



United States Department of Agriculture

Structural transformation of the US farm sector

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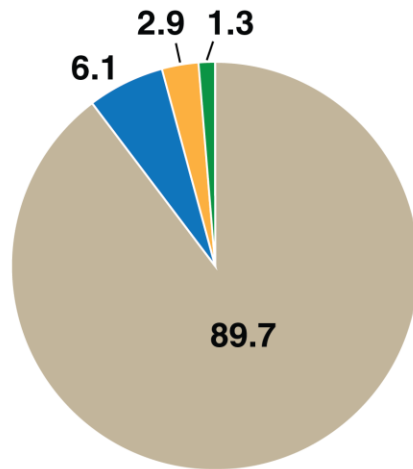


Most U.S. farms are small, but large farms account for most production

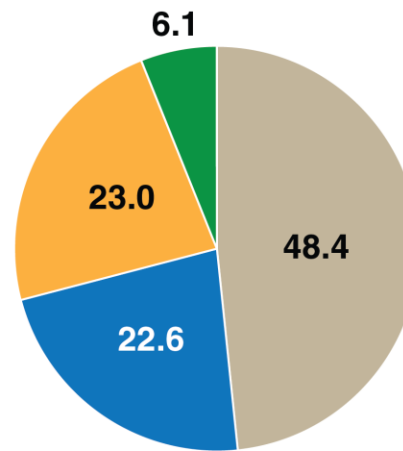
Distribution of farms, value of production, and land operated by farm type, 2015

Percent of U.S. farms, acres operated, or value of production

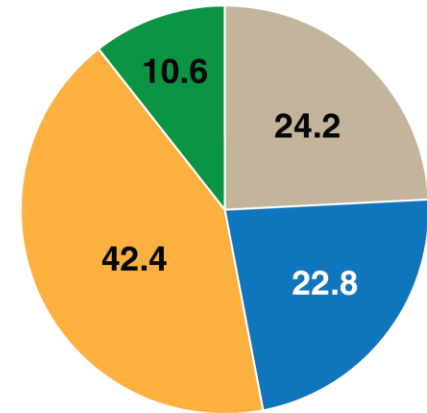
- Small family farms
- Midsize family farms
- Large-scale family farms
- Nonfamily farms



Number of farms



Land operated



Value of production

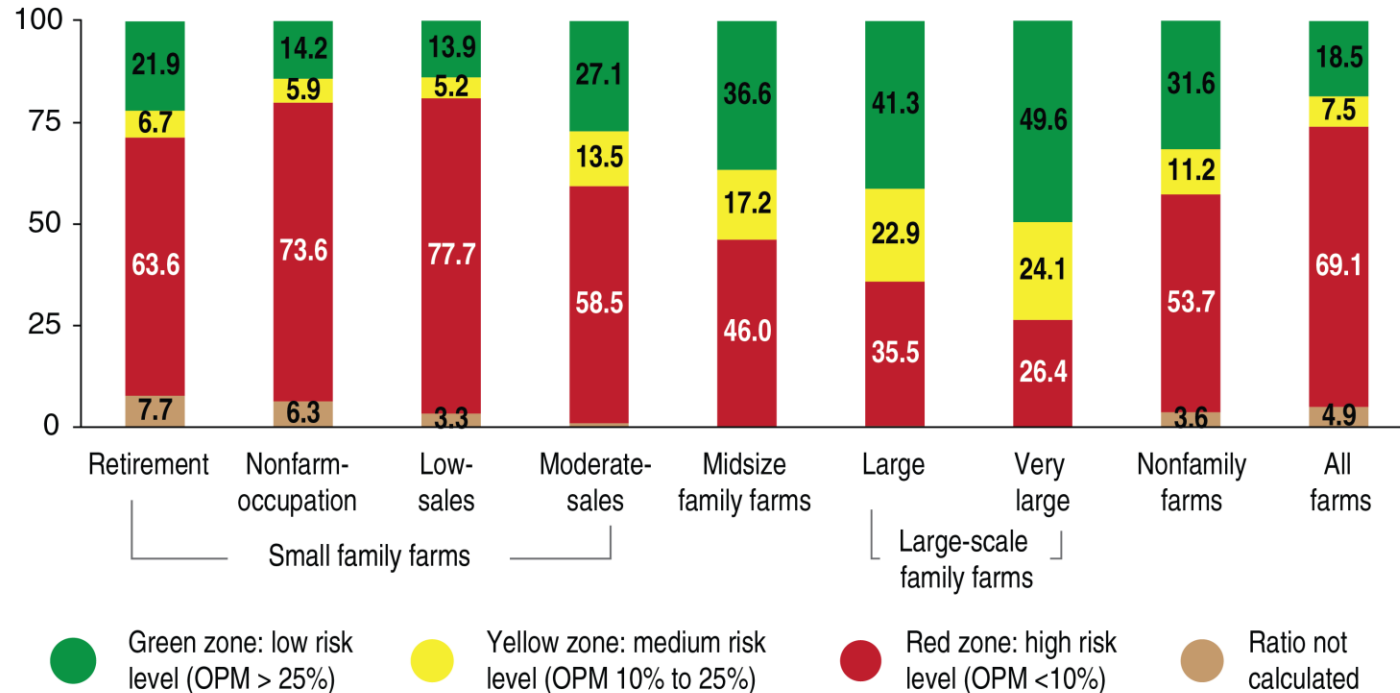
Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2015 Agricultural Resource Management Survey.



Profitable farms exist across all sizes, but their share increases with sales

Farms by operating profit margin (OPM) and farm type, 2015

Percent of farms in each group



Operating profit margin (OPM) = 100% X (net farm income + interest paid – charge for operator and unpaid labor – charge for management) ÷ gross farm income.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2015 Agricultural Resource Management Survey.



What do we mean by structural transformation?

- Shifts of production to larger farms
- Increasing organizational complexity in farming
 - Multi-farm firms
 - Multiple ownership entities in farm firms
 - Farms in contractual networks
 - Farm tasks performed by non-farm firms
 - Value-added activities on farms
- Increasing differentiation of farm commodities in response to consumer demand for product attributes or production processes



Farm size: Consider the distribution of US crop farms

It is highly skewed

Most acreage, and most crop production, are on farms with at least 1,000 acres (405 hectares).

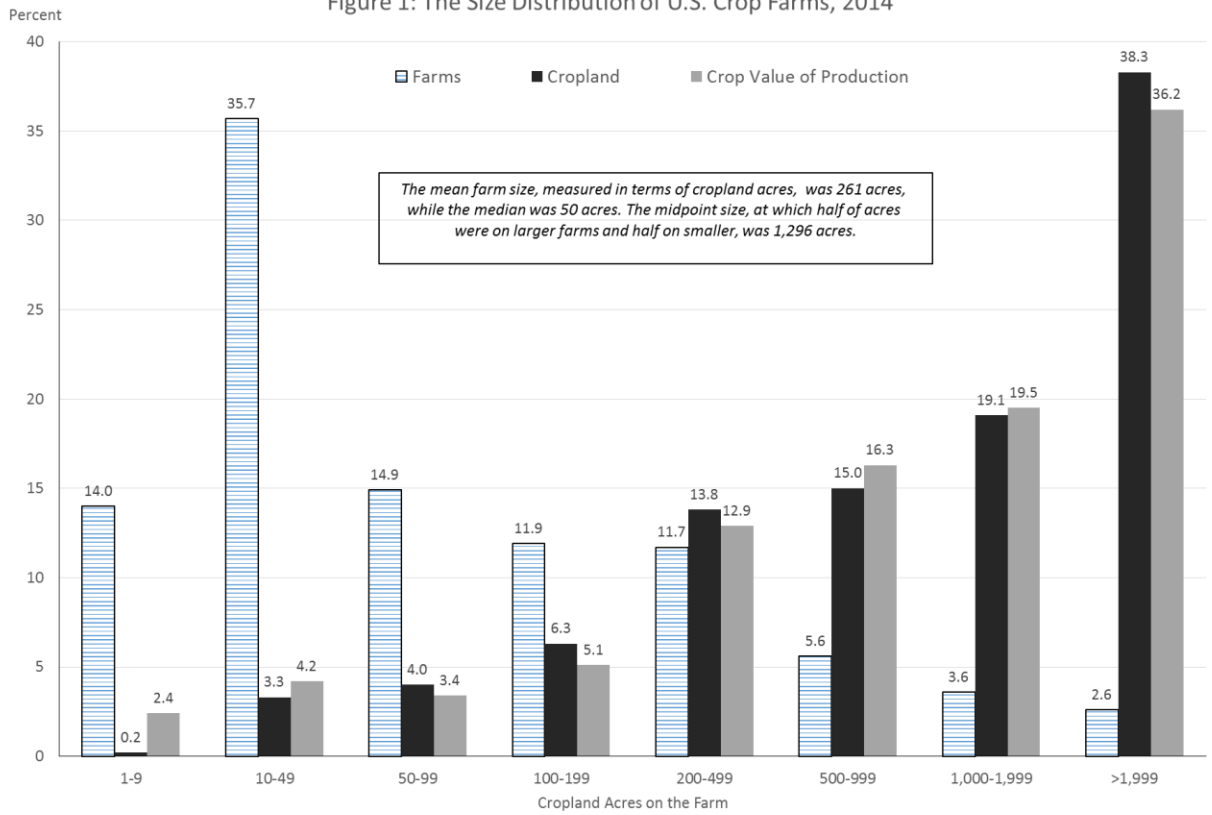
Median = 50

Mean = 261

Midpoint = 1,296

(The midpoint is a median, where half of all acres are on larger farms, and half on smaller.)

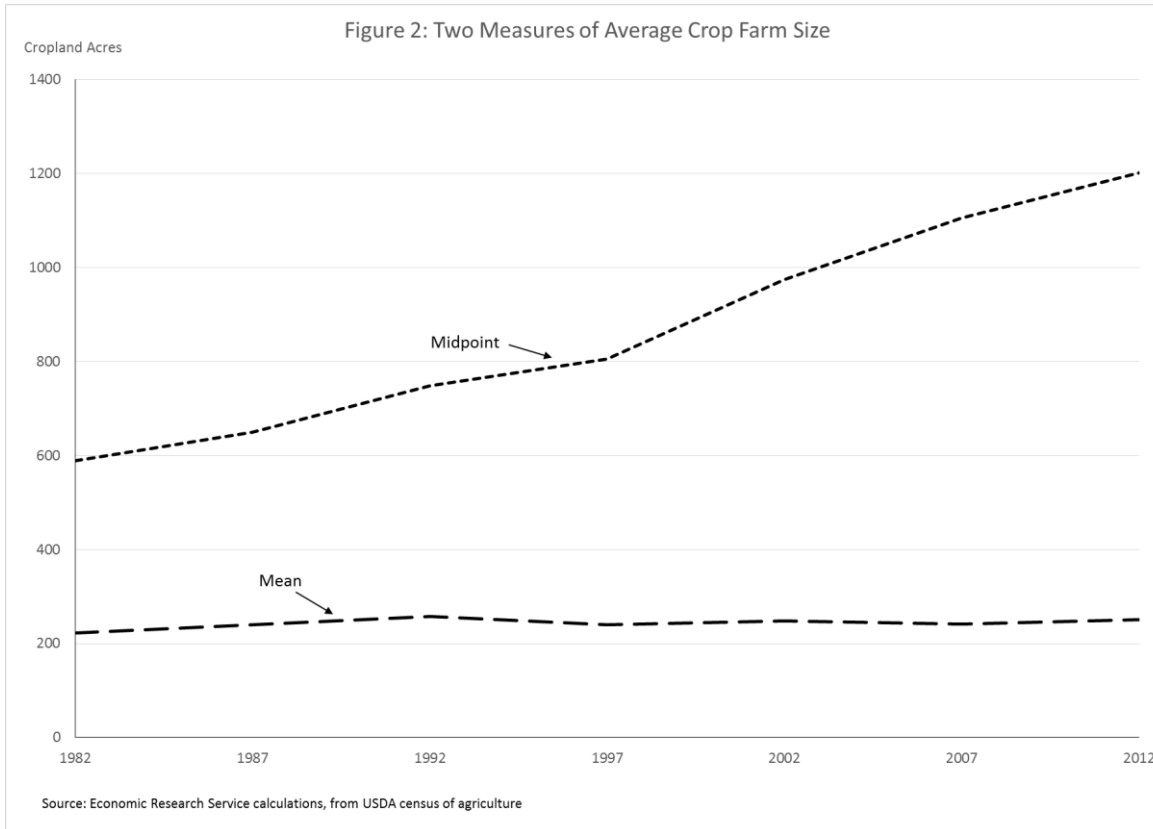
Figure 1: The Size Distribution of U.S. Crop Farms, 2014



Source: USDA Tenure Ownership and Transition of Agricultural Land (TOTAL) Survey, 2014



The size distribution is getting more skewed as land shifts to larger farms



Mean farm size increases a little, as total cropland falls 13% and number of farms with cropland falls 23%.

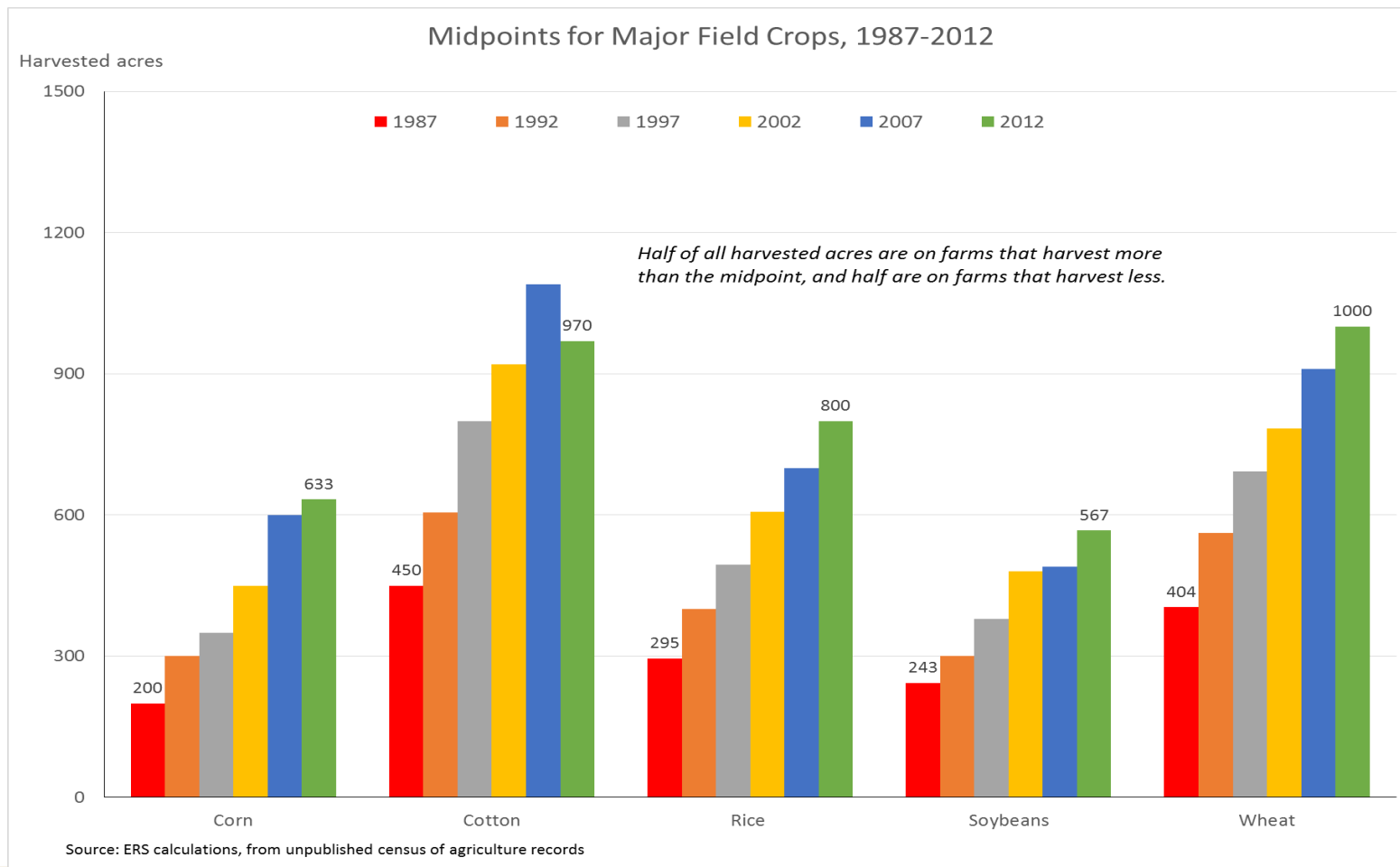
Number of very large and very small farms increase, offset by fewer farms in the middle.

But the midpoint doubles, as cropland shifts to larger farms.



In crops, the shift to larger farms is persistent

It is also ubiquitous, across almost all field crops as well as fruit and vegetable crops, and across almost all states.



But shifts in livestock are more episodic, and sometimes radical

Note dramatic changes in hogs and pigs, egg layers, and milk cows

Commodity	1987	1997	2007	2012
<u>Sales Midpoint: number of head sold or removed in year</u>				
Broilers	300,000	480,000	681,600	680,000
Fed cattle	17,532	38,000	35,000	38,369
Hogs and pigs	1,200	11,000	30,000	40,000
<u>Inventory Midpoint: Number of head in herd/flock</u>				
Beef cows	89	100	110	110
Egg layers	117,839	300,000	872,500	925,975
Milk cows	80	140	570	900

Source: ERS calculations from National Agricultural Statistics Service, Census of Agriculture



Complex farm and product organizations

An network example:

**Many firms:
linked by contracts;
perform specialized
farm tasks; some are
farms, some are not.**

*Contracts cover about
40% of US ag production,
with particularly high
coverage of hogs and
poultry.*

*Most large US farms lease
equipment, hire custom
service providers, use labor
contractors, rent land.*

Integrator: operates sow and cropping farms,
a feed mill, and a trucking business;
Provides contract growers with pigs & feed;
uses marketing contracts to sell hogs to packers.

Contract growers (30).

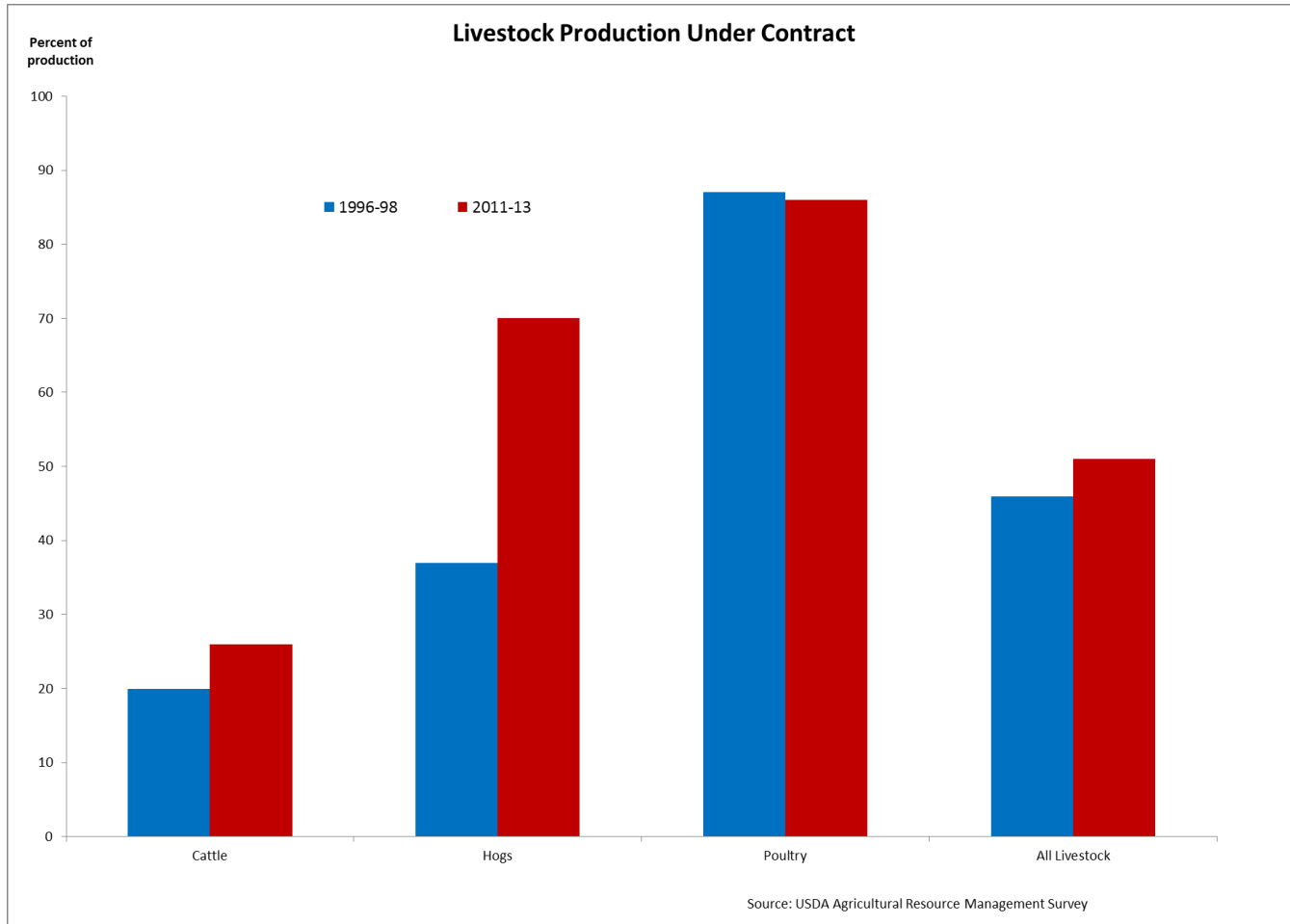
Raise hogs under production contracts with integrator.
Uses manure for their own corn and soybeans.
Markets crops to local processor and elevators

Custom Service Providers

Spraying and manure application for contract growers;
Harvesting for contract growers;
Sow management services for the integrator;
Linked to growers and integrator through contracts.



US livestock production now commonly takes place within a network of contracts



Summing up: U.S. farm consolidation is ...

- Long-term, ongoing and widespread
- Drivers
 - Technology: better & faster equipment, pest management practices
 - Organizational innovations: specialization of production into stages (hogs), via contracts, via hiring custom services



Further Thoughts? Comments?

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Chart of Note:

<http://www.ers.usda.gov/data-products/charts-of-note.aspx>

