

Factors Influencing Farms Transitioning Between Financial Vulnerability Categories

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How Vulnerable are Kansas Farms?

- What likelihood do farms
 - transition between vulnerability classifications?
 - remain in their current vulnerability class?
- What causes farms to transition or persist?

- **Favorable**: NFI/ac > 0, debt-to-asset ≤ 40%
- **Marginal Income**: NFI/ac < 0, debt-to-asset ≤ 40%
- **Marginal Solvency**: NFI/ac > 0, debt-to-asset > 40%
- **Vulnerable**: NFI/ac < 0, debt-to-asset > 40%

NFI/ac income per acre after operating expenses were removed
divided by total operated acres



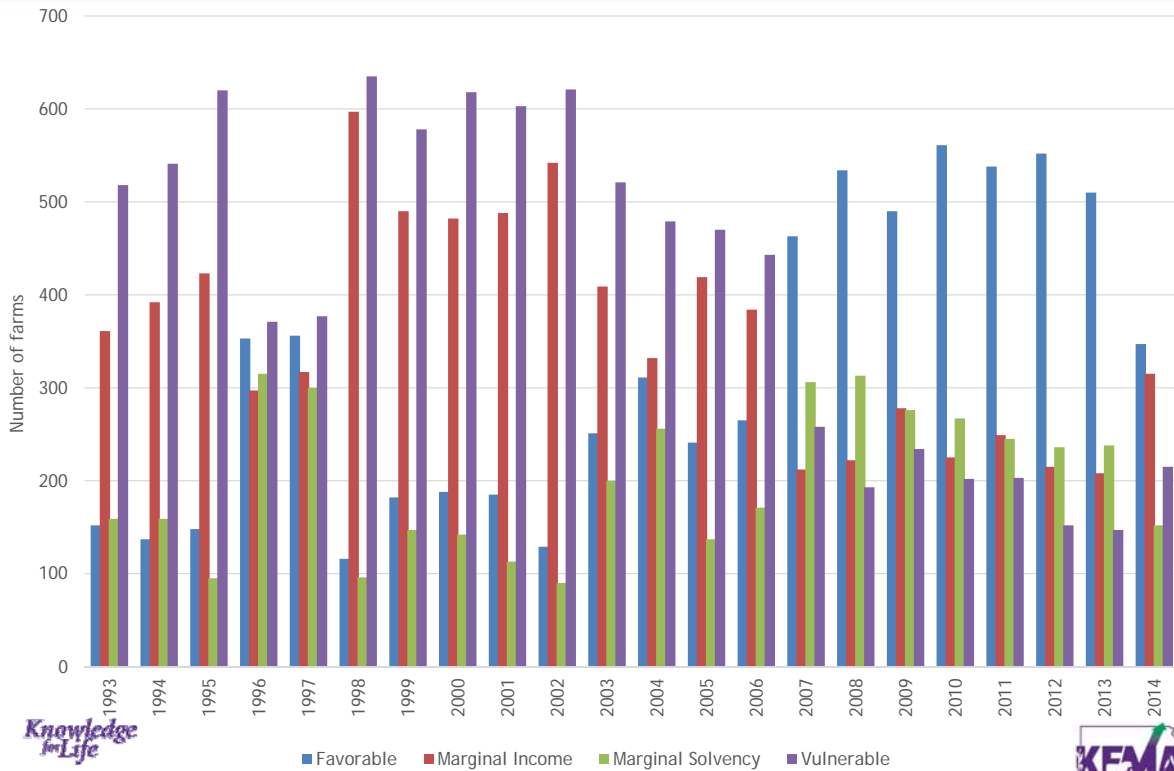
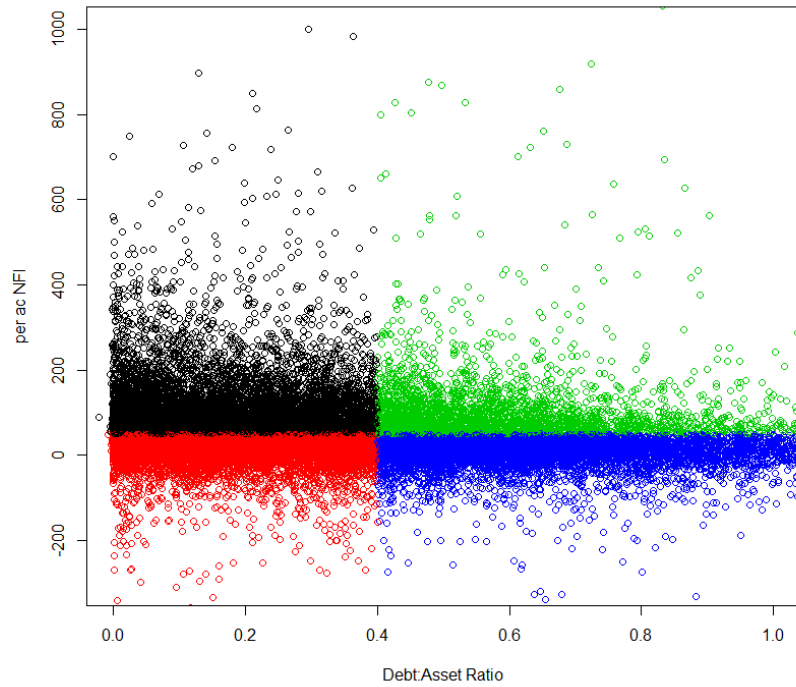
Borrowed from: Kuethe; USDA ERS

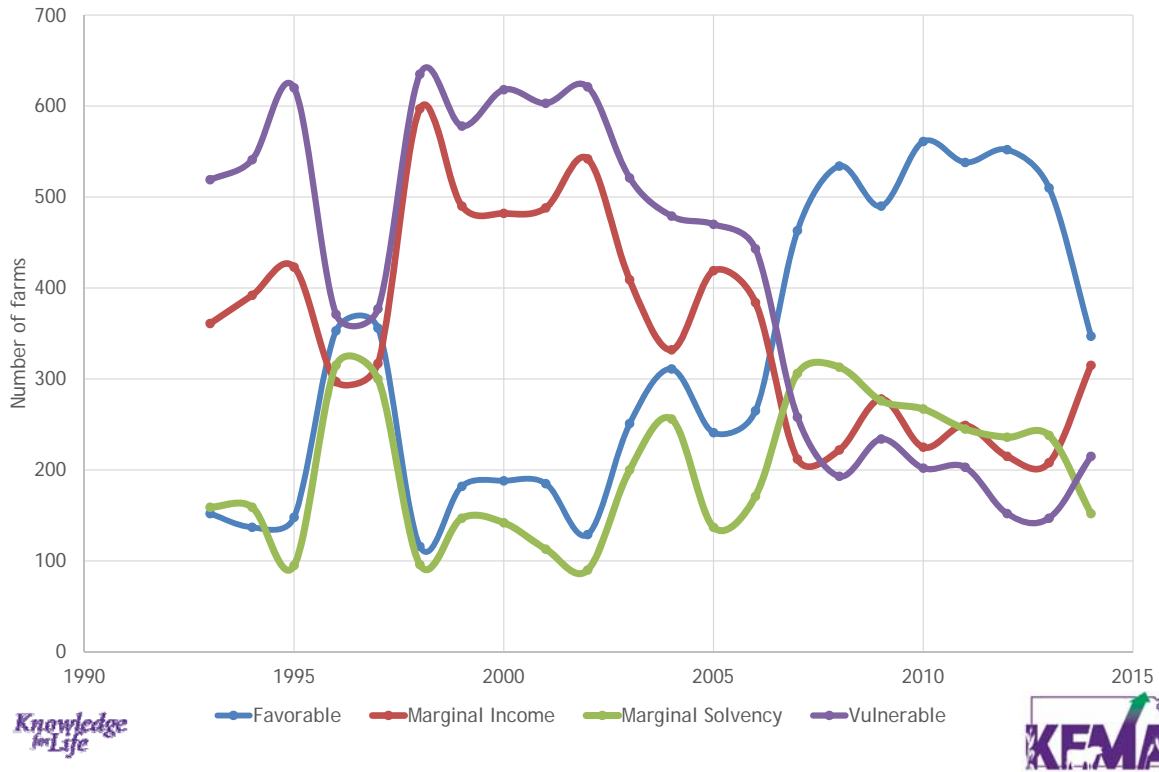
- **Favorable**: NFI/ac > **50**, debt-to-asset ≤ 40%
- **Marginal Income**: NFI/ac < **50**, debt-to-asset ≤ 40%
- **Marginal Solvency**: NFI/ac > **50**, debt-to-asset > 40%
- **Vulnerable**: NFI/ac < **50**, debt-to-asset > 40%

NFI/ac income per acre after operating expenses were removed
divided by total operated acres



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- 52% of all Kansas Farms from 1993-2014 were below the 0.4 D/A ratio
- Average of 7 years of KFMA participation
- Farm type determined by labor % designated to production; grain farms may be diversified

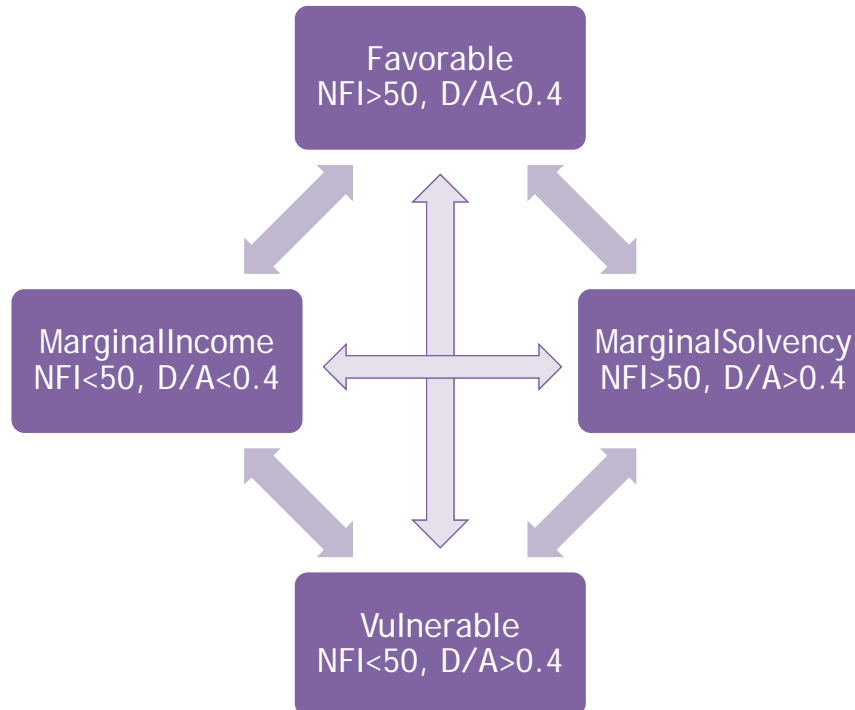
Year	Operator Age	Primary Crop	Owned Acres
1993	51	37% Wheat-NI	504
2005	55	32% Wheat-NI	626
2014	57	30% Wheat-NI	714

Year	Operator Age	Acres Owned	Primary Crop
2005	55.3	625	32% Wheat-NI
2006	55.6	660	34% Wheat-NI
2007	55.5	635	32% Wheat-NI
2008	55.4	707	34% Wheat-NI
2009	55.8	710	29% Wheat-NI
2010	54.5	783	29% Soybeans-NI
2011	55.8	743	28% Wheat-NI
2012	56.4	685	31% Wheat-NI
2013	56.8	750	31% Wheat-NI
2014	57.5	714	30 % Wheat-NI



- Looking for persistence or movement
- Likelihood of persisting in current financial category or transitioning to another





Probability of transitioning

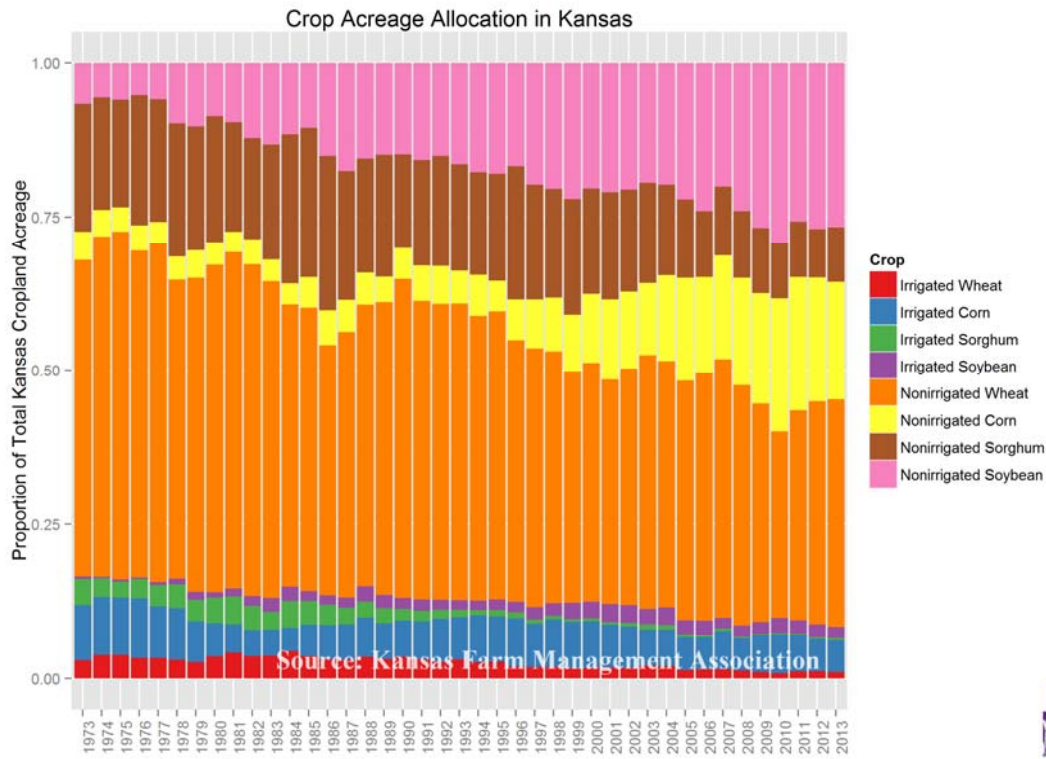
To

	Favorable	Marginal Income	Marginal Solvency	Vulnerable
Favorable	0.58	0.31	0.06	0.05
Marginal Income	0.28	0.6	0.03	0.09
Marginal Solvency	0.12	0.06	0.45	0.37
Vulnerable	0.05	0.08	0.2	0.68

From

Moderate persistence
*highest value in each row along diagonal

Farms in Marginal Solvency have high chance of moving into Vulnerable position



- Financial persistence was observed over 23 year time span (1993 to 2014) for Kansas KFMA Farms
 - management can impact stability
- Farms in Marginal Solvency category had high probability of becoming Vulnerable

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