NUTR 238 – Food Economics

Economics for Food & Nutrition Policy -- Syllabus for Spring 2020

Description: This course equips students with the principles used in economics to explain, predict and analyze changes in agricultural production, food markets and nutrition outcomes in the U.S. and around the world. We use analytical diagrams to develop structural models of events described in current news stories, and use data visualization tools to create original charts and tables from current data sources about food systems in the U.S. and around the world.

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Class blog: sites.tufts.edu/foodecon
Class polls: pollev.com/foodecon

Time & place: Tues-Thurs 4:15-5:45 in MedEd auditorium (145 Harrison Ave)
(with a few exceptions, noted on page 5 and on Canvas)

Review sessions: Fridays 12:00-1:30 in Jaharis 105, except Feb 28 & Apr 3 (room tbd), and email or phone for meetings at other times

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Tufts credit: 3 semester-hours (3 classroom hours per week over 15 weeks)
Prerequisites: Graduate standing, or permission of the instructor.

Course objectives

NUTR 238 helps students use economic principles to explain, predict and evaluate changes in agriculture, food and nutrition. Our aim is to gain familiarity with analytical methods and data sources needed to:

(1) identify causal relationships in and between production, consumption and trade using analytical diagrams that illustrate economic principles;
(2) evaluate the business and social welfare consequences of changes in markets and policies including regulation, taxation and enforcement of property rights;
(3) use data to compare outcomes in terms of poverty, inequality and disparities between groups, in relation to trends and fluctuations over time.

The course serves as a first introduction to economic principles through applications to agriculture, food and nutrition, and as an exploration of agriculture, food and nutrition through an economic lens. All methods are presented graphically using analytical diagrams and data visualization, building skills that are widely used in professional life and also a foundation for more advanced classes.

Assignments and grading: weekly exercises, and cumulative exams or course project
A series of eleven weekly assignments are designed to gradually build your economic-analysis skills. The first three are warm-up exercises to write in plain English, sketch economic analysis diagrams and use downloadable data to compute the nutritional consequences of individual food choices. The next four exercises apply economic principles to news stories about current events in the food system, and the last four practice downloading and analyzing authoritative data about trends over time and disparities among countries. Each of these assignments is graded out of 5 points. Your score on the lowest one (or any missed assignment) will be dropped, for a total of 50 points accounting for half of the semester total.

The remaining 50 points are typically from midterm and final exams, which apply the skills built in your exercises to answer food and nutrition policy questions raised by recent news stories. The in-class midterm counts for 20 points and a three-hour final exam counts for 30. Both exams are like the news analysis exercises, asking you to draw and interpret structural explanations to predict and evaluate the consequences of current events in agriculture, food and nutrition. Several previous exams and their answer keys will be available for practice. Sketching these analytical diagrams is the standard skill that economists use to describe individual and social choices. The specific questions asked on each exam will refer to recent news stories, but the analytical task remains similar from year to year and is readily practiced by answering previous years' questions under exam-like conditions.

Instead of exams students may choose to complete a course project. Projects require more time than exams, but is better for students who want to have done a deep dive into a specific topic. A first stage due after Spring Break is given an indicative score, and then a final report plus presentation slides given a final score out of 50 points. Detailed project guidelines are available for students considering this option. Doing a project is time-consuming but rewarding for those seeking to investigate a particular question in depth, with actual data. This can be especially valuable if that investigation helps guide your future career, and the report itself may provide a useful writing sample for job applications.

Students should choose whether to take the exams or pursue a project in the first few weeks of class, by the time of the midterm in week 8 at the latest. The exam option covers a broader range of topics, and focuses on current events just like the weekly news analysis exercises. Course projects involve a literature review and then downloading and transforming data to make original charts and tables, just like the weekly data analysis exercises. Whether you choose the exam option or the course project, letter grades for the course will be assigned holistically based on mastery shown in the final exams or the project, plus consistent performance on the weekly exercises and class participation.

Penalties for late or incomplete assignments
The deadline for each assignment is shown on the syllabus. Students who are unable to complete an exercise or exam on time for any reason should notify the instructor by email, text message or phone call *prior to the deadline*, with a brief explanation for why the extension is needed. Late work for which an extension has not been requested and granted will not be graded. Of the 11 weekly exercises the one with the lowest score will be dropped, so you can miss one without penalty.

Classroom behavior and study practices
Classroom discussion and learning is based on analytical diagrams and data visualizations. For you to use these methods it is essential to actively hand-draw your own figures with notations as they are presented and discussed, in real time, so all you need in class is a notebook with plenty of paper, and pens or pencils. Students who like to draw straight lines neatly should also bring a ruler.

Laptops should always be off and out of sight during class, otherwise they will distract you and your neighbor as shown by Susan Dynarski. This year we will experiment with in-class surveys, to be done on your smartphone: please download the app for PollEverywhere, and be ready to respond to questions at https://pollev.com/foodecon.

During the first half of the semester, to complete each week's news analysis exercise and prepare for exams, the most important step is for you to practice redrawing each type of analytical diagram. You can then compare your sketches with the corresponding text and graphs in the slides and readings, redraw the diagrams repeatedly and write your own synthesis to summarize the class in your own terms. Videos of class are available through Canvas to watch and rewind. If you want to see other lecturers present similar material (but without food and agriculture), try the great Salman Khan.

During the second half of the semester, to complete each week's data analysis exercise and the course project if you are doing one, the challenge is to find and download data for transformation into your own original charts and tables using Excel. You will be replicating the kind of figures seen in class and in professional work. If you need help with the menu options in Excel, there are great videos tailored to your specific kind of computer available through the Tufts subscription to Lynda.

Academic Conduct
Education is learning from other people. Each of us brings a unique perspective and understanding, so in this class and at Tufts more generally we aim to ensure that all students can share their insights and learn from each other as well as from the scientific literature. We aim to overcome misunderstandings and cognitive biases, recognizing mistakes and absorbing new ideas so as to work more effectively towards our professional and personal goals. This calls for mutual respect, curiosity and attention to

our diverse interests, while acquiring a common language and set of professional skills. Institutional standards are spelled out in the Friedman School's *Policies and Procedures* manual (http://nutrition.tufts.edu/documents-and-forms/policies-and-procedures-handbook-students). To help each student build their own voice, the Tufts Health Sciences Library provides help with research and writing that uses other peoples' ideas while avoiding plagiarism. It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Accommodation of disabilities
Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their personal and academic potential. If you have a disability that requires reasonable accommodations, please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements for determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.

Course materials
All materials for this class will be distributed via canvas.tufts.edu.

Throughout the semester and beyond, we will refer to interesting stuff in the outside world. You might want to subscribe to specialized newsletters and follow favorite sources on twitter and our class blog, at sites.tufts.edu/foodecon.

For old-school traditionalists who want a physical textbook, a great one is Paul Krugman and Robin Wells, *Economics* (Worth Publishers). The 2015 edition can be found at http://www.allbookstores.com/book/compare/1464143846 for about $35 including shipping. Chapter numbers for each week's topics are at the end of this syllabus. Skimming those chapters can provide helpful written explanations, but the class is designed to be self-contained to download everything from within Canvas.

For research-minded students, links to the recent academic literature about each week's topic are also at the end of this syllabus, in a section titled "journal club".

Course Topics & Assignment Schedule at a Glance

Week # and dates	Topic	Exercises (due at 11:59 pm on Sundays, date shown)
Intro. Jan 16†	Introduction and housekeeping	
1. Jan 21+23	What is economics? How is it useful?	1. **Personal essay** (Jan. 26)
2. Jan 28+30	Market equilibrium and social welfare	2. **Analytical diagrams** (Feb. 2)
3. Feb 4+6†	Government regulation and taxes	3. **Least-cost diets** (Feb. 16)
4. Feb 11+13	Consumer behavior and food demand	
5. Feb 18*	Consumer behavior and food demand (continued)	4. **Food news analysis** (Feb. 23)
6. Feb25+27	Agricultural production and food supply	5. **Farm news analysis** (Mar. 1)
7. Mar 3+5	Market structure and monopolies	6. **Market news analysis** (Mar. 8)
8. Mar10+12	Midterm review and midterm exam (in class on Thursday) *Nothing new – write summary of class slides & exercises, practice with past years' exams*	
Spring break	*[If project option is chosen, stage 1 due Sun. Mar. 22]*	
9. Mar 24†+26	Market failure and collective action	7. **Policy news analysis** (Mar. 29)
10. Mar31+Ap2	Poverty, safety nets and risk (guest lectures)	8. **Global data analysis** (Apr. 5)
11. Apr 7+9	Recessions, unemployment and inflation	9. **US macro data analysis** (Apr. 12)
12. Apr 14+16†	Agricultural development and the dietary transition	10. **Diet transition data anal.** (Apr. 19)
13. Apr 21+23	International trade and the food system	11. **Food trade data analysis** (Apr. 26)
14. Apr28+30	Review sessions during class time *Nothing new – redraw class slides & news analysis diagrams, practice with past exams*	
15. May 5†	Final exam, tentatively Tues May 5th from 4-7pm in Sackler 507 *If project is chosen, complete report + presentation slides are due at final exam time.*	

* No class on Feb 20, because Monday's schedule applies that day.
† Class is in Jaharis auditorium instead of Med Ed, on Jan 16, Feb 6, Mar 24, Apr 16 and the final on May 5. Optional review sessions are Fridays 12-1:30, in J105 except Feb 28 (MedEd 218) and Apr 3 (MedEd 507).

Summary of the weekly exercises

Our weekly exercises, together with the exams or course project, are designed to help you gradually build the skills needed to use economics in your professional life. Each exercise adds an additional skill by digging into a specific real thing, so as you practice economics you'll also be learning amazing facts about agriculture, food and nutrition.

Scores on each exercise count for 5 points and we drop the lowest, for a total of half the available points for the semester.

Introductory exercises:

The first set of exercises (1-3) introduce you to the three principal instruments in our toolkit: *writing* about economics, *drawing* analytical diagrams, and *transforming* economic data. After the first exercise you will keep writing throughout the semester, a few pages every week, to gradually practice the economics style of writing.

Ex. #1. Writing about economics: what does it mean to 'think like an economist'?
Describe one or more example(s) from your own life which might be explained using economic principles to describe your own decisions, the choices made by others, and the outcomes of interactions between you and the rest of society. *(One takeaway: Economics requires us to imagine other peoples' choices from their point of view.)*

Ex. #2. Drawing analytical diagrams: interactions in production, consumption and trade
Hand-draw the main diagrams used in economics to show two-dimensional structural models of our infinite-dimensioned world, following a set of instructions provided online. Upload photos of your charts and describe what you drew. *(One takeaway: Economics uses analytical geometry in a way that's tricky but fun – the lines and curves fit together like pieces of a puzzle.)*

Ex. #3. Transforming data: foods, nutrients and the least-cost diet
Assemble real data on food prices, the nutrient composition of each food, and a typical person's nutrient requirements for a healthy and active life, so as to calculate the least expensive way to meet nutrient requirements; then compare that with data from the FAO and national statistical services on what very low-income people actually eat. *(One takeaway: Food choices are related to nutrient needs, but influenced by many other factors as well.)*

News analysis exercises:

The next set of exercises (4-7) deepen your skill drawing analytical diagrams. These diagrams capture the logic of economics, just like writing H_2+O=H_2O captures the logic of chemistry. To practice applying economic logic to everyday life, we'll do four "news analysis" exercises in which you'll find two media reports about that week's topic and use economics to explain current events.

Ex. #4. Consumption preferences and food demand

Draw indifference-curve diagrams to explain two recently reported changes in food demand, one change in income or purchasing power, and one change in habits or preferences. *(One takeaway: Food choices are driven by income and preferences, not just price.)*

Ex. #5. Agricultural production and food supply

Draw production-possibility diagrams to explain two recently reported changes in food supply, one change in natural conditions and one change in available technologies. *(One takeaway: Agriculture is driven by climate and technology, not just price.)*

Ex. #6. Market structure and monopoly power

Draw supply-demand diagrams with marginal revenue or expenditure curves to explain two recently reported changes in agribusiness or the food industry, where one company may (or may not) come to have monopoly power. *(One takeaway: Prices depend on how people and companies interact, which we call the structure of the market between them.)*

Ex. #7. Food policy and politics

Draw supply-demand diagrams, one with and one without trade, to explain two recently reported changes in government policy. One of the two must involve an externality, such as production externalities such as water pollution, climate change or antibiotic resistance. *(One takeaway: Policies can improve outcomes, but often have big unintended side effects.)*

Data analysis exercises:
The final set of exercises (8-11) build your quant skills for working with numbers. We won't do stats to test any hypotheses, but will practice the more fundamental task of transforming data to see it through the language of charts and tables. To practice visualizing numerical things, we'll do four "data analysis" exercises in which you'll download what's available, use Excel to transform into a useful form, and create a chart or table that allows you to describe the world.

Ex. #8. Global poverty and nutritional outcomes
Create tables that compare income levels and poverty, food consumption and nutritional status around the world using data from the World Bank. *(One takeaway: Most things are never measured, so we need to look hard for data, read carefully about it, and use it creatively.)*

Ex. #9. US macroeconomic conditions, diet quality and nutrition assistance
Create line graphs that trace economic fluctuations and changes in food expenditure as well as the Supplemental Nutrition Assistance Program (SNAP), using US national data. *(One takeaway: The U.S. has finally recovered from the great recession of 2018; brace for the next one.)*

Ex. #10. Dietary transition around the world
Create scatter plots that reveal cross-country patterns in obesity and consumption of packaged foods, using Euromonitor data on branded foods and beverages, and World Health Organization (WHO) data on obesity rates. *(One takeaway: The transition to packaged and restaurant food is closely tied to rising obesity rates, with wide variation across countries.)*

Ex. #11. International trade and the world food system
Create line graphs that put everything together, showing how production and consumption interact to drive international trade between countries, using worldwide data from FAOSTAT. *(One takeaway: Everything is connected. Economics offers a framework to see how farming, eating and trading influence each other, guided by our daily choices and long-term policies.)*

Course Topics, Assignment Schedule and Learning Objectives

Week 1: What is economics? How is it useful for food policy analysis?

Exercise: #1. Personal essay: Thinking like an economist

Objectives: Upon completion of this week, students will be able to:

- Describe the principles used in economics to explain and predict social outcomes
- Describe the strengths and limitations of economics as a social science
- Describe the strengths and limitations of economics for everyday life

Week 2: Market equilibrium and social welfare in the food system

Exercise: #2. Hand-drawn diagrams

Objectives: Upon completion of this week, students will be able to:

- Use production possibility frontiers to derive supply curves from observed prices and observed quantities
- Use supply and demand curves to derive producer and consumer surplus measures of economic welfare from observed prices and quantities
- Describe the strengths and limitations of using supply curves, demand curves and economic surplus to evaluate social welfare changes

Week 3: Government regulation, taxes and subsidies in food markets

Exercise: Begin work on #3, the least-cost diet exercise (due next week)

Objectives: Upon completion of this week, students will be able to:

- Use supply, demand and economic surplus to evaluate the effects of government regulation and taxes on prices, quantities and social welfare
- Use elasticities to characterize consumer and producer response to changes in income, prices and production possibilities
- Use supply and demand diagrams with and without international trade to explain and predict prices, quantities and social welfare changes

Week 4: Consumer behavior and food demand (Tuesday only, no class on Thursday)

Exercise: #3. Least-cost diet exercise

Objectives: Upon completion of this week, students will be able to:

- Use marginal benefits, indifference curves and budget constraints to derive demand curves from observed prices and quantities
- Use the distinction between income and substitution effects to assess consumer welfare changes in response to variation in prices and preferences
- Describe the strengths and limitations of optimization as an explanation for food consumption choices in the U.S. and elsewhere

Week 5: Consumer behavior and food demand (continued)

Exercise: #4. News analysis about consumer preferences and purchasing power

Objectives: Upon completion of this week, students will be able to:

- Use change in budget constraints to analyze effects on dietary intake of programs that alter purchasing power, such as WIC, SNAP, school feeding etc.
- Use change in indifference curves to analyze effects on dietary intake of programs that alter preferences, such as advertising and behavior-change efforts
- Describe recent findings in behavioral economics, incorporating psychology and marketing to explain non-optimizing aspects of food consumption behavior

Week 6: Farm production, food trade and market prices

Exercise: #5. News analysis about farm production, commodity trade and prices

Objectives: Upon completion of this week, students will be able to:

- Use marginal costs, fixed costs and input response in production to derive supply curves, and identify the market conditions needed for perfect competition in food supply
- Use the distinction between scale economies and supply response to assess producer, consumer and social welfare changes in perfectly competitive markets, in self-sufficient locations and in trade with other regions
- Describe current events in the agricultural sector using economics principles

Week 7: Market structure and monopoly power

Exercise: #6. News analysis about agribusiness and food companies

Objectives: Upon completion of this week, students will be able to:

- Use economics principles to identify the market conditions needed for firms to acquire monopoly power in markets for food, farm inputs and other sectors
- Describe the behavior of individuals and firms in monopolies and other market structures
- Describe current events in food markets in terms of market structure

Week 8: Midterm review / midterm exam in class on Thursday

Exercise: Redraw graphs, summarize notes and readings; take mock midterm exam

Objectives: Upon completion of this week, students will be able to:

- Use economic principles to explain and predict consumption, production and economic welfare changes using graphical methods
- Describe the strengths and weaknesses of economics methods relative to other approaches to explain, predict and evaluate responses to current events

-- Spring break --

For students who have chosen the project option, stage 1 is due at the end of the break, but can be submitted sooner for earlier feedback if desired.

Week 9: Market failure and collective action

Exercise: #7. News analysis about food policy and politics

Objectives: Upon completion of this week, students will be able to:

- Use economic surplus to evaluate welfare consequences of externalities, environmental damage and other market failures
- Describe the opportunities for collective action to provide public goods and regulation, taxation and property rights enforcement to remedy market failures
- Describe current events in terms of market failure and collective action

Week 10: Poverty, safety nets and risk

Exercise: #8. Data analysis on poverty and nutrition

Objectives: Upon completion of this week, students will be able to:

- Use economic principles to apply poverty lines and other thresholds for measuring welfare and targeting social programs
- Describe major influences on income distribution, inequality and social mobility
- Obtain and present current data on global poverty and malnutrition rates

Week 11: Recessions, unemployment and inflation

Exercise: #9. Data analysis on income, jobs and food assistance programs

Objectives: Upon completion of this week, students will be able to:

- Use economic principles to explain and predict business cycle fluctuations, including the timing and extent of recessions, unemployment and inflation
- Describe the role of fiscal and monetary policy in managing business cycles
- Obtain and present current data on incomes, employment and inflation

Week 12: Agricultural transformation and the dietary transition

Exercise: #10. Data analysis on economic growth and dietary transition

Objectives: Upon completion of this week, students will be able to:

- Use economic principles to explain and predict economic growth and structural transformation between agriculture, industry and services over time
- Describe the experience of economic growth across countries and regions
- Obtain and present current data on economic growth and diet transition

Week 13: International trade and the food system

Exercise: #11. Data analysis on world food markets and trade

Objectives: Upon completion of this week, students will be able to:

- Use economic principles to explain, predict and evaluate changes in international trade, foreign investment and capital flows among countries
- Describe the major changes associated with globalization of agriculture and food
- Obtain and present current data on food production, consumption and trade

Week 14: Review and discussion

Exercise: Redraw graphs, summarize notes and readings; take mock final exam

Objectives: Upon completion of this week, students will be able to:

- Use economic principles for the various purposes described in the course description and weekly objectives
- Describe those various applications of economic principles in terms of their common features, strengths and weaknesses
- Judge the applicability of economics principles for personal, career and social decisions

Week 15: Final exam or course project completion

For those doing the project option, final reports and presentation slides are due at the same time as the final exam.

Dead tree society

For retro fans of old-school learning, there is a great textbook from Paul Krugman and Robin Wells, available at http://www.allbookstores.com/book/compare/1464143846 for about $35 including shipping. It provides very clear and detailed explanations of economic principles, but like almost all general economics classes it conveys almost no information about agriculture, food and nutrition. Chapter numbers for the concepts we apply to food each week are here:

Week 1: What is economics? How is it useful for food policy analysis?
Chapters 1 & 2
Week 2: Market equilibrium and social welfare in the food system
Chapters 3 & 4
Week 3: Government regulation, taxes and subsidies in food markets
Chapters 5, 6, 7 & 8
Weeks 4 & 5: Consumer behavior and food demand
Chapters 9-12
Week 6: Farm production, food trade and market prices
Chapter 13
Week 7: Market structure and monopoly power
Chapters 14, 15 & 16

Week 8: Midterm review / midterm exam

Week 9: Market failure and collective action
Chapters 17 & 18
Week 10: Poverty, safety nets and risk
Chapters 19, 20 & 21
Week 11: Recessions, unemployment and inflation
Chapters 22, 23 & 24
Week 12: Agricultural transformation and the dietary transition
Chapters 25, 26 & 27
Week 13: International trade and the food system
Chapter 34 and review Chapter 8

Journal club

Research-minded students will know that exciting new work appears every year on all the topics we address in this class. To keep up, you might want to do occasional google scholar searches, and link your account to journal subscriptions in the Tufts library.
To get a sense of what's being written by the Tufts faculty, here's a list of at least one source for each week. Where we have not recently published something on the topic, I chose something else of interest:

Week 1: What is economics? How is it useful for food policy analysis?

Finaret, Amelia B. and William A. Masters, 2019. "Beyond calories: The new economics of nutrition." *Annual Review of Resource Economics,* forthcoming. https://ase.tufts.edu/economics/documents/papers/2018/mastersBeyondCalories.pdf

Week 2: Market equilibrium and social welfare in the food system

Masters, William A., 2016. "Economic causes of malnutrition", chapter 2.2 in M. Eggersdofer, ed., *Good Nutrition: Perspectives for the 21st Century*. Basel, Karger. https://www.karger.com/Article/Pdf/452378

Week 3: Government regulation, taxes and subsidies in food markets

Pomeranz, Jennifer L., Parke Wilde, Yue Huang, Renata Micha, and Dariush Mozaffarian, 2018. "Legal and administrative feasibility of a federal junk food and sugar-sweetened beverage tax to improve diet." *American Journal of Public Health* 108(2): 203-209. http://www.doi.org/10.2105/ajph.2017.304159

Weeks 4 & 5: Consumer behavior and food demand

Hartmann, Monika, Sean B. Cash, Ching-Hua Yeh, Stefanie C. Landwehr, and Anna R. McAlister, 2017. "Children's purchase behavior in the snack market: Can branding or lower prices motivate healthier choices?" *Appetite* 117: 247-254. https://doi.org/10.1016/j.appet.2017.06.014

Week 6: Farm production, food trade and market prices

Tichenor, Nicole E., Hannah HE van Zanten, Imke JM de Boer, Christian J. Peters, Ashley C. McCarthy, and Timothy S. Griffin, 2017. "Land use efficiency of beef systems in the Northeastern USA from a food supply perspective." *Agricultural Systems* 156: 34-42. https://doi.org/10.1016/j.agsy.2017.05.011

Masters, W.A. and N.Z. Rosenblum, 2017. Senegal groundnut value chain: Competitiveness and prospects for development. Washington, DC: The World Bank. http://documents.worldbank.org/curated/en/523961498623774515

Week 7: Market structure and monopoly power

MacDonald, James M., 2017. "Consolidation, concentration, and competition in the food system." Economic Review of the Kansas City Federal Reserve Bank, SI17: 85-105. https://www.kansascityfed.org/~/media/files/publicat/econrev/econrevarchive/2017/si17macdonald.pdf

Week 8: Midterm review / midterm exam

Week 9: Market failure and collective action

Doss, Cheryl R., and Ruth Meinzen-Dick, 2015. "Collective action within the household: Insights from natural resource management." *World Development* 74: 171-183. https://doi.org/10.1016/j.worlddev.2015.05.001

Week 10: Poverty, safety nets and risk

Flores-Lagunes, Alfonso, Hugo B. Jales, Judith Liu, and Norbert L. Wilson (2018). "The Differential Incidence and Severity of Food Insecurity by Racial, Ethnic, and Immigrant Groups over the Great Recession in the United States." *American Economic Association Papers and Proceedings* 108, pp. 379-83. https://www.aeaweb.org/articles?id=10.1257/pandp.20181106

Week 11: Recessions, unemployment and inflation

Hoynes, Hilary, Diane W. Schanzenbach, and Douglas Almond, 2016. "Long-run impacts of childhood access to the safety net." *American Economic Review* 106(4): 903-34. http://doi.org/10.1257/aer.20130375

Week 12: Agricultural transformation and the dietary transition

Masters, W.A., N.Z. Rosenblum, and R.G. Alemu, 2018. "Agricultural transformation, nutrition transition and food policy in Africa: Preston curves reveal new stylised facts." *Journal of Development Studies* 54(5): 788-802. https://doi.org/10.1080/00220388.2018.1430768

Week 13: International trade and the food system

Chen, Rui, Valentina Hartarska, and Norbert LW Wilson. "The causal impact of HACCP on seafood imports in the US: An application of difference-in-differences within the gravity model." Food Policy 79 (2018): 166-178. https://doi.org/10.1016/j.foodpol.2018.07.003