

Lecture I: An Overview of Agriculture and Agricultural Policy

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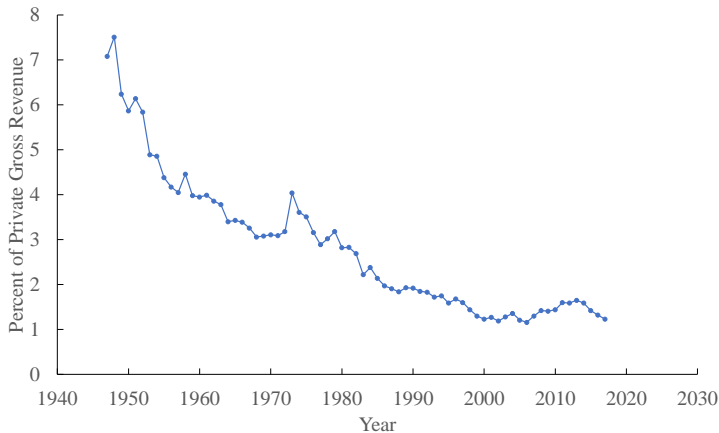
- 1 The Nature of Agriculture
 - Importance of Agriculture
- 2 Distribution of Farmers
- 3 Numbers of Farmers
 - Farmland Ownership
 - Resource Conflicts
- 4 Instability, Uncertainty, and Agriculture

Agriculture in GDP

Year	Private Ind.	Farms	Forestry & Fishing	Mining	Utilities	Const	Manuf	Wholesale Trade	Retail Trade
1997	13,689.4	219.4	38.4	174.2	254.2	709.6	3,846.0	748.5	852.2
2000	16,610.4	204.3	39.2	216.3	360.7	911.8	4,225.3	884.3	992.8
2005	20,875.7	253.0	46.6	391.8	408.2	1,280.1	4,770.9	1,116.8	1,233.7
2010	22,754.0	328.2	44.5	463.3	423.5	1,008.3	4,992.5	1,253.1	1,327.5
2015	27,898.2	395.3	52.6	457.7	405.4	1,355.5	5,785.0	1,576.3	1,657.7
2017	29,995.1	369.4	51.9	467.6	405.3	1,472.2	6,034.7	1,705.0	1,792.5

Year	Trans & Whareh	Inform	Finance & Real Estate	Prof & Bus. Serv	Educ & Health	Arts & Entertt	Other Services	Government
1997	500.6	727.6	2,433.2	1,353.3	932.8	548.1	351.3	1,666.0
2000	590.9	1,000.9	3,165.5	1,818.1	1,113.8	662.8	423.6	1,954.2
2005	749.9	1,123.2	4,302.0	2,277.0	1,580.0	846.1	496.2	2,639.2
2010	844.7	1,255.9	4,522.5	2,727.5	2,058.8	964.0	539.6	3,339.6
2015	1,079.6	1,557.4	5,620.6	3,492.4	2,525.0	1,279.3	658.4	3,533.2
2017	1,109.9	1,696.2	6,196.5	3,776.8	2,784.3	1,398.6	734.1	3,713.3

Agriculture as a Percent of Gross Revenue



Total Exports

Industry	2010	2011	2012	2013	2014	2013-14	Pct Chan
Agricultural products	125,498	150,461	154,130	157,655	164,848	7,192	4.6
Forest products	37,699	40,849	39,832	40,835	41,280	445	1.1
Chemicals and related products	207,025	225,308	228,914	231,276	234,687	3,411	1.5
Energy-related products	87,109	137,176	143,356	154,575	162,553	7,977	5.2
Textiles and apparel	19,716	22,372	22,472	23,324	23,916	592	2.5
Footwear	1,105	1,290	1,332	1,391	1,449	58	4.2
Minerals and metals	128,405	165,012	164,013	161,636	153,122	-8,515	-5.3
Machinery	117,436	130,321	138,530	139,636	145,526	5,890	4.2
Transportation equipment	241,259	280,064	313,445	322,112	335,629	13,516	4.2
Electronic products	237,192	251,669	257,690	261,223	267,573	6,350	2.4
Miscellaneous manufactures	35,676	38,608	41,354	43,813	47,946	4,133	9.4
Special provisions	40,374	39,378	40,635	42,116	44,916	2,800	6.6
Total	1,278,495	1,482,508	1,545,703	1,579,593	1,623,443	43,850	2.8

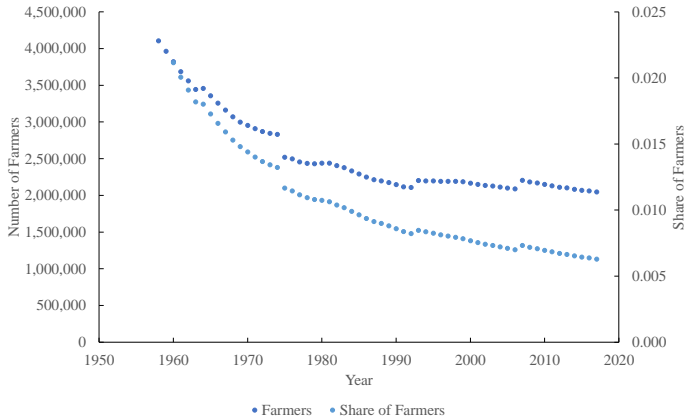
Total Imports

Industry	2010	2011	2012	2013	2014	2013-14	Pct Chan
Agricultural products	98,218	116,374	123,323	126,678	136,184	9,506	7.5
Forest products	35,775	36,274	37,071	39,996	42,092	2,096	5.2
Chemicals and related products	205,093	237,927	237,262	236,704	251,615	14,911	6.3
Energy-related products	360,138	458,764	428,235	384,153	349,955	-34,198	-8.9
Textiles and apparel	104,504	113,848	113,866	118,019	121,684	3,665	3.1
Footwear	20,903	22,654	23,887	24,810	26,014	1,203	4.8
Minerals and metals	157,246	193,651	195,080	190,435	205,082	14,648	7.7
Machinery	131,051	156,123	167,784	170,212	184,701	14,488	8.5
Transportation equipment	269,017	309,994	363,318	375,445	403,018	27,572	7.3
Electronic products	378,626	402,543	415,476	421,672	438,167	16,495	3.9
Miscellaneous manufactures	97,659	99,878	104,751	109,931	114,314	4,383	4.0
Special provisions	55,626	59,924	66,250	70,265	72,362	2,097	3.0
Total	1,913,857	2,207,954	2,276,302	2,268,321	2,345,187	76,866	3.4

Agriculture Shares of Exports and Imports

Category	2010	2011	2012	2013	2014
Percent of Exports	9.82	10.15	9.97	9.98	10.15
Percent of Imports	5.13	5.27	5.42	5.58	5.81

Numbers of Farmers

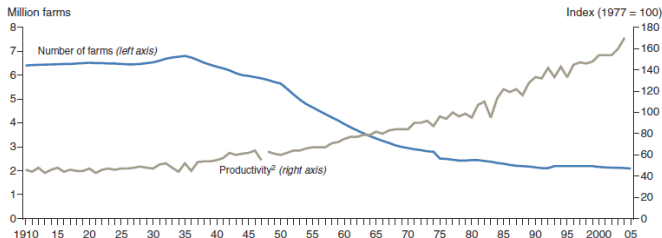


Farm Numbers and Agricultural Output

Figure 3

Farm productivity¹ and number of farms, 1910 to 2005

The number of farms declined as productivity increased



¹Farm output per unit of total factor input (total factor productivity), available through 2004.

²The break in the productivity line reflects the introduction of new methodology beginning with the 1948 estimate. The new methods had minor impacts on the estimates. For more information, see Ahearn et al. (1996, pp. 15-21).

Source: USDA, Economic Research Service, compiled from National Agricultural Statistics Service annual estimates of the number of farms from the June Agricultural Survey and from ERS estimates of farm productivity. ERS productivity indices prior to 1948 came from Johnson (1990).

Definition of Farm Types - Small Family Farms Gross Sales Less than \$ 250,000

- Limited-resource farms. Farms with gross sales less than \$ 100,000 in 2003 and less than \$ 105,000 in 2004. Operators of limited-resource farms must also receive low household income in both 2003 and 2004. Household income is considered low in a given year if it is less than the poverty level for a family of four, or it is less than half the county median household income. Operators may report any major occupation except hired manager.
- Retirement farms. Farms whose operators report they are retired.
- Residential/lifestyle farms. Farms whose operators report a major occupation other than farming.

Small Family Farms, Continued

- Farming-occupation farms. Farms whose operators report farming as their major occupation.
 - Low-sales farms. Gross sales less than \$ 100,000.
 - Medium-sales farms. Gross sales between \$ 100,000 and \$ 249,999

Definition of Farm Types - Large Farms

- Large-Family Farms (Gross Sales of More than \$ 250,000)
 - Large family farms. Gross sales between \$ 250,000 and \$ 499,999
 - Very large family farms. Gross sales of over \$ 500,000.
- Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers. Also includes farms held in estates or trusts.

Table of Ownership/Operation

	Farms	Value of Production	Farm Assets
Small Family Farms:			
Limited-Resource	9.4	1.0	5.5
Retirement	16.1	2.0	11.3
Residential/Lifestyle	39.7	5.3	23.7
Farming-Occupation			
Low Sales	18.8	5.5	16.9
Medium Sales	6.3	10.8	10.3
Large Scale Family Farms			
Large Family Farms	3.4	14.8	9.1
Very Large Family Farms	3.4	45.4	16.1
Nonfamily Farms	2.2	15.2	7.1

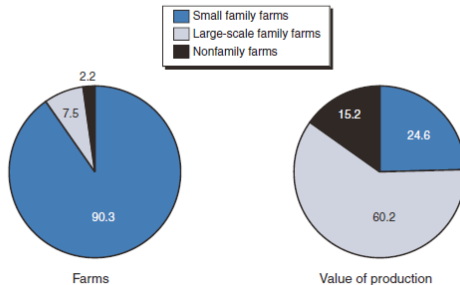
Share of Output by Farm Size

Figure 4

Share of total farms and value of production, 2004

Large-scale family farms account for 60 percent of production

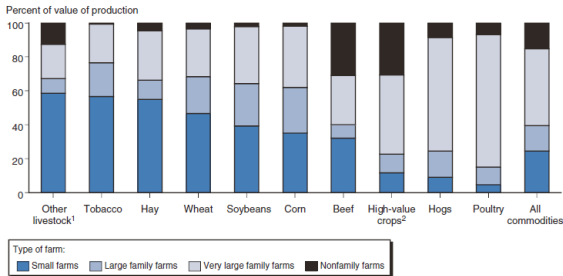
Percent of U.S. farms or production



Source: USDA, Economic Research Service, 2004 Agricultural Resource Management Survey, Phase III.

Farm Size by Output

Figure 5
Distribution of the value of production for selected commodities, 2004
Small farms produce a substantial share of several commodities



¹Sheep, lambs, wool, goats, goats' milk, mohair, horses, ponies, mules, donkeys, bees, honey, aquaculture, mink, rabbits, other fur bearing animals, bison, deer, elk, llamas, etc.

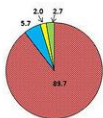
²Vegetables, fruits and tree nuts, and nursery and greenhouse products.

Source: USDA, Economic Research Service, 2004 Agricultural Resource Management Survey, Phase III.

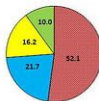
Farm Size by Output

Most U.S. farms are small family farms

Percent of all farms



Number of farms



Land operated



Value of production

Note: Small family farms have gross cash farm income less than \$350,000, midsize family farms \$350,000-\$999,999, and large scale-family farms \$1,000,000 or more

Source: USDA, National Agricultural Statistics Service and Economic Research Service.

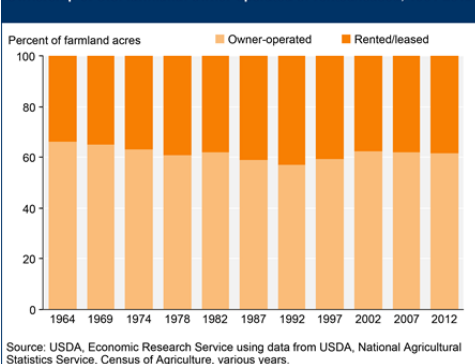
U.S. Farms, Large and Small – Hoppe, 2015

Who Owns the Farmland?

- Traditional policy of farm ownership – Homestead Act of 1862.
- Heirs and heirs of heirs.
- Farm consolidation.

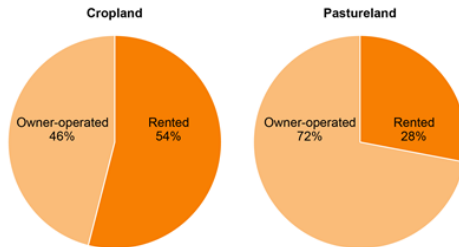
Farm Ownership Over Time

Ownership of U.S. farmland: owner-operated or rented/leased, 1964-2012



Cropland Versus Pasture Land

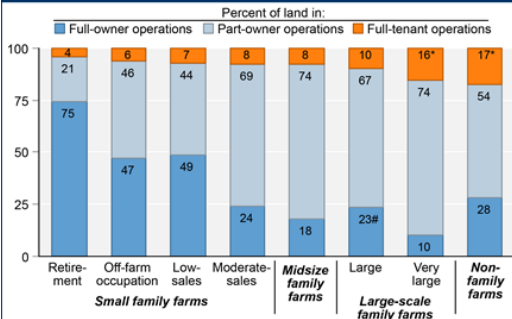
Ownership of U.S. cropland and pastureland, 2014



Note: Data exclude Alaska and Hawaii.
Source: USDA, Economic Research Service and National Agricultural Statistics Service, 2014 Tenure, Ownership, and Transition of Agricultural Land (TOTAL) survey.

Farmland Ownership by Farm Type

Distribution of operated land by tenure and farm type, 2014

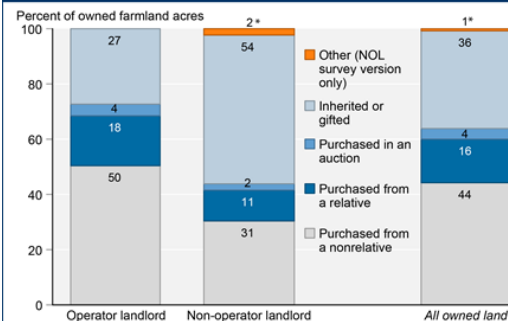


Note: Data exclude Alaska and Hawaii. A coefficient of variation (CV) between 25 and 50 is denoted with a (*) and a CV greater than 50 is denoted by a (#).

Source: USDA, Economic Research Service and National Agricultural Statistics Service, 2014 Tenure, Ownership, and Transition of Agricultural Land (TOTAL) survey.

Source of Land

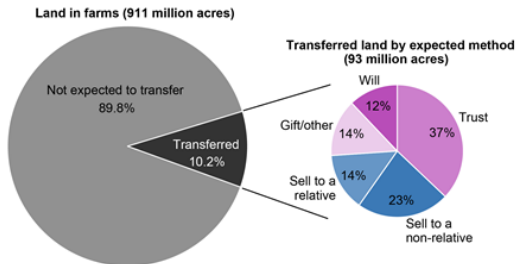
Distribution of owned farmland acres by method of land acquisition, 2014



Note: Data exclude Alaska and Hawaii. A coefficient of variation between 25 and 50 is denoted with a (*). NOL=Non-operator landlord.
Source: USDA, Economic Research Service and National Agricultural Statistics Service, 2014 Tenure, Ownership, and Transition of Agricultural Land (TOTAL) survey.

Transfers of Farmland

Land in farms expected to transfer in 2015-19



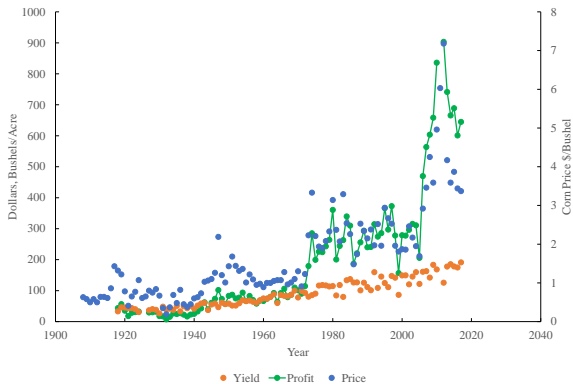
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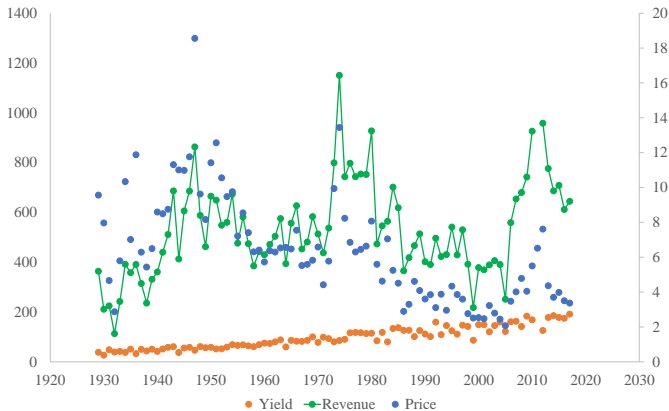
Resource Conflicts

- Water rights.
- Rural/Urban Land Use.
- Climate Change.

Nominal Prices and Yields



Real Prices and Yields



Variability in Revenue

