

## **U.S. Commercial Farms and the Farm Credit System Consolidation**

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As one of the two largest farm lenders in the country, the Farm Credit System accounts for about 37 percent of the total debt of the U.S. farm sector. The ongoing consolidation of lending units within the Farm Credit System (FCS), however, has raised concerns on its effects on the business viability and survival of U.S. farms. Farm businesses, especially those with relatively larger operations, have usually relied significantly on farm loans to finance their operating and capital funding requirements. A specific concern has been whether such structural change would lead to a redistribution of FCS lending funds among its clientele and result in a restructuring of its client profile. This report focuses on the predicament of U.S. commercial farms.

### **1.0 Defining U.S. Commercial Farms and Data Sources**

The Economic Research Service of the U.S. Department of Agriculture (USDA-ERS) defines commercial farms as those with a minimum gross cash farm income (GCFI) of \$10,000. Such threshold income level was considered as indicative of a commitment to farming (Hoppe, 2010). The cut-off gross income level that distinguishes small and large commercial farms is \$250,000, which has been recommended by the Small Farm Commission.

This report draws upon the farming data collected by USDA's National Agricultural Statistics Service (NASS) and ERS through multiple annual surveys compiled under the collective name Agricultural Resource Management Survey (ARMS). In this report, the following ARMS economic classification of commercial farms is used: Group 1 are the largest farms with GCFI of \$1.0 million and above; Group 2 with GCFI from \$500,000 to \$999,999; Group 3 with GCFI from \$250,000 to \$499,999; Group 4 with GCFI from \$100,000 to \$249,999; and Group 5 with GCFI below \$100,000. The latter group is analyzed with caution as this group might also include non-commercial farms (with GCFI below \$10,000).

### **2.0 Structural Characteristics of U.S. Commercial Farms**

Since the 1990s, the popular notion was that the U.S. farm sector was increasingly driven toward the consolidation of farms into larger business entities as the number of operating farms began to dwindle and average farm size started declining. However, more recent data suggest that the consolidation process has slowed down as growth rates in the number of farms and the total value of farm production were registered at both extreme farm size categories (large and very small farms). As can be gleaned from Table 1, there has been an overall growth of 0.04% in the number of farms from 2000 to 2011. In the last five years, the growth rate increased to 0.88%, with four of the five ARMS economic groups registering positive growth trends (except

for Group 4). In terms of total value of production, the average 12-year growth rate is 6.48% while the more recent 5-year period registered a growth rate of 8.86%. Average farm size has declined by 0.83% during the last 12 years. Notably, during the most recent five-year period, the largest economic farm class (Group 1) only increased its average size by 0.60% while the other economic classes experienced a reduction in average farm size. USDA-ERS has since then declared that the restructuring of the farm sector in recent years has veered away from the dissolution of smaller farms and the accelerated consolidation into larger farms. Instead recent growth trends resulted in a shrinking class of mid-size farms. The two-pronged growth trend (among large and small farms) in the U.S. farm sector is the result of a number of factors discussed in the following sections.

**TABLE 1. Growth in Number of Farms, Value of Production, and Farm Size, by Economic class, 2000-2011, Source: USDA – ARMS**

MEASURE (PERCENT)	ALL FARMS	ECONOMIC CLASSES OF FARMS				
		\$1.0 Million or More	\$500,000 - \$999,999	\$250,000 - \$499,999	\$100,000 - \$249,999	Below \$100,000
NUMBER OF FARMS						
12-Year Annual Growth	0.04	9.37	7.27	1.81	-3.01	-0.10
5-Year Annual Growth	0.88	9.19	13.68	2.19	-2.74	0.59
TOTAL VALUE OF PRODUCTION						
12-Year Annual Growth	6.48	11.35	8.81	3.74	-0.77	-0.28
5-Year Annual Growth	8.86	10.87	16.64	5.46	0.88	1.31
ACRES PER FARM						
12-Year Annual Growth	-0.83	0.93	4.51	-2.94	-1.72	-2.13
5-Year Annual Growth	-0.60	0.61	-1.24	-1.99	-3.51	-3.18

### ***2.1 Growth in Larger Commercial Farms***

Evidence suggests that most U.S. farms, including the larger commercial farms, are becoming increasingly less diversified in their operations (Gardner, 2002) with 52% of farms producing at most 2 crops and almost 75% of farms not producing more than 3 crops. This trend is traced back to the 20<sup>th</sup> century when crop production in the U.S. started to dissociate from livestock production (MacDonald, Korb, and Hoppe, 2013), which eventually became concentrated on a few specialized farms. Meanwhile, crop farmers who decided to forego of livestock farming used their available free time to either work off-farm or expand acreage devoted to crop production. Moreover, geographic specialization has evolved through time owing to comparative advantages of certain production regions in producing specific

commodities due to relatively more favorable climate conditions, market access, technological and resource endowments.

Technology is often singled out as one of the major drivers of consolidation. The impact of technology can be realized under either the concept of scale economies or labor-saving technological change (MacDonald, Korb, and Hoppe, 2013). The scale economy effect is realized when the expansion of production realized under the new technology results in reductions in the cost of producing each unit of output not attributable to changes in input prices. Analysts, however, contend that economies of scale may only be significantly applicable to just a few agricultural enterprises (such as livestock production) but would mostly cater to non-agricultural industries (MacDonald and McBride, 2009). As a result, economists are skeptical to use scale economies as a motivation for the farm consolidation trend.

The alternative concept focuses on labor-saving innovations realized through the use of certain farm equipment, genetically engineered seeds and specific tillage practices. These innovations allow farmers to reduce their dependence on the amount of labor required to perform certain farm operations. In recent years when the demand for seasonal farm labor has been constrained by the limited availability of foreign workers due to stricter immigration policies, the mechanization of farm operations has become a priority for most farm businesses. Moreover, advancement in seed genetics through the proliferation of genetically engineered seeds has also contributed in minimizing labor dependence as established by several studies (Fernandez-Cornejo, 2007; Gardner, Nehring, and Nelson, 2009). Certain tillage practices (such as the no-till method) that have been endorsed among farmers as soil conservation strategies have also been found to save on labor, capital, and energy costs (Horowitz, Ebel, and Ueda, 2010; Gardner, 2002).

The risks associated with increasing specialization have been mitigated through the use of production and marketing contracts. Evidence suggests that farms engaged in contracts tend to operate larger operations, controlling larger acres of farmland and have higher values of production (Key, 2004). These risk-reducing contracts are also often used under such production schemes as vertical and horizontal coordination that lead to further incidence of farm business consolidation.

## ***2.2 Growth in Smaller Commercial Farms***

In more recent years, smaller farm businesses have proliferated in the industry. A more compelling explanation for this trend recognizes the influence of consumer demand. First, consumers have started showing preference for locally produced commodities possibly influenced by such considerations as better product quality (freshness and health issues), accessibility, and desire to support local business growth (Low and Vogel, 2011). Compared to other farms, those that supply the local markets are usually smaller operations. In 2010, these

local farms had an average size of 310 acres compared to 1,100 acres for other crop farms (MacDonald, Korb, and Hoppe, 2013).

The other dominant trend in consumer demand involves the increasing preference for organic products. Greater consumer awareness of health and environmental risks has created a booming demand for organic products. As a result, the organic industry grew very rapidly at an accelerated pace during the last two decades. Estimates from the Organic Trade Association (OTA) and USDA indicate that organic food and beverage sales grew from \$1 billion in 1990 to \$26.7 billion in 2010, with annual average growth rates between 12 percent and 21 percent. Survey data indicate that 40% of organic operations were 100 acres or less and 68% were 300 acres or less directly implying that a majority were small farms while a limited number were large-scale operations (OFRF 2003).

### ***2.3 Structural Differences***

There are a number of notable differences in the structural characteristics of large and small commercial farms. In terms of the farm operators' age profile, the share in farm business management of older operators (65 years and older) has now declined as farm size becomes larger. Evidence suggests that these older operators' farmland holdings are either mostly invested in retirement or residential/lifestyle farms or rented out (Hoppe and Banker, 2010).

Part-time farming that accommodates operators' off-farm employment and investment activities has been found to be more prevalent among smaller farms. Greater commitment to farming has been observed among farms with \$100,000 or more in revenues as these farms consider farming as their important source of income (O'Donoghue et al., 2011).

The tenure profile of commercial farmers indicates that smaller farms tend to own a greater proportion of the acreage they operate. In contrast, larger commercial farms have relied more on cash and share renting as strategies to expand production acreage and are more likely to hire custom farms service providers and/or use leased machinery in most of their production processes (O'Donoghue et al., 2011).

### **3.0 The Commercial Farming Client Profile of a Consolidated FCS**

Previous studies on the commercial banking industry cite several benefits of banking consolidation: increased efficiency in the delivery of a more diversified range of products and services, risk-reducing benefits of geographic and client diversification, and greater capability to accommodate larger loan demands (Mester, 1999; Glone, Mikesell, and Milkove, 1993). Other studies emphasize the negative effects of banking consolidation on loan growth in rural markets as larger banks tend to operate in more urbanized locations – an obstacle that can easily be transcended these days by advances in communications technology that now allow servicing and accessing all clients, regardless of location, through electronic banking. These studies, however,

further point out the consolidated banks' diminished ability to accommodate the credit demands of small businesses due to competitive pressures to secure the businesses of larger clients as well as in consideration of higher transaction costs incurred in processing these clients' relatively smaller loan requests (Cole, 2012; Craig and Hardee, 2004; Avery and Samolyk, 2000).

If the findings of these banking studies are mirrored in the FCS lending sphere, then the new consolidated structure of the FCS can consider the larger segment of the commercial farming sector as their primary clientele. Based on their financial characteristics and past borrowing records, larger commercial farms are actually ideal prime clients of farm lenders.

**TABLE 2. Mean Financial Performance and Credit-Related Measures, by Economic class, 2000-2011, Source: USDA-ARMS**

MEASURE	ALL FARMS	ECONOMIC CLASSES OF FARMS				
		\$1.0 Million or More	\$500,000 - \$999,999	\$250,000 - \$499,999	\$100,000 - \$249,999	Below \$100,000
Net Farm Income Ratio (%)	22.21	23.29	23.01	22.27	21.34	18.14
Return on Assets (%)	3.02	10.70	5.73	4.46	2.92	0.63
Return on Equity (%)	3.32	13.22	6.69	5.13	3.24	0.67
Current Ratio	3.26	2.45	2.95	2.89	3.36	5.16
Borrowing farms, percent of economic class	33.05	67.57	67.13	64.01	56.50	27.44
Average debt per farm (\$)	68,631	1,011,250	349,003	216,679	119,721	27,082
Debt-Asset Ratio (%)	9.23	19.06	14.13	12.86	9.90	5.53
Debt Coverage Margin/Income for Debt Coverage (%)	73.48	81.78	77.87	75.24	72.13	51.32
Repayment Capacity Utilization Rate (%)	37.00	29.51	34.00	37.00	38.92	46.75

Based on the summary in Table 2, the largest farms (Group 1) are the most profitable among all commercial farms. As farms become smaller, their profitability also diminishes. Smaller farms, however, are more liquid (current ratio) than their larger counterparts possibly due to their debt aversion or low utilization of loans as a means of funding their operating and capital requirements.

This contention is confirmed by the credit-related measures in the table. About 64% to 68% of farms belonging to the large farm groups (with minimum GCFI of \$250,000) have relied on loans for their financing requirements in contrast to only 27% of the smallest farm group (Group 5). Group 1 farms have maintained an average debt of more than \$1.0 million while Group 5 farms' average debt was estimated at only \$27,082. Even when larger farm groups have

shown greater tendency to incur loans, their debt-asset ratios are well below the maximum level (0.70 to 0.80) normally tolerated by lenders. These farm groups have adequate capacity to service their debt obligations as their repayment capacity utilization ranges from 30% to 37%. Given such levels, there is adequate room among these farms to accommodate future credit requirements.

Even with the more dominant financial performance and creditworthiness of larger commercial farms, smaller farms (Group 5) do not necessarily deserve to be written off as farm loan clients. As the booming smaller commercial farm sector's growth is driven by stronger consumer demand, this farm group can also be tapped as potential loan clients as their financial and credit records (such as net farm income ratio, current ratio and repayment capacity utilization rate) are actually within acceptable levels. If the current trends in consumer demand persist and continue to boost the proliferation of small commercial farms, then these farms will be induced to consider expansion plans and migrate to the other larger farm groups.

Hence, consolidation of FCS lending units is expected to be beneficial to the entire commercial farming sector. It seems that the larger farms will immediately be able to realize the benefits of such consolidation through FCS' greater capability to expand and diversify its product and service offerings as well as the capacity to meet the farms' higher loan demands. Eventually, however, the FCS might want to also consider and accommodate the smaller farms' expansion plans, especially as its consolidated structure will allow greater geographical coverage, especially through more sophisticated banking communication and service delivery mechanisms.

### **References:**

Avery, R.B. and K. Samolyk. (2000) *Bank consolidation and the provision of banking services: the case of small commercial loans*. Small Business Administration conference on The Changing Banking Structure and its Impact on Small Business, Washington, DC.

Cole, R.A. (2012) *How did the financial crisis affect small business lending in the United States?* Office of Advocacy, Small Business Administration, Washington, DC.

Craig, S.G. and P. Hardee. (2004) *The impact of bank consolidation on small business credit availability*. Office of Advocacy, Small Business Administration, Washington, DC.

Fernandez-Cornejo, J. (2007) *Off-farm income, technology adoption, and farm economic performance*. U.S. Department of Agriculture, Economic Research Service, ERR-36. February.

Gardner, B.L. (2002) *U.S. agriculture in the 20<sup>th</sup> century: how it flourished and what it cost*. Cambridge, MA: Harvard University Press.

- Gardner, J.G., R.F. Nehring, and C.H. Nelson. (2009) "Genetically modified crops and household labor savings in U.S. crop production." *Agbioforum* 12 (3&4):303-312.
- Hoppe, R. A. (2010) "U.S. farm structure: declining – but persistent – small commercial farms." *Amber Waves*, U.S. Department of Agriculture, Economic Research Service. September. Available online: <http://www.ers.usda.gov/amber-waves/2010-september>
- Hoppe, R.A. and D.E. Banker. (2010) *Structure and finances of U.S. farms: family farm report, 2010 edition*. U.S. Department of Agriculture, Economic Research Service, EIB-66. July.
- Horowitz, J., R. Ebel, and K. Ueda. (2010) *No-till farming is a growing practice*. U.S. Department of Agriculture, Economic Research Service, EIB-70. November.
- Key, N. (2004) "Agricultural contracting and the scale of production." *Agricultural and Resource Economics Review* (33): 255-271.
- Low, S. and S. Vogel. (2011) *Direct and intermediated marketing of local foods in the United States*. U.S. Department of Agriculture, Economic Research Service, ERR-128. November.
- MacDonald, J.M., P. Korb, and R.A. Hoppe. (2013) *Farm size and the organization of U.S. crop farming*. U.S. Department of Agriculture, Economic Research Service, ERR-152. August.
- MacDonald, J.M. and W.D. McBride. (2009) *The transformation of U.S. livestock agriculture: scale, efficiency and risks*. U.S. Department of Agriculture, Economic Research Service, EIB-43. January.
- McGlone, J.M., J.J. Mikesell, and D.L. Milkove. (1993) *Effect of bank consolidation on rural credit availability*. U.S. Department of Agriculture, Economic Research Service, AIB No. 664-11, April.
- Mester, L.J. (1999) "Banking industry consolidation: what's a small business to do?" *Business Review*, Federal Reserve Bank of Philadelphia, January/February: 3-16.
- Organic Farming Research Foundation. (2003) *National organic farmers' survey results*. Organic Farming Research Foundation: Santa Cruz, CA.
- Organic Trade Association. 2011. *Industry statistics and projected growth*. Available online: <http://www.ota.com/organic.mt.business.html?pritable=1>.
- U.S. Department of Agriculture. (2011) *ARMS farm financial and crop production practices*. U.S. Department of Agriculture, Economic Research Service. Available online: <http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/tailored-reports.aspx>.