Hazell has produced a rather complete paper on a topic not previously discussed in this research project. Specifically, Hazell raises issues regarding 1) the incidence of increasing aggregate variability, 2) the effects of this increasing variability, 3) policy directed toward reducing the variability and 4) the effectiveness of these policies. Hazell also overlays this with an interesting institutional perspective regarding the developing world.

As a commenter it is difficult to find much to criticize in Hazell’s paper rather I choose to offer some additional considerations and then turn to the implications of Hazell’s message for the future conduct of this project.

Additional Considerations

Regarding variability, Hazell discusses evidence of increasing price and yield variability in turn citing reasons why this might be happening. Several diverse comments and/or additions are:

1) While price and yield variability may well be increasing one should also document what is happening to income variability. Hazell mentions the negative correlation between aggregate price and yield. Since income is their multiple of these, this would imply a more stable aggregate income level. Furthermore, the multi product nature of most farms means income depends upon multi crop yields, prices and costs. Certainly, extensions of the work Hazell reports measuring aggregate variability and correlations among crops would be useful. Hazell apparently has done some multicrop work although it is not reported here but rather must appear somewhere in his references.

2) I would add modern day information systems to the reasons for increased price variability and in particular increased price correlation. It appears that computers and telecommunications have tied commodity markets much more tightly together over time. For example, electronic trading makes the Chicago Board of Trade a global, not a national, Futures market.

3) Several years ago, Pope proved that significant risk variables could arise in econometric models because of the dispersion of price expectations. Antle also shows another reason for confusing a risk response with profit maximization. Perhaps one should examine whether Scandizzo, Hazell and Anderson’s statistical results on risky response/price expectations consider such bias.

4) The evidence for increased U.S. production variability relied on SRS state average yields. The relationship of such numbers to farm level variability can be questioned. Statistical theory implies that state means exhibit less variability than the population of farm results. Analysis of such data might provide a different picture but this data is either not available or difficult to assemble. Perhaps some trial efforts should be amassed to examine the adequacy of these data for

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measuring variability.

5) Regarding the U.S. increasing variability and related increasing production correlation issues, it appears to me that in the U.S. regional specialization response to government program pricing and improved information dissemination are additional reasons.

Turning to the effects of increasing variability I have only two comments to make. First, I am struck by how much Hazell's "world" comments apply to the current U.S. situation. Almost all of the farm, lender, resource and market characteristics apply. Thus, Hazell's concerns regarding increasing variability are relevant to those with a U.S. orientation. Second, I think that market effects should be examined at more length. Production of less than optimal quantities of the more risky products implies more than optimal quantities of the less risky products. This may also have aggregate effects. For example, Wear and McCcal show conditions where less production of a risky crop increases risk.

Implications for Future Project Activities

Hazell's paper is potentially important in that it identifies new directions for research within this group and challenges us to study variability trends. Fundamentally, I think his paper raises research questions on:

1) What is happening to risk over time? Should we develop time series level information on price, yield, and cost risk examining the simple variability as well as inter correlation. Further, if there is increasing variability and correlation over time can we identify reasons and policy implications?

2) Should we inventory (as in Knutson, et. al.) and possibly appraise risk management policy options? Hazell alleges that policies like some of those now used are ineffective and expensive. Are these policies ineffective and costly here? Are there better policies?

3) Can we continue to deal mainly with farm level domestic U.S. production under risk without looking at U.S. aggregate effects, trends and policies? Can we look at U.S. only without considering the rest of the world? If U.S. farmers are acting in accordance with "good" risk management practices, but developing country farmers are not, should we turn attention toward these other farming systems?

4) How should we react to Hazell's result that the "best" price for farmers react is one adjusted to reflect covariance between price and yield? Should we deliver information to farmers on this?

I believe these are some of the more important questions Hazell's paper raises and hope that in design as well as execution of future risk research that we have activities designed to address some of these questions.
REFERENCES


Wear, L. and B.A. McCarl, "The Aggregate Consequences of an Increase in Risk Aversion", Draft Manuscript, Oregon Agricultural Experiment Station and Texas A&M University Agricultural Experiment Station, 1987.