Droughts and the Aggregate Economic Profitability Indicators for the US Farm Sector

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Abstract

USDA Economic Research Service (ERS) releases estimates of farm sector income, informing the public on the financial performance of the U.S. agriculture sector. This paper uses the ERS estimates for 1968–2019 state-level annual farm sector net income to explore the effect of droughts on the U.S. agricultural sector, and to evaluate the distribution of the drought impacts among the U.S. regions. We also examine the extent that the Government safety net, including direct Government payments and Federal Crop Insurance Indemnity payments, compensate for the impacts of the drought on farm sector profitability. Panel-data fixed effect regression models are estimated, with the drought indicators constructed from the county crop damage days reported in the Spatial Hazard Events and Losses Database for the United States (SHELDUS^{TM}). We show that market net farm income (NFI) is negatively correlated with the drought indicator. Our preliminary results also suggest that a significant share of damages to sector performance are offset by Federal Crop Insurance Indemnity payments. Finally, our results show that the drought's impacts and the effects of the Government safety net may be distributed differently among the regions.

Key words: U.S. agricultural sector, calendar-year state-level net farm income, drought days, panel data regression analysis, Government payments, federal insurance indemnities.