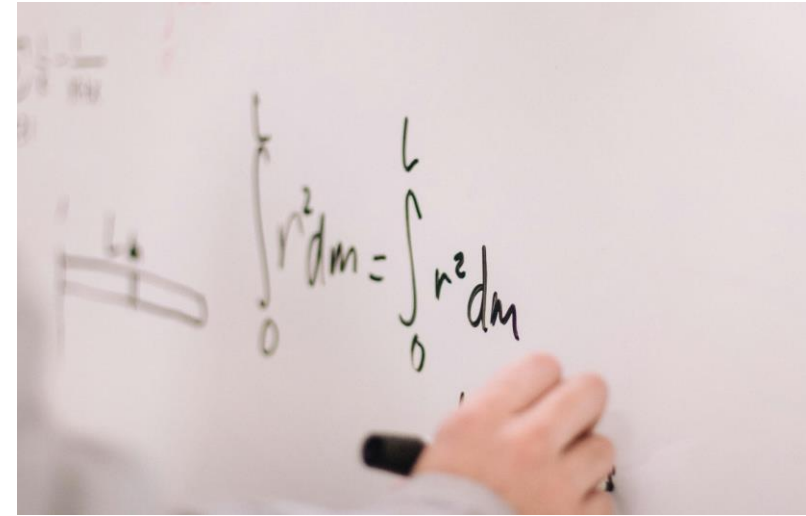Using the economics of food to reach all students in the age of disengagement

Amelia B. Finaret

Invited Paper Session

Food Economics: Reaching new audiences in public health, climate resilience, and development

Our students face many challenges, old and new

Students care a lot about the food system, and come from many different disciplinary backgrounds

Food economics courses that address social problems attract students from everywhere

ENROLLMENTS BY COLLEGE (*N* = 683)

Grossman School of Business, 7%

Other, 5%

Education and Social Services, 3%

Arts & Sciences, 18%

Nursing and Health Sciences, 8%

Engineering and Mathematical Sciences, 8%

Rubenstein School of the Environment, 11%

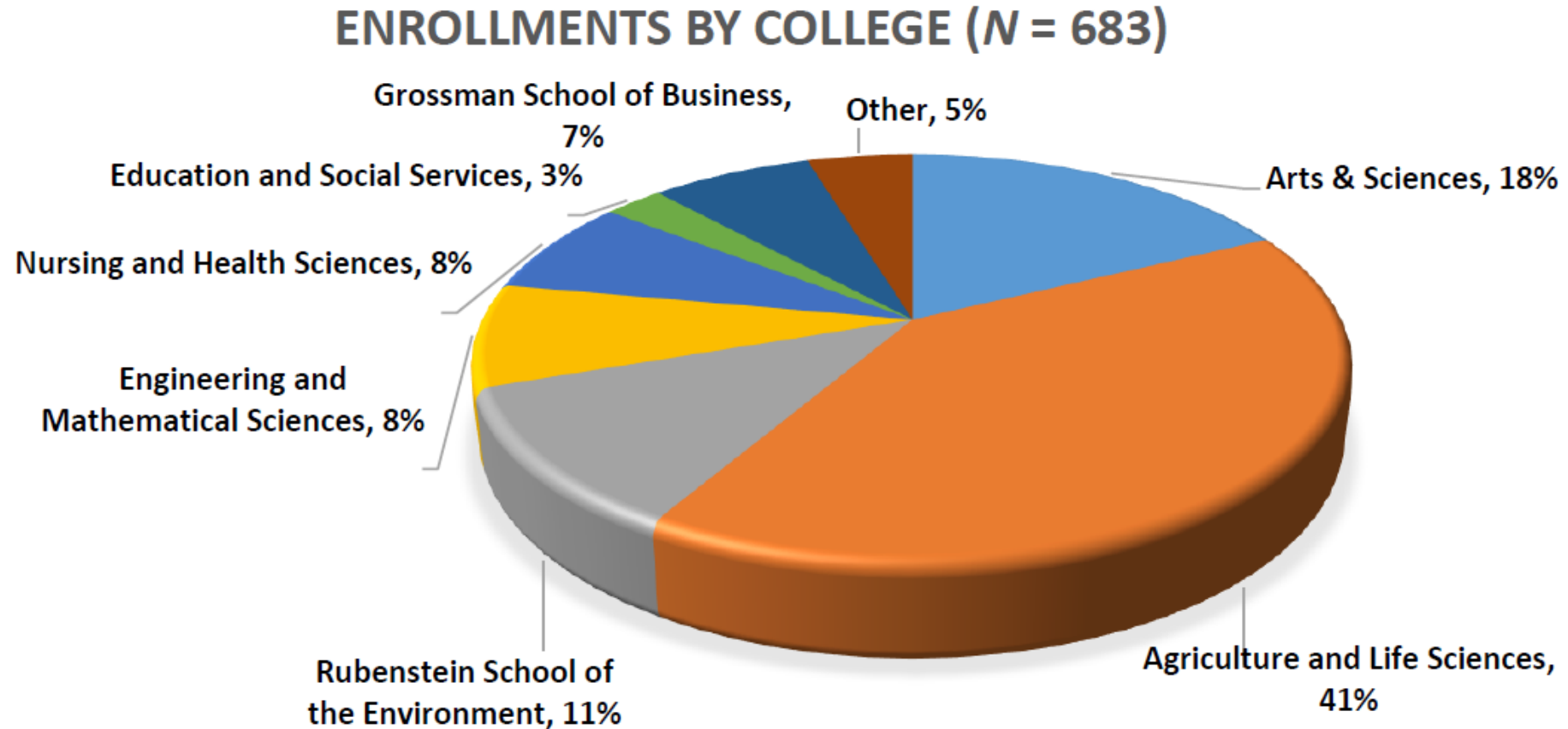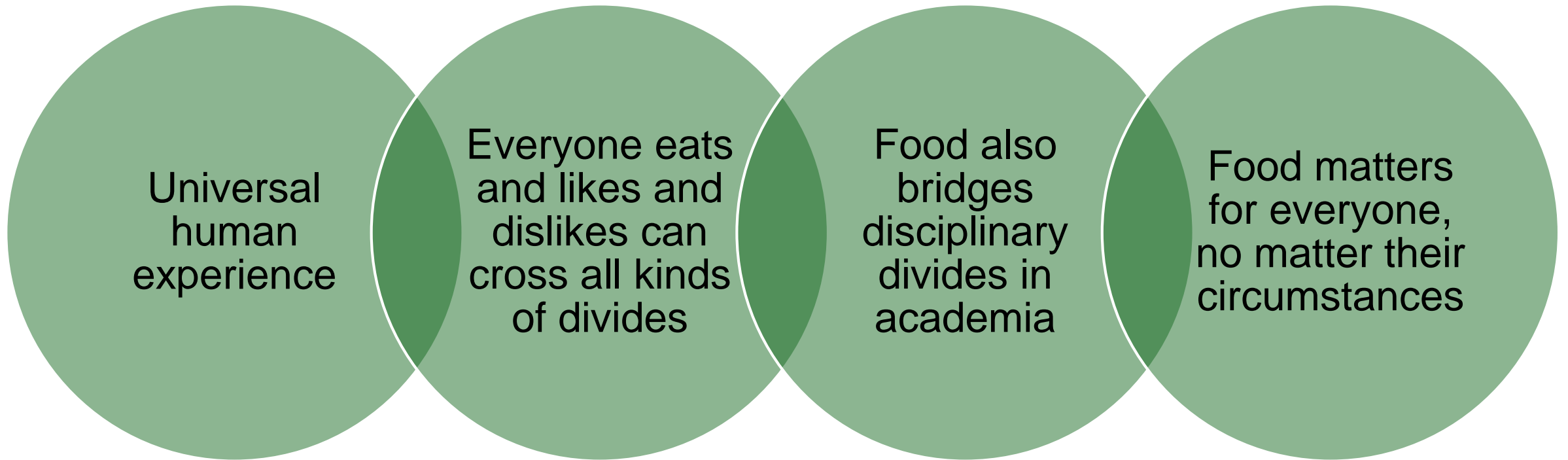Agriculture and Life Sciences, 41%

Figure Source: Figure 5, about *U.S. Food, Social Equity, and Development*, a course at UVM. In: Kolodinsky, J. and Tobin, D., 2021. Teaching about Diversity and Racism in Food Systems: An Example for Agricultural Economics and Related Departments. *Applied Economics Teaching Resources (AETR)*, 2(6), pp.14-24.

Food connects people

| Universal human experience | Everyone eats and likes and dislikes can cross all kinds of divides | Food also bridges disciplinary divides in academia | Food matters for everyone, no matter their circumstances |

Shared interest in food creates space where differences fade, allowing people to connect

Dorfman et al. (2024) argue that agricultural and applied economics is key for solving global problems

- "Agricultural and applied economics has a mission to **solve problems**, current and future…"

- **Interdisciplinary collaboration** has always been important, especially with the natural sciences.

- The field added several areas: **enviro, health, development, labor**, etc.

- The mission of ag econ is **problem solving, future-oriented, and interdisciplinary** compared with economics departments.

Students are interested in these things, but they often don't know that economics does this!

Source: Dorfman, Jeffrey H., Scott H. Irwin, Munisamy Gopinath, and David Zilberman. "The future of agricultural and applied economics departments." *Applied Economic Perspectives and Policy* (2024).

Higher Ed is seeing increased specialization at the program level, even as schools shrink and close

Any given program may have new or continued challenges recruiting new students

Student 1 ○ ○ ○ ○ ○ ○ — Public Health

Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Student 1 ○ ○ ○ ○ ○ ○ — Agricultural systems, agricultural sciences

Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Student 1 ○ ○ ○ ○ ○ ○ — Nutrition

Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Food Economics

Student 1 ○ ○ ○ ○ ○ ○ — Food systems

Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Student 1 ○ ○ ○ ○ ○ ○ — Environmental sciences and sustainability

Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Student 1 ○ ○ ○ ○ ○ ○ — Food policy
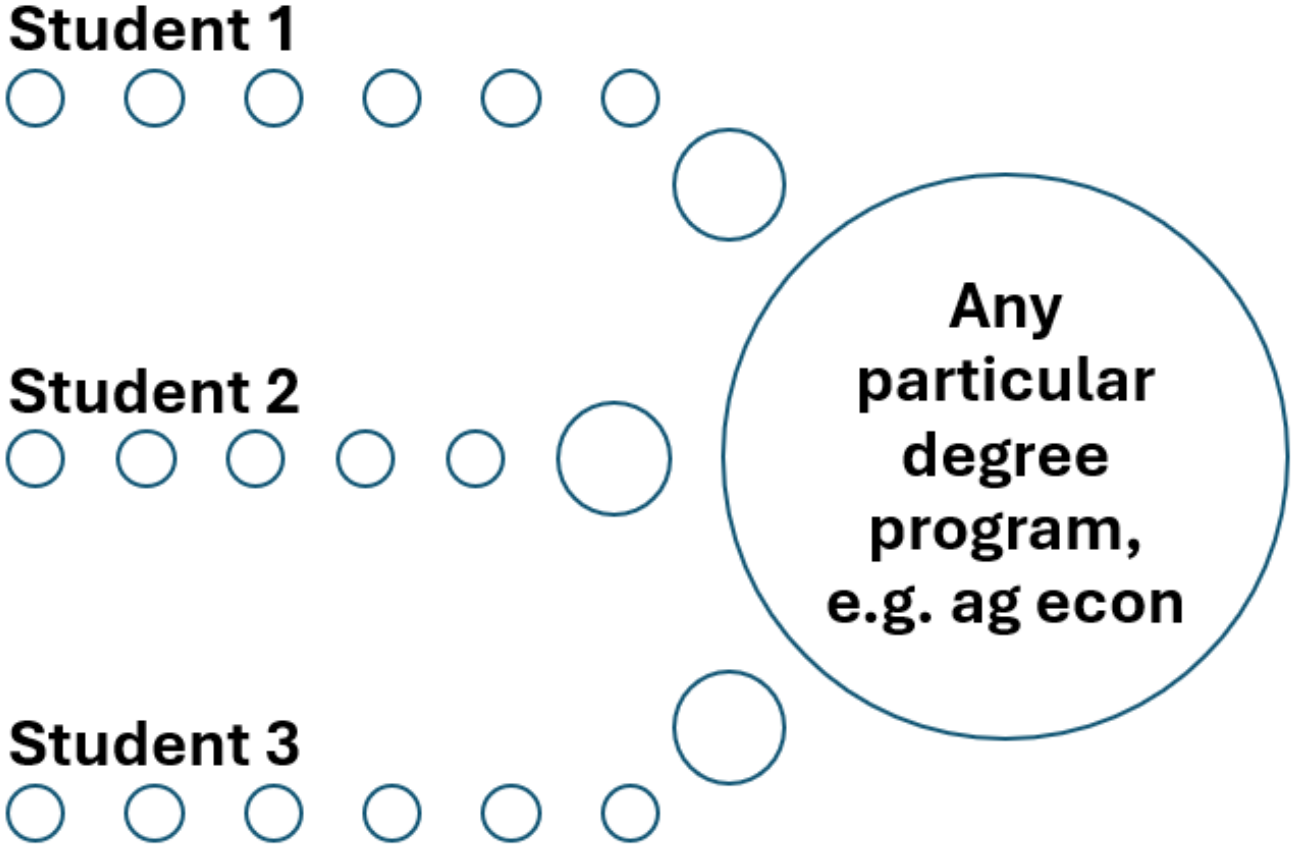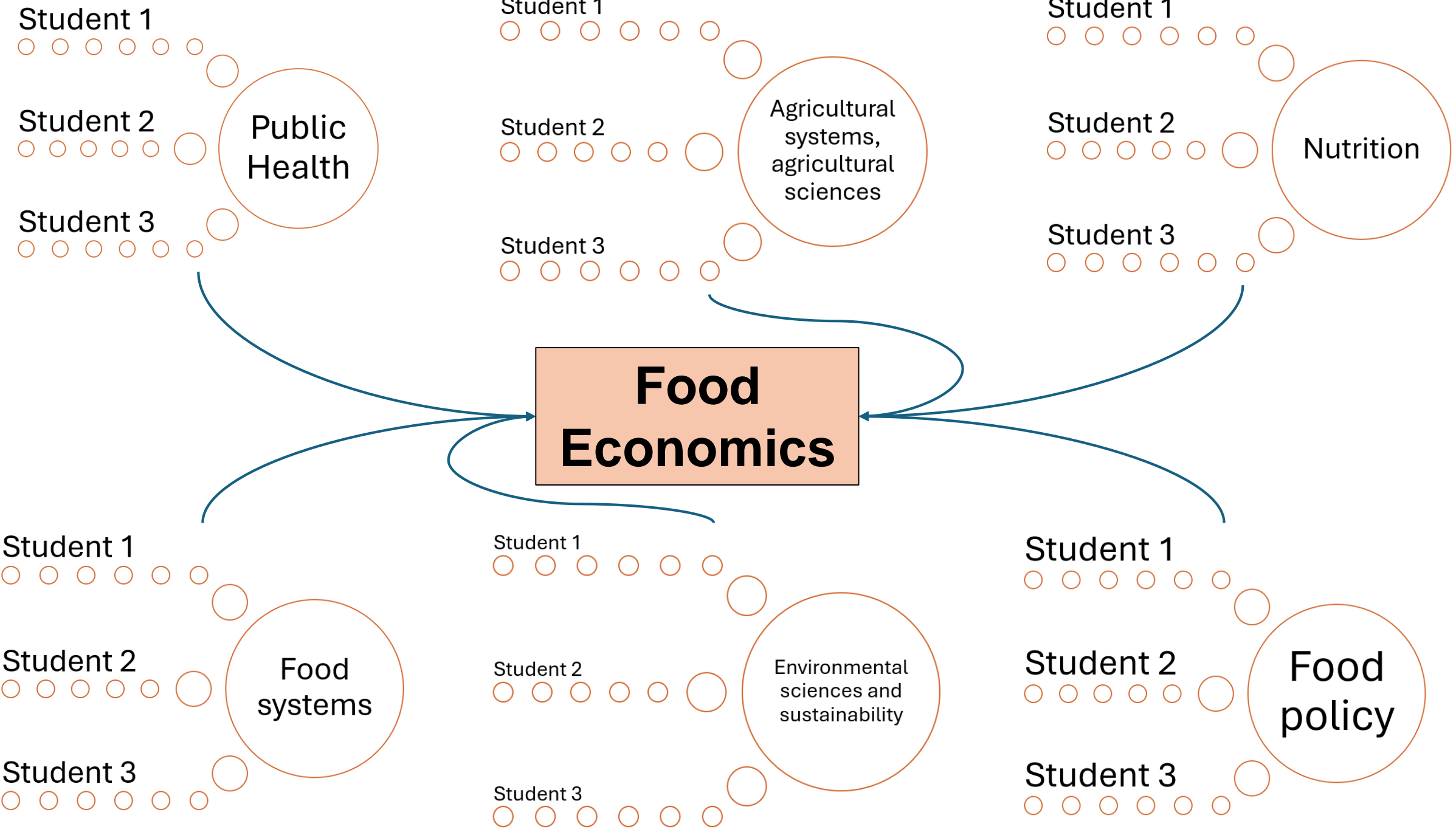
Student 2 ○ ○ ○ ○ ○ ○

Student 3 ○ ○ ○ ○ ○ ○

Goals for food economics education

- Use economic models to explain and predict outcomes
- Obtain, use, and explain data on food, agriculture, and nutrition
- Bridge cultural and disciplinary divides
- Prepare students for wide-ranging careers in the food system
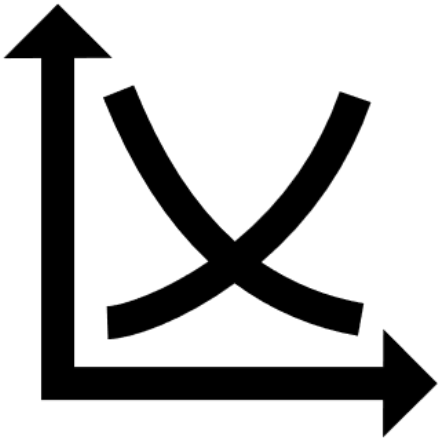
News analysis assignments– flexible & good practice

- Find news reports that describe changes to production, consumption, policy, trade, or technology.

- Draw analytical diagrams to represent what is described in the article.

- Explain what you drew.

- Not particularly conducive (yet?) to the use of AI tools

FDA increases controls on imported seafood, cantaloupe and canned foods

By News Desk on May 30, 2024

Students are invested and interested in big food news stories around the world

Grocery price inflation concerns: How small manufacturers are trying to keep food costs down

By J.R. Stone
Thursday, May 30, 2024 8:42AM

BATTLE TO BRING DOWN GROCERY STORE PRICES

1:32 / 3:33

ABC7 talked with a family-owned organic company trying to keep food prices low.

The UN says there's 'full-blown famine' in northern Gaza. What does that mean?

1 of 2 | FILE - Palestinians line up to receive meals at Jabaliya refugee camp in the Gaza Strip, March 18, 2024. The head of the United Nations World Food Program says northern Gaza has entered "full-blown famine" after nearly seven months of war between Israel and Hamas. But a formal — a... Read More
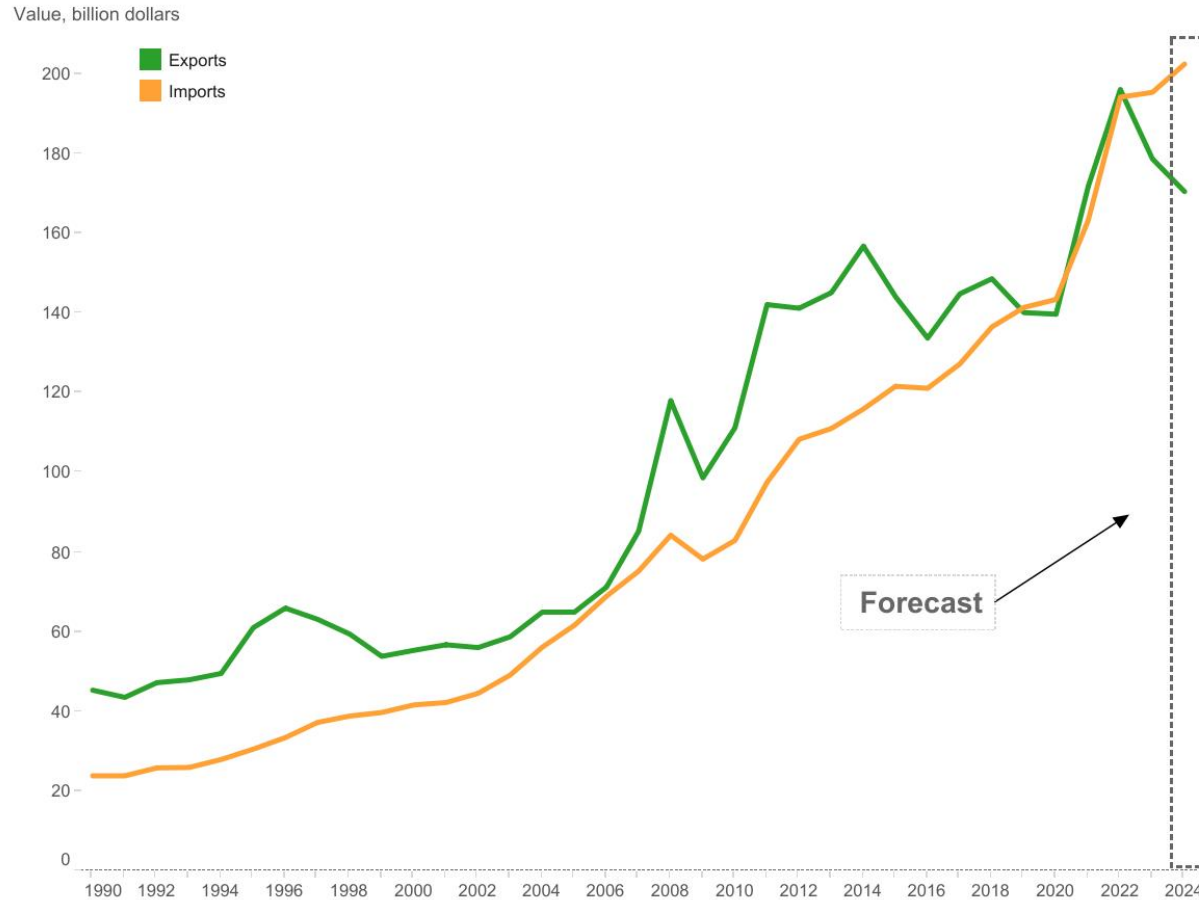
BY SAM MEDNICK AND ELLEN KNICKMEYER
Updated 1:01 PM EDT, May 6, 2024

Share

Data visualization assignments – flexible and good practice

U.S. agricultural trade

Value, billion dollars

- Exports
- Imports

200 –
180 –
160 –
140 –
120 –
100 –
80 –
60 –
40 –
20 –
0

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022 2024

Forecast

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

- Provide link to data source, explanation for accessing data
- Depending on skill level for class, may need to keep to Excel or CSV formats of data
- Chart key data for the food economy on availability, consumption, prices, health.
- Describe the data and what the chart shows clearly and accurately.
- Not particularly conducive (again, yet?) to AI tools
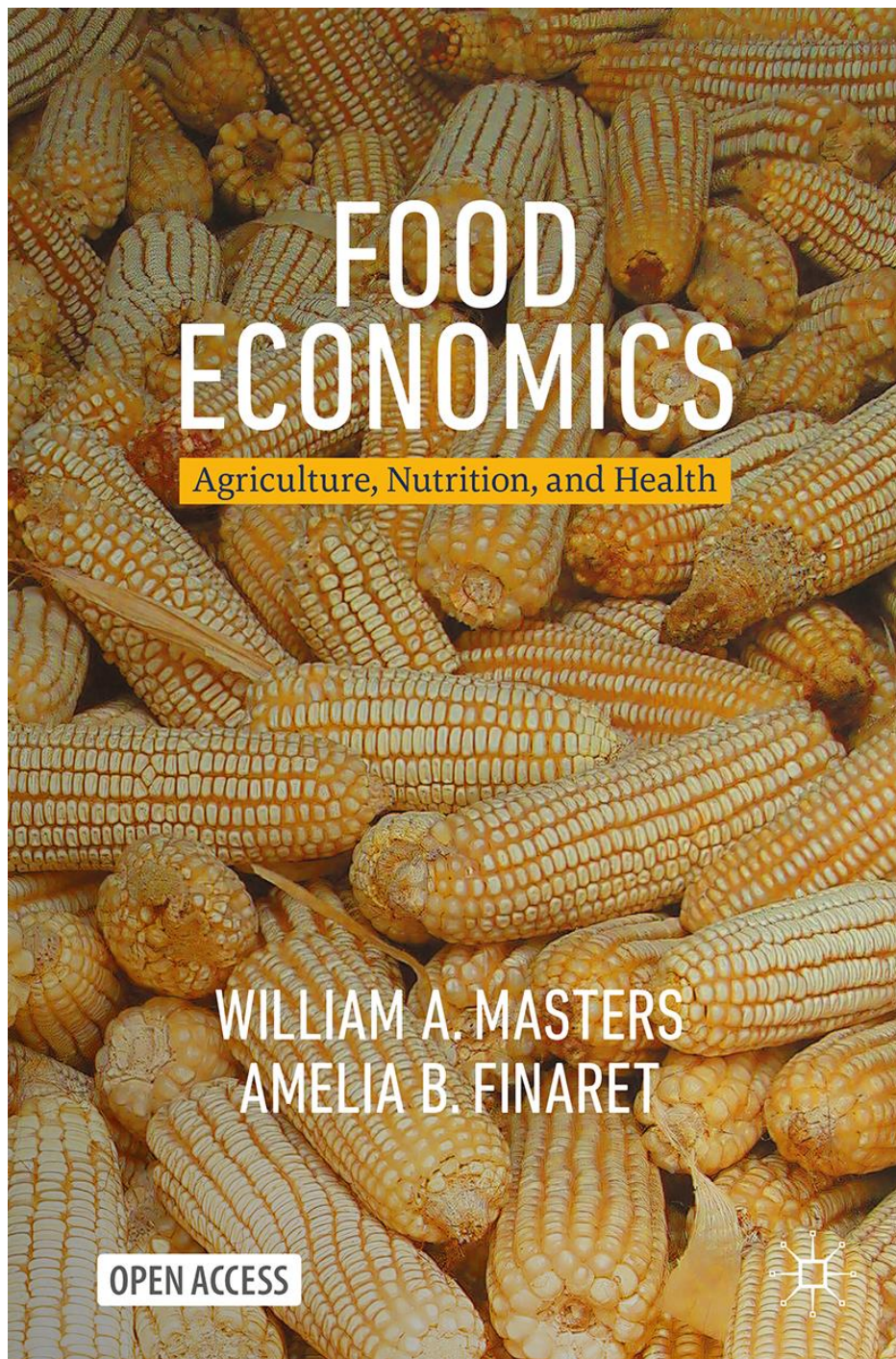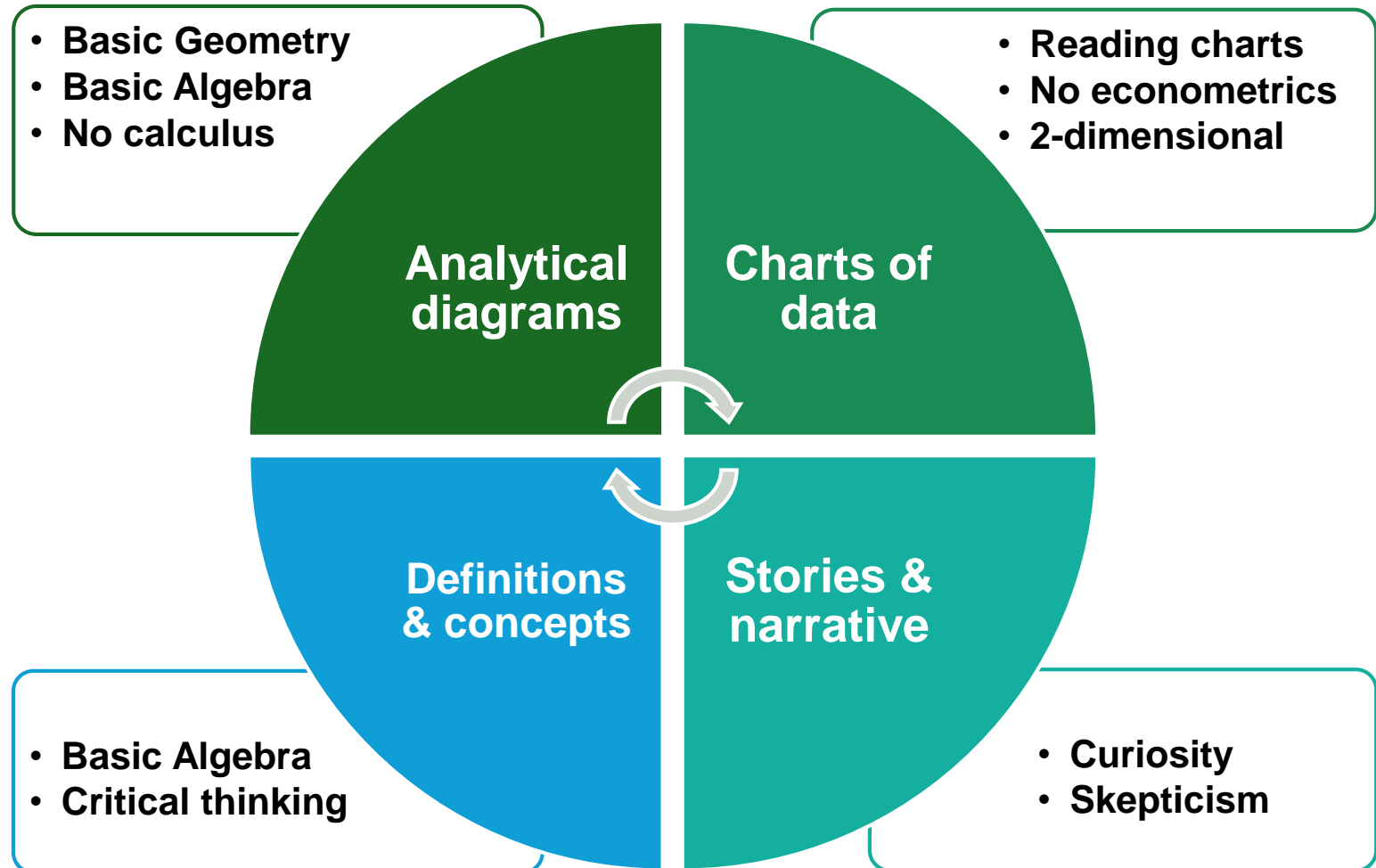
A new, open access textbook

- Published in Summer of 2024 by Palgrave-Macmillan

- Open access from the *Agriculture, Nutrition, and Health Academy*

Textbook structure

- **12 Chapters, each split into two sections**

- Analytical diagrams to teach economic principles

- Data visualizations to show observation of stylized facts

- Instructors can pick-and-choose which chapters are useful for their courses

Chapter content and pre-requisite skills

- **Basic Geometry**
- **Basic Algebra**
- **No calculus**

- **Reading charts**
- **No econometrics**
- **2-dimensional**

Analytical diagrams

Charts of data

Definitions & concepts

Stories & narrative

- **Basic Algebra**
- **Critical thinking**

- **Curiosity**
- **Skepticism**

Types of courses or programs that could use all, parts, or sections of the book

Public health nutrition

Data visualization for the food system

Food systems

Economics courses: Introductory, elective, capstone

Food service management

Food policy

Agricultural science and systems
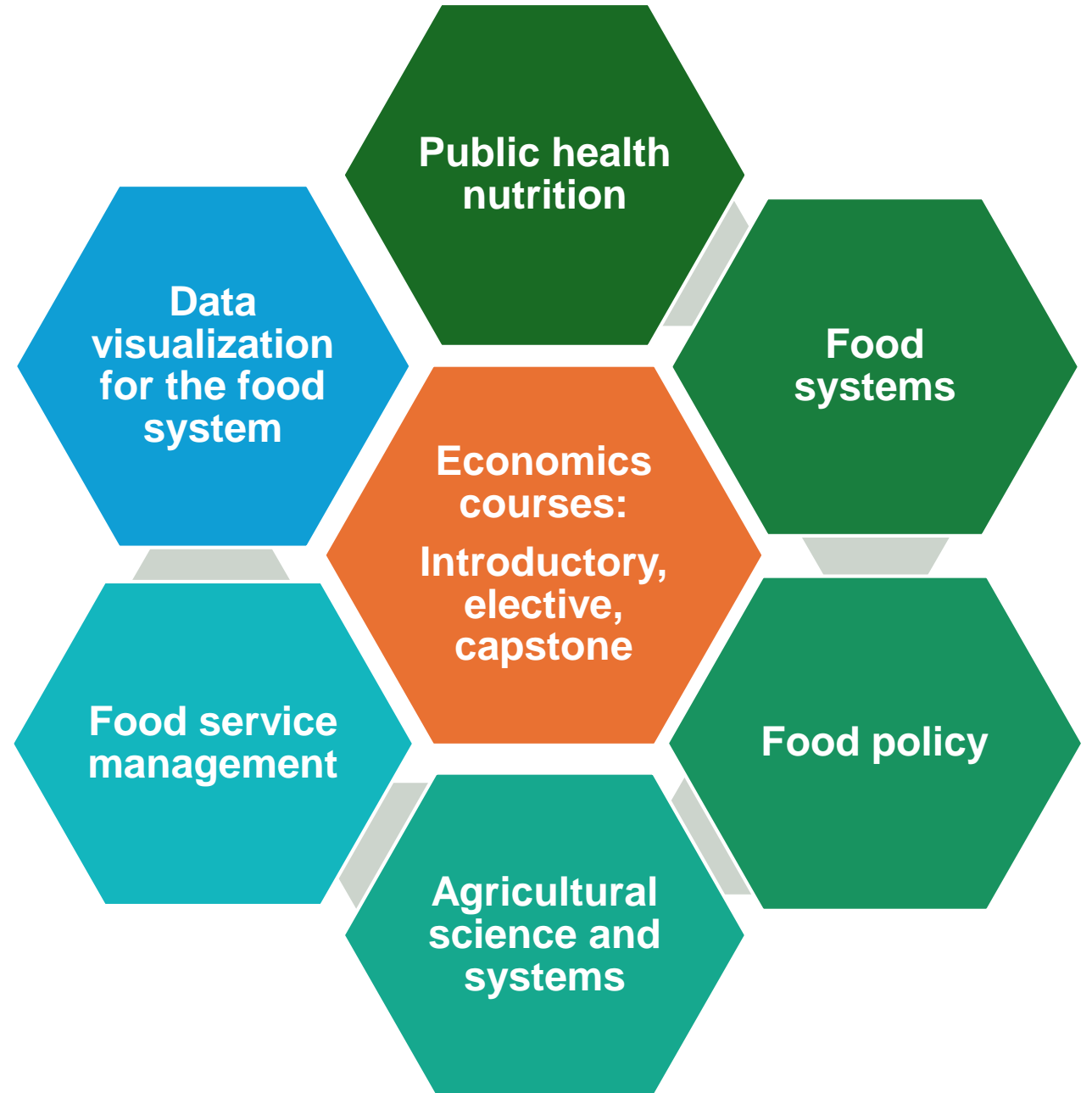
Chapters at-a-glance

Chapters 1-6

- Introduction
  - Motivating food economics
- Individual Choices
  - Consumption and production theory
- Societal Outcomes
  - Supply, demand, trade, elasticity
- Social Welfare
  - Consumer and producer surplus, externalities
- Market Power
  - Imperfect competition, game theory
- Collective Action
  - Public goods, non-market goals

Chapters 7-12

- Poverty and Risk
  - Measuring poverty, inequity, disparities, safety nets, vulnerability
- Food and Health
  - Behavioral economics, interventions
- Food in the Macroeconomy
  - National income, circular flow, recessions, unemployment, inflation
- International Development
  - Agricultural transformation, dietary transition, urbanization
- From Local to Global
  - International trade, globalization, storage, value chains
- The Future of Food
  - Agribusiness and agroecology, food environments

Introductory/Intermediate Microeconomics

Chapters 1-6

- **Introduction**
  - **Motivating food economics**
- **Individual Choices**
  - **Consumption and production theory**
- **Societal Outcomes**
  - **Supply, demand, trade, elasticity**
- **Social Welfare**
  - **Consumer and producer surplus, externalities**
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An agribusiness focus

Chapters 1-6

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An agricultural sciences and policy focus

Chapters 1-6

- **Introduction**
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A public health focus

Chapters 1-6

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A data visualization focus
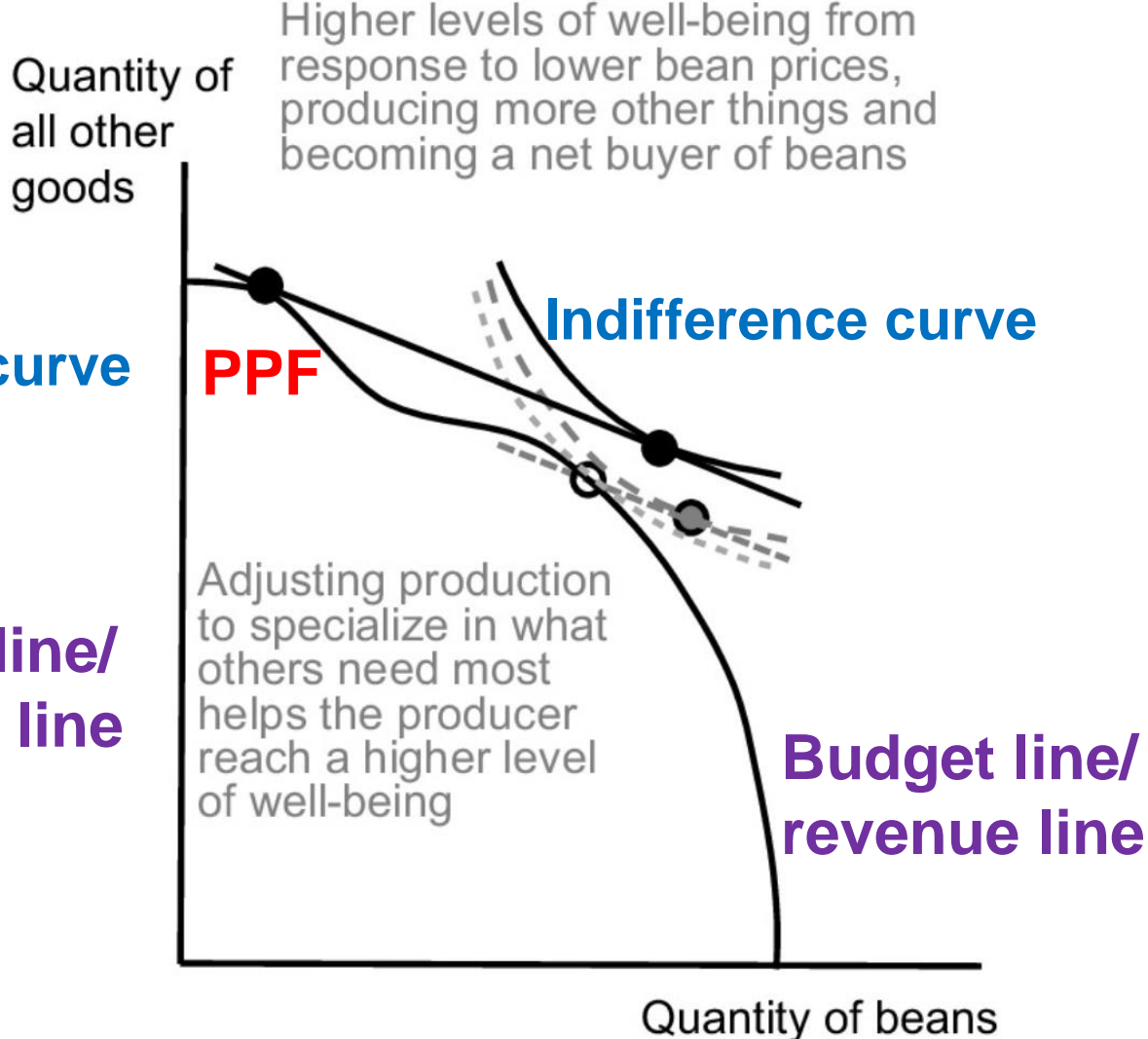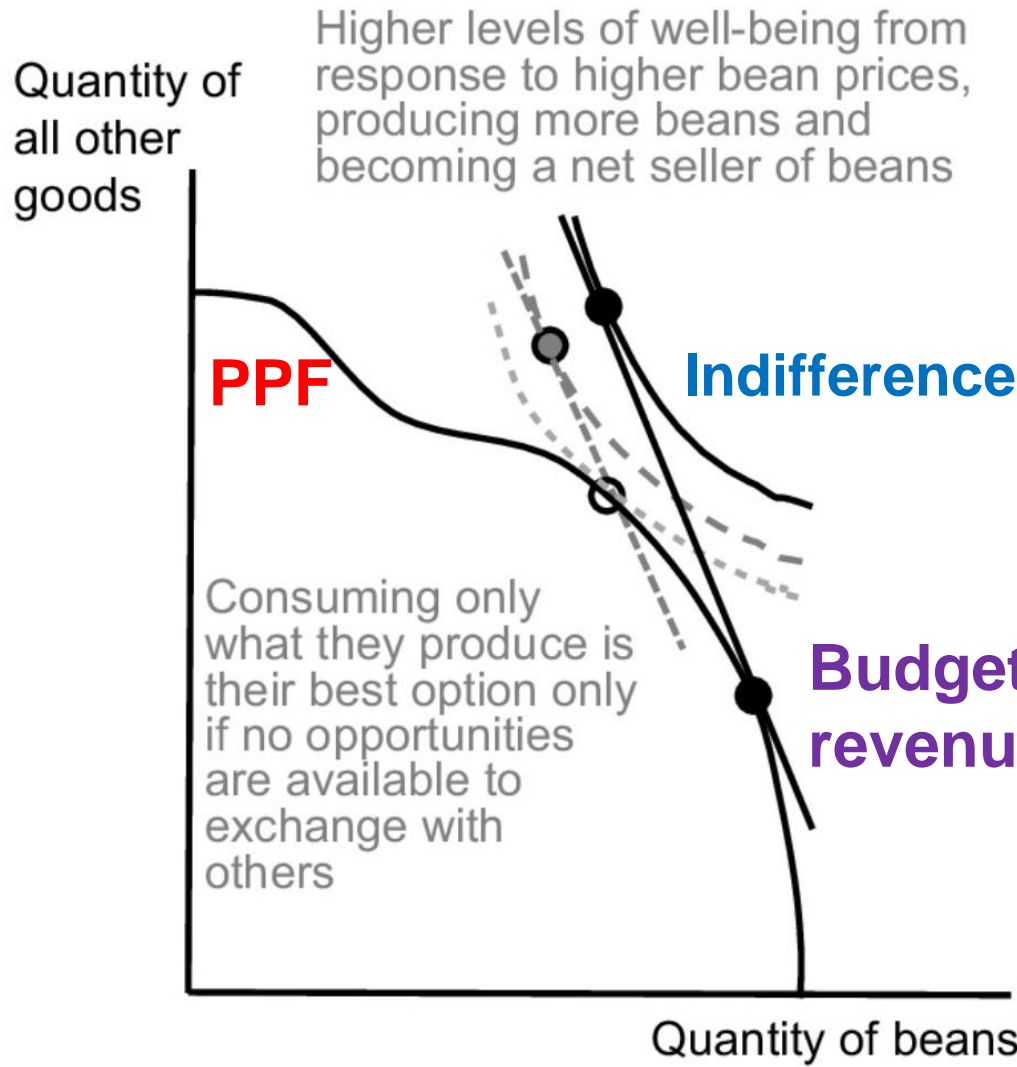
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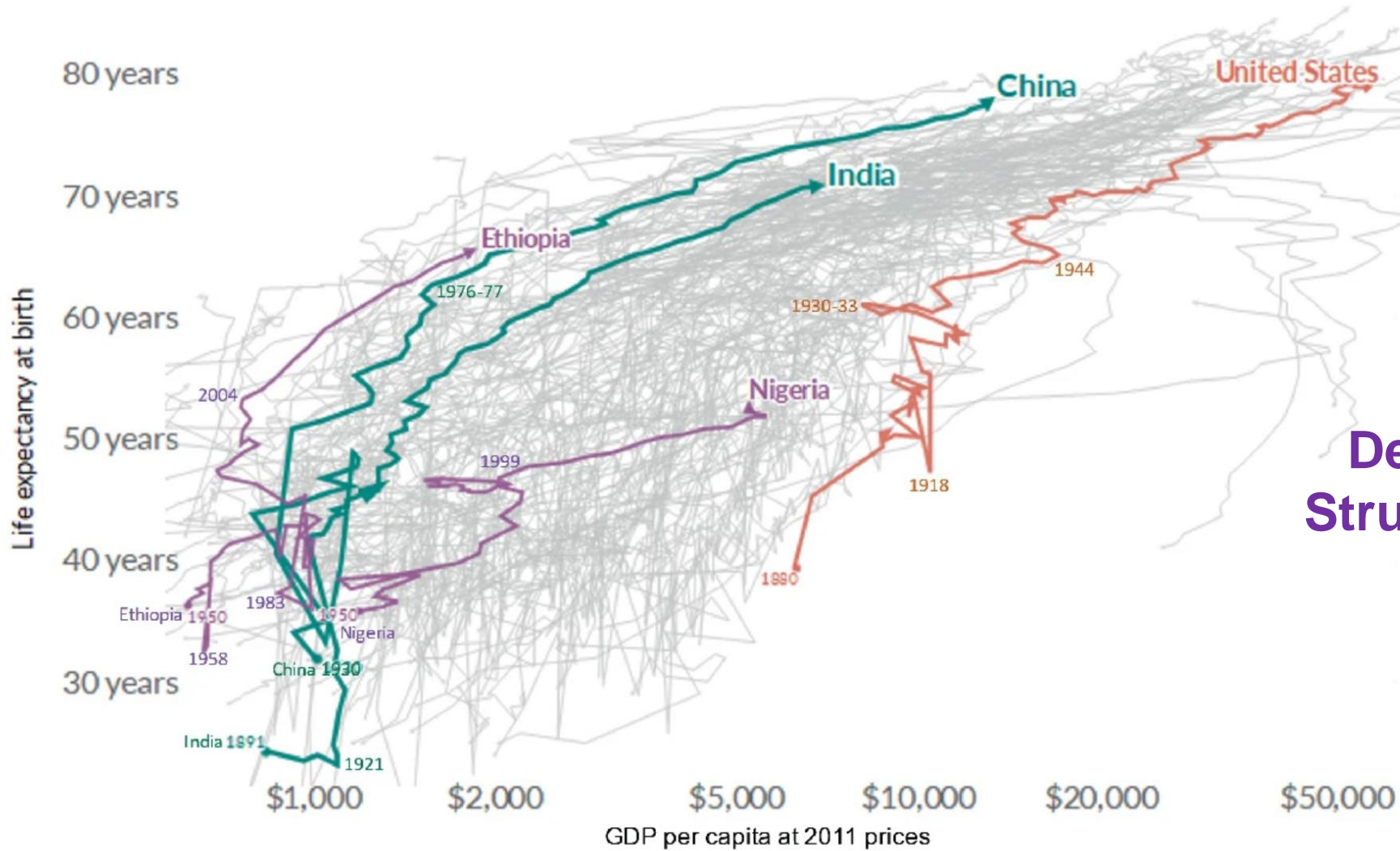 - Public goods, non-market goals

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Example diagrams from Chapter 2 – annotated for clarity

Almost all agricultural households find it attractive to sell or buy some of the products that they produce on the farm

Quantity of all other goods

Higher levels of well-being from response to higher bean prices, producing more beans and becoming a net seller of beans

PPF

Indifference curve

Consuming only what they produce is their best option only if no opportunities are available to exchange with others

Budget line/ revenue line

Quantity of beans

Quantity of all other goods

Higher levels of well-being from response to lower bean prices, producing more other things and becoming a net buyer of beans

Indifference curve

PPF

Adjusting production to specialize in what others need most helps the producer reach a higher level of well-being

Budget line/ revenue line

Quantity of beans

Example chart from Chapter 10 – Preston Curve

Demographic Transition
Structural Transformation
Population Pyramids
Food / Nutrition
Transitions
Urbanization
Preston Curves

Thank you

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