Input Data Sourcing and Data Dissemination for Net Farm Income Forecasts

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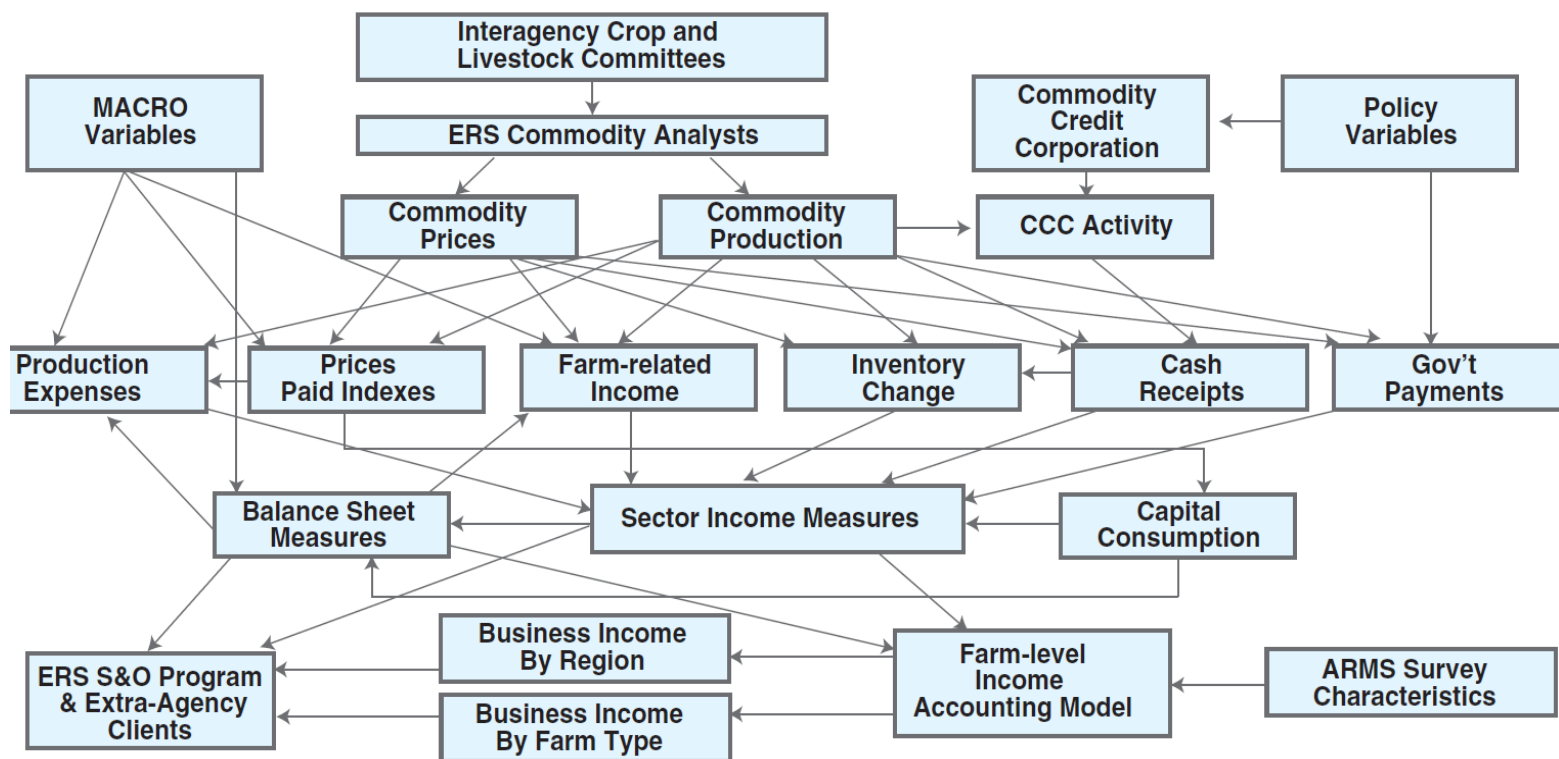United States Department of Agriculture

Features of ERS' Farm Income Forecast Model

- The U.S. farm income forecast model is developed to reflect Farm Income estimation concepts. Forecast equations use secondary data from a variety of official USDA sources.

- The economic framework of the model is designed to be consistent with the Aggregate Farm Income Accounts and the U.S. National Income and Product Accounts.

- Forecasts have traditionally been revised 3 times during the year and published on ERS' internet website.

- Farm income measures are used to forecast components of the farm sector balance sheet and vice versa.

- National farm income measures provide the foundation for forecasts of farm business income by region and by farm typology

- Forecasts are used by a variety of clients as a measure of the economic well-being of the U.S. agricultural sector.

For more information on NIPA see http://www.bea.gov/national/pdf/nipaguid.pdf

Information Flows Used to Develop a Forecast of Value-added and Net Farm Income

The Catalysts

"…making open and machine readable the new default format for government information."

-Barack Obama, May 09,2013

"We agree to follow a set of principles…for access to, and the release and re-use of, data made available by G8 governments

- *Open data by default*
- *Quality and quantity,*
- *Usable by all…"*

-G8 leaders, June 18, 2013

Implications of the Open Data Policy

The USDA must adhere to open data policies
>> More data

>> Easier access to that data

>> Using improved technology

Opportunity to take advantage of newly available data
>> Application Programming Interfaces or API's

>> Bulk transfer of data

Data Dissemination: Old Method

Created over 100 Microsoft Excel tables by hand
        Income statement by state and United States
        Balance sheet statements, United States
        Component tables

Very time intensive
        team of eight analysts and months of work

Routinely find errors

Difficult to keep consistent with source data

Data Dissemination: New Method

Benefits to the User

Customizable data

Time period

Inflation

Geography

Benefits to the User

Better download formats

Behind the Scenes

Web reports link directly to SQL server database

Displayed data is always consistent with source data

No hand-made tables

Everything from footnotes to variable names controlled programmatically

Errors can be fixed and implemented immediately

User metrics

What are the most downloaded tables?

Info on broad user groups

How much time did they spend looking at the table?

Sourcing Input Data

Support at all levels to accomplish this goal

Wealth of knowledge easily available
    Web based learning
        Code Academy

        StackExchange

        SAS e-learning classes

    Federal Training
        AgLearn (USDA training tool)

Web use of Application Programming Interface (API) for Data Acquisition

Query a data product and retrieve a useable dataset

Examples used in forecast model

        U.S. Federal Reserve economic data API
- over 236,000 time series data products
- Consumer Price Index
- Interest rates

        U.S. Energy Information Administration
- Electricity prices

Bulk Data Transfer

Communication with different agencies within USDA

Daily transfer of relational database which contains
      commodity prices, quantities, and marketing patterns
      Prices paid and prices received indexes

Query the data in a programmatic way instead of downloading data.

Macro and Commodity Variable Forecasts

Collaborated with different groups elsewhere in the USDA

Commodity Analysts input forecast recommendations
> Quantity and price forecasts for 18 major crops and livestock

Automatically converted to a format that can be used in the forecast model

Agricultural Resource Management Survey

Sponsored jointly by ERS and the National Agricultural Statistics Service

ARMS is the only national survey that provides observations of:
(1) field-level farm practices
(2) the economics of the farm businesses operating the field
   (or dairy herd, greenhouse, nursery, poultry house, etc.)
(3) the characteristics of farm operators and their households
   (age, education, occupation, farm and off-farm work, types of employment, family living expenses, etc.)
all collected in a representative sample.

ARMS is a flexible data collection tool with several phases, versions, and uses including:
- Gather information about the relationships among agricultural production, resources, and the environment
- Determine the costs to produce various crop and livestock commodities, and the relative importance of various production expense items
- Determine farmers'/ranchers' net farm income and provide data on the financial situation of farm/ranch businesses, including debt levels
- Determine farm/ranch operators' and their households' characteristics and financial situations including information on management strategies and off-farm income

http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/documentation.aspx

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Questions?

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