



Examining Potential Crop Profitability in 2014 Land Values, Cash Rents & Crop Inputs

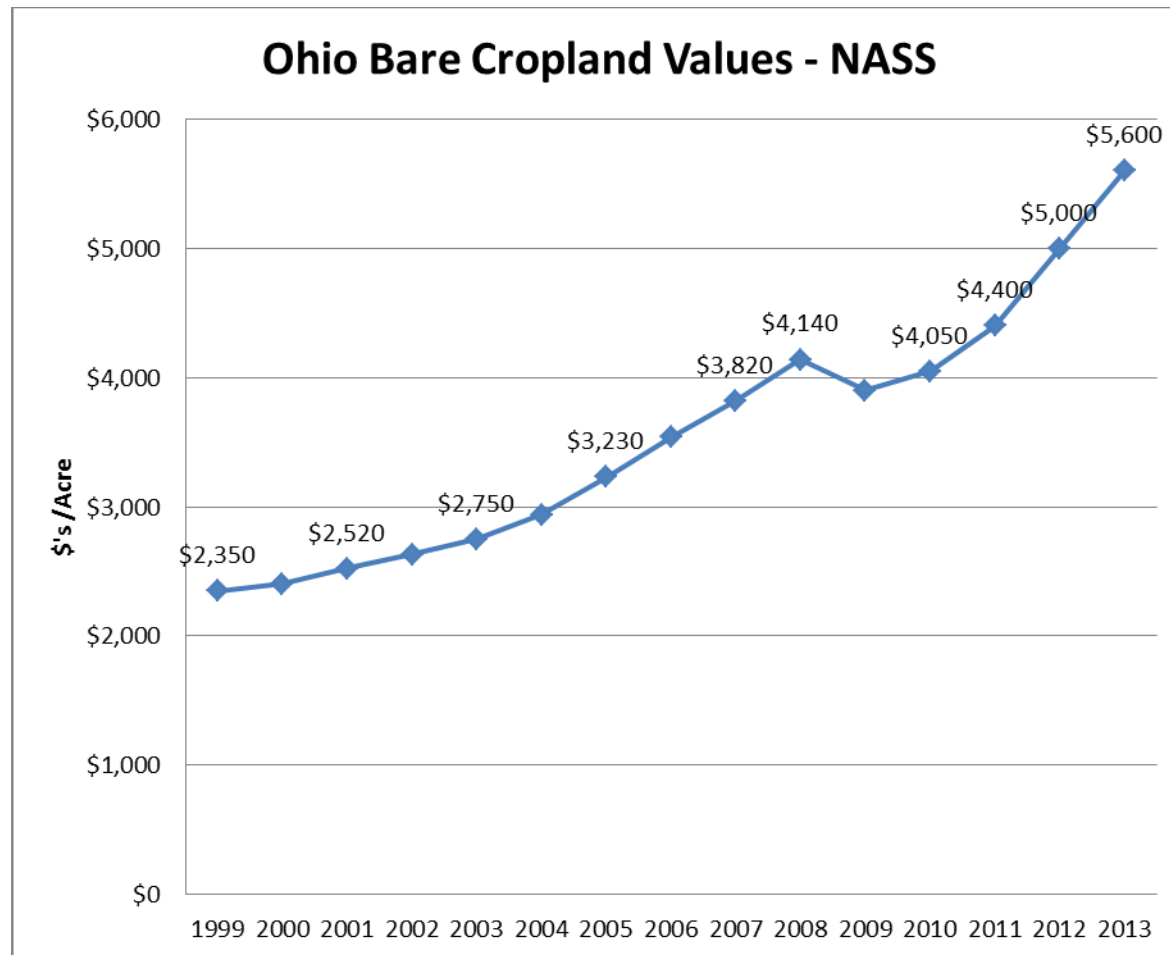
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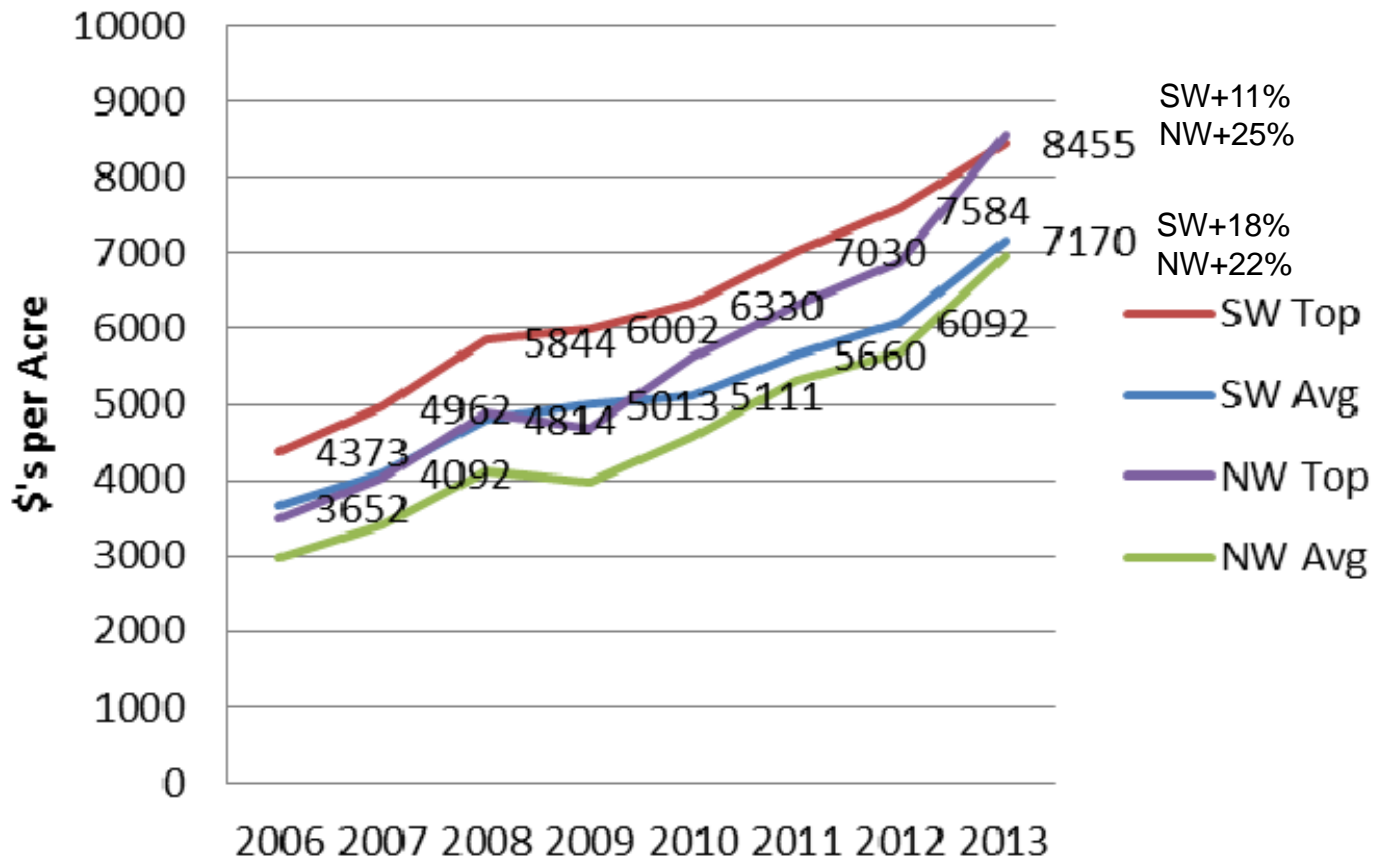
Ohio Cropland Values

Source: NASS





Ohio Cropland Values - OSU AEDE





Land Survey Data - % Increases

OSU AEDE (collected Jan. 2012)

Projected Increase for 2012 - 7.1 – 9.2%

Purdue (collected June 2013)

Indiana – Yearly Increase 14.7 - 19.1%

Chicago Fed (Collected October 1, 2013)

Indiana - Northern 3/4 – “Good” Farmland –

Year over Year Increase - 18% (District 7 – 14%)

3rd Quarter Increase – 2% (District 7 – 1%)



What is Driving Land Value?

Crop Net Income has been good

Farmers balance sheets continue to strengthen

U.S. Farm Sector Debt to Asset Ratio – 10.2%

(D/A Ratio in 2002 was 14.1%)

\$'s to invest => machinery or land

Outside Investors still seeking investment alternatives

Low interest rates – 10 Year T-Bill – 2.5%

Local land supply low

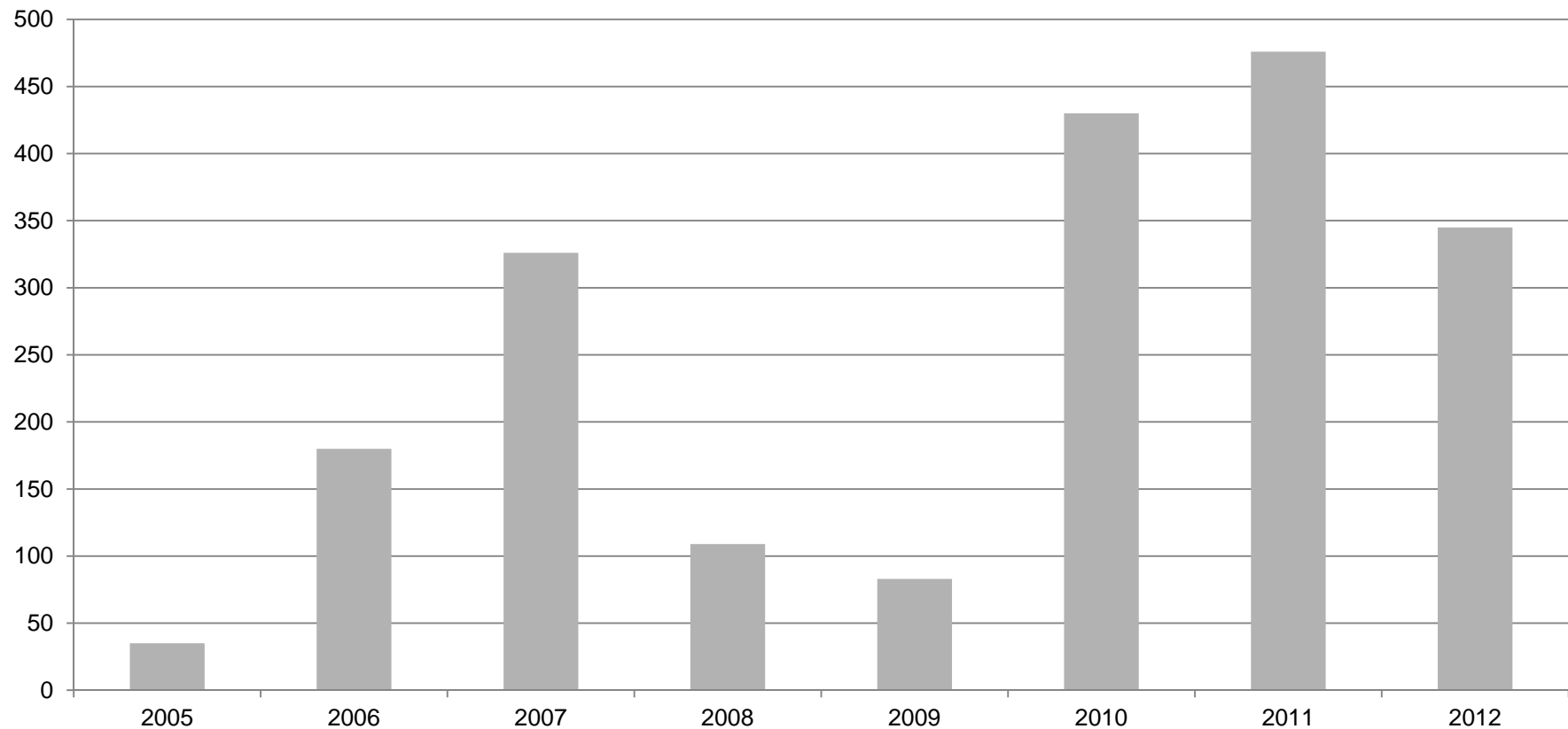
Land isn't a frequently traded asset – possible premium if sold in your geographic comfort zone

Land purchased for legacy purposes to secure continued survivability of farm business



Profits in Grain Production Lead to Land Value and Rent Bull Market

Returns to Land – Ohio Corn





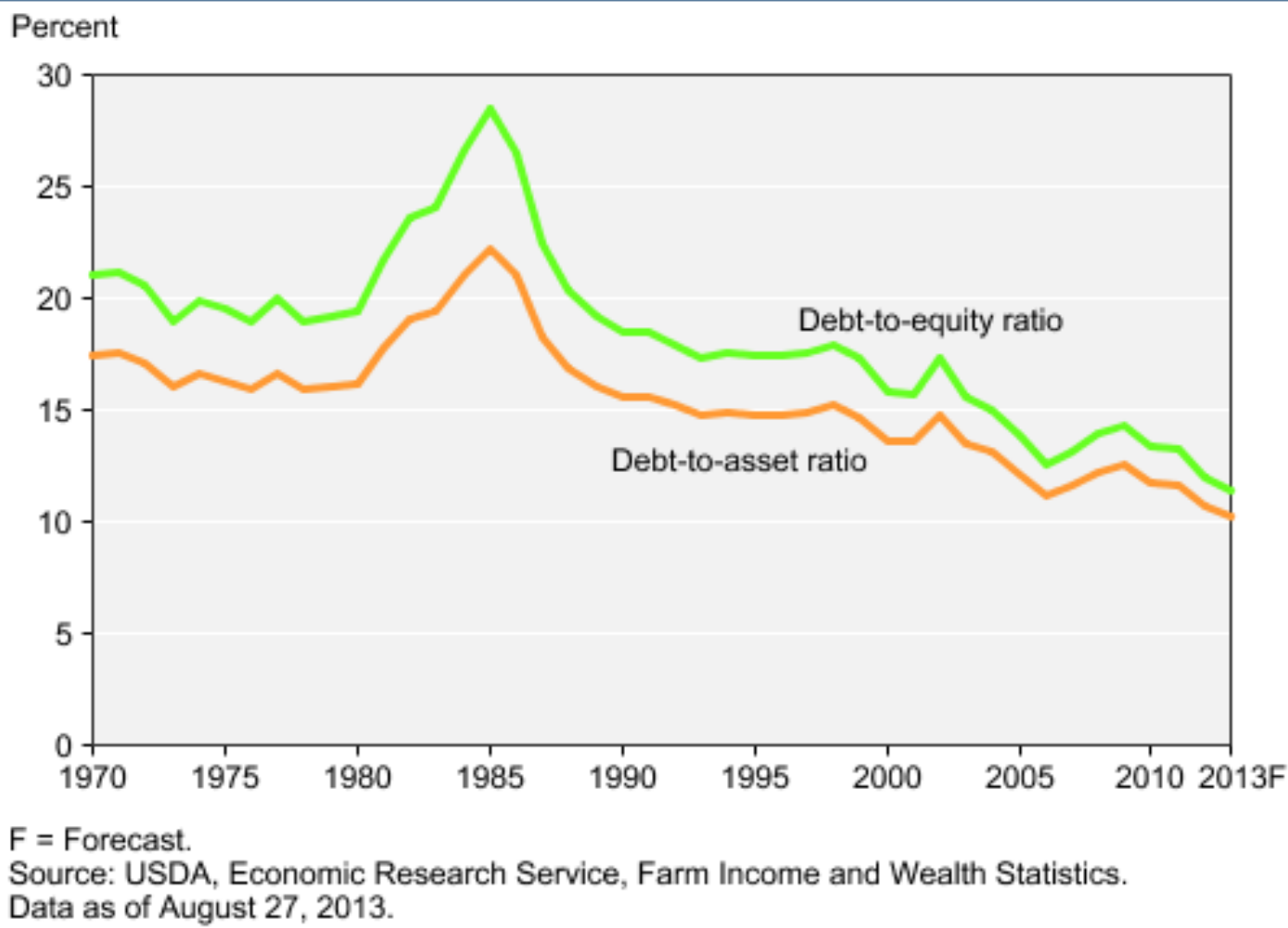
Ten Year T-Bill Rates

Source: Yahoo Finance



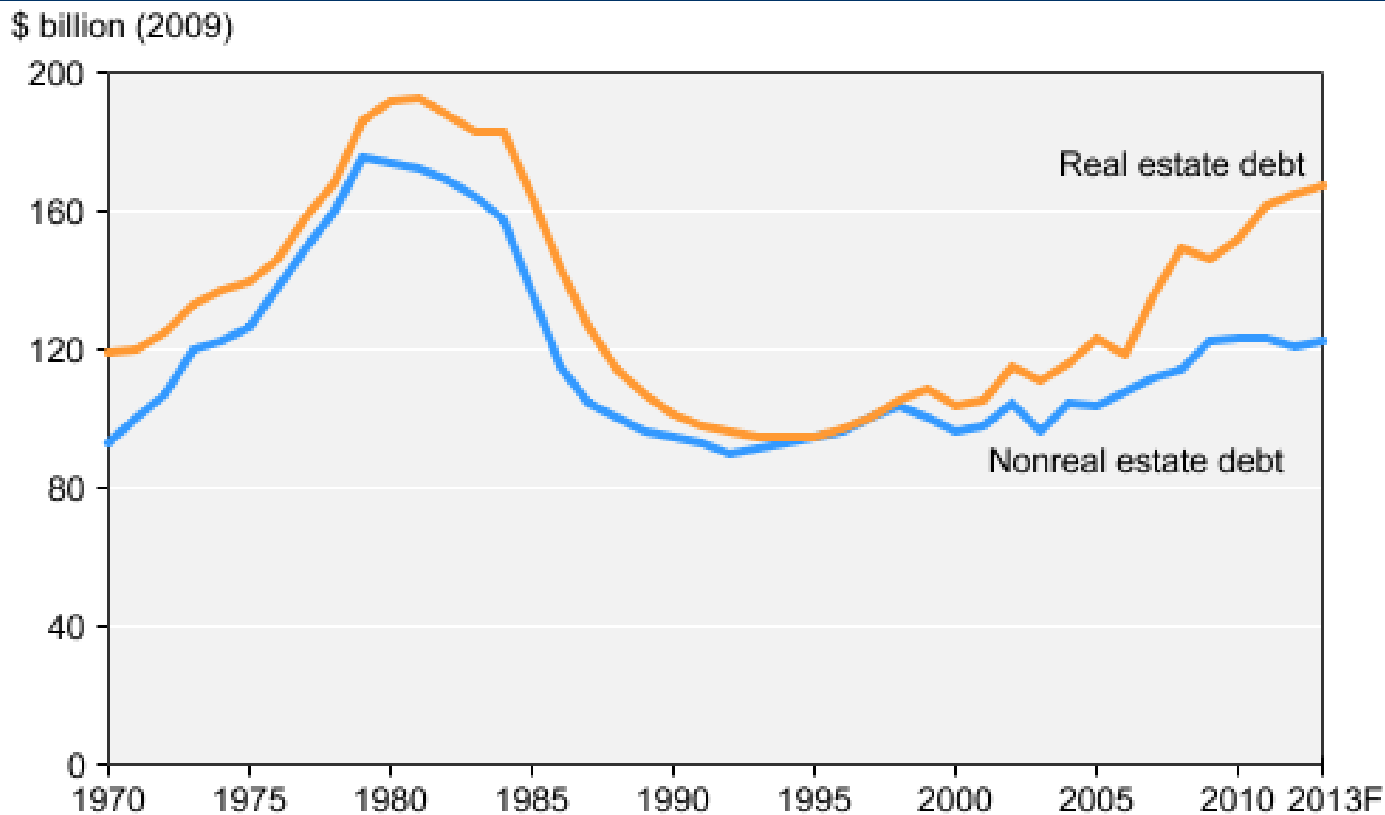


Farm sector debt ratios, 1970-2013F





Farm sector business debt, inflation adjusted, 1970-2013F



F = Forecast. The GDP chain-type price index is used to convert the nominal (current-dollar) statistics to real (inflation adjusted) amounts (2009=100).
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of August 27, 2013.



CORN SELECTED BUDGET STATS - 2014			
Item	Input	Yield in bushels/acre	
Receipts		160	192
Corn Price	\$4.50 /bushel	\$720.00	\$864.00
Variable Costs			
Seed Cost	\$275 /bag	\$110.00	\$116.88
Nitrogen (NH ₃)	\$650 /ton	\$70.41	\$82.30
P ₂ O ₅ (MAP)	\$450 /ton	\$25.62	\$30.74
K ₂ O (Potash)	\$425 /ton	\$15.30	\$18.36
Chemicals		\$50.98	\$50.98
Fuel/Diesel	\$3.50 /gallon		
Breakeven Cost		\$2.53	\$2.29
Fixed Costs			
Labor and Management		\$81.00	\$88.20
Machinery Cost		\$123.57	\$123.57
Land Rent		\$195.00	\$250.00
Breakeven Cost		\$5.02	\$4.69
Returns			
Return to Total Costs		-\$83.92	-\$37.20
Return to Land		\$111.08	\$212.80



SOYBEAN SELECTED BUDGET STATS - 2013			
Item	Input	Yield in bushels/acre	
Receipts		47	56
Soybean Price	\$11.50 /bushel	\$535.90	\$642.85
Variable Costs			
Seed Cost	\$0.43 /1000 seeds	\$77.40	\$77.40
P ₂ O ₅ (MAP)	\$450 /ton	\$16.13	\$19.35
K ₂ O (Potash)	\$425 /ton	\$23.11	\$27.72
Chemicals		\$31.40	\$31.40
Fuel/Diesel	\$3.50 /gallon		
Fixed Costs			
Labor and Management		\$56.80	\$62.14
Machinery Cost		\$107.89	\$107.89
Land Rent		\$195.00	\$250.00
Breakeven Cost		\$12.37	\$10.85
Returns			
Return to Total Costs		-\$40.47	-\$2.08
Return to Land		\$154.53	\$247.92



WHEAT SELECTED BUDGET STATS - 2013

Item	Input	Yield in bushels/acre	
Receipts		72	86
Wheat Price	\$6.50 /bushel	\$468.00	\$559.00
Variable Costs			
Seed Cost	0.031 /1000 seeds	\$43.40	\$43.40
N (UAN)	300	\$19.63	\$55.18
P ₂ O ₅ (MAP)	450 /ton	\$19.63	\$23.44
K ₂ O (Potash)	425 /ton	\$16.52	\$18.35
Chemicals		\$13.00	\$13.00
Fuel/Diesel	\$3.50 /gallon		
Fixed Costs			
Labor and Management		\$45.90	\$50.45
Machinery Cost		\$125.86	\$125.86
Land Rent		\$195.00	\$250.00
	Breakeven Cost	\$8.95	\$8.28
Returns			
Return to Total Costs		-\$102.69	-\$90.86
Return to Land		\$92.31	\$159.14



CORN SELECTED BUDGET STATS - 2014

Item	Input	Yield in bushels/acre	
Receipts		174	209
Corn Price	\$4.50 /bushel	\$783.00	\$940.50
Variable Costs			
Seed Cost	\$275 /bag	\$110.00	\$116.88
Nitrogen (NH ₃)	\$650 /ton	\$70.41	\$82.30
P ₂ O ₅ (MAP)	\$450 /ton	\$27.86	\$33.46
K ₂ O (Potash)	\$425 /ton	\$16.64	\$19.99
Chemicals		\$50.98	\$50.98
Fuel/Diesel	\$3.50 /gallon		
Breakeven Cost		\$2.36	\$2.14
Fixed Costs			
Labor and Management		\$84.15	\$92.03
Machinery Cost		\$123.57	\$123.57
Land Rent		\$195.00	\$250.00
Breakeven Cost		\$4.68	\$4.37
Returns			
Return to Total Costs		-\$31.02	\$27.04
Return to Land		\$163.98	\$277.04



SOYBEAN SELECTED BUDGET STATS - 2013

Item	Input	Yield in bushels/acre	
Receipts		45	54
Soybean Price	\$11.50 /bushel	\$517.50	\$621.00
Variable Costs			
Seed Cost	\$0.43 /1000 seeds	\$77.40	\$77.40
P ₂ O ₅ (MAP)	\$450 /ton	\$15.58	\$18.69
K ₂ O (Potash)	\$425 /ton	\$22.31	\$26.78
Chemicals		\$31.40	\$31.40
Fuel/Diesel	\$3.50 /gallon		
Fixed Costs			
Labor and Management		\$55.88	\$61.05
Machinery Cost		\$107.89	\$107.89
Land Rent		\$195.00	\$250.00
	Breakeven Cost	\$12.76	\$10.85
Returns			
Return to Total Costs		-\$56.54	-\$21.16
Return to Land		\$138.46	\$228.84



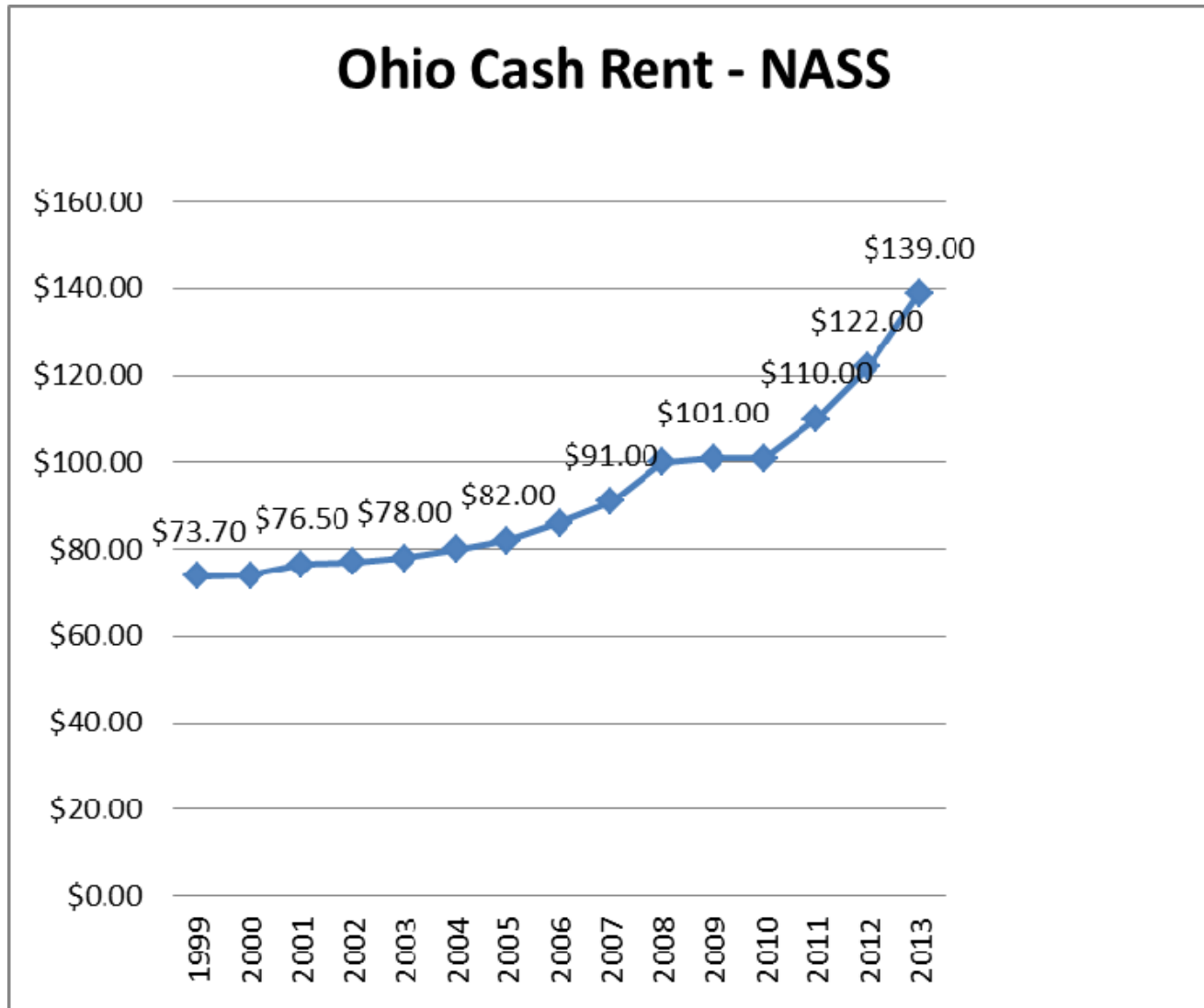
CORN SELECTED BUDGET STATS - 2014

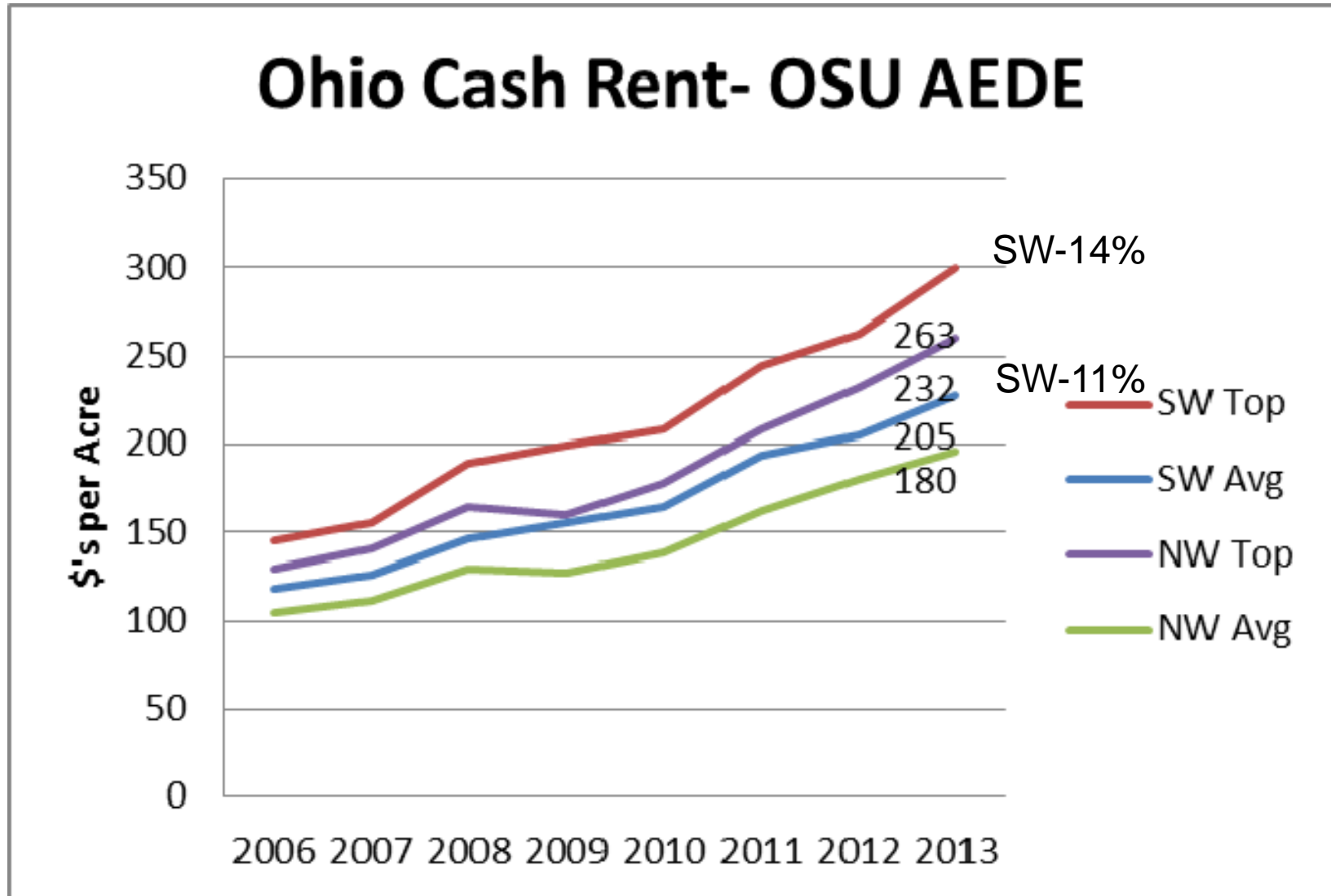
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Corn Price	\$4.50 /bushel	\$783.00	\$940.50
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Fixed Costs			
Labor and Management		\$84.15	\$92.03
Machinery Cost		\$123.57	\$123.57
Land Rent		\$110.00	\$137.50
Breakeven Cost		\$4.19	\$3.83
Returns			
Return to Total Costs		\$53.98	\$139.54
Return to Land		\$163.98	\$277.04



Net Income Method of Capitalization

Return to Land	/	Cap. Rate	=	Appraised Land Value	Corn Yield
\$111.00	/	2.50%	=	\$4,440.00	157
\$213.00	/	2.50%	=	\$8,520.00	188
\$111.00	/	4.00%	=	\$2,775.00	157
\$213.00	/	4.00%	=	\$5,325.00	188







Land Values/Cash Rents – Northwest

Northwest Ohio Results 2013				
Land Class		Average	Range*	
Average	Avg Corn Yield (bu/a)	157.5	170.2	144.9
	Market Value per Acre	\$6,960	\$8,034	\$5,885
	Rent per Acre	\$196	\$227	\$166
Top	Avg Corn Yield (bu/a)	189.6	206.2	173.0
	Market Value per Acre	\$8,579	\$10,071	\$7,088
	Rent per Acre	\$260	\$302	\$218
Poor	Avg Corn Yield (bu/a)	126.8	143.2	110.4
	Market Value per Acre	\$5,488	\$6,810	\$4,167
	Rent per Acre	\$141	\$161	\$121



Land Values/Cash Rents – Southwest

Southwest Ohio Results 2013				
Land Class		Average	Range*	
Average	Avg Corn Yield (bu/a)	163.1	180.0	146.3
	Market Value per Acre	\$7,170	\$9,068	\$5,273
	Rent per Acre	\$228	\$272	\$183
Top	Avg Corn Yield (bu/a)	194.4	211.6	177.1
	Market Value per Acre	\$8,455	\$10,990	\$5,921
	Rent per Acre	\$300	\$356	\$245
Poor	Avg Corn Yield (bu/a)	127.5	149.9	105.1
	Market Value per Acre	\$5,790	\$7,271	\$4,309
	Rent per Acre	\$166	\$214	\$119



Producers Advantage - Information

- Farmers have detailed production knowledge, yield and profit data
- Non-farming landowners often have little production knowledge and little to no yield and profit data so...
- Even armed with a set of cash rent survey data, little to no knowledge of the farm's production capabilities leaves a landowner relatively unarmed.
- Some landowners are including data sharing to be included in the written lease agreement
 - Yield data, fertility data, cost data, profit data



Producers Potential Disadvantage – “Normalizing” Profits Managing Rapidly Increasing Cash Rents

- Negotiate rents at or near the market
- Communicating with Landowners of the potential for Returns to “normalize” and rents to decrease...
- Communicate the value of non-cash benefits to the landowner
- Strengthen Balance Sheet to survive a reversal
- Flexible cash leases



Advantages and Disadvantages of Flexible Cash Renting

Advantages:

1. Flexible cash rent enables the landowner to share in the additional income that results from unexpected increases in the prices of crops considered in the rent-adjustment clause. If the cash rent also is flexed for changes in yields, the landowner will benefit from above-normal yields regardless of the cause.
2. For the operator, risk is reduced. Cash-rent expense is potentially lower if crop prices or yields are less than normal.
3. Calculating flexible cash rent requires more communication from both parties.
4. For the operator, a flex lease may minimize loss of rented land base due to being outbid for inadequate market adjustments



Advantages and Disadvantages of Flexible Cash Renting

Disadvantages:

1. For the landowner, flexible cash rent increases risk.
2. Windfall profits that may be realized by the operator from unexpected price increases are reduced.
3. If cash rent is flexed according to yield, the landowner becomes more concerned with the level of crop yields as well as the accuracy of reported yields. Yields must be verifiable and segregated for each land unit in the lease.
4. If cash rent is flexed according to yield, the operator may give up part of the benefits from higher yields resulting from managerial input, thus possibly reducing incentives to maximize profits.
5. Calculating flexible cash rent requires more management from both parties. There must be agreement on how to verify the factors that are used to set the rent each year.



Practical Flexible Cash Farm Lease

Percent of Gross Income Approach

- Tenant and Landowner agree on:
 - Base Rent (and Max Rent?)
 - How to calculate and Verify Actual Year-End Revenue
 - Yield and Price verification
 - Percent of gross income as rent



Practical Flexible Cash Farm Lease

Percent of Gross Income Approach

Example:

Base Rent: **\$195**

Percent of Gross Income as Rent:

Corn - **27%**

Soybeans - **35%**

Actual Revenue:

Corn - **\$825** (150bpa*\$5.50)

Soybeans – **\$625** (50bpa*\$12.50)

Rent: Corn - $\$975 * 27\% = \mathbf{\$223/a}$

Soybeans - $\$625 * 35\% = \mathbf{\$219.00/a}$



Energy Information Administration

November 2013 Estimates

	2013	2014	12-13	13-14
WTI Crude (\$/brl)	97.74	95.00	3.85%	-2.80%
Brent Crude (\$/brl)	108.01	103.00	-3.26%	-4.64%
Gasoline (\$/gal)	3.50	3.39	-3.58%	-3.14%
Diesel (\$/gal)	3.91	3.73	-1.51%	-4.60%
Nat. Gas (\$/mcf)	10.70	11.73	0.38%	9.63%



Current Ohio Fertilizer Prices

NH3 \$600-700 (-24%)

UAN(28%) \$280-350 (-15%)

MAP \$510-575 (-17%)

Potash \$435-485 (-25%)



Nitrogen

Factors that may lead to N price increases:

- + Large corn acreage prospects for the U.S. again
- + Strong crop farm balance sheets

Factors that may lead to N price decreases:

- Lower crop prices leading to tighter margins
- More domestic N production online Giesmer, La; Donaldsville, La; Augusta, Ga; etc.
- More domestic N production being built or in a planning stage—
Over 30 proposed greenfield builds or brownfield expansions



Phosphorous

Factors that may lead to P price increases:

+ Strong crop farm balance sheets

Factors that may lead to P price decreases:

- Lower crop prices leading to tighter margins
- Lower N prices
- Ma'den P production at or about at full capacity



Potash

Factors that may lead to K price increases:

- + Strong crop farm balance sheets
- + Canpotex members may curtail production

Factors that may lead to K price decreases:

- Lower crop prices leading to tighter margins
- Belarusian Potash Corp. breakup increases potash available on the global market



Crop Input Costs

Energy – Modestly Lower

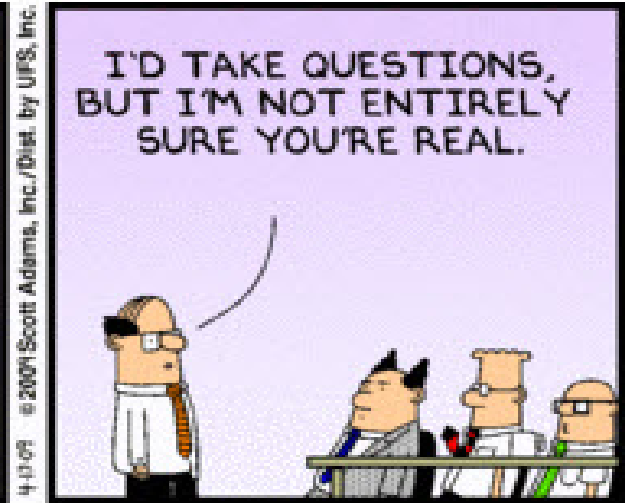
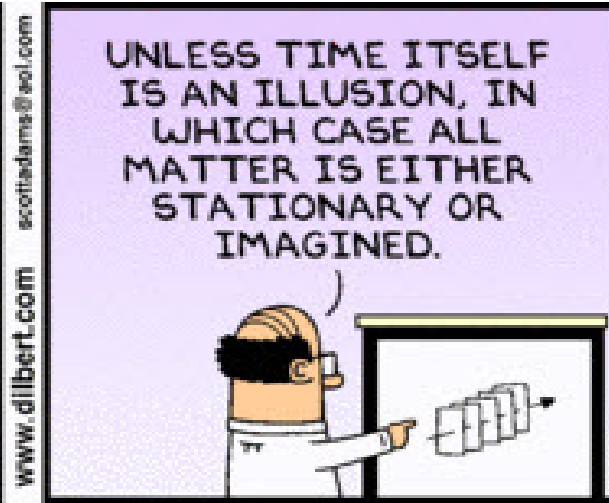
Fertilizer – Lower

Seed – Flat to Modestly Higher

Chemical – Flat to Modestly Higher



University **ECONOMIST**



Source: [Dilbert](#)

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