

Factors of Affecting Net Farm Income

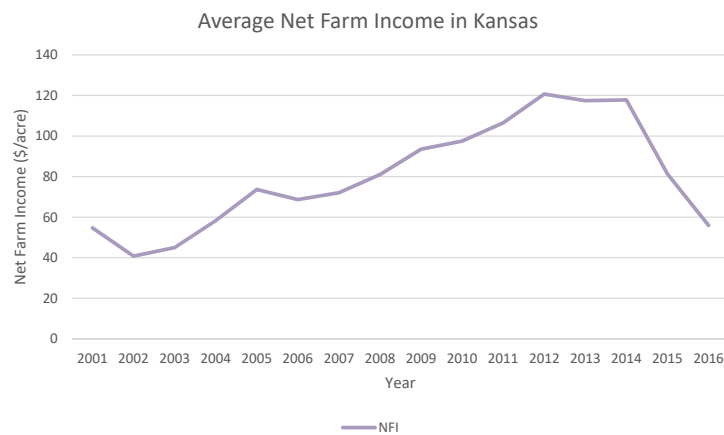
For row crop production in Kansas

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Motivation

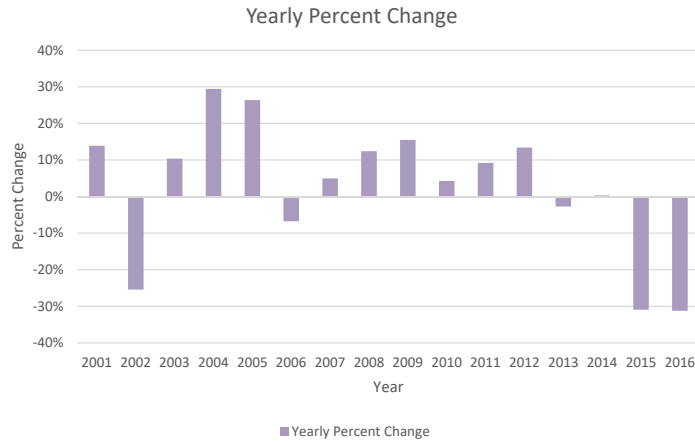
- Low Net Farm Income



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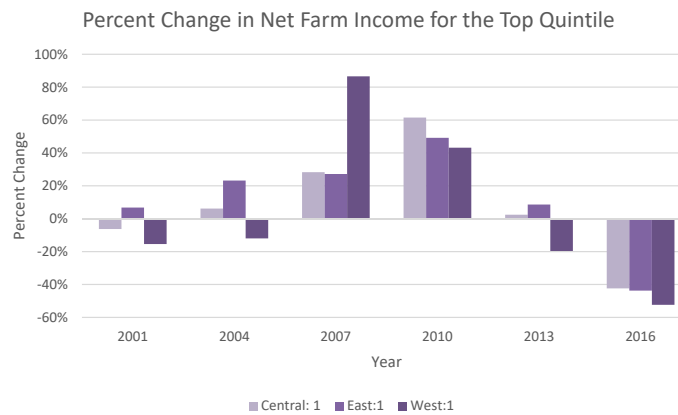
Motivation

- Statewide percent change in net farm income from year to year



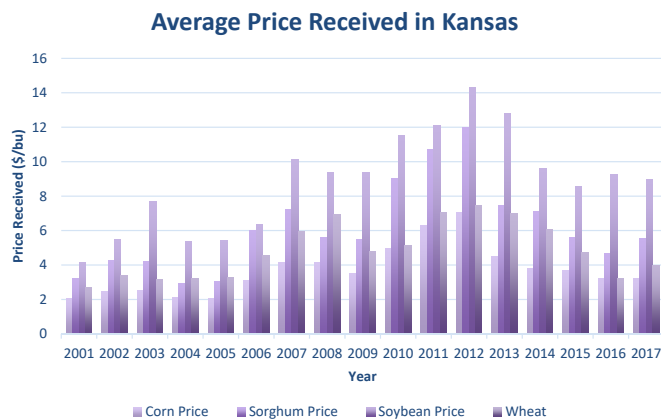
Motivation

- Percent change in net farm income for the top producers in each region



Motivation

- Low commodity prices




Source: USDA QuickStats

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Outside Factors

- Macroeconomic
 - Trade
 - Government programs
 - Fiscal Policy
 - Interest Rates
- Weather

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“Inside” Factors

- Machinery
- Production
- Investment
- Financial



Objective

- Identify top factors that impact net farm income in order to aid in farm-level management decisions

Data

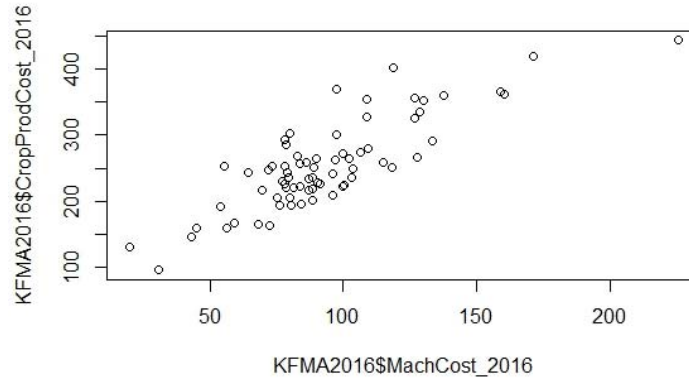
- Kansas Farm Management Association (KFMA)
- Separated into 3 regions
- 3 year moving average
- Calculated quintiles

Data

Crop Acres	Debt to Asset Ratio
Operator Age	Machinery Investment
Rent Percent	Working Capital
Soybean Yield	Machinery Cost
Corn Yield	Total Crop Production Cost
Wheat Yield	Total Capital Managed
Sorghum Yield	Fertilizer Cost

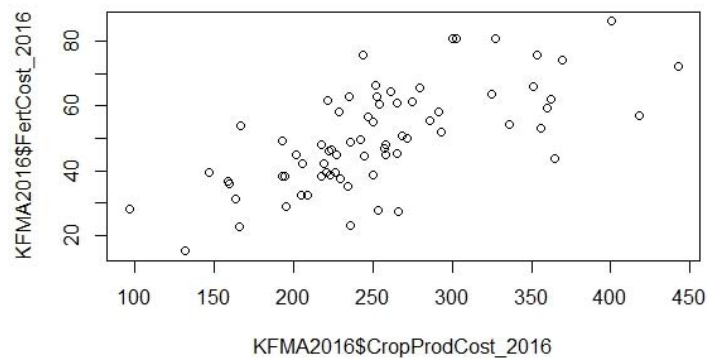
Correlations

- 0.8358194



Correlations

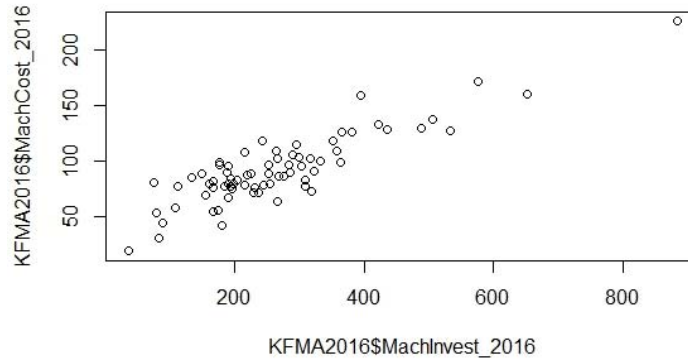
- 0.6723715





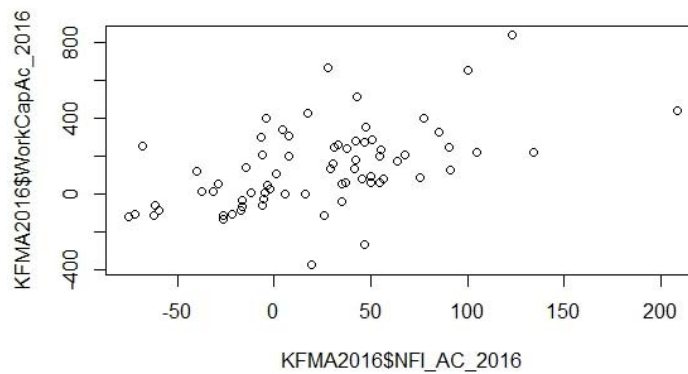
Correlations

- 0.8808783



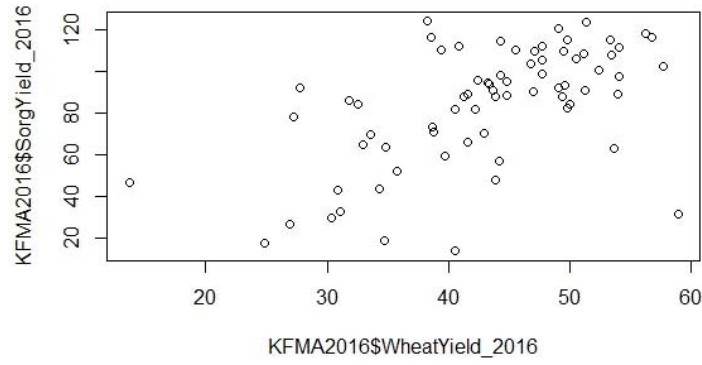
Correlations

- 0.5308171



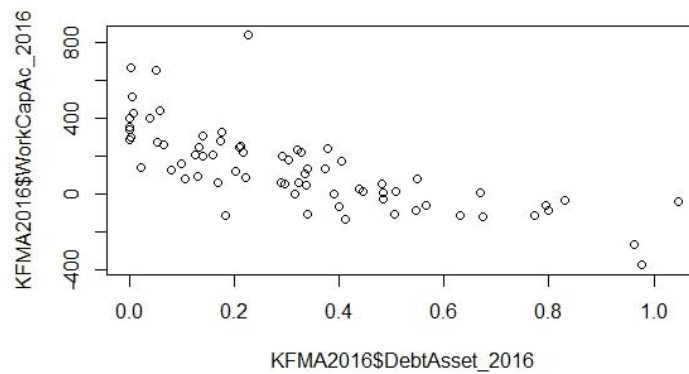
Correlations

- 0.5601263



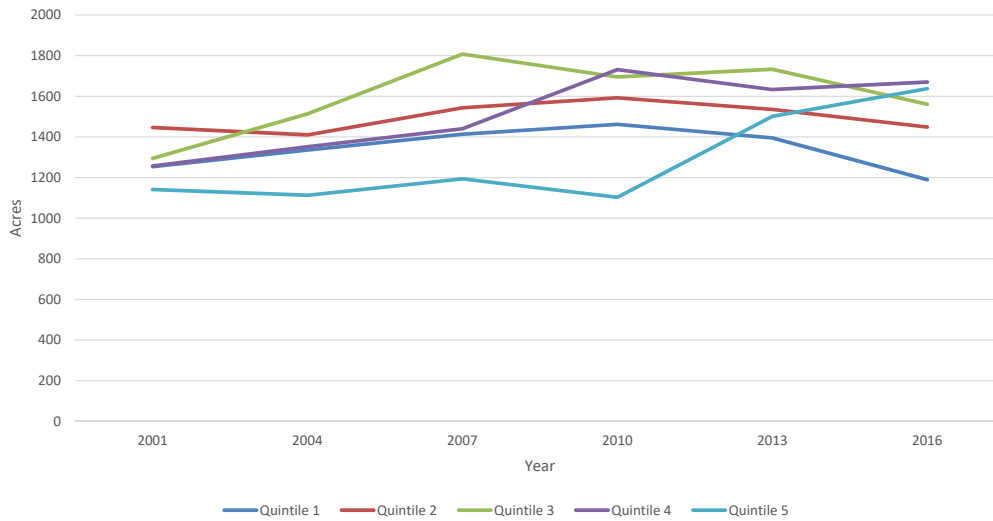
Correlations

- -0.7370494



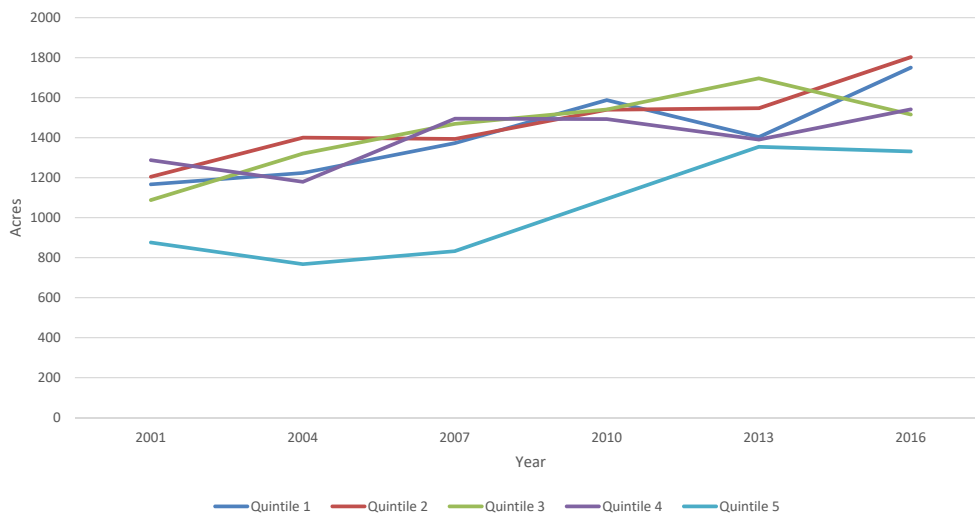
Farm Size

Crop Acres for the Central Region



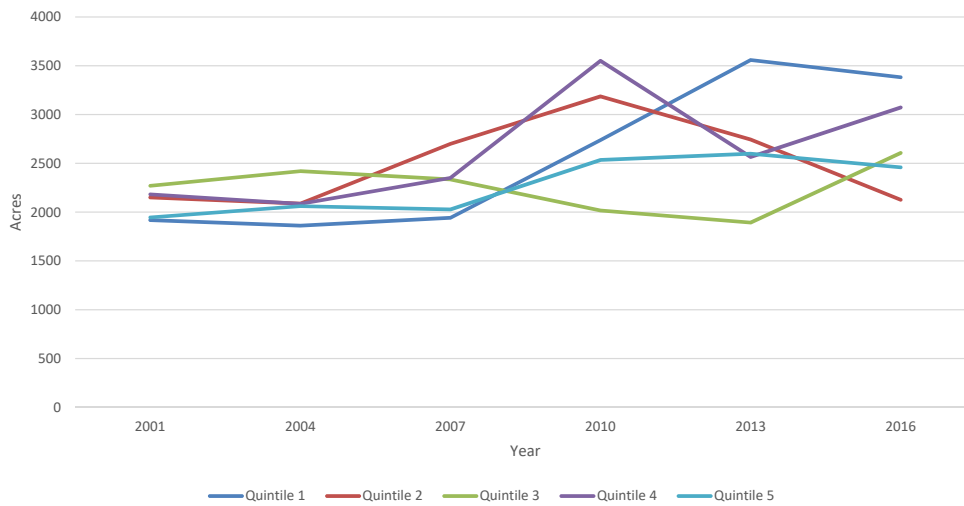
Farm Size

Crop Acres for the Eastern Region



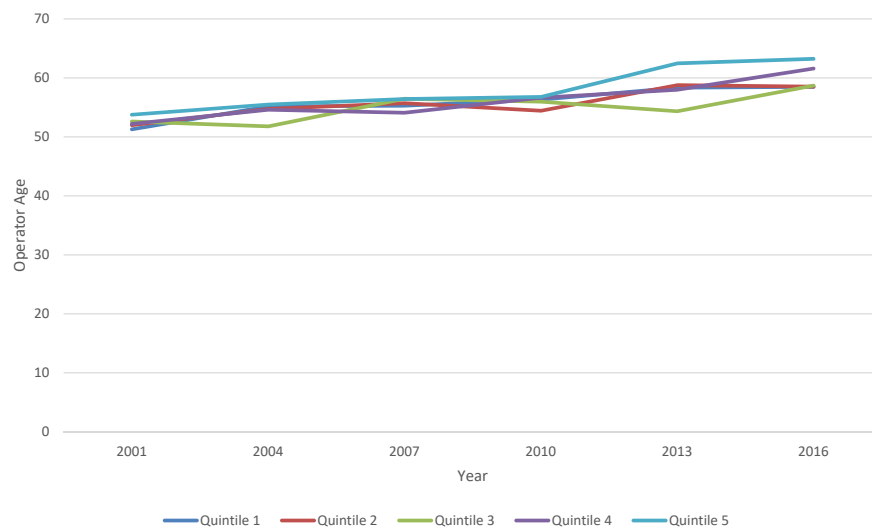
Farm Size

Crop Acres for the Western Region



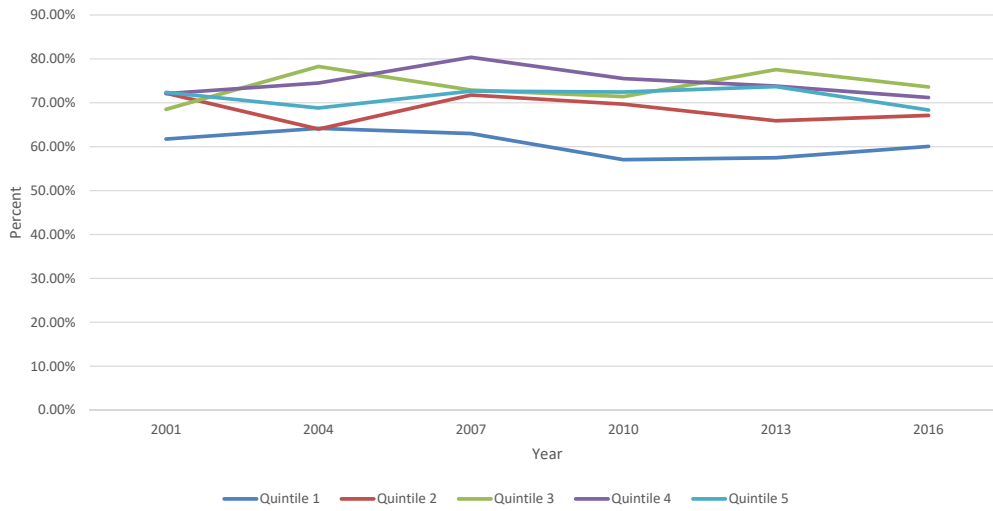
Operator Age

Average Operator Age for the Central Region



Rent Percent

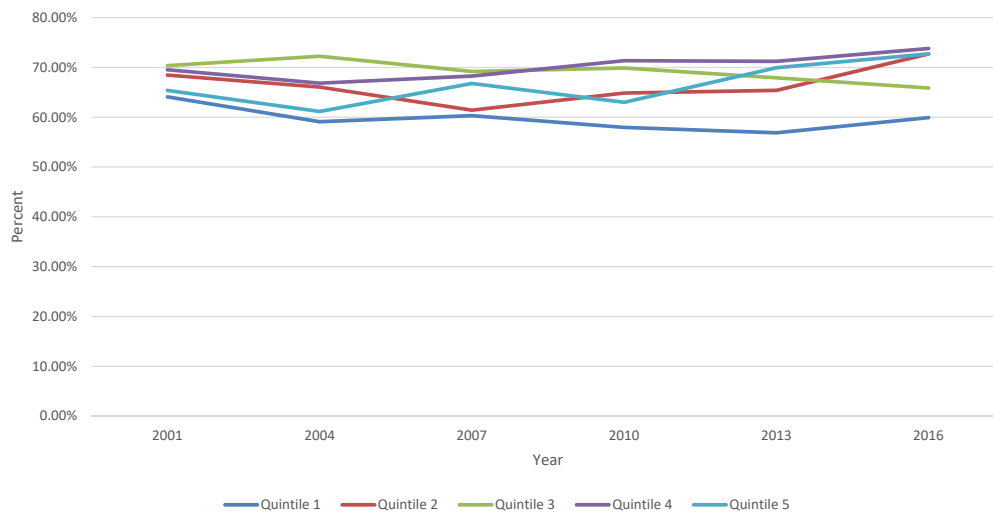
Percent of Acres Rented in the Central Region



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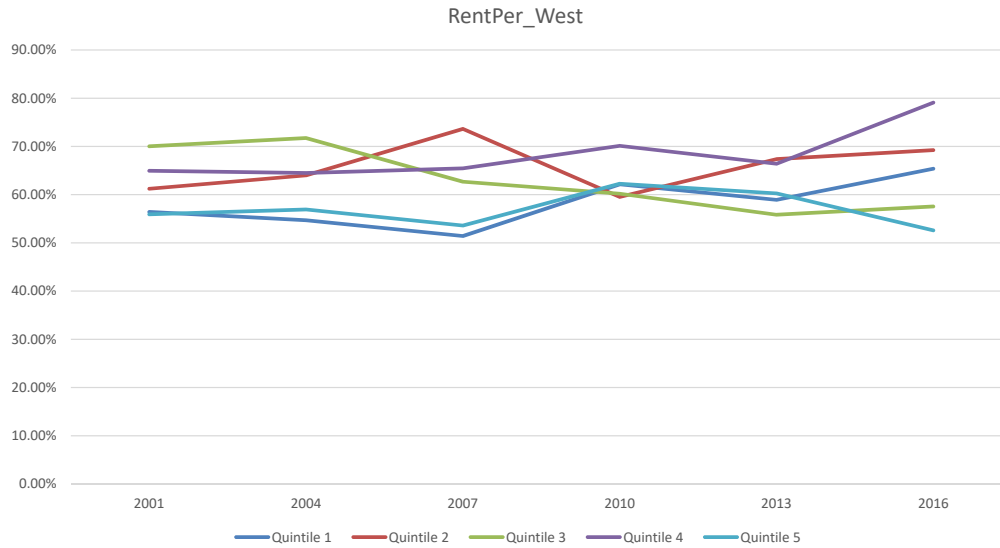
Rent Percent

Percent of Acres Rented in the Eastern Region



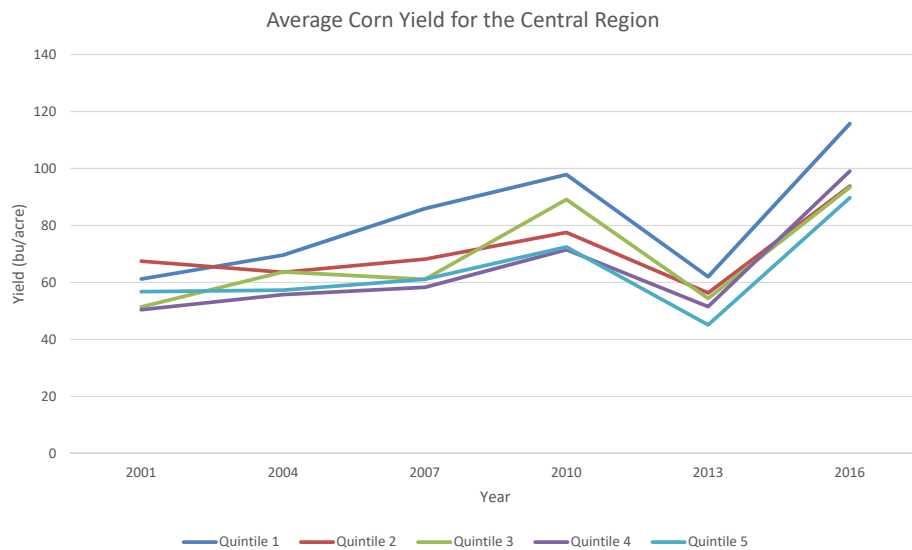
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Rent Percent



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Corn Yields

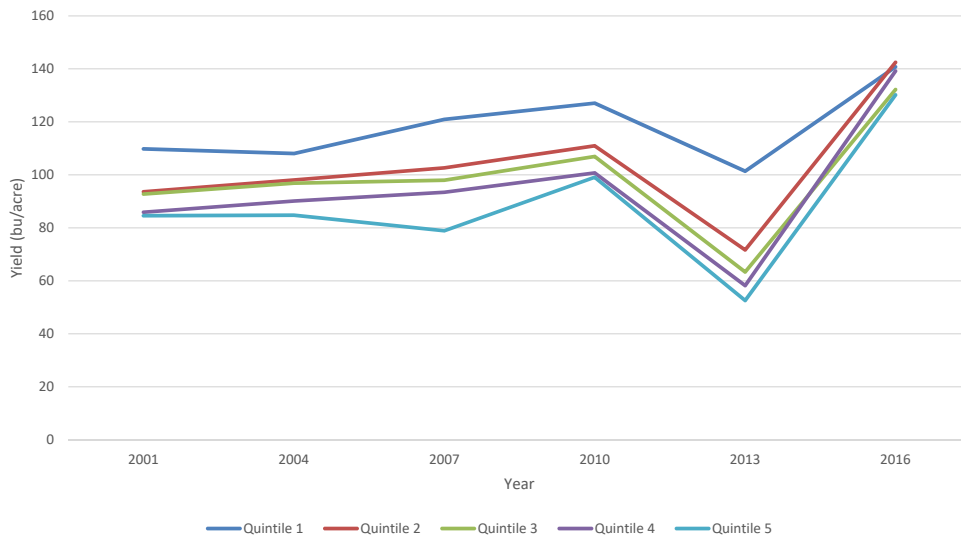


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Corn Yields

Average Corn Yield for the Eastern Region

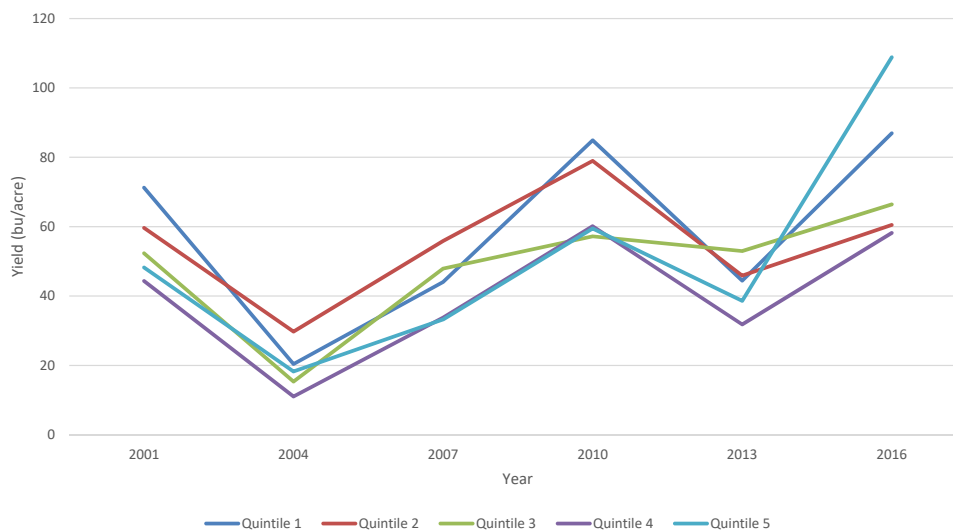


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Corn Yields

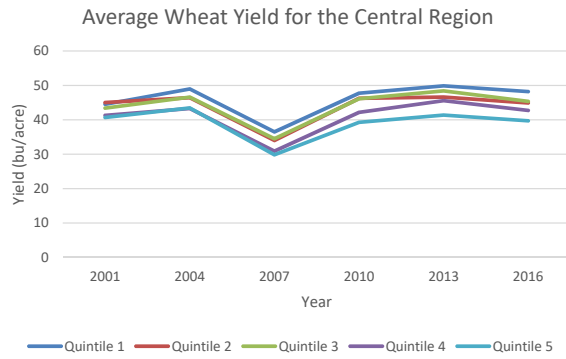
Average Corn Yield for the Western Region



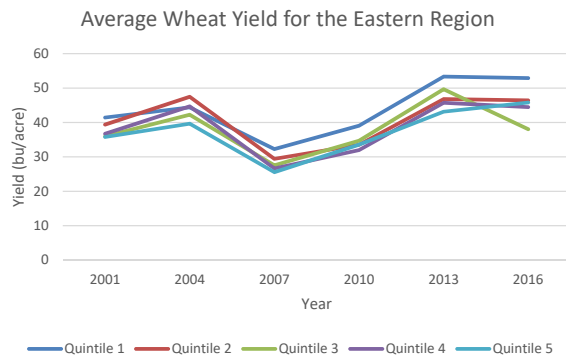
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Wheat Yields

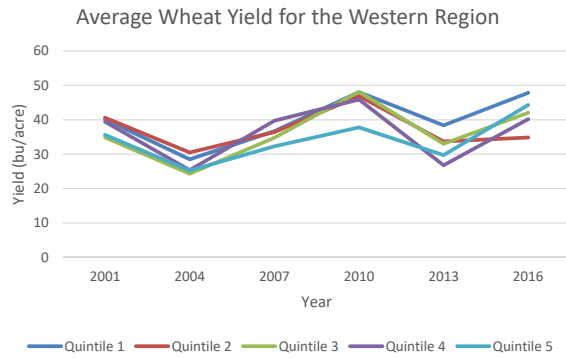


Wheat Yields

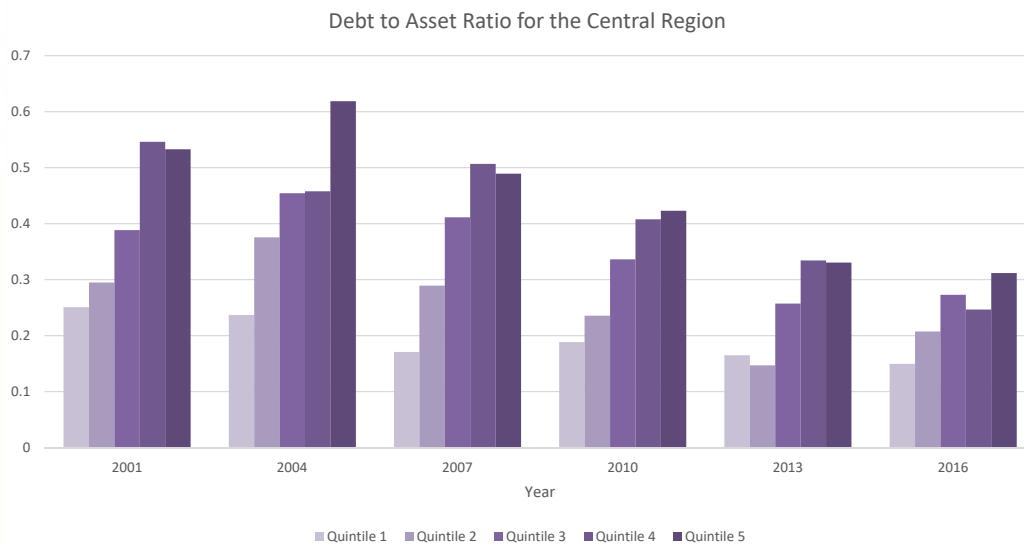




Wheat Yields

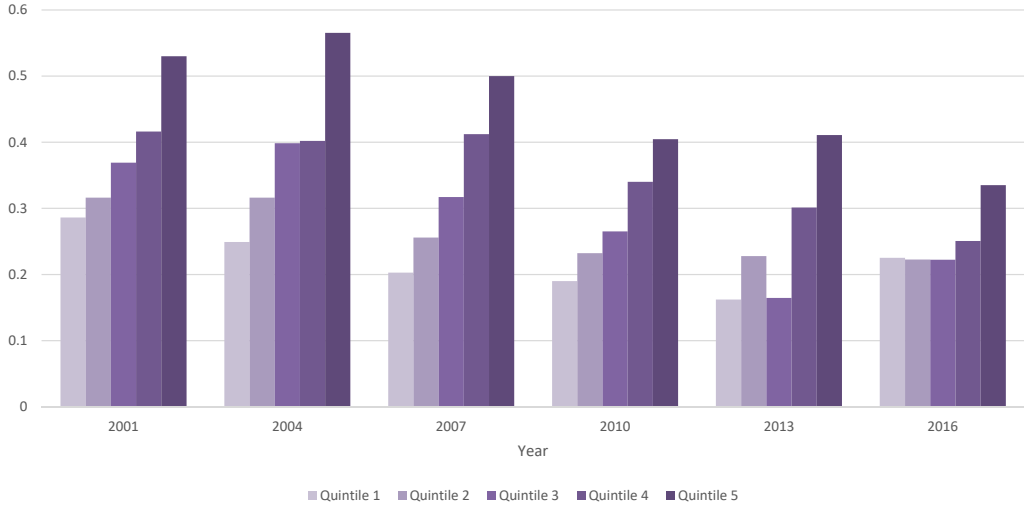


Debt to Asset Ratio



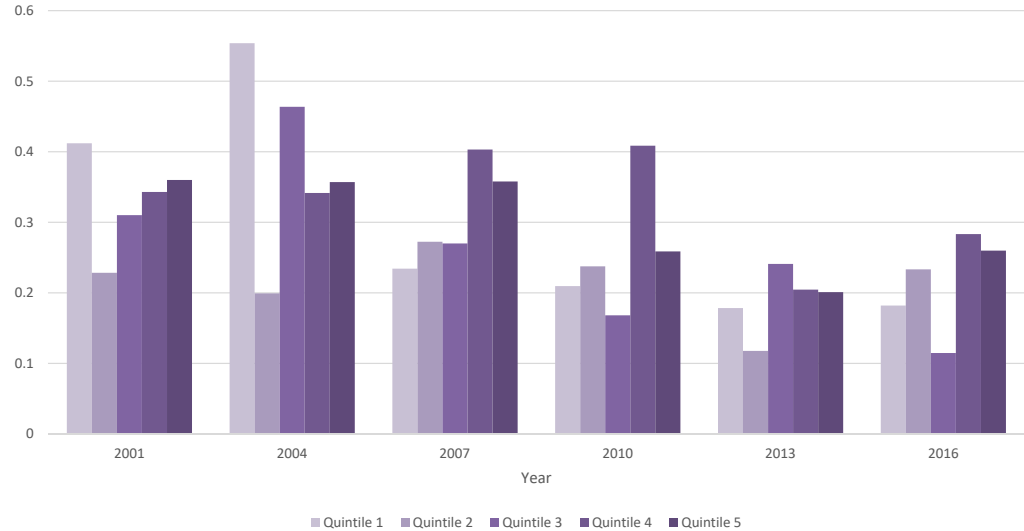
Debt to Asset Ratio

Debt to Asset Ratio for the Eastern Region



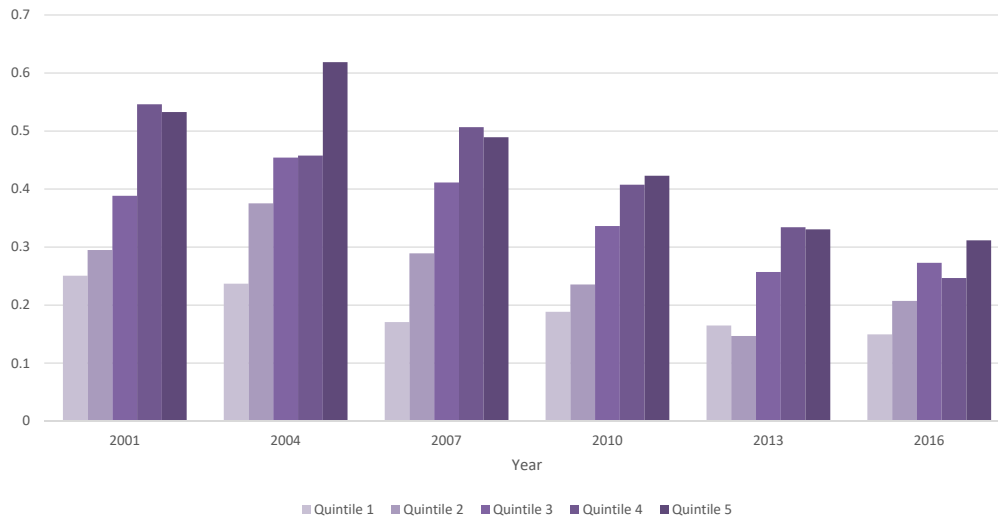
Debt to Asset Ratio

Debt to Asset Ratio for the Western Region



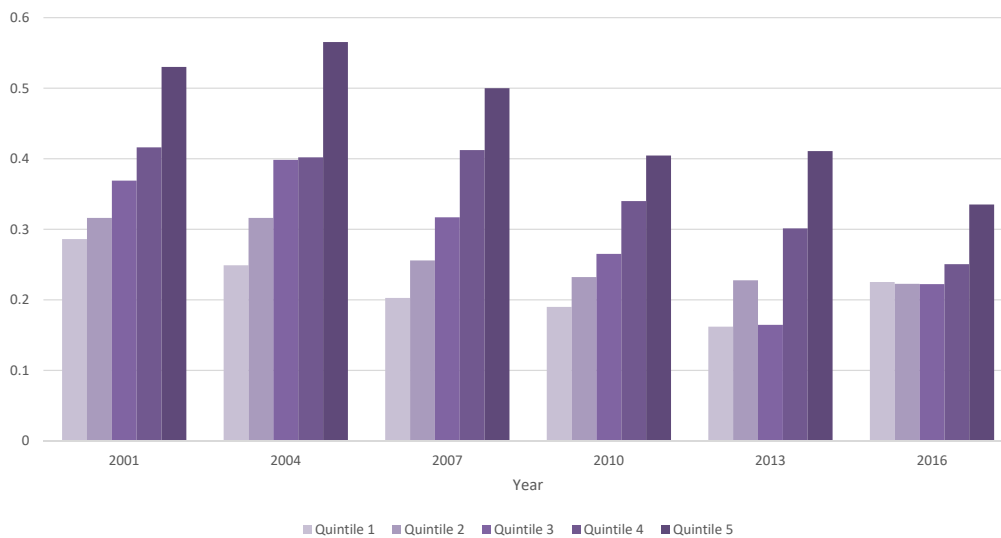
Working Capital

Debt to Asset Ratio for the Central Region



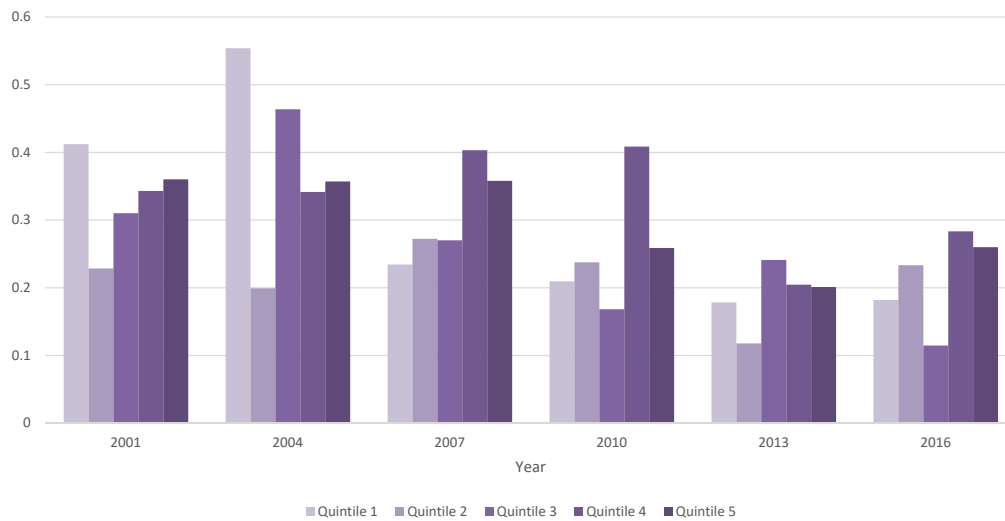
Working Capital

Debt to Asset Ratio for the Eastern Region



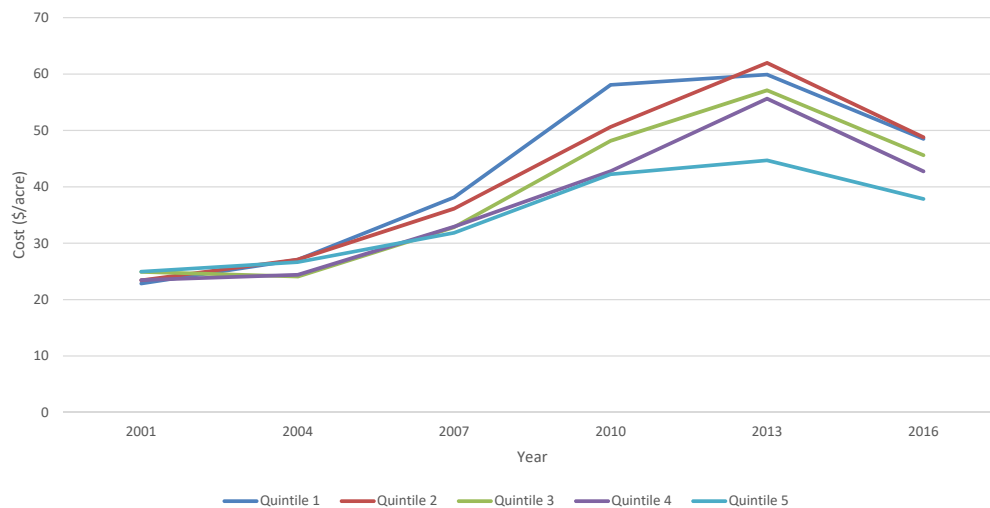
Working Capital

Debt to Asset Ratio for the Western Region



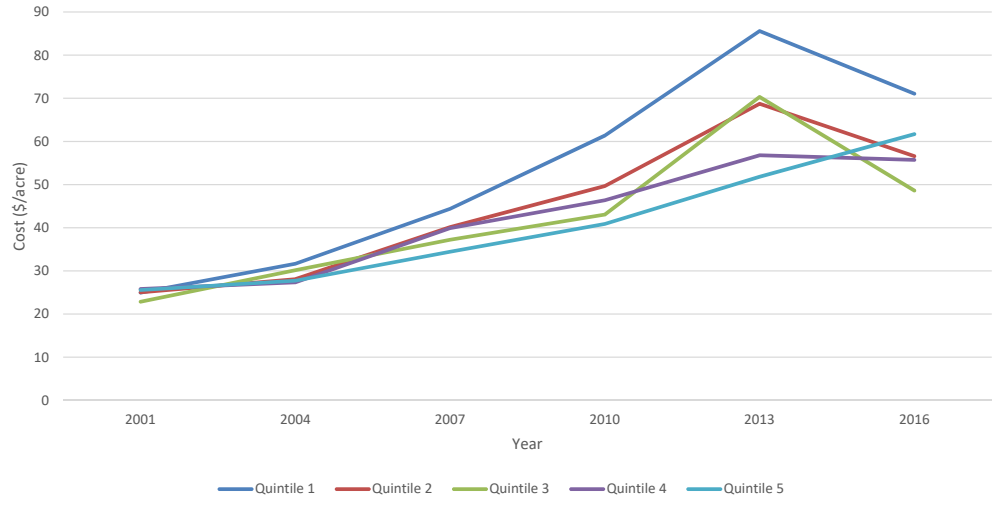
Fertilizer Cost

Average Fertilizer Cost for the Central Region



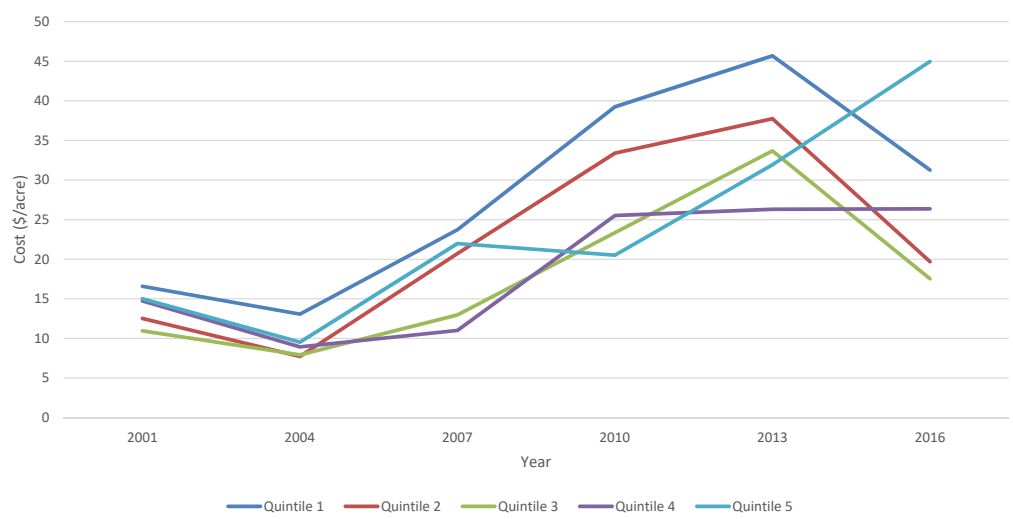
Fertilizer Cost

Average Fertilizer Cost for the Eastern Region



Fertilizer Cost

Average Fertilizer Cost for the Western Region



Conclusions

- Main Influencers
 - The percentage of acres that are rented vs. owned
 - Crop yields
 - Debt to asset ratio