IDENTIFYING FARM ECONOMIC CONDITIONS: DOES OUR INFORMATION SYSTEM MEASURE UP?

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The USDA farm economic information system is the most comprehensive, conceptually accurate and technically sophisticated, farm information system in existence at this time. The foremost measures of its contribution to agriculture are the thousands of media articles that are written and disseminated each year, based solely on the USDA statistics and their interpretation, and the paucity of dissent with the USDA "numbers." The agencies primarily involved with its development and maintenance, the Economic Research Service and the National Agricultural Statistics Service, can be justifiably proud of its emminent and continuing success. These agencies can be justifiably proud of the progress made, in terms of the clarity, breadth, and effectiveness of how the statistics are presented, with publications that disseminate farm economic information to the public. The dedication of the public servants that have undertaken to provide the U.S. farm sector with the finest set of economic indicators ever made available to agriculturalists, can be heartily commended.

Having recognized the above contributions, I will also briefly highlight a perspective on progress that remains to be made. In so doing, I remind the audience that an academic vice is to seldom be satisfied with the notable accomplishments of colleagues. Given the setting and time constraints, my focus will be on USDA economic information.

The Keystone: The Economic Indicators of the Farm Sector.
The Economic Indicators is the corner stone of USDA farm economic information. The indicators series, published at both the state and national level, is the most widely used and authoritative economic reference in agriculture. Its importance can be glimpsed by simply trying to imagine agriculture without the indicators series. We would not have any idea of the size or health of farm income, whether it is up or down, whether interest expense is still declining or has in fact turned up once more (which it has). Let me list several key categories of information in the National Financial Summary of the Economic Indicators: net farm income, net cash income, livestock cash receipts, crop cash receipts, government payments, capital expenditures, real estate debt, non real estate debt, net worth and capital gains in agriculture.

The National Financial Summary also provides in-depth analysis of economic conditions by sales class and region. Farm and household income is broken out by size of farm sales and region. Gross income and the balance sheet are listed by 7 sales categories of farms, from less than $20,000 to $1,000,000 or more annual sales. Net value-added statistics were recently added to the

Indicators publication. Many of the statistical series go back 3 to more than 40 years, to provide historical context. For example, financial ratios are provided for the period 1950 to date. I can also compare receipts, expenses and income by type of farm, whether dairy or cash grains. Finally, recent issues have included a concise narrative summary of definitions and concepts relating to the accounts, and issues that have been raised by, e.g., the General Accounting Office (GAO). The 230 pages in the State Financial Summary of the Economic Indicators of the Farm Sector allow us to compare the receipts, expenses, debt and assets from state to state, in an altogether clear and efficient style of presentation.

The one disappointment that I and many others share regarding the Economic Indicators series is that agriculturalists seldom invest adequate time to "tell a story" with the numbers. The Indicators series is an unparalleled resource that assuredly merits more a more prominent feature in extension and research oriented articles and publications.

The Farm Costs and Returns Survey (FCRS) constitutes a second major resource that is both a separate entity, and is a vital input into the Economic Indicator series. USDA has expended millions of dollars since about 1984 in the development and conduct of the FCRS. Including the overhead cost of staff time involved, in all capacities, the cost has likely averaged from $2 to $4 million annually. The results are a statistical treasure that now provides farm financial information by commodity, size of farm, state and/or region.

Without the FCRS input, the quality of the Economic Indicator series would not be satisfactory or acceptable from a statistical perspective. It is imperative that the FCRS continue to be maintained as the pre-eminent annual farm level economic data source in USDA. The cooperation between the National Agricultural Statistics Service (NASS) and ERS in the development of the FCRS can serve as a model for all USDA agencies. This singular cooperation has resulted in the FCRS evolving into an integrated, representive survey with samples of farmers that are consistently drawn with, e.g., NASS's hall mark June Enumerative Survey. NASS also collects monthly receipts by commodity data from its state and/or regional offices which are the principal input into the revenue side of the Economic Indicator series.

A last major feature of the USDA's farm economic conditions statistical framework that merits citation is the bench marking of the ERS statistical accounts with the quinquinnial Census of Agriculture. USDA numbers and accounts are adjusted to the Census once every five years. This process is cumbersome, causing readjustments of previously published USDA economic statistics as well as changing the bench marks that are used as "movers" to adjust between USDA partial survey coverage and the global coverage of the Census, until the next Census is published. But, the Census is the Holy Grail. Thus, the USDA bench mark and mover process is a near religious necessity.

What emerges from Census bench marks and movers, the FCRS, and NASS's other statistical accounts, primarily of state receipts by commodity, is a comprehensive set of USDA statistics that can be called "The Majors." I have outlined four independent components that can be referred to as the legs of the economic statistics chair that supports the weight of so many observers of agricultural business during the course of the year. No independent surveys

provide statistically representative coverage that is in the same ball park, or setting room, with the USDA farm economic information.

Measurement and Interpretation Issues.
The remainder of these remarks address two issues, measurement and interpretation, that in my mind can be more fruitfully accomplished by USDA staff with some shifting of resources to statistical work. Bear in mind that the background context explicitly recognizes the impact of both declining budgets and increasing costs of staff benefits, cost of living adjustments that are the bete noire of government administrators at this time.

USDA budgets have never adequately funded the FCRS so that it provides reliable and representative state-level data. Budgets are likely to continue to tighten, and this may mean that the FCRS foot of the economic statistics chair is cracking. The other three legs of the chair are no doubt being stressed by budgetary factors as well.

Given the fact that the theory and practice of organizing and compiling the Economic Indicator accounts is logical and solid, the question that comes to mind is how can the integrity of the accounts be protected and the reliability of the information be, if anything, enhanced. My one suggestion is that ERS and NASS attempt to provide validation data for the expenditure side of the farm income equation, the expenses farmers incur for purchases of manufactured inputs such as chemicals and fertilizer, as well as expenditures for fuel, seed and other accounts that are both large in size and tractable in terms of ancillary data collection. For example, a survey of the receipts received by Pioneer Hybrids and three or four other seed companies could provide valuable information to ensure that the expansion factors used by NASS to make one observation represent, e.g., 100 farmers of like size in the same area, are as precise as possible.

The same type of validation information could be obtained from a handful of fertilizer manufacturers, machinery manufacturers, and suppliers of fuel to farmers. The collection of data from major input suppliers and its use in a judicious manner would greatly enhance my comfort factor with the economic information provided by USDA. The inclusion of more independent data would not supplant the signal efforts of government economists and statisticians, but would introduce the qualities that we attempt so dearly to instill in graduate course work, the qualities of art, creativity and judgment.

Interpretation of the Economic Information.
The second major issue has to do with how effectively the economic based data are interpreted for the public. My experience as an economist suggests that the public is interested a little in methods, and interested a lot in expertise. As a rule the decision-makers in business and government want to be told facts, and to worry as little as possible whether the facts are truly factual or alternatively, fictional. They pay us for facts so they should not have to worry about how we came upon the numbers and ratios that inspire us.

My view is that USDA at times devotes too much energy and bureaucratic propulsion to an elementary recitation of numbers presented for too many sub-categories of regions, types of farms, sales class and categories of income, finance, etc. I recognize that progress has been made in recent years with the publication of short information fact sheets and bulletins, particularly

by ERS. However, more creative efforts can produce even greater dividends than are being reaped today.

Let me provide one example. During the Farm Financial Crisis of the 1980's, the ERS staff analyzing income decided to develop a simple spread-sheet model to determine if land values, which had rapidly spiralled toward the basement, had become affordable from a cash flow standpoint. The exercise involved projecting forward the USDA price and quantity forecasts for corn, wheat and soybeans. It was shown that land had become substantially over-priced during the early 1980's, but that by 1986 land had once again become affordable given the planning prices used by farmers. The publication of this information was received like a birthday present by the financially stressed farmers and lenders in the Midwest and Plains states. This information also provided the metal of conviction that led ERS forecasters to be ahead of the curve in 1987 in forecasting a stabilization of land prices and for a turn-around in the farm economy.

Creative analysis and presentation of the economic information received by USDA can be accomplished more easily and quickly in 1995 because of the several magnitude increases in micro-computer capacity and speed. The challenge for USDA is to bring more analysis of information to the fore through development of human capital within the civil service.

Another avenue for increasing productivity of the economic statistics would be for Land Grant universities and USDA to develop a cost-sharing agreement that would provide ready access to USDA data for more researchers around the country. I recognize the sensitivity of USDA concerning the potential that an observation could be identified, which would seriously damage the credibility of NASS to conduct surveys of farmers. However, the risk that confidentiality would be breached must be weighed against the risk that innovative and costly data collection efforts such as encompassed by the FCRS, may be mortally damaged by future budget constraints at USDA. The essential ingredient is a spirit of cooperation among agricultural observers that all have the same goal of providing quality information to the participants in the farm sector.

Such cooperative efforts provide the best option for resolving the impasses that occasionally develop regarding farm income estimates. The huge discrepancy between Internal Revenue Service (IRS) and USDA estimates of farm income continues to inspire debate in magazines such as Choices. ERS economists have analyzed the IRS accounts and are able to explain much of the discrepancy. However, involvement of the nay-sayers in the analysis of taxable income versus farm income would provide an arms-length resolution to the quagmire of this un-ending debate. Another example is the relative importance of non-farm verus farm income among farm families. The reported proportion of farm income is so small that it has led to a questioning of the USDA income statistics methodologies.

In summary my conclusion are several regarding the ability of the USDA system to measure up to the demands placed upon it. First and foremost, the conceptual and data collection/statistical methodologies are simply world-class. ERS and NASS economists are to be commended for the advances made in the last 10 years, and in the last 2-3 years as well. What we know about the economic efficiency of the U.S. farm sector is anchored in the Economic

Indicator Series and its FCRS and NASS data sources. Second, industry sources of information would provide a useful validation for the economic accounts that would enhance the reliability of the USDA statistical series. Thirdly, there are still gains to be made in the effective interpretation of the economic information that USDA publishes in several formats. Creativity and judgment are needed to give the public more useful information, more meat to go with the potatoes of the raw statistical series. The development of the expertise of the USDA staff is paramount for the generation of new ways to view the data so that the issues can be cristalized. Finally, the sharing of data series with bona fide researchers outside the USDA gates, along with cost-sharing as well, would provide a more efficient way to reap benefits from the millions of dollars invested in the collection of economic information from agriculture.

There are no alternatives to USDA leadership and resources in the quest to improve the economic information that defines the agriculture of America. Billions of dollars of farm program payments and rural initiatives can flow more efficiently the more reliable and accurate information is published describing the competitive conditions of agriculture. I commend the dedicated ERS and NASS civil servants in the impressive gains made since the early 1980's, and my conviction is that even more advances in the telling of the story of agriculture, will be made in the near future.