Acreage Price Elasticities

Acreage price elasticities are estimated from producers' acreage response on program crop NFA, because the majority of producers made their 1991-95 planting decisions, at the margin, within this range. Again, as an illustration, we use the case of corn NFA planted to corn to show how acreage price elasticities are derived from the estimated corn NFA acreage response equations in this study. Acreage price elasticities are obtained in two steps: (1) by determining the effect of a 1-percent price (own- and cross-price) change on corn NFA planted to corn and (2) by extending the effect on corn plantings to the hypothetical 100-acre whole farm.

Estimating Acreage Price Elasticities

Own- and cross-price acreage elasticities are estimated for all major program crops and soybeans in each of the major production regions. The estimate obtained from Model I (where the dependent variable is specified as, for example, the percentage of corn NFA planted to corn) provides a lower bound, while that derived from Model II (where the dependent variable is defined as, for example, the percentage of combined NFA and ARP acreage that was planted to corn) gives an upper bound. The midpoint average is reported as the best estimate of the elasticity in most cases. In cases where an explanatory variable occurs in only one model's specification, but not in the other model's, a simple average is calculated assuming an elasticity of zero for the latter equation. An example of this situation is for wheat acreage response in the Central and Northern Plains region (appendix table 1), where barley net returns occur only in Model I, because this variable has the wrong sign in Model II.

Own-Price Elasticity

Using equation 1 of Model I and additional calculations, corn NFA planted to corn in the North Central region would increase by 0.0793 acre as the expected corn price increases by 1 percent, translating into an acreage price elasticity of 0.9766 for NFA (see box 1, lines D & E). The 0.9766 acreage price elasticity applies only to the corn NFA (15 percent of the base), and does not necessarily apply to the whole farm. Given that the corn ARP between 1991 and 1995 averaged 6 percent, this hypothetical 100-acre corn farm idled 6 acres, and had the flexibility to plant almost any crop on the 15-acre NFA. The remaining 79 acres

(known as maximum payment acres) would be planted to corn (assuming that the 10-percent OFA were planted to corn as well).

Under the 1996 Act, the elimination of the ARP would mean a net increase of about 4.8 idled acres in corn plantings, assuming a 20-percent acreage slippage (Lin, 1989).[12] Adding the 4.8 acres (80 percent of 6 acres) to the 79 acres originally planted to corn gives a total of 83.8 acres—the acreage this 100-acre corn farm would plant to corn outside of his or her NFA acres under the 1996 Act, assuming corn prices remain unchanged (line F). As the expected corn price increases by 1 percent, the corn farm is expected to expand its corn plantings beyond those 83.8 acres. Because producers' acreage response on corn NFA is already estimated in this study (part I in box 1, p. 17), the elasticity from a pre-planting flexibility period is used to capture acreage response for the non-NFA acres that were guided by non-flexibility provisions. This approach avoids double counting the effect captured in the NFA. Using an acreage price elasticity of 0.159 estimated for corn during the years 1986-90 (Adams) implies an increase of 0.1332 acre on the non-NFA "rest of base" in response to a 1-percent increase in the expected corn price (Line G).[13]

Thus, corn plantings on the whole farm would increase by 0.2125 acre (see box 1, line H, p. 17) in response to a 1-percent increase in the expected corn price. This represents 0.246 percent of base corn plantings including the return of 4.8 acres of ARP cropland to production (see box 1, line I, p. 17). That is, the Model I acreage price elasticity for corn plantings on the farm is 0.246. This elasticity is much smaller than the 0.9766 estimated for corn NFA alone, but is higher than the 0.173 estimated for the 1991-95 period (Adams) and the 0.159 estimated for the 1986-90 period (as described above).

---

[12]Acreage slippage refers to the deviation between the anticipated and realized reduction in harvested acreage resulting from the ARP. Slippage occurs because nonparticipants increase their acreage in anticipation of higher prices due to the ARP.

[13]The 0.159 acreage price elasticity estimated for the 1986-90 period is used because producers, once having decided to participate in the previous farm commodity program, would base their planting decisions on nonflex acreage (planting the base crop versus participating in the 0/85-92 program) primarily on market incentives (see earlier discussion). Using the 0.159 acreage price elasticity estimated for the 1986-90 period, instead of that for 1991-95, avoids double counting the effect of acreage response in the NFA, since NFA acreage response was already estimated in this study as a part of the elasticity calculation.

Box 1: Steps to Derive the Own-Price Elasticity for Corn Plantings in the North Central Region, Model I

The following steps are used to determine the effect of a 1-percent change in the expected corn price on corn NFA planted to corn in the North Central region, according to Model I, and to extend the effect on corn planting to a 100-acre corn farm:

I. Determine the effect of a 1-percent increase in the expected corn price on NFA planted to corn:

A. Calculate the elasticity of the percentage of corn NFA planted to corn with respect to a 1-percent change in expected corn net returns (ERTCR) by multiplying the regression coefficient of ERTCR (0.336 in equation 1) by the mean value of corn's expected net returns ($108.4), and dividing by the mean value of the percentage of NFA planted to corn (54.101). That is, 0.336 x (108.4/54.101) = 0.6735

B. Calculate the effect of a 1-percent increase in expected net returns for corn per acre (ERTCR) on corn NFA planted to corn:

    a. 54.101% x 15 = 8.1152 acres (NFA planted to corn before returns increase)
    b. 54.101% x (1 + 0.6735%) x 15 = 8.1698 acres (Planted to corn after returns increase)
    c. 8.1698 - 8.1152 = 0.0546 acre.

C. Estimate the relationship between the percentage change in expected corn net returns associated with a 1-percent change in the expected corn price (Enr.p) through a regression analysis:
    $E_{nr.p}$ = 1.45

D. Calculate the effect of a 1-percent increase in the expected corn price on corn NFA planted to corn: 0.0546 x 1.45 = 0.0793 acre

E. Calculate the acreage price elasticity for corn NFA: (0.0793/8.1152) x 100 = 0.9766

II. Extend the effect on corn plantings to the 100-acre whole farm

F. Calculate the maximum payment acres (MPA) that were planted to corn for a 100-acre hypothetical corn farm, after meeting the average set-aside requirement (6 acres) and deducting the 15-acre NFA: 100 - 6 - 15 = 79 acres, or 83.8 (79 + 4.8) acres after the return of ARP acreage to production (with a 20-percent acreage slippage).

G. Calculate the effect on corn plantings on the rest of base associated with a 1-percent increase in the corn price: 83.8 x 0.159% = 0.1332 acre, where 0.159 is the acreage price elasticity estimated for the 1986-90 period (Adams).

H. Add the effect of a 1-percent increase in the corn price on NFA planted to corn (line D) and corn planting on the rest of base (line G): 0.0793 + 0.1332 = 0.2125 acre

I. Calculate the whole farm acreage price elasticity for corn: (0.2125/(2.7057 + 83.8)) x 100 = 0.246, where 2.7057 is average NFA planted to corn for producers making planting decisions within the NFA range.

Following the same procedures, the own-price elasticity based on Model II, where percentage of corn NFA and ARP area planted to corn is used as the dependent variable, is estimated at 1.013 for corn NFA alone, and 0.250 for the whole farm.

Thus, the own-price elasticity for farms making marginal planting decisions in the range of NFA lies between 0.246 (the lower bound) and 0.250 (the upper bound).[14] This represents an increase of 42 to 45 percent over the 0.173 own-price elasticity for corn reported in Adams for the period 1991-95 (before the enactment of the 1996 Act), and 55 to 57 percent over the 0.159 corn elasticity from 1986-90, when there was almost no planting flexibility under the 1985 Act.

Cross-Price Elasticity on NFA

Following the same procedures, corn plantings on NFA for this hypothetical corn farm in the North Central region would decline by 0.0684 acre in response to a 1-percent increase in the expected soybean price (see line D, box 2, p. 19), and a -0.8427 cross-price elasticity is estimated for corn NFA in Model I (see line E). To extend the response to the whole farm, corn plantings outside NFA would decline by 0.0737 acre based on a cross-price elasticity of -0.088 in response to a 1-percent change in the expected soybean price. The -0.088 elasticity was estimated for the 1986-90 period under 1985 Act provisions (Adams).

Thus, corn plantings for the whole farm would decline by 0.1421 (0.0684 + 0.0737) acre in response to a 1-percent increase in the expected soybean price. This decline would amount to 0.164 percent of base corn plantings after allowing for the return of 4.8 acres of ARP cropland to production. In other words, the cross-price elasticity, estimated at -0.164 from Model I, is smaller (in absolute value) than that measured for NFA alone, but 86 percent higher than the -0.088 estimated for 1986-90 when planting restrictions were in effect (Adams).

The cross-price acreage elasticity is estimated at the same -0.164 for the whole farm from Model II. Thus, a -0.164 cross-price elasticity indicates that a decline

of 0.164 percent in corn plantings is associated with a 1-percent increase in the expected soybean price.

Elasticity Results

Three topics are discussed regarding the resulting elasticity calculations. First, a comparison of elasticities with and without theoretical restrictions is illustrated. Second, elasticities are presented by major production region and by program crop. Finally, national acreage price elasticities are presented.

Elasticities With vs. Without Restrictions

Imposing theoretical restrictions on the acreage response equations has its largest effects on improving regression results in the North Central and the Central and Northern Plains regions. To illustrate the differences in estimated results, appendix table 8 shows NFA and whole-farm acreage price elasticities under the 1996 Act obtained from Model I (lower bound) and Model II (upper bound) for the North Central region without theoretical restrictions. Appendix table 9 presents elasticities estimated for that region with theoretical restrictions imposed.

A comparison of appendix tables 8 and 9 shows that theoretical restrictions generally lower the magnitude of acreage price elasticities (in absolute value). For example, corn own-price elasticities on NFA and for the whole farm in the North Central region are estimated at 1.465 and 0.293 (average of Model I and Model II results), respectively, when restrictions are not imposed. However, these elasticities become smaller with restrictions imposed in the estimation, declining to 0.995 on NFA and 0.248 for the whole farm.

Elasticities by Major Production Region and by Crop

In addition to the elasticity results shown in appendix table 9 for the North Central region, appendix tables 10-12 show acreage price elasticities for other regions. NFA acreage price elasticities mostly are greater than those for the whole farm because of the planting flexibility allowed on NFA land. Acreage price elasticities (whole-farm under the 1996 Act) estimated from this study generally tend to be somewhat smaller than those estimated by Adams.

Appendix tables 13-20 then show acreage price elasticities for each of the eight major field crops (wheat,

---

[14]The range of lower-bound and upper-bound estimates is much narrower for the North Central region than for other regions. For example, for the same commodity (corn) in the Central and Northern Plains, the corn own-price acerage elasticity is estimated at 0.171 for the lower bound, and at 0.312 for the upper bound.

Box 2: Steps to Derive the Soybean Cross-Price Elasticity for Corn Plantings in the North Central Region, Model I

  The following steps are used to determine the effect of a 1-percent change in the expected soybean price on corn NFA planted to corn in the North Central region according to Model I, and to extend the effect on corn planting to a 100-acre corn farm:

I. Determine the effect of a 1-percent increase in the expected soybean price on corn NFA planted to corn:

A. Calculate the elasticity of the percentage of NFA planted to corn with respect to a 1-percent change in expected soybean net returns (ERTSOY) by multiplying the regression coefficient of ERTSOY (-0.324 in equation 1) by the mean value of soybean's expected net returns ($119.1) and dividing by the mean value of the percentage of NFA planted to corn (54.101). That is, -0.324 x (119.1/54.101) = -0.7141.

B. Calculate the effect of a 1-percent increase in expected net returns for soybeans per acre (ERTSOY) on corn NFA planted to corn:

  a. 54.101% x 15 = 8.1152 acres (NFA planted to corn before returns increase)
  b. 54.101% x (1-0.7141%) x 15 = 8.0572 acres (Planted to corn after returns increase)
  c. 8.0572 - 8.1152 = -0.0580 acre.

C. Estimate the relationship between the percentage change in expected soybean net returns associated with a 1-percent change in the expected soybean price, Enr.p, through a regression analysis: Enr.p = 1.18

D. Calculate the effect of a 1-percent increase in the expected soybean price on corn NFA planted to corn: -0.0580 x 1.18 = -0.0684 acre.

E. Calculate the cross-price elasticity for corn NFA: (-0.0684/8.1152) x 100 = -0.8427.

II. Extend the effect on corn plantings to the 100-acre whole farm

F. Calculate the maximum payment acres (MPA) that were planted to corn for a hypothetical 100-acre corn farm, after meeting the average set-aside requirement (6 acres) and deducting the 15-acre NFA: 100 - 6 - 15 = 79 acres, or 83.8 (79 + 4.8) acres after the return of ARP acres to production.

G. Calculate the effect on corn plantings on the rest of base associated with a 1-percent increase in the soybean price: 83.8 x (-0.088%) = -0.0737 acre, where -0.088 is the cross-price elasticity (with respect to soybean prices) estimated for the 1986-90 period (Adams).

H. Add the effect of a 1-percent increase in the soybean price on NFA planted to corn (line D) and corn planting on the rest of base (line G): -0.0684 - 0.0737 = -0.1421

I. Calculate the whole farm cross-price elasticity (with respect to soybean prices) for corn: (-0.1421/(2.7057 + 83.8)) x 100 = -0.1643, where 2.7057 is average NFA planted to corn for producers planting corn within the NFA range.

corn, sorghum, barley, oats, soybeans, cotton, and rice).[15] Own- and cross-price acreage elasticities under the 1996 Act, with its nearly full planting flexibility, are mostly greater than those estimated under previous legislation, especially compared with elasticities for 1986-90, before planting flexibility was introduced.[16] In most cases, cross-price elasticities increase even more than own-price elasticities. For example, while the own-price elasticity for corn plantings in the North Central region increases by 56 percent when the 1996 Act estimates are compared with 1986-90, the cross-price elasticity with respect to a 1-percent change in the expected soybean price increases by 86 percent (appendix table 14).

Relative to elasticities for the 1986-90 period, the own-price elasticity at the national level increases as follows: wheat, 1.2 percent; corn, 41.6 percent; soybeans, 13.5 percent; and cotton, 7.9 percent.[17] Compared with elasticities for 1991-95, the own-price elasticity under the 1996 Act either increases by a smaller amount or, in the cases of wheat, barley, oats, and soybeans in the Central and Northern Plains region, becomes smaller.

Wheat

The own-price supply elasticity of U.S. wheat (the weighted average of regional own-price elasticities based on the regional share of U.S. wheat planted acreage in 1991-95) is estimated at 0.340 under the 1996 Act, slightly above the estimate for 1986-90 but below the estimate for 1991-95 (table 1). This is in direct contrast with corn and soybeans, where larger increases in the own-price acreage elasticity are reported. This is because corn and soybean producers in the North Central region have more planting options than wheat producers in the Great Plains region. In the absence of planting flexibility, the own-price elasticity was estimated at 0.336 for U.S. wheat during 1986-90 (Adams). Similarly, the wheat own-price elasticity in the Central and Northern Plains was estimated at 0.240 under the 1996 Act, slightly higher than the 0.201 estimated for the 1986-90 period (appendix table 13).

At the national level, sorghum and barley are found to be the two primary competing crops for wheat. For example, a cross-price elasticity of -0.075 with respect to the sorghum price means that a 0.075-percent decline in U.S. wheat planted acreage is associated with a 1-percent increase in the expected sorghum price. This represents an increase of 29 percent and 12 percent over the elasticities estimated for 1986-90 and 1991-95, respectively (table 1). Corn, cotton, and oats also are important competing crops, although the extent of competition depends on the geographic area.

The own-price elasticity for U.S. winter wheat is estimated at 0.361 under the 1996 Act, compared with 0.291 for U.S. spring wheat.[18] Winter wheat confronts a larger number of competing crops (including sorghum, corn, barley, soybeans, and cotton) than does spring wheat (mainly barley, oats, and sorghum), giving a larger own-price supply elasticity. Sorghum is the primary competing crop for winter wheat. However, barley is the dominant competing crop for spring wheat. In the Southeast and Delta regions, a higher expected soybean price means more wheat plantings because a higher expected soybean price tends to encourage more winter wheat and soybean double-cropping.

Supply elasticities vary among major production regions. The own-price elasticity in the Central and Northern Plains (0.240) is the lowest, while that for the North Central region (0.567) is the highest (appendix table 13). The wheat own-price elasticity in the Central and Northern Plains is the lowest mainly because producers have limited alternatives to growing wheat. In contrast, the elasticity is the highest in the North Central region because wheat in that area has more cropping alternatives, competing with corn, soybeans, oats, and minor oilseeds. In the Central and Northern Plains, where over 50 percent of U.S. wheat is grown, the own-price elasticity under the 1996 Act is about 20 percent higher than under the 1986-90 legislation, but slightly below the estimate for 1991-95. Among the major production regions, the North Central region has the smallest increase in the own-

---

[15]Acreage price elasticities (except rice) are estimated from this study. Elasticities for rice are estimated by Adams.

[16]Some own- and cross-price acreage elasticities under the 1996 Act are smaller than those estimated for 1991-95 in part because the elasticity estimated for 1986-90 was used to estimate the elasticity for the "rest of base" for the 100-acre base hypothetical farm.

[17]Acreage price elasticities for 1986-90 and 1991-95 are as reported in Adams.

[18]The own-price elasticities for winter and spring wheats were estimated in Lin (1999a) by decomposing the own-price elasticity for all wheat using relative acreage shares in 1995—about 70 percent for winter wheat and 30 percent for spring wheat. An own-price elasticity of 0.291 for U.S. spring wheat was derived in that study from regional estimates (for spring wheat in the Central and Northern Plains and all wheat in other regions). The own-price elasticity for winter wheat is then estimated at 0.361, based on the 0.340 own-price elasticity for all wheat and the 0.291 elasticity estimate for spring wheat.

Table 1—Acreage price elasticities for U.S. wheat under the 1996 Act vs. previous legislation

Item	1986-90[1] (1)	1991-95[1] (2)	1996 Act (3)	Difference (3) vs. (1)	Difference (3) vs. (2)
	Elasticity			Percent	
Wheat price	0.336	0.410	0.340	+1.2	-17.1
Barley price	-.080	-.078	-.076	-5.0	-2.6
Sorghum price	-.058	-.067	-.075	+29.3	+11.9
Corn price	-.030	-.041	-.046	+53.3	+12.2
Soybean price	-.002	-.007	-.010	+400.0	+42.9
Cotton price	-.028	-.029	-.014	-50.0	-51.7
Oat price	n.a.	n.a.	-.011	n.a.	n.a.

n.a. = Not applicable.
[1]Acreage price elasticities for the 1986-90 and 1991-95 periods are from Adams.

price elasticity in a comparison with 1986-90—only 2.5 percent.

Corn and Other Feed Grains

Relative to previous legislation, the 0.293 own-price acreage elasticity for U.S. corn estimated under the 1996 Act is 25-percent higher than during 1991-95 and 42-percent higher than during 1986-90 (table 2). The cross-price acreage elasticity with respect to the expected soybean price (-0.145) under the 1996 Act shows comparable increases, 27-percent higher than during the 1991-95 period and 47-percent higher than during 1986-90.

The own-price elasticity in the Central and Northern Plains region (0.242) is the lowest among the regions, while that for the Southeast and Delta regions (0.794) is the highest (appendix table 14). A larger number of competing crops (cotton, soybeans, winter wheat, and sorghum) in the Southeast and Delta contribute to a higher acreage price elasticity than in the Central and Northern Plains region, where competing crops are primarily limited to wheat, soybeans, and sorghum. In the North Central region, where nearly two-thirds of U.S. corn is grown, the own-price elasticity (0.248) under the 1996 Act is 43 percent higher than under 1991-95 legislation and 56 percent higher than under 1986-90 legislation.

The cross-price elasticity with respect to the expected soybean price in the North Central region is 58 percent

higher than during 1991-95 and 86 percent higher than during 1986-90. Both of these gains exceed the respective increases in own-price elasticities in that region. The increase in the cross-price elasticity implies that corn programs in the past might have restricted the acreage shift from the program crop (corn) to competing crops (such as soybeans). While the 15-percent NFA provided by the 1990 farm legislation seems adequate for farmers in aggregate to respond to changing market price signals (Evans), flexibility limitations may have constrained large acreage shifts by some producers who would have switched more acreage had the NFA percent been higher. Also, the 1996 Act might facilitate the corn-soybean rotation, which allows operations that had previously planted continuous corn, or that had a higher proportion of corn than would be desirable for agronomic reasons, to shift to higher soybean plantings. The greater increase in the soybean cross-price elasticity is consistent with the increasing soybean share of combined corn-soybean acreage since 1996.

The own-price elasticity for oats and barley increases very little over 1986-90 legislation, and becomes smaller when compared with 1991-95 legislation (appendix tables 15-17). The decreases or lack of apparent increases in the own-price elasticity for these other feed grains suggest likely shifts of their acreage to corn, soybeans, or minor oilseeds if expected prices of these competing crops rise.

Table 2—Acreage price elasticities for U.S. corn under the 1996 Act vs. previous legislation

Item	1986-90[1] (1)	1991-95[1] (2)	1996 Act (3)	Difference	
				(3) vs. (1)	(3) vs. (2)
	Elasticity			Percent	
Corn price	0.207	0.235	0.293	+41.6	+24.7
Soybean price	-.099	-.114	-.145	+46.5	+27.2
Wheat price	-.022	-.024	-.065	+195.5	+170.8
Cotton price	-.030	-.026	-.028	-6.7	+7.7
Sorghum price	-.003	-.002	-.010	+233.3	+400.0

[1]Acreage price elasticities for the 1986-90 and 1991-95 periods are from Adams.

Soybeans

Supply response estimates for soybeans are derived from NFA data for competing program crops. The own-price acreage elasticity for U.S. soybeans is estimated at 0.269, virtually unchanged from 1991-95 but 14 percent higher than during 1986-90 (table 3). In the absence of planting flexibility, the own-price elasticity was estimated at 0.237 for 1986-90. In the North Central region, where nearly two-thirds of U.S. soybeans are grown, the own-price elasticity is estimated at 0.298 under the 1996 Act, 14 percent higher than during 1991-95 and 17 percent higher than during 1986-90 (appendix table 18).

Corn is the primary competing crop for soybeans. The -0.229 cross-price elasticity with respect to the expected corn price means that a decline of 0.229 percent in soybean plantings is associated with a 1-percent increase in the expected corn price (table 3). This magnitude of the impact on soybean plantings is far greater than that caused by the same percentage increase in the expected prices for wheat and cotton combined.

The own-price elasticity of soybean plantings ranges from 0.20 to 0.30, depending on the production region. The own-price elasticity is the lowest in the Central and Northern Plains (0.198), while that for the North Central (0.298) is the highest (appendix table 18). The increase in the own-price elasticity is also the greatest (17 percent) in the North Central region relative to 1986-90. To the extent that the 1996 Act may cause soybean acreage to expand and prices to decline over time, the largest increase in the own-price elasticity for the North Central region suggests that soybean plantings would be less concentrated in that region.

Cotton

The own-price supply elasticity of U.S. cotton is estimated at 0.466 under the 1996 Act, 16 percent higher than during 1991-95, and 8 percent higher than during 1986-90 (table 4). The increase in cotton's own-price elasticity becomes much more pronounced at the regional level. In the Southern Plains, where over 40 percent of U.S. cotton is grown, the own-price elasticity is estimated at 0.48, 83 percent higher than during 1991-95, and 39 percent higher than during 1986-90 (appendix table 19). At the national level, corn, wheat, sorghum, and soybeans are the primary competing crops for cotton. For example, a cross-price elasticity of -0.072 with respect to the corn price means that a 0.072-percent decline in U.S. cotton planted acreage is associated with a 1-percent increase in the expected corn price. Similarly, the -0.081 cross-price elasticity with respect to the soybean price means that a 0.081-percent decline in U.S. cotton plantings is associated with a 1-percent increase in the expected soybean price. While the own-price elasticity shows an increase of 16.0 percent when compared to 1991-95, the increase in cross-price elasticities are much more pronounced. For example, the increase in the cross-price elasticity with respect to the corn price is more than four times. Much lower capital requirements for growing competing crops, such as corn and soybeans, entice cotton producers to more readily make a switch in their planting decisions than many other crop producers. Also, producers continued to grow cotton to protect their base under previous legislation because

Table 3—Acreage price elasticities for U.S. soybeans under the 1996 Act vs. previous legislation

Item	1986-90[1] (1)	1991-95[1] (2)	1996 Act (3)	Difference	
				(3) vs. (1)	(3) vs. (2)
		Elasticity		Percent	
Soybean price	0.237	0.271	0.269	+13.5	-0.7
Corn price	-.172	-.230	-.229	+33.1	-.4
Wheat price	.007	-.007	-.007	-200.0	0
Cotton price	-.044	-.040	-.020	-54.6	-50.0

[1]Acreage price elasticities for the 1986-90 and 1991-95 periods are from Adams.

Table 4—Acreage price elasticities for U.S. cotton under the 1996 Act vs. previous legislation

Item	1986-90[1] (1)	1991-95[1] (2)	1996 Act (3)	Difference	
				(3) vs. (1)	(3) vs. (2)
		Elasticity		Percent	
Cotton price	0.432	0.401	0.466	+7.9	+16.2
Corn price	-.019	-.014	-.072	+278.9	+414.3
Wheat price	-.026	-.035	-.058	+123.1	+65.7
Sorghum price	-.085	-.076	-.103	+21.2	+35.5
Soybean price	-.046	-.034	-.081	+76.1	+138.2

[1]Acreage price elasticities for the 1986-90 and 1991-95 periods are from Adams.

cotton offered one of the largest deficiency payments on a per acre basis.

Supply elasticities vary somewhat among major production regions. The own-price elasticity in the Southeast and Delta (0.435) is slightly lower than the 0.480 for the Southern Plains (appendix table 19). Relative to 1986-90, the own-price elasticity shows a larger increase in the Southern Plains—an increase of 39.1 percent. In contrast, the own-price elasticity shows only a 6.1-percent increase in the Southeast and Delta regions. This suggests that cotton plantings under the 1996 Act associated with a decline in cotton prices would fall relatively less in the Southeast and Delta regions than in the Southern Plains.

National Acreage Price Elasticity Summary

U.S. acreage price elasticities are summarized in appendix table 21 to indicate the acreage responses for major field crops to 1-percent changes in their own prices and prices for competing crops. These U.S. acreage price elasticities are weighted averages of the elasticities in major production regions based on the regional shares of U.S. planted acreage for each crop in 1991-95.