

PURDUE AGRICULTURAL ECONOMICS REPORT

FEBRUARY 2003

Agricultural Income Prospects Turn Upward for 2003

The general economy and the agricultural economy are expected to rebound from a difficult 2002. Faster growth in the general economy is expected, although unemployment may still increase in the first-half of the year. Inflation is expected to remain low with rising interest rates. The rebound in farm income is expected to come from an anticipated return to more normal yields in Indiana for 2003, and from a much improved animal sector including cattle, hogs and poultry. The milk production sector is expected to have little economic improvement however.

The Search for Faster Growth *Larry DeBoer*

The economy hit a “soft spot” this past fall. Many economic indicators showed slower growth including manufacturing activity and auto sales. The unemployment rate increased from 5.6% in September to 6% in both November and December. GDP for the fourth quarter probably grew less than 2% and as a consequence, the Federal Reserve responded to the slowdown with a bigger-than-expected half-point cut in its interest rates on November 6.

In the coming year, growth should pick up although it will not match the heady days of the late 1990s. Low interest rates should encourage

consumers to spend, though at a somewhat slower growth pace because of high debt levels and lower consumer confidence. Federal tax cuts could spur spending, if they happen, but state and local tax hikes will restrain spending. Very low mortgage interest rates should keep housing construction booming and very low inventory/sales ratios should prompt businesses to re-stock their shelves. The low capacity utilization rate means there’s lots of unemployed plant and equipment and thus business investment will likely grow slowly again in 2003.

Federal spending is growing fast, especially for defense for obvious reasons. State and local government budgets are in sad shape, so only small increases in state and local spending are likely. The falling value of the dollar may restrain imports, but the rest of the world is not growing fast enough to increase our exports very much.

For 2003, expect GDP to grow 2.7% above inflation, about the same as in 2002. Such growth will not be fast enough to bring the unemployment rate down, so it will probably approach 6.4% by mid-year, then begin to drop again. It may be November 2003 before the unemployment rate drops back to 6% again. Unemployment that high should keep inflation in check. The inflation rate as measured by the consumer price

index is expected to remain around 2.1% for 2003.

After its big November rate cut, the Federal Reserve signaled that further rate cuts are unlikely. With the threat of a double-dip recession receding, the Fed may even consider rate increases by the latter part of 2003. The 3-month Treasury interest rate, currently at 1.2%, is expected to rise to 2% by this time next year. The demand for housing loans keeps growing, and business investment is no longer declining, so long term rates should rise also. The 10-year Treasury rate is currently at 4.1% and is expected to rise to about 4.5% by December 2003.

What about war with Iraq? This forecast assumes there won’t be one. If there is a war, consumers will probably cut their spending and oil prices will probably spike as occurred during the Gulf War. If so, a war would result in slower GDP growth

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and higher inflation than suggested here.

Issues in Agricultural Policy

Allan Gray and Otto Doering

Sign-up for the new, 2002 Farm Bill has gone slowly. At the end of 2002, only 20% of the farms in the U.S. had signed-up. This slow pace has resulted in the USDA issuing a warning that all of the sign-up cannot be done in the last few weeks prior to the April 1 deadline.



acreage and yield bases to the 1998 through 2001 crop years with two noted exceptions. The first exception are farms that have a historic base that is 60% or more corn. Since corn payments are expected to be larger than for other crops, a large corn base may make it advantageous to maintain the old base. The second exception involves farms that have added non-program crops in the updating crop years of 1998 through 2001. Non-program crops include fruits, vegetables, popcorn, and forage crops. Non-program crops are not eligible for base, so if these crops

“The rebound in farm income is expected to come from an anticipated return to more normal yields in Indiana for 2003, and from a much improved animal sector including cattle, hogs and poultry.”

At time of sign-up, producers will need to make a decision on updating their acreage and yield bases. One problem that has slowed sign-up is the inability to document the recent yield history for a specific farm or parcel of land. As a general guideline, most farms will want to update their

were planted in the 1998 to 2001 crop years, that acreage will be lost as base. The new Farm Bill is discussed in the Sept. 2002 PAER at the following web site: www.agecon.purdue.edu/ext/paer/.

A complete evaluation for individual farms can be made by using the “Purdue Spreadsheet Calculator for Base Acres and Program Yields.” This can be found at the following web site: www.agecon.purdue.edu/staff/gray/Extension/Agricultural%20Policy/extensionpolicy.htm#xls.

Since the November elections, leadership of the Senate and House Agricultural Committees has changed. The retirement of Senator Thurmond allowed Senator Lugar to move to the chairmanship of the Foreign Relations Committee and Senator Thad Cochran of Mississippi became the Agricultural Committee Chair. Senator Cochran is expected to be a strong supporter of farmers including the new 2002 agricultural legislation. He has already come out in favor of Drought Assistance and is a strong supporter of not lowering payment limitations. In the House, Representative Bob Goodlatte of Virginia will replace Representative Combust and has pledged to continue the strong agricultural leadership in the House.

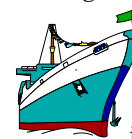
Several pieces of agricultural legislation may come up in 2003. The first is Drought Assistance, a hold-over from last fall. Farmers, commodity groups, and some politicians are still pursuing drought relief legislation. The Senate has passed a \$3.1 billion proposal. However, passage may be more difficult in the House. Since the fall election is over and other topics such as a potential war in Iraq are absorbing much of the budget attention, the odds of further farm financial assistance are reduced. An energy bill did not make it out of committee in the last Congress, so that bill will start over in 2003. A new energy bill will be important to the stimulation of both ethanol and biodiesel production. Restrictions on packer ownership of livestock is still a possible agricultural policy issue. Senator Grassley of Iowa has led the movement to ban packer ownership of animals and continues to look for support of that proposal.

Don't expect agricultural legislation to be a high priority this year with a new Farm Bill last year; with growing budget deficits; and a looming war.

Ag Trade Booms with Higher Prices

Philip Paarlberg

U.S. agricultural exports for fiscal year 2002/03 are forecast to be nearly \$59 billion compared to \$53.2 billion in fiscal year 2001/02. The increase in export value reflects significantly higher prices for grains, oilseeds, and oilseed products due to droughts in North America, Africa, and Australia. World grain production is forecast to fall from 1865 million tons to 1808 million tons. World oilseed output is forecast to be about the same as in the past year because increases in foreign oilseed production offset the drop in the U.S. soybean crop. Export tonnages from the United States are not expected to be significantly higher in 2002/03 due to higher world prices, slow economic growth, and competitive South American supplies.



The United States passed trade promotion authority in August and

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presented its proposals to the World Trade Organization to liberalize agricultural trade. The U.S. proposal calls for expanded market access, elimination of export subsidies, restrictions on state trading agencies, and reduced domestic farm support. The Cairns Group, Japan, and developing nations also tabled proposals.* The European Union will present its position by the end of March 2003. The Cairns group proposes a greater expansion in market access than does the United States, ending of export subsidies and domestic support, and restrictions on export credit and credit guarantee programs. Japan seeks to maintain the status quo. Developing countries would like greater access to developed country markets. The European Union proposal will probably include an effort to restrict access of products with genetically modified material plus labeling and traceability rules.

The United States continues to be criticized for inconsistency between its trade proposals and its actions. The 2002 Farm Bill is seen as not conforming to the spirit of our WTO proposal. The United States is considering import restrictions of Canadian wheat as well as filing complaints against proposed European Union labeling and traceability laws.

The food crisis in Africa has expanded north to Ethiopia and Eritrea where 9 million people are threatened with starvation. Those are in addition to the 14 million in southern Africa plus several million in North Korea. U.S. food aid has been plagued by the inclusion of genetically modified corn. While some nations have agreed to accept milled

corn, Zambia has not been willing to accept the U.S. corn.

Grain Prices May Weaken in 2003

Chris Hurt

The January crop reports from USDA "took the wind out of the sails" for grain markets, as the expected ending stocks for corn, soybeans, and wheat were all increased. For corn it was a reduction in both expected feed usage and exports that resulted in an 80 million bushel increase in ending stocks to 919 million. The story was similar for wheat with both feed and export use reduced. For soybeans, it was an increase of 40 million bushels in final 2002 production as a result of increases in both acreage and yield. In combination, these revisions were a disappointment to those who felt that tight storage stocks would result in stronger prices through the winter.

Indiana corn prices for the 2002 crop are expected to average about \$2.40 to \$2.45 in the central and northern portions of the state, and 15 cents higher at Ohio River markets. Prices may still recover 10 to 15 cents per bushel from their current levels, but this will only get them back to about \$2.45 to \$2.55 per bushel by late winter or early spring.

Summer prices will take their clue from U.S. plantings and weather. Corn acreage is expected to increase by over 2% and reach 80.7 million acres. With normal yields, production would be slightly over 10 billion bushels, with ending stocks from the 2003 crop of around 1 billion bushels. If so, a return to the very depressed harvest prices that occurred in 1998 through 2001 crops would not be expected, rather harvest prices near \$2.00 per bushel would be expected.

Weather bears a special note. The drought from 2002 is not over. Much of the Rocky Mountain and the Great Plains regions remain very dry. In fact, moderate drought has now moved further to the east with most of Missouri, Iowa, and the northern half of Illinois and Indiana showing signs of concern. The forecast for late winter and spring is for below normal

precipitation, especially for the Eastern Corn Belt. If so, dry soils will not have moisture replenished going into spring planting. Another important point is to expect an early planting season, especially in the Eastern Corn Belt. Early planting tends to favor even larger acreage moving toward corn. Finally, summer precipitation is officially called normal for now, but some meteorologists are suggesting a movement toward La Nina which favors a hot dry summer especially for the Western Corn Belt. While U.S. winter weather tends to have little impact on corn and soybeans prices, current conditions and forecasts do provide reasons to believe weather rallies could be a part of 2003 price patterns.

While demand remains very strong for soybeans due to large purchases from China, the more dominant factor influencing prices may well be the size of South American



production. Weather in Argentina has been favorable, and USDA increased the estimated size of their crop by about 40 million bushel in January. Brazil and Argentina combined will produce a crop in excess of 3.0 billion bushels according to USDA estimates. This is 11% larger than our 2002 crop and an increase of 12% over their record crop last year. Weakness in U.S. soybean prices can generally be expected through early March as the South American crop nears harvest.

U.S. soybean acreage is expected to drop by about 3 million acres as acreage moves to wheat, corn, and sorghum. In addition, the states of Indiana and Ohio were unable to plant about 1 million acres to corn last year due to the wet spring. Much of this will head back to corn for 2003. With normal yields but reduced acreage, U.S. production may only be about the size of the smaller 2002 crop. Thus, ending stocks are expected to stay in the range of 200 million bushels, about like the 2002 crop.

Indiana soybean prices for the 2002 crop are expected to average about \$5.50 per bushel. Weaker prices are expected into late winter, with very modest recovery into the spring and early summer. For the 2003 crop,

* The Cairns Group is a coalition of 17 agricultural exporting countries who account for one-third of the world's agricultural exports. Members of the Group are: **Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Indonesia, Malaysia, New Zealand, Paraguay, the Philippines, South Africa, Thailand and Uruguay.** Since it formed in 1986, the Cairns Group has succeeded in putting agriculture on the multilateral trade agenda and keeping it there.

prices are expected to be near \$5.00 per bushel at harvest if normal yields should occur.

Winter wheat seedings are up 29% in Indiana and 6% for the U.S. Prices are expected to be under pressure in 2003 as the U.S. increases acreage, yields return closer to normal, and world production increases. If so, forward pricing of wheat should be considered prior to harvest.

Income prospects from grains and soybeans should improve for Indiana producers if the state returns to normal yields. The final estimates for Indiana's 2002 crop were 121 bushels per acre (16% below normal); 41 bushels per acre for soybeans (10% below normal); with wheat at 53 bushels per acre (15% below normal).

Input Prices Rise, Especially for Corn

Alan Miller

Diesel fuel and anhydrous ammonia are more expensive now than they were a year ago. Higher prices for fuel, propane, and nitrogen will increase the average out-of-pocket production cost of producing corn and soybeans in a fifty-fifty rotation in Indiana by about \$5.50 an acre in 2003 relative to a year ago. Most of the increase is on corn where the average cost will increase about \$9.00 per acre and only \$2 per acre for soybeans on average quality soils in Indiana.

Spot prices on diesel fuel are up about 30% relative to this time last year. Propane prices are up about 23% over the same time period. Uncertainty stemming from a possible Iraq war, as well as disruption in fuel supplies due to plant shut downs in Venezuela; appear to be the primary factors driving prices up. Near-term futures for crude oil and propane are higher than the deferred months, which may bode well for possibly lower crop drying costs later in the year, if the uncertainty surrounding a possible Iraq war is resolved.

Expectations of more corn and wheat, relatively tight stocks in the U.S., and a nitrogen fertilizer production industry in the U.S. which is already operating at or near full capacity have contributed to higher anhydrous ammonia prices. But the most important factor is the significant increase in the price of natural gas. Spot prices for natural gas have increased from an average of \$2.61 per MMBtu in January 2002 to nearly \$5.00 per MMBtu at the end of 2002. Anhydrous ammonia prices quoted to farmers are only up about 9% over the same time last year. Current farm prices for other forms of nitrogen, such as Urea and liquid nitrogen, haven't kept pace yet with anhydrous, but will probably firm up later as purchasing activity increases.

Seed prices appear to be unchanged overall from last year. Selected bio-technology and new varieties will be priced higher, but the overall increase in seed prices may be below the modest 2% to 3% increase of the previous two years.

Chemical prices have been nearly flat for the last five years and nothing in the outlook indicates a major change. Current price quotes for various chemicals are up 2% to down 8% with no change in price for several products.

Machinery prices and repair costs are likely to increase in 2003, although the increases are expected to have a small impact on crop costs. USDA's indexes of prices paid for farm machinery and repair costs show that recent annualized increases have been about 1.5% for both items. That slight upward trend is expected to continue in 2003.

Animal Industries Expect Better Year

Chris Hurt

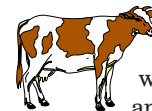
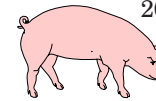
Prospects for improved income for most of the animal industries will be welcome in 2003. Improvement will be driven by reduced meat supplies and by better demand from stronger U.S. and world economies. Total production of red meats and poultry is expected to drop by 1.6% in 2003, the first time such a drop has occurred since 1982. The decrease

is expected to be led by a drop of more than 5% in beef production and a 2% reduction in pork production. Broiler and turkey production will only be up moderately.

Hog producers had a difficult 2002, but prices are expected to improve back to breakeven by April or May and move into the mid-\$40s by June. For the year, hogs are expected to average about \$40 per hundredweight, up from \$35 in 2002. Continued reductions in the size of the breeding herd are expected for much of 2003, with profitable hog prices extending through the summer of 2004.

Potential large reductions in beef supplies are expected to result in substantial improvement in cattle prices and returns. Slaughter steers averaged about \$67 per live hundredweight in 2002, but should reach close to \$75 for 2003. The highest prices are expected to occur in late March and April, and could reach \$80. Calf and feeder cattle prices will also be strong. Steer calf prices in 2002 averaged in the mid-\$80, and should average in the mid-to-higher \$90s this year. Some heifer retention could begin in late 2003 and 2004 which means a continuation of strong cattle prices until those heifers can begin to increase beef production in several years.

The one animal sector that may not see much improvement this year is dairy where large production and weak demand for products in 2002 has left large inventories of milk products. Adjustment in cow numbers is just now beginning and the improvement in the general economy is not expected to be rapid enough to result in much improvement in milk prices until late in the year. All milk prices averaged \$12.10 per hundredweight in 2002, the lowest level since 1980. The current forecast from USDA is for all milk prices to drop to \$11.85 in 2003. USDA is estimating that the Milk Income Loss Contracts (MILC), the government support program added about \$1.20 per hundredweight to the price of milk for moderate and small farms of about 130 cows or less in



2002. That amount of support is expected to be somewhat greater in 2003, and represents an important element in helping family dairies come closer to covering all costs of production. The support can only be received on a maximum of 2.4 million pounds annually.

Land Values and Rents Moving Even Higher

Craig Dobbins

In spite of a significant drought, low yields, and poor returns for animal enterprises, Indiana cash rents and land values remain strong. The results of the Purdue Land Value and Cash Rent Survey conducted in June 2002 indicated that on a state-wide basis land values increased 3.2% to 7.8%.

What has contributed to the strength of these markets? Certainly one aspect has been the limited supply of land. For the current owners of farmland there is little incentive to sell. The decline in the stock market and low interest rates on certificates of deposit have reduced the attractiveness of these alternative investments. In today's investment environment, farmland is providing a 4% to 5% annual return with a similar increase in value and thus provides an attractive investment.

The land market continues to be strongly influenced by tax-free exchanges arising from the sale of farmland near cities to developers. Unlike previous recessions, the demand for new housing and commercial property showed little decline in this recession. There also continues to be a strong demand for country home sites and recreational land.

The sharp decline in long term interest rates has also helped to strengthen the farmland market. Low interest rates have reduced the repayment requirements associated with land purchased using debt. While interest costs associated with ownership still exceed the amount of cash rent on most tracts, this difference has narrowed to the point

where some farmers are concluding that the additional potential benefits of ownership exceed this cost.

In 2003, long-term interest rates are likely to increase as the economy strengthens. This will likely slow the rate of increase in farmland values, but the other forces that are providing price strength are expected to remain. For the year ahead, farmland values are expected to increase 3% to 6%.

Expanding farm size by renting land is a strategy being aggressively pursued by many farmers. Combining the strong demand with the limited supply of land available to rent each year creates a strong rental market. The results of the June Purdue Land Value and Cash Rent Survey indicated that on a state-wide basis cash rent values increased 1.4% to 4.6%.

The new Farm Bill has removed the uncertainty of income support levels for the next several years. Various analyses of the Farm Bill indicate that support levels provided by this legislation will help support cash rent values. The implementation process associated with updating base acres and yields is under way and while it is taking longer than people would like, the process is proceeding.

The loss of LDPs this fall and the time frame in which government payments are received is creating a tighter cash flow situation for some farmers.

The tightening supplies of corn and soybeans caused by last summer's drought have led to increased commodity prices. However, much of this price improvement is offset by lower government payments and increased costs of production. Per acre corn and soybean production costs are expected to increase approximately 4.7% and 2.1%, respectively, (see the Input Price section of this article). The contribution margin (revenues less production costs) for a corn-soybean rotation is expected to be about the same as last year with normal yields. This indicates that an improvement in the returns per acre after all costs will result only if fixed costs are spread over more acres.

Improved prices, an expected return to normal yields, the new farm program, and the desire of many farmers to expand farm size will keep the demand for rental land strong and push cash rents higher by an expected 2% to 3% this year.

New Faculty

Assistant professor Maria Marshall is one of the two new faculty members to join the Department of Agricultural Economics at Purdue University in January (Look for Corinne Alexander in the next issue). Dr. Marshall will serve as Extension specialist in the rural business development area. Her goal is to assist in the development of new and sustainable ventures in Indiana as well as increasing the effectiveness of existing rural businesses.

Dr. Marshall has a master's degree in economics from the

University of Missouri at Kansas City. She received a Ph.D. in

agricultural economics from Kansas State University with a specialty in international trade and development with an emphasis on technical trade barriers. Her research generally focuses on international trade issues, policy analysis, economic development and agribusiness management. Her particular

interests include rural economic development, technical trade barriers, and public choice analysis.

Continued, page 12.



Maria Marshall

How Producers View Risk and Consultants: 2001 Top Farmer Crop Workshop Survey Results

George F. Patrick, Professor

Participants in the 2001 Top Farmer Crop Workshop were asked to complete a questionnaire about the sources of risk they face in their farming operation and about their responses to these risks.

Producers were asked to indicate the importance of the sources of and responses to risk on a scale of 1 (not important) to 5 (very important) and also to indicate whether they used the response to risk in their operation. Tables 1 and 2 summarize the responses of participants in the 1993, 1997, 1999, and 2001 surveys. The 2001 questionnaire also asked about producers' expenditures on various sources of information, including a

variety of consultants, and the value of this information for their management decisions. The scale of 1 to 5 was also used for producers to rate the value of information. Tables 3 and 4 summarize responses from surveys of Top Farmer Crop Workshop participants in the 1991 and 2001 workshops.

A total of 39 responses were obtained in 2001. The average respondent was 48.1 years of age, had completed 15.5 years of education, and had 2,283 acres of cropland (24.7% owned, 26.9% share leased, 39.9% cash rented, and 5.8% custom farmed). All of the respondents had gross farm income of over \$100,000, less than half produced any specialty

crops under contract, and less than 10% were debt-free. The age and educational level of respondents to earlier surveys were similar to the 2001 levels, but the average farm had only 1,820 acres in 1991.

Risk and Risk Responses

In 2001, the most important source of risk for respondents was changes in the government commodity program, at 4.38. This was much higher than the 3.20 this source



rated in 1997. Crop price variability (4.31) and crop yield variability (4.08), traditionally the most highly rated sources of risk, continued to rank near the top, although the rating for crop price variability was significantly lower than in 1997 and 1999. Because of the variation in producers' opinions (the larger numbers in the standard deviation columns indicate greater variation in opinions), many of the changes in Table 1 are not statistically significant. For example, input costs (4.13) moved up between 1999 and 2001, while rents (3.71) and costs of capital items (3.66) both dropped in their ratings, but the changes are not statistically significant.

Participation in the government commodity program (4.50) was the highest rated response to risk in 2001, much higher than the 3.49 this response rated in 1997, although the percentage of producers actually participating was similar. Being a low-cost producer, maintaining financial/credit reserves, and using production practices that work under a variety of conditions were responses to risk that all declined significantly in importance (Table 2). There were also declines in the percentages of producers who practiced these responses. In some instances, producers indicated that they were

Table 1. Averages and Standard Deviations of Ratings of Importance¹ of Risk Sources for the Top Farmer Crop Workshop Participants, 1993, 1997, 1999, and 2001^{2,3}

Sources of Risk (Changes in...)	1993 N=73		1997 N=41		1999 N=28		2001 N=39	
	Ave.	Stand. Dev.	Ave.	Stand. Dev.	Ave.	Stand. Dev.	Ave.	Stand. Dev.
Government commodity programs	3.62 ^{bc}	1.04	3.20 ^c	0.88	4.00 ^{ab}	1.05	4.38 ^a	0.67
Environmental regulations	4.17 ^a	0.77	3.73 ^a	0.78	3.82 ^a	1.06	3.72 ^a	0.89
Crop yield variability	4.08 ^a	0.78	4.49 ^a	0.68	4.32 ^a	0.77	4.08 ^a	0.74
Crop price variability	4.12 ^b	0.87	4.61 ^a	0.63	4.61 ^a	0.63	4.31 ^b	0.80
Input costs	3.93 ^a	0.82	3.90 ^a	0.80	3.89 ^a	0.97	4.13 ^a	0.70
Livestock yield variability	2.73 ^a	1.26	2.24 ^a	1.32	2.36 ^a	1.29	2.03 ^a	1.36
Livestock price variability	2.83 ^a	1.31	2.50 ^a	1.52	2.80 ^a	1.71	2.06 ^a	1.39
Land rents	3.53 ^a	1.03	3.95 ^a	0.89	4.11 ^a	0.92	3.71 ^a	1.18
Costs of capital items	3.79 ^b	0.89	4.12 ^a	0.79	4.18 ^a	0.86	3.66 ^b	0.84
Business arrangements with output purchasers	NA	--	3.46 ^a	1.00	3.64 ^a	0.83	3.43 ^a	1.01
Business arrangements with input suppliers	NA	--	3.15 ^a	1.01	3.53 ^a	1.07	3.14 ^a	1.01
Credit availability	3.26 ^a	1.23	3.44 ^a	1.18	3.50 ^a	1.07	2.92 ^a	1.11
Technology	3.86 ^a	0.95	3.80 ^a	0.81	4.00 ^a	0.72	3.56 ^a	0.79
Interest rates	3.58 ^a	1.17	3.63 ^a	1.03	3.74 ^a	1.02	3.41 ^a	1.07
Injury, illness, or death of operator	4.35 ^a	0.94	4.10 ^a	1.16	3.82 ^a	1.16	3.82 ^a	1.17
Family relationships	3.70 ^a	1.27	3.68 ^a	1.33	3.29 ^a	1.27	3.13 ^a	1.44
Family health concerns	3.99 ^a	0.95	3.88 ^a	1.08	3.60 ^a	1.03	3.64 ^a	1.06
Family labor force	3.18 ^a	1.24	3.41 ^a	1.13	3.29 ^a	1.27	2.82 ^a	1.19
Average (16)	3.68 ^a	0.53	3.59 ^a	0.51	3.62 ^a	0.65	3.38 ^a	0.44

1 Importance was evaluated on a Likert-type scale of 1 (not very important) to 5 (very important).

2 Average values for the importance of a source of risk in different years with the same letter as a superscript are not statistically different.

3 Analysis includes only respondents greater than \$100,000 in gross farm income.

unable to practice a response because of economic conditions. Forward contracting continued to be the highest rated marketing response, although the percentage of producers forward contracting in 1999 and 2001 was lower than in earlier surveys (Table 2), perhaps because of lower prices being offered by the market.

Some responses to risk, such as off-farm employment and producing some specialty crops under contract, have large standard deviations.

This indicates more diversity in producers ratings than smaller standard deviations.

Sources of Information

In general, the value of sources of information for management decisions declined from 1991 to 2001 (Table 3). The rating of county educators and university specialists as a source of information



declined from 1991 to 2001 (Table 3). The rating of county educators and university specialists as a source of information

declined, while the rating assigned to sales and support personnel was sharply higher. Producers considered their own records and consultants, especially in the tax and accounting area, as having the greatest value for management decisions in both 1991 and 2001. Almost all of the respondents, 37 of 38 completing that part of the questionnaire, hired consultants. The average 2001 expenditure on consultants was \$6,204. This was up sharply from 1991, in contrast to

Table 2. Averages and Standard Deviations of Ratings of Importance⁴ of Risk Management Responses and Percent of Producers Using Responses,⁵ for the Top Farmer Crop Workshop Participants, 1993, 1997, 1999, and 2001^{6,7}

Risk Management Responses	1993 N=70			1997 N=41			1999 N=28			2001 N=39		
	Ave.	Stand. Dev.	Percent	Ave.	Stand. Dev.	Percent	Ave.	Stand. Dev.	Percent	Ave.	Stand. Dev.	Percent
Diversification of farm enterprise	3.59 ^a	1.03	55.2	3.44 ^a	0.98	58.8	3.64 ^a	1.26	42.3	3.71 ^a	1.02	59.0
Geographic dispersion of production	2.97 ^a	1.13	58.6	3.15 ^a	0.99	47.1	3.19 ^a	1.11	38.5	2.83 ^a	1.08	38.5
Having backup management/labor	3.35 ^a	1.11	51.7	3.76 ^a	1.04	47.1	3.36 ^a	1.16	46.2	3.36 ^a	0.90	35.9
Using production techniques which work under a variety of conditions	4.35 ^a	0.66	87.9	4.10 ^{ab}	0.74	82.4	3.93 ^{bc}	0.83	76.9	3.69 ^a	0.89	59.0
Being a low cost producer	4.40 ^b	0.79	70.7	4.15 ^b	0.96	67.6	4.79 ^a	0.50	76.9	4.35 ^b	0.75	66.7
Government program participation	3.86 ^b	1.04	87.9	3.49 ^b	1.12	88.2	4.32 ^a	0.86	84.6	4.50 ^a	0.73	84.6
Hedging the selling price of crops	3.62 ^a	1.22	69.0	3.78 ^a	0.94	67.6	3.93 ^a	1.05	61.5	3.87 ^a	0.99	61.5
Using a marketing consultant	NA	--	--	3.15 ^a	1.17	52.9	3.64 ^a	1.31	50.0	3.68 ^a	1.25	61.5
Using a written marketing plan	NA	--	--	3.29 ^a	1.15	32.4	3.68 ^a	1.06	46.2	3.26 ^a	1.08	43.6
Forward contracting the selling price of crops	4.14 ^a	0.79	94.8	4.32 ^a	0.72	94.1	4.18 ^a	0.90	76.9	4.21 ^a	0.74	82.0
Minimum price contracts for the selling price of crops	NA	--	--	3.15 ^a	0.99	26.5	2.74 ^a	1.02	15.4	2.62 ^a	0.91	12.8
Producing some specialty crops under contract	NA	--	--	3.02 ^a	1.37	47.1	3.07 ^a	1.14	30.8	2.97 ^a	1.42	41.0
Commodity options to place a floor under the selling price of crops	3.12 ^a	1.13	44.8	3.24 ^a	1.14	50.0	3.32 ^a	1.25	34.6	3.55 ^a	0.98	53.8
Disability insurance	2.84 ^a	1.15	34.5	3.02 ^a	1.08	32.4	2.96 ^a	1.26	26.9	2.92 ^a	1.11	30.8
Multiple peril crop insurance (APH, GRP)	2.57 ^a	1.45	37.9	2.78 ^a	1.26	55.9	3.27 ^a	1.34	50.0	2.81 ^a	1.24	35.9
Revenue insurance (CRC, GRIP)	NA	--	--	NA	--	--	3.26 ^a	1.48	46.2	3.45 ^a	1.22	51.3
Hail and fire insurance for crops	2.88 ^a	1.25	55.2	2.90 ^a	1.18	52.9	2.68 ^a	1.19	34.6	2.51 ^a	1.07	25.6
Health insurance	3.94 ^a	0.98	79.3	4.27 ^a	0.90	85.3	3.82 ^a	1.33	76.9	4.03 ^a	1.05	69.2
Life insurance for operator/key personnel	3.64 ^a	1.09	82.8	3.98 ^a	0.96	94.1	3.86 ^a	1.33	84.6	3.62 ^a	1.21	61.2
Liability insurance	4.40 ^a	0.62	87.9	4.54 ^a	0.87	94.1	4.57 ^a	0.69	96.2	4.21 ^a	1.09	74.4
Maintaining financial/credit reserves	4.10 ^a	0.80	70.7	4.05 ^a	0.77	70.6	3.74 ^b	0.98	50.0	3.58 ^b	1.03	48.7
Off-farm investments	3.01 ^a	1.15	51.7	2.98 ^a	1.11	55.9	3.39 ^a	1.13	57.7	3.26 ^a	1.09	53.8
Off-farm employment	2.00 ^a	1.22	20.7	2.20 ^a	1.30	38.2	2.00 ^a	1.27	15.4	2.39 ^a	1.44	25.6
Debt-leverage management	3.81 ^a	1.08	63.8	3.66 ^a	1.11	55.9	3.85 ^a	0.92	42.3	3.50 ^a	1.06	43.6
Buy/sell agreements among owners	2.93 ^a	1.41	34.5	3.10 ^a	1.39	26.5	3.36 ^a	1.52	26.9	2.67 ^a	1.36	35.9
Pre-nuptial agreement regarding business assets	2.50 ^a	1.33	13.8	2.56 ^a	1.29	14.7	NA	--	--	1.78 ^a	0.98	12.8
Average of 20 responses	3.47 ^a	0.51	--	3.54 ^a	0.44	--	3.56 ^a	0.49	--	3.47 ^a	0.51	--

⁴ Importance was evaluated on a Likert-type scale of 1 (not very important) to 5 (very important).

⁵ Calculated only for producers indicating use of at least one of the risk management responses.

⁶ Average values for the importance of a response to risk in different years with the same letter as a superscript are not statistically different.

⁷ Analysis includes only respondents greater than \$100,000 in gross farm income.

the expenditures on more general sources of information in the upper part of Table 3. Excluding the costs of recordkeeping, expenditures on information increased from about \$1.19 per crop acre in 1991 (about \$1.55 in 2001 dollars) to \$3.96 per crop acre in 2001. The most common consultants were in tax preparation, marketing advice, and crop fertility areas (Table 4).

Role of Consultants

Producers were also asked to indicate the primary role of consultants in the business. Are they a complement or a substitute for management skills of

the operator? Is it a cost consideration or concern for liability? Most production- and marketing-related consultants were considered as complementary to the producers' management skills. The majority of respondents also considered financial and legal consultants as complementary, but protection from legal liability was also mentioned as a reason for using consultants. Producers did not generally indicate lower costs as a reason for using consultants.

Participants in the Top Farmer Crop Workshops are not a statistically representative sample of

farmers in the eastern Corn Belt. Most participants are full-time, commercial farmers, and their farm operations may involve multiple operators. However, to the extent that these producers have characteristics that will be typical of commercial producers in the future, their views and behavior provide useful information both to other producers and to those serving the agricultural sector.

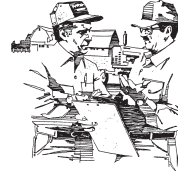


Table 3. Sources of Information for 1991 and 2001 Top Farmer Crop Workshop Participants - Number of Responses in Parentheses, Annual Cost and Value for Decisions

Information Source	Annual Cost		Value for Management Decisions ^s	
	1991 N=70	2001 N=38	1991 ^p	2001
Farm magazines	88 (66)	96(28)	3.23	3.00
Agr. newspapers and newsletters	136 (57)	117 (28)	3.24	3.03
Radio & TV	46 (3)	20 (1)	2.09	1.83
Own records	809 (36)	836 (19)	4.52	4.37
County educator	10 (1)	135 (10)	2.53	2.42
University Specialist	166 (5)	55 (9)	3.54	3.34
University field days/conferences	322 (30)	225 (16)	3.45	3.38
Private field days/conferences		141(14)		3.08
Sales & support personnel	50 (1)	41 (10)	2.42	3.31
Other producers	--	--	3.10	3.24
Computerized information services (i.e. DTN)	358 (49)	486 (23)	3.17	3.68
Internet	--	196 (14)	--	2.65
Subtotal	1,019 (70)	1,292 (38)		
Consultants				
Tax/accounting	698 (43)	1044 (31)	3.80	3.95
Soil fertility	1070 (22)	1464 (14)	3.79	3.24
Scouting	1246 (6)	3698 (4)	2.67	
Marketing	755 (33)	3455 (23)	3.44	3.63
Subtotal	1,559 (70)	6,204 (38)		
TOTAL	2,578 (70)	7,496 (38)		
Total/crop acre without records	1.19	3.96		

⁸ Value was evaluated on a Likert-type scale of 1 (low value) to 5 (high value) to management decisions.

⁹ The 1991 survey considered production, marketing and financial decisions. Results are reported as the value for production decisions except for tax/accounting and marketing consultants which used financial and marketing decisions, respectively.

Table 4. Use of Consultants by 2001 Top Farmer Crop Workshop Participants and Average Annual Expenditure, N=38.

Type of Consultant	Number Using	Average Expenditure
<i>Crop Production</i>		
Fertility	14	1,464
Scouting	4	3,698
Pesticide application	7	5,441
Other	3	2,533
Total Crop	18	2,066
<i>Livestock production</i>		
Genetics	1	3,000
Nutrition	1	200
Veterinarian	8	1,800
Other	-	-
Total livestock	8	1,975
<i>Marketing</i>		
Marketing advice	20	3,023
Marketing commodity	3	6,333
Other	-	-
Total marketing	23	3,455
<i>Financial</i>		
Tax preparation	31	1,044
Financial statements	7	786
Financial planning	6	533
Other	1	3,500
Total financial	32	1,392
<i>Legal</i>		
Estate planning	10	1,145
Other	2	1,250
Total legal	12	1,163
Other	3	467
TOTAL	37	6,204

Continued from page 9.

will or trust provisions that may need revision.

Individuals and couples and professionals in estate planning and

probate work need to continually re-educate themselves on the estate and inheritance tax law as it applies to their situation. Numerous tools exist for solving or avoiding problems

in an estate transfer. Estate and business transfer problems continue to arise due to misinformation, inappropriate tax practice, and lack of individual foresight.

Is Your Will Valid?

Gerald A. Harrison, Extension Economist and member of the Indiana Bar

Your will probably is valid having been properly executed and witnessed under long standing rules in Indiana. Indiana's basic rule of two witnesses signing below a will-maker's (testator) signature (in the will's attestation clause) has long been the law in Indiana.

About 25 years ago, an optional, self-proving certificate was added to the Indiana will-making law, and practice. This is a separate statement that must be signed by both the will-maker and his or her two witnesses. The self-proving certificate states the legal requirements for a valid will (see below) and is intended to allow a will to be accepted for probate without a written statement by a witness at the time of offering a will for probate—the idea being to avoid the delay and cost associated with finding a witness after the will-maker's death for probate purposes. Note, a self-proving certificate is not required for a valid will. A self-proving will certificate is in the Indiana law at Section 29-1-5-3(b) and is as follows:

*** UNDER PENALTIES FOR PERJURY, we, the undersigned testator and the undersigned witnesses, respectively, whose names are signed to the attached or foregoing instrument declare:

- (1) that the testator executed the instrument as the testator's will;
- (2) that, in the presence of both witnesses, the testator signed or acknowledged the signature already made or directed another to sign for the testator in the testator's presence;
- (3) that the testator executed the will as a free and voluntary act for the purposes expressed in it;
- (4) that each of the witnesses, in the presence of the testator and of

each other, signed the will as a witness;

- (5) that the testator was of sound mind when the will was executed; and
- (6) that to the best knowledge of each of the witnesses the testator was, at the time the will was executed, eighteen (18) or more years of age or was a member of the armed forces or of the merchant marine of the United States or its allies.

 Testator (will-maker) Date Witness Witness

Last July, the Indiana Court of Appeals in an opinion on a will dispute case said that signatures on a self-proving certificate alone may not be enough to let a will be valid. The will in dispute did not have the usual initial set of will-maker and witnesses' signatures in an attestation clause. This ruling brought a swell of concern from the estate planning and probate lawyers in Indiana. Apparently, many wills exist with only one set of signatures—the will-maker and witnesses' signatures only on a self-proving certificate.

In response to the concern among the Indiana Bar, the Indiana Court of Appeals—reversing the July 2002, controversial ruling—declared on January 23 that a will can be valid with just one set of the will-maker and witnesses' signatures. But the court also ruled a wills may need two sets of signatures to be valid depending on the wording in a will. That's especially true if a will has just one set of signatures, but the will language refers to a second set of signatures.

Nevertheless, Indiana Court of Appeals made it clear what the

practice was intended to be in Indiana. A will generally has to be witnessed by at least two appropriate individuals, and if there is a self-proving certificate (or affidavit added) then it is prudent to have a second set of signatures by the will-maker and two witnesses one set in an attestation clause and another set for the self-proving certificate. Is your will valid with one set of signatures?

The revised, Court of Appeals opinion makes it clear that they do not believe validity with only one set of signatures is what was intended by the Indiana law following Indiana Code sections 29-1-5-3(b) and 29-1-5-3(d). You may read Judge Robb's comments regarding the Courts' view on the proper execution of will in Indiana at: www.in.gov/judiciary/opinions/completed/01230302.mgr.html. Indiana laws are available on the Internet at: www.ai.org/legislative/ic/code/.

House Bill 1116 is currently before the Indiana House Judiciary Committee. H.B. 1116 specifies that a will may be executed, attested, and made self-proving by including in the will a self-proving clause signed by the testator and witnesses. This Bill is intended to overturn the Court of Appeals July 2002 ruling that if a self-proving certificate is part of the will execution, that there still has to be a second set of witness signatures in an attestation clause. That is, H.B. 1116 if made law may avoid the need to re-execute existing wills. One concern is those wills for individuals who now may not have the legal capacity to re-make or to amend an existing will.

Generally, this leaves the issue too confused for the lay person to evaluate without counsel. See your lawyer as to whether and an existing will is properly witness so as to leave no doubt about the validity of the will. In addition, you may find there are more important shortfalls in your

Continued, page 8.

Antitrust Law and the Food and Agricultural Cartels of the 1990s

Jeff Zimmerman, Research Assistant and John M. Connor, Professor

Background History of Cartel Prosecutions

A cartel is an organization dedicated to fixing prices. Cartels have been a feature of business conduct for over 125 years, but in the past decade unprecedented global growth in cartel activity has been observed in the food and agricultural industries. This growth has been countered in part by heightened legal sanctions and by improved prosecutorial techniques adopted by the U.S. Department of Justice's (DOJ) Antitrust Division and European Commission's Directorate General for Competition (DG-IV), among others.

The U.S. Department of Justice successfully prosecuted scores of international price-fixing cartels in the late 1940's. However, for nearly 50 years few international cartels

were discovered or prosecuted. After 1950, the DOJ prosecuted only 3 or 4 *international* cartels out of a total of 20 to 60 annual cases. During 1988-1992, more than 20 global cartels were formed by manufacturers in North America, Europe, and Asia, mostly in the food/feed ingredient industries.

The pattern of enforcement changed considerably seven years ago. The lysine cartel convictions of 1996 initiated a series of successful cartel prosecutions by the DOJ throughout the late 1990s. The DOJ has improved its record of convictions through heightened fine structures and more extensive cooperation with the FBI and foreign antitrust agencies and by treating cartel episodes more like serious organized crime. Antitrust agencies abroad have increasingly imitated the DOJ's successful anticartel policies.

The ADM Case – a Milestone in International Price-Fixing Cartels

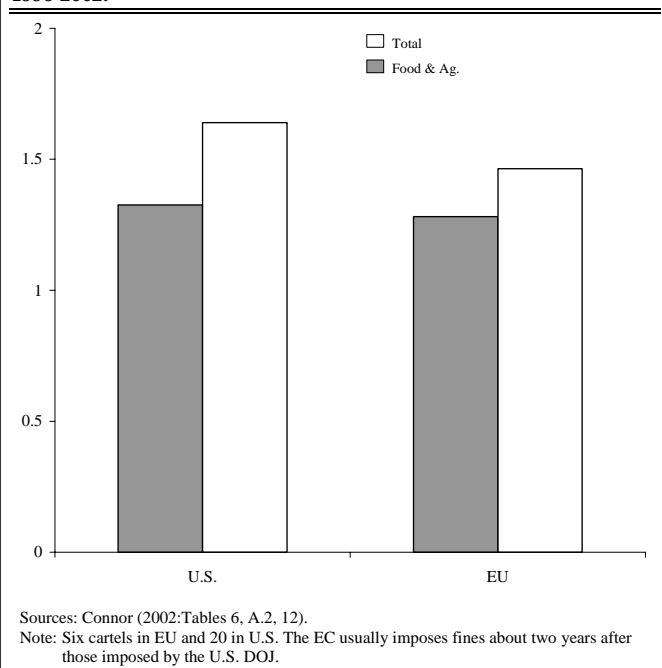
The 1996 lysine cartel conviction was the result of an FBI undercover operation that began in 1992 and ended June 1995 with raids on the headquarters of ADM and four co-conspirators (Japanese and Korean companies). The aftermath of the successful prosecution resulted in a \$70 million dollar U.S. corporate fine imposed on ADM, with the other co-conspirators paying \$23 million more. Personal convictions included three Asian executives pleading guilty and paying small fines in 1996. In 1998, three ADM executives were found guilty at a trial in Chicago, paid \$1,050,000 in fines, and were made to serve 99 months in prison collectively.

From 1997 to 2001, DOJ corporate price-fixing fines amounted to more than \$2 billion dollars, compared to an average of \$27 million per year between 1986 and 1996. Unlike the pre-1997 price fixing cases, 90 percent of the corporate fines imposed have been on *global* cartels, and, of these, 85 percent were in the food and agriculture sectors (Figure 1). These global cartels differ from those of the past in the global scope of their price setting, scale of operation, inclusion of non-European members, and greater durability.

Successful Anticartel Techniques

The federal law designed to combat cartels is the 1890 Sherman Act. In addition to the criminal powers given to the DOJ to fine companies and cartel managers, the Act allows for *private* suits against cartels. The outcome of a successful private suit is treble damages (i.e., settlements equal to three times the victims' economic losses). The purpose of the treble damages is to compensate buyers who paid artificially high prices to the cartel members and to deter firms from forming cartels.

Figure 1. U.S. and EU Fines for International Cartel Infringements, 1996-2002.



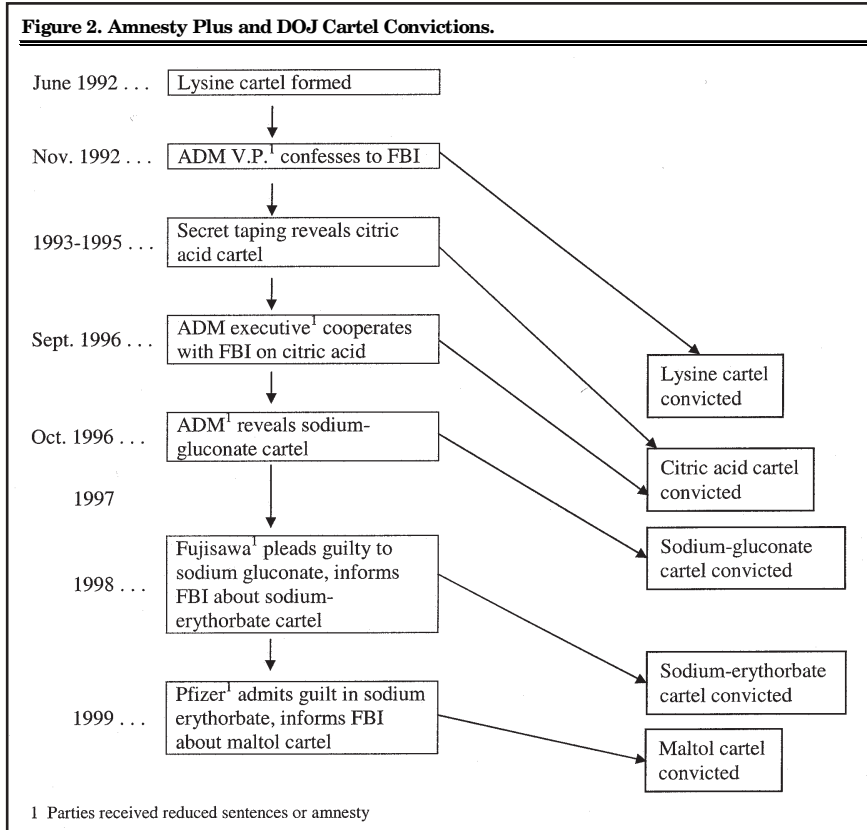
The U.S. has continued implementing innovative prosecution methods for corporate price-fixing, including the 1993 antitrust Leniency Program that guarantees automatic amnesty, that is, a 100 percent discount on its fine specified by the U.S. Sentencing Guidelines, for the first to confess (cartel ringleaders exempted). Even the second and third companies to confess and cooperate usually receive substantial discounts. This program creates incentives for firms to defect from the cartel and often results in a “race to be first” to confess to the world’s eight antitrust agencies with these policies. The DOJ’s recent “Amnesty Plus” program rewards target companies if they inform the DOJ about collusive activity in a market not yet being investigated. The lysine cartel discovery ultimately led to the conviction of four other global cartels in the food and feed industry through the amnesty plus program (Figure 2).

Fines have been increased significantly in the last decade or two. In 1990, Congress increased maximum penalties for corporations up to nine times a cartel’s illegal monopoly profits; this compares to at most \$50,000 in 1974. In addition, individual penalties for cartel executives increased to \$25 million and 36 months in prison from the respective 1974 levels of \$50,000 and 12 months.

Prosecuting Global Cartels – a Growth Industry

Since 1996, the U.S. DOJ has convicted hundreds of companies and persons that operated 40 global cartels. The total sales during the price-fixing period of these 40 discovered global cartels was a startling \$76 billion, of which \$20 billion (26%) was in the United States. On average, prices were driven up by about 25 percent during these conspiracies.

Before 1997, less than 1 percent of all firms indicted for price fixing were foreign. Since then more than 50 percent have been foreign multinationals; in 2001 70 percent were foreign. Interestingly, the U.S. justice system has begun to function as an international prosecuting institution.



The first foreign executive ever convicted for U.S. price fixing was in 1993. Today, 12 executives from foreign countries have been so convicted, some of whom with residence abroad traveled to the U.S. to be imprisoned for price-fixing. The United States is virtually the only jurisdiction in the world that regularly imprisons price fixers.

Convergence in cartel enforcement worldwide has aided in the partial recovery of global market damages and serves to reduce future occurrences. Indeed, E.U. and Canada corporate fines imposed an additional 98 and 11.5 million U.S. dollars, respectively, to lysine cartel participants (Table 1). International treaties and protocols have made joint raids and information sharing possible.

Nevertheless, there are still substantial differences in anticartel enforcement around the world. In the U.S. and Canada, price-fixing is a *per se* offense, meaning that no evidence on economic impact need be presented to prove allegations. However, the EU treats antitrust

violations solely as a civil infraction by a business entity. Thus, individual conspirators are not personally liable for monetary penalties or imprisonment. Moreover, outside the U.S. and Canada, private antitrust suits are either not possible or ineffective.

Can the Law Deter Cartels in the Future?

Despite the heightened fines and increased probability of detection,

Table 1. Five Global Cartels with Corporate Fines Imposed by U.S., EC, and Canada, 1996-2002.

Cartel	U.S.	EC	Canada
Million U.S. dollars			
Lysine	92.5	97.9	11.5
Citric Acid	110.4	120.4	7.9
Vitamins	906.5	756.9	64.0
Sodium gluconate	32.5	51.2	1.6
Graphite electrodes	436.0E	172.0	15.5
Total	1,577.9	1,213.3	100.5

Sources: Connor (2002: Tables 10, 12, A.2, and A.3).
 Note: These are the only five global cases for which all three jurisdictions had taken actions by mid-2002

there are many reasons to believe that cartels continue to operate in secret. Simply put, deterrence will only be achieved if companies perceive that the expected financial costs of collusion exceed the expected additional profits. To date, no global cartels have had global financial penalties exceed global financial costs, except lysine perhaps (Figure 3).

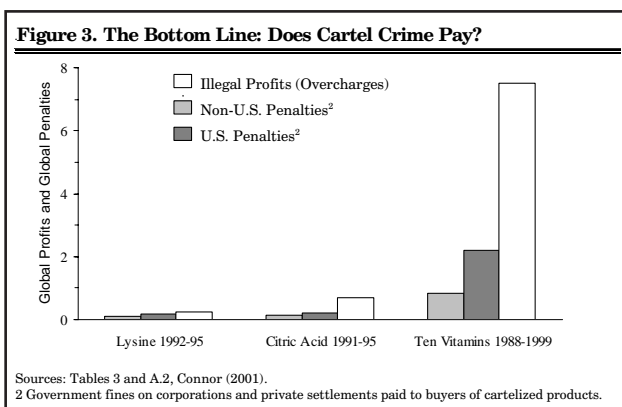
Given the lucrative nature of cartel crime, recidivism is very prevalent among participants. ADM, for example, has definitely

participated in three price-fixing schemes (lysine, citric acid, and sodium gluconate) and probably joined six others (corn sweeteners, carbon dioxide gas, monosodium glutamate, nucleotides, methionine, and wine alcohol). A dozen other firms are repeat offenders.

Evidence shows that most cartelists are fairly accurate at predicting additional profits associated with price-fixing schemes; however, their durability is often unknown in advance. With the historical probability of discovery

at 10-20 percent and chances of conviction upon discovery at 50-75 percent, and with most cartel profits being made outside the United States these days, it is eminently rational for would-be cartelists to assume the risk of legal punishment. Deterrence measures are difficult to assess; however, given these rational expectations, to ensure absolute deterrence the total financial sanctions should be at least 20 times the expected U.S. cartel profits (overcharges) and 60 times the U.S. overcharges in extreme cases.

To date, no global cartels have had to pay more than two or three times what they gained in illegal profits. Despite the prosecutorial successes of the past five years, on average, cartel crime still pays.



Further Reading

John M. Connor, *Global Price Fixing: "Our Customers Are The Enemy"*. Boston: Kluwer Academic (2001)
 University (August 2002), 56 pages.
 [www.agecon.lib.umn.edu/pu.html]. John M. Connor, "The Food and Agricultural Global Cartels of the 1990s", SP 02-04.W. Lafayette, IN: Purdue

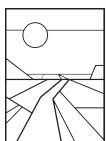
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Dr. Marshall has gained international marketing experience from working for two grain marketing firms. She worked for ConAgra in their Feed Ingredient Merchandising Division in Omaha, Nebraska where she was responsible for marketing

feed ingredients to clients in Mexico and Puerto Rico. Most of her industry experience however is with The Scouler Company. She worked for The Scouler Company's Grain Division in Overland Park, Kansas for four years where her responsibilities included marketing, financing, and logistics management for exports

to Mexico as well as new client development. Dr. Marshall's native fluency in Spanish has allowed her to collaborate with several Latin American universities. She has also made presentations to various Latin American producer groups and foreign executives interested in importing U.S. grains.

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