Testimony
Presented to
U.S. House of Representative Subcommittee on General Farm Commodities and Risk Management
By
Gary Schnitkey
University of Illinois
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Chairman Conaway, Ranking Member Boswell, and members of the Subcommittee on General Farm Commodity's and Risk Management, thank you for this opportunity to address you as deliberations continue on the commodity and crop insurance titles of the 2012 Farm Bill. I am a professor in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. My work focuses on risk and management issues related to farms. Much of this work has dealt with evaluating crop insurance and farm policy alternatives. I hold a research, extension, and teaching position, working extensively with farmers and farm groups.

Thus far, deliberations on the 2012 Farm Bill have taken a risk management focus. Related to that focus, I have six points which I wish to make. These points suggest that commodity programs focusing on revenue can complement widely used crop insurance programs.

Prices have increased for many crops since 2006: Between 1975 through 2006, corn prices average $2.35 per bushel (see Table 1). Since 2006, corn prices have average $4.64 per bushel, 1.97 times the price average from 1975 through 2006. Since 2006, soybean prices have been 1.77 times higher than from 1975 through 2006, wheat 1.89 times higher, cotton 1.22 times higher, and rice 1.83 times higher. Of the program crops shown in Table 1, peanuts are the only crop that did not have a price increase.

Table 1. National Crop Year Prices by Period.

		Period		2007-11 Divided by
	Unit	1975-2006	2007 - 2011P	1975 - 06
Corn	Bushel	2.35	4.64	1.97
Soybeans	Bushel	5.97	10.53	1.77
Wheat	Bushel	3.29	6.23	1.89
Cotton	pound	0.58	0.71	1.22
Rice	cwt.	7.74	14.18	1.83
Peanuts	lbs.	0.25	0.23	0.92

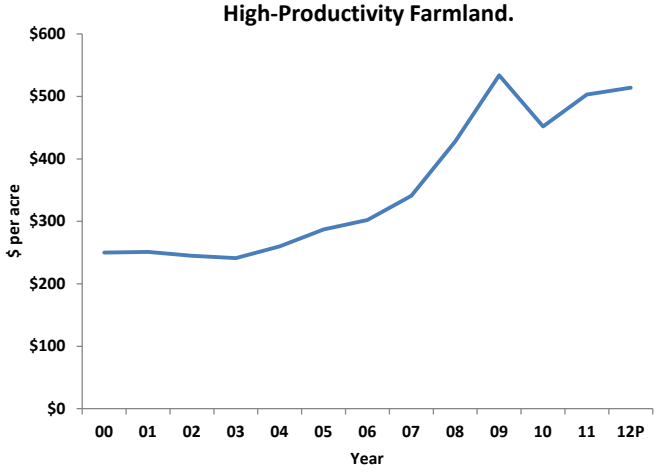
Source: National Agricultural Statistical Service.

Many agricultural economists believe that new long-run price averages have been reached since 2006. For example, Irwin and Good suggest that corn prices will average approximately $4.60 until some structural change occurs in the agricultural sector (see *Marketing in a New Era,* a March 29, 2011 entry on farmdocDaily http://www.farmdocdaily.illinois.edu/2011/03/a_new_era_in_crop_prices.html). Of course, there will be periods in which prices are $4.60, as has occurred in the last two years. There will also be periods in which prices average below $4.60. These low price periods could be extend and result in financial stress.

Higher commodity prices impact policy for three reasons. First, target prices and loan rates contained in the 2008 Farm Bill are relatively low compared to current prices for a number of commodities including corn, soybeans, and wheat. Hence, the traditional counter-cyclical and marketing loan programs provide little risk protection for these commodities. Second, determining appropriate target prices and loan rates in a volatile price environment is difficult. While many believe prices have reached new levels for some crops, there is no guarantee that those long-run price levels will not change again, leading to the need to again change target prices and loan rates. Third, the higher long-run averages for commodity prices do not mean an end to the boom to bust nature of agriculture. In the early to middle 1970s, commodity prices reached higher levels, leading to strong financial performance for many farms during the middle to late 1970s. This was followed by the 1980s, a period in which many farms faced financial stress. Similar events could happen again because production costs have risen, leading to my second point.

Production costs have risen. Production costs on crop farms have increased. This is illustrated in Figure 1, which shows per acre non-land costs to grow corn and soybeans on central Illinois farms with high-productivity farmland. This data comes from farms enrolled in Illinois Farm Business Farm Management (FBFM), a farm record-keeping and financial service offered to Illinois farmers. These costs are illustrative of overall cost trends faced in U.S. crop production.

Figure 1. Non-land Costs for Corn, Central Illinois High-Productivity Farmland.

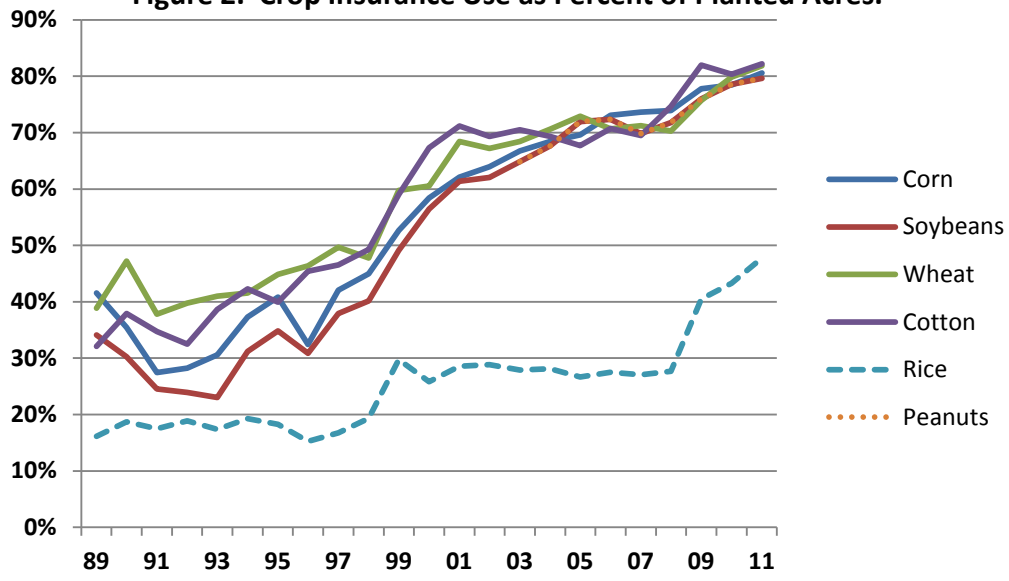


Source: Illinois Farm Business Farm Management

For corn on these central Illinois farms, non-land costs have increased from an average of $262 per acre from 2000 through 2005 to projected levels of over $500 per acre in 2011 and 2012. These costs do not include land costs. An average cash rent for land of this productivity is about $300 per acre in 2012, with many cash rents being significantly higher than $300 per acre. Adding non-land costs of $500 per acre and land costs of $300 per acre gives total costs of $800 per acre. Given an expected yield of 195 bushels per acre, the breakeven corn price is $4.10 per bushel. These higher break-even prices illustrate that financial stress will occur at prices that are much higher post 2006. Prices below $4.00 without high yields to offset those lower prices would result in low and negative incomes on Illinois farms. The high levels of costs also illustrate the risks that exist. Low prices and yields can quickly lead to very large losses on farms.

Crop insurance has become a prime crop insurance program. Crop insurance use has increased over as illustrated in Figure 1. This figure shows acres insured using buy-up policies divided by acres planted as reported by the National Agricultural Statistical Services (NASS). As can be seen, insurance use has increased over time. In 2011, percent of acres insured using buy-up coverage were 81% for corn, 80% for soybeans, 82% for wheat, 82% for cotton, 80% for peanuts, and 48% for rice. Of these crops, the one lagging in participation is rice.

Figure 2. Crop Insurance Use as Percent of Planted Acres.



Source: Risk Mangement Agency, National Agricultural Statistical Service

On many farms, crop insurance has become the most important risk management tool. The importance of crop insurance as a risk management tool holds implications for the design of commodity tittle programs. First, commodity programs focusing on risks not covered by crop insurance would provide an important benefit. Crop insurance will cover yield and price losses that occur within a year. If, for

example, yields are much lower than historic Actual Production History (APH) yields, those losses will be covered by crop insurance. Effectively, crop insurance provides disaster protection on those farms that purchase crop insurance.

Second, efforts should continue to ensure that crop insurance provides an equitable and effective safety net for all crops across all regions. In terms of equity, premium setting becomes an important issue. The Risk Management Agency (RMA) is charged with setting premiums such that total premiums roughly equal expected losses. Over time, this should result in total premiums equaling payments causing insurance payments divided by total premiums – the loss ratio – to roughly equal one. Table 2 shows loss experience from 1995 through 2010 by crop. As can be seen loss ratios vary by crop with corn, soybeans, and rice having low loss ratios compared to other crops. This means that total premiums exceeded insurance payments. RMA conducts a study, finding that premiums were too high for corn and soybeans in the Midwest. Lower premiums are being implemented, with the first portion of the premium reduction implemented in 2012. Implementing the remaining reductions in future years is important in terms of equity. Other efforts to strengthen crop insurance should continue.

Table 2. Loss Ratio by Crop, 1995 - 2011.

Crop	Loss Raito
Corn	0.59
Soybeans	0.65
Wheat	0.97
Cotton	1.05
Rice	0.71
Peanuts	1.20

Source: Risk Management Agency

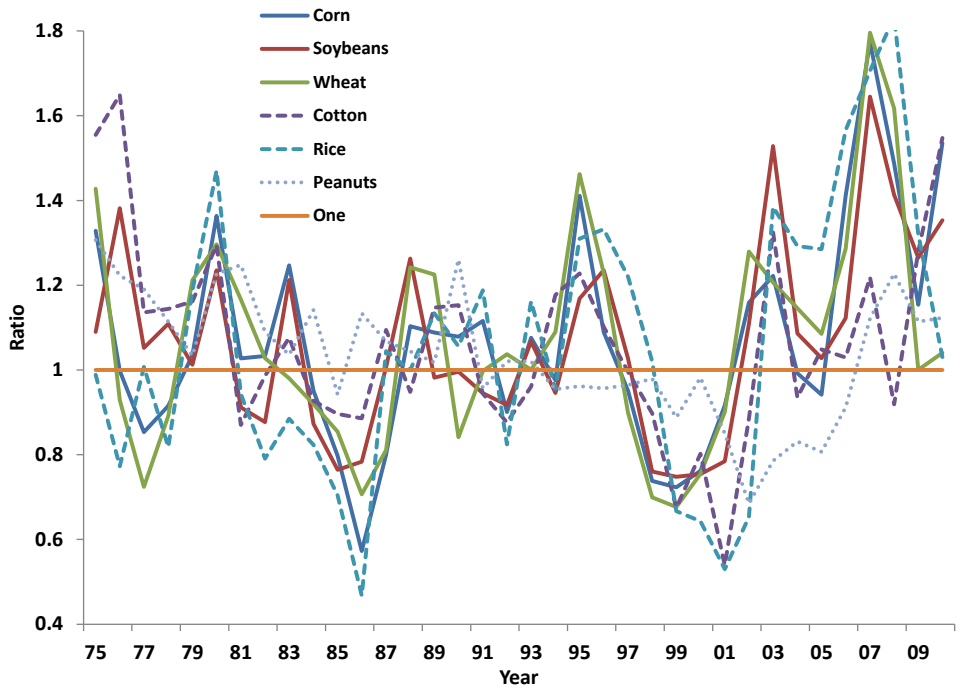
Gaps exist in crop insurance coverage. Crop insurance provides effective coverage for yield and price declines that occur within the year. For revenue insurance, a price at the beginning of the growing season is set using futures contacts. This price is reflective of market conductions at that point in time and yields are based on historical yields. If prices or yields fall during the year, crop insurance will make payments. Hence, insurance provides coverage for yield and price declines that occur during the year.

The gap in coverage occurs when revenue declines across years. In the past, price declines would have caused these gaps. Crop insurance will not protect when prices decline across years, leading to lower guarantees at the beginning of the year. To illustrate, Figure 1 shows price histories for corn, soybeans,

wheat, cotton, rice, and peanuts; six crops that receive commodity program payments. Each year's price is stated as the current year price divided by the average of the five previous prices. A ratio below one indicates that that the current year's price is below the previous five-year average. As can be seen in Figure 3, all crops have had periods in which crop revenue is below the five year average.

During two periods, a number of the commodities had prices below their five-year averages: 1) in the mid-1980s and 2) in the late 1990s and early 2000s. Both of these periods were times of financial stress in agriculture. Lost revenue due to low prices during the mid-1980s and late 1990s would not have been covered by crop insurance, because projected prices would have adjusted downward. Not covering these losses suggests an important role for Farm Bill commodity programs. Farm Bill commodity programs can cover revenue declines of a multi-year nature due to declining prices or other factors. These have been labeled "shallow losses" because they occur before crop insurance pays, but these shallow losses are what have caused financial stress in the agricultural sector in the past.

Figure 3. Current Price Divided by Five-Year Average, National Season Average Prices.



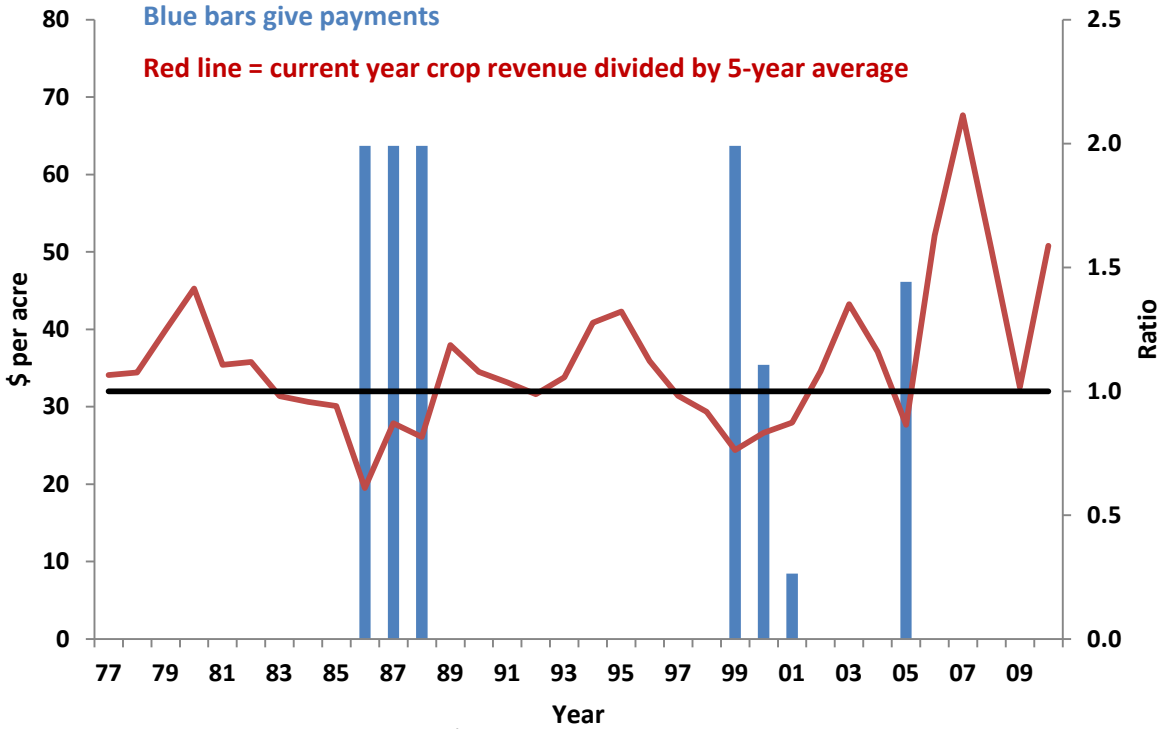
Farm Bill commodity programs based on revenue can aid in covering multi-year revenue declines. The Aggregate Risk and Revenue Management (ARRM) program sponsored by Senators Brown, Thune, Durbin, and Lugar is an example of such a program. The Agricultural Risk Coverage (ARC) program passed by the Senate Agriculture Committee is another example of such a program.

These programs typically have a higher coverage level. For example, ARC has a coverage level of 89% of benchmark revenue, where benchmark revenue is the five-year Olympic average of prices times the

five-year Olympic average of county or farm yields, depending on a choice made by the farmer. These programs also have a maximum payment to reduce overlap with crop insurance.

Simulated historical payments suggest that payments occur in years in which revenues are low. Figure 4 shows simulated ARC payments had it existed from 1977 through 2010 (More detail on this approach is given in a farmdocDaily blog post entitled *Comparison of ARRM versus SRRP Proposal* at http://www.farmdocdaily.illinois.edu/2011/10/comparison_of_arrm_versus_srrp.html.) Had it existed, ARC would have made payments in seven years. Six of those years would have occurred in 1986 through 1988 and 1999 through 2001. These two periods correspond to the years of financial stress in Midwest agriculture.

Figure 4. Simulated Payments from ARC, DeKalb County, Illinois.



Note: Payments are stated in today's terms, not in historical terms

ARC would make payments when prices fall below long-run averages. If ARC were implemented under today's conditions, payments would occur if corn prices fell below $4.00, given that yields are close to expectations (see ARC and Multi-year Price Declines in farmdocDaily http://www.farmdocdaily.illinois.edu/2012/05/arc_and_multiyear_price_declin.html). These ARC payments would cover a portion of the loss in revenue that occurred if prices decline and remain low over several years.

Revenue-based commodity program spending will be roughly proportional to crop value. According to Congressional Budget Office (CBO) projections, payments as a percent of crop revenue are likely to be within a narrow range of one another across crops. This suggests that costs relative to the value of the crop are near one another. For example, if projected costs are 2.5% of crop value for two crops, this suggests that the risk protection offered by the revenue programs have the same relative value. Having roughly the same percentages is one indicator that revenue-based programs will perform relative similarly across crops. Stated alternatively, revenue risks across crops result roughly in the same outlays as a percent of crop value.

Projected costs as a percent of crop revenue are shown in Table 3, which contains Congressional Budget Offices (CBO) spending projections under the Farm Bill contained in the Senate Manager's Amendment. The CBO score for this final Senate Agriculture Committee Farm Bill was not available when this testimony was written. There will be differences in projections in the Farm Bill passed by the Senate Agriculture Committee from those shown in Table 3.

Table 3. Congressional Budget Office Estimates under 2008 Farm Bill and Senate Manager's Amendment.

	Congressional Budget Office (CBO) Spending Estimates (2014-2022)			Manager's Amendment Divided by Planted Acres[4]	Manager's Amendment as a Percent of Crop Revneue[5]
	2008 Farm Bill[1]	Senate Manager's Amendment[2,3]	Change		
	($ Million)			$/acre	
Corn	20,199	14,335	-29%	17.70	2.13%
Soybeans	6,974	8,137	17%	11.78	2.31%
Wheat	10,058	3,614	-64%	7.64	2.70%
Upland Cotton	6,252	3,227	-48%	32.79	5.39%
Rice	3,913	963	-75%	35.08	3.52%
Peanuts	939	646	-31%	53.70	5.87%

[1] Based on CBO baseline released on March 13, 2012 (www.cbo.gov/topics/agriculture).

[2] Base on CBO baseline and April 26, 2012 estimates of Senate Manager's Amendment (www.cbo.gov/topics/agriculture).

[3] Includes STAX payments for cotton, and peanut revenue insurance for peanuts.

[4] Senate Manager's Amendment spending stated on a yearly basis divided by projected planted acres in March 13, 2012 CBO baseline projections.

[5] Planted acres divided by projected crop revenue in CBO March 2012 baseline.

CBO projected spending estimates are shown for 2014 through 2022, the period after the transition out of the 2008 Farm Bill and the full implementation of 2012 Farm Bill. On a per acre basis, projected spending is $17.70 per acre for corn, $11.78 for soybeans, $7.64 for wheat, $32.79 for upland cotton, $35.08 for rice, and $53.70 for peanuts.

Spending stated as a percent of crop revenue are near each other. Projected spending as a percent of crop revenue is 2.13 percent for corn, 2.31 percent for soybeans, 2.70 percent of wheat, 5.39 percent for upland cotton, 3.52 percent for rice, and 5.87 percent for peanuts (see Table 3). Corn, soybeans, and wheat payments are almost all ARC payments while the remaining crops have additional payments. Cotton, rice, and peanuts have significant projected marketing loan payments, peanuts include a new revenue product, and cotton is not in ARC but is in STAX. If rice and peanuts did not include programs other than ARC, the five crops with ARC programs would have spending as a percent of gross revenue to be relatively near one another. This suggests that there are not wide divergences in spending relative to crop value across crops.

Spending on a program like ARC will be different than under the current farm bill, where payments predominately arise from direct payments. According to CBO estimates, corn spending would decrease by 29% under the Senate Managers Amendment compared to the 2008 Farm Bill, soybeans would increase 17%, wheat decrease by 64%, upland cotton would decrease by 48 percent, rice by 75%, and peanut by 31% (see Table 3). Changes occur for two primary reasons. First, there are differences in base acres relative to planted acres. Most of the 2008 Farm Bill payments are direct payments, which are made on base acres. ARC, on the other hand, would make payments on a planted acre basis. Corn and soybeans have more planted acres than base acres (see Table 4). Soybean planted acres are 53% higher than base acres, resulting in the higher payments for soybeans. Wheat, cotton, rice, and peanuts are projected to have lower planted acres compared to base acres, leading to lower payments. Second, there are differences in average direct payment rates per acre compared to per acre spending projected for the manager's amendment. According to values in CBO baseline spending, corn has an average direct payment rate of $23 per acre, soybeans of $11 per acre, wheat of $14 per acre, cotton of $32 per acre, rice of $95 per acre , and peanuts are $54 per acre. Relative to per acre amendment spending, rice loses $60 per acre ($35 amendment spending in Table 3 - $95 direct payment spending), wheat loss $6 per acre, corn losses $5 per acre. Soybeans, cotton, and peanuts have roughly the same spending per acre in the Manager's Amendment as compared to direct payments.

Table 4. Base and Planted Acres by Crop.

Crop	Base Acres	Planted Acres	Planted as a % of Base
	Million acres		
Corn	84.1	90.0	107%
Soybeans	50.1	76.7	153%
Wheat	73.8	52.5	71%
Upland Cotton	18.1	10.9	60%
Rice	4.4	3.1	69%
Peanuts	1.5	1.3	91%

Source: Base and planted acres taken from March 2012 Baseline Spending from Congressional Budget Office

Summary. A program that bases its payments on revenue can provide effective coverage that will mitigate risk. Designed properly, these programs can complement protection by crop insurance, and result in expenditures roughly proportional to crop value.

Committee on Agriculture
U.S. House of Representatives
Required Witness Disclosure Form

House Rules* require nongovernmental witnesses to disclose the amount and source of Federal grants received since October 1, 2009.

Name: _Gary Schnitkey

Organization you represent (if any): _____University of Illinois

1. Please list any federal grants or contracts (including subgrants and subcontracts) <u>you</u> have received since October 1, 2009, as well as the source and the amount of each grant or contract. House Rules do <u>NOT</u> require disclosure of federal payments to individuals, such as Social Security or Medicare benefits, farm program payments, or assistance to agricultural producers:

Source:___Risk Mangement Agency_____ Amount:__$360,000_____

Source:___Risk management Agency_____ Amount:__$100,000_____

2. If you are appearing on behalf of an organization, please list any federal grants or contracts (including subgrants and subcontracts) <u>the organization</u> has received since October 1, 2009, as well as the source and the amount of each grant or contract:

Source:_____ Amount:_____

Source:_____ Amount:_____

Please check here if this form is NOT applicable to you: _____

Signature:____  **_____**

* Rule XI, clause 2(g)(5) of the U.S. House of Representatives provides: *Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof. In the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include a curriculum vitae and a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by any entity represented by the witness.*

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Committee on Agriculture

U.S. House of Representatives

Information Required From Nongovernmental Witnesses

House rules require nongovernmental witnesses to provide their resume or biographical sketch prior to testifying. If you do not have a resume or biographical sketch available, please complete this form.

1. Name:___Gary Schnitkey_____

2. Organization you represent: University of Illinois_____

3. Please list any occupational, employment, or work-related experience you have which add to your qualification to provide testimony before the Committee: ____
__Work in risk and management issues related to farms at the University of Illinois

_____

_____

4. Please list any special training, education, or professional experience you have which add to your qualifications to provide testimony before the Committee: ____
__Ph.D. in Agricultural Economics, University of Illinos

_____

_____

5. If you are appearing on behalf of an organization, please list the capacity in which you are representing that organization, including any offices or elected positions you hold:
_____

PLEASE ATTACH THIS FORM OR YOUR BIOGRAPHY TO EACH COPY OF TESTIMONY.

GARY D. SCHNITKEY

Vitae

: Contact information

Department of Agricultural and Consumer Economics, University of Illinois;

Extension/Research Activities:

Farm management with emphasis on risk management. I have been involved in the development of risk management tools that are used nationwide including FAST (Microsoft Excel spreadsheets), *Ifarm* insurance evaluators (Web-based tools) and AgRisk (stand-alone micro-computer package). These tools are available at *farmdoc* (www.farmdoc.uiuc). I publish nationally in academic journals and popular press outlets. I co-author a bi-monthly newsletter entitled *Illinois Farm Economics: Facts and Opinions* related to farm management that is available on *farmdoc* (http://www.farmdoc.uiuc.edu/manage).

University Education:

Ph.D., Agricultural Economics, August 1987, University of Illinois.

M.S., Agricultural Economics, August 1984, University of Illinois.

B.S., Agricultural Economics, June 1982, The Ohio State University.

Employment Record:

Full and Associate Professor, Department of Agricultural and Consumer Economics, University of Illinois. Appointment involves extension education and research. Responsibilities targeted to risk management. (50% extension, 50% research), 1998 to present.

Associate Professor, Department of Agricultural Economics, The Ohio State University, Appointment involved extension education and research. Extension responsibilities targeted towards dairy farm management, 1994 to 1998.

Assistant Professor, Department of Agricultural Economics, The Ohio State University, Appointment involved extension education and research. 1987 – 1998.

Honors:

Midwest Plan Service – Meritorious Publication, 2001;

Outstanding Extension Program – Group, the Ohio State University Extension, 1992

Distinguished Extension Program – Group, American Agricultural Economics Association, 2002;

Honors, cont.:

University of Illinois, College of Agricultural, Consumer and Environmental Sciences Award in Extension, 2004.

University of Illinois, College of Agricultural, Consumer and Environmental Sciences Group Award in Extension, 2010.

University of Illinois, College of Agricultural, Consumer and Environmental Sciences Group Award in Extension, 2011.

Related Journal articles:

Schnitkey, G.D., B.J. Sherrick, and S.H. Irwin. "Evaluation of Risk Reductions Associated with Multi-Peril Crop Insurance Products." *Agricultural Finance Review,* 63(Spring 2003):1-21.

Sherrick, B.J., P.J. Barry, P.N. Ellinger, and G.D. Schnitkey "Factors Influencing Farmer's Crop Insurance Decisions." A*merican Journal of Agricultural Economics,* 86(2004): 103-114.

Sherrick, B.J., F.C. Zanini, G.D. Schnitkey, and S.H. Irwin. "Crop Insurance Valuation under Alternative Yield Distributions." *American Journal of Agricultural Economics,* 86(2004): 406-419.

Irwin, S.H., G.D. Schnitkey, D.L. Good, and P.N. Ellinger. "The *farmdoc* Project: This is Still Your Father's Extension Program." *American Journal of Agricultural Economics*, 86(2004): 772-777.

Zulauf, C.R,. G.D. Schnitkey, C.T. Norden, and E. Davidson. "Price and Profit: Investigating a Conundrum." *Review of Agricultural Economics,* 2008.

Zulauf, Carl, Gary Schnitkey, and Michael Langemeir. "Average Crop Revenue Election, Crop Insurance and Supplemental Revenue Assistance: Interactions and Overlap for Illinois and Kansas Farm Program Crops. *Journal of Agricultural and Applied Economics*, 42, 3(August 2010): 501-515

Woodard, J.D., B.J. Sherrick, G.D. Schnitkey*, "Actuarial Impacts of Loss Cost Ratio Ratemaking in U.S. Crop Insurance Programs," Journal of Agricultural and Resource Economics,* 36-1 (April 2011):211-228.

Paulson, N.D. and G.D. Schnitkey. 2012. "Policy Concerns of Midwestern Grain Producers for the 2012 Farm Bill." *American Journal of Agricultural Economics* 94(2): 515-521.

Woodard, J.D., B.J. Sherrick, "Actuarial Impacts of Loss Cost Ratemaking in U.S. Crop Insurance Program." *Journal of Agriculture and Resource Economics*, forthcoming.

Software Development:

Co-developer of the *Financial Analysis Solution Tools (FAST*). *FAST* is a series of Microsoft Excel spreadsheet tools that are decision-support aids available on farmdoc (www.farmdoc.uiuc.edu). Over 12,000 copies of this software have been distributed to users

Co-developer of web based tool available on *farmdoc* for evaluating crop insurance decision: