

The US Food System

AAE 320: Farming Systems Management

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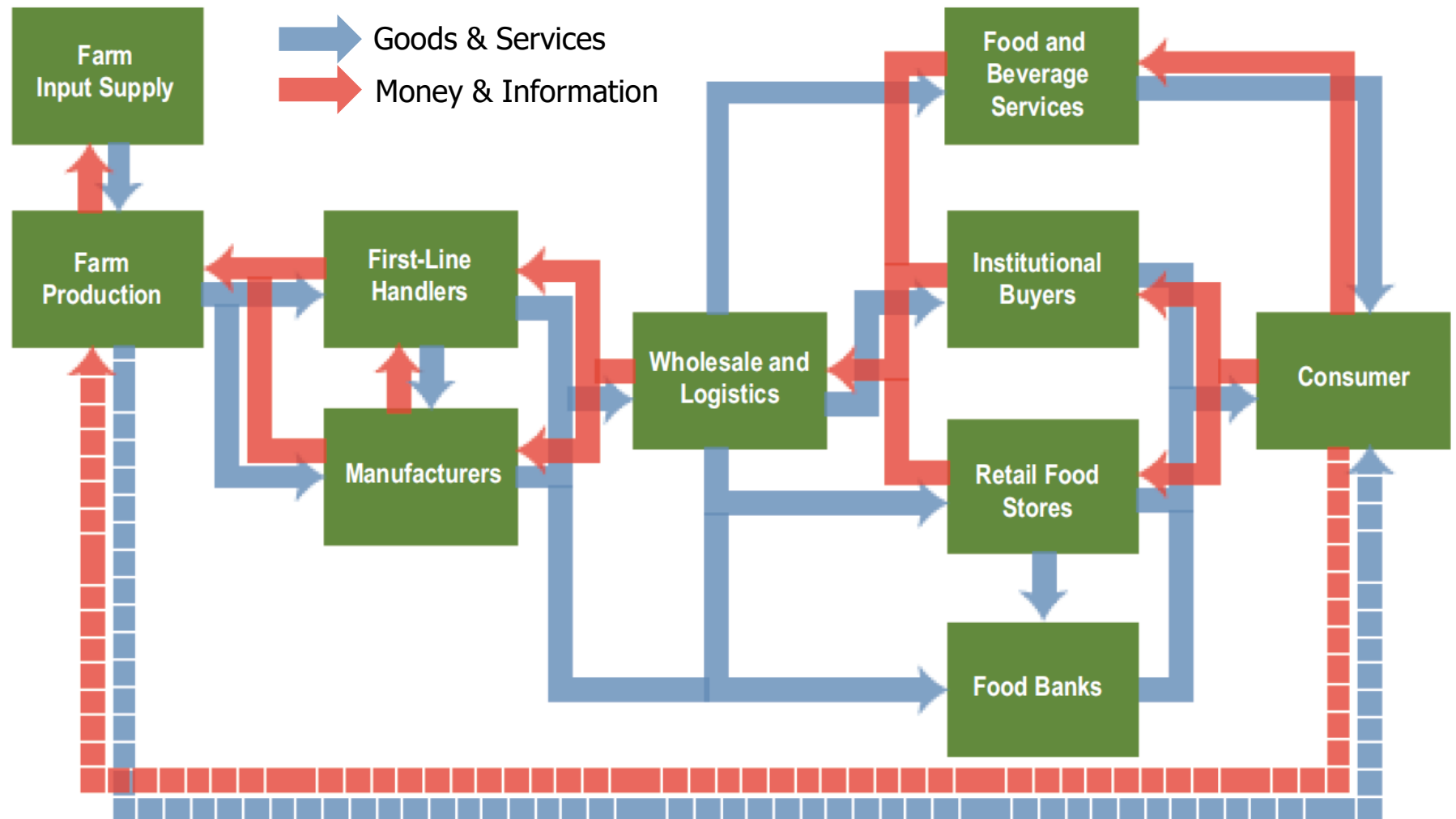
Learning Goals

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

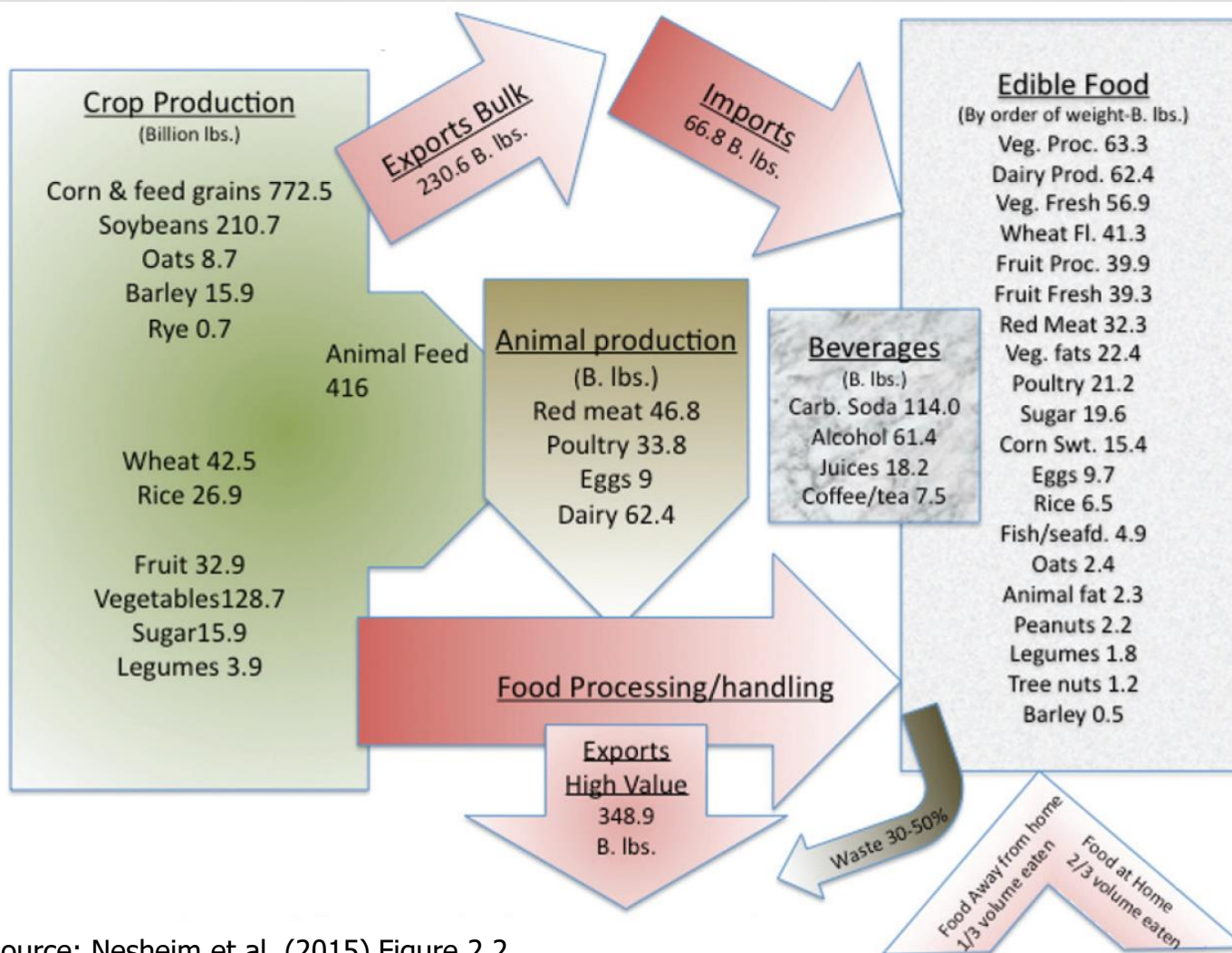
Primary Sources

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

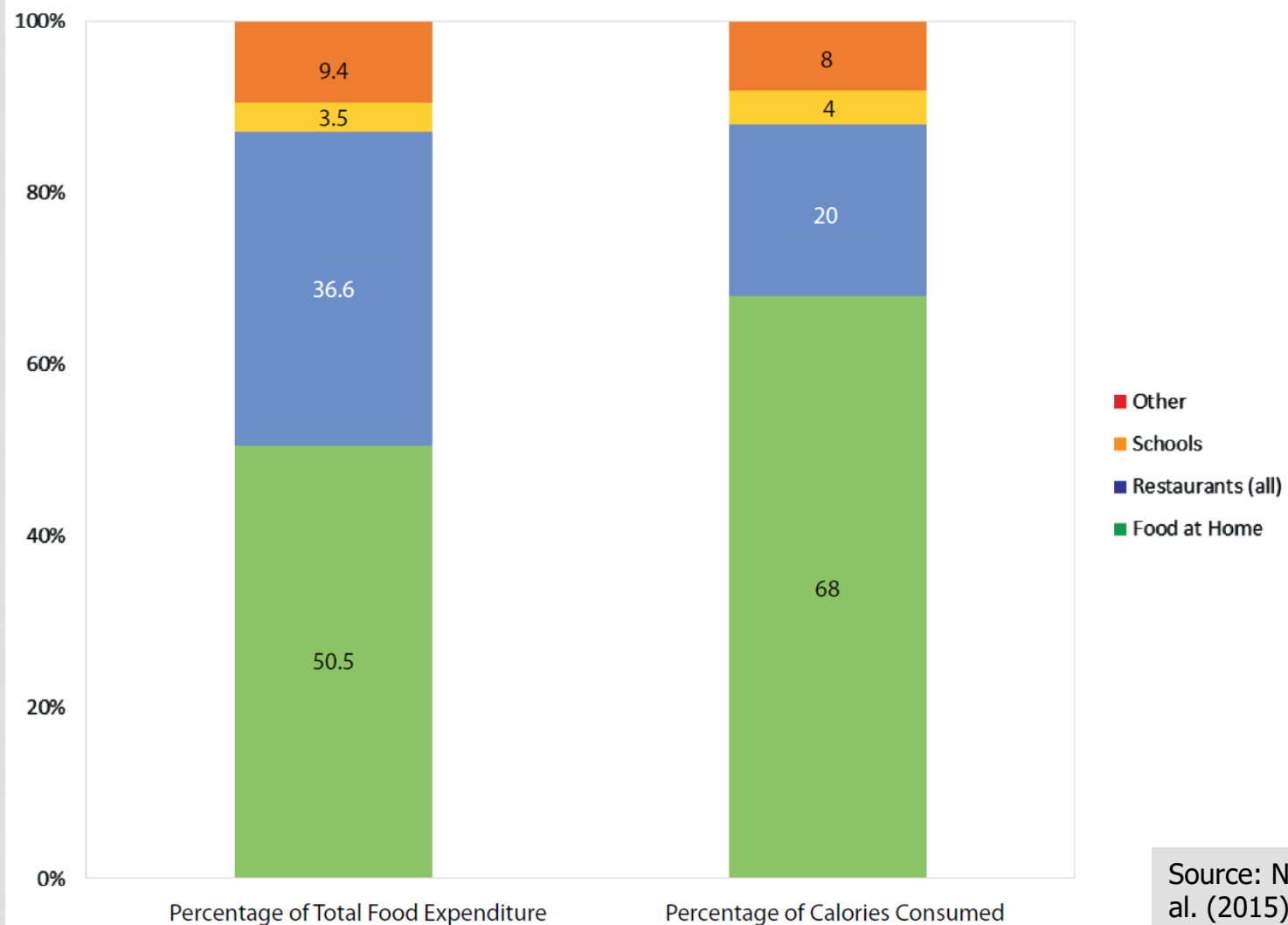


U.S. Food Supply Chain: Food Flows



Source: Nesheim et al. (2015) Figure 2.2

Where Do Consumers Spend Their Money and Eat Their Calories?

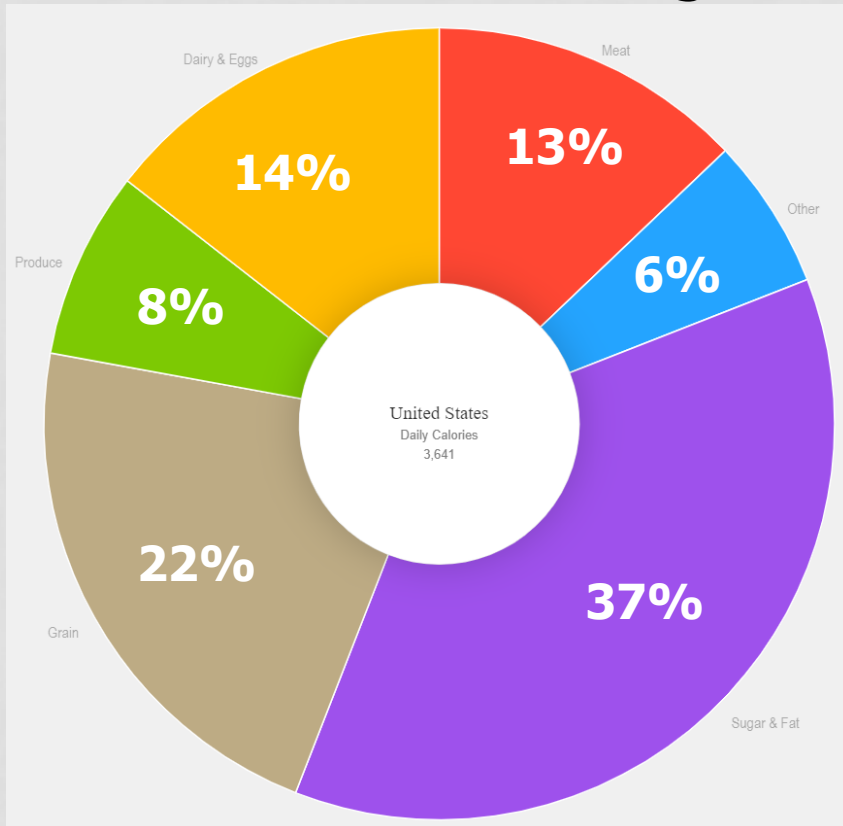


Source: Nesheim et al. (2015) Figure 2.3

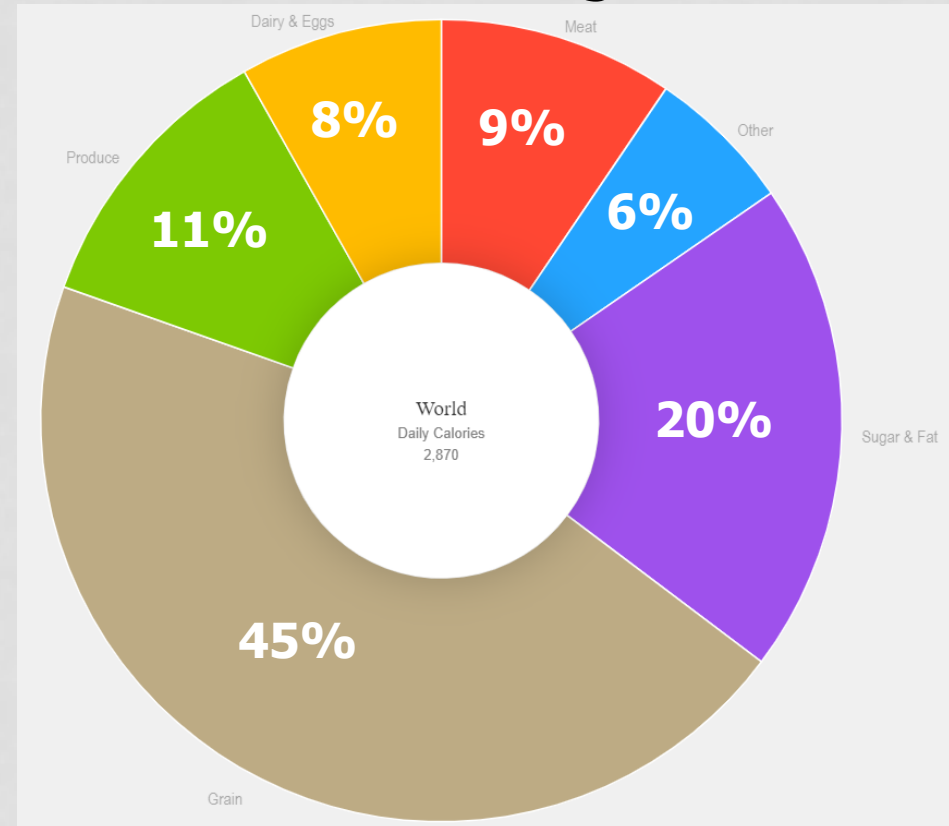
What Do We Eat?

Calories by Source (2011)

United States Average



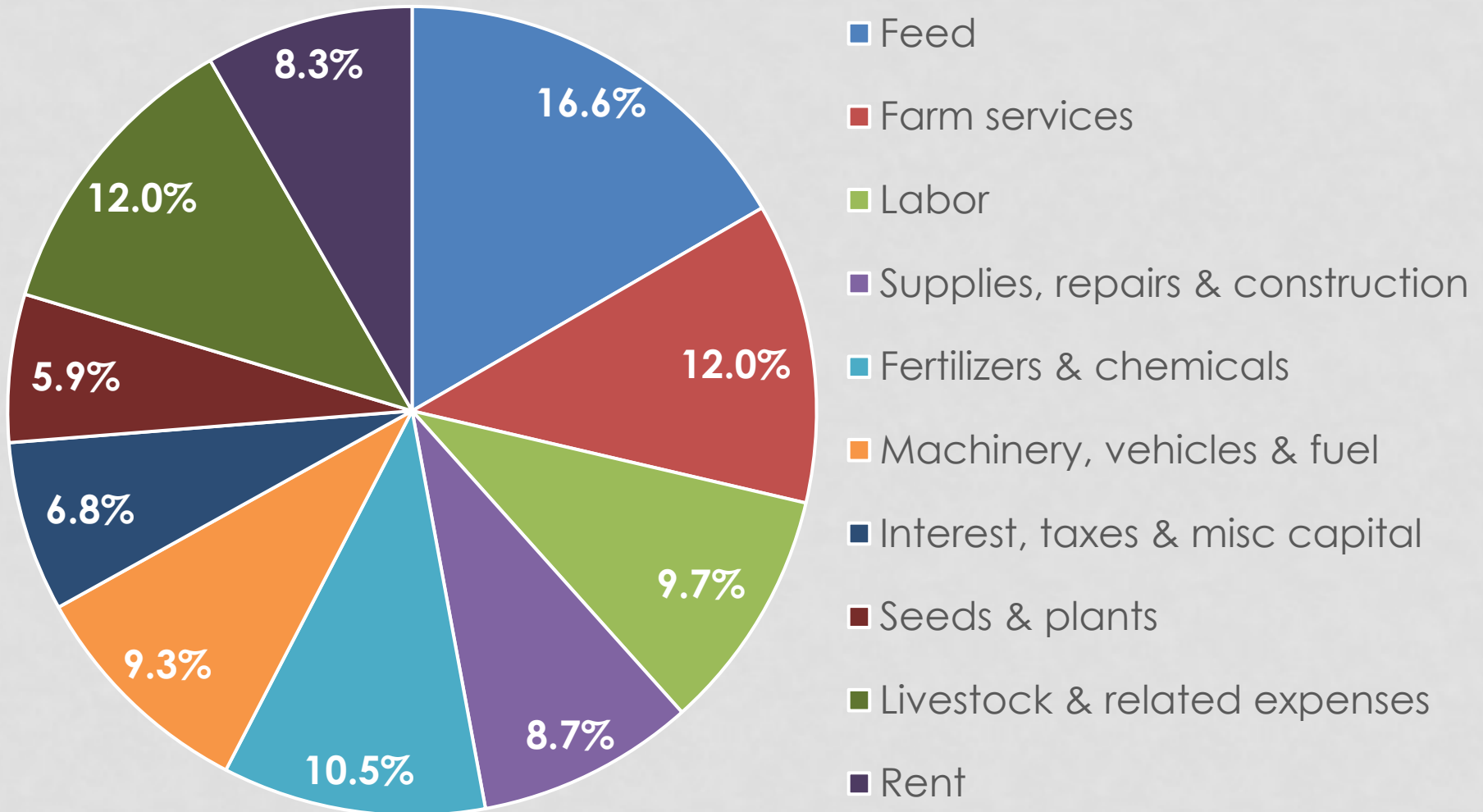
World Average



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

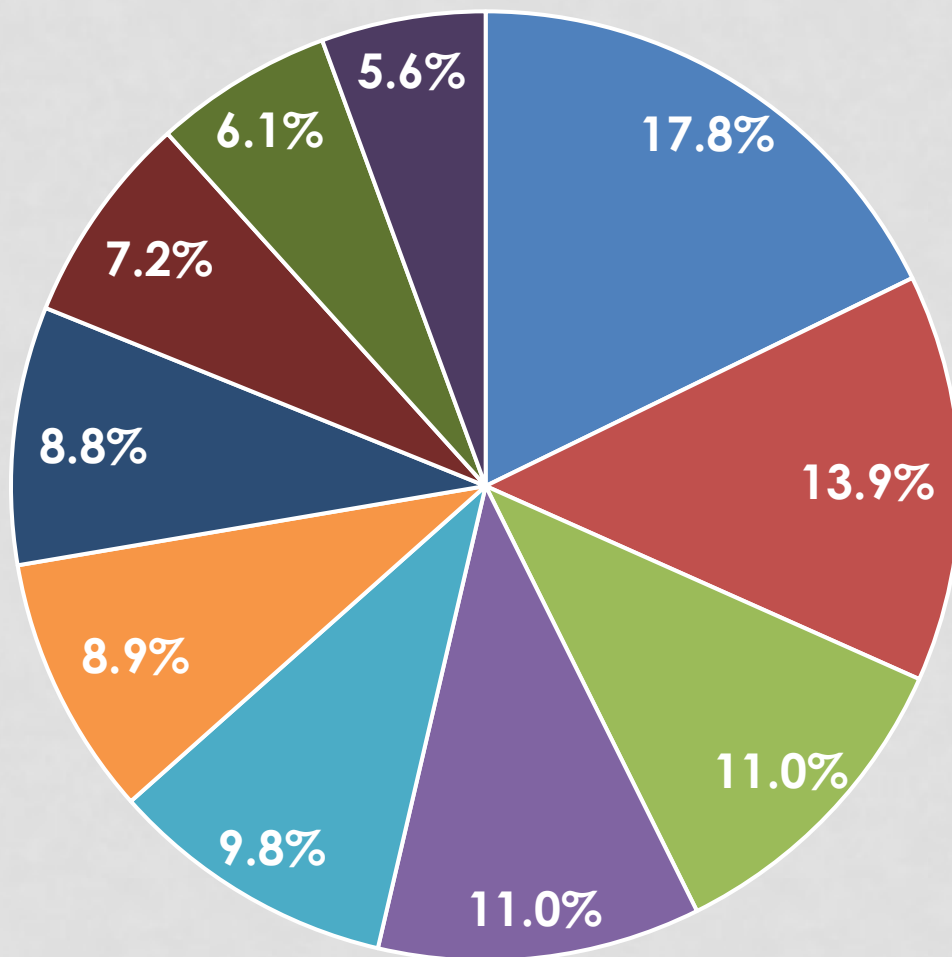
US Farm Production Expenditures in 2019

\$358 Billion in 2019



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

WI Differences in Farm Input Expenditure Shares from the US

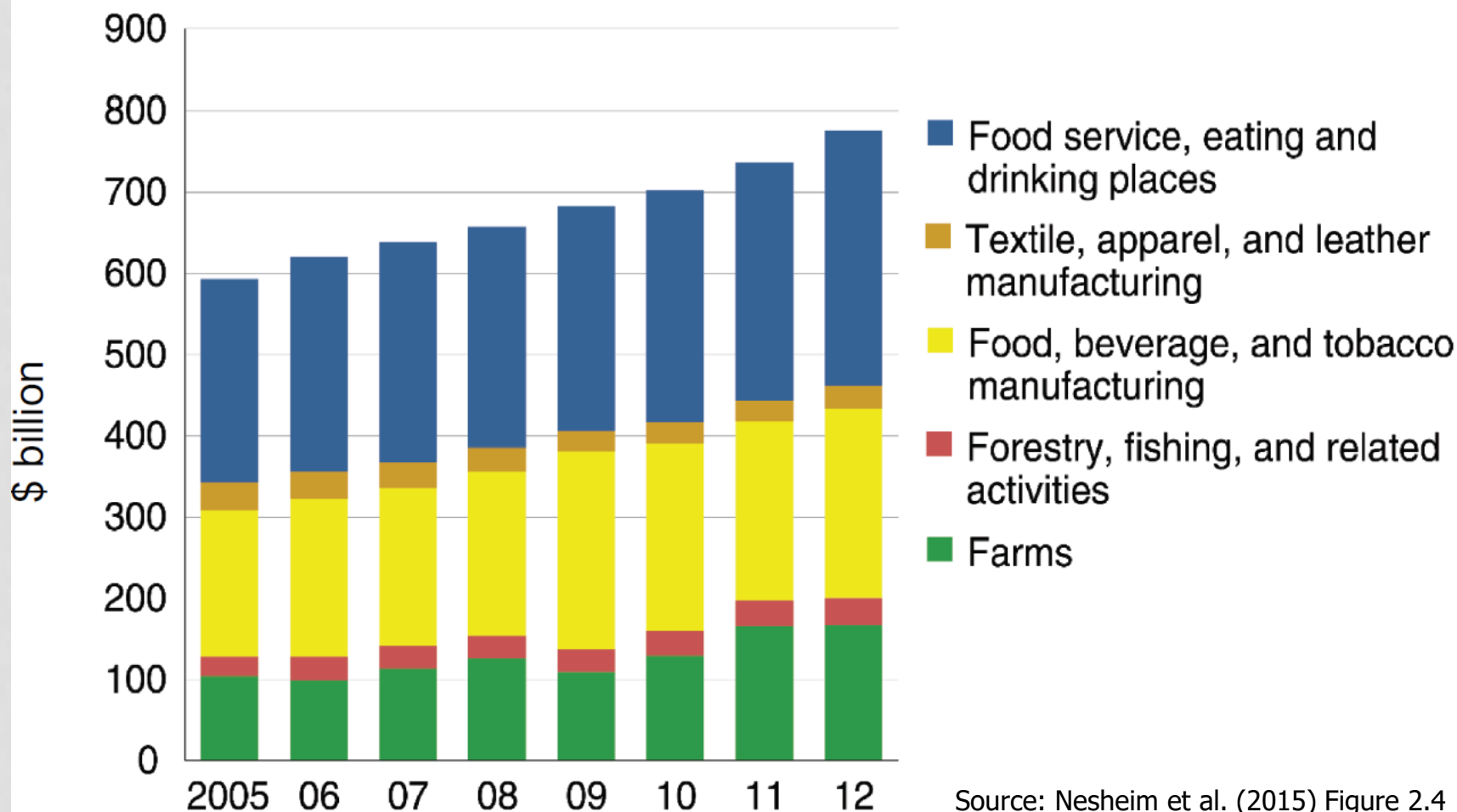
Category	US	WI
Feed	16.6%	17.8%
Farm services	12.0%	13.9%
Labor	9.7%	11.0%
Supplies, repairs & construction	8.7%	11.0%
Fertilizers & chemicals	10.5%	9.8%
Machinery, vehicles & fuel	9.3%	8.9%
Interest, taxes & misc capital	6.8%	8.8%
Seeds & plants	5.9%	7.2%
Livestock & related expenses	12.0%	6.1%
Rent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

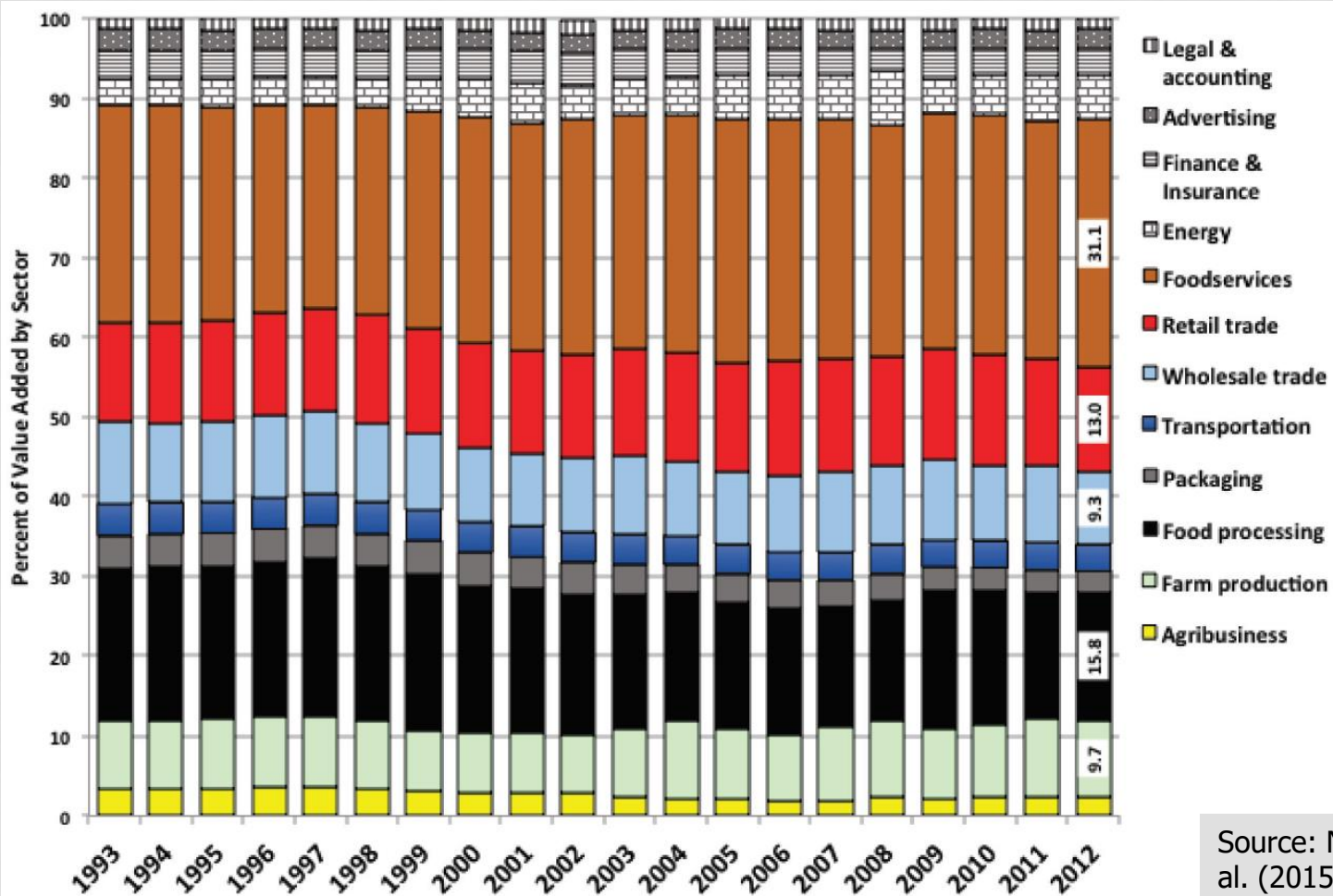


Source: Nesheim et al. (2015) Figure 2.4

Where is the Value Generated?

By Sector

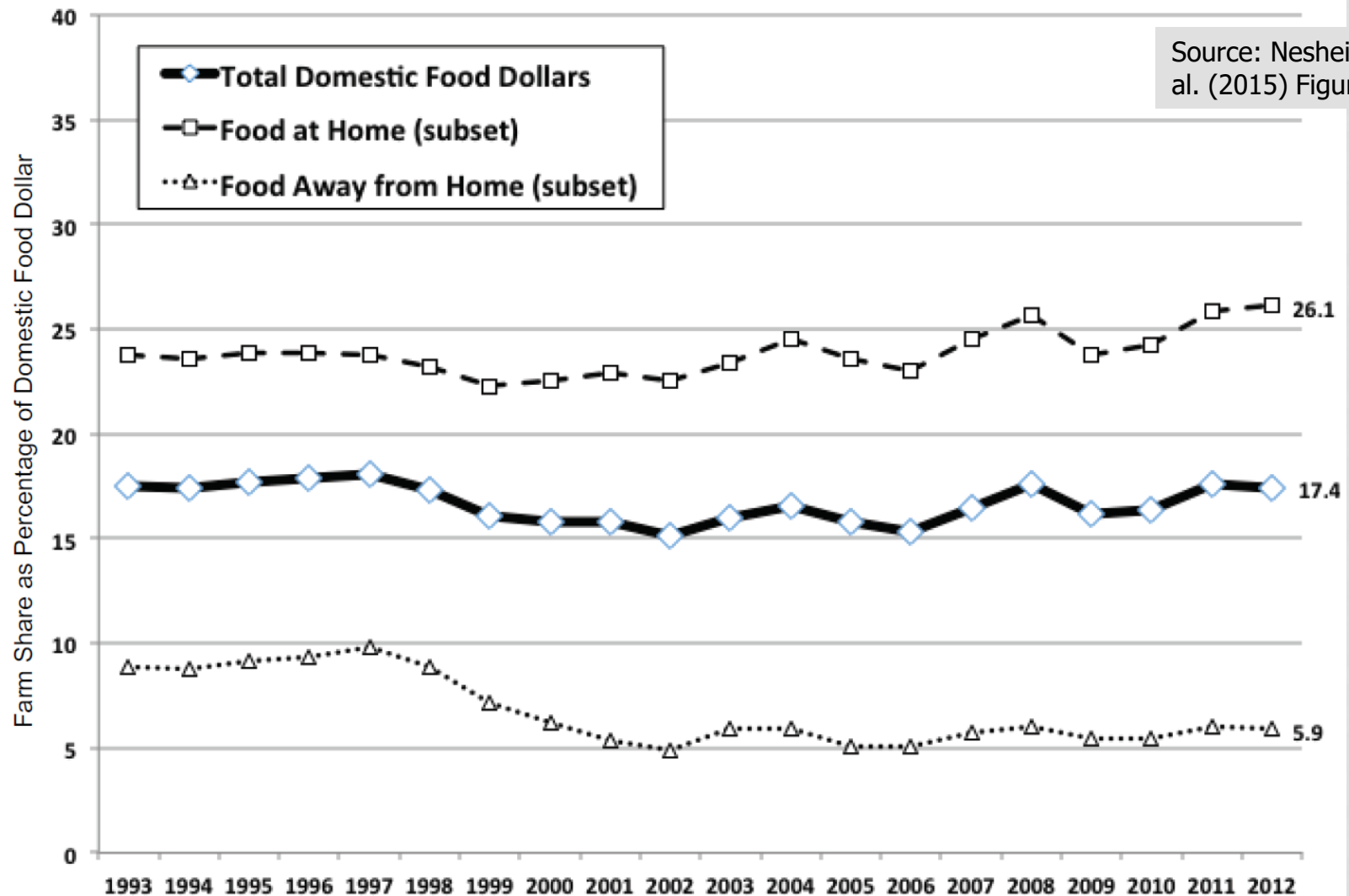
Distribution of value added across subsectors of food supply chain 1993-2012



Source: Nesheim et al. (2015) Figure 2.6



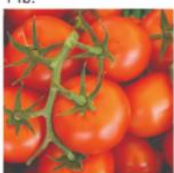




How Much of Food Expenditures Do Farmers Keep?

Source: Nesheim et al. (2015) Figure 2.5



Farmer's Share of Food Spending for Specific Foods

Did you know that farmers and ranchers receive only 14.6* cents of every food dollar that consumers spend? According to the USDA, off farm costs including marketing, processing, wholesaling, distribution and retailing account for more than 80 cents of every food dollar spent in the United States.

Bacon 1 lb.  Retail: \$5.33 Farmer: \$0.57	Top Sirloin Steak 1 lb.  Retail: \$9.99 Farmer: \$1.75	Bread 2 lbs.  Retail: \$3.99 Farmer: \$0.11	Fresh Carrots 5 lbs.  Retail: \$4.89 Farmer: \$2.42	Beer 6-pack cans  Retail: \$9.99 Farmer: \$0.04
Cereal 18 oz. box  Retail: \$3.49 Farmer: \$0.05	Tomatoes 1 lb.  Retail: \$2.99 Farmer: \$0.57	Eggs 1 dozen  Retail: \$1.59 Farmer: \$0.85	Flour King Arthur, 5 lbs.  Retail: \$3.79 Farmer: \$0.38	Boneless Ham 1 lb.  Retail: \$8.99 Farmer: \$0.57
Lettuce 1 lb.  Retail: \$2.49 Farmer: \$0.25	Milk 1 gallon, fat free  Retail: \$3.59 Farmer: \$1.56	Fresh Apples 1 lb.  Retail: \$2.49 Farmer: \$0.59	Fresh Potatoes Russet, 5 lbs.  Retail: \$6.99 Farmer: \$1.22	Soda 2 liters  Retail: \$2.29 Farmer: \$0.04

Farmer's share derived from USDA, NASS "Agricultural Prices," 2020. | Prices based on June 2020 data.
 Retail prices based on Safeway (SE) brand except where noted. | *Figure according to U.S. Department of Agriculture Economic Research Service

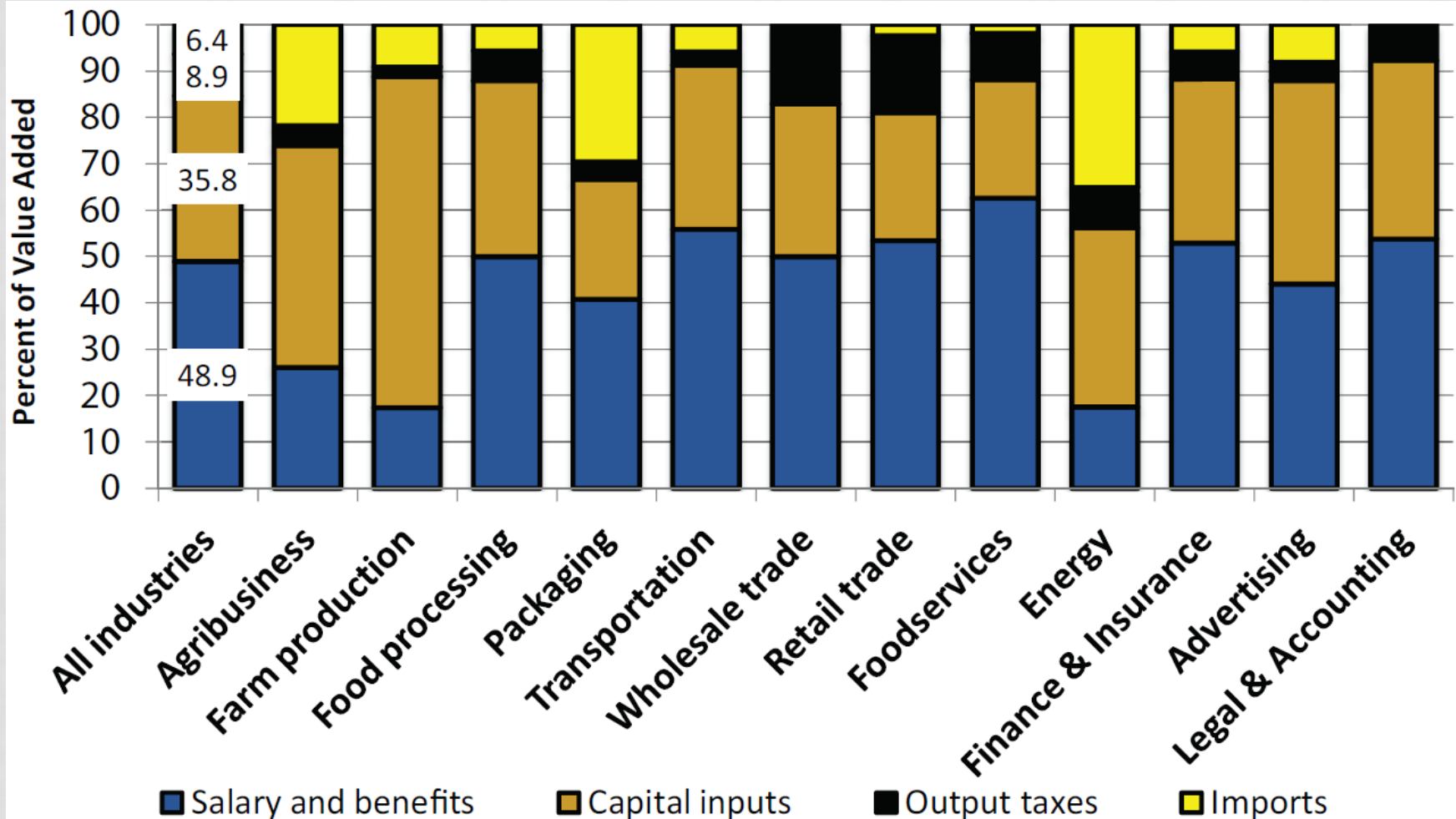
August 3, 2020

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/>

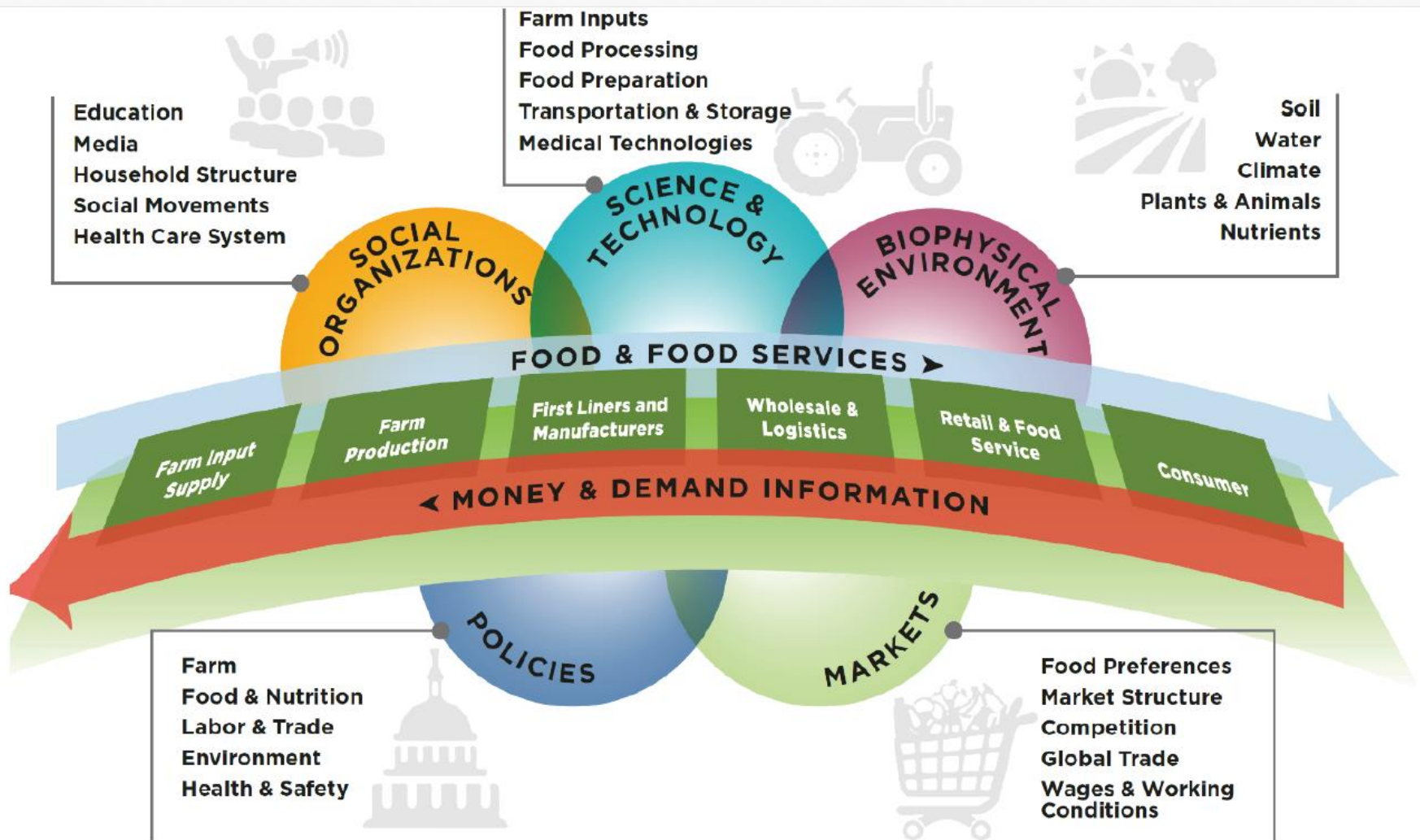
How is the Value Generated – By Capital or Labor? (By Sector)

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



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?