

2. Reductions in Working Capital and Resulting Burn Rates for Producers

Cody O'Brien

<cody25@ksu.edu>

Cody O'Brien is a first-year Master's student in Agricultural Economics at KSU. His research focuses on the productivity, profitability, financial performance, and factors that are contributing to the performance of Kansas farms. Cody received his bachelor's in Agribusiness from KSU in December 2015, while being an active member of the Center for Risk Management Education and Research, and gaining job experience in agricultural finance with CoBank, and marketing with John Deere. He is originally from a crop and livestock farm near Cherryvale, Kansas.

Elizabeth Yeager

<eyeager@ksu.edu>

Elizabeth Yeager joined the Dept. of Agricultural Economics at Kansas State University in January 2015 as an Assistant Professor. She obtained her Ph.D. from KSU in December 2011 and was an Assistant Professor in the Dept. of Agricultural Economics at Purdue University from January 2012 to December 2014. Beth's current efforts are primarily devoted to a range of integrated teaching and research activities in finance and farm management with a focus on firm repayment capacity, efficiency, and productivity. Beth currently teaches grain and livestock marketing, agricultural finance, and farm and ranch management at the undergraduate level. She is originally from Cottonwood Falls, KS.

Abstract/Summary

Managing an operation during hard economic times can put a strain on working capital. As more financial stress gets put on Kansas farms, repayment capacity decreases and the availability of credit declines. Having the ability to continue operating under tough economic conditions is vital to the agricultural industry, and one contingent resource is working capital. This session will reveal effects that losses have had on farms from the 2015 season and the outlook for Kansas farms' in the future if difficult financial times continue.

Reductions in Working Capital and Resulting Burn Rates for Producers

Cody O'Brien
Elizabeth Yeager
August 18, 2016

Financial Performance

- Based on commodity prices
 - Correct budgeting and investment plans
 - Crop rotations
 - Marketing decisions
- Financing/Debt Situation
 - Availability to credit and interest rates
 - Leverage and debt use
 - Land/equipment leasing commitments
 - Liquidity and working capital

Decreasing Net Farm Income

- There is a significant drop of NFI within Kansas Farms
 - 2013 Average NFI: \$140,356
 - 2014 Average NFI: \$128,731
 - 2015 Average NFI: \$4,568
- Note: this is for entire sample of KFMA farms

Decreasing Current Ratios

- Current Assets / Current Liabilities
- Decreasing current ratios signify weakening liquidity positions
 - 2013 Weighted Current Ratio: 3.3165
 - 2014 Weighted Current Ratio: 2.9138
 - 2015 Weighted Current Ratio: 2.4628
- Note: this is for entire sample of KFMA farms

Decreasing Current Ratios

- 2015's bottom 20% of farms in terms of NFI
 - 2013 Weighted Current Ratio: 2.561
 - 2014 Weighted Current Ratio: 2.325
 - 2015 Weighted Current Ratio: 1.923
- Sample of 552 farms that had continuous data from 2005-2014 and 2015

Decreasing Current Ratios

- 2015's bottom 20% of farms in terms of current ratios
 - 2013 Weighted Current Ratio: 1.299
 - 2014 Weighted Current Ratio: 1.152
 - 2015 Weighted Current Ratio: 0.922

What is working capital?

- Working Capital =
Current Assets – Current Liabilities

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- Working Capital =
Current Assets – Current Liabilities
- Ability to cover current expenses with liquid assets
- Typically reported as working capital/gross revenue when comparing in order to be scale neutral

Burn Rate Projections

- Burn Rate
– Working Capital / Net Income Losses

Burn Rate Projections

- Burn Rate
– Working Capital / Net Income Losses
- KFMA Budgets
– Calculated Anticipated Losses (or Gains)

Importance of Burn Rate

- Short-run losses can be buffered by working capital
- Burn rate is a measure of how long this buffer will last
- Burn rate is the length of time that under current conditions the operation can continue to operate before working capital is exhausted

Loss calculations

- Utilized cash price at time of 90% harvested crop in the region
- Assumed crop yields and all costs from crop budgets
- Livestock losses came from livestock budgets

Calculated Cash Marketing Crop Price

	Wheat	Corn	Milo	Soybeans
NC	5.16	3.31	3.02	8.04
SC	5.21	3.38	2.98	7.88
SW	5.17	3.58	3.12	7.73
NE	5.14	3.32	3.13	8.02
NW	5.15	3.32	2.97	7.89
SE	5.15	3.6	3.06	8.02

Budgeted Gain/Loss per head

Beef Budget	Sheep Budget	*Swine Budget**	Dairy Budget
21.35	0	-120.644	-142.71

*no budget available and assume break even (8 farms with sheep, 522 head total)
 **Swine budget based Farrow-to-Finish with 2.3 litters/mated sow/year and 30 piglets/litter

Calculated Prices vs. Budget Prices

Futures and Basis Map Predictions of Real Prices towards end of harvest		Wheat	Corn	Milo	Soybeans
	NC	\$5.16	\$3.31	\$3.02	\$8.04
SC	\$5.21	\$3.38	\$2.98	\$7.88	
SW	\$5.17	\$3.58	\$3.12	\$7.73	
NE	\$5.14	\$3.32	\$3.13	\$8.02	
NW	\$5.15	\$3.32	\$2.97	\$7.89	
SE	\$5.15	\$3.60	\$3.06	\$8.02	

Budgeted prices		Wheat	Corn	Milo	Soybeans
	NC	\$5.64	\$3.67	\$3.80	\$9.38
SC	\$5.83	\$3.90	\$3.99	\$9.61	
SW	\$5.70	\$4.25	\$3.81	\$9.22	
NE	\$5.89	\$3.79	\$3.95	\$9.56	
NW	\$5.73	\$4.01	\$3.83	\$9.12	
SE	\$5.92	\$3.59	\$4.07	\$9.41	

Regional 2015 Summary

Region	Number of Farms	Net Farm Income	Average Working Capital	W.C. / Gross Farm Income	Weighted Average Current ratio
NC	129	\$ 13,447.28	\$ 295,458.34	0.650	2.456
SC	89	\$ (16,187.90)	\$ 274,548.21	0.588	2.664
SW	35	\$ 30,039.35	\$ 328,015.79	0.787	5.481
NE	108	\$ (18,266.63)	\$ 413,988.79	0.781	3.290
NW	31	\$ (65,739.89)	\$ 693,249.51	0.737	2.501
SE	160	\$ 24,499.33	\$ 497,142.06	0.790	3.118

Burn Rate Projections 552 Farms

Projected Burn Rates for 552 farms

< 1 yr.	1-3 yrs.	3-5 yrs.	5-10 yrs.
14.67%	13.04%	11.78%	21.01%

Burn Rate Projections 552 Farms

Percentage of Farms within Burn Rates in each region

Region	(14.67%) < 1 yr.	(13.04%) 1-3 yrs.	(11.78%) 3-5yrs.	(39.49%) Total < 5yrs.
NC	15%	16%	17%	47%
SC	19%	12%	9%	40%
SW	26%	26%	17%	69%
NE	16%	17%	13%	45%
NW	16%	23%	23%	61%
SE	9%	4%	5%	18%

Region	# Farms	Average loss per acre	% of farms with loss
NC	129	-55.37	100%
SC	89	-30.92	99%
SW	35	-77.56	100%
NE	108	-92.91	97%
NW	31	-94.51	97%
SE	160	-20.23	86%

Realized Burn Rate Moving Forward

Realized Burn Rates for 552 farms

< 1 yr.	1-3 yrs.	3-5 yrs.	5-10 yrs.
16.85%	14.13%	13.04%	18.48%

Realized Burn Rate Moving Forward

Projected Burn Rates for 552 farms

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16.85%	14.13%	13.04%	18.48%

Realized Burn Rate Moving Forward

Percentage of Farms within Burn Rates in each region

Region	(16.85%) < 1 yr.	(14.13%) 1-3 yrs.	(13.04%) 3-5yrs.	Total < 5yrs.
NC	18%	19%	16%	52%
SC	22%	16%	12%	51%
SW	26%	14%	20%	60%
NE	16%	19%	18%	52%
NW	23%	23%	23%	68%
SE	10%	5%	5%	20%

Region	# Farms	Average loss per crop acre	% of farms with loss
NC	129	-56.51	100%
SC	89	-32.47	99%
SW	35	-73.20	100%
NE	108	-98.91	96%
NW	31	-95.01	97%
SE	160	-20.03	86%

Realized Burn Rate Moving Forward

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SE	10%	9%	5%	18%

Region	# Farms	Average loss per crop acre	% of farms with loss
NC	129	-56.51	100%
SC	89	-32.47	99%
SW	35	-73.20	100%
NE	108	-98.91	96%
NW	31	-95.01	97%
SE	160	-20.03	86%

Burn Rates

- Burn Rates are higher than projected through the farm management budgets
- Different farms are in different positions due to their respective region

Current Ratios

	Weighted Current Ratio
NC	2.4564789
SC	2.6640883
SW	5.481493
NE	3.2903229
NW	2.5012292
SE	3.1178748
Kansas	2.9142572

Current Ratio vs Burn Rate

- Current Ratio:
 - Short term liquidity based on current assets and current liabilities
- Burn Rate:
 - Survivability with working capital used up in losses

Related Key Insights

- Looking at Kansas as a whole there was only a significant change in these crops.
 - Non-Irrigated Wheat: 2013-2014, 2013-2015
 - Irrigated corn: 2013-2014,
 - Non-Irrigated corn: 2013-2014, 2013-2015

Changes in Crop Acres

	Dryland Wheat	Irrigated Corn	Dryland Corn	Irrigated Milo	Dryland Milo	Irrigated Soybeans	Dryland Soybeans
2013-2014	NC↓ NE↓ SE↓	SC ↓ (29 to 24) SW	NC↓ NW↓ SE↓			SC↑	NC↑
2013-2015	NC↓ NE↓ SE↓		SE↑	SC↑ (5 to 8)	NC NE		NC
2014-2015		SE ↓ (8 to 7)			SC NE↑		NE↓

KFMA Anticipated 2015 losses by region

		Wheat, Total Irrigated Acres	Wheat, Total Non-Irrigated Acres	Corn, Total Irrigated Acres	Corn, Total Non-Irrigated Acres	Grain Sorghum, Total Irrigated Acres	Grain Sorghum, Total Non-Irrigated Acres	Soybeans, Total Irrigated Acres	Soybeans, Total Non-Irrigated Acres
	NW 5	-152.14	-9.465	-42.63	-26.19	-213.54	-16.62	-57.57	-29.38
	NC 1	-4.965	-4.965	-154.2	-93.01	-263.42	-39.63	-29.48	0.36
\$/acre	NE 4	-95.445	-95.445	-101.8	-101.78	-110.05	-110.05	36.53	36.53
	SW 3	-152.14	-33.77	-37.02	-49.37	-213.54	-12.8	-57.57	-41.93
	SC 2	25.61	25.61	-54.66	-54.66	-20.62	-20.62	31.89	31.89
	SE 6	45.99	45.99	-49.78	-49.78	-19.58	-19.58	40.7	40.7

Key Insights

- Northeast region's drop in dryland soybeans and northeast region's rise in dryland sorghum is opposite of KFMA Budgets from the beginning of the year.
- Despite a few differences, the available budgets on agmanager.info proved to be a useful tool in predicting gains and losses in 2015.

Key Insights (cont.)

- USDA has predicted 2016 to be another year of declining NFI with both gross farm income and expenses decreasing but income decreasing by a larger percentage than expenses

Key Insights (cont.)

- What can you do during these times?
 - Hold on to cash/financial reserves
 - Be a low cost producer
 - Protect working capital
 - Lock in margins
 - Increase asset utilization

Questions



- *Managing an operation during hard economic times can put a strain on working capital. As more financial stress gets put on Kansas farms, repayment capacity decreases and the availability of credit declines. Having the ability to continue operating under tough economic conditions is vital to the agricultural industry, and one contingent resource is working capital. This session will reveal effects that losses have had on farms from the 2015 season and the outlook for Kansas farms' in the future if difficult financial times continue.*