Producer Prices in Cotton Markets: Evaluation of Reported Price Information Accuracy

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This study evaluates the accuracy of the US Department of Agriculture's Daily Spot Cotton Quotations (DSCQ) in reporting producer prices in the Texas-Oklahoma cotton production regions. Analysis of price levels and movements suggests that the DSCQ tend to overstate estimated producer prices for base quality, overstate quality discounts, and understate producer quality premiums in relation to hedonic measurement of prices. The DSCQ also did not move with the hedonic prices on a daily basis, but tended to lag the hedonic prices over longer periods. These lead-lag relationships did not appear consistent over qualities, regions, or years. ©1996 John Wiley & Sons, Inc.

Introduction

Price and quality information is important to the efficient allocation of resources and products in com-

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modity markets. Market participants utilize this information to make marketing decisions, and it may also affect production decisions. Price information for a commodity such as cotton is made more complex by the multiple dimensions of quality. These complexities in turn add to the importance of accurate price information.

From the mid-1960s until 1973, cotton prices were relatively stable. After 1973, due to the liquidation of excess inventories and altered commodity programs, prices became more responsive to variations in production and demand.¹ The adoption of the high volume instrument (HVI) system for evaluating quality added several new dimensions to marketing, making price reporting more complex. Quality attributes are not individually traded; thus, there are no directly observable market prices for these attributes. However, these quality attributes have value because they affect textile processing and quality of end products. Transfer of price information on quality values from textile mill to producers is one function of price reporting.

Quality information in cotton marketing is provided by the Agricultural Marketing Service (AMS), United States Department of Agriculture (USDA) through the HVI grading system.² Official cash (spot) cotton price reporting is also administered by the AMS, USDA. The AMS reports their assessed daily spot market prices through the Daily Spot Cotton Quotations (DSCQ). The DSCQ are published prices, premiums, and discounts for the seven US cotton producing regions.³ The reported prices are for the base quality^a (grade 41, staple 34, 3.5–4.9 micronaire, and 24 and 25 g/tex strength) and premiums and discounts are reported for all other relevant quality attributes in cotton.

Two points concerning the DSCQ are relevant to this study. First, the DSCQ are formulated by market reporters gathering market information through interviews with market participants and by obtaining sales information from cooperating providers.⁴ The procedures used in determining prices, premiums, and discounts for the DSCQ are, at least in part, subjective in nature⁵ in that they are influenced by the opinions of market participants who are interviewed by the market reporter. The sample used in the DSCQ formulation of prices does not have defined characteristics, and there are no internal procedures for quantitative evaluation on questions of statistical accuracy.

Second, the DSCQ represents the producer price of cotton. The origin of the DSCQ lies in the US Cotton Futures Acts of 1914 and 1916.⁶ The original intent of these quotations was for the settlement of futures contracts. Regulation of the DSCQ was modified by the Internal Revenue Code of 1954.⁷ Specification of exactly what the DSCQ were to represent was spelled out by a Memorandum of Understanding on April 16, 1956 between cotton industry representatives and the USDA. This memorandum stated that the quotations should reflect the value of cotton, uncompressed and not in even running qualities in terms of the first landed price FOB warehouse.⁷ Thus, these quotations are to represent the producer price

of cotton in mixed lots in the warehouse. As Kuehlers⁴ notes, prices from transactions are obtained by the market reporter from any sale of cotton. However, the Memorandum of Understanding states that transactions obtained from other than producer sales are to be adjusted to the first landed (i.e., producer) price.^b

The objective of this article is to evaluate the effectiveness of the DSCQ in reflecting producer prices in the Southwest region in terms of the level and movement. Lack of reliability in DSCQ price reporting can have serious implications for the cotton industry and its participants. This is because the DSCQ can potentially influence marketing and resource allocation decisions of producers and other market participants. The DSCQ are also used to settle futures contracts for qualities other than the base grade⁷ and are used in determining the premiums and discounts for the Commodity Credit Corporation's (CCC) loan schedule.⁵ Producers may also use price information to form expectations about future premium and discount structures.⁸

Procedures and Results

An alternative method to measuring daily market prices is with a hedonic price approach. This approach views the value of goods as dependent on the values of attributes embodied in the goods.⁹ Thus, this concept sees cotton as having value because of the nature and quantities of the quality attributes of the cotton. Hedonic analysis analyzes the implicit values of the quality attributes by regressing the price of a mixed lot against the average qualities of the lot.^{10,11} This process yields the values of the individual qualities, which allows the calculation of premiums and discounts.

Such an approach, called the daily price estimation system (DPES), has been developed and tested for the Texas–Oklahoma market regions.^{10,11} The econometric system derives base prices and quality premiums and discounts in a manner that is

^aQuality reporting in cotton changed on August 1, 1993. This analysis used data that applies to the grading system in effect prior to the grade change.

^bThe specifications for the DSCQ price quotations changed in 1993 to mixed lots, compressed, and FOB car/truck, which may alter price levels reported by the DSCQ in the future. However, these data were not used in this analysis.

objective, and results are reproducible. The hedonic model parameters are reestimated daily (within the mathematical model structure), using only actual sales transactions that occur during the day being estimated. The price estimates are produced overnight so that the results of price measurements can be distributed each day.

The DPES is the only alternative measure of producer market prices, and is limited to Texas and Oklahoma. The DPES was tested for accuracy against actual lot sales over the 1989/1990–1993/1994 period and was determined to be free of systematic error in its estimates.^{10,11} For this study, price measurements from the DPES were used as a representation of the producer market against which the effectiveness of the DSCQ for Texas and Oklahoma were evaluated.

Cotton has an array of prices. In the following procedures, “price” refers to the price of a specific quality combination of cotton. The following sections describe the data set used and the analytical approaches employed to evaluate annual average price levels and daily price movements, as well as results of each test.

Price Data

There are over 25,000 designated quality combinations that can be traded in the Texas and Oklahoma markets. A sample of quality combinations was drawn to represent the spectrum of qualities. The sample was compiled from cotton classification data in west Texas (WT) and east Texas–Oklahoma (ETO) for the 1992/1993 cotton crop. The data set contained the mean and standard deviations of each quality attribute (each digit of the grade code, staple, micronaire, and strength). The distribution of qualities varies among years, but a fixed set of quality combinations were used to have a consistent set of qualities to make comparisons across years.

The specific quality combinations from which prices were calculated were determined in the following manner. First, the mean values of each attribute were combined, yielding the first quality combination in WT—grade 32, staple 34, micronaire 3.5, strength 27 (Table I). Second, one-

half of a standard deviation for each attribute was added (subtracted for the grade code because a lower grade represents higher quality) to each quality attribute’s mean value and combined, yielding an additional specific combination of attributes. This process continued in one-half standard deviation increments on both sides of the mean from +2 (high quality) to –2 standard deviations (low quality). In addition, the base price (price for base quality) was also included in the analysis. This process yielded 10 quality combinations for each marketing region (Table I).

Crop Year Divisions

Price data on producer sales were not available throughout the entire year. Producer market activity during the 4 crop years of available data was primarily confined to the months of November through February. Therefore, to have a consistent time frame from which to compare results across crop years, the November 1 to February 28 time period was selected for this analysis. The resulting data set consisted of 4 crop years (1989/1990–1992/1993), each crop year of 4 months (November 1–February 28), and two market regions (west Texas and east Texas/Oklahoma).

Price Level

To compare price levels, daily price information for each of the qualities in Table I was aggregated into weighted annual averages for each year (1989/1990–1992/1993) for both the DPES and the DSCQ. These prices were then averaged over the 4-year period for the DSCQ and DPES and compared for differences over the entire sample period. The results of the 4-year averages are summarized in Table II. Differences between years are discussed but not shown.

The 4-year unweighted average price from the overall sample (Table I) reported by the DSCQ in WT was 56.94¢/lb; the DPES estimated producer price was 54.12¢/lb (Table II). Results for ETO were similar and differed only slightly in magnitude. The annual average prices from the individu-

Table 1. Derived Quality Combinations for Sample of Prices.

East Texas/Oklahoma					
Attribute	Mean	+1/2 SD	+1 SD	+1 1/2 SD	+2 SD
Grade	42	31	21	21	11
Staple	34	35	36	37	38
Micronaire	4.2	4.6	4.9	5.3	5.6
Strength	27	29	30	31	33
	Base	-1/2 SD	-1 SD	-1 1/2 SD	-2 SD
Grade	41	52	62	62	71
Staple	34	33	33	32	31
Micronaire	4.2	3.9	3.5	3.2	2.8
Strength	24	26	24	23	22
West Texas					
Attribute	Mean	+1/2 SD	+1 SD	+1 1/2 SD	+2 SD
Grade	32	31	21	21	21
Staple	34	34	35	36	36
Micronaire	3.5	3.8	4.0	4.3	4.5
Strength	27	28	29	31	32
	Base	-1/2 SD	-1 SD	-1 1/2 SD	-2 SD
Grade	41	42	42	53	63
Staple	34	33	32	31	31
Micronaire	4.2	3.3	3.0	2.8	2.5
Strength	24	26	25	24	23

SD, standard deviation.

al years indicated that the DSCQ price was higher than the DPES estimated price in 3 of 4 years in both regions. Thus, on average, the price reported by the DSCQ was slightly higher than producers received as estimated by the DPES.

Daily quality premiums and discounts for each of the quality attributes were also averaged for each year and for the 4-year period, although averages for each year are not shown. Results show that the DSCQ generally overstated the producer quality discounts and understated the producer quality premiums compared to the hedonic analysis over

the 4-year period (Table II). For example, in staple, the DPES estimated discount for staple 28 was -5.27¢/lb ; the DSCQ reported an average discount of -8.05¢/lb . On the other hand, the producer premium as estimated by the DPES for staple 38 was 0.77¢/lb ; the premium reported by the DSCQ was 0.45¢/lb . The exception to the pattern was in a narrow range of the micronaire discounts—DSCQ discounts were less than market discounts for micronaires immediately above and below base quality. Results from individual years showed that this general pattern held in both WT

Table II. 4-Year (1989/1990–1992/1993) Averages of Prices, Premiums, and Discounts (\$/lb) for Selected Quality Attributes in West Texas Region.

Trash ^a	DPES	DSCQ	Color ^a	DPES	DSCQ	Micronaire	DPES	DSCQ
11	4.47	— ^b	40	1.04	0.44	2.6 & below	−7.57	−12.17
21	3.55	1.02	41	0	0	2.7–2.9	−5.59	−6.31
31	2.04	0.84	42	−2.33	−1.50	3.0–3.2	−3.09	−2.40
41	0	0	43	−6.06	−8.88	3.3–3.4	−1.50	−1.12
51	−2.51	−2.64	44	−10.86	−16.38	3.5–4.9	0	0
61	−5.41	−9.20				5.0–5.2	−5.08	−2.38
71	−8.62	—				5.3 & above	−6.99	—
4-Year Average Price ^d								
Strength ^c	DPES	DSCQ	Staple	DPES	DSCQ	DPES	DSCQ	
18 & below	−1.33	—	28	−5.27	−8.05	54.12	56.94	
19	−1.12	−2.14	29	−4.03	−8.05			
20	−0.92	−1.64	30	−2.93	−6.22			
21	−0.72	−1.14	31	−1.96	−3.89			
22	−0.51	−1.00	32	−1.15	−2.34			
23	−0.31	−0.50	33	−0.49	−1.06			
24 & 25	0	0	34	0	0			
26	0.31	0.01	35	0.32	0.36			
27	0.52	0.16	36	0.53	0.45			
28	0.73	0.24	37	0.66	0.45			
29	0.94	0.27	38	0.77	0.45			
30	1.15	0.42						
31 & above	1.36	0.49						

^aThe numbers designate grade code; variations in trash (color) are indicated by varying only the first (second) digit while holding the second (first) digit constant.

^bIndicates no premium/discount reported.

^cThe DSCQ reported strength only in the 1991/1992 and 1992/1993 crop years.

^dThe 4-year average price of the entire sample in Table I.

and ETO, differing only slightly in magnitude each year.

the producer market as estimated by the DPES. The equation was:

First Difference Approach

A first differences analysis technique was adapted from Tomek⁸ (similar approaches can be found in Leavitt et al.¹² and Brorsen et al.¹³) to examine the direction and magnitude of daily price movements of the DSCQ in relation to those found in

$$(PM_{t,j} - PM_{t-1,j}) = \alpha + \beta(PD_{t,j} - PD_{t-1,j}) + \varepsilon_t, \quad (1)$$

where $PM_{t,j}$ is the DPES estimated market price of cotton of quality j at time t , $PD_{t,j}$ is the DSCQ reported price of cotton of quality j at time t , α and β are parameters, and ε_t is the error term. The α represents the average differential in the

Table III. Results of First Differences Analysis, West Texas.

	-2	-1½	-1	-½	Mean	Base	+½	+1	+1½	+2
1989-1990										
Intercept	0.007	0.003	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.03
(t value)	(0.05)	(0.03)	(0.36)	(0.42)	(0.26)	(0.26)	(0.19)	(0.15)	(0.36)	(0.10)
Slope	0.25	-0.02	0.18	0.12	0.29	0.34	0.26	0.38	0.23	0.66
(t value)	(1.15)	(-0.10)	(1.19)	(0.84)	(1.38)	(1.15)	(0.79)	(0.89)	(1.59)	(1.17)
R ²	0.10	0.09	0.17	0.21	0.13	0.12	0.05	0.12	0.30	0.22
1990-1991										
Intercept	-0.01	-0.001	0.03	0.02	0.01	0.01	0.01	-0.001	-0.02	-0.03
(t value)	(-0.14)	(-0.02)	(0.48)	(0.31)	(0.16)	(0.19)	(0.16)	(-0.001)	(-0.17)	(-0.22)
Slope	0.16	0.16	0.19	0.15	0.09	0.07	0.05	0.04	0.01	0.03
(t value)	(1.10)	(1.33)	(2.03) ^a	(1.55)	(0.97)	(0.67)	(0.61)	(0.30)	(0.07)	(0.18)
R ²	0.18	0.24	0.08	0.03	0.01	0.01	0.01	0.03	0.13	0.14
1991-1992										
Intercept	-0.12	-0.15	-0.12	-0.12	-0.07	-0.04	-0.02	0.02	0.04	0.05
(t value)	(-0.90)	(-0.94)	(-1.27)	(-1.16)	(-0.62)	(-0.46)	(-0.13)	(0.12)	(0.18)	(0.22)
Slope	0.62	0.38	0.45	0.36	0.57	0.42	0.49	0.69	0.85	0.98
(t value)	(2.21) ^{a,b}	(1.50)	(2.24) ^{a,b}	(1.58)	(1.96) ^{a,b}	(1.61)	(1.63)	(1.58)	(1.43)	(1.67) ^{a,b}
R ²	0.10	0.03	0.06	0.03	0.13	0.23	0.16	0.19	0.21	0.21
1992-1993										
Intercept	0.05	0.04	0.08	0.07	0.02	0.07	0.04	0.02	-0.008	-0.02
(t value)	(0.36)	(0.33)	(1.04)	(0.91)	(0.26)	(0.62)	(0.44)	(0.13)	(-0.05)	(-0.13)
Slope	0.66	0.54	0.06	0.26	0.45	0.29	0.46	0.42	0.45	0.47
(t value)	(2.99) ^{a,b}	(2.54) ^a	(0.40)	(1.61)	(2.38) ^a	(1.02)	(1.99) ^a	(1.53)	(1.21)	(1.23)
R ²	0.18	0.17	0.12	0.14	0.25	0.17	0.20	0.21	0.20	0.21

^aSignificantly different from zero at the $\alpha = 0.10$ level.

^bNot significantly different from one at the $\alpha = 0.10$ level.

daily price variation of the DSCQ and DPES over the entire marketing year. The slope coefficient, β , of the regression equation, represents how closely the price series are moving together. Both α and β were tested for difference from zero. If β was different from zero, it was tested for significant difference from one. The R^2 resulting from this formulation indicates the strength of relationship between the two series. Because these are time-series data, a Durbin-Watson test was conducted for autocorrelation.

The initial estimates of Eq. (1) were found to be negatively autocorrelated. Residuals alternated signs through time, indicating that the regression coefficients were unbiased, but the t tests are not strictly applicable.¹⁴ This finding is also relevant to interpreting other findings and will be used in later discussion. To obtain statistically reliable estimates, the regression was corrected for autocorrelation using a Cochrane-Orcutt procedure.¹⁴

The corrected results for WT are presented in Table III. Results for ETO were similar.

In no case were the intercept coefficients in Table III significantly different from zero. This means that, *on average*, the daily price change reported by the DSCQ and that found by the DPES over each entire crop year were not significantly different. However, this measure does not provide an indication of how the two price series moved together on a daily basis.

The slope coefficient shows the direction and magnitude of the price movements of the DSCQ in relation to the DPES. In general, all the signs of the slope coefficients were positive, indicating that the DSCQ were moving in the same direction as the DPES. The incidence of significant relationships was generally isolated in the 1991/1992 year, when the DSCQ moved with the DPES in 4 of 10 qualities. For those qualities, the DSCQ prices appeared to be moving proportionally with the

DPES prices ($\beta = 1$). There were also 4 of 10 significant relationships found in 1992/1993, but the DSCQ did not move proportionally with the DPES in these cases ($\beta \neq 1$) (Table III).^c

Tests for Causality

Causality tests were used to detect if the DSCQ was leading or lagging the changes in the DPES estimated market price over a period of time, not just on a day-to-day basis. Given that a primary problem with the current spot quotations cited by market participants in a survey was that the DSCQ were slow to adjust to market movements,⁶ the a priori expectation was that the DSCQ would lag the DPES.

Two regression models were used to analyze the lead-lag relationship between the DSCQ and DPES. The adaptation of Pindyk and Rubinfeld's¹⁶ "unrestricted" regression model was:

$$\begin{aligned} PM_{t,j} - PM_{t-1,j} = & \sum_{i=1}^m \alpha_i (PM_{t-i,j} - PM_{t-(i+1),j}) \\ & + \sum_{i=1}^m \beta_i (PD_{t-i,j} \\ & - PD_{t-(i+1),j}) + \varepsilon_t, \end{aligned} \quad (2)$$

where $PM_{t,j}$ is the DPES estimated market price of cotton of quality j at time t , $PD_{t,j}$ is the DSCQ reported price of cotton of quality j at time t , α_i and β_i are parameters, ε_t is the error term, and m is the number of lagged periods. The value of m was set at 10, representing two marketing weeks, which is an extended period of time in a daily market. In this equation, the daily change in the DPES estimated market price of cotton of quality j was regressed against lagged DPES estimated producer market price changes of cotton of the same quality and the lagged changes in the DSCQ reported price for that quality.

^cIn this case, Martin and Garcia¹⁵ assert that if $\beta \neq 1$, the test for $\alpha = 0$ may be inappropriate. However, in this situation, the finding of $\beta \neq 1$ is the primary concern.

The second step in this procedure was to estimate a "restricted" regression model¹⁶ of the form:

$$\begin{aligned} PM_{t,j} - PM_{t-1,j} = & \sum_{i=1}^m \alpha_i (PM_{t-i,j} - PM_{t-(i+1),j}) \\ & + \varepsilon_t. \end{aligned} \quad (3)$$

The combination of the two regressions in Eqs. (2) and (3) provides the means to test if the changes in the DSCQ are leading the price movements in the DPES. If this were the case, it would indicate that the DSCQ was either anticipating market movements or the producer market was reacting to changes in the reported price. An F value was calculated using the error sum of squares from Eqs. (2) and (3).¹⁶ If the F value was significant, the null hypothesis that the DSCQ reported price movements did not lead the DPES estimated market movements was rejected.

The same set of tests as above were conducted except that the daily DSCQ price change and daily DPES price change switched positions (DSCQ dependent and DPES independent). This test procedure tests if the DPES estimated market price is leading the DSCQ. This would indicate that the market reporter was slow in reporting changes in the market activity. If both sets of tests indicate a significant relationship for the same quality, then the evidence of a lead-lag relationship between these price series is inconclusive.¹⁶

The results of the causality tests for the WT region are summarized in Table IV. The F statistics show the cases where one price series (DPES or DSCQ) is leading or lagging. The top line under each year's subheading indicates the F value for the test if the DSCQ was leading, and the second line shows the F value for the test if the DPES was leading. Differences between WT and ETO are discussed below.

A total of 54% of the causality tests (both WT and ETO) indicated no relationship (either leading or lagging) between the DSCQ and the DPES estimated market price movements. Approximately 58% of the 46% that exhibited a relationship

Table IV. *F* Statistics from Causality Tests, West Texas.

	-2	-1½	-1	-½	Mean	Base	+½	+1	+1½	+2
1989-1990										
DSCQ precedes DPES	1.63	1.06	1.92	1.65	1.37	2.55 ^a	1.78	1.34	1.09	1.99
DPES precedes DSCQ	0.50	1.99	2.21 ^a	2.96 ^a	0.52	2.12 ^a	0.59	1.41	2.39 ^a	1.34
1990-1991										
DSCQ precedes DPES	1.12	1.12	1.26	1.55	1.81	1.96	1.04	1.23	1.14	0.98
DPES precedes DSCQ	1.69	2.07 ^a	1.38	2.32 ^a	3.39 ^a	2.26 ^a	2.43 ^a	2.29 ^a	2.03 ^a	2.22 ^a
1991-1992										
DSCQ precedes DPES	1.46	1.36	1.59	2.51 ^a	1.10	1.00	0.56	0.81	0.93	0.95
DPES precedes DSCQ	0.72	0.87	1.05	1.37	1.58	2.60 ^a	2.14 ^a	2.19 ^a	2.52 ^a	2.64 ^a
1992-1993										
DSCQ precedes DPES	0.44	0.51	1.44	1.43	3.12 ^a	2.27 ^a	1.13	2.09 ^a	2.41 ^a	1.87
DPES precedes DSCQ	1.53	0.53	1.13	0.95	1.36	1.46	1.18	1.48	1.52	1.36

^aSignificant at the $\alpha = 0.05$ level.

showed the DSCQ to be lagging the DPES. The DPES was found to be lagging the DSCQ 31% of the time, and 11% showed inconclusive results.

To further analyze and organize the causality tests results, a chi-square analysis was used to test for differences across qualities of cotton, marketing regions, and years. This analysis shows if the

lead-lag relationship was consistent across these different situations. Results indicated that the lead-lag relationship was dependent on the quality examined at a 0.05 significance level when WT and ETO were considered together. When the qualities in each region were tested independently (i.e., WT results tested separately from ETO results), the lead-lag relationship was found to be dependent on quality in WT at a 0.10 significance level, while being dependent on quality at a 0.05 significance level in ETO, suggesting a stronger dependence on quality in ETO. The chi-square analysis also indicated that the lead-lag relationship was dependent on the region and year at a 0.05 significance level.

The overall finding is that the lead-lag relationship varies across qualities, regions, and years. This indicates that the relationship between the DSCQ and the producer market as estimated by the DPES lack consistency.

Figure 1. Price movement relationships of the base quality for the west Texas market, 1991-1992.

Interpretations and Conclusions

Results from the three separate analyses of prices have additional implications when considered to-

gether. The comparison of price levels indicates that the DSCQ reported prices were higher than DPES estimated prices, and the premiums and discounts of the DSCQ were not proportional to those found by the hedonic analysis.

The first differences analysis indicates that there was generally no relationship in the daily movement of the DSCQ and the DPES estimated market prices, indicating two possible conclusions: there is no relationship between the two price series; or there may be some relationship that is not within the 1-day time frame. The causality tests indicated that there was a relationship outside of the 1-day period in approximately 46% of the instances examined. Of that portion that exhibited a relationship, the DSCQ was lagging the DPES estimated market prices in a majority of cases, indicating that the market reporter was slow in reporting changes in the market price. Thus, the overall indication is that the DSCQ is not effectively reporting the price movements or levels of the producer market, lending support to the findings of Ethridge and Mathews,¹ Ethridge et al.,¹⁰ Brown et al.,¹¹ and the concerns expressed by a group of surveyed market participants.⁶

What may be happening is that the DSCQ is "smoothing" the daily price changes in the market. That is, the market reporter appears to be reporting trends in market movement, but not the daily variation in prices. As the market moves on a daily basis, the market reporter appears to delay reporting changes in the prices until the larger market movements become more certain or apparent (Fig. 1). The overall movement from beginning to end of the crop year appears similar, but the daily fluctuations are not reported in the DSCQ market quotations. This is consistent with the finding of no average difference across the crop year, and may also explain the negative autocorrelation found in the initial regression between the two series. Because the market appears to fluctuate around the DSCQ (Fig. 1), regression residuals would be expected to fluctuate around zero. If these fluctuations are systematic, as they appear to be, the two series would appear negatively autocorrelated.

The inconsistency in the lead-lag relationship

is of particular importance. If price quotes are inaccurate but *consistent*, market participants could adjust for the inaccuracy, making the price quotes a viable source of price information. However, if the price quotes are inaccurate and *inconsistent*, market participants have no dependable basis for making adjustments. Thus, the fact that the DSCQ appears to report prices, premiums, and discounts different than those found in the Texas-Oklahoma market; does not appear to move with the market on a daily basis; and seems to have no consistent lead-lag relationship with the market, raises questions as to the reliability of the existing price information in that market region.

Implications and Suggestions

The DPES, and/or the procedures embodied within it, could affect price reporting for cotton, and may even have the potential for replacing (or becoming) the DSCQ. The DPES can meet the requirements for timeliness and accuracy required of efficient price reporting. In addition, it can introduce repeatability and objectivity attributes that the current DSCQ procedures lack, and it can increase the speed at which price reports are available (overnight instead of a 1-day lag).

The potential adoption of the DPES into the AMS market news system would require adjustments. One of the most obvious is that the DPES requires large daily samples of bona fide market sales; it cannot derive testable estimates from subjective assessments of market prices. The technology exists to assemble and compile the needed data through electronic communications. The barriers are logistical—developing procedures and format for data transmission so that it is highly automated. Another obvious adjustment for adoption would lie in training of market news personnel. DPES analytical procedures are more sophisticated and require both computer literacy and econometric expertise in the personnel involved with it. The other problems, for example, reporting of prices when there is no market activity, are not significantly different between the DPES and the current DSCQ.

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