The US Food System

AAE 320: Farming Systems Management

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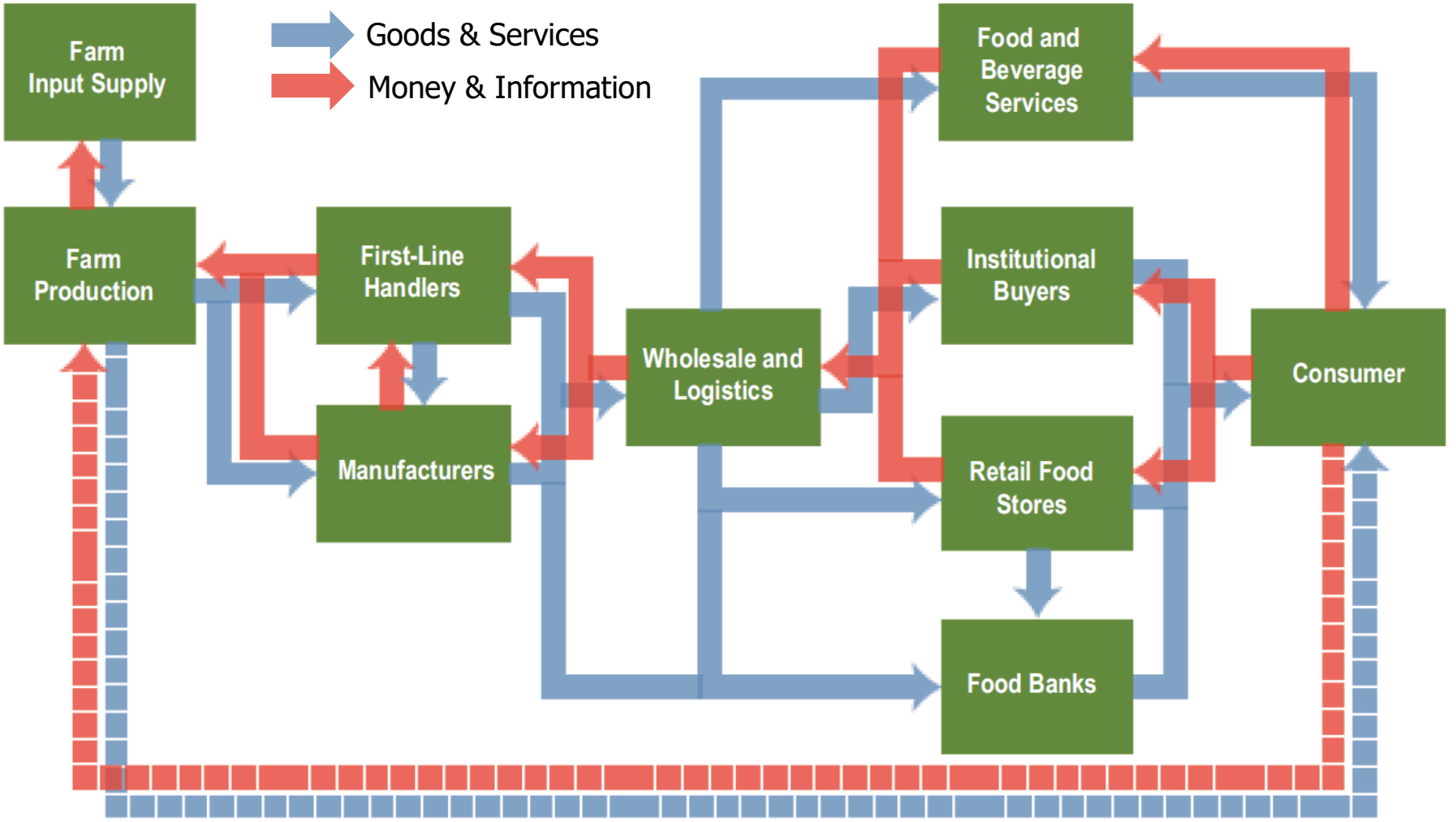
Learning Goals

1. To learn the major parts of the US food system and the flow of goods & information
   a. Where Farms fit into the US food system
   b. Local examples of companies/organizations
   c. Employment opportunities for ABM/AAE majors
2. To become aware of the uniqueness of farms as part of the system
3. To understand the context for topics covered in AAE 320 and the ABM/AAE curriculum

Primary Sources

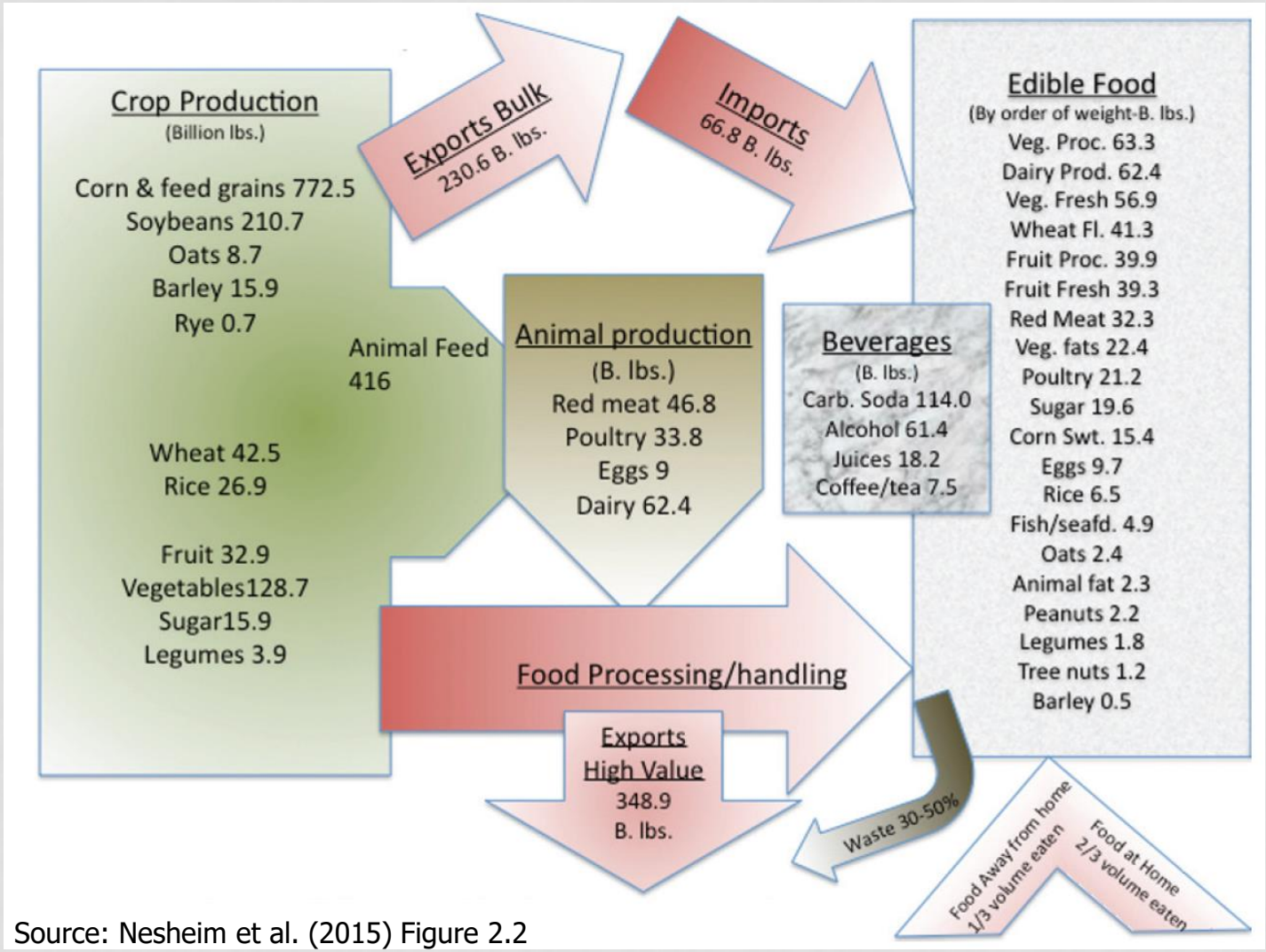
1. My experience as a professional agricultural economist
2. *A Framework for Assessing Effects of the Food System* (Nesheim et al. 2015)
   - Chapter 2: "The U.S. Food System"
     - Sub-Section: "**Defining and Mapping the Current US Food System**"
     - Pages 31-45 of the pdf/hardcover https://www.ncbi.nlm.nih.gov/books/NBK305181/pdf/Bookshelf_NBK305181.pdf, or
     - https://www.ncbi.nlm.nih.gov/books/NBK305173/

Conceptual Model of the U.S. Food Supply Chain



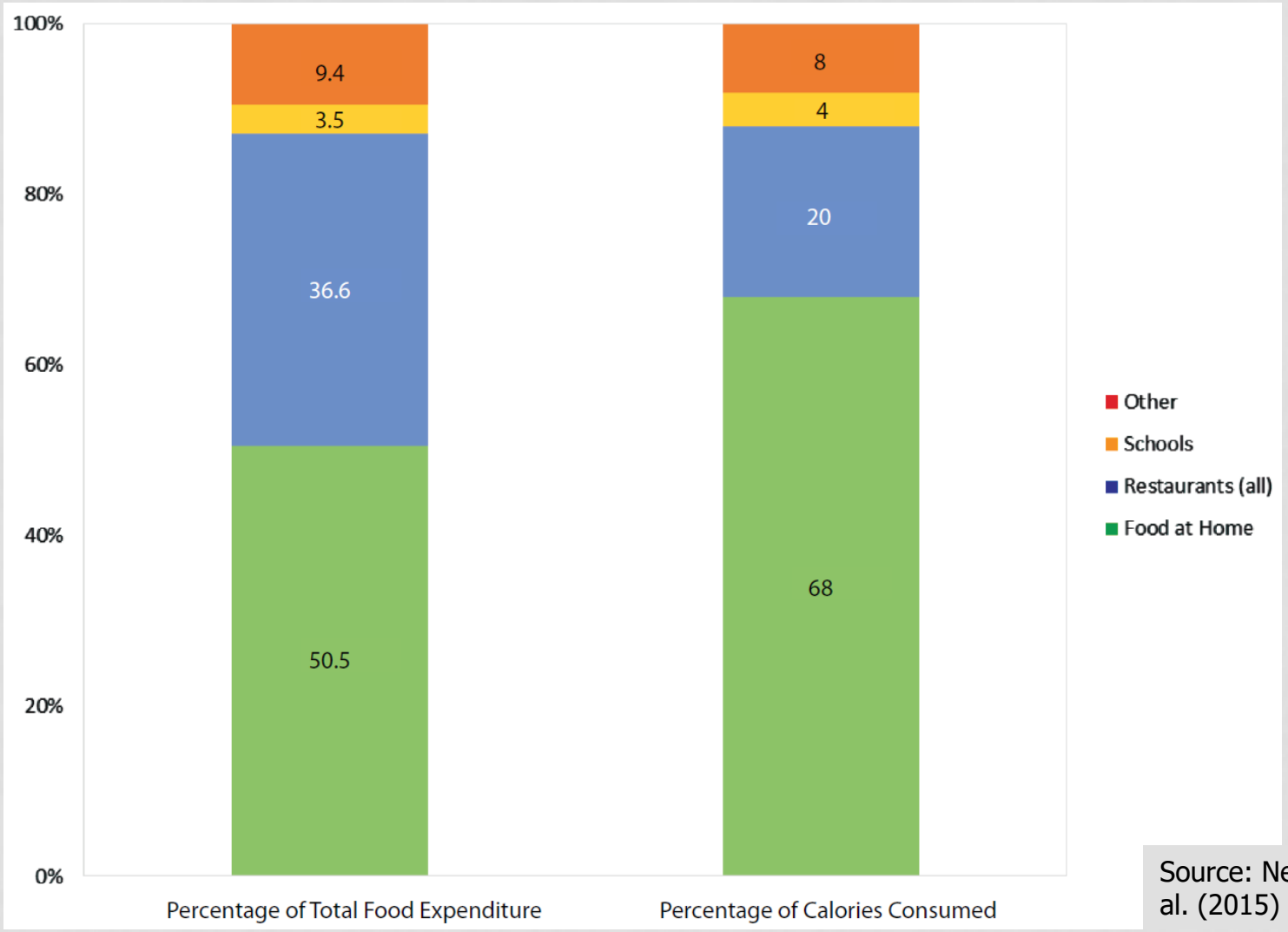
Source: Nesheim et al. (2015) Figure 2.1

U.S. Food Supply Chain: Food Flows



Source: Nesheim et al. (2015) Figure 2.2

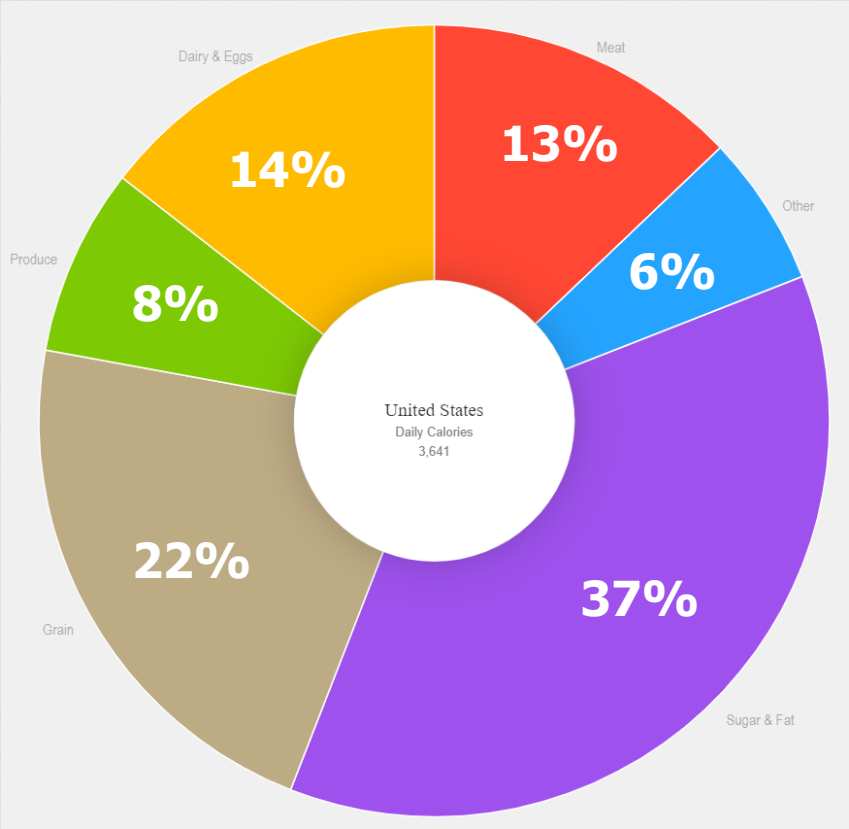
Where Do Consumers Spend Their Money and Eat Their Calories?



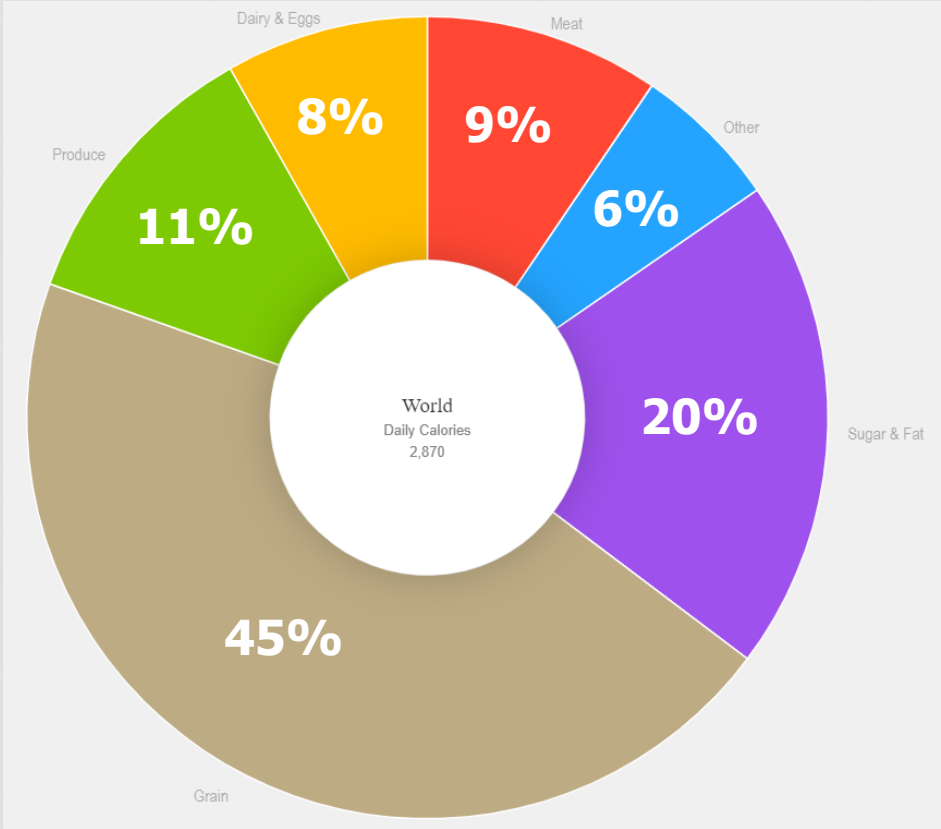
Source: Nesheim et al. (2015) Figure 2.3

What Do We Eat?
Calories by Source (2011)

United States Average

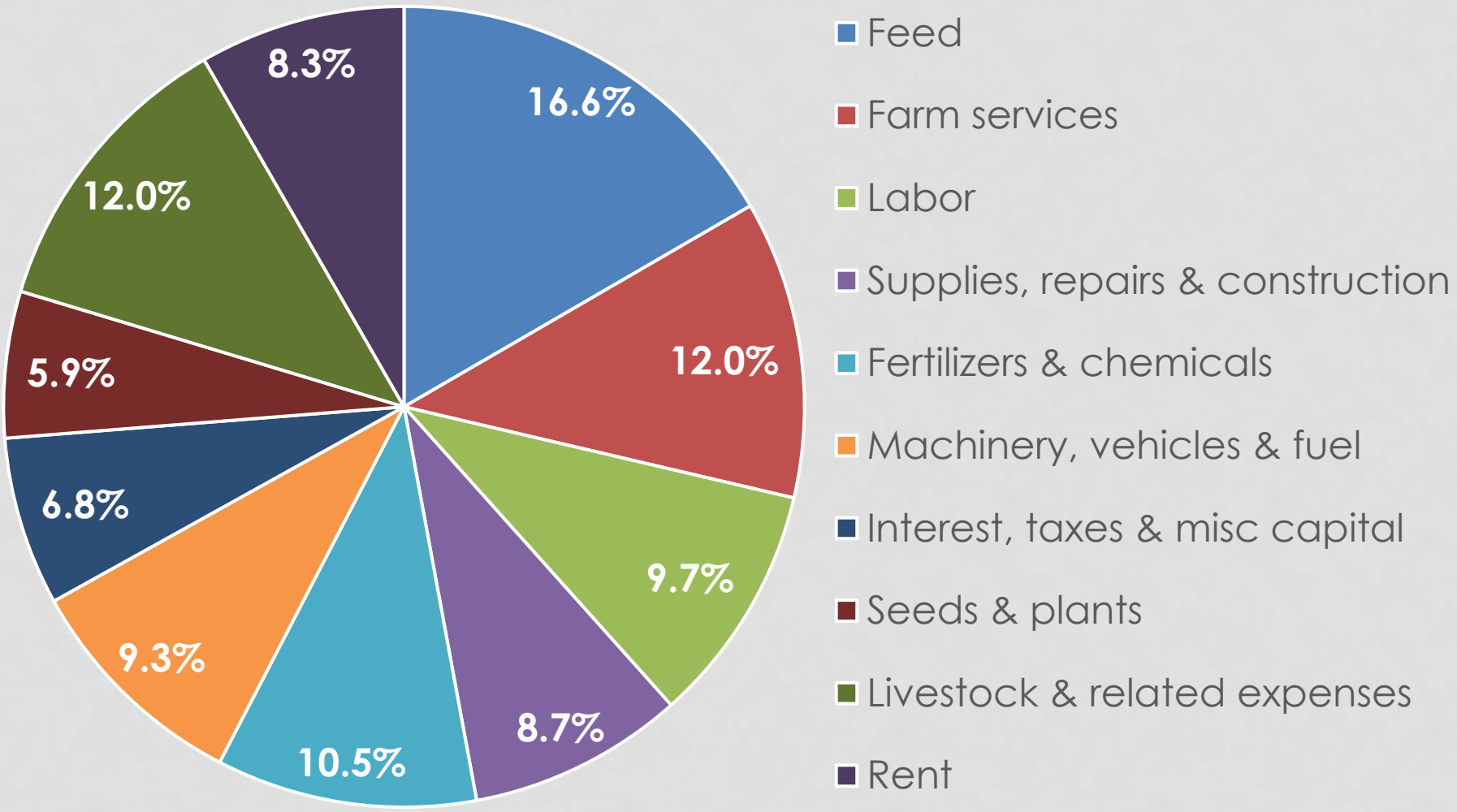


World Average



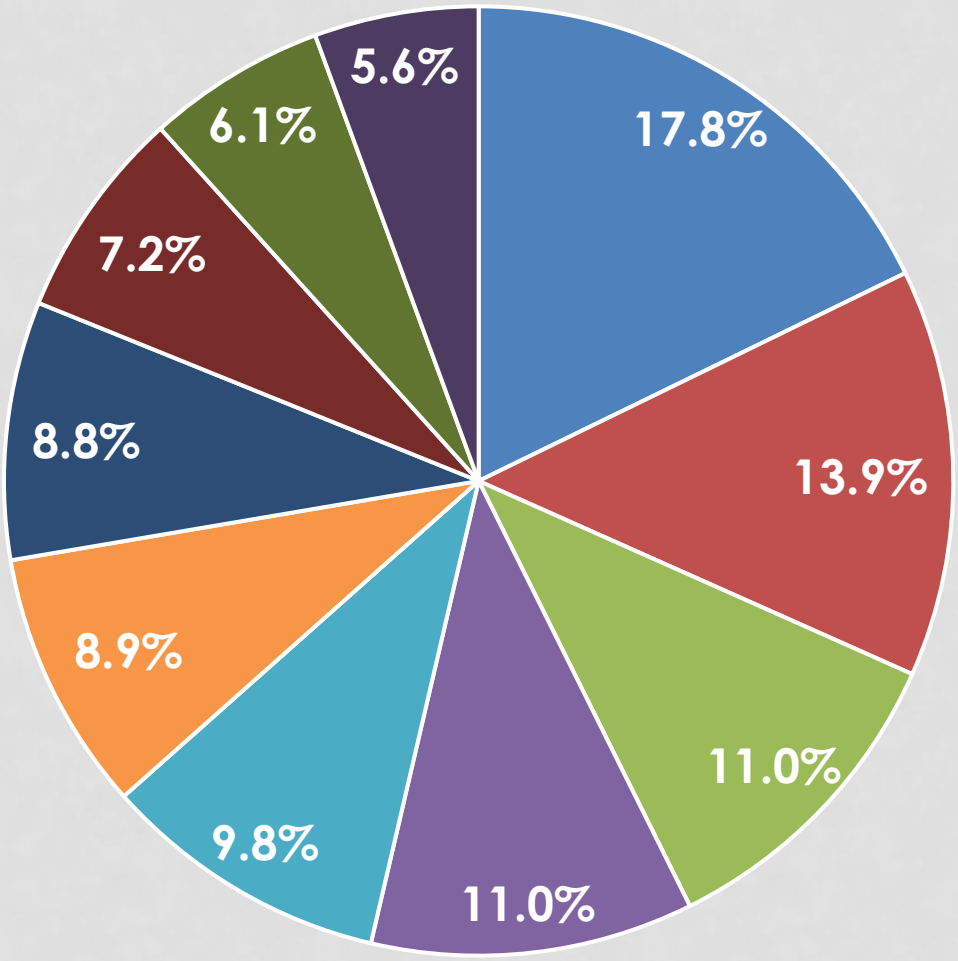
Source: https://www.nationalgeographic.com/what-the-world-eats/

US Farm Production Expenditures in 2019



Source: USDA NASS Farm Production Expenditures 2019 Summary

WI Farm Production Expenditures in 2018 by Major Category



$10 Billion in 2018

- Feed
- Farm services
- Labor
- Supplies, repairs & construction
- Fertilizers & chemicals
- Machinery, vehicles & fuel
- Interest, taxes & misc capital
- Seeds & plants
- Livestock & related expenses
- Rent

Source: WI Ag Stats 2019

WI Differences in Farm Input Expenditure Shares from the US

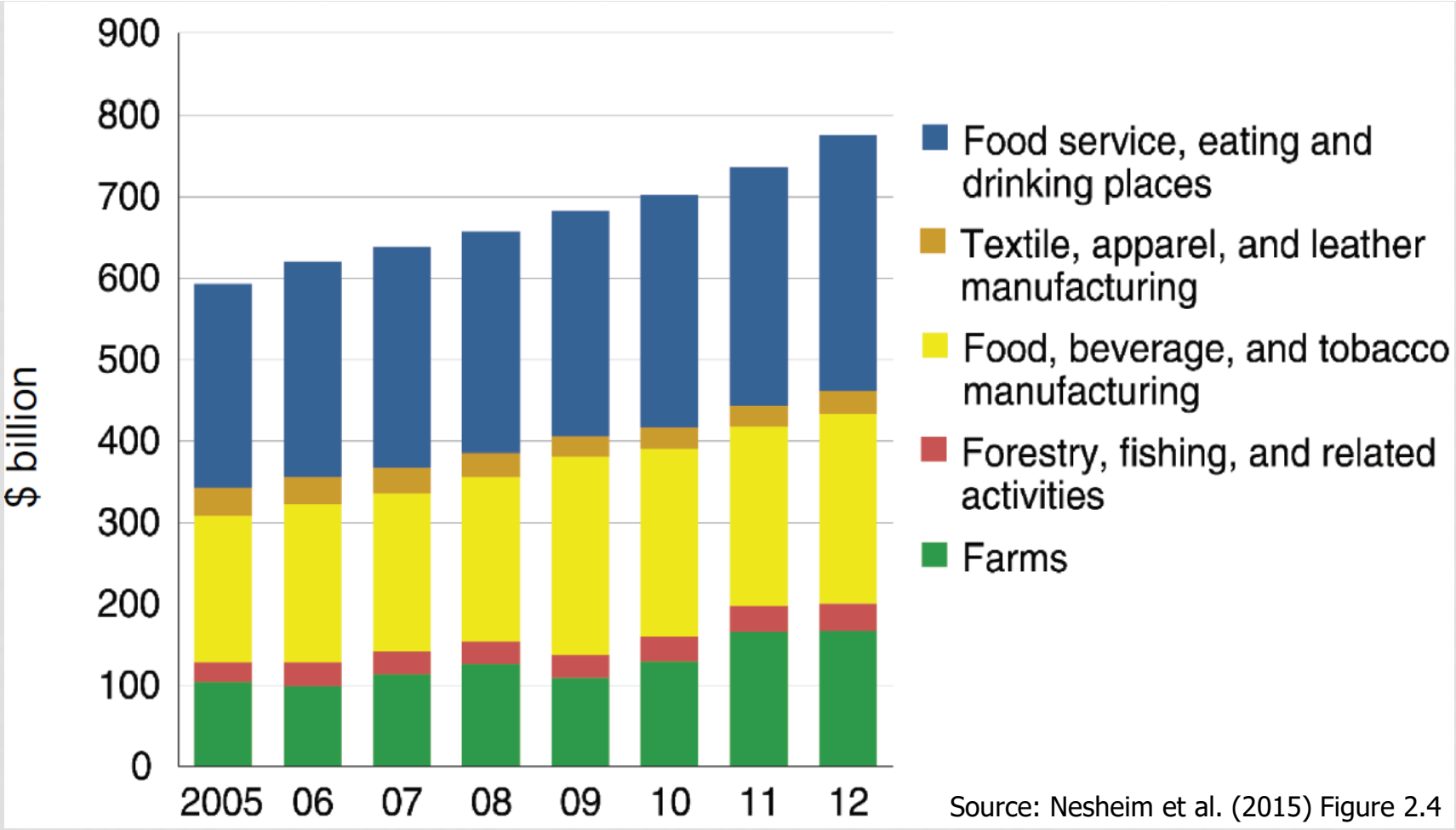
Category	US	WI
Feed	16.6%	17.8%
Farm services	12.0%	13.9%
Labor	9.7%	11.0%
Supplies, repairs & construction	8.7%	11.0%
Fertilizers & chemicals	10.5%	9.8%
Machinery, vehicles & fuel	9.3%	8.9%
Interest, taxes & misc capital	6.8%	8.8%
Seeds & plants	5.9%	7.2%
Livestock & related expenses	12.0%	6.1%
Rent	8.3%	5.6%

WI farmers have relatively lower fertilizer expenses and substantially lower livestock & rent expenses

Where is the Value Generated?

By Type of Product

Estimated value added to GDP by sectors of the US food supply chain 2005-2012

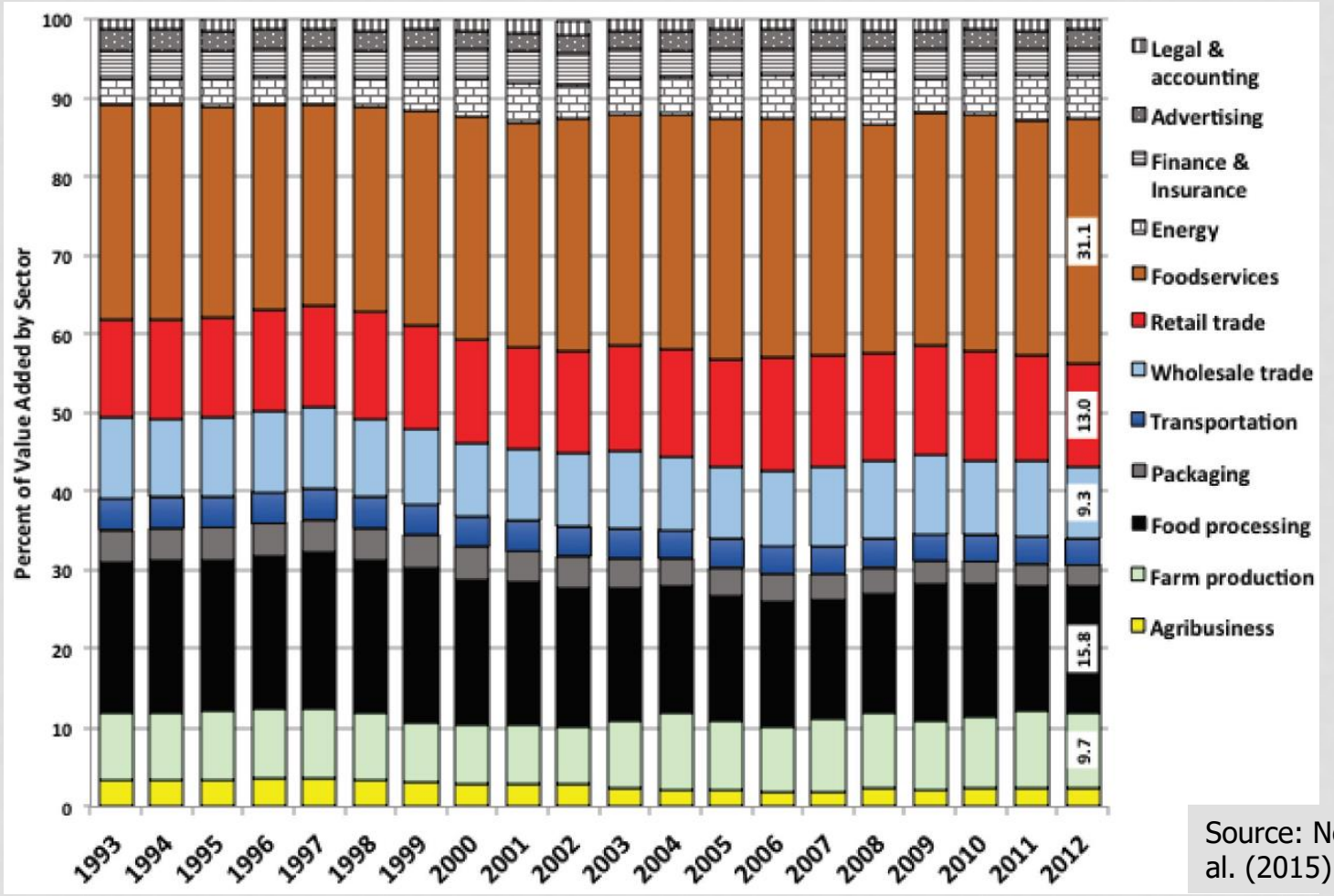


Source: Nesheim et al. (2015) Figure 2.4

Where is the Value Generated?

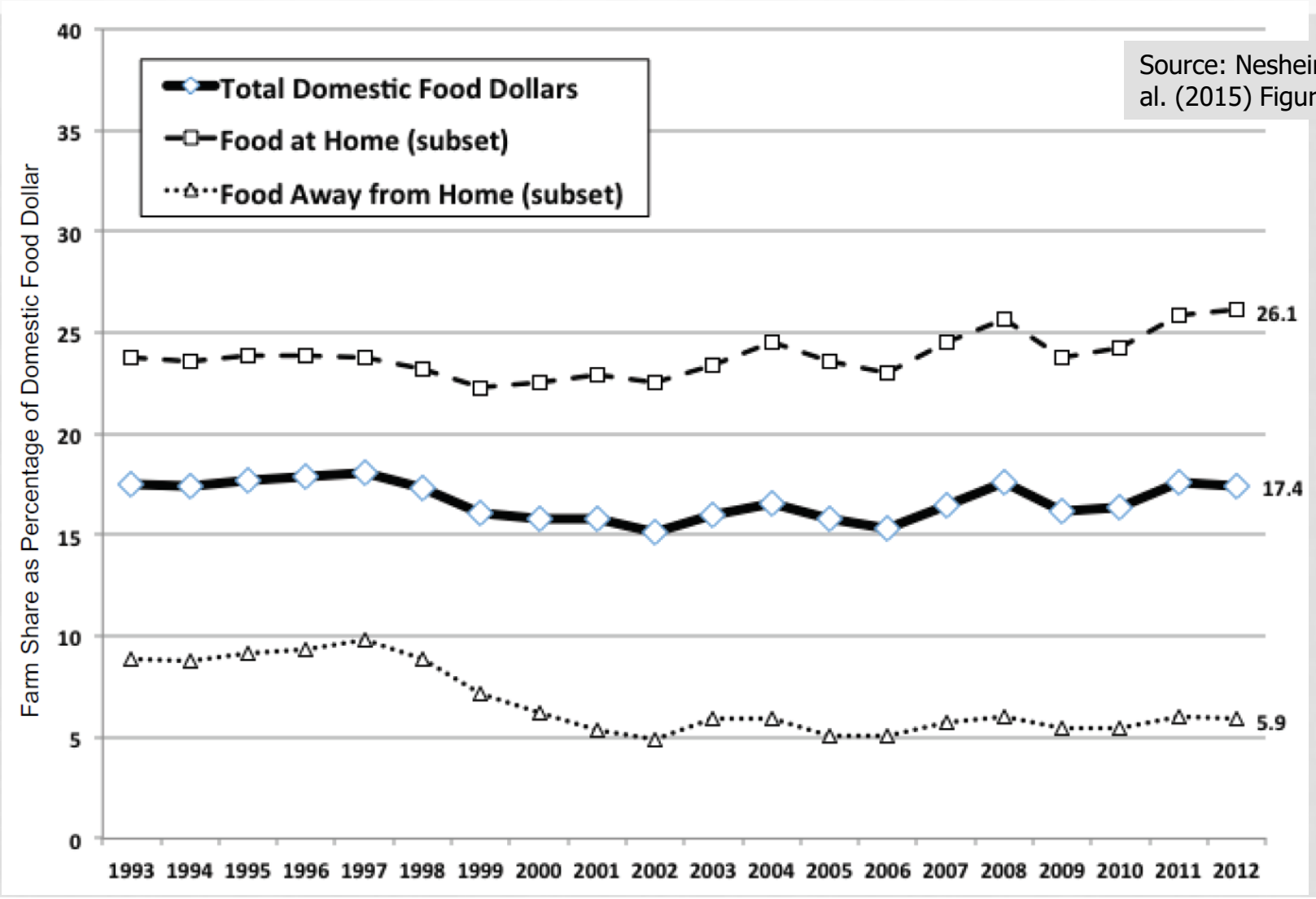
By Sector

Distribution of value added across subsectors of food supply chain 1993-2012



Source: Nesheim et al. (2015) Figure 2.6

How Much of Food Expenditures Do Farmers Keep?



Source: Nesheim et al. (2015) Figure 2.5

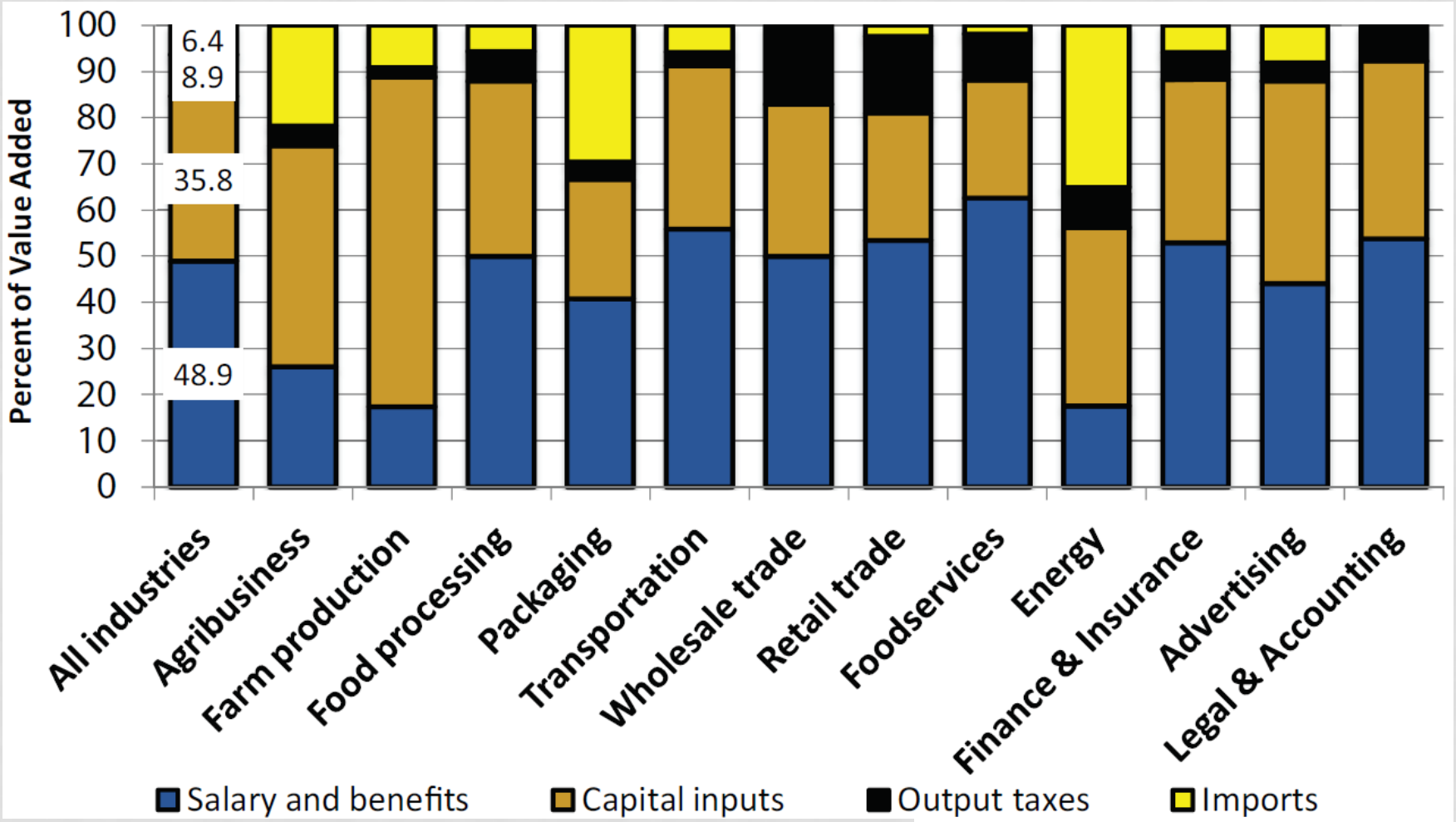
Farmer's Share of Food Spending for Specific Foods

Food	Share
Milk	43.5%
Top Sirloin	17.5%
Potatoes	17.5%
Beer	0.4%
Bacon	10.7%
Ham	6.3%

Source: https://nfu.org/farmers-share/

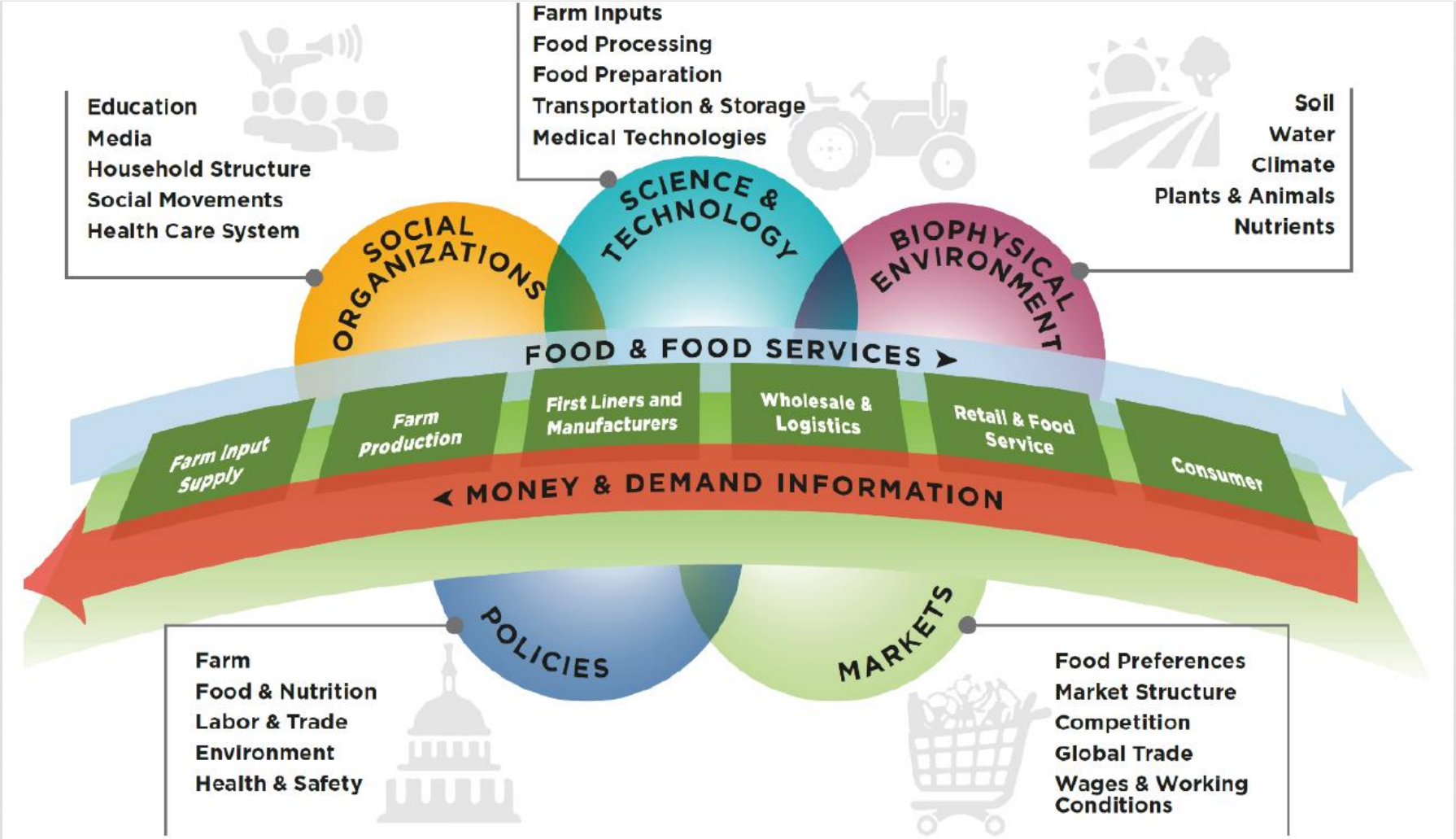
How is the Value Generated – By Capital or Labor? (By Sector)

Distribution of value added by factor of production across US subsectors, 2012



Source: Nesheim et al. (2015) Figure 2.7

Links between the Food System and Environmental and Social Systems



Source: Nesheim et al. (2015) Figure 2.8

Discussion Questions

1. Give examples of Wisconsin companies or organizations that operate in each major part of the US food system?
   a. Which ones operate nationally/internationally?
   b. Which ones operate over more than one part?
2. What parts of the system are more consolidated than others? Why do you think this is?
3. Why do we focus on farms and agriculture?
   a. How would the supply chain system figure look for more "traditional" industries?
   b. Can you think of other industries with a structure like the food system with farmers?