Chapter 1: The Business of Agribusiness

Objectives

- Functional responsibilities of management in agribusiness
- Unique characteristics of the food and agribusiness industries
- The size, scope, and importance of the food production and marketing system

Objectives

- The farm-food marketing bill
- The food sector, the production agriculture sector, and the input supply sector
- Trends in home and away-from-home food consumption

Objectives

- Key changes occurring on U.S. farms
- Major inputs used by the production agriculture sector
- Types of firms involved in producing and distributing agricultural inputs

Objectives

- Changes in the structure and technology of agriculture will affect the next generation of farm and ranch managers
- Management skills that future farmers and ranchers will need to respond to these changes

Key Functions of Management in Agribusiness

1. Marketing management
2. Financial management
3. Supply chain management
4. Human resources management

Unique Dimensions of Food and Agribusiness Markets

- Food as a product
- Biological nature of production agriculture
- Seasonal nature of the business
- Uncertainty of the weather
- Types of firms
- Variety of market conditions
- Rural ties
- Government involvement

Table 1.1a Contribution of the Food and Agricultural Industries to the U.S. Economy, 2013

	Value Added to GDP (billion $)	% Share of U.S. GDP	Number of FTE Workers (000)	% Share of Total US Employment
US GDP	$16,768.1		125,980	
Farms	$192.1	1.15%	676	0.54%
Forestry, fishing, and related activities	$34.6	0.21%	485	0.38%
Food and beverage and tobacco products	$235.1	1.40%	1,597	1.27%
Textile mills and textile product mills	$16.8	0.10%	223	0.18%
Apparel and leather and allied products	$10.4	0.06%	168	0.13%
Food services and drinking places	$325.4	1.94%	8,149	6.47%
Total for Food and Agricultural Industries	$814.4	4.86%	11,298	8.97%

Continued…

Table 1.1b Contribution of the Food and Agricultural Industries to the U.S. Economy, 2013

	Value Added to GDP (billion $)	% Share of U.S. GDP	Number of FTE Workers (000)	% Share of Total U.S. Employment
Total Inputs for Agriculture, Forestry, Fishing, and Hunting	$251.7	1.50%		
Energy inputs	$25.3	0.15%		
Materials inputs	$163.5	0.98%		
Purchased inputs	$62.9	0.38%		

Source: US Department of Commerce.

GDP = Gross Domestic Product
FAI = Food and Agricultural Industries

Table 1.2 Indicators of U.S. Agriculture Sector Efficiency

Country	GDP per Capita[a] 2013 U.S. $	% Labor Force in Agriculture[a]	% of GDP in Agriculture[a]	Average Farm Size in Acres[b]	% Personal Consumption Expenditures Spent on Food Consumed at Home 2013[c]
United States	$53,900	0.7	1.6	434.0	6.7
Argentina	22,700	5.0	10.4	1,279.5	20.7
Australia	45,900	3.6	3.7	7,501.4	10.0
Brazil	15,200	15.7	5.8	180.3	15.7
Canada	44,000	2.0	1.7	778.0	9.5
China	12,100	33.6	9.7	1.5	26.1
Egypt	11,100	29.0	14.6	2.6	37.4

Continued ...

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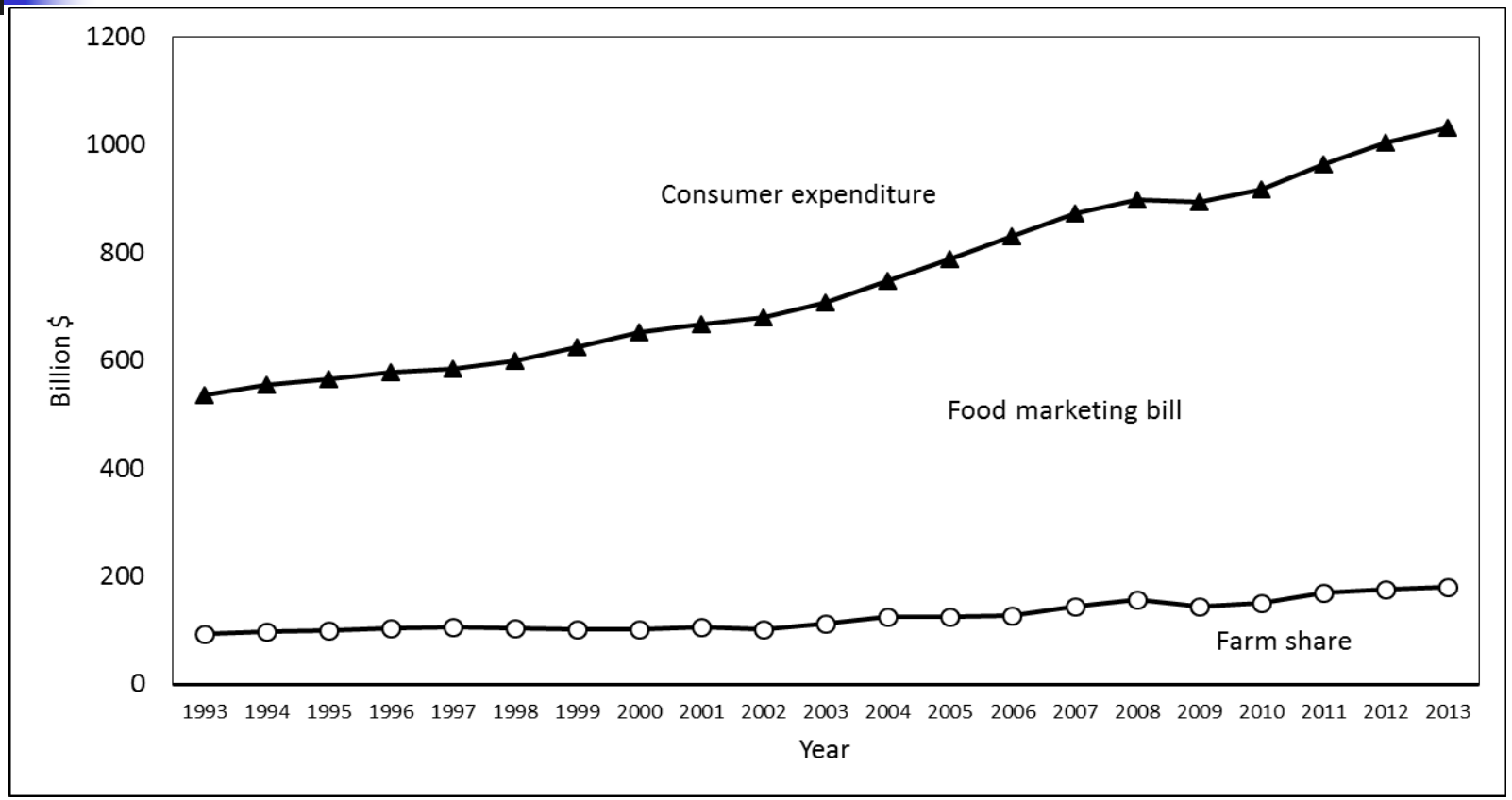
Egypt	11,100	29.0	14.6	2.6	37.4
Germany	44,200	1.6	0.9	111.9	12.0
India	5,500	49.0	17.9	3.4	29.6
Japan	37,300	3.9	1.2	4.8	13.6
Mexico	17,700	13.4	3.5	50.0	25.1
South Korea	34,400	6.9	2.4	4.3	13.4
Spain	32,500	2.9	3.2	59.3	13.8
United Kingdom	36,800	1.4	0.6	140.8	9.3

Source: [a]Central Intelligence Agency
[b]Food and Agriculture Organization
[c]Clauson

Figure 1.1 Farm Share and the Marketing Bill for Consumer Food Expenditures, 1993–2013



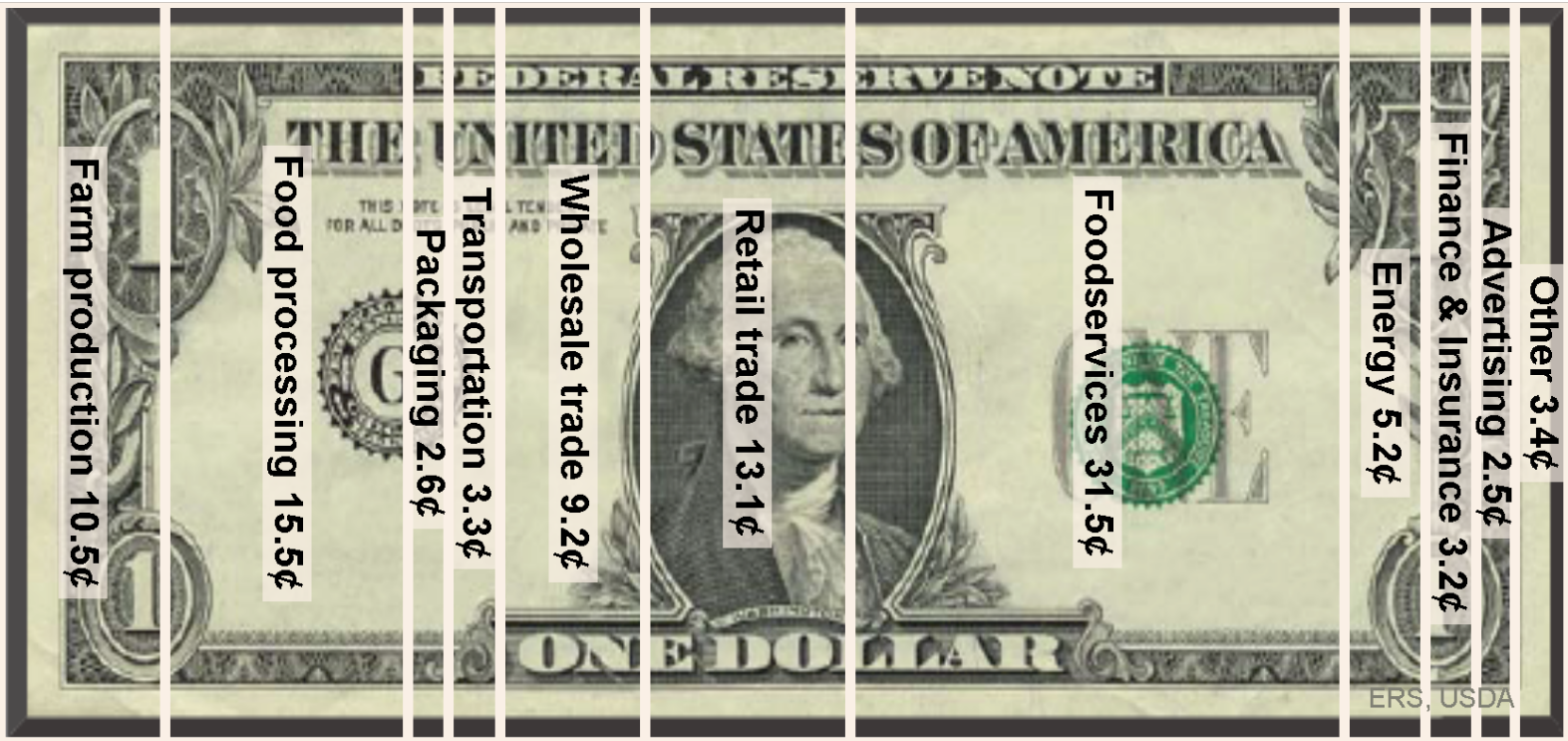
Source: Canning.

Figure 1.2 2013 Farm-Food Marketing Bill

What a dollar spent on food paid for in 2013

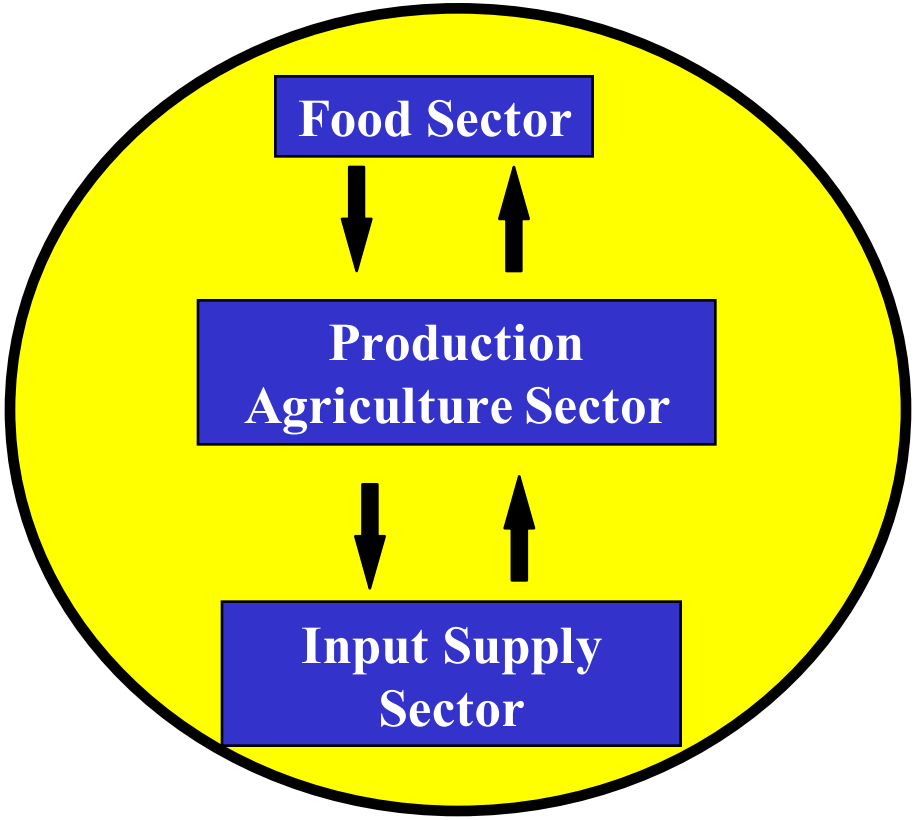
Source: Canning

Figure 1.3 Industry Sector Value-Added for the 2013 Food Marketing Bill



Source: Canning.

Figure 1.5 The Food Production and Marketing System



Primary Sectors of the Food System

Food sector

- Food processing, marketing, and distribution

Production agriculture sector

- Purchased inputs, natural resources, and managerial talents used to produce crop and livestock products

Input supply sector

- Thousands of different inputs

Food Sector

Food retailing

- One of the largest industries in the U.S.

Types of Retail Food Stores

Store type	# items	Sq. Ft.	Strategy
Supermarket	10,000	10,000–25,000	Conventional
Superstore	15,000	30,000–40,000	1-stop shopping Service/selection
Warehouse store	6,000–8,000	10,000	Low price
Super warehouse store	10,000–12,000	15,000+	Low price Variety
Combo store (pharmacy/other)	25,000	40,000+	High service 1-stop shopping
Hypermarket	50,000+	100,000+	Low price True 1-stop shop

Table 1.3 Sales of the Ten Largest U.S. and Canadian Food Retailers in 2014

Rank/Retailer	Number of Food Stores Owned	U.S. Food Store Sales (billion dollars)
1. Wal-Mart Stores	4,987	218.7
2. Kroger Co.	3,369	108.5
3. Costco Wholesale Corp.	664	91.5
4. Loblaw Cos.	2,440	37.8
5. Safeway	1,326	37.1
6. Publix	1,090	30.6
7. Ahold USA	766	23.7
8. Albertsons	1,081	24.5
9. H-E-B	363	22.6
10. CVS Health	7,749	20.1

Source: Supermarket News.

Food Sector

Food service

- USDA

  estimates 52% of the food dollar will be spent away from home by 2020

  - Traditional restaurants
  - Fast food/quick service
  - Institutional food service

Food Sector

Food wholesaling

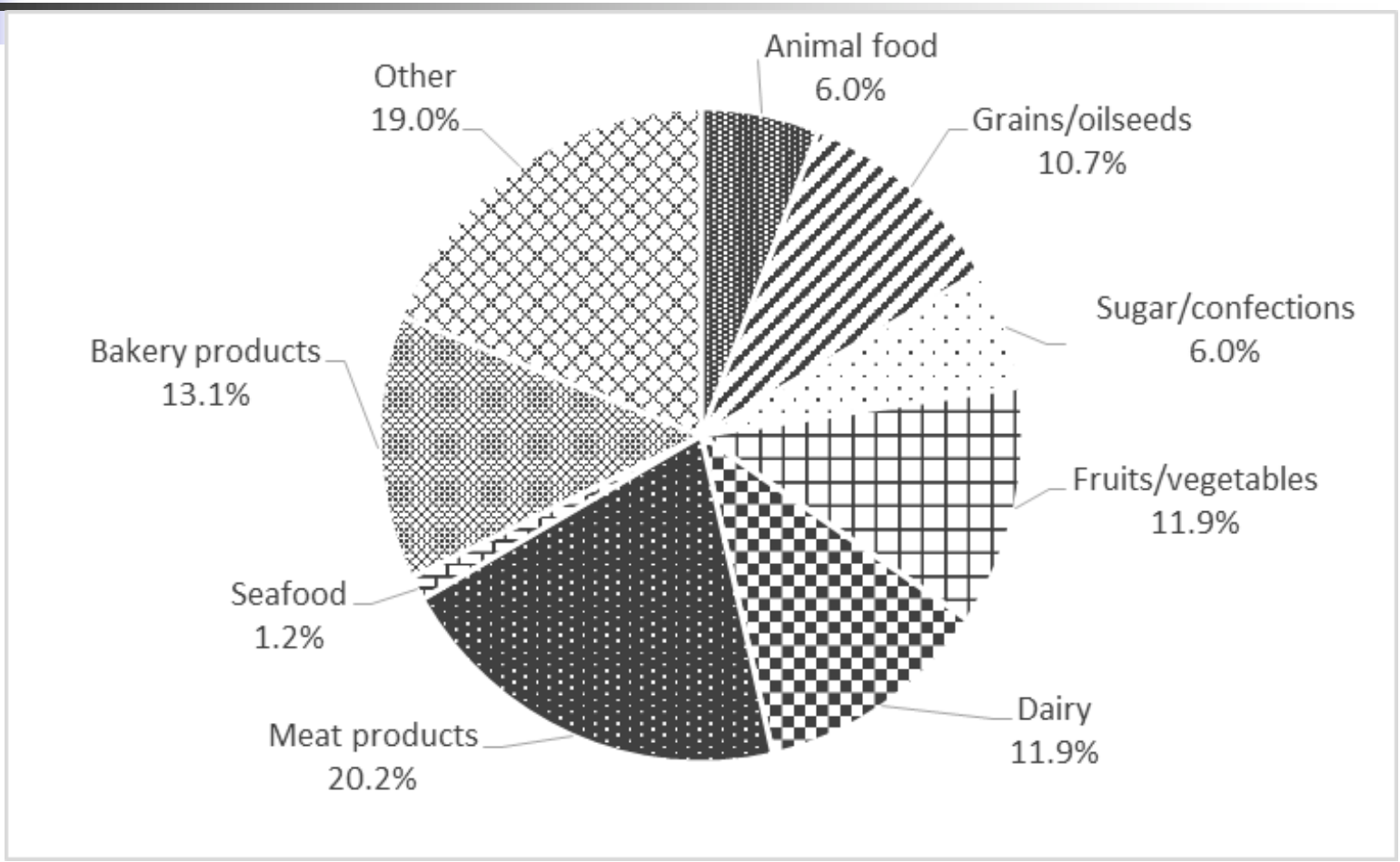
- Merchant wholesalers
- Manufacturers' sales branches and offices
- Wholesale agents and brokers

Food Sector

Food processing and manufacturing

- Examples include:
  - Meatpackers, bakers, millers, wet corn processors, cereal companies, brewers, and snack firms

Figure 1.10 Composition of Total Value-Added by Food Processors, 2011



Source: Martinez 2014

Food Sector

Transportation and storage firms

- Acquire or assemble commodities from agricultural producers, and store/transport these products for food manufacturing and processing firms
- From local grain cooperatives to grain handling giant Cargill

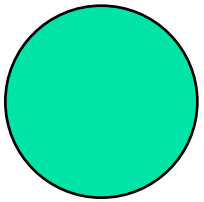
Production Agriculture Sector

Definition of a farm (USDA)

- "Any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during a given year."

Structure of Farms and Ranches

Part-time farmers and ranchers



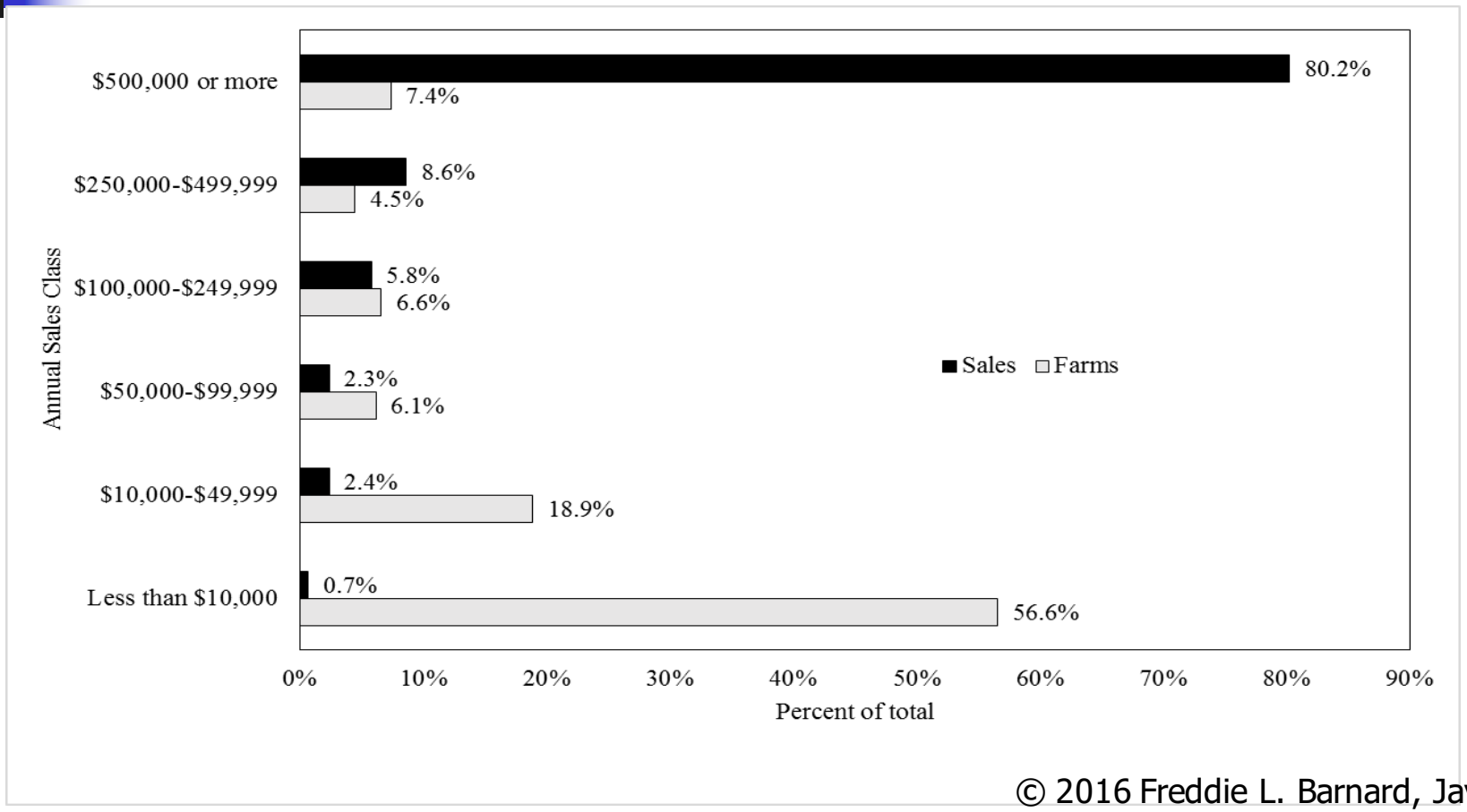
High-volume, low margin producers

Table 1.6 Number of Farms, Land in Farms, Average Size of Farm, 1970–2012

Year	Farms	Land in Farms (1,000 acres)	Average Size (acres)	Average Farm Land Value ($/acre)
1970	2,949,140	1,102,371	373.8	$196
1975	2,521,420	1,059,420	420.2	$340
1980	2,439,510	1,038,885	425.9	$737
1985	2,292,530	1,012,073	441.5	$713
1990	2,145,820	986,850	459.9	$683
1995	2,196,400	962,515	438.2	$844
2000	2,166,780	945,080	436.2	$1,090
2005	2,098,690	927,940	442.2	$1,610
2006	2,088,790	925,790	443.2	$1,830
2007	2,204,950	921,460	417.9	$2,010
2008	2,184,500	918,600	420.5	$2,170
2009	2,169,660	917,590	422.9	$2,090
2010	2,149,520	915,660	426.0	$2,150
2011	2,131,240	914,420	429.1	$2,300
2012	2,109,810	914,600	433.5	$2,520

Source: McGath and USDA National Agricultural Statistics Service.

Figure 1.11 Distribution of Farm Sales by Sales Class, 2012



Source: 2012 Census of Agriculture

Table 1.7 Net Income from Farming, 1970–2013

Year	Net Income (millions $)	Government Payments (millions $)	Payments as % of Farm Income
1970	14,365.9	3,717.4	25.9
1975	25,510.2	807.1	3.2
1980	16,141.4	1,285.7	8.0
1985	28,509.3	7,704.2	27.0
1990	46,260.7	9,298.0	20.1
1995	39,770.8	7,279.5	18.3
2000	50,684.9	23,221.6	45.8
2005	78,763.0	24,395.9	31.0
2006	57,436.4	15,788.8	27.5
2007	70,323.0	11,903.4	16.9
2008	86,597.6	12,241.7	14.1
2009	62,187.1	12,262.6	19.7
2010	98,901.2	12,391.3	12.5
2011	127,498.8	10,420.5	8.2
2012	137,137.3	10,635.1	7.8
2013	131,126.6	11,003.8	8.4

Source: Morehart and USDA/ERS Farm Income and Wealth Statistics.

Input Supply Sector

- Manufacturing
- Distribution
- Services and Financing

Table 1.8 Farm Production Expenses ($ Billion)

Item	2010	2011	2012	2013
Farm Origin Inputs	81.4	94.2	106.9	110.2
Purchased Feed	45.4	54.6	60.5	62.4
Livestock Purchased	19.6	21.7	25.5	25.9
Purchased Seed	16.3	17.8	20.9	21.9
Manufactured Inputs	49.6	57.5	64.8	65.8
Fertilizer and Lime	21.0	25.1	28.9	28.3
Pesticides	10.7	11.8	14.0	14.6
Fuels & Oils	13.2	15.6	16.5	17.3
Electricity	4.6	4.9	5.4	5.5
Total Interest Charges	15.1	14.6	15.8	16.2

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Table 1.8 Farm Production Expenses ($ Billion)

Item	2010	2011	2012	2013
Other Operating Expenses	82.6	85.8	94.1	93.9
Repair and Maintenance	13.4	14.0	15.5	16.1
Contract and Hired Labor	26.8	26.2	31.6	31.9
Machine Hire and Custom Work	4.3	4.0	4.0	3.9
Marketing, Storage and Transportation	10.3	10.2	10.6	9.4
Miscellaneous Operating Expenses	27.8	31.4	32.4	32.6
Overhead Expenses	45.6	47.2	51.7	56.7
Depreciation	23.7	24.9	25.4	28.8
Property Taxes	9.3	9.8	10.0	10.2
Rent	12.6	12.5	16.3	17.7
Total Production Expenses	274.3	299.3	333.3	342.8

Source: Morehart and USDA/ERS Farm Income and Wealth Statistics.

New Technology

- Biotechnology (genertic engineering, resistance, protein enhancement)
- GPS (Global positioning systems)

Information age

- Information technology
- Rapid changes in data collection, analysis and interpretation (Data science, Data mining, Big Data, Causal inference)
- Sensor technology (+internet of things, sensor networks)

Computer technology

- Still evolving rapidly
- From large computers that filled a room in the 1950's and 60's to handheld devices

Controlling assets

- Land may be accessed by renting it rather than owning it
- Leasing machinery, buildings and livestock likely to increase
- Custom farming and contract livestock production

Controlling assets

- Ownership involves taking on large risks
- New modes of ownership and financing
- Crowdfunded farm finance

Human resources

- Growth in farms
- Need to hire labor
- Increased importance of human resource management
- Increased regulatory oversight
- Increased importance of consultants for specialized tasks

Meeting consumer demand

- Historically production of undifferentiated commodities
- Trend towards specialized and processed food and fibre products
- Increased emphasis on quality
- Biotech allows for price differentiation

Contracting and vertical integration

- Increased importance of make or buy decisions
- Vertically integrated farm operations
- Versus contractual relations in the supply chain

Environmental and health concerns

- Farm pollution and urban encroachment increase environmental concerns
- Disease risks lead to increased emphasis on biosafety
- Food safety and security throughout the supply chain

Globalization

- Weather and environment can have impacts over large geographic scales – Telecoupling
- Importance of multilateral agreements: WTO, NAFTA, Environmental and Phytosanitary Agreements

Summary

- Farmers making same decisions as last century (mostly)
- But faster and with more accurate information
- Farm businesses are increasing in size
- World trade and globalization has positive and negative effects