climate Change: Implications of the pandemic and policy response for economic and business action toward climate change (Geoff Heal)
  - c. Roundtable

## SESSION ONE

### Opening

Glenn Hubbard and Amit Khandelwal

TBA

### Macroeconomics of a Pandemic

Pierre Yared

This session covers the basics of the SIR model of pandemics and relates it to the underlying macroeconomy. The session addresses the following questions:

- What determines the evolution of a pandemic and the time to herd immunity? What are the different ways in which a pandemic can end?
- How is this impacted by social distancing policy? How does fiscal policy interact with social distancing policy?
- How does the evolution of the pandemic and social distancing policy impact the overall economy?
- How does a pandemic drive changes to aggregate supply and demand, and which firms and employees stand to lose and gain from a pandemic? How does this differ from a typical recession?
- What is the optimal social distancing policy that balances health considerations and economic well-being? Should these policies differ by country?
- What does the cross-country and cross-regional evidence tell us about the connection between disease spread, the economy, and social distancing policy?

### Pre-Class Assignment:

- Description of SIR model and excel worksheet
1. How is the evolution of a disease spread impacted by the underlying disease structure?
  2. How is the evolution of a disease spread impacted by the social distancing policy?

### Paper Topics:

- Compare and contrast the social distancing policies of two countries or regions, explaining why one country or region pursued a more desirable social distancing policy.
- Describe a social distancing policy that could have been implementable during the onset of the COVID-19 pandemic but that no country tried, all while making the case that it would have yielded better outcomes to what we saw.

## SESSION TWO

### **Fiscal Policy Responses to and Consequences of the Pandemic**

Glenn Hubbard

The COVID-19 pandemic is likely to be the most significant macroeconomic dislocation of our lifetimes. It has also brought forth fiscal policy responses on an unprecedented scale in the United States and other large industrial economies. These changes and their long-run consequences will shape business leaders' environment and decisions for some time. We will discuss a framework for evaluating the pandemic as a set of macroeconomic shocks, then suggest fiscal policy responses to address those shocks in the short run and the long run. We will also consider longstanding fiscal questions about fiscal sustainability, the role of the state, and inequality highlighted by the pandemic.

#### **Pre-Class Assignment:**

- Martin Eichenbaum, Sérgio Rebelo, and Mathias Trabandt, "The Macroeconomics of Epidemics," Slides, Northwestern University, 2020.
  - Glenn Hubbard and Michael Strain, "Economic Policy Responses to the COVID-19 Pandemic," American Enterprise Institute, 2020.
  - Jason Furman, Timothy Geithner, Glenn Hubbard, and Melissa Kearney, "Promoting Economic Recovery After COVID-19," Aspen Economic Strategy Group, 2020.
1. What are the links between the evolution of the pandemic and the evolution of macroeconomic variables such as output and employment? What features of the pandemic correspond to an aggregate supply shock? To an aggregate demand shock?
  2. How should one design fiscal policy responses to a short-term pandemic 'shutdown' of broad sectors of the economy? Responses to a longer, uncertain pandemic disruption? What are the implications of these responses for businesses' decisions about investment and employment?
  3. How does the pandemic sharpen the focus on key fiscal questions facing business leaders, such as the sustainability of fiscal policy, role of the state, and taxation and inequality?

#### **Paper Topics:**

- What lessons can we learn from current pandemic fiscal policy responses for future policy design in the event of another crisis?
- How could fiscal policy better address 'business continuity/survival' in a crisis of uncertain length?
- How do fiscal policy decisions affect business planning for financial flexibility?

### **Monetary Policy Responses to (and Consequences of) the Pandemic**

Rick Mishkin

TBA

## SESSION THREE

### Healthcare Delivery

Ashley Swanson

This session covers how the pandemic has affected different parts of the U.S. healthcare ecosystem, how those sectors have responded, and potential lasting impacts. The session addresses the following questions:

- What does the pandemic reveal about health insurance and care delivery systems?
- How has the pandemic shocked health insurance coverage?
- What are the impacts of the pandemic on healthcare utilization and healthcare costs?
- What is the burden on firms, the healthcare workforce, and patients?
- How is the pandemic changing the role of technology in medicine?

#### Pre-Class Assignment:

- <https://www.statnews.com/2020/05/19/9-ways-covid-19-forever-upend-health-care/>
- <https://www.healthaffairs.org/doi/10.1377/hblog20200715.454789/full/>
- How have the U.S. health insurance and healthcare delivery systems responded to the pandemic?
- Which changes to the U.S. healthcare system are temporary? Which will be sustained?

### Vaccine Innovation

Frank Lichtenberg

One of the most challenging problems confronting policymakers is designing policies that encourage innovation (*e.g.*, the development of a vaccine) while at the same time providing wide access to innovations once they are developed. The principal mechanism used to encourage innovation is the patent system; an alternative mechanism, “innovation prizes,” has been proposed but its implementation has been quite limited. However, patents, which confer temporary monopolies, can result in very high prices, limiting access unless people have good private or public health insurance coverage. Patents may also encourage excessive innovation. We will discuss these issues and tradeoffs and survey the COVID19 innovation landscape.

#### Pre-Class Assignment:

- Rosenthal E (2020). [Analysis: How A COVID-19 Vaccine Could Cost Americans Dearly](#). Kaiser Health News, July 8.
- U.S. National Library of Medicine (2020). [Covid19 clinical trials](#).
- What is the potential value to society of a safe and effective COVID vaccine? How much of that value should the developer of such a vaccine be allowed to capture?
- How can governments do both of the following: (1) provide financial incentives to companies to develop important biomedical innovations; and (2) ensure wide access to those innovations?
- Why is it often the case that drugs are more profitable than vaccines?

- What impact has biomedical innovation had on the longevity and medical expenditure of Americans in the last two decades?

#### **Paper Topics:**

- Evaluate a recent healthcare industry merger in light of the pandemic — for example, Teladoc’s acquisition of Livongo.
- How can healthcare policy or regulation improve the healthcare system’s resilience to a pandemic? Examples include Medicare or Medicaid payment policy and regulation of telemedicine.
- Select a health system that has altered its investment or partnership strategy in response to the pandemic. Evaluate the pros and cons of that strategy, given the positioning of that healthcare system in a geographic market for healthcare services.
- How much COVID19 research is being conducted by industry, universities, and governments? Where is the research being conducted, and are different kinds of research being conducted by these different sectors?
- Would establishment of a very large prize for the development of a COVID vaccine be better for society than awarding a patent for the vaccine?

#### **The Future of Global Supply Chains**

Amit Khandelwal

This session covers how global supply chains have changed over the past 20 years, and whether they will change again in the aftermath of the pandemic. We will address the following questions:

- How have global supply chains evolved over the past 20 years?
- How did the onset of the pandemic disrupt supply chains? Which sectors were hit hardest? Which sectors responded well?
- What does the future of global supply chains look like?
- What other shocks should companies be worried about?
- What are the implications for countries that plan to develop their economies through participation in global supply chains?

#### **Pre-Class Assignment:**

1. <https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-climate-change/>
2. Are global supply chains more fragile today than in the past? Will companies adjust their supply chain networks?

#### **Paper Topics:**

- Imagine you are a business leader in a country of your choice. How would you convince foreign investors that it still makes sense to location production in your country?
- Compare and contrast the supply chain strategy of two companies in an industry of your choice? Does their strategy make sense given their internal configurations and the external environment?

## SESSION FOUR

### **Opportunities and Challenges in Technology**

Matt Backus

TBA

### **Opportunities and Challenges in Consumer Finance**

Steve Zeldes

TBA

## SESSION FIVE

### **Impact of the COVID-19 Pandemic on Inequality in the United States and in the World**

John Donaldson and Nachum Sicherman

Income and wealth inequality as influenced by race, age, occupation, health status, sex, educational opportunity, and geographical location are topics of intense interest in the developed world, and especially in the United States. In this session, we document the extent to which inequality has been increasing in many of these dimensions as a result of the pandemic, while also proposing some arenas in which it may fall. What, if anything, are governments doing to address COVID-19 related upticks in inequality, and how have these policies differed among leading economies? Should policymakers focus on consumption maintenance as in the United States, or on the preservation of employment relationships between workers and firms as in Germany? Of additional concern are the consequences of the pandemic for the future earning and career opportunities of young people currently attempting to join the workforce.

#### **Pre-Class Assignment:**

1. Has the response to the COVID-19 pandemic caused inequality in the United States, and in the world more generally to worsen? When we use the word “inequality,” what groups of persons are being compared? Is the comparison to be made only across income and occupational categories?
2. The U.S. response to the pandemic has focused on income maintenance, especially for low income households. Germany, by contrast, has focused on employment maintenance. Has one approach been more successful than the other?
3. How has the pandemic affected intergenerational equity, and how might such “equity be defined?”

#### **Paper Topics**

- Compare and contrast U.S. pandemic employment relief policies of two other countries or with those of the European Union and Japan. What best practices might be learned from each?

- Do you see the pandemic as increasing public receptivity to various income maintenance policies such as a guaranteed income policy? How should such policies best be implemented in your view and why? What does economic Science have to say?

## **Government Finance after COVID**

Jesse Schreger

This session covers the challenges governments around the world face financing themselves during and after the pandemic. We will address the following questions:

- Why did some governments increase their borrowing more than others to deal with COVID?
- Why did some governments see their borrowing costs skyrocket while others can borrow at historically low interest rates?
- Why were some governments able to attract financing from private investors while others turned to multilateral institutions like the IMF?
- What are the implications for business going forward of the huge increases in government debt around the world?

### **Pre-Class Assignment:**

- OECD. ["A 'debt standstill' for the poorest countries: How much is at stake?"](#)
- IMF Fiscal Monitor. ["Policies to Support People During the COVID-19 Pandemic."](#)
- Stiglitz, Joseph. ["How to Prevent the Looming Sovereign Debt Crisis."](#)
- Should governments increase taxes or borrow more in order to deal with the fallout of the pandemic?
- What steps, if any, should private investors be willing to take to help emerging and developing countries manage the debt accumulated during the COVID-19 pandemic?

### **Paper Topics:**

- Imagine you are a business leader or financial executive advising the finance minister of an emerging market government. How would you advise whether to approach the IMF for financial assistance?
- Should private sector investors be willing to participate in a "debt standstill" on the debt owed by developing countries?

## SESSION SIX

### The Future of Work

Ann Bartel

This session will consider how the COVID pandemic has impacted how organizations structure their workplaces. It will describe and analyze initiatives that specific companies have implemented and consider where they should be utilized at other companies. The session will discuss the lessons learned from companies that allowed their employees to work from home prior to the pandemic and what these experiences suggest about which types of occupations can most easily adapt to remote work. In addition, the session will consider how companies have dealt with the challenge of making virtual teams work effectively. Finally, the session will discuss the implications for skill demand: what types of skills are likely to be in demand in the future and which occupations are more likely to grow and which are more likely to shrink?

#### Pre-Class Assignment:

- “To Raise Productivity, Let More Employees Work From Home”, *Harvard Business Review*, 2014.
- “Are We More Productive in a Pandemic?”, *The New York Times*, June 27, 2020
- “The End of the Office? Not So Fast”, *The Wall Street Journal*, July 25, 2020
- How has the COVID pandemic impacted how organizations structure their workplaces? What are some specific changes that companies have implemented?
- Are these new forms of organization likely to continue after the pandemic subsides?
- What does current research say about the productivity of employees who work from home?
- How can managers ensure that virtual teams function effectively?
- Will the pandemic have lasting impacts on the growth or decline of specific occupations?

#### Paper Topics:

1. What role should government play in helping companies to restructure their workplaces? What policies have been implemented in other countries?
2. Select a company that has restructured its workplace in response to the pandemic and analyze the pros and cons of that company’s initiative.

### The Pandemic and Climate Change

Geoffrey Heal

We will discuss the connections between the COVID-19 pandemic and human impacts on the natural environment. These impacts run both ways: COVID-19 is a zoonotic disease (a disease that jumped from animals to humans), and the last 40 years have seen a sharp rise in the incidence of zoonotic diseases, probably attributable to destruction of natural habitats. In the other direction, COVID-19 has at least temporarily reduced impacts from flying, cruising, and

commuting, results in lower greenhouse gas emissions and cleaner cities with less NOX, SO2 and particulate matter in the air. We will look into these issues in detail:

- How does the growth of agriculture increase the spread of zoonotic diseases?
- Can the spread of zoonotic diseases be reduced, for example by dietary changes?
- Are the effects of COVID-19 on transportation patterns likely to be permanent?
- Will COVID-19 change attitudes towards science and experts, and therefore towards climate change?

**Pre-Class Assignment:**

- Nature: [Reductions in daily CO2 emissions during COVID-19 forced confinement](#)
- Columbia Earth Institute: [COVID-19's long term effects on climate change](#)
- Harvard Public Health: [Corona virus and climate change](#)
- BBC: [Corona virus and climate change: five charts about the carbon crash](#)
- Has the pandemic affected our environmental impact and is any effect likely to be permanent?
- How in particular has the pandemic affected the use of transportation?
- Is the outbreak of COVID-19 in any way attributable to human environmental impacts?

**Paper Topics:**

- How will the effects of climate change on business compare with those of COVID-19?
- You are the environment minister of an OECD country. How can you use the COVID-19 pandemic to strengthen the case for action on climate change?