



DIVERGENCE IN FARM PERFORMANCE

This article examines the changing structure of farms in Kansas. Specifically, changes in farm size and financial performance are examined using five-year moving averages of KFMA data from 1973 to 2007. Five-year averages are used to mitigate the fluctuations in performance measures due to price and weather fluctuations.

Key variables examined in this article include total acres operated, operating profit margin ratio, asset turnover ratio, and percent of gross income derived from livestock production. The operating profit margin ratio was computed by adding interest expense and subtracting the opportunity cost on operator and family labor from net farm income and dividing the result by value of farm production. Average family living expenses and the number of operators on each farm were used to compute the opportunity cost on operator and family labor. The asset turnover ratio was computed by dividing value of farm production by average total assets.

To be included in this study, a KFMA farm had to have five years of continuous data during any continuous five-year period from 1973 to 2007. Moving five-year averages were calculated for each farm that met this qualification. This created snapshots in time dating from 1973 to the present. Farms were sorted into farm size quartiles using value of farm production.

Table 1 contains the averages for total acres, operating profit margin ratio, asset turnover ratio, and percent of gross income derived from livestock production. Total acres operated increased from 1,369 to 1,873 over the study period. The percent of gross income derived from livestock production decreased from 46 percent to 32 percent over the study period. Unlike the asset turnover ratio, the operating profit margin ratio was lower in the 2000s compared to the 1970s.

Table 2 contains the five-year averages for farms in the top and bottom value of farm production quartiles. The information in Table 2 is also presented graphically in Figures 1-4. The first three figures show quite different results than the fourth figure. Specifically, the first three figures show a divergence in farm size and financial performance between farms in the top and bottom farm size quartiles. This divergence between farms is not evident for the percent of gross income derived from livestock production variable. As evident from Figure 4, there was not a discernible trend in the difference in the percent of gross income derived from livestock production for the top and bottom farm size quartiles. Divergence in farm size is evident from Figure 1. Total acres increased substantially for the top quartile over the study period. For the bottom quartile, total acres remained relatively constant. Divergence in financial performance is evident by examining Figures 2-3. The difference in the operating profit margin between the two quartiles was approximately 18 percent (0.179) in 1973-1977 and approximately 42 percent (0.420) in 2003-2007. Interestingly, the

Also in this newsletter:

➤ Recommendations for Further Reading Pg 8

operating profit margin for the bottom quartile was positive through 1978-1982 where it turned negative for the rest of the time periods. The asset turnover ratio for the top quartile increased from 0.244 in 1973-1977 to 0.355 in 2003-2007. In contrast, the asset turnover ratio for the bottom quartile decreased over the study period.

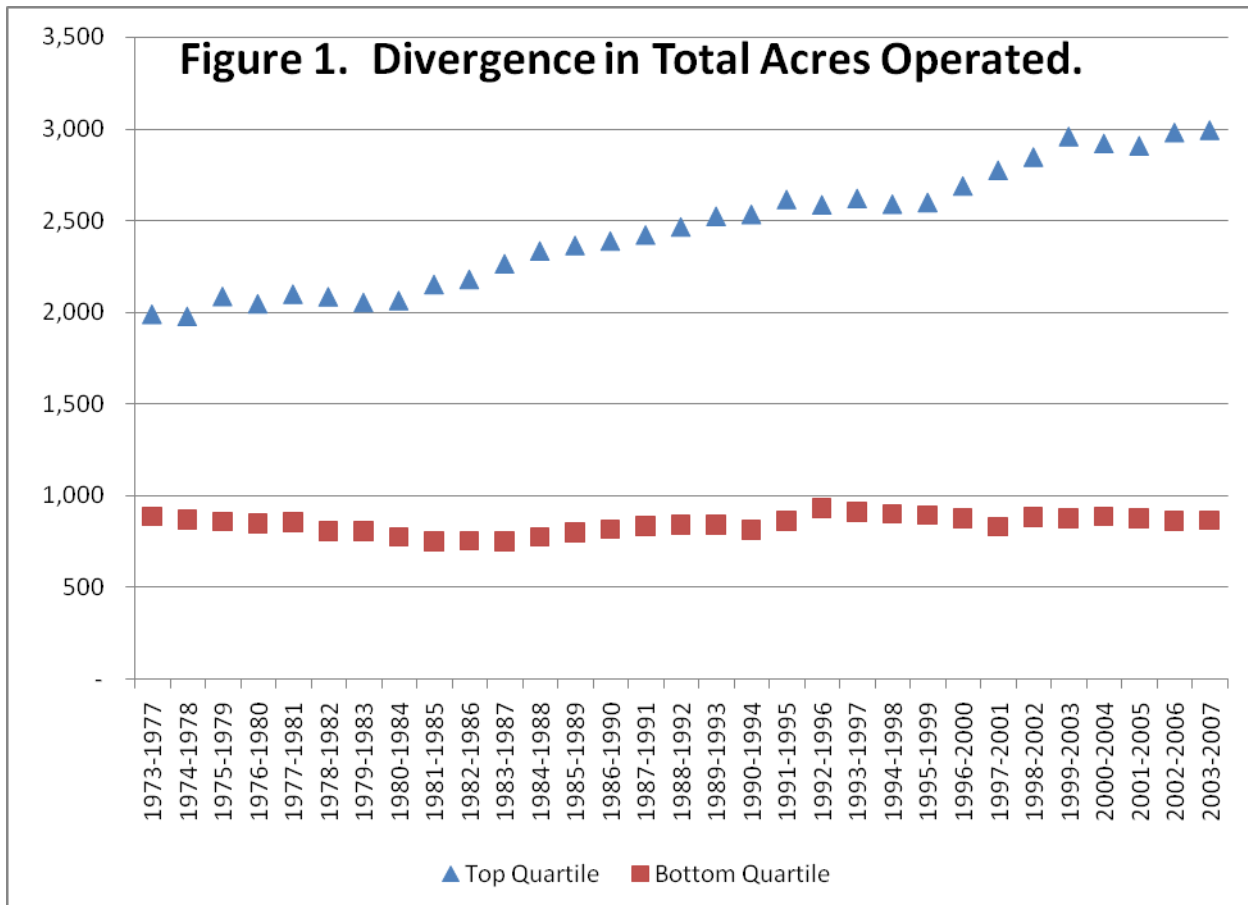
This study has important implications regarding the future structure of Kansas farms. Throughout the study period, large farms were in a better competitive position than small farms. This difference has been documented by previous research. What are unique with regard to this study are the results suggesting that the differences in farm size and financial performance between small and large farms are widening over time. Based on the results of this study, the consolidation of farms is likely to continue and may even accelerate given recent trends.

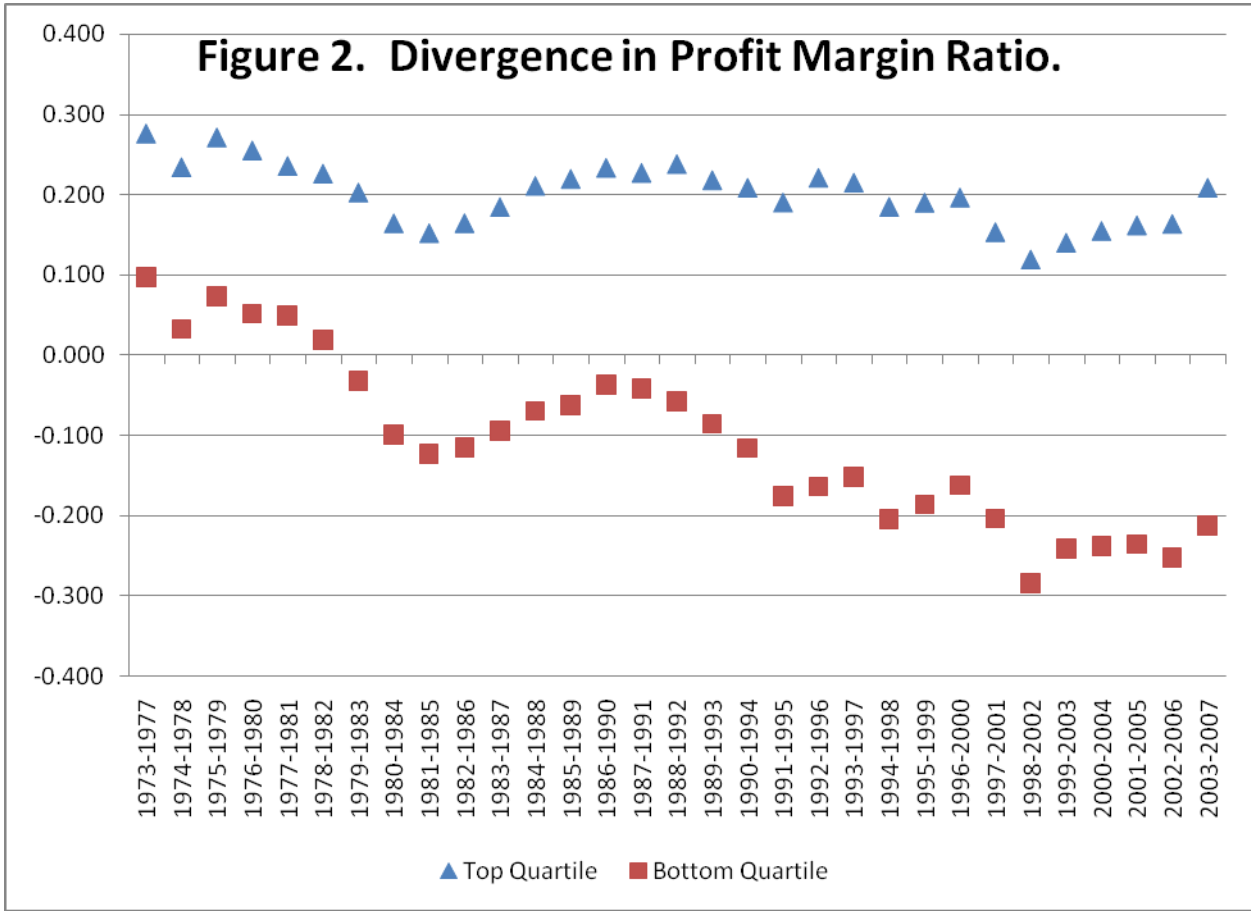
More information pertaining to the divergence in farm performance can be found in a paper posted on the contributor site for Michael Langemeier entitled *A Long-Term Analysis of Changes in Farm Size and Financial Performance*. Future KFMA newsletters will examine changes in economies of size since the early 1970s and long-term trends in crop mixes for farms in the top and bottom farm size quartiles.

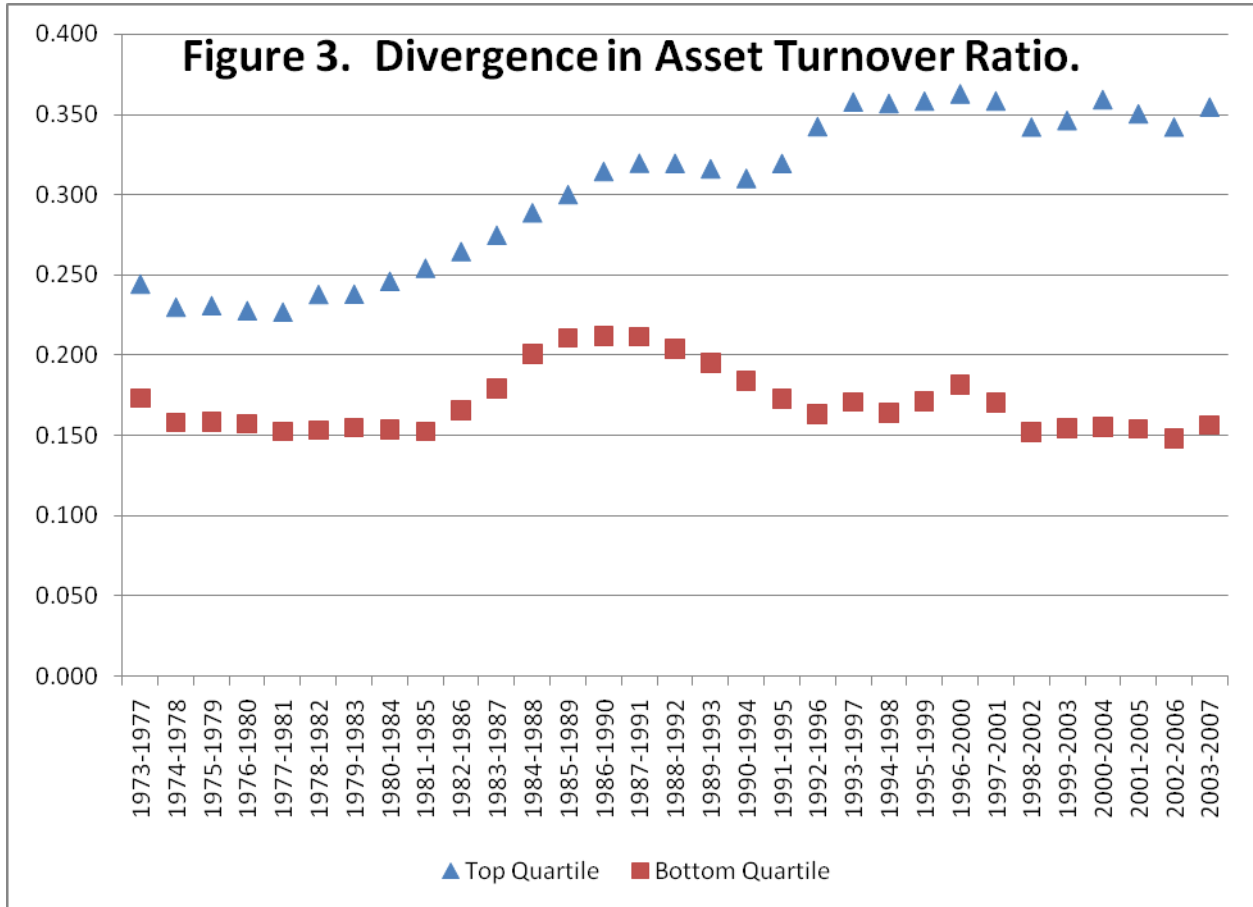
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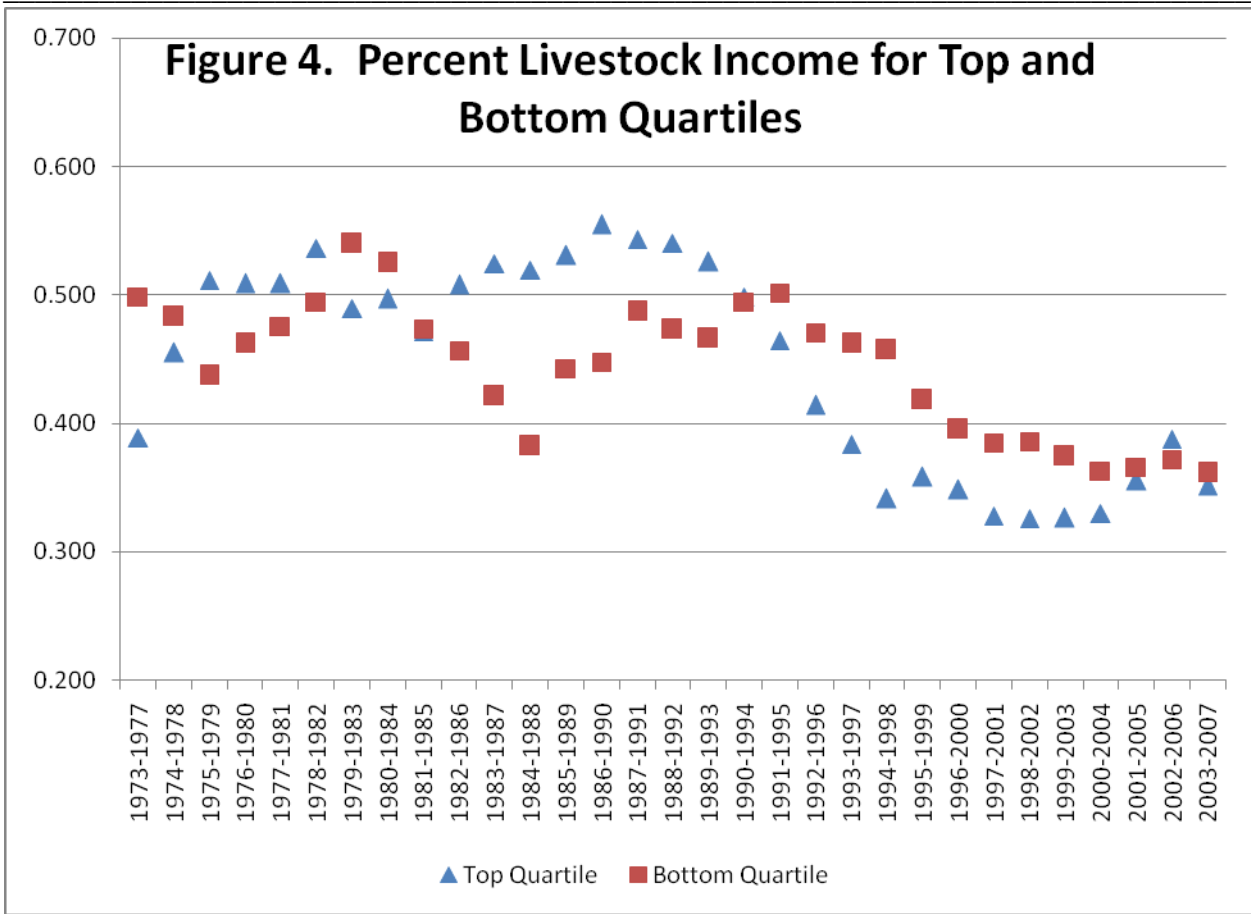


Table 1. Summary Statistics for a Sample of Kansas Farms.

	Total Acres	Profit Margin Ratio	Asset Turnover Ratio	% Livestock Income
1973-1977	1,369	0.234	0.210	0.458
1974-1978	1,382	0.188	0.196	0.509
1975-1979	1,433	0.229	0.202	0.527
1976-1980	1,405	0.212	0.197	0.526
1977-1981	1,424	0.196	0.196	0.513
1978-1982	1,410	0.186	0.204	0.530
1979-1983	1,361	0.157	0.205	0.504
1980-1984	1,362	0.113	0.207	0.498
1981-1985	1,408	0.102	0.214	0.471
1982-1986	1,433	0.111	0.228	0.493
1983-1987	1,483	0.133	0.243	0.489
1984-1988	1,512	0.162	0.265	0.479
1985-1989	1,566	0.171	0.276	0.498
1986-1990	1,584	0.189	0.285	0.511
1987-1991	1,572	0.182	0.287	0.506
1988-1992	1,578	0.187	0.284	0.505
1989-1993	1,609	0.164	0.277	0.499
1990-1994	1,607	0.150	0.273	0.483
1991-1995	1,654	0.125	0.273	0.456
1992-1996	1,667	0.154	0.289	0.415
1993-1997	1,683	0.153	0.302	0.392
1994-1998	1,681	0.121	0.297	0.356
1995-1999	1,708	0.131	0.302	0.359
1996-2000	1,707	0.141	0.309	0.350
1997-2001	1,736	0.104	0.300	0.339
1998-2002	1,776	0.061	0.285	0.331
1999-2003	1,808	0.080	0.290	0.325
2000-2004	1,806	0.086	0.293	0.321
2001-2005	1,827	0.087	0.288	0.343
2002-2006	1,862	0.093	0.286	0.354
2003-2007	1,873	0.139	0.299	0.323

Source: Kansas Farm Management Association databank, 1973-2007.

Table 2. Summary Statistics for the Top and Bottom Quartiles.

	Total Acres		Profit Margin Ratio		Asset Turnover Ratio		% Livestock Income	
	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
1973-1977	888	1,992	0.097	0.276	0.173	0.244	0.499	0.389
1974-1978	869	1,980	0.032	0.234	0.158	0.230	0.483	0.455
1975-1979	861	2,088	0.072	0.271	0.158	0.231	0.437	0.511
1976-1980	849	2,049	0.051	0.255	0.157	0.227	0.462	0.509
1977-1981	855	2,101	0.049	0.235	0.152	0.227	0.476	0.509
1978-1982	807	2,087	0.019	0.226	0.153	0.238	0.494	0.536
1979-1983	808	2,056	-0.033	0.202	0.155	0.238	0.540	0.490
1980-1984	778	2,066	-0.099	0.164	0.153	0.246	0.525	0.497
1981-1985	754	2,154	-0.123	0.152	0.152	0.254	0.474	0.472
1982-1986	755	2,182	-0.115	0.164	0.166	0.264	0.457	0.508
1983-1987	750	2,267	-0.094	0.184	0.179	0.275	0.421	0.524
1984-1988	775	2,337	-0.070	0.211	0.201	0.289	0.383	0.520
1985-1989	800	2,367	-0.063	0.219	0.211	0.300	0.443	0.531
1986-1990	817	2,391	-0.037	0.233	0.212	0.314	0.448	0.555
1987-1991	837	2,424	-0.042	0.227	0.212	0.320	0.487	0.544
1988-1992	842	2,468	-0.058	0.238	0.204	0.320	0.473	0.540
1989-1993	843	2,526	-0.086	0.218	0.195	0.316	0.466	0.526
1990-1994	816	2,536	-0.116	0.208	0.184	0.310	0.494	0.498
1991-1995	863	2,617	-0.176	0.190	0.173	0.319	0.501	0.465
1992-1996	935	2,588	-0.164	0.221	0.163	0.343	0.470	0.414
1993-1997	911	2,623	-0.152	0.215	0.171	0.358	0.462	0.384
1994-1998	902	2,592	-0.204	0.185	0.164	0.357	0.457	0.341
1995-1999	895	2,602	-0.186	0.190	0.171	0.358	0.418	0.359
1996-2000	877	2,691	-0.162	0.196	0.181	0.363	0.396	0.348
1997-2001	833	2,777	-0.204	0.153	0.170	0.359	0.385	0.328
1998-2002	884	2,849	-0.284	0.119	0.152	0.342	0.386	0.326
1999-2003	879	2,961	-0.241	0.140	0.154	0.346	0.374	0.327
2000-2004	887	2,923	-0.238	0.155	0.155	0.359	0.363	0.330
2001-2005	876	2,910	-0.235	0.162	0.154	0.351	0.366	0.355
2002-2006	864	2,983	-0.252	0.163	0.148	0.342	0.372	0.388
2003-2007	867	2,996	-0.212	0.208	0.156	0.355	0.362	0.351

RECOMMENDATIONS FOR FURTHER READING

The purpose of this section of the newsletter is to briefly discuss articles and web sites that may be of interest to readers. In general, the articles discussed will not report on original research. Rather, the articles will contain citations to web sites and articles that discuss topics of general interest.

A recent issue the *Animal Science Monitor* (Issue 77), written by consultant Felix Soriano, briefly discusses two steps that can be used to motivate employees. The author opens his discussion by asking how an employer can get his employees to “go the extra mile” or take more ownership in their job. The author notes that benefits and compensation are retainers not motivators. To motivate employees, the author suggests that an employer eliminate the organization’s negative practices that mitigate motivation and develop “true motivators”. Negative practices include such things as company politics, unclear expectations, tolerating poor performance in some employees that makes high achievers feel taken advantage of, and under-utilization of the capabilities of employees. True motivators include items such as cross-training, providing employees a chance to provide input, encouraging responsibility, developing clear goals and challenges for every employee, and providing lots of encouragement. To help employees set goals you may want to refer to *The 7 Habits of Highly Effective People* written by Stephen Covey. Issues of the *Animal Science Monitor* can be accessed via the following web site:
www.animalsciencemonitor.com.

James Bullard, president of the Federal Reserve Bank of St. Louis, discusses the challenges the Federal Reserve System is facing as it strives to implement policy in a recent article published in the *Review*, a publication of the Federal Reserve Bank of St. Louis. The article is entitled “Three Funerals and a Wedding”. The funerals in the title of the article refer to three ideas about the

U.S. economy that may be going to their final resting place. One funeral is for the idea of the Great Moderation. Financial markets have seen exceptional financial volatility recently. Is this now the norm? A second funeral is for our financial system as we have known it. A third funeral is for monetary policy defined as nominal interest rate targeting. As noted by the author, at least over the short term, any additional influence through interest rate reductions will be limited. The wedding in the title of the article refers to an idea on the rise that fiscal policy needs to involve more direct intervention in certain parts of the private sector. While the Fed will continue to provide liquidity to markets through existing programs, an important part of the response to ongoing financial market turmoil will come from fiscal policy intervention. This runs counter to much of the thinking in macroeconomic policy over the past two decades. The article by Bullard can be found on the web site of the Federal Reserve Bank of St. Louis (www.stlouisfed.org), but is also posted on my contributor site under “Recommendations for Further Reading”.

A recent paper written by Robert Litan and Martin Baily entitled “Fixing Finance: A Roadmap for Reform” discusses the new regulatory framework that is needed to address the current financial crisis. The Executive Summary of the paper lists the following suggestions: the adoption of multiple measures to improve transparency and increase the incentive for prudent behavior; adoption of a special set of rules for systematically important financial institutions (SIFIs); requiring SIFIs to fund some portion of their assets with long-term subordinated debt; encouraging, through regulation, the formation of clearinghouses for derivatives; rewriting financial reforms broad enough, and with enough discretion for regulators, so that policy makers can better anticipate future financial crises; reorganizing financial regulatory agencies by function rather

than by charter; regulating Fannie Mae and Freddie Mac as public utilities; and supporting international cooperation on financial regulation. Not everyone will agree wholeheartedly with the authors' recommendations. Regardless, the authors do provide "food for thought". This paper can be found on the Brookings Institution web site (see discussion of the Brookings Institution below), but is also posted on my contributor site under "Recommendations for Further Reading".

The Brookings Institution (www.brookings.edu) is a nonprofit public policy organization based in Washington, D.C. The mission of the institution is to conduct high-quality, independent research. Based on their

research, they provide recommendations that are meant to enhance American democracy, foster economic and social welfare, and secure a more open, safe, prosperous, and cooperative international system. The Brookings Institution is closely monitoring the current financial crisis. As such, their web site contains a wealth of information pertaining to the crisis and possible solutions. I will continue to cite and discuss papers from their web site during the upcoming months.

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The Kansas Farm Management Association (KFMA) Newsletter is distributed monthly to provide farm management information to farm decision makers. Further farm management information can be found on the KFMA program website: www.agmanager.info/kfma; and, on the Extension Agricultural Economics website: www.agmanager.info. The Newsletter is edited by Michael Langemeier, Professor, Department of Agricultural Economics, Kansas State University.



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