Written Statement to the General Farm Commodities and Risk Management Subcommittee hearing on "Farm Policy and the General State of the Farm Economy"

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FARM INCOME

In 2005, net farm income in the U.S. is forecast to be $71.8 billion (Table 1). This represents a 13% decline from the record in 2004 but is still the second highest on record. This 2005 forecast includes a decline in the value of crop production of 10% (to a level of $111.6 billion in 2005), a slight increase in the value of livestock production of 0.6% (to a level of $125.3 billion in 2005), and an increase in direct government payments of 60.9% (to a level of $21.4 billion in 2005) from 2004 levels. In absolute dollar terms the forecasted decline in the combined value of the crop and livestock production is $11.659 billion. This is partially offset by the 60.9% increase (an $8.096 billion increase) in direct government payments, mitigating the bottom-line hit to net farm income by 69.4%. Direct government payments are forecast to make up 29.8% of net farm income in 2005, compared with only 16.1% in 2004.

Since net farm income estimates in 2004 and 2005 are the largest and second largest on record, respectively, a more informative perspective on the current state of the farm economy can be gleaned from comparing the 2005 forecast levels with the previous four years (Table 1). This comparison reveals that forecast 2005 net farm income, value of production, and government payments are all substantially higher than their respective previous four-year averages. Net farm income is forecast to be 24.8% higher than the four-year average, the value of crop production 4.6% higher, the value

of livestock production 16.7% higher, and direct government payments 37% higher (Table 1).

Another important way of looking at the recent farm income data is to examine the distribution across sales classes, which reveals some key facets of the state of the farm economy. Based on averages over the period 2001-2004, farms that sell $250,000 or more in agricultural products annually account for only 8.3% of all farms, 74.6% of the crop value of production, 75.7% of the livestock value of production, receive 49.8% of the direct government payments, and account for 90.1% of net farm income (Table 1).[1] Based on averages over the same 2001-2004 period, this means farms that sell less than $250,000 of agricultural products, which includes 91.7% of all farms, accounts for 25.4% of the value of crop production, 24.3% of the value of livestock production, receive 50.2% of government payments, and account for only 9.9% of net farm income. The same comparison, but using a threshold sales class of farms that sell more than $100,000 of agricultural products, reveals that these farms account for 17.5% of all farms, 89.9% of the value of crop production, 88.0% of the value of livestock production, receive 73.0% of the direct government payments, and account for 100.9% of net farm income. Therefore, farms whose agricultural production is valued at less than $100,000 account for 82.5% of the farms, 10.1% of the value of production, 12.0% of the value of livestock, receive 27.0% of government payments, and account for -0.9% of net farm income based on averages over the same period. Thus, national data across all sales classes mask critical distributional aspects associated with the value of production, the receipt of government payments, and net farm income in general. In particular, the distribution of government payments is concentrated on larger farms with 17.5% of the farms receiving 73% of the government payments. This has implications for agricultural policy which will be discussed later.

Another illustrative way of looking at recent farm income data examines average income of farm operator households with respect to typology, distinguishing between income from farm and off-farm sources in comparison with the average U.S. household income (Table 2). Farm operator household income across all family farms in 2005 is

[1] The Economic Research Service (ERS), USDA farm typology distinguishes small family farms as farms with gross sales below $250,000, annually.

estimated to be $88,105 with $12,077 (13.7%) coming from on-farm sources and $76,028 (86.3%) from off-farm sources. This average can be compared with a slightly lower income of $87,072 in 2004, $14,201 coming from on-farm sources, and $72,871 from off-farm sources. A comparison of the average income of farm operator households from farm and off-farm sources by typology illustrates an important point, also masked by the national all-farm estimates. Commercial farm operator household incomes which average $173,450 per year over the period 2003-2005 received 71.8% from on-farm sources and 28.2% from off-farm sources. Rural residential farm operator household incomes which average $76,351 per year over the period 2003-2005 received -1.8% of this income from on-farm sources (a loss) and earned 101.8% of their incomes from off-farm sources. Thus, typology of farms greatly impacts not only the level of household income, but also the sources of income from on-farm and off-farm sources. This also has implications for agricultural policy to be discussed later.

The 2004 estimate of farm operator household income can be compared with average U.S. household income of $60,528, meaning that average U.S. household incomes were only 69.5% of their farm operator household counterparts. It is noteworthy that this comparison does not take into consideration any cost of living differences between metropolitan and rural areas. When such adjustments are made, taking account of the fact that most farm operator households reside in areas with lower costs of living, the gap becomes wider in favor of the farm operator's disposable household income. This characteristic, that farm operator household incomes have exceeded U.S. household incomes, has occurred every year since 1996 (Figure 1). Interestingly, this decade spans two previous Farm Bills, and the gap during this period appears to be widening. Prior to this period this was not always the case, with periods between 1960-1970 and 1979-1983 in which U.S. household income exceeded farm income. The historical perspective comparing these two income estimates reveals that farm household income is much more volatile than U.S. household income (Figure 1).

A final important comparison and indicator of well-being of the agricultural economy is farm wealth, or net worth, compared with all U.S. households. Covey et al. (2004) provide estimates based on 2003 Agricultural Resource Management Survey (ARMS) data on the income/wealth of farms relative to median U.S. household income

and wealth. Based on median incomes of U.S. households in 2003 of $43,527 and median wealth of $89,544, they provide the following estimates concerning farm households: 4.2% of farm households had lower income-lower wealth, 42.2% had lower income-higher wealth, 2.2% had higher income-lower wealth, and 51.4% had higher income and higher wealth relative to median U.S. household income and wealth estimates. Therefore, 93.6% of farms had higher median wealth than the U.S. households, and 53.6% of farms had higher median incomes than U.S. households in 2003.

Based on this discussion, the following main points can be made concerning farm incomes in relation to the state of the agricultural economy:

- Net farm income in 2005 is forecast to be $71.8 billion, the second highest on record, and 24.8% higher than the previous four-year average.
- The value of crop production is 4.6% higher, livestock production 16.7% higher, and direct government payments 37% higher in 2005, than the previous four-year averages.
- Direct government payments are forecast to increase 60.5% in 2005 from 2004 levels to a total of $21.4 billion, accounting for 29.8% of net farm income.
- 17.5% of all farms with sales greater than $100,000 annually account for 89.9% of the value of crop production, account for 88.0% of the value of livestock production, receive 73.0% of the direct government payments, and account for 100.9% of net farm income.
- Household income averaged across all family farms in the U.S. in 2004 is 43.8% higher than the U.S. average household income (not accounting for cost of living differences).
- Across all family farms over the previous three years, on average only 13.9% of household income comes from on-farm sources. Over the same period commercial farms earned an average of 71.8%, intermediate farms 15.9%, and rural residential farm earn -1.8% (a loss) of their income from on-farm sources.
- 93.6% of farm households had higher median wealth than the U.S. households and 53.6% of farm households had higher median incomes than U.S. households in 2003.

COMMODITY OUTLOOK

With 2005 forecasted net farm income expected to experience a 13% decline from the record 2004 level, but still to achieve the second highest on record, we can reasonably anticipate the current commodity outlook to be favorable. This next section briefly discusses the outlook for the primary row crops and livestock commodities, which are the agricultural commodities that account for a large share of the value of agricultural production and, therefore, greatly impact the state of the agricultural economy.

Crop Outlook

Total planted acreage of corn, soybeans, wheat and cotton is estimated to be 227 million acres in 2005 (Table 3). This represents 2.5 million acres (-1.1%) fewer than 2004, with 0.8% more corn acres planted, 2.8% fewer soybeans acres planted, 2.6% fewer wheat acres planted, and 3.8% more cotton acres planted. Forecast yields for these primary crops in 2005 are less than 2004. The largest decline is for corn yields with 17.2 bushels per acre less (10.7%), although projected yields are slightly above 2003 yield. Cotton yields are forecast to be 8.5% less but 7.1% higher than 2003, soybean yields 6.8% less, but 14.4% higher than 2003, with wheat yield experiencing only a slight decline of 0.5% compared to 2004 but a 2.3% decline from 2003 levels. These acreage shifts and lower yields result in forecast reductions in production for corn (9.9%), soybeans (9.1%), and cotton (4.2%), with wheat production forecast to slightly increase (0.4%) over 2004 levels. The midpoints of forecast U.S. season average price ranges for these crops are currently below 2004/05 marketing year averages. The forecasted season average prices currently represent declines of 7.8% for corn, 2.6% for soybeans, and a 5.9% for wheat.[2] In short, the outlook and state of the four primary row crops, all appear to be quite favorable for the 2005/06 marketing year, despite slightly lower levels of production and expected season average prices from the previous year, which posted a record level net farm income. This brief analysis of individual crops is consistent with crop production values averaging 4.6% higher than the previous four-year averages, but less than the record 2004/2005 marketing year.

[2] The USDA is prohibited by law from publishing projected cotton prices.

Livestock Outlook

Total production of beef, pork, and broilers is projected to increase in 2006 (Table 4). The largest percentage increase in production is beef (3.8%), followed by broilers (3.1%), and pork (1.6%). Trade flows are favorable to the domestic markets with beef imports down 0.9% and exports up 0.2%, pork imports down 2.5% and exports up 2.8%, and broiler exports up 2.3%. Projected consumption is favorable toward domestic meat demand across the board, with beef consumption expected to increase 3.0%, pork consumption 1.3%, and broilers 3.0%. Based on the midpoints of projected price ranges, beef and pork prices are projected to decline 7.1% and 7.2%, respectively, while broiler prices are projected to increase slightly by 0.7% in 2006 relative to 2005. In short, the outlook of the three primary livestock commodities is quite favorable, with expected increases in production and declining imports on the supply side, and increased exports and consumption on the demand side.

Based on this discussion, the following main points can be made concerning commodity outlook:

- Primary row crops planted acres in 2005 declined 1.1% compared with 2004. More corn acres (0.8%) and cotton acres (3.8%) were planted, but fewer soybean acres (2.8%) and wheat acres (2.6%) were planted.
- Primary row crop forecasted yields for 2005 are lower compared with 2004 (reductions of 10.7% corn, 6.8% soybeans, 0.5% wheat, and 8.5% cotton) which, combined with shifts in acreage, resulted in forecasted reductions in production of corn (9.9%), soybeans (9.1%), and cotton (4.2%), with wheat production forecast to increase slightly (0.4%).
- The midpoints of forecast U.S. season average price ranges are currently below 2004/05 marketing year averages with expected declines of 7.8% for corn, 2.6% for soybeans, and 5.9% for wheat.
- Production of meat is projected to increase in 2006—beef (3.8%), pork (1.6%), and broilers (3.1%). Trade flows are favorable to domestic markets with beef imports down 0.9% and exports up 0.2%, pork imports down 2.5% and exports up 2.8%, and broiler exports up 2.3%.

- Domestic consumption is projected to be favorable to meat demand across the board, with domestic beef consumption expected to increase 3.0%, pork consumption 1.3%, and broiler consumption 3.0%.
- Prices based on the midpoints of projected ranges have beef and pork prices declining about 7% and broiler prices increasing 0.7% in 2006 compared with the previous year.

In summary, the state of the agricultural economy in relation to net farm incomes is sound, due to favorable commodity outlooks and significant increases in direct government payments over previous years. If current projections are realized, then 2005/2006 promises to be prosperous times for U.S. agricultural producers in general. Projected net farm incomes are the second highest on record, benefiting from direct government payments that account for 29.8% of this total. Both the values of crop production and livestock production are projected to be above recent four-year average levels with increases of 4.6% and 16.7%, respectively.

FARM POLICY

Important goals of farm policy should be to ensure adequate, safe, and high-quality agricultural production, with consideration given toward the potential environmental impacts of practices used without being burdensome on taxpayers and to be consistent with WTO agreements. These goals are ambitious and can present a significant challenge to policy-makers under the real-world constraints of limited budgets and political pressure. Another obstacle in creating this policy is the heterogeneity of the farm sector. To successfully meet these goals, U.S. farm policy should include three critical elements: (a) an economic safety net; (b) the adoption of state-of-the-art production technologies; and (c) the mitigation of the over-reliance of some agricultural commodities on government payments. Each of these elements will now be briefly discussed. Empirical evidence of the state of the agricultural economy will be utilized and referred to where appropriate.

Safety Net

A safety net in the context of agricultural policy can be broadly defined as financial support in *unexpectedly severe market and/or production conditions*. Ensuring an adequate supply of agricultural production requires that producers can earn a reasonable rate of return in a highly competitive industry, one which sometimes presents some challenging circumstances, and potentially catastrophic, circumstances that threaten the financial solvency of the farm due to factors completely exogenous to the producer's actions. Less than ideal production conditions due to adverse weather such as flooding, droughts, and outbreaks of disease and pests are not uncommon in agriculture, and can adversely impact yields, production, and, therefore, farm incomes. An economic safety net should be in place for agricultural producers during these periods. The challenge from an economic and policy-making standpoint is to simultaneously establish this safety net without distorting market signals. Of course, this is complicated in practice but serves as a guiding principle for evaluating alternatives.

The invisible hand of agricultural markets and current U.S. farm policy can be compared with the performance of trapeze artists capably swinging, switching, and flipping from the highs and lows of a platform on a bar (the agricultural market), with a safety net in place below to break their fall if they unexpectedly miss their mark and free fall (the farm policy). The safety net is precisely positioned to catch the trapeze artists, high enough to prevent any permanent damage but low enough not to encumber their free flowing movements, allowing for significant miscues (market adjustments to shocks) that can be corrected to avoid free falling into the net. Importantly, the safety net cannot be set too high as it may alter the trapeze artists' concentration and gusto, introducing complacencies and less than their best performances. That is, the artists' performances need to be free and unencumbered by the safety net, striving for excellence and precision to prevent falling, but knowing that death is not imminent if they falter unexpectedly through no fault of their own. The challenge is to determine the height of the net relative to the performing trapeze artists to extract the best performances. Policy-makers are presented with similar challenges in establishing the safety net for farmers. Ideally, they must define (choosing the appropriate instruments)

and position the safety net relative to the market, without distorting market signals, allowing it to operate at full efficiency. As already noted this is complicated in reality because things are less clear-cut and political pressures arise to meet short-run needs rather than tackle longer-term goals of economic efficiency and reduction of the burden on taxpayers. In practice the policy-maker might be limited to identifying and implementing the *least* distorting policy instruments in an effort to achieve the *most* efficient outcome possible.

Basic economics tells us that the market forces through the "invisible hand" mechanism of the free interaction of demand and supply determining price, ensures the most efficient allocation of resources.[3] Based on this logic, agricultural policies are preferable that establish a market based safety net which is not price-distorting. However, developing and implementing market-based agricultural policies is a challenge in itself. This challenge is compounded by the fact that the farm sector is heterogeneous. The earlier comparison between income levels and sources of income between on-farm and off-farm for rural residential, intermediate, and commercial farms, as well as their relative contributions to agricultural production values, exemplifies this inherent heterogeneity. A one-size fits all agricultural policy that ignores this heterogeneity will be effective for some agricultural producers but not for others. Targeted agricultural policies that recognize and address this heterogeneity within the farm sector will be more effective at achieving an appropriate safety net and ensuring an adequate, safe, and high-quality supply of agricultural products. In general, the agricultural economy will be less distorted from agricultural policy that utilizes unsubsidized crop insurance from among the instruments in the suite of current agricultural polices. Direct (decoupled) payments are the next-least distorting, followed by counter-cyclical payments, and then loan deficiency payments. Another instrument often utilized is ad-hoc disaster assistance. Although thought to be non-distorting if it is indeed ad-hoc, its repeated use causes farmers to form expectations, and these expectations induce market distortions. For example, there is a clear disincentive for a

[3] Exceptions do occur when there is market failure, the case where markets do not efficiently provide or allocate goods and services. More generally, market failure refers to situations where market forces do not serve the perceived public interest.

producer to purchase crop insurance if he has expectations for disaster payments if unexpected events occur.

The importance of market-based, non-distorting agricultural policies cannot be over-emphasized if the goal is to achieve market efficiency whilst maintaining a safety net. To deal with the inherent uncertainty of agricultural production due to weather, disease, and pests, and the adverse impact this can have on farm incomes, the most preferable market-based solution and least-distorting policy is crop insurance. Crop insurance products *without* premium subsidies, with producers bearing the entire actuarially fair rate premium, comprise the most efficient and least-distorting safety net policy instrument. Crop insurance premium subsidies can cause production distortions when subsidies encourage production in more risky environments where the unsubsidized actuarially fair rate would make it cost prohibitive. The challenge with crop insurance is to develop products that will be "comprehensive," so they provide adequate coverage to cover losses, and "comprehendible," so they are easy for producers to understand, encouraging participation, but at the same time, mitigate the potential for moral hazard and adverse selection problems.[4] Lack of comprehensiveness and comprehensibility has adversely affected participation in the past, whereas moral hazard and adverse selection problems have negatively influenced the actuarial performance. This is a monumental challenge but recent developments in crop insurance products over the past decade, particularly the last several years, with innovations in product development including the advent of crop revenue products and livestock insurance, have been encouraging. However, less encouraging is the increasing cost of the crop insurance program and the significant premium subsidies that have been enacted to increase participation.

Glauber (2004), citing recent testimony from Davidson in 2004, who reported that since the Federal Crop Insurance Improvement Act of 1980 and two reform bills later, the current insurance program boasts an 80% participation rate with over 215 million

[4] Moral hazard occurs when a producer, after purchasing insurance, alters their production decisions in a fashion that increases the likelihood of receiving an indemnity. Adverse selection occurs when a producer with relatively higher risk is able to purchase insurance at the same cost as a producer with relatively lower risk. Both problems stem from asymmetric information, moral hazard involves the unknown actions of the insured increasing the risk of loss, while adverse selection involves the insurer having insufficient information to accurately rate the risk of loss.

acres enrolled and total liability in excess of $46 billion. More than 57% of participating acres are enrolled at coverage levels of at least 65%. Also the aggregate loss ratio over the period 1994-2003 was 0.98 (Glauber 2004). These increased participation rates and improved actuarial performance are also encouraging. However, as Glauber (2004) also points out, despite the large increase in participation, congress still passed supplemental disaster assistance in 2002, two years after passage of the Agricultural Risk Protection Act. The breakdown of government payments (Table 5) reveals that, over the period 2001-2004, ad-hoc plus emergency payments was the largest component of direct government payments making up 22.1% of the average $15.619 billion spent annually over this period.

Glauber (2004) also points out that this increased participation has been expensive, with expected annual costs of more than $3 billion. He reports that, over the period 1994-2003, producers received about $2.19 in indemnity payments for every $1.00 of premium paid, reflecting the high level of subsidization of producer premiums. These subsidies, which have been introduced to encourage increased participation, also distort production. Clearly, the crop insurance program has challenges moving forward with respect to the current rising costs of the program and the increased level of production-distorting subsidization of premiums that has occurred in order to increase participation levels.

Targeted Agricultural Policies to Address Heterogeneity of the Farm Sector

Targeted agricultural policies recognizing and addressing the heterogeneity of the farm sector are paramount to avoiding distortions in the agricultural economy. Take for example the heterogeneity with respect to farm size class and the importance of targeting and tailoring agricultural policies to these different classes of farms—for the larger farms, which tend to produce the majority of output (Table 1), and that derive the majority of income from on-farm income (Table 2), the safety net needs to be in place when unexpected disaster strikes. A crop insurance program, where producers pay the actuarially fair rate (unsubsidized premiums), is the most efficient market-based alternative to implement the safety net for these producers without running the risk of distorting price signals. A second best alternative would be direct payments, which are

decoupled from production and price. A third best alternative would be counter-cyclical payments, and a fourth best would be loan deficiency payments with loan rates capped at close to break-even prices and total payment limits in an effort to limit distorting price signals. *Providing an economic safety net, meaning an economic policy or instrument that provides financial assistance to these larger farms' on-farm income when unexpected disaster strikes, preferably through the policy instrument of crop insurance, makes sense from the standpoint of ensuring that an adequate supply of agricultural products will be available since these farms produce the majority of the production.*

For the smaller producers, who are large in number but only account for a small proportion of the agricultural production (Table 1), and who derive a majority of their income from off-farm income (Table 2), policies that are targeted at increasing rural development such as education, health, services, and rural economic activity in general provide the most appropriate safety net. It seems counter-productive and inefficient to try and supplement their on-farm income with a one-size fits all policy that might cause distortions in how it impacts larger farmers, which in turn can offset any benefits that might have occurred to the smaller farmers rather than enhancing or even maintaining their off-farm income levels which would allow then to continue to farm if they choose. Furthermore, providing an economic safety net for these producers from the rationale of maintaining an adequate food supply and supplementing their agricultural based incomes also does not make much sense, nor is it supported by the empirical data, since they produce so little. *Providing an economic safety net for small farmers, through targeted rural development policies that create opportunities to improve or maintain current levels of smaller farms' off-farm income, allowing these producers to continue to farm if they choose and preserve the rural lifestyle that much of farm policy is intended to do, make the most sense. Targeted rural development policies that enhance economic activity also benefit larger producers, with increased goods and services in the communities where they live, but importantly do not further distort price signals in the markets from which they derive the majority of their income. These targeted rural development policies will also benefit non-farm households in rural areas, many of which are poor. Policies that attempt to create a safety net for small farmers by enhancing their on-farm incomes will be insufficient because their primary source of*

income is from off-farm and may be even counterproductive depending on their impact on larger farmers.

The Stickiness of the Portfolio of Current Farm Policy Instruments

The net farm income estimates, as well as estimates of the value of crop and livestock production and government payments (Table 1), highlight two important points with respect to the state of the farm economy and current farm policy that deserve specific mention. The first point, with respect to the state of the farm economy, is that producers' net incomes are prospering in 2005, with values of crop and livestock production significantly above average levels of the past four-years. These higher values of production are only slightly offset by modestly higher production expenses of 4% in 2005 (ERS-USDA 2005a), meaning higher production values are partly the reason for the second highest net farm income on record.[5] The second point, with respect to the current farm policy, is its apparent inability to adapt to these prospering times, exhibiting the characteristic of downward stickiness rather than being a "safety net." This stickiness is illustrated by the fact that it is difficult to rationalize why direct government payments in 2005 should be 37% above the previous four-year average, when the value of production for crops and livestock are both above their respective previous four-year average, up 4.6% and 16.7%, respectively with only modest increases in expenses.

A comparison of the breakdown of total direct government payments over recent years, shown in Table 5, reveals that the forecasted $8.076 billion increase in 2005 over 2004 predominantly come from two line items which account for 78% of the increase. These are an increase in ad-hoc and emergency payments of $3.357 billion and an increase in counter-cyclical payments of $2.978 billion (Table 5). A comparison of forecast 2005 total direct government payments compared with an average of the previous four years reveals that forecast 2005 payments are $5.760 billion above the average, with increases in 8 of the 12 line items. Given the prosperity of the 2004 and 2005 production years, this is difficult to rationalize. Such stickiness and inability to

[5] This estimate of higher production costs will almost certainly be revised upward due to the substantial increase in energy and fuel costs in recent months due to unanticipated hurricane events.

adapt is a reflection of a predominance of policy instruments that are *not market-based and, therefore, are market-distorting*. In terms of ranking the policy instruments as shares of total direct government payments over the period 2001-2004, ad-hoc and emergency program payments were 22.1%, direct payments were 19.7%, loan deficiency payments 16.2%, and conservation programs were 13.6% of the average $15.619 billion in payments annually over this period (Table 5).

In absolute and percentage terms the largest increase in government payments in 2005 was the increase in counter-cyclical payments of 352%, or $3.193 billion, compared with the average payments in 2001-2004. This substantial boost in net farm income from counter-cyclical payments, a shot in the arm of $4.1 billion or 5.7% of the total of net farm income, despite the prosperous times, is supportive of the idea that the current set of farm policies within the portfolio exhibits downward stickiness with an inability to adapt to current economic conditions. The challenge to policy-makers is to find instruments that recognize prosperous times better, strictly providing a safety net when an unexpected event occurs that adversely impacts farm incomes to below average levels.

A More Economically Efficient Safety Net

It is fair to say, as illustrated by the data presented in previous sections, that the current farm policy is failing to act as *safety net alone* and *does not avoid being burdensome to the taxpayer*. Intuitively, one would not expect under an efficient safety net regime that direct government support should increase unless production values and net farm incomes are *below* average levels. The current policy portfolio effectively increased direct government payments, and substantially so (by 37%), when net farm incomes declined 13% below a record level, but remained 24.8% above the previous four-year average.

A farm-policy portfolio that focuses on market-based polices targeted at large producers and commercial agriculture, such as unsubsidized, actuarially fair crop insurance holds the most promise, compared with other instruments such as direct payments, counter-cyclical payments, loan deficiency payments, and ad-hoc disaster assistance. Continued investments in research and development of crop insurance

products that are innovative, comprehensive, and comprehensible, that minimize moral hazard and adverse selection, and do not involve premium subsidies, are the most promising safety net for these classes of farms and ensure an adequate supply of agricultural production. Educational programs about crop insurance products and risk management in general are also critical to their acceptance and increased participation. It also should be emphasized that counter-cyclical payments, loan deficiency payments, and ad-hoc disaster assistance, must be phased out and eliminated if crop insurance is to be an efficient instrument. Failure to eliminate these other policy instruments discourages producers from purchasing crop insurance which is especially the case for ad-hoc disaster assistance. The expectation of disaster assistance hinders crop insurance participation.

A farm-policy portfolio that concentrates on rural development polices such as education, health, services targeted at small producers and promoting rural economic activity in general, would be most beneficial to this class of producer. These policy instruments provide a financial safety net for these small producers since it positively impacts these farmers' primary source of income, which happens to be from off-farm sources. This policy instrument preserves the small farm rural lifestyle but without distorting the agricultural economy by trying to enhance these farmers' on-farm source incomes.

State-of-the-Art Production Technologies

The goal of producing safe and high quality agricultural output requires creating an environment for agricultural producers to be the best they can be and to strive to be even better. Agricultural policies should facilitate and reward the adoption of new technology which results in more efficient, safer, higher quality food and more environmentally friendly production practices. Increased product quality and safety enhances values and increases demand for agricultural products. Attributes of agricultural products' which increase in value due to innovations, combined with more efficient methods that reduce the costs of production, ensures profitability for agricultural producers. Attaining these goals requires a farm policy committed to continued investment in research and development of these new technologies. The U.S.

university land-grant system has a vital role to play here with research and extension efforts. Further, Patent laws that provide incentives for innovation are also important. During times of wavering budgets at U.S. land grant universities, the resolve of continued investment in research and development that leads to more efficient, safer, improved quality food and more environmentally friendly production practices in agriculture must remain steadfast.

The Mitigation of the Reliance of Some Agricultural Sectors on Farm Payments

U.S. producers of some agricultural commodities have become reliant on government payments. This is not a good thing. Not only is this reliance burdensome on the taxpayer and troublesome in relation to international agreements such as the WTO, it changes producers' behavior and expectations. It is probably a safe bet that agricultural producers would rather not have to rely on farm payments to get by, and the taxpayers certainly would rather not incur the current cost burden. Furthermore, there is no real evidence to suggest that the incomes of farmer's who produce commodities that receive significant government payments, are any higher than those who receive little or no government payments. There is also reasonable evidence to suggest that government payments become capitalized in land values, land rents, and specialized assets. When this occurs the government payments are not really doing what they were intended to do, namely, to support farm incomes, since the higher land values and land rents mean that these increased costs offset the benefits of the government payments. This point is highlighted by the fact that approximately 59% of the acres farmed in the U.S. are rented (ERS-USDA 2005b). So how should U.S. farm policy attempt to wean those sectors that have become reliant on government payments? This is a very difficult and challenging task, which will meet much resistance. Reduction in land values could have a significant impact on the debt to asset ratios of those farmers who are highly leveraged due to high land costs. Current debt-to-asset ratios in U.S. agriculture are approximately 14% (ERS-USDA 2005c).

Expectations about the future stream of government payments have an important impact on land values. Land values in the U.S. are markedly higher than in other countries with which the U.S. competes (for example South America), partly because of

the expectation from purchasers and sellers of this land that government payments will be forthcoming in the future. This expectation of government payments is incorporated into the price of farmland. If this expectation of future government payments were eliminated, we would see a lowering in land values and rents. Another benefit from the removal of expectations of government payments would be producers making more efficient decisions concerning resource allocation and not worrying about how to allocate resources to maximize government payments in the future, some of which occurs within the current farm program. The difficult question is, what is the most effective and efficient manner in which to wean producers from government payments and over what time frame should this adjustment take place? Once this course of action is determined, if it is indeed chosen as a way to proceed, it must be steadfast in eliminating this expectation altogether, not wavering toward the re-introduction of government payments or even ad-hoc assistance during the next unexpected event. This is a real challenge for policy-makers. Less reliance on government payments and a movement toward market-based, non-distorting polices such as unsubsidized actuarially fair crop insurance holds the promise of an efficient and prosperous agricultural economy. The challenge is how to eliminate the expectation of all other government support in order to encourage participation in crop insurance and to simultaneously reform and further develop the crop insurance portfolio of policies in place to carry this burden. Part of this challenge is to significantly reduce the current levels of premium subsidies in the crop insurance program so that producers are paying more of the actually fair rate, but at the same time to maintain participation rates.

This is a challenging prescription, but a feasible one, aimed at achieving increased economic efficiency in the long-run. It is consistent with achieving an agricultural economy that is prosperous by producing an abundant, safe, and high-quality food and fiber supply with acceptable environmental impacts from the practices used, and without being burdensome on the taxpayers. It also serves to achieve some of the trade liberalization goals, leading by example. This prescription is also consistent with a more competitive world economy in agriculture in general.

ENERGY POLICY

The most recent events of hurricane Katrina and the recent higher fuel and energy costs have brought to bear some challenges for energy policy moving forward, with implications for the agricultural economy. When gasoline prices recently shot past the $3.00 per gallon level, increased attention seemed to turn toward current energy policies and alternatives to petroleum.

When thinking about energy policy it is useful to segregate the short- and long-term effects, and their impacts on the agricultural economy. In the short term the higher fuel costs will adversely affect agricultural producers in terms of higher harvesting costs. Some estimates had called for increases of $2 billion in energy costs for farmers before hurricane Katrina (The Associated Press, citing Keith Collins, USDA Chief Economist) and updated estimates have added another $0.5 billion (Feedstuffs, September 5, 2005 citing Terry Francl, American Farm Bureau Federation), for a total estimated increase of $2.5 billion in energy costs in 2005. It will also result in lower local prices due to weakening basis levels reflective of higher transportation costs, and larger domestic supplies of some corn and soybeans, since exports have been disrupted out of the Gulf of Mexico. For some agricultural producers, namely livestock and local bio-energy producers, this is beneficial. These are all short-term problems that will not be long-lasting but will adversely affect farm incomes in the near term, which it should be emphasized, have not been factored into earlier estimates used in this testimony. It is really, in most cases, too early to tell the impact of hurricane Katrina, and it is especially the case with hurricane Rita further exacerbating the problem.

More interesting for this discussion, are the longer-term issues that arise from these recent events, and the discussion of increased effort toward agricultural-based fuels to compete with petroleum based energy. From an economic standpoint it is advantageous to have viable substitutes that promote competition, especially if the substitutes have environmental benefits and can be cost competitive. But it is imperative that this development and rise or fall of agricultural based fuels be science-based and can be able to achieve the economic efficiencies required to stand alone as a viable source *without* subsidies and tax relief. Although significant advances have been made with the pursuit of ethanol and bio-diesel, it is fair to say that at this stage

more advances are required to make these products economically viable as permanent competitive substitutes. One outcome of the science-based approach is that it might find that agricultural based fuels cannot "pencil out" and be an economically viable option without subsidies and tax relief.

The nucleus of the effort should be to develop the science to make these fuels competitive without subsidies and tax relief. Financial support to the scientific development is a much better investment, compared with subsidies and tax relief to current technologies that are not yet competitive in the open market. A successful science-based approach will facilitate a long-term structural benefit to the agricultural economy. Biotechnology will likely play an important role and may hold the key to developing the product attributes needed to achieve the economic efficiency for agricultural based fuels to become a mainstay as an energy source.

Concluding Remarks

The state of the agricultural economy in relation to net farm incomes is sound due to favorable commodity outlooks and significant increases in direct government payments. The current farm policy is exhibiting the characteristic of downward stickiness rather than being a "safety net" due to its apparent inability to adapt to these prosperous times. Such stickiness and inability to adapt is a reflection of a predominance of policy instruments that are not market-based and are, therefore, market-distorting, and should be revised to be more responsive to prosperous times.

In this context, current farm policy could be improved with an economic safety net that better recognizes the heterogeneity of the farm sector. Targeted policies that provide financial assistance to *larger farms' on-farm income* when unexpected disaster strikes make sense from the standpoint of ensuring an adequate supply of agricultural products since these farms produce the majority of the production. Rural development policies creating opportunities to improve or maintain current levels of *smaller farms' off-farm income*, allowing these producers to continue to farm if they choose and preserve the rural lifestyle that much of farm policy is intended to do, makes the most sense for smaller farmers without being distorting to larger farmers.

Agricultural policies should facilitate and reward the development and adoption of new technology which results in more efficient, safer, higher quality food and more environmentally friendly production practices. Similarly, agricultural policies targeted at agricultural-based fuels competing with petroleum-based energy must be science-based and strive to achieve the economic efficiencies required to stand alone as a viable source without subsidies and tax relief. It is still uncertain whether this will be economically feasible.