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**New and Beginning Farm Operations:  
How Do They Stack-up when it comes to Farm Finances?**

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# New and Beginning Farm Operations: How Do They Stack-up when it comes to Farm Finances?

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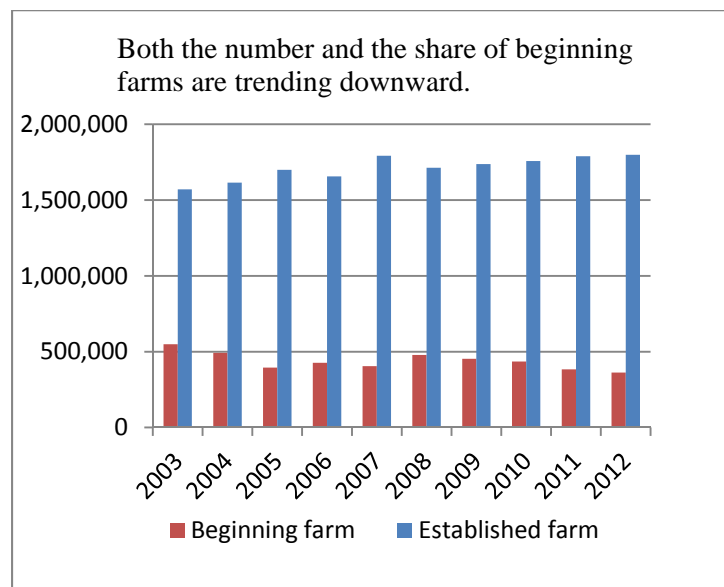
## Introduction

Over the past decade the percentage of new farmers in U.S. agriculture has continued to decline. Farmers over age 55 control more than half of the Nation's farmland, while the number of farmers replacing them has fallen. Beginning farmers face many challenges when they choose to enter farming. Most significant is high land prices and equipment costs which can serve as a barrier to entry and a challenge for long term business success.

USDA currently defines a beginning farm as one operated by a farmer who has operated a farm for less than 10 years (although specific program provisions may apply a different definition). From 2003-2012 about 20 percent of farms, annually, were in this category. In this study we include all operators who qualify as new and beginning farmers, according to the USDA definition. Note that new operators operating jointly with established farmers are not counted as beginning farm operators.

This poster compares the financial performance of new and beginning farm operations with established farm operations, based on their income statement and balance sheets, presenting comparative financial ratios such as liquidity, solvency, profitability, as well as loan source, and debt-repayment capacity information.

Figure 1. Number of new and beginning versus established farm operations (2003-2012)



Source: USDA, National Agricultural Statistics Service and Economic Research Service, Agricultural Resource Management Survey, 2003-2012.

The total number of farms has been relatively stable over the past ten years however there has been a trend toward fewer new and beginning farm operators. Farmers participating as an operator less than 10 years have declined about 10 percent based on ARMS data (Figure 1). However the trend indicates that

some increases have occurred in the established farm category over the same time period. It would seem very likely that the beginning farmers naturally transitioned from beginning status to established status and were not replaced by new beginning farm operators. Further research into entries and exits from farming over this period would be necessary to determine if this condition is accurate.

**Data**

Our analysis is conducted on a farm-level basis, using a large national farm-level sample comprised of farms of different economic sizes and in different regions of the United States. Data for this analysis are taken from the USDA - Agricultural Resource Management Survey (ARMS). The ARMS is conducted annually by the Economic Research Service and the National Agricultural Statistics Service. The survey collects measures of the financial condition (farm income, expenses, assets, and debts) and operating characteristics of farm businesses, the cost of producing agricultural commodities, and the well-being of farm operator households.

The target population of the survey is operators associated with farm businesses representing agricultural production in the 48 contiguous states. A farm is defined as an establishment that sold, or normally would have sold, at least \$1,000 of agricultural products during the year. Farms can be organized as proprietorships, partnerships, family corporations, non-family corporations, or cooperatives. Data are collected from one operator per farm—the senior farm operator. A senior farm operator is the operator who makes most of the day-to-day management decisions. Farm typology classifications are used in the analysis and labeled as: rural residence; intermediate; and commercial. Typology definitions are listed in the following table.

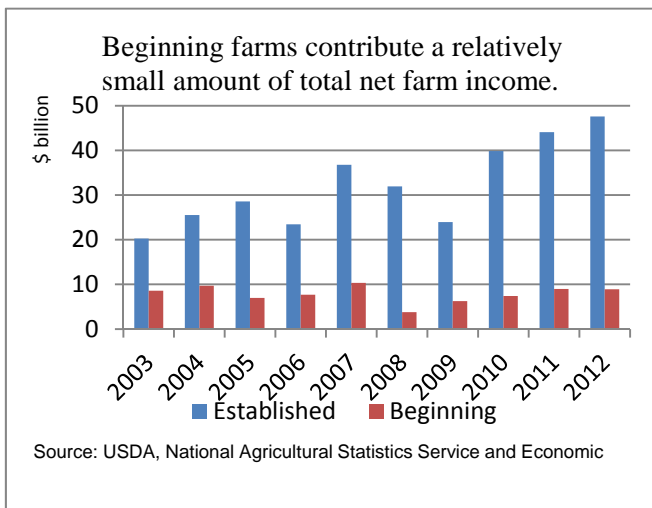
Table 1. Farm typology classification of ARMS survey data 2003 -2012.

Typology Class	Is the Farm Operator Retired?	Value of Gross Farm Sales
Rural Residence	Yes	Less than \$100,000
Intermediate	No	\$100,000 - \$249,999
Commercial	No	More than \$250,000

**The Current Status of Beginning Farms**

In particular, we will present comparisons of characteristics from the income statement and balance sheet. The information will be presented with appropriate test results and comparative financial ratios such as liquidity, solvency, profitability, as well as loan source, and debt-repayment capacity information.

Figure2. Net farm income of new and beginning compared to established farms 2003-2012.



The net farm income of beginning farms trends downward as a percent of total net farm income between 2003 and 2012 (figure 2). Net income of beginning farms represents less than 4 percent of the total net farm income for 2012 down from over 12 percent in 2003.

Over the last decade, the total amount of farming assets, liabilities have remained fairly steady for new and beginning farming operations compared to

established farming operations, figure 3. Established farming operations have seen a rise in both the value of assets and liabilities since 2007. Commercial farms with established operators have increased the share they hold of total farm debt from 2003-2014.

Figure 3. Assets, liabilities and equity of beginning versus established farm operations (2003-2012)

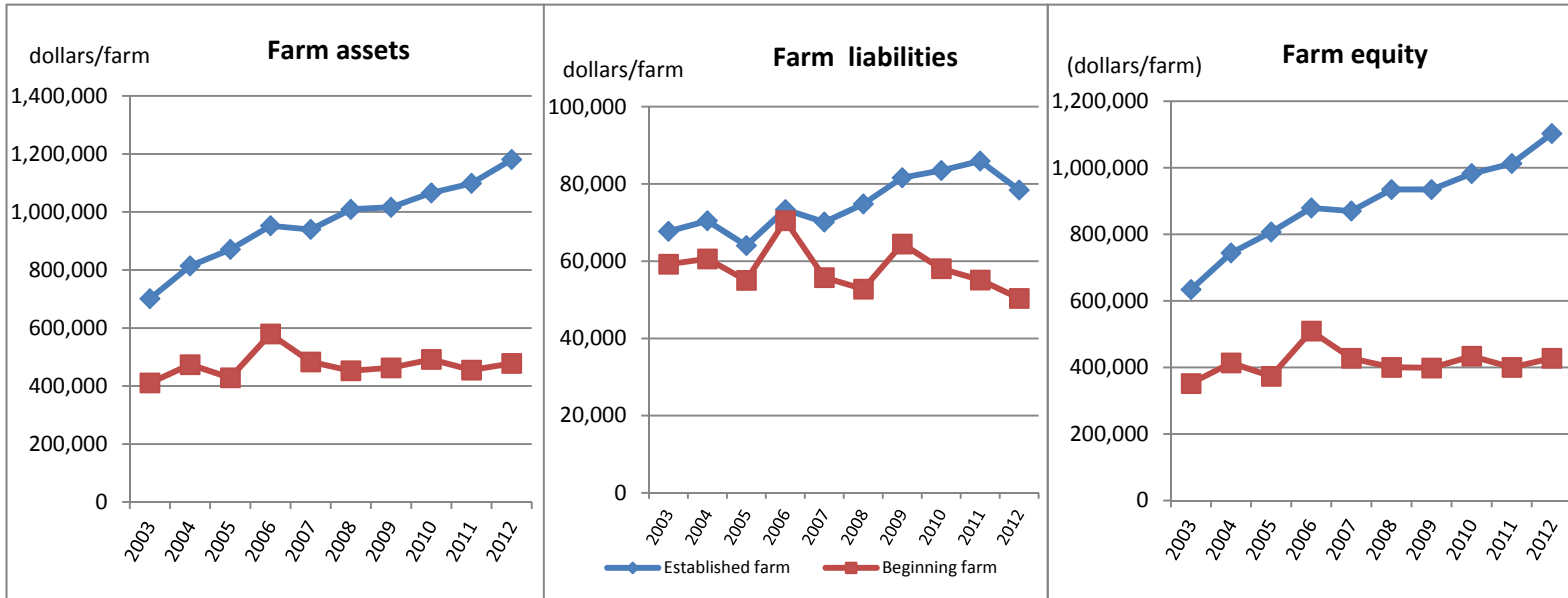
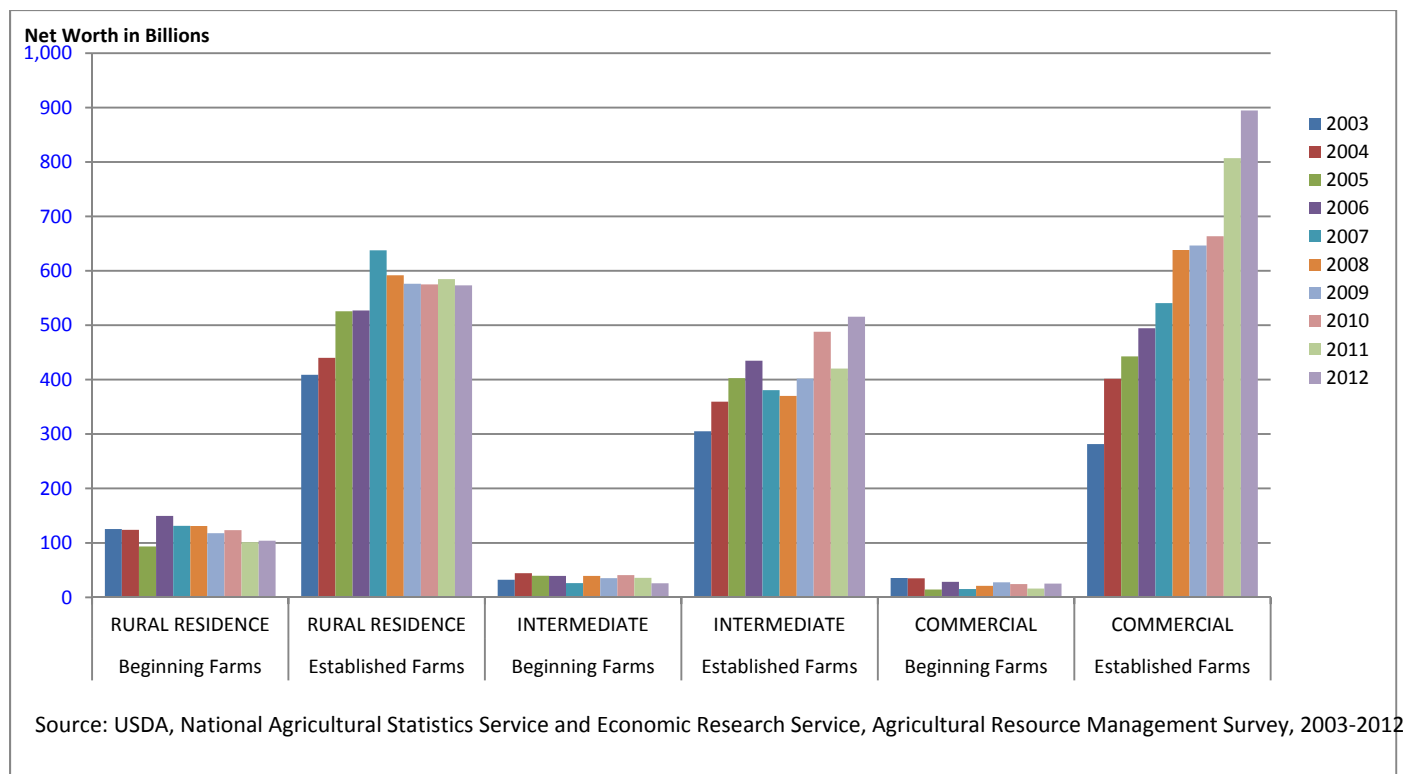


Figure 4. Net Worth of New & Beginning vs Established Farms by Farm Typology (2003-2012)



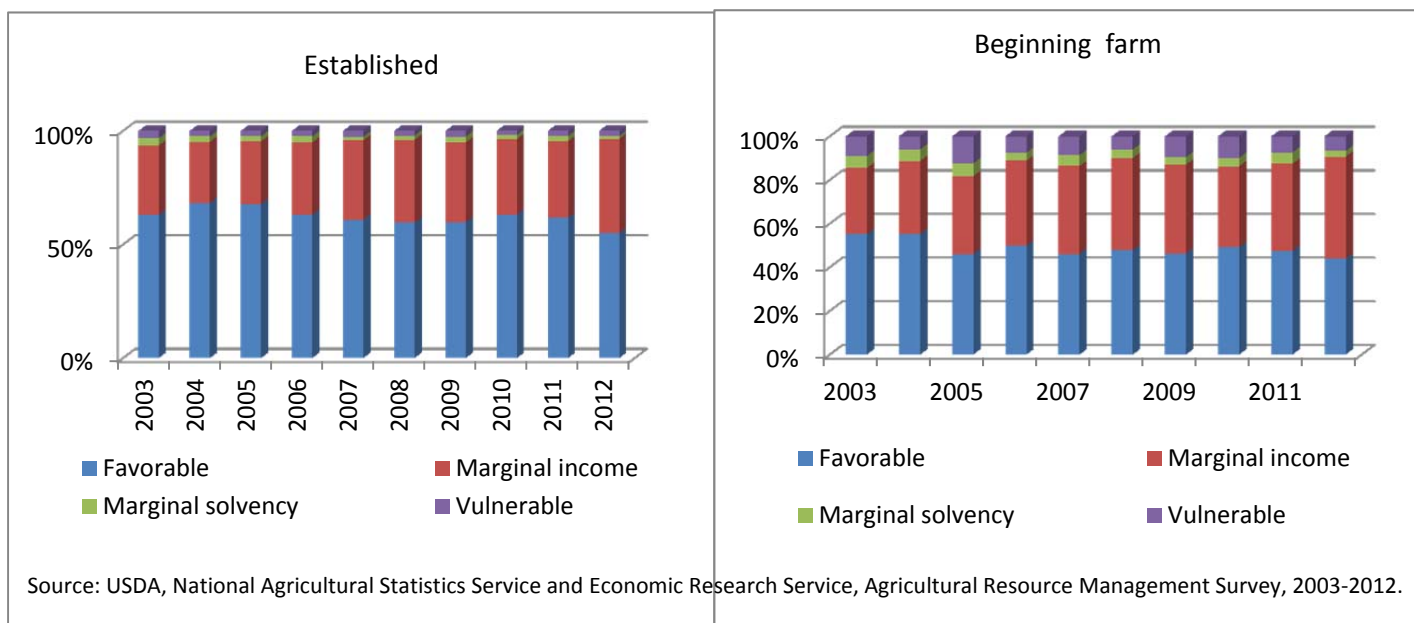
Source: USDA, National Agricultural Statistics Service and Economic Research Service, Agricultural Resource Management Survey, 2003-2012.

Table 2. Solvency classes for New & Beginning vs Established Farm Operations, ARMS survey data, 2003-2012

Net Farm Income of Farm Operation	Farms Debt/Asset Ratio	Solvency class
Greater or equal than 0	LE .40	1 = Favorable
Greater or equal than 0	GT .40	2= Marginal Income
Less than 0	LE .40	3= Marginal Solvency
Less than 0	GT .40	4 = Vulnerable

A higher proportion of new and beginning farms are classified as vulnerable compared to established farms based on solvency class, figure 4. However, both of the rates remain low. During 2003-2012 about 2.3 percent of established farms were classified as vulnerable, whereas about four times that amount (8.3 percent), of new and beginning farms were vulnerable, having both relatively high debt/asset ratios and low income. On the other hand, 62 percent of established farms and 49 percent of new and beginning farms were classified favorable.

Figure 5. Percent of farms by solvency classes for New & Beginning vs Established Farm Operations (2003-2012)



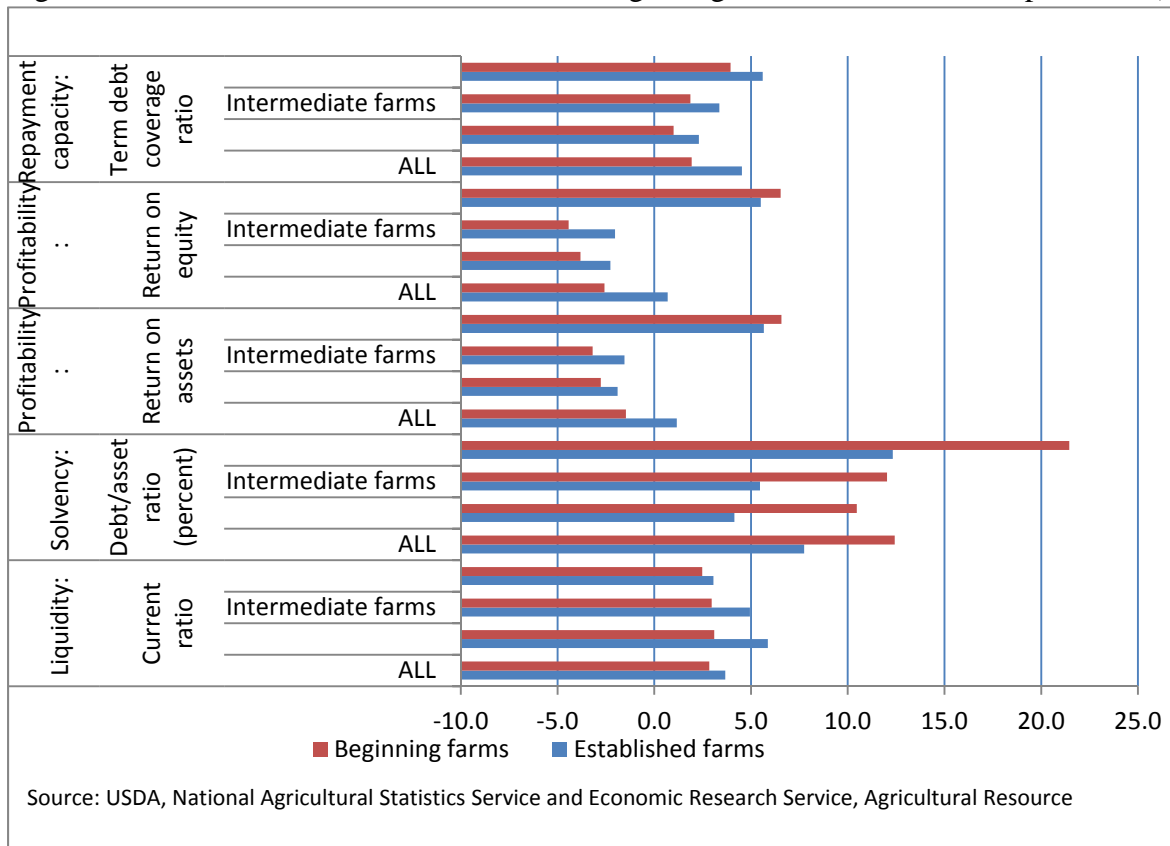
For farm operations, the higher the debt-to-asset ratio the greater the degree of financial leverage figure 5. Consistent with expectations, new and beginning farming operations have slightly higher debt-to-asset ratios compared to established farms. Over the last decade the average debt-to-asset ratio for new and beginning farms averaged around 12% compared to 8% for established farms. However, both rates are relatively low considering the capital intensive nature of farming.

The current ratio measures the extent to which current assets, if liquidated, would be sufficient to pay off all current liabilities—the higher the ratio, the greater the liquidity. The current ratio tends to be lower for new and beginning farms, than for established farms. For the 2003-2012 decade the current ratio of new and beginning farms averaged about 3 while the ratio for established farms averaged about 4. Since the current ratio tends to increase with age of the operator, it tends to favor established operators, as a group.

Return on asset (ROA) is a measure of profitability and is most meaningful in year-to-year comparisons if assets are valued using their cost basis. The ROA for new and beginning farms is negative and much lower than levels obtained by established farms. For example, during 2003-2012 the average ROA for new and beginning farms was about -1.5 percent compared to 1.0 percent for established farms. ROA for agricultural assets is typically low compared to nonfarm investments. Figure 5 shows notable differences in the return on asset value for the farm typology classes. Particularly for the rural residences category, the return portion of the ROA calculation (net cash income) is often not a highly valued farming goal. Commercial farms have more investment at risk and therefore take measures to insure that returns cover costs and yield positive returns.

The debt coverage ratio indicates whether or not an operation is generating enough income to pay its principal and interest obligations. The measure is calculated as net income divided by total debt service and the ratio should typically be over 1. Term debt coverage is an obligation that grows with experience and the ratio tends to increase as the experience and net worth of the operator increases.

Figure 6. Selected financial ratios for New & Beginning vs Established Farm Operations (2003-2012)



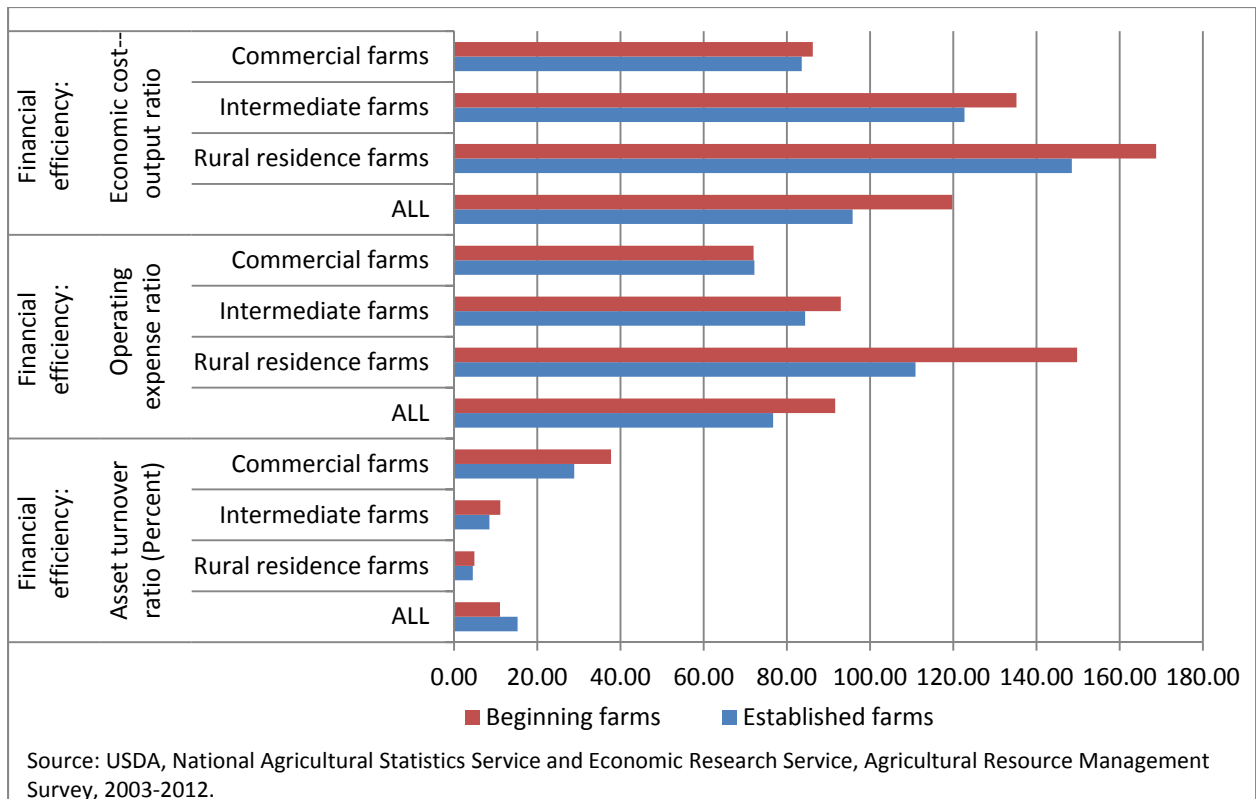
Financial efficiency of farms can be measured by the asset turnover ratio and the operating expense ratio, figure 7. The asset turnover ratio measures how efficiently farm assets are being used to generate revenue. The higher the ratio, the more efficiently assets are being used to generate revenue. Over the 2003-2012 period the asset turnover ratio for new and beginning farms averaged around 11%, whereas established farms averaged around 15 percent. Age and farming experience play an important role in finding other uses of farm assets.

The operating expense ratio (OER) for new and beginning farms is higher averaging 92 percent between 2003 and 2012, than that of established farms. OER measures the portion of total income used to pay expenses and that the higher the ratio, the greater the financial risk in periods of low market prices.

Finally, economic costs-to-output ratio, measures the marginal cost of the next unit of output and is much higher for new and beginning farms (about 120 during 2003-2012 period) compared to established farms (about 97). New and beginning farms need to find ways to decrease costs in order to become financially efficient. Considering that the condensed typologies are a reflection of relative size of the business, it should be noted that increases in size lead to smaller ratios, reflecting more economically efficient farm operation.

Figure 7. Financial efficiency ratios for New & Beginning vs Established Farm Operations (2003-2012)





### Summary

- Beginning farms have smaller liabilities than established farms, but also lower farm assets and equity
- Beginning farms have only slightly higher financial vulnerability rates than established farms
- Debt-to-asset ratios for beginning farms, while slightly higher than established farms, remain low
- Positive returns on assets and equity are higher for established farms, but vary by typology. Commercial beginning farms also have positive returns on assets and equity.