

1993 Cotton Management Economic Notes

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Government Payments or the Lottery

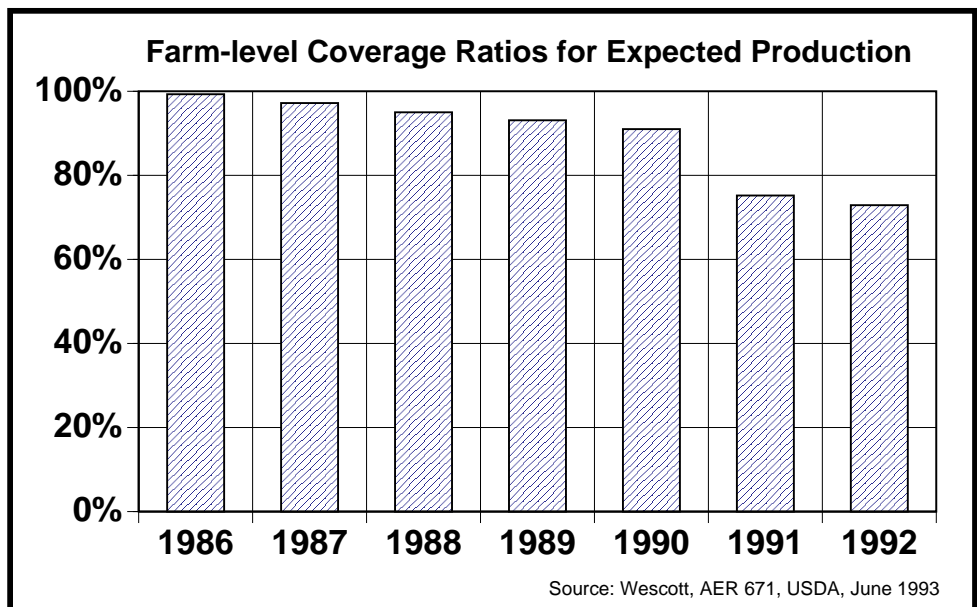
The last issue of the newsletter discussed some considerations for risk management. This issue examines the use of cotton futures options to reduce the impact from near-term downward movement of cotton prices.

Assessing risk and managing for risk in the 90's will become more crucial for farmers with the declining role of government programs. The figure to the right shows how the ratio of farm-level payment coverage to expected production for US Upland cotton has declined from 99.3% in 1986 to 72.9% in 1992. Two primary forces are contributing to the decline in this ratio. First, average US yields have trended upward during this period while program yields have remained constant. Second, the introduction of flex-acreage in the 1990 Farm Bill decreased the amount of acreage eligible for deficiency payments by 15%, precipitating a sharp drop in the coverage ratio after

1990. What can farmers do to better manage price and production risk with the declining role of government programs? What may be on the horizon for government price support programs?



In return for leaving a portion of base



acreage idle, producers are entitled to deficiency payments (target price minus annual US average price multiplied by program yield) on eligible acreage (base acreage less ARP rate and 15% normal flex-acreage). The target price and loan rate offered by participation in government programs have historically been the most popular tool for managing price risk. An options pilot program is under trial this year for corn, soybean, and wheat growers in specific Illinois, Iowa, and Indiana counties. Some have called this an "attempt to wean farmers away from farm programs." Irrespective of the underlying intentions behind the program, one object formally written was to educate producers on using futures options to reduce price risk. How can options be used to manage price risk?

Recent Prices	July 23, 1993	
	Upland (¢/lb)	Pima (ELS) (¢/lb)
Spot	55.90	93.00
Target Price (1993)	72.90	105.70
Loan Rate (1993)	51.15	88.12
Dec '93 Futures	62.49	

Note: Upland Spot Price for Desert SW grade 31, staple 35;
 Pima Spot for grade 03, staple 46, 7/16/93;
 1993 Phoenix base loan rates without discounts or premiums for quality.

Price Risk and Options

An option is the right but not the obligation, to sell or buy a commodity traded on the futures market for a limited time period at a specified price. In order to obtain the right to sell cotton futures (put-option) on the New York Cotton Exchange at a pre-specified price level or strike price, a premium must be paid. A put-option works very much like auto or accident insurance. The premium you pay for auto insurance will depend on the driving record of other drivers in your class (e.g., neighborhood, age, distance of daily commute) and level of insurance. Similarly, the premium you would pay for a put-option depends on how volatile market conditions have historically been for the time period specified (i.e., driving record) and the level of insurance or strike price (how much above or below current futures prices). Cotton prices have historically fluctuated more during the US growing season than after harvest so that a higher premium is commanded for a put-option that covers planting to harvest than just a post harvest time period. If cotton futures remain or fall below the previously specified strike price, a put-option will be exercised like an insurance claim would be filed if one had an auto accident. That is, futures can be sold at a higher price (strike price) than the current futures price so the option is exercised. If cotton futures rise above the strike price, the option is left to expire and the cost of the premium is absorbed in the same way that an auto insurance holder absorbs the cost of a premium when a policyholder is not involved in any accidents.

In the options pilot program, corn producers were reimbursed the cost of buying a put-option on corn with a strike price of \$2.90/bu, comparable to the target price. In addition, farmers received an additional \$.15/bu incentive payment for participating in the options pilot program. That is, farmers exchanged their deficiency payments for a \$2.90/bu put-option and \$.15/bu incentive payment. Midwest farmers that went with the options pilot program and had their crop flooded out may find the program of little value. That is, prices could rise above the price specified in the put-options making their put-options purchased by the government worth nothing and they would have little or no crop to sell at the higher market prices. But if prices drop, a put-option will give price protection much

like an auto insurance policy provides coverage for an auto accident. The amount of coverage in a put-option depends on the strike price (i.e., higher the strike price the higher the premium and level of coverage) and time period covered. Options can be used as an effective tool for managing price risk but they are not a safety net for potential production disasters.

Supply, Demand and Prices

Two of the primary factors that affect the expected price of cotton are the US and World supply and demand estimates. The following table shows the most recent estimates of the supply and demand of US cotton. These numbers show an increase in the 1993 planted acreage over earlier estimates. These preliminary estimates will be refined in the first production estimate due for publication on August 11. Prices have improved modestly in the past week or two based on bad weather reports from the Midwest and South.

U.S. COTTON SUPPLY AND USE ESTIMATES

ITEM	1991/92	1992/93		1993/94
		Mar	Jul	Jul
Upland:				
Million acres				
Planted	13.80	13.03	12.98	13.45
Program	10.63	11.19	10.85	11.82
Harvested	12.72	10.89	10.88	12.38
Yield, lbs/harvested acre	650	695	693	675
Million 480-lb. bales				
Beginning Stocks	2.26	3.58	3.58	4.38
Production	17.22	15.76	15.71	17.40
Total Supply	19.49	19.35	19.30	21.78
Mill Use	9.54	9.74	9.84	10.20
Exports	6.35	5.80	4.92	5.95
Total Use	15.89	15.54	14.75	16.15
Ending Stocks	3.58	3.96	4.38	5.60
Percent				
Stocks-to-Use Ratio	22.5	25.5	29.7	34.7
Foreign Stocks-to Use Ratio	48.9	46.0	43.9	38.8
ELS:				
1,000 acres				
Planted	250	263	263	197
Program	25	109	103	94
Harvested	244	260	260	195
Yield, lbs/harvested acre	784	918	918	930
1,000 480-lb. bales				
Beginning Stocks	82	121	121	224
Production	398	497	508	378
Total Supply	480	618	629	602
Mill Use	65	65	65	70
Exports	298	300	335	350
Total Use	363	365	400	420
Ending Stocks	121	243	224	172
Percent				
Stocks-to-Use Ratio	33.3	66.6	56.0	41.0

Source: USDA, ERS, "Cotton & Wool Situation & Outlook Update", July 13, 1993, Washington D.C.

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