Political Economy of US Agriculture

An Introduction

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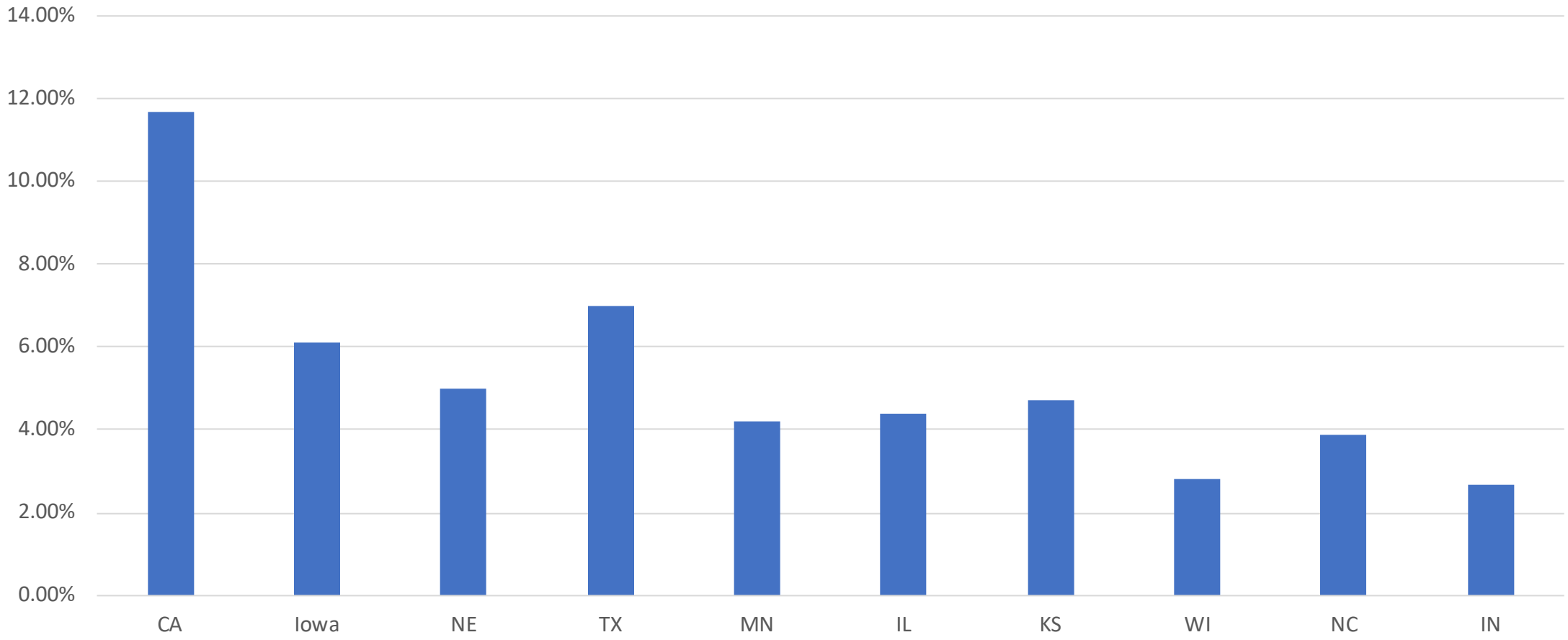
Introduction

- The family farm is a favorite meme in US politics - but what does US agriculture actually look like?
- We've put together this set of PowerPoints as an introduction to the organization and structure of the US agricultural political economy
- Because the span of US agriculture is so big, we've focused on the 10 states that are the core of the agrarian political economy in the US
  - But we have maps that expand the picture to the ag political economy as a whole
  - These maps are at the county level
- Outline
  - 10 state overview
  - Three types of agrarian political economy
  - Land and revenue
  - US Agricultural Subsidies
  - Agricultural labor
  - US ag in the global ag economy
  - Note on organic farming

The top 10 States in the US Agricultural Economy

- All states in the US have some agricultural economy
- However, agricultural out put is concentrated
- 10 states with the highest market value of ag production account for more than 50% of total US agricultural market value
  - CA is the largest driver with over 13% total US ag market value
  - But all 10 are above the US average of 2%/state
- The distribution of ag output has not changed much over the last two decades
  - ND and MO have moved out and NC and WI have moved in the top 10
  - CA has been the state with the highest ag production market value for more than 6 decades

2019 Top 10 Agricultural States: Share of Total US Agricultural Production - 1997



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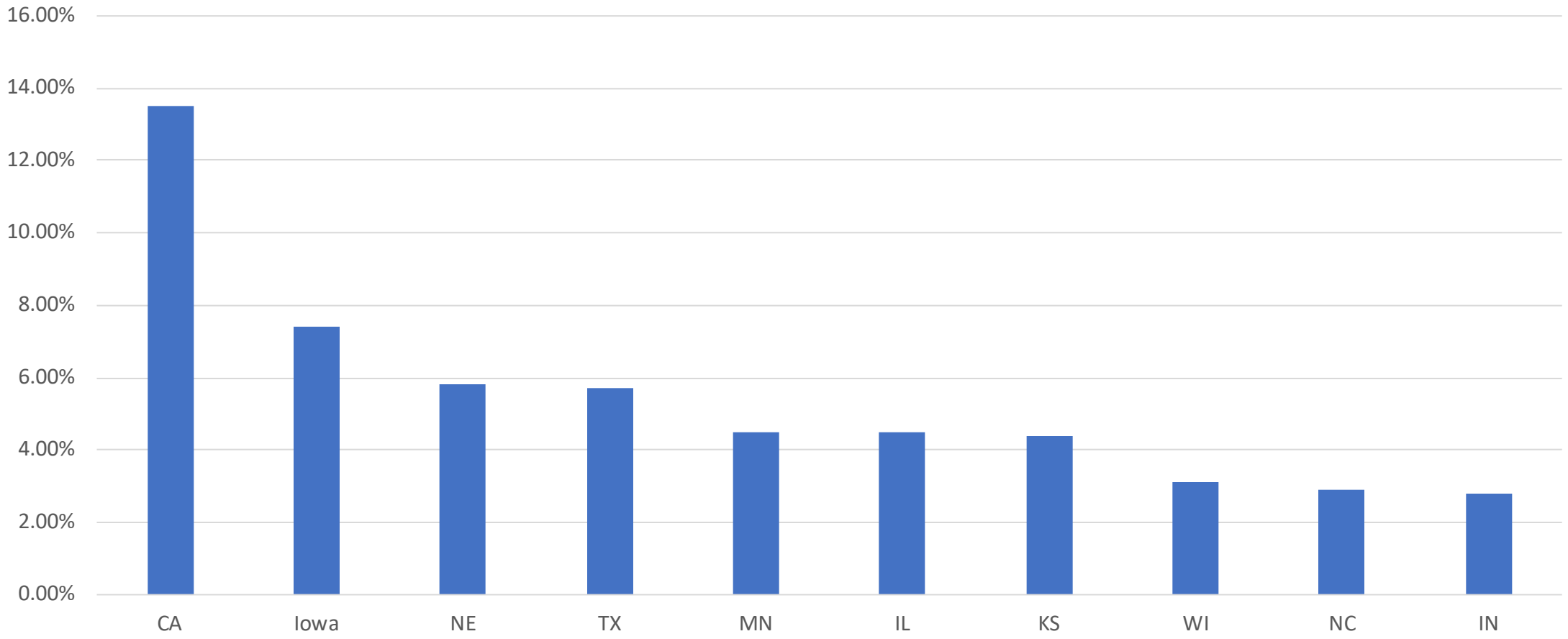
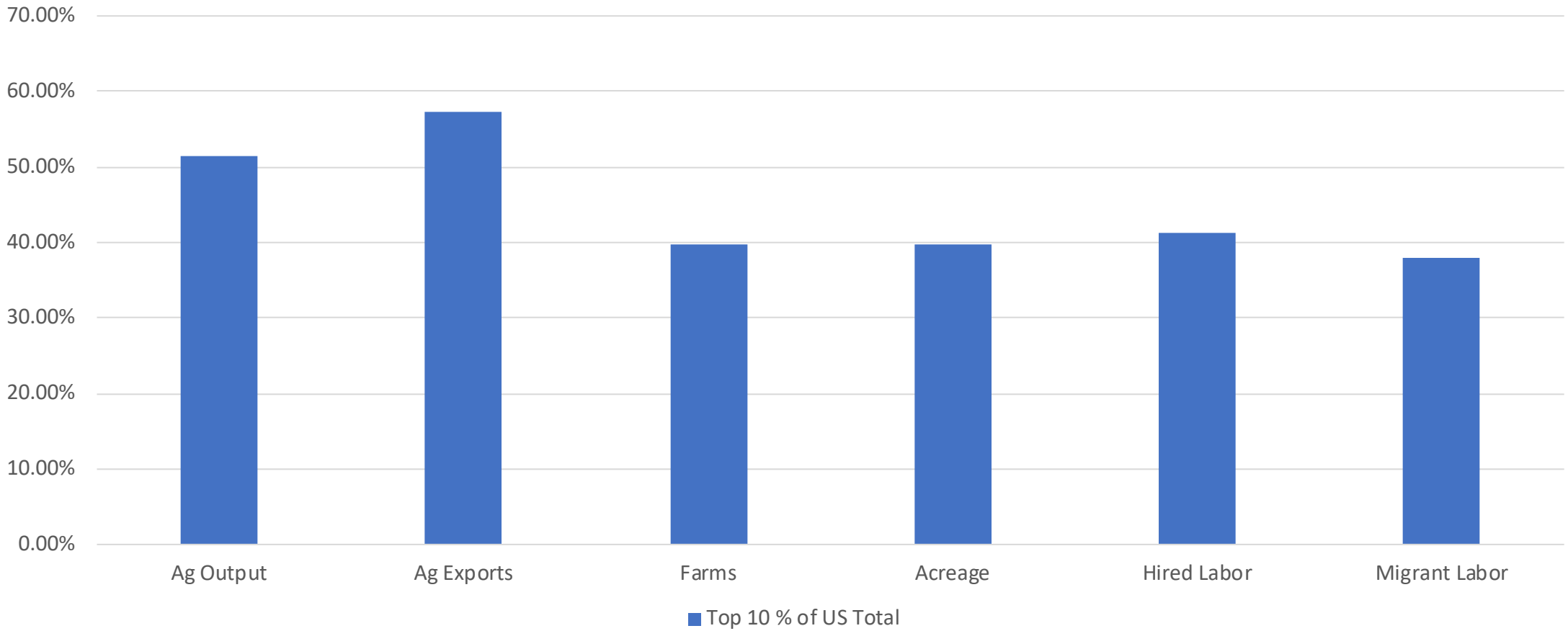


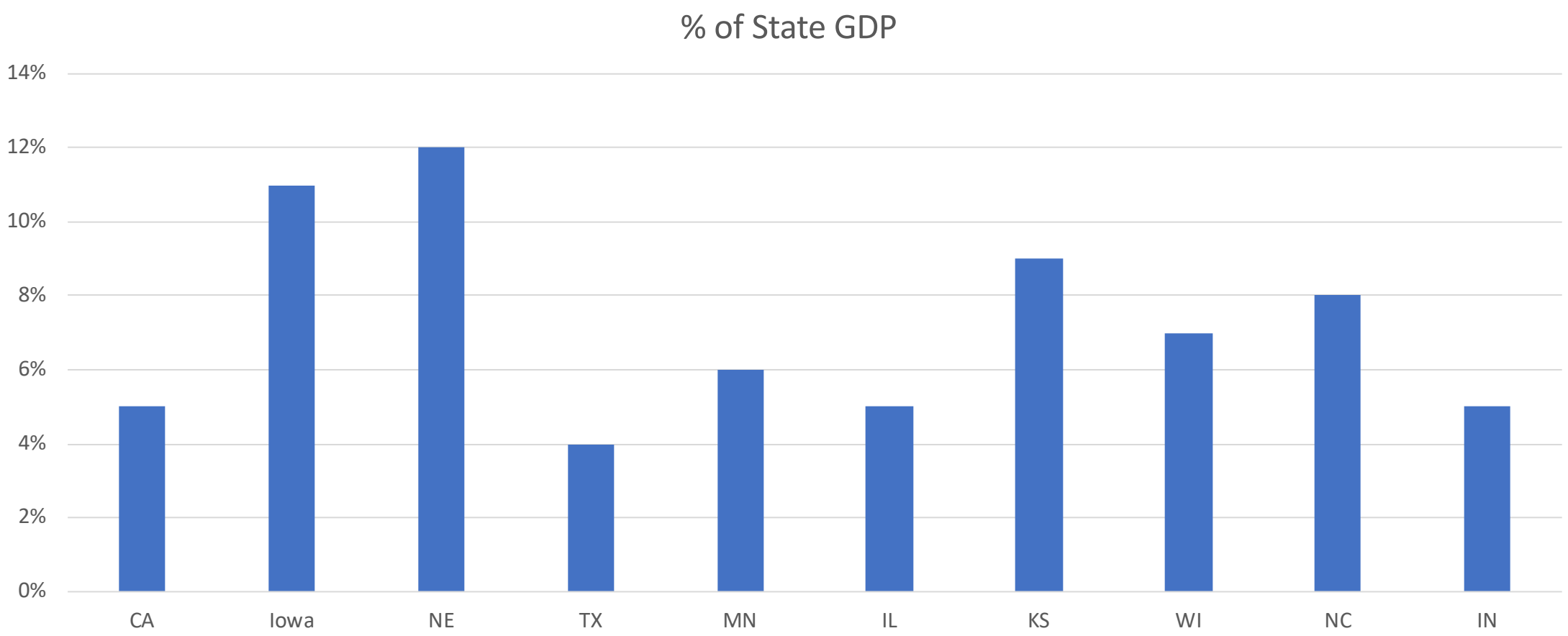
The top 10 Shares of US Ag Economy: Output and Inputs

- These 10 states account for:
  - Over 50% of total Ag output and exports
- Ag market value is higher per unit of input (land and labor) in these 10 states than in US ag as a whole
  - 40% of total farms, farm acreage and hired labor
  - Almost 40% of total migrant labor
- Agriculture is a relatively small share of SDP in each of these states – but generally larger than the overall US GDP share

Top 10 Ag States Shares: Production and Inputs as a Share of US Totals - 2017



Ag Share of State GDP, 2016



The Structure of the Agricultural Political Economy in the Top 10 States

- What are the types of agricultural political economy?
- What are the returns/unit of land farmed?
- Is the agricultural economy on each state becoming more or less concentrated in terms of value of production and acreage?
- How important is agriculture to each state’s economy?

The Varieties of US Agriculture

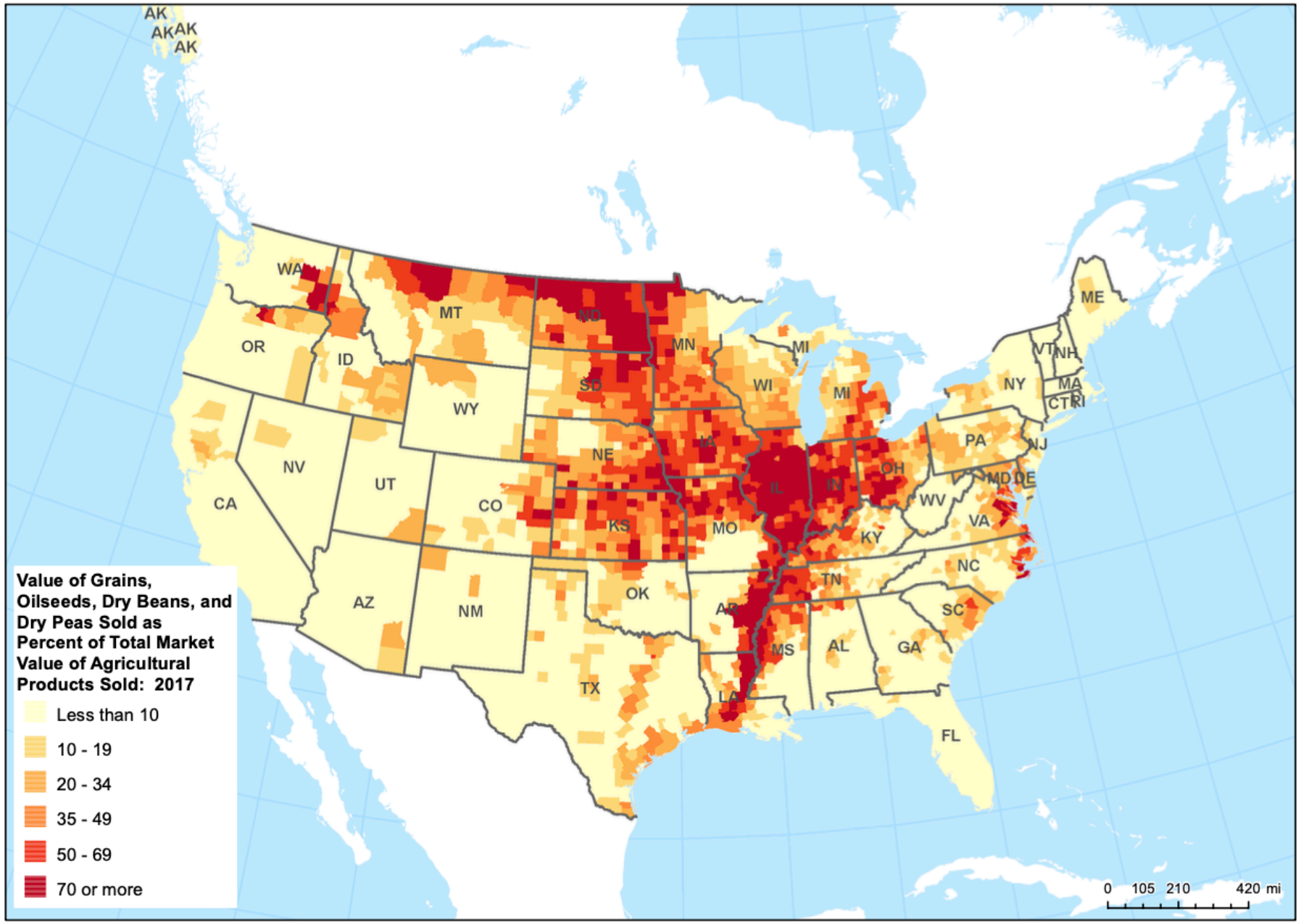
- The geographical extent of the US has resulted in different kinds of agriculture in different areas of the country
- These can be categorized as intensive or extensive
  - Level of labor and capital per unit of land area
- Among the top 10 – and the country as a whole – there are at least 3 different types of agricultural economies
  - Extensive ag: Crop raising – concentrated in the upper Midwest
    - IO, MN IL and IN
  - Extensive ag: Livestock – in the lower Midwest and the southwest
    - NE, TX, KS
  - Intensive ag: Fruits/nuts/vegetables – California (but also other Pacific Coast states), NC and WI
- In some states the top Ag product by value dominates the Ag economy; others are more diversified

Tops Crop by State and State % US Total Production for that Crop

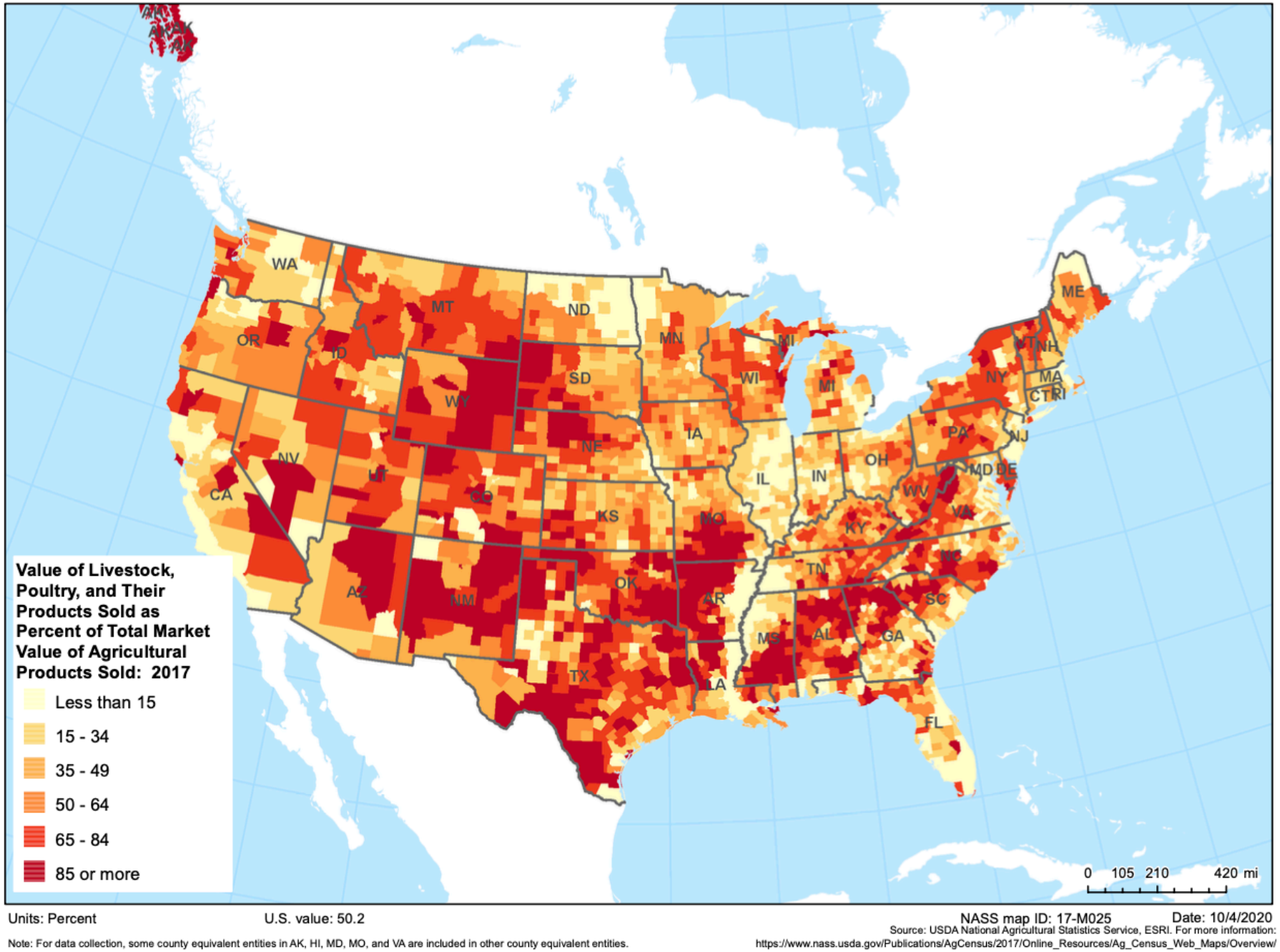
State	CA	Iowa	NE	TX	MN	IL	KS	WI	NC	IN
Top Crop	Fruits, Nuts and Veg	Corn	Cattle and Calves	Cattle and Calves	Corn	Corn	Cattle and Calves	Dairy	Poultry and eggs	Corn
Share of US Production of the crop	74.60%	17.50%	15.90%	12.70%	8.80%	15.40%	13%	`50.3%	11.60%	7%
Share of State Ag Value	42.7%	31.8%	48.8%	39.9%	26.2%	46.8%	51.1%	45.1%	41.3%	33.1%
Type of Agriculture	Intensive	Extensive	Extensive	Extensive	Extensive	Extensive	Extensive	Intensive	Intensive	Extensive

Crop Production:

Value of Grains, Oilseeds, Dry Beans & Dry Peas Sold as Percent of Value Sold

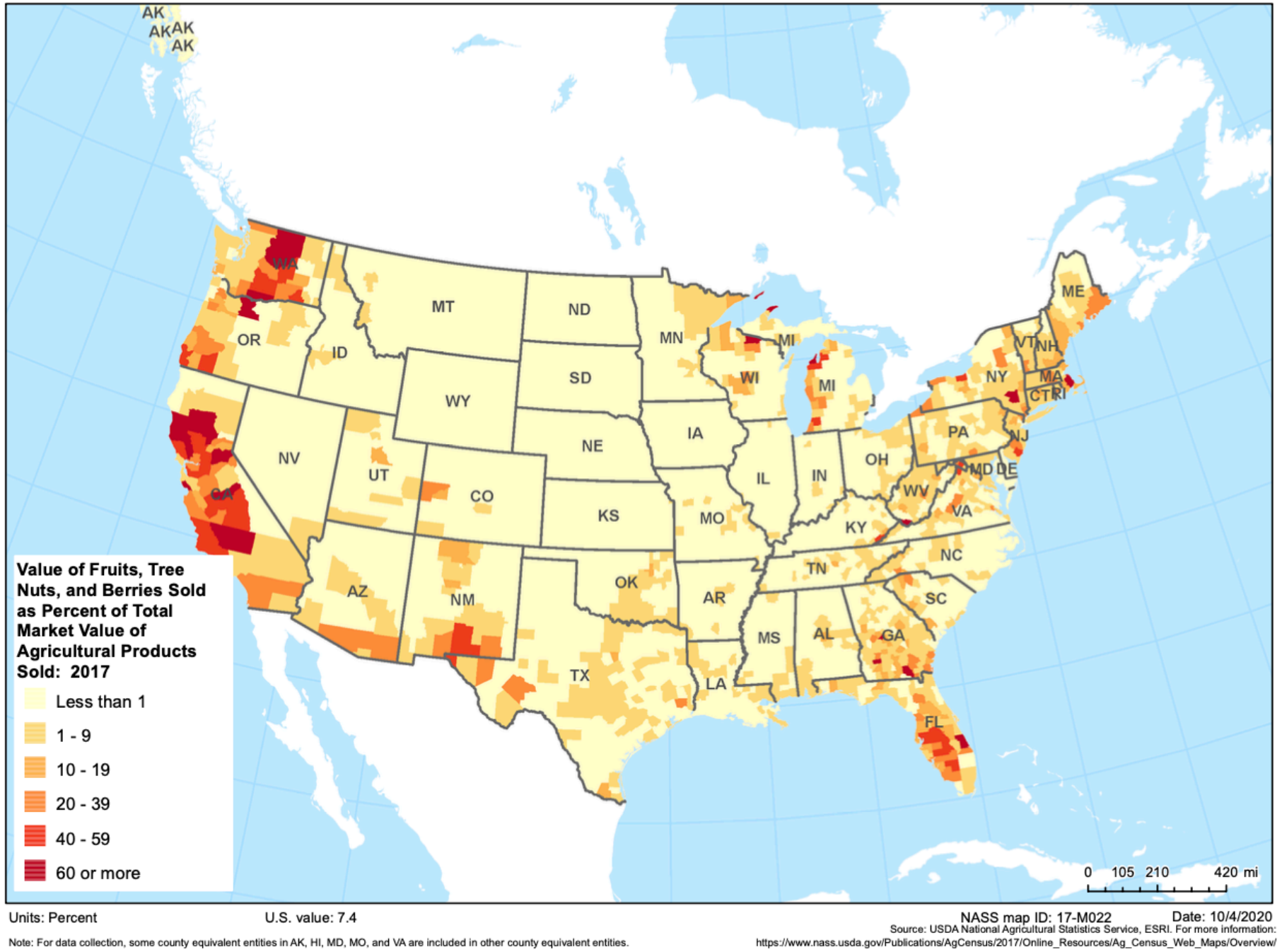


Livestock Production: Value of Livestock, Poultry & Their Products as Percent of Value Sold



Fruits & Nuts Production:

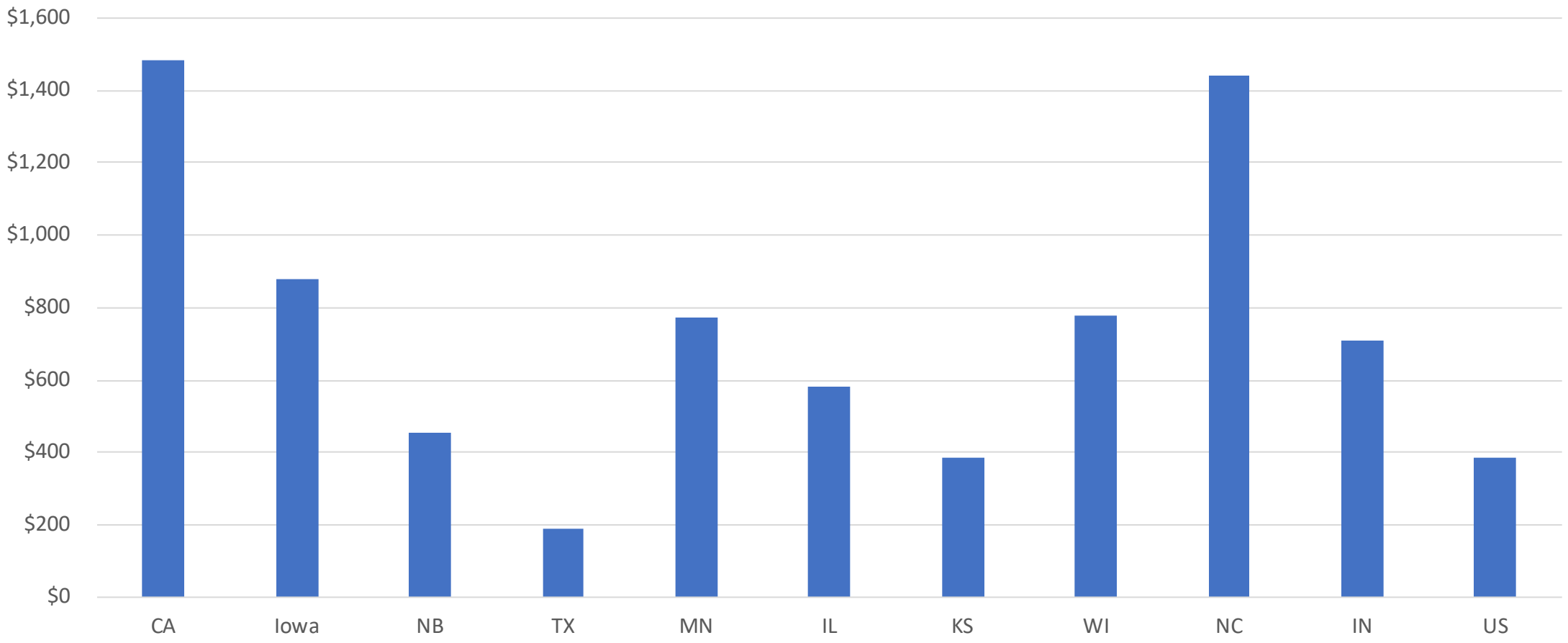
Value of Fruits, Tree Nuts and Berries as Percent of Value Sold



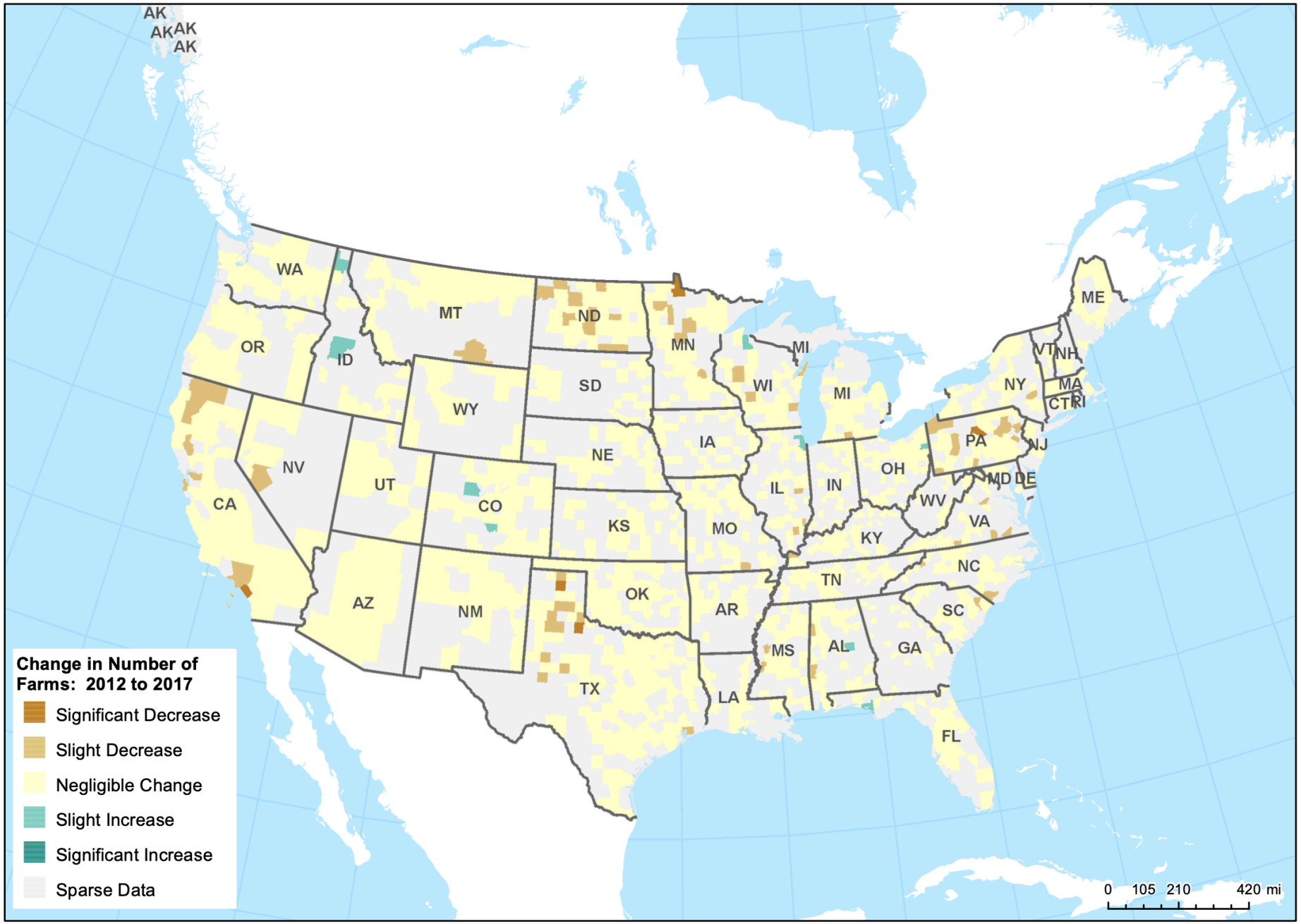
Different Types of Ag Pol Econ – Different Market Value/Unit of Land Input

- CA has the highest revenue/acre – intensive
  - This is reflected in CA farmland prices that are a multiple of those in the Midwest
- Extensive livestock farming has the lowest revenue/acre
  - Revenue/acre in this type of agriculture is below the US average
- Field crops – corn, soybeans and wheat – have returns/acre intermediate – above the US average
- NC's high revenue/acre reflects an intensive instead of an extensive livestock model (poultry)
- WI is similar to the field crop revenue/acre (dairy)

Revenue/Acre: 10 States and US



Change in Number of Farms: 2012 to 2017



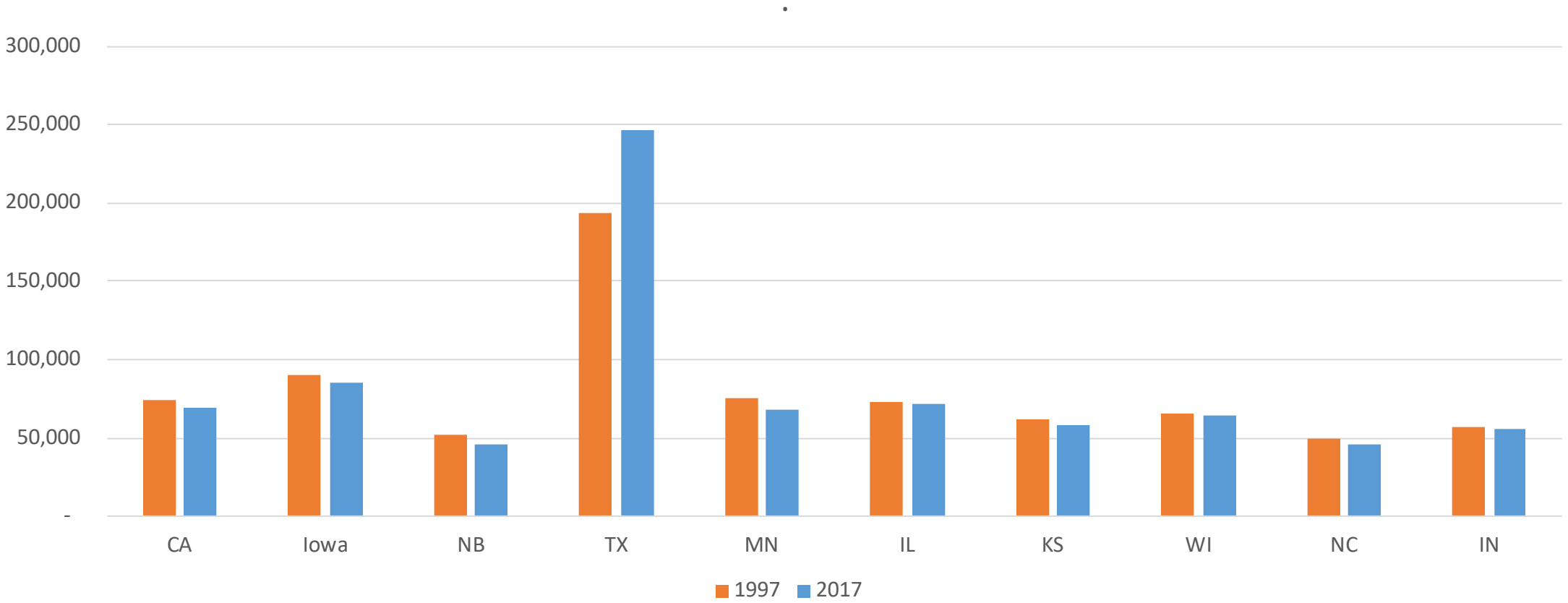
Units: Change in No. of Farms U.S. value: Negligible

NASS map ID: 17-M002 Date: 10/4/2020

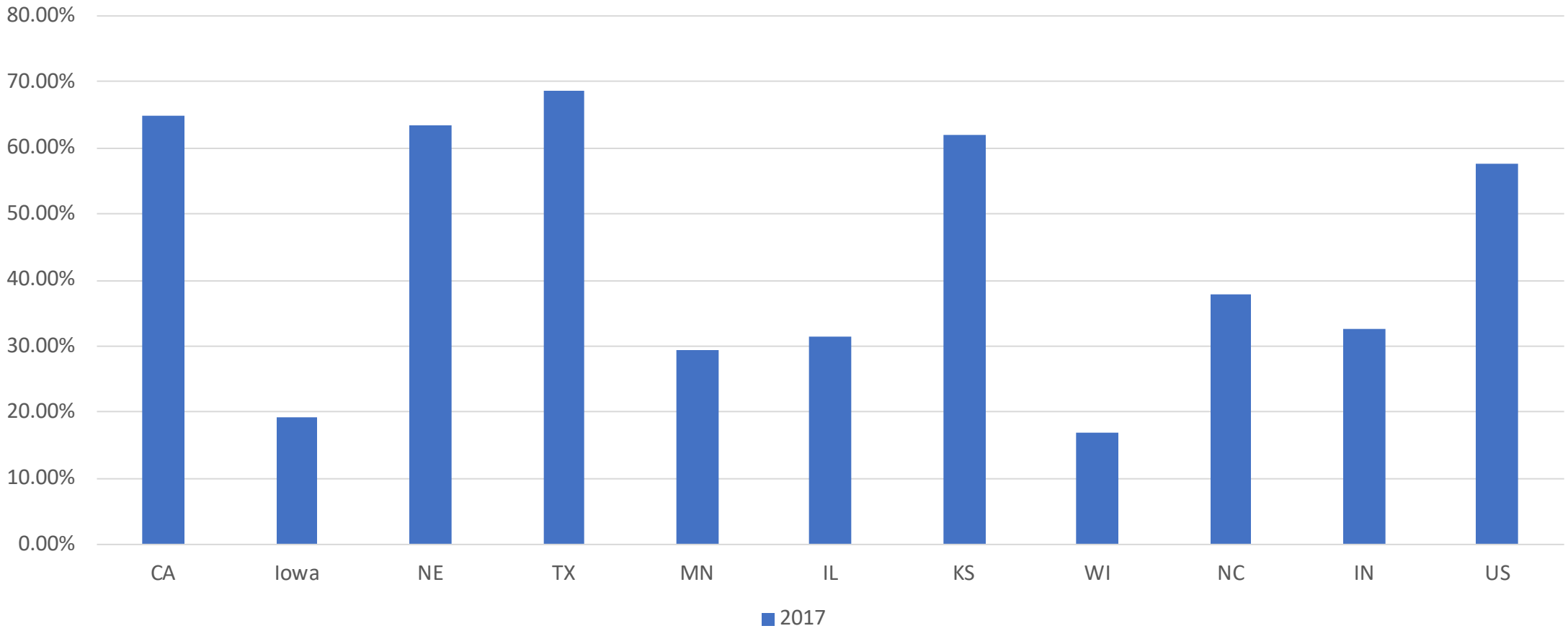
Source: USDA National Agricultural Statistics Service, ESRI. For more information: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Ag_Census_Web_Maps/Overview/

Note: For data collection, some county equivalent entities in AK, HI, MD, MO, and VA are included in other county equivalent entities.

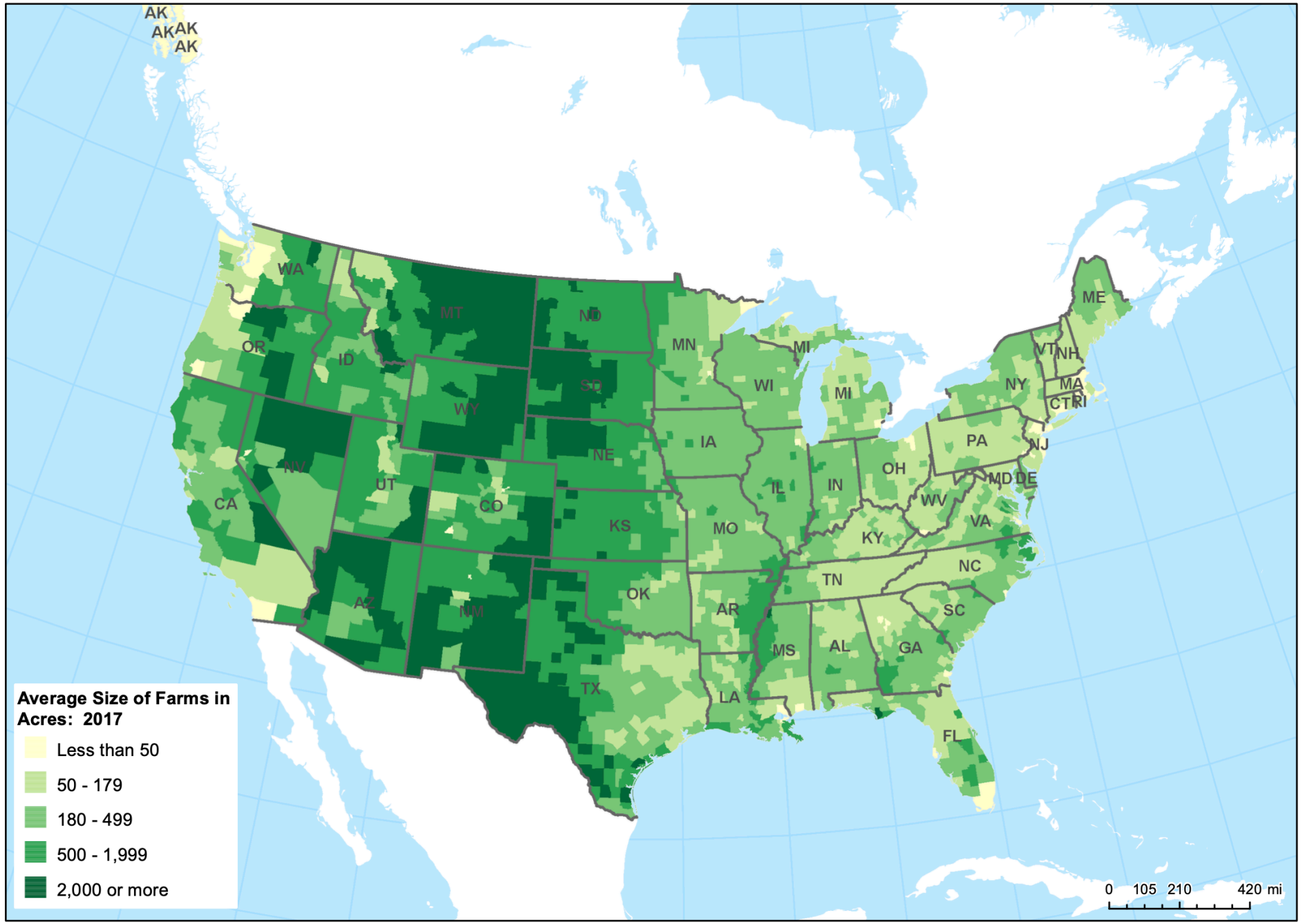
Number of Farms, 1997 and 2017



% of Farm Acreage in Farms of 2000 or more Acres



Average Size of Farms



Units: Acres U.S. value: 441 NASS map ID: 17-M003 Date: 10/4/2020

Source: USDA National Agricultural Statistics Service, ESRI. For more information: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Ag_Census_Web_Maps/Overview/

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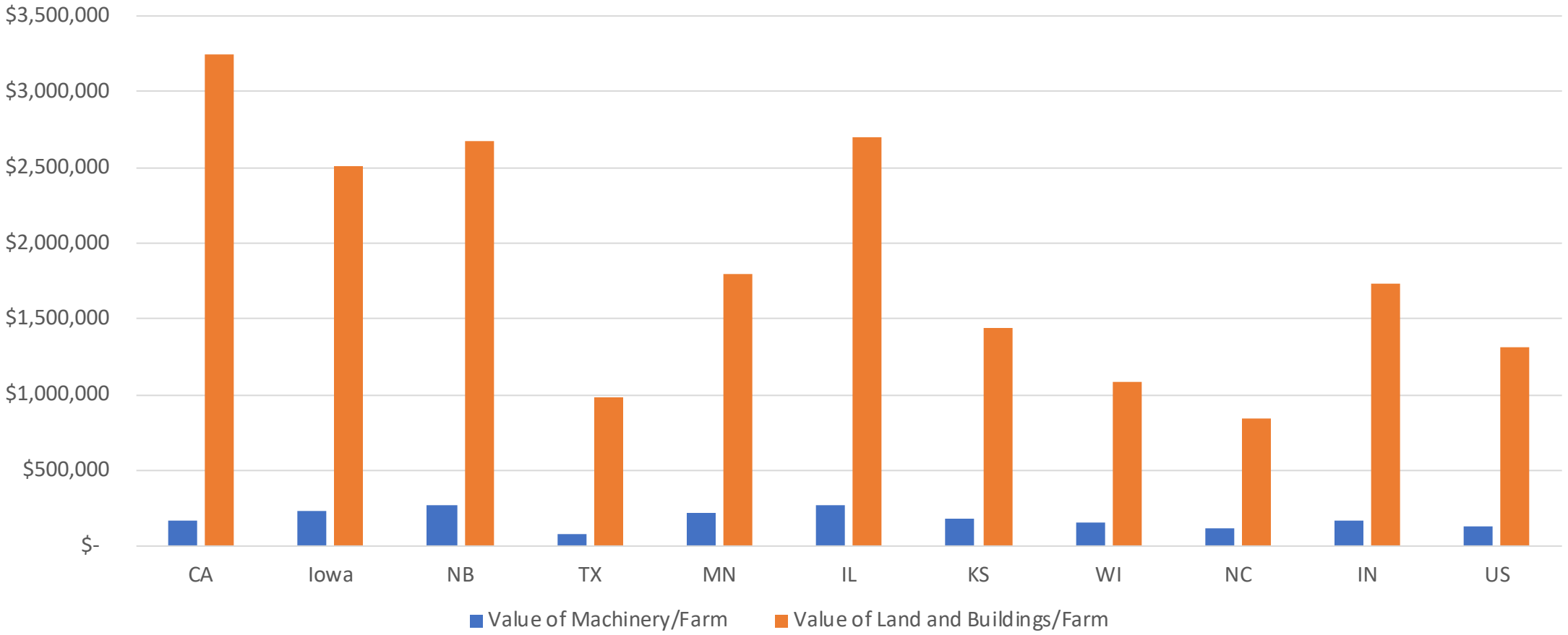
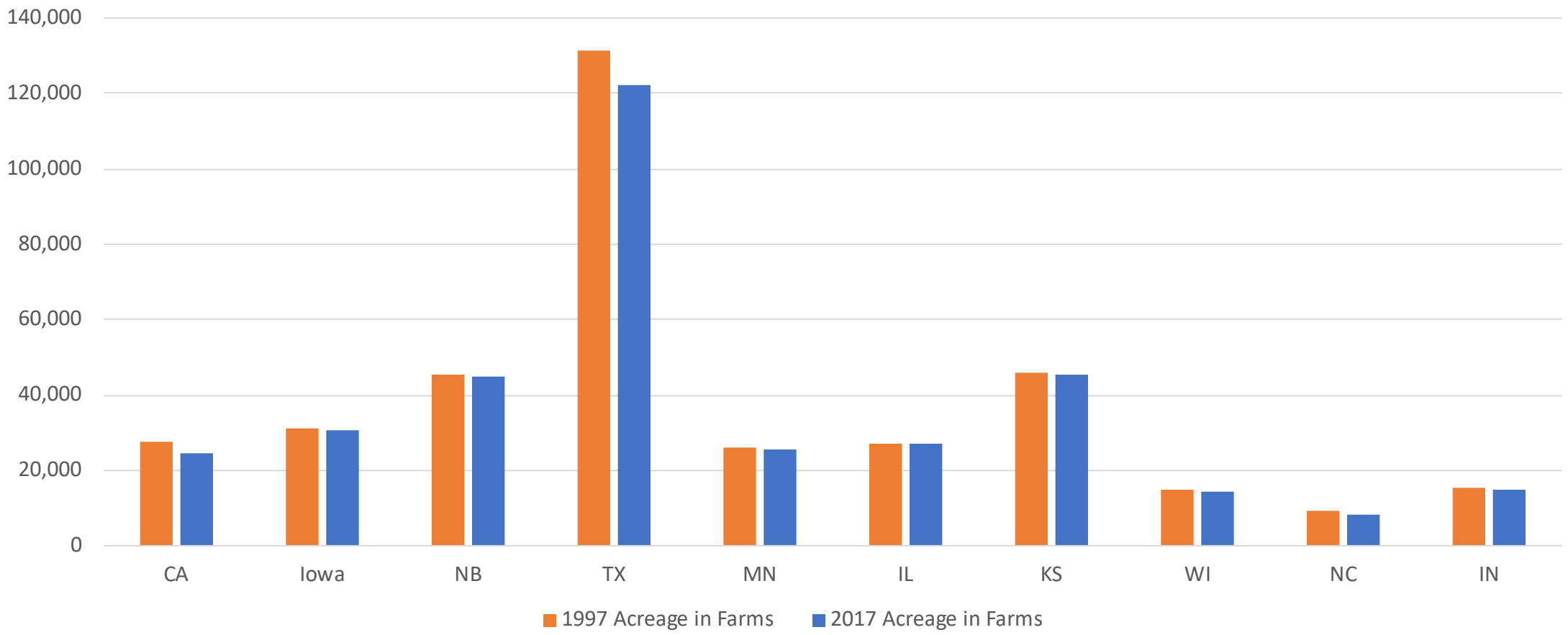
Inputs to Agricultural Production: Land and Labor

- Farms in the US are not large-scale capitalist operations – but they are market oriented enterprises
- Land (C) and Labor (V) are the primary inputs in the organization of US agricultural political economy
  - Machinery represents a relatively small investment/farm
- Who owns the land and who works the land differentiate the types of farming in the US today
  - Full Owner: all land owned
  - Part Owner: some land owned and some leased
  - Tenant: all land is leased
- The land devoted to farming and the number of farmer has changed very little in the past 3 decades

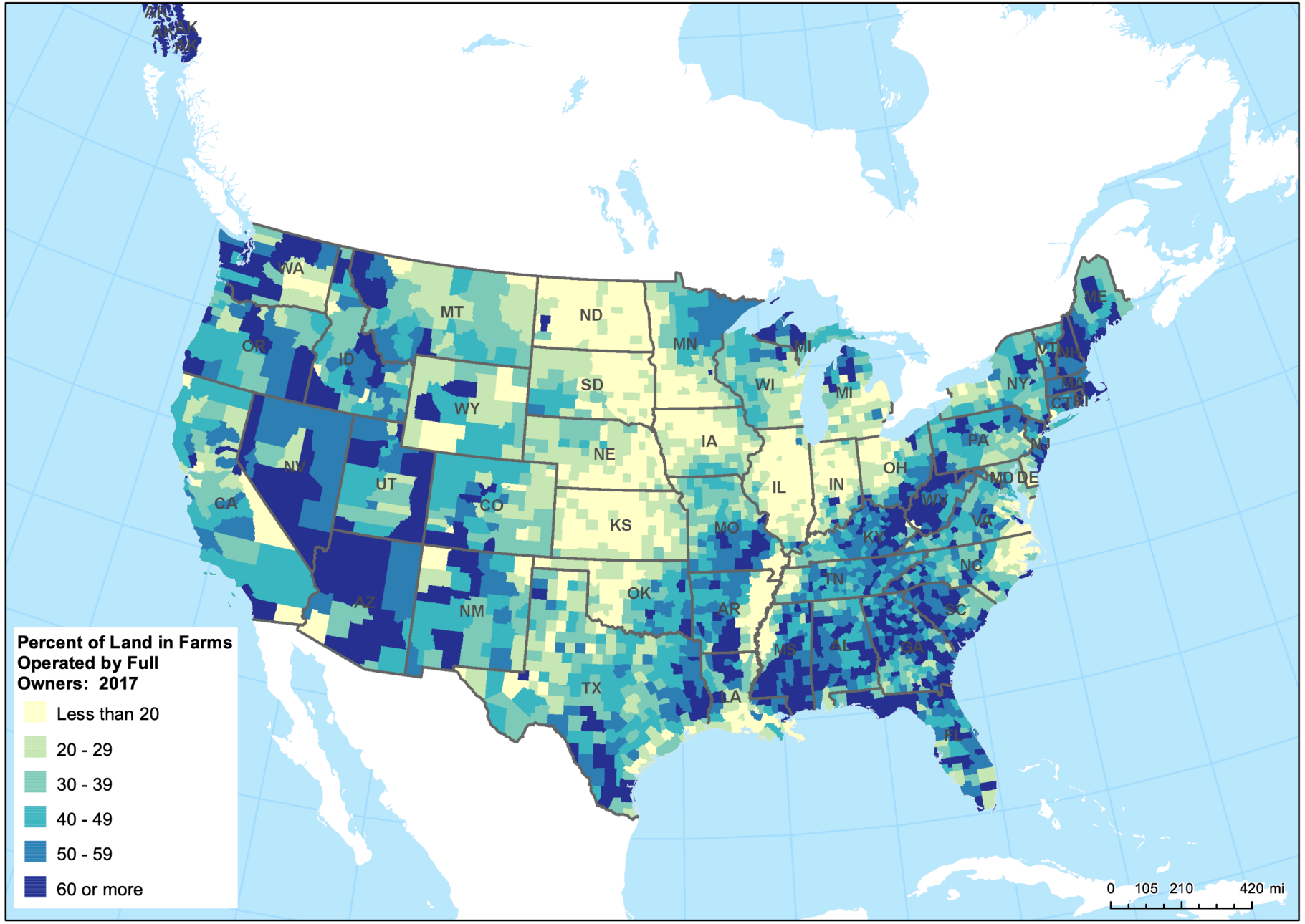
Inputs: Machinery/Farm vs Land and Buildings/Farm



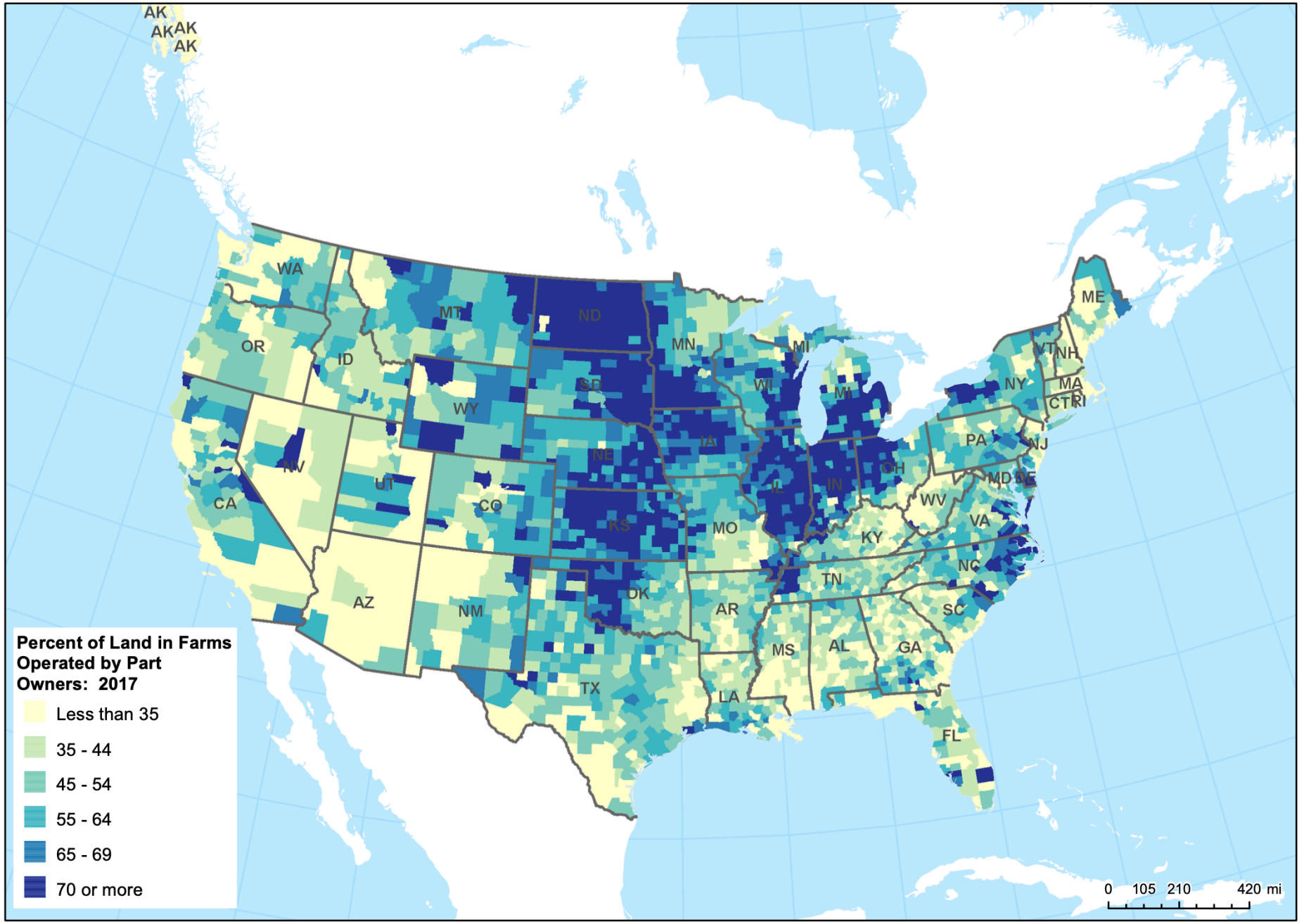
Land Input by State: Total Acreage (000s)



Full Owners: Percent of Land in Farms



Part Owners: Percent of Land in Farms



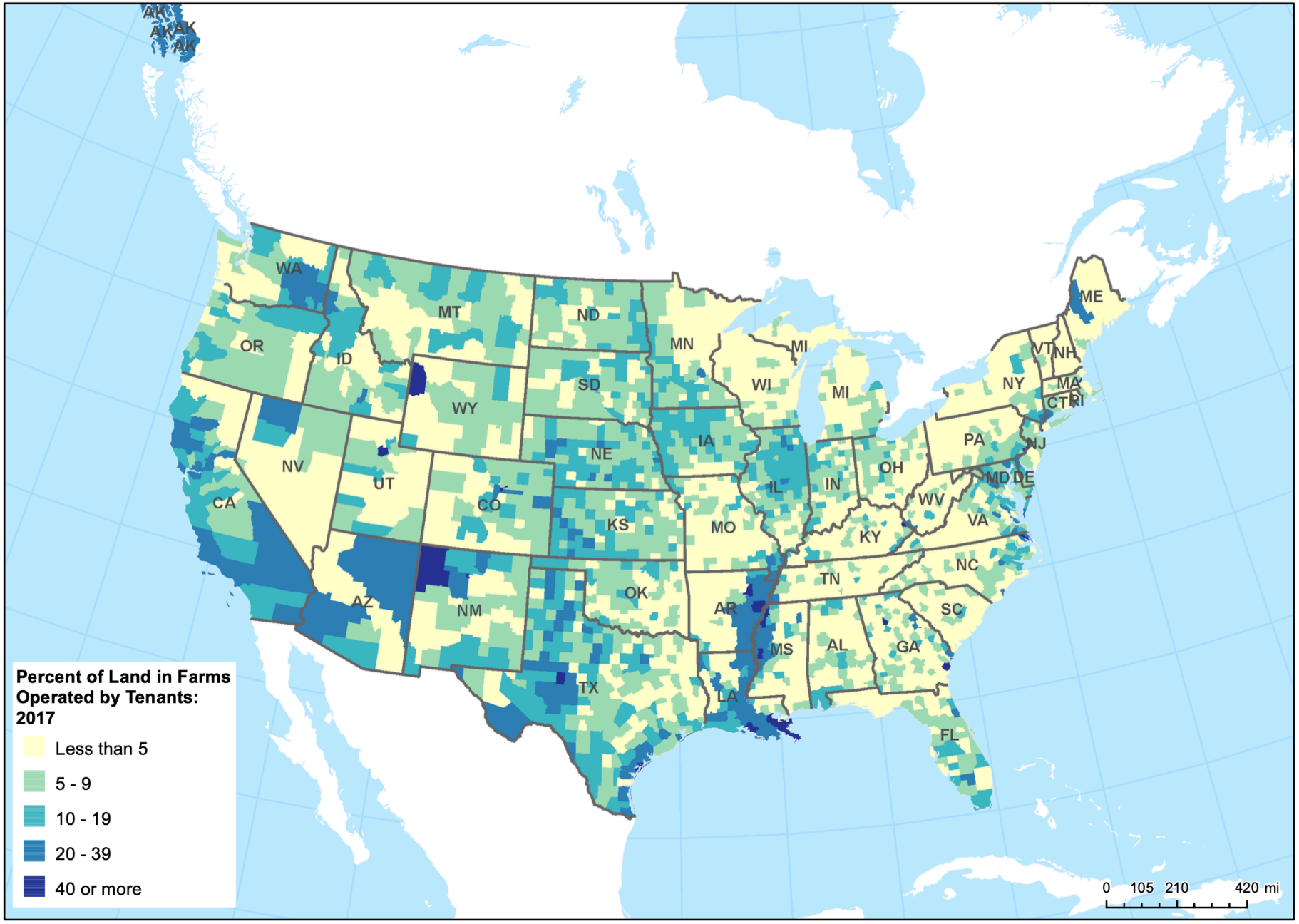
Units: Percent U.S. value: 55.9

NASS map ID: 17-M087 Date: 10/4/2020

Source: USDA National Agricultural Statistics Service, ESRI. For more information: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Ag_Census_Web_Maps/Overview/

Note: For data collection, some county equivalent entities in AK, HI, MD, MO, and VA are included in other county equivalent entities.

Tenants: Percent of Land in Farms



Units: Percent U.S. value: 9.6

NASS map ID: 17-M089 Date: 10/4/2020

Source: USDA National Agricultural Statistics Service, ESRI. For more information: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Ag_Census_Web_Maps/Overview/

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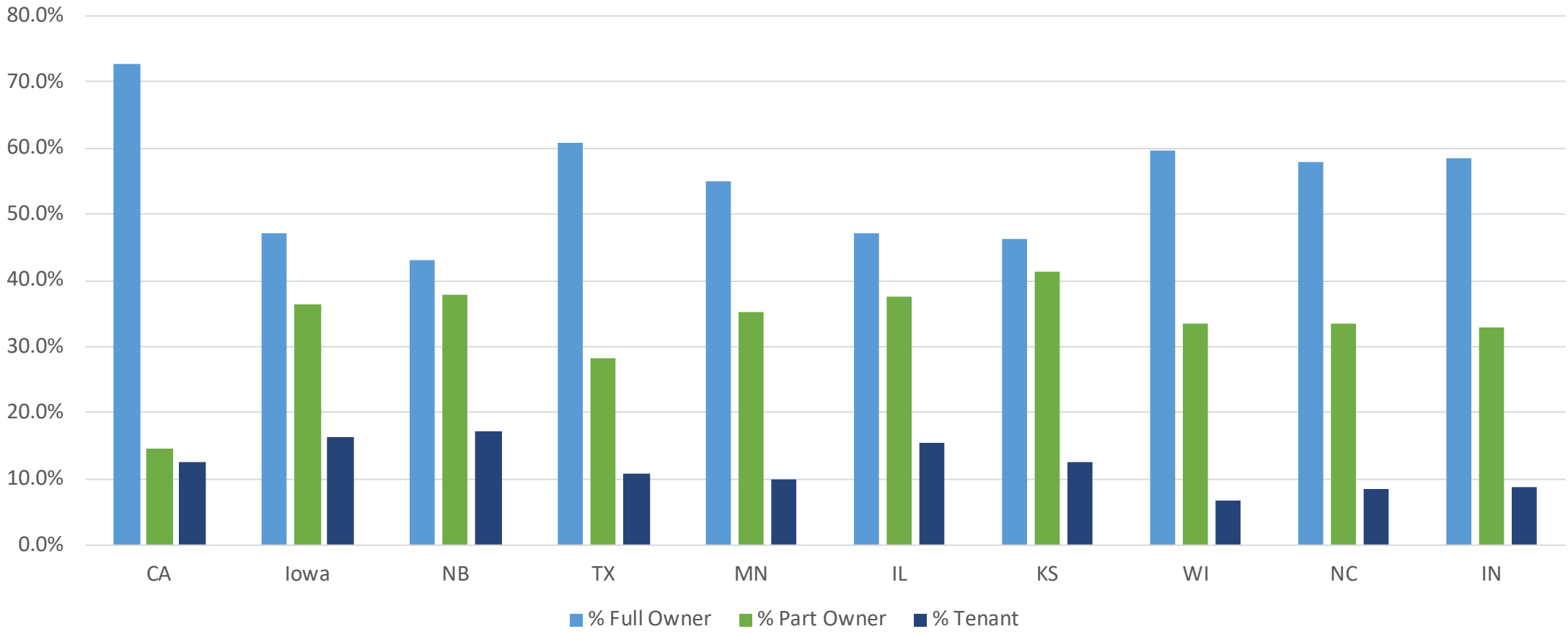
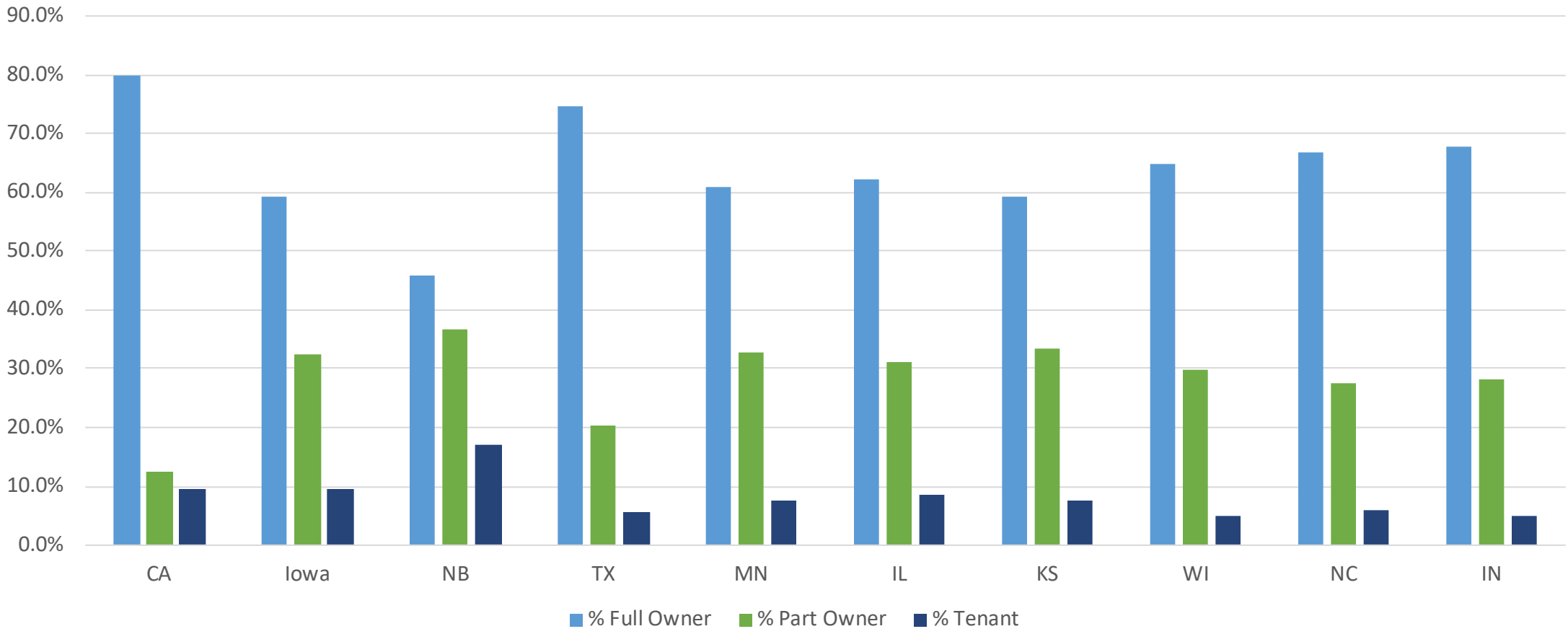
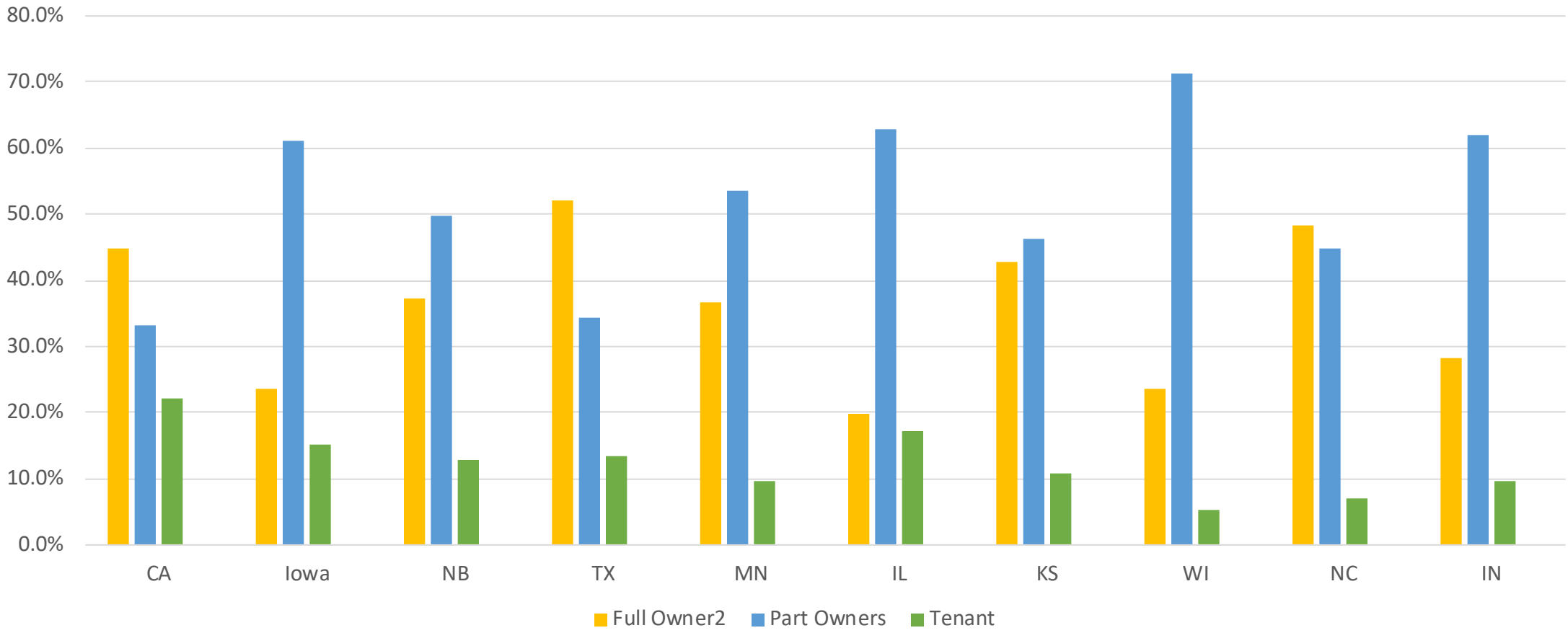
Farms by Tenure - 1997



Farms by Tenure - 2017



% Farm Revenue by Tenure - 1997



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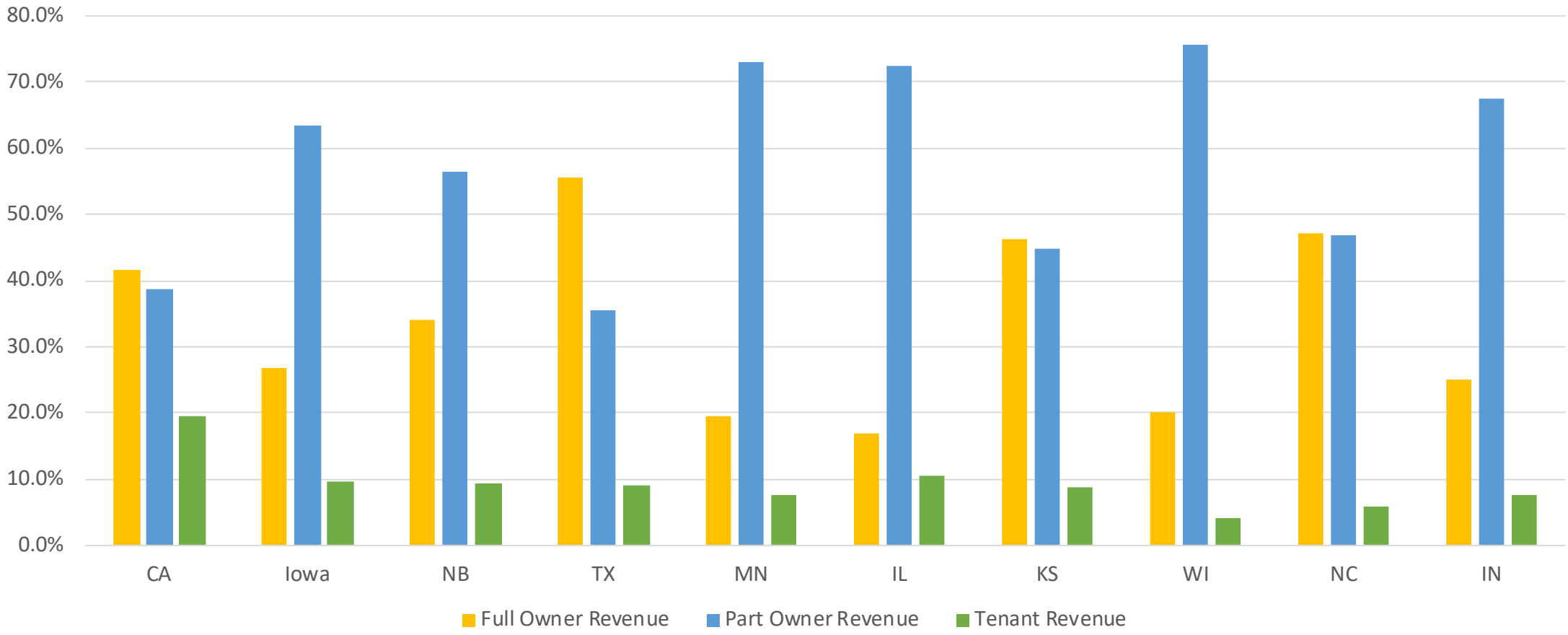
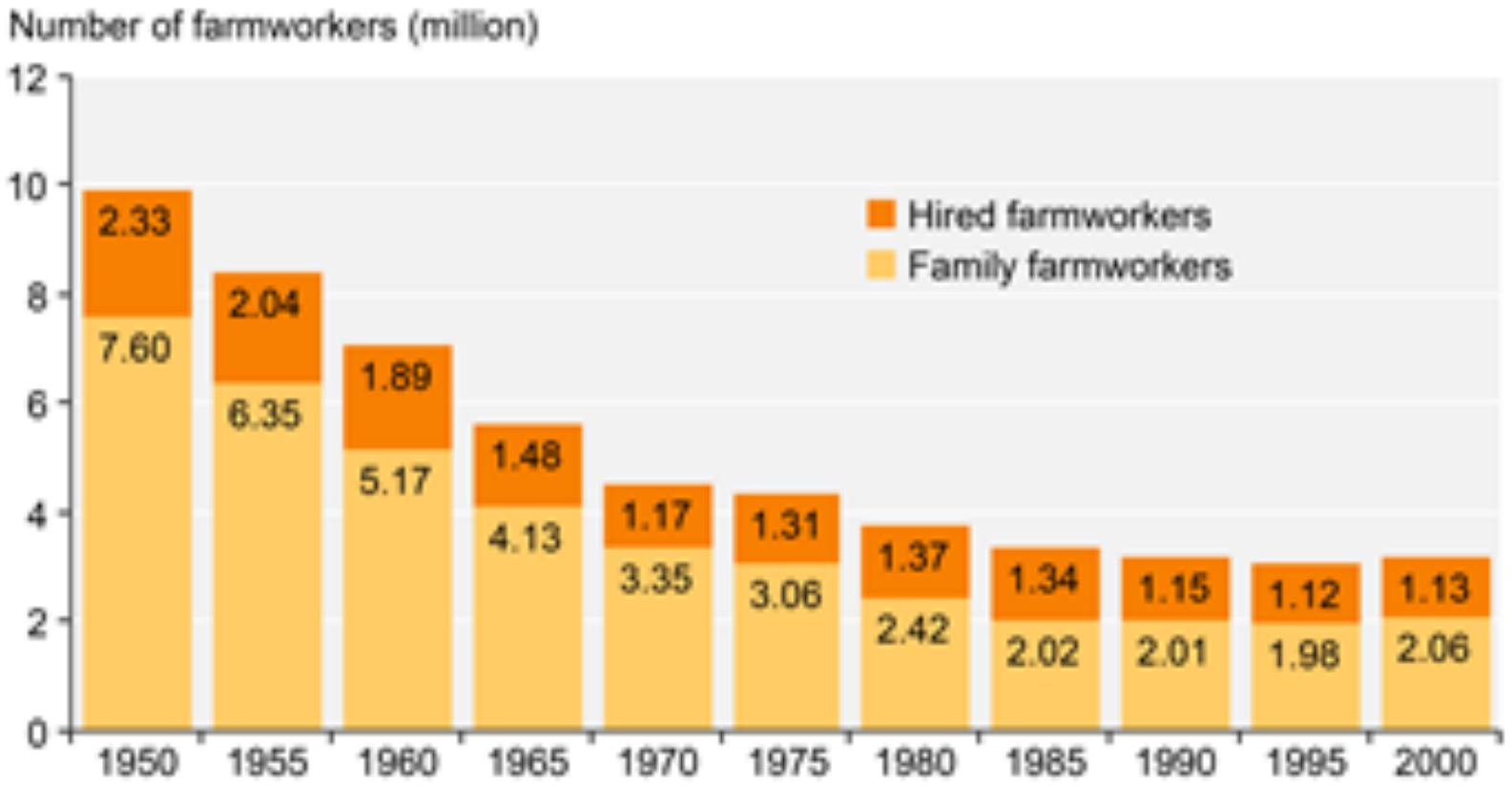


Working the Land: Farm Labor and Farm Owners in US Agriculture

- Most agrarian labor is performed by farm owner-operators
  - CA is the exception to this pattern: more full-time farm workers than owner-operators (this is also true of OR and WA)
  - The ratio of hired labor to family labor has been increasing
- Farm labor has - but only- gradually been replaced by machinery
  - However, ag production is often difficult to automate, especially intensive agricultural production
  - Migratory farm work has declined – farm workers are largely settled in the area where they are employed
- The Pacific region has the largest number of farm laborers (CA, OR, WA, and HI)
- Farm workers are more Hispanic and less likely to be citizens than the US population as a whole

Family and hired farmworkers on U.S. farms, 1950-2000



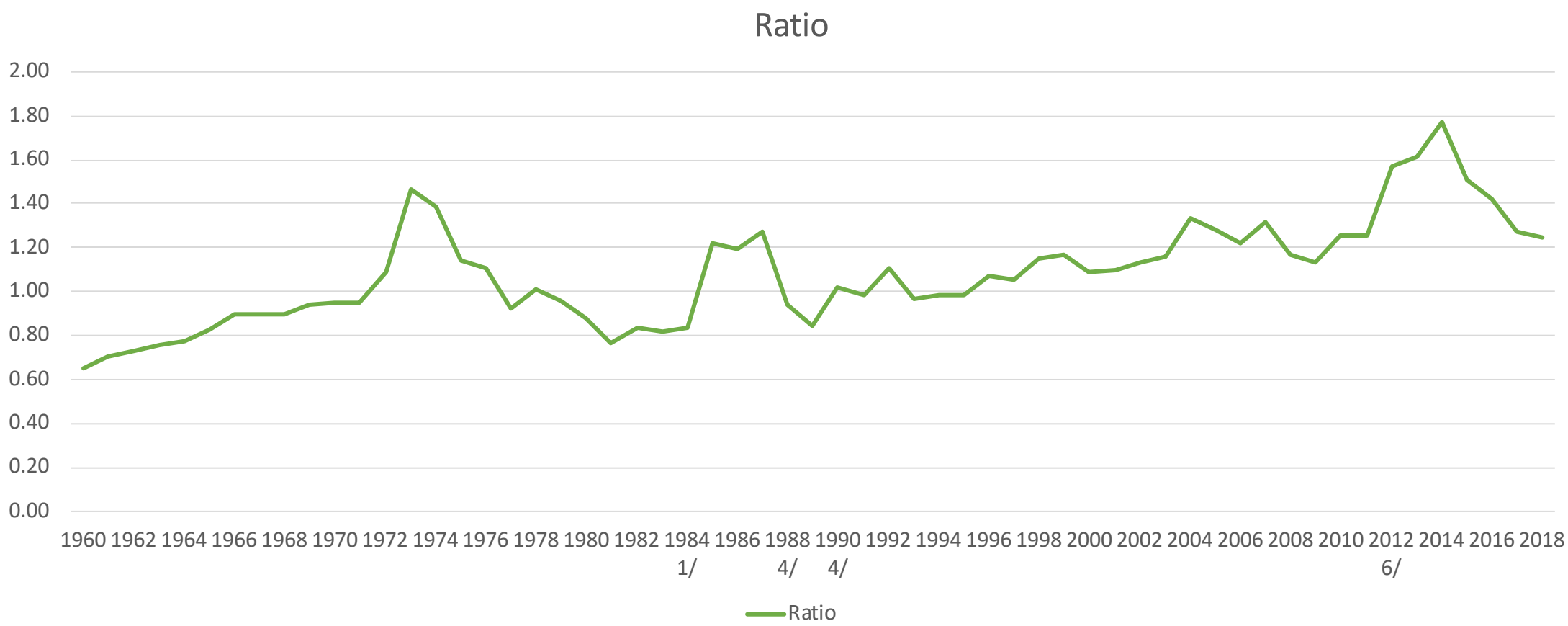
Note: Family farmworkers include self-employed farmers and unpaid family members. Hired farmworkers include direct hires and agricultural service workers employed by farm labor contractors.

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service, Farm Labor Survey (FLS). The FLS stopped estimating the number of family farmworkers beginning in 2001. As of 2012, the survey no longer counts contracted agricultural service workers.

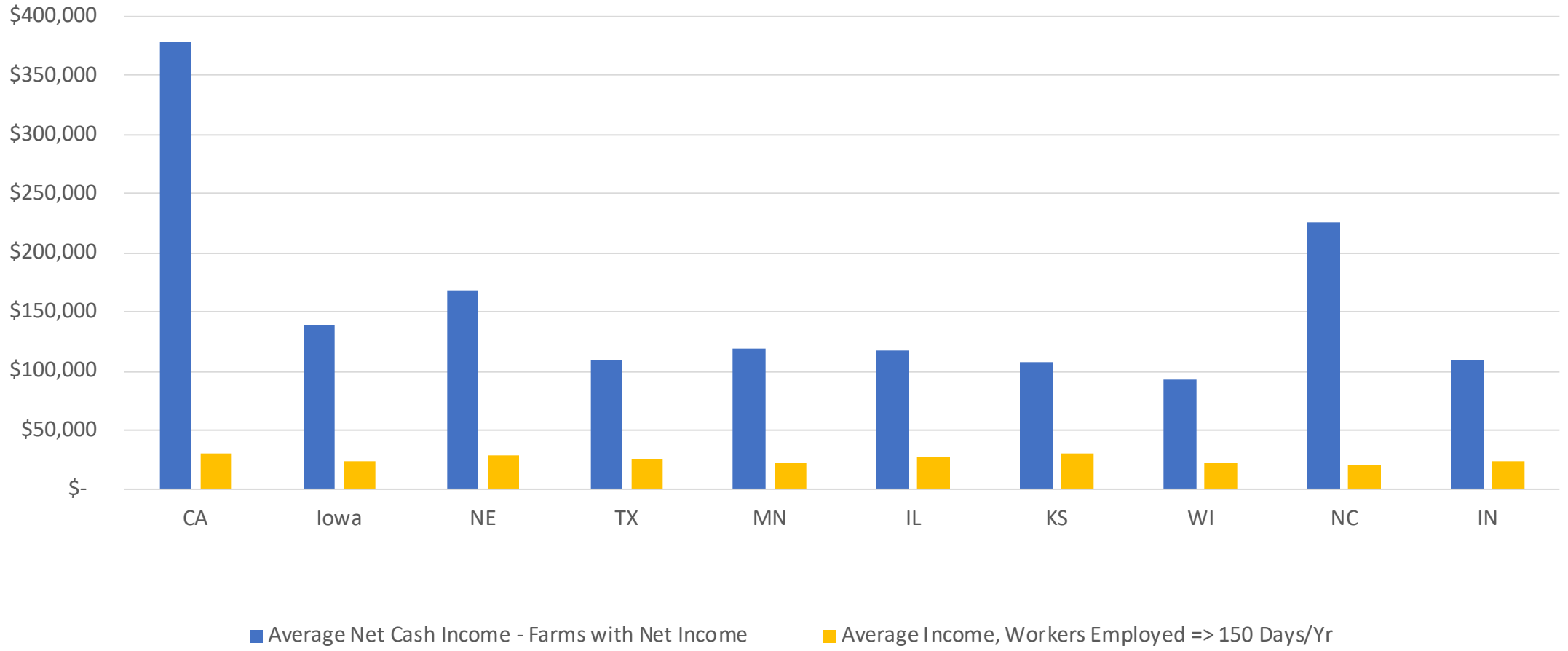
Farm Tenure and Farm Revenue

- Farm household income is higher than US average
- Farms in the US are under three types of tenure
  - Full owner – all land worked is owned
  - Part Owner – Some land is owned, additional acreage is leased
  - Tenant – no land owned, all leased
- With the exception of Maine, foreign ownership of farm land is limited
- However, absentee ownership has gown
- Thus the part owner model has increased in the 1997 – 2017 decades
  - Increased share of total acreage
  - Increased share of total farm revenue
- Extensive agriculture – especially the crop based version in the MW - is heavily dependent on subsidies

Ratio: Average Farm Household Income/Average US household Income



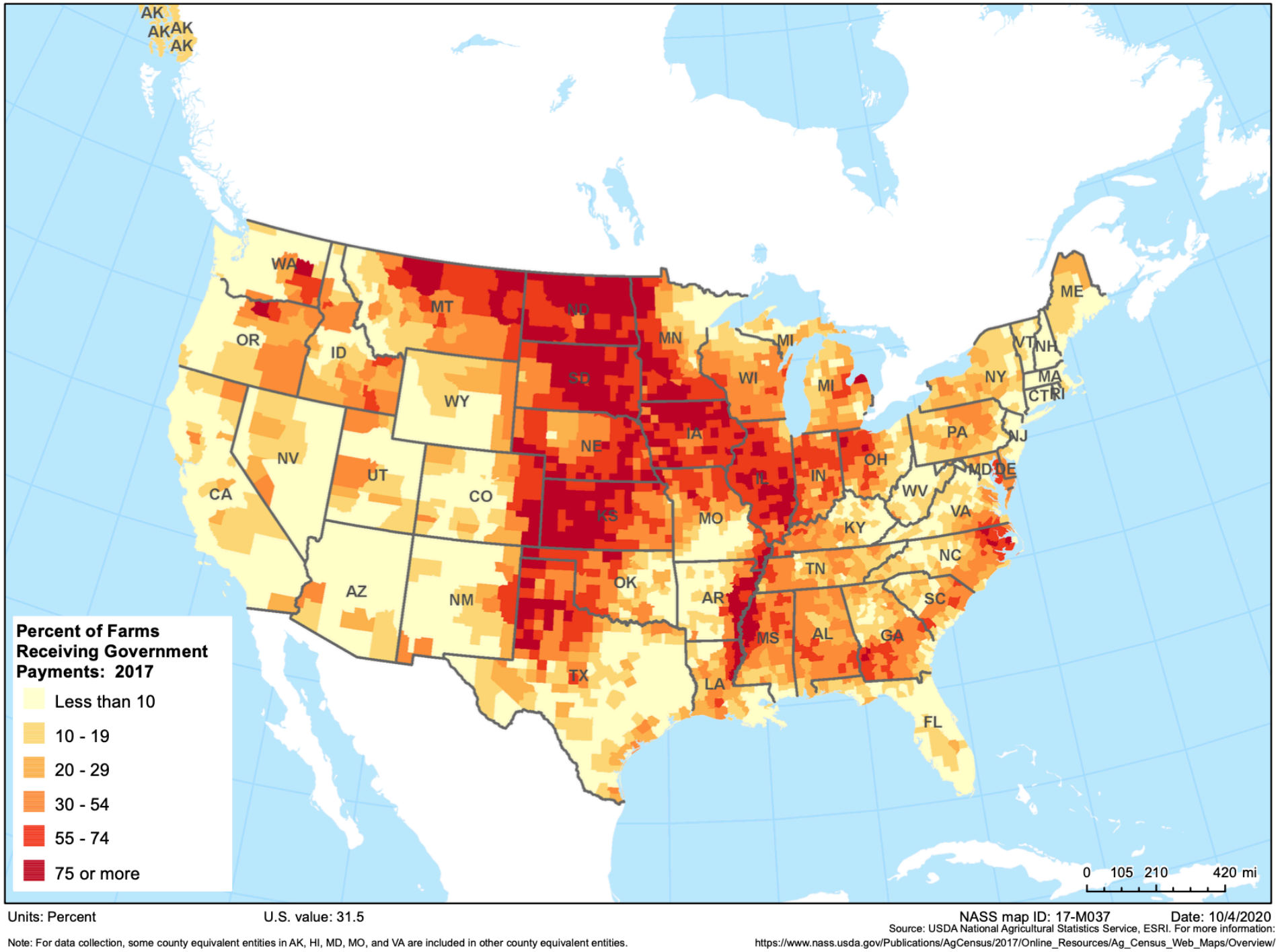
Agricultural Incomes: Farm Operators vs Hired Labor by State



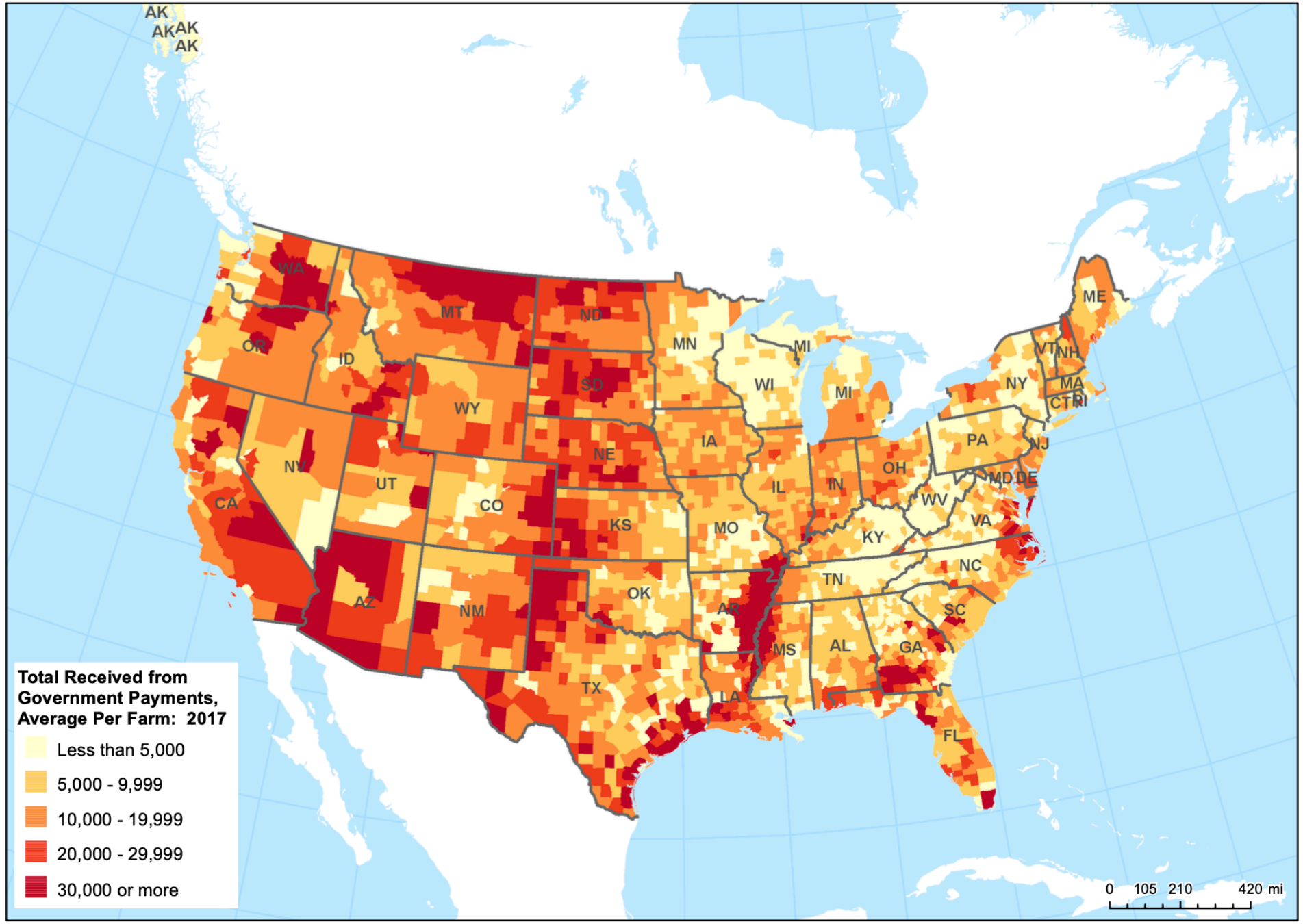
Farm Subsidies

- $20 billion/yr in subsidies to farm businesses
  - 39% of farms receive subsidies
  - Largest share: Producers of corn, soybeans, wheat, cotton and rice
  - Food stamps are under USDA; gain urban political support for farm subsidies
- Key farm subsidies
  - Insurance ($8 b/yr); 80% on revenue shortfalls, 20% on yield shortfalls
  - Pays premiums of farmers AND pays admin costs of 16 insurance companies
  - Key crops: corn, soybeans, cotton and wheat
  - No income limits so richest farms get subsidies as well
  - Discrimination against poorer farms and minority farmers
- Other subsidies
  - Agricultural Risk Coverage ($3.7 b/yr); Price Loss coverage (PLC – $3.2 b/yr)
  - Conservation Programs ($5 b/yr); Marketing Loans; Disaster Aid; etc.

Subsidies: Percent of Farms Receiving Gov't Payments – 2017



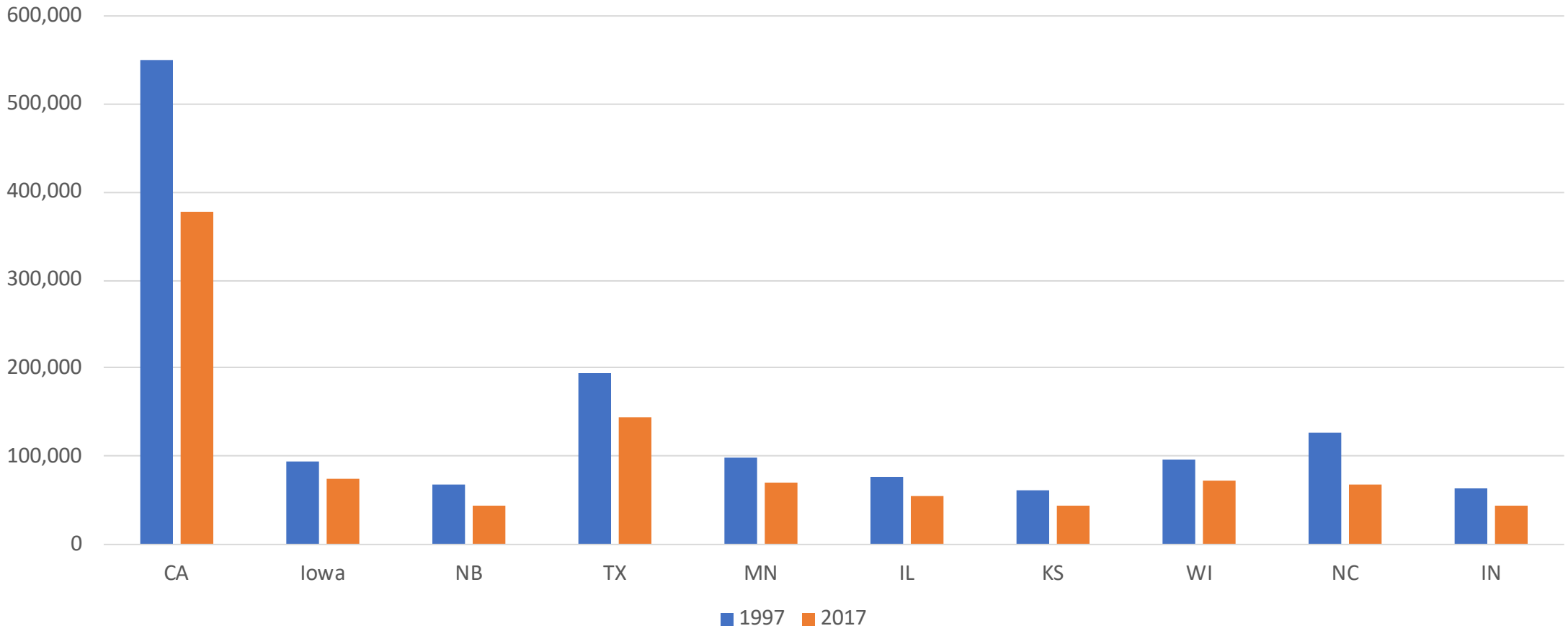
Subsidies: Total Received from Gov't Payments per Farm – 2017



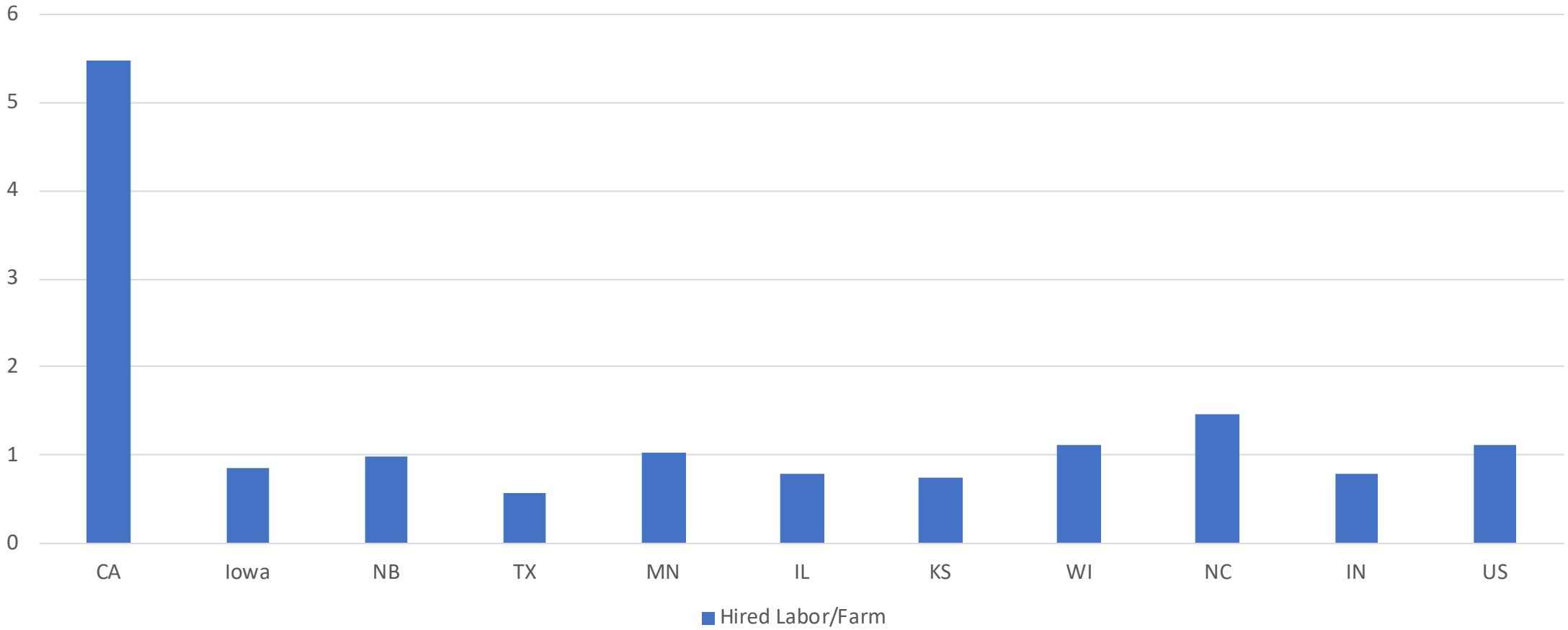
Labor Inputs to Ag – Top 10 States

- With the exception of CA, the hired/labor farm is about 1.0
  - CA averages more than 5 workers/farm (OR and WA also have more than 2 workers/farm and WA is the state other than CA and TX with more than 100,000 hired farm workers)
  - The other two intensive ag states – NC and WI – had slightly more than 1.0 hired labor/farm
- Some farm labor has been replaced by new machinery
  - Total hired farm labor has decreased by almost 30% in the past two decades
- Over 50% of farm workers are employed less than 150 days/yr as farm labor
- Farm workers employed more than 150 days/yr are concentrated in the intensive ag production

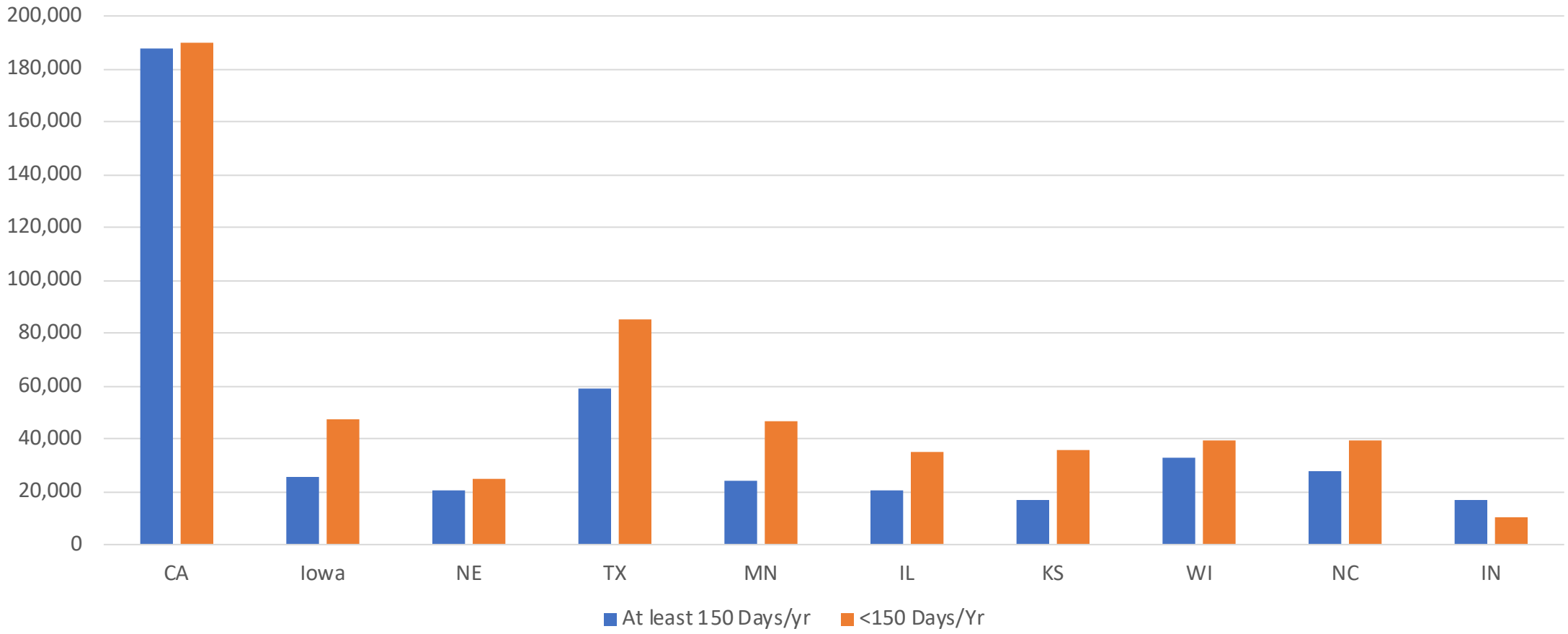
Hired Farm Labor, 1997 and 2017



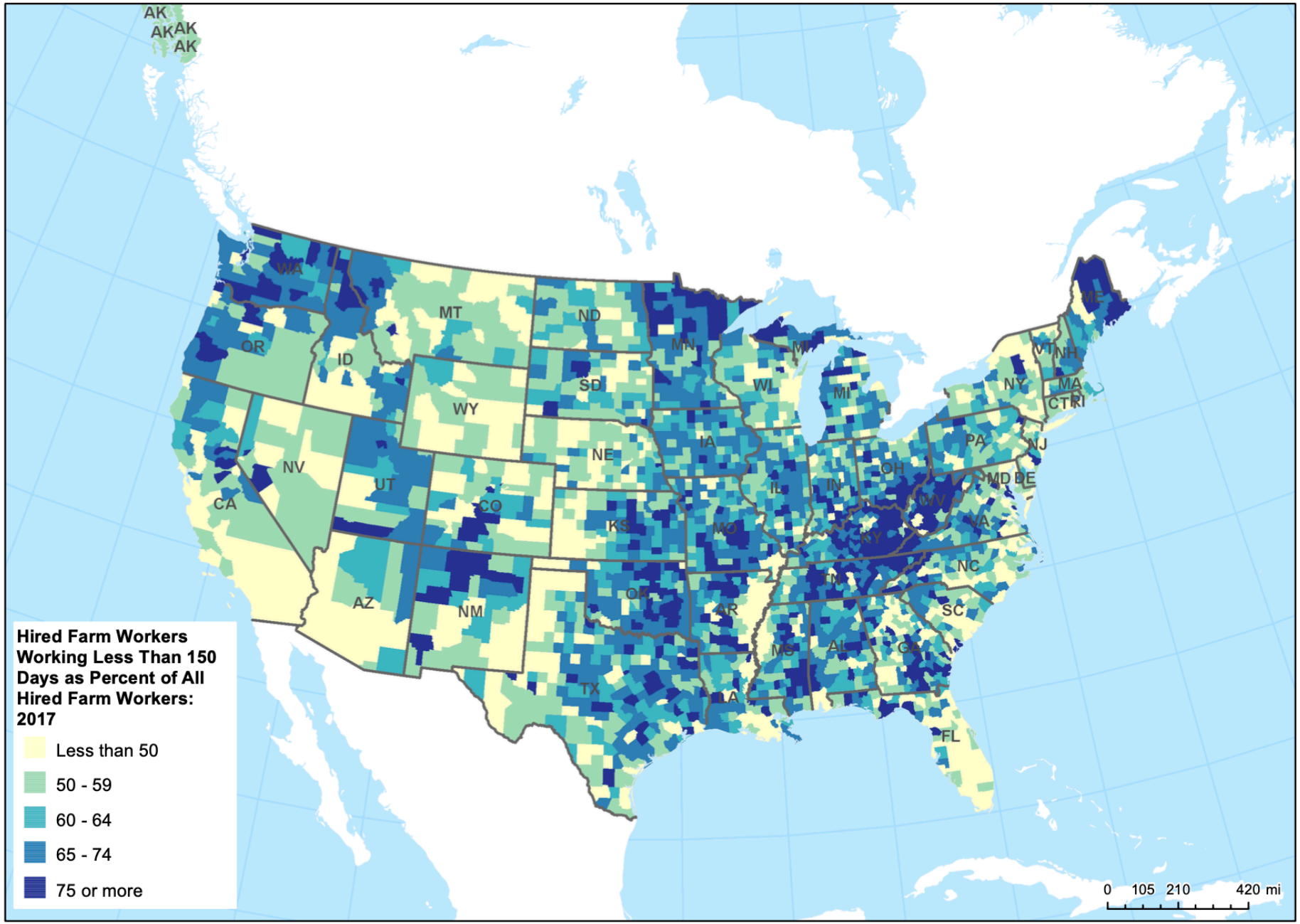
Labor Input: Hired Labor/Farm, 2017



Farm Labor: Days Worked/Yr: 2017



Hired Farm Workers: Working Less than 150 Days



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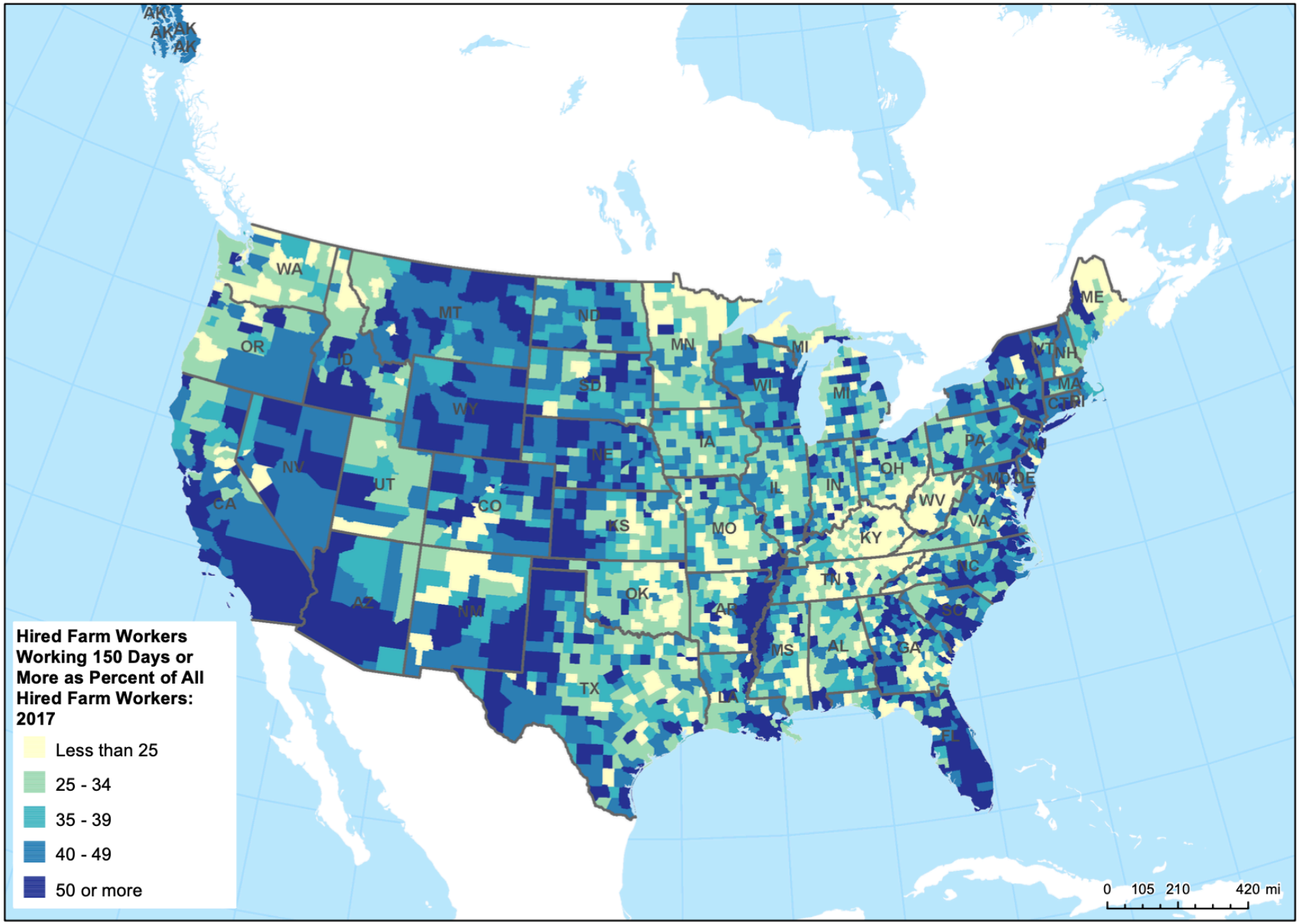
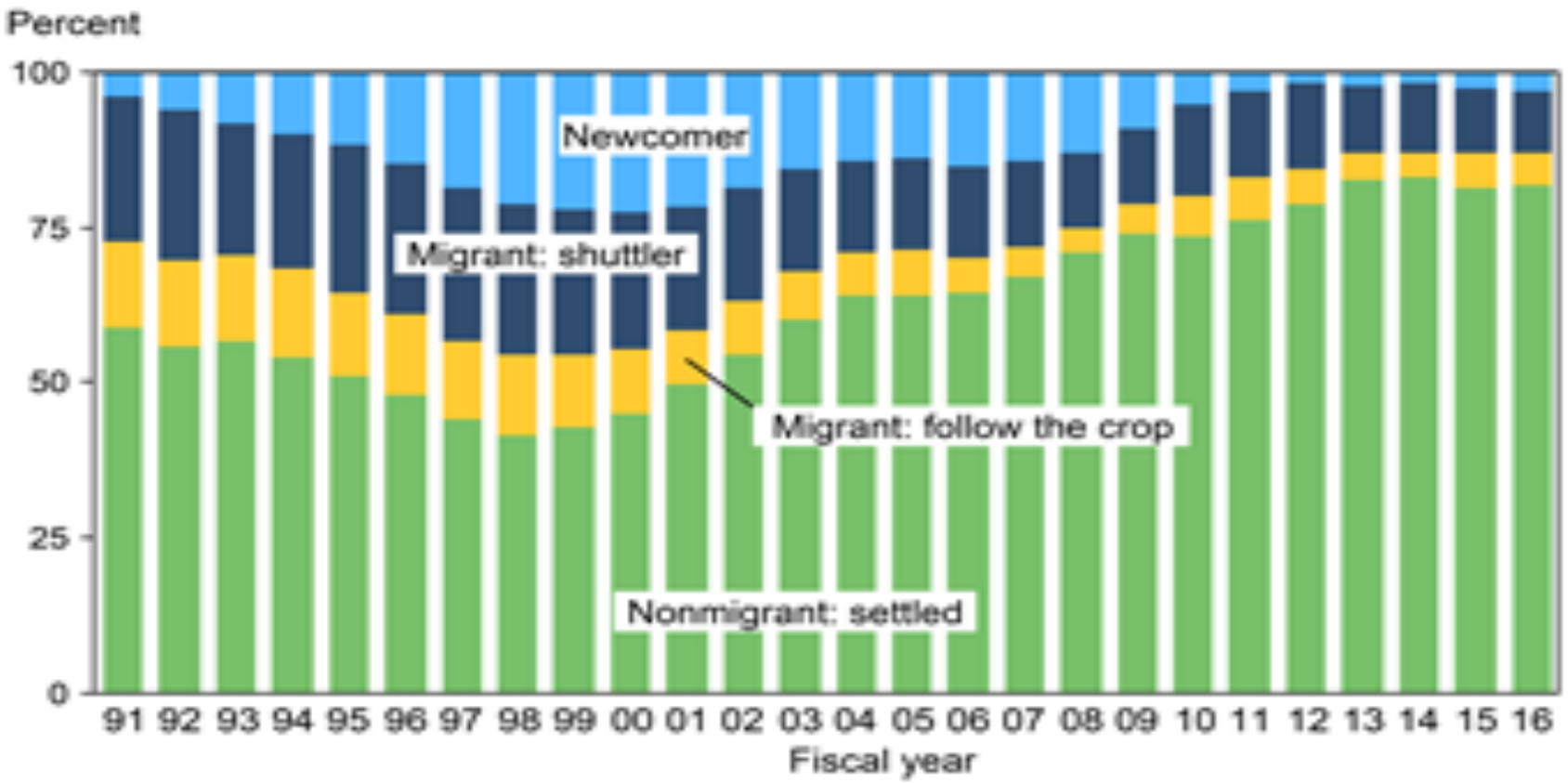
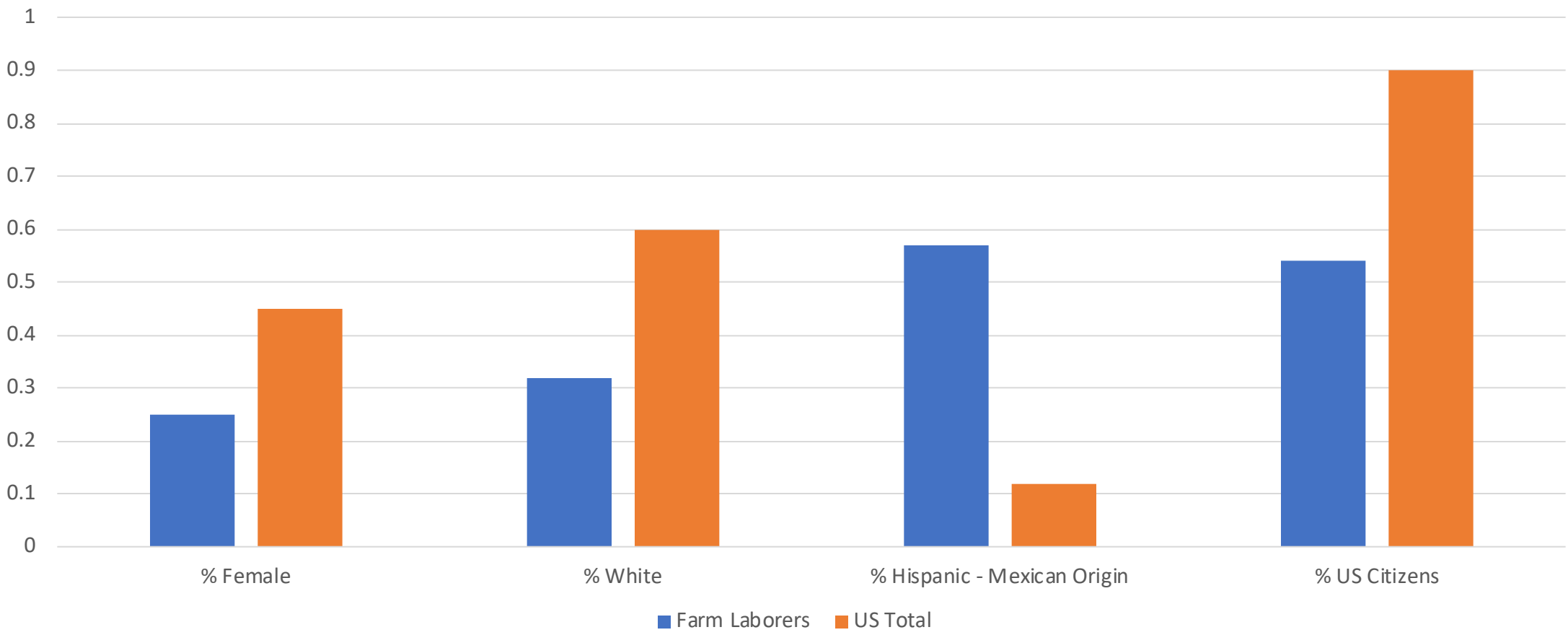


Migration patterns of hired crop farmworkers, fiscal 1991-2016



Note: Values for each year are 3-year moving averages to smooth fluctuations due to small sample sizes: e.g. data reported for fiscal 2016 are the average over fiscal 2014-16.
Source: USDA Economic Research Service using U.S. Department of Labor, National Agricultural Workers Survey.

Who Works as a Farm Laborer: 2018



Farmland is now considered
An “asset class”
for institutional investors –
Such as pension funds

High Historic U.S. Farmland Returns[1]

Data based on analysis of returns from 1972 -2016

Asset/Index	Annual Average Return	Standard Deviation	Correlation
US Average Farm (all)	**10.23%**	**6.62%**	**1**
S&P 500	6.86%	16.90%	-0.252
NYSE	6.49%	16.70%	-0.211
TCM 10-Year	6.56%	3.00%	0.140
AAA	7.70%	2.60%	0.070
Gold	7.27%	23.26%	0.306
All REITs	9.29%	20.29%	-0.135
CPI	3.93%	2.90%	0.661

Agricultural Over-Production

- USDA: 30 to 40% of food produced is never consumed
  - Reasons:
  - Spoilage at every stage of the production & supply chain
  - From Farm gate to retail: problems of: drying, milling, transporting or processing
    - Insects, rodents, birds, molds, bacteria
  - Retail: equipment malfunction, over-ordering, culling of blemished produce
  - Consumer over-cooking and throwing away
- Definition by USDA Economic Research Services (ERS): The edible amount of food, post harvest, that is available for human consumption but is not consumed for any reason.
- They have programs to reduce this waste, but not by feeding the poor

US Agriculture and the Global Agricultural Food Economy: Background

- The US agrarian political economy has been linked to the global agricultural economy for more than two centuries
  - Cotton was our leading ag export from 1803 – 1937
- Extensive ag production in CA – wheat – became a major export to Europe beginning in the 1850s/60s
- The search for export markets for the extensive ag production in the Midwest – corn, wheat - was a major driver of US foreign policy in the latter 1800s
- CA's shift to intensive ag production – beginning in the early 1900s – added an additional range of crop exports
- After WWII soybeans - another extensive crop grown primarily in the MW, rose rapidly as a US ag export crop

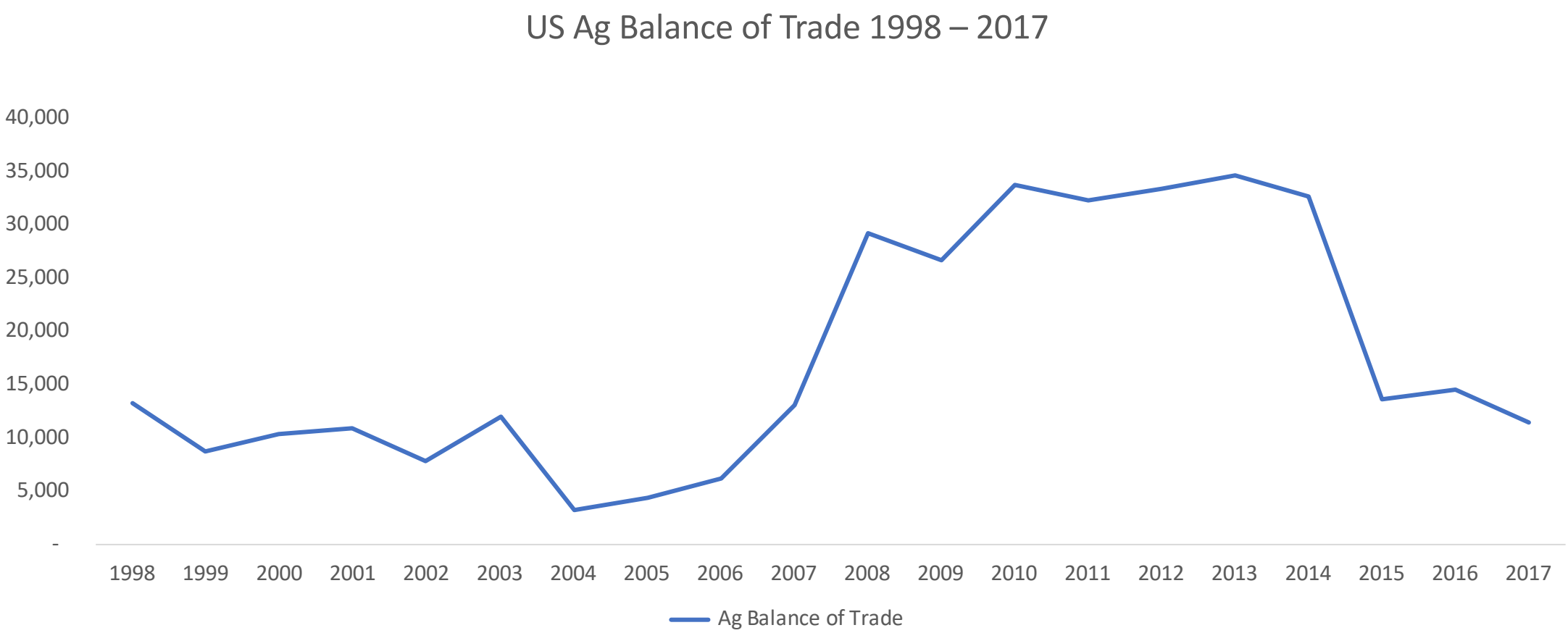
Agriculture in the Global South

- Peasantry as a term may be misleading
  - Confused with Feudal Peasantry
  - Bernstein: “Petty commodity producers in the Global South … are not so different from family farmers in the North. They all in effect are small capitalist enterprises ...”
    - 60% of the population of India
    - Reproduce themselves mainly through wage labor
- Agrarian Populism
  - Mainly champions small farmers against, large scale, mechanized, capitalist agriculture and global agribusiness
    - Example: Via Campensina (The Peasant Way)
      - International Peasants Movement

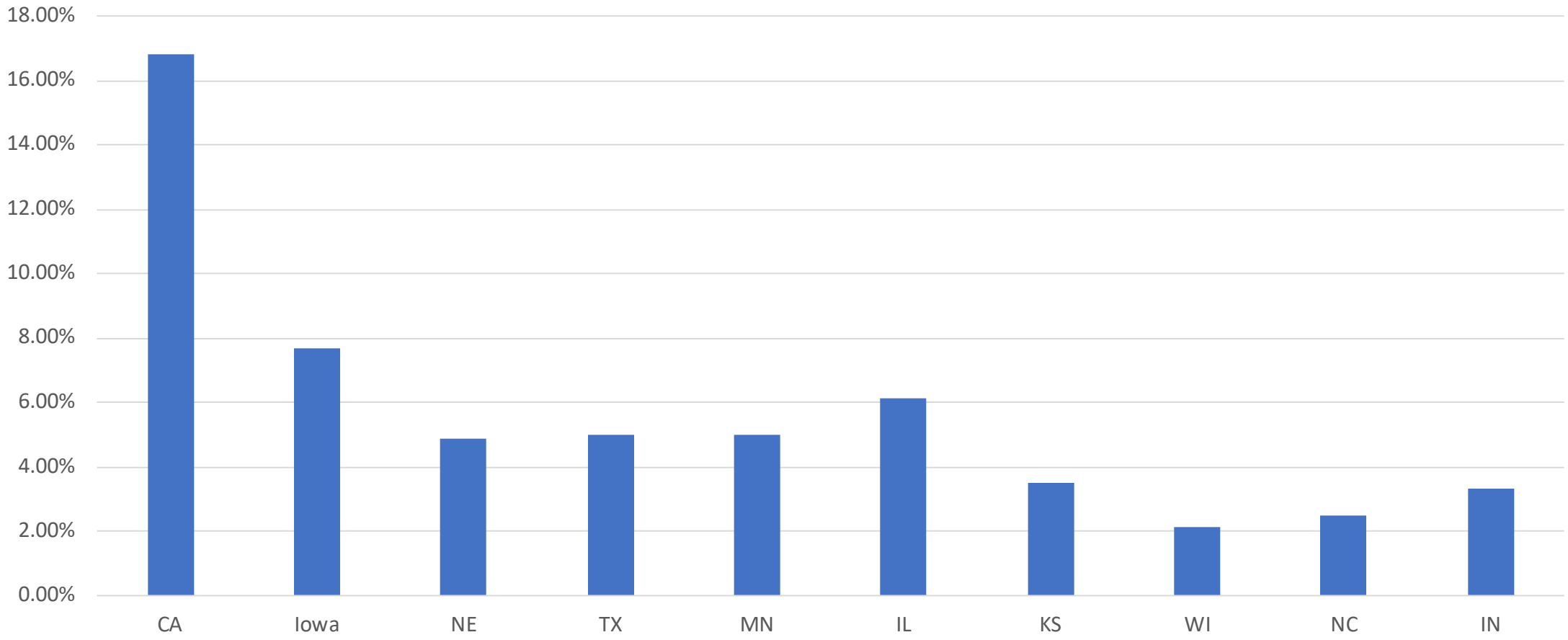
US Agriculture and US International Trade

- The US has run a chronic trade deficit in goods for more than 4 decades
  - However, the balance of trade in agricultural products has been consistently positive for the US
  - We are the largest agricultural exporter in the world and the third largest importer of agricultural products
- About 20% of US agricultural production (by value) is exported
  - But the export share of food grains, oil seeds (mostly soybeans meal and oil) and fruits and nuts is much higher
- From 2000 onward China emerges as a major – today the largest - export market for soy products – the largest US export crop by value – but Mexico (formerly self sufficient) is the largest market for US corn exports
  - Canada is the largest single market for US Ag exports – and the second largest source of US Ag imports

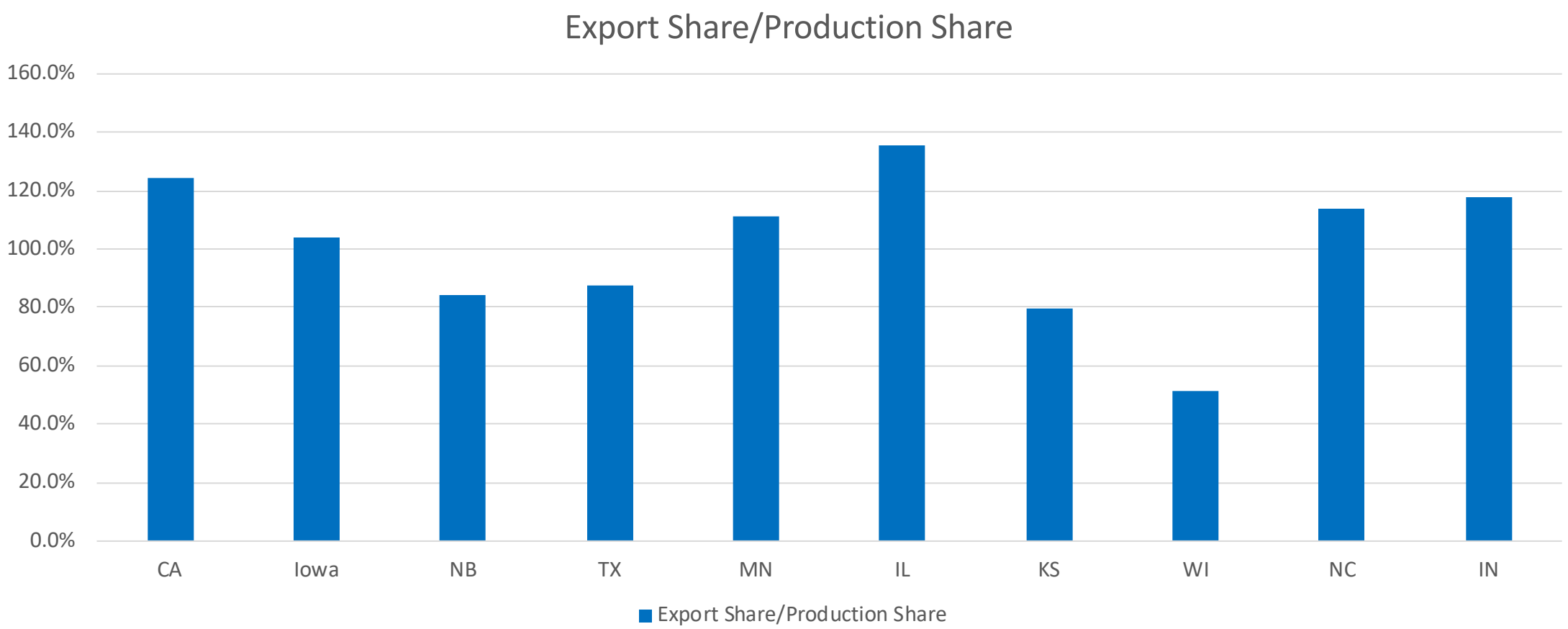
Agricultural Balance of Trade, 1998 – 2017, Billions of $



State Share of US Ag exports, by Value - 2018



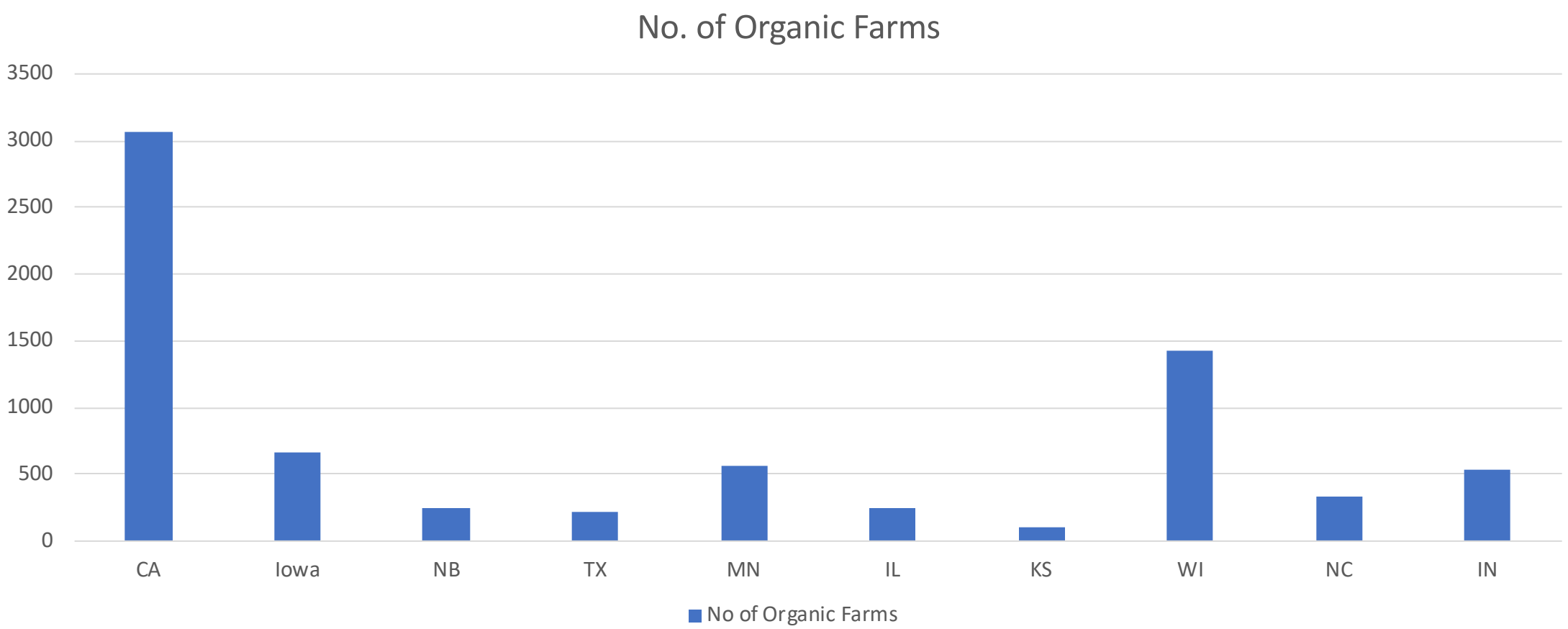
Export Share/Domestic Production Share



Organic Farms

- The production of organic food has increased significantly over the past decades
- The number of USDA certified organic farms has also increased:
  - From 14,326 in the 2012 census to 18,186 in the 2017 ag census
- The market value of organic output increased more than doubled in the same five years: from $3.1 billion to $7.2 billion
- The average sales value/organic farm is over $400,000, more than double the $190,000 average for non-organic farms
- Organic farmers are younger than non-organic farmers
- Nonetheless, organic farm output was less than 4% of total agricultural output by market value

Organic Farms in Top 10 Ag States*



*Top 10 states in terms of organic farms include WA, VT , ME, OR but not NB, TX, IL, and KS.