Southern Farmers Exposure to Income Risk Under the 1996 Farm Bill

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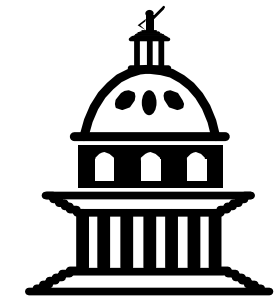

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SOUTHERN FARMERS EXPOSURE TO INCOME RISK UNDER THE 1996 FARM BILL

Ronald D. Knutson, Edward G. Smith and David P. Anderson

Arguably, since the 1930s, what farmers produced was markedly influenced by farm programs (Duffy). While policy changed markedly in terms of the nature and objectives of price supports, income subsidies and production controls, the farmers' program base acres were primary determinants of what was produced, up to the enactment of the 1996 farm bill. Provisions for limited flexibility under the 1990 bill provided some latitude for adjustment in cropping patterns, followed by the implementation of virtual flexibility and decoupled payments in the 1996 bill.

The South, defined as the 14-state area bounded by Texas, Oklahoma, Missouri, Arkansas, Tennessee, Kentucky and Virginia, has many program crops that are relatively unique to this region. These include cotton, rice, peanuts and tobacco. However, the region has the agronomic conditions that allow the production of a variety of other crops including, corn, soybeans and wheat. Many of the farms in this region may not have had the base acres on which to grow these crops under previous farm bills. Even after the enactment of the 1990 bill, they may have been constrained by the lack of specialized equipment, capital rationing, adapted varieties, and/or production management skills.

The 1996 farm bill not only affects farmers in terms of what they produce, it also affects their level of risk exposure. As noted in the companion paper by Ray and Richardson, the magnitude

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and form of additional risk exposure is the subject of debate. The central issues in this debate appear to involve whether the decoupling and flexibility farm bill provisions make the supply response more elastic. A related argument said to reduce price risk is that with increased flexibility, farmers will be free to incrementally adjust to changing market conditions. Here, the issue is whether the magnitude of adjustment is likely to be in the right direction and magnitude to lead to greater stability. There is no intuitive reason to anticipate that increased flexibility means farmers will make the right production decisions in consideration of what farmers in the aggregate are likely to do. The 1996 farm bill did not repeal either the fallacy of composition or the cobweb theorem of farmer decisions.

The purpose of this paper is to investigate the farm level impacts of the 1996 farm bill on the South. It will do this by utilizing three research instruments:

- Presenting the results of a series of producer and lender focus groups, the central issue of which involved their perceptions of risk exposure and risk management tools under the 1996 farm bill.
- Presenting data on what farmers have done in terms of shifting cropping patterns.
- Discussing the farm level impacts of the risk results presented in the companion paper by Ray and Richardson.

While certainly not providing all the answers to the issues at hand, a number of questions are raised that merit further study.

Farm Level Perceptions of Risk

The Risk Management Education Teams of Texas and Kansas, in the fall of 1997, conducted a series of 23 focus group meetings of 101 producers, 22 lenders and 14 representatives of other

agribusiness firms. Seventeen of the focus groups were conducted in the Texas Panhandle and the Southern Plains, while the remaining 6 were conducted in Central and Western Kansas.

The focus group participants were asked to rate 21 individual sources of risk on a 5-point scale where 5 is very important and 1 is not important. Table 1 indicates the 10 most important sources of risk as perceived by the participants in these focus groups. As indicated by the average scores, the four most important sources of risk were the same in both states. The two most important sources of risk were indicated to be price and yield. Price risk is definitely farm bill related, although the magnitude may be debated. Kansas rated price risk higher than Texas. Both rated yield risk the same. The impact of the farm bill on yield risk is likely small although the elimination of annual acreage reduction programs brings less productive lands back into production and reduces the producers ability to address critical agronomic concerns, such as weed control on idle acreage. Thus, the lands put back into production from the set-aside and conservation reserve program will likely have a higher level of associated yield risk. Changes in input costs are farm bill related from the perspective of feed costs to livestock, dairy and poultry producers. Although not farm bill related, the high ranking of environmental risk signals farmers' increased concerns over changes in these regulations as a source of risk.

Farmers' perceptions of the importance of risk management tools, likewise, provide insight into the changing role of farm programs versus individual management initiative in reducing risk (Table 2). The focus group participants were asked to rank the relative importance of 35 risk management tools on the same 5-point scale. It is not surprising that debt management and forward selling (contract or hedging) ranked in the top five.

Table 1. Texas and Kansas Focus Group Perceptions of Importance of Sources of Risk, 1997.

	Texas	Kansas	Combined
Commodity price variability	4.4	4.7	4.5
Commodity yield variability	4.3	4.3	4.3
Changes in input costs	4.1	4.1	4.1
Changes in environmental regulations	4.0	4.1	4.0
Unforeseen litigation	4.0	3.6	3.9
Changes in machinery costs	3.9	3.7	3.9
Injury, illness or death of operator	3.7	3.9	3.8
Changes in interest rates	3.7	3.9	3.8
Availability of skilled labor	3.7	3.8	3.7
Family health problems	3.7	3.8	3.7

Source: Texas and Kansas Risk Management Teams.

Table 2. Texas and Kansas Focus Group Perceptions of Importance of Risk Management Tools, 1997.

	Texas	Kansas	Combined
Debt management	4.2	3.7	4.0
Enterprise diversification	4.0	4.0	4.0
Forward contract selling	3.9	3.9	3.9
Liability insurance	3.8	4.0	3.9
Hedging the selling price	3.9	3.7	3.9
Government program participation	3.8	3.7	3.7
Commodity options	3.7	3.8	3.7
Cash contingency reserves	3.6	3.9	3.7
Operator life insurance	3.7	3.6	3.7
Multi-peril crop insurance	3.7	3.7	3.7
Using futures to hedge	3.6	3.9	3.7
Being low cost producer	3.6	3.6	3.6
Off-farm investments	3.6	3.6	3.6
Using variety of production techniques	3.5	3.6	3.5
Purchasing health insurance	3.4	3.5	3.4

Source: Texas and Kansas Risk Management Teams.

What is interesting is the high ranking of diversification and liability insurance. Diversification has always been recognized by economists as a risk management tool. Sustainable agriculture advocates charged that prior to the 1990 bill, farm programs fostered a monoculture, thus thwarting the environmental benefits associated with diversification (National Research Council). Farmers perceive diversification as a major risk management tool and, under the flexibility provisions of the 1996 farm bill, they will be able to more effectively utilize it for this purpose. They, obviously, are looking for alternatives that reduce risk.

Farm program participation is still recognized as an important risk management tool — reflecting the fact that, while decoupled, substantial lump sum transition payments are an important component of farmers' profit margin. What is more interesting is that multi-peril crop insurance, as a farm program, ranks in the middle third of the top 15 risk management tools and below the operator's own life insurance policy but higher than health insurance. This is especially interesting given that commodity yield was ranked second as the most important source of risk.

The focus group discussions revealed that farmers perceive that they operate in a more risky environment, although no attempt was made to segregate how much of that perception was due to the 1996 farm bill. While government programs are important, they are not perceived as the primary means of reducing risk. That, they recognize, is primarily a function of their own individual initiative. They also recognize that changes in the farm program give them greater latitude for reducing risk through diversification.

The Texas Panhandle and Southern Plains is not set forth as being representative of the South. However, cotton is the largest revenue-producing crop in the South. Interestingly, peanuts are achieving increasing prominence in the region with quota transfers being allowed

within state. Likewise, Kansas is also not representative of farmers in the South, although it is the largest wheat and sorghum producing state and is seeing substantial diversification into corn.

Impacts of the 1996 Farm Bill on Cropping Patterns

After the 1996 farm bill was enacted, the AFPC representative farms were updated with the help of our farmer panels. During this updating process, extensive discussions occurred regarding potential changes in cropping patterns associated with the new flexibility provisions and anticipated changes in the supply/demand balance favoring increased demand for feed grains and oilseeds relative to cotton and rice (FAPRI).

These discussions revealed that farmers are reluctant to change cropping patterns unless there is a significant profit incentive to do so. It was concluded that farmers participating in these panels require around $50 per acre extra in anticipated profit before making major changes in their cropmix. The reason for this relatively high opportunity cost lies in the perceived costs associated with acquiring additional cultural and management expertise, the relative risks associated with producing alternative crops, the impact on economies of specialization, scale and additional required investments in specialized equipment.

Realistically, in terms of revealed changes in cropping patterns, there is only one year of experience under the 1996 farm bill. That is, the bill's implementation provisions were sufficiently delayed in the 1996 crop year that farmers, especially in the South, had already made their cropping decisions. Nationally, for crop year 1997, increases in production were certainly impacted by changes in CRP, set-aside and weather impacts, not necessarily by long-term shifts in production patterns due to changing profit margins and risk exposure.

However, analyses of state data in the South reveals some interesting acreage shifts. Planted acreages of cotton, rice, sorghum, corn, soybeans and wheat were examined in Southern states (Table 3). Planted acreage for the period 94-96 was analyzed as a benchmark because producers had likely adjusted to the limited flexibility provisions contained in the 1990 Farm Bill and annual acreage reduction requirements were modest relative to earlier periods. There were no acreage reduction requirements for wheat during this period. Rice producers had to idle 5 percent of their base in 1995, cotton producers 11 percent in 1994 and corn producers 7.5 percent in 1995 in order to retain program benefits.

The data suggests a shift of acres from cotton and rice to corn and soybeans in the Delta. Cotton acreage declined in 1997 from the 1994-96 average in Louisiana, Mississippi and Arkansas by 34, 23 and 9 percent, respectively. These three Delta states also show declines in rice acres by 1, 8 and 9 percent respectively. Planted corn acres in 1997 for Arkansas, Louisiana and Mississippi were increased 52, 66 and 35 percent, respectively, over the 1994-96 average. Soybean planted acreage increased by 9, 22 and 8 percent over the three-year average in Arkansas, Louisiana and Mississippi, respectively.

Texas and Oklahoma, likewise, shifted acres to feed grains, although more to sorghum than corn. Sorghum acres in 1997 increased 31 and 9 percent in Oklahoma and Texas, respectively. It would appear that the increased sorghum acres in Oklahoma came out of cotton where acres declined 42 percent (143,000 acres) from the 1994-96 average. Texas cotton acres in 1997 were 352,000 below the three-year average but were above 1994 plantings. Soybean acres in Texas increased 50 percent over the average to 380,000 acres in 1997.

Table 3. Changes in 1997 Planted Acres of Southern States From the 1994-96 Average.*

STATE	CORN	WHEAT	SORGHUM	SOYBEAN	COTTON	RICE
			Thousand Acres			
Alabama	283	123	18	293	524	0
	300	145	14	350	535	0
Arkansas	145	1127	230	3483	377	1323
	220	880	210	3800	342	1200
Florida	120	19	0	37	93	0
	175	17	0	45	109	0
Georgia	527	397	62	413	1242	0
	550	400	65	430	1440	0
Kentucky	1310	647	22	1173	0	0
	1400	700	10	1173	0	0
Louisiana	362	113	124	1107	958	578
	600	130	150	1350	630	570
Mississippi	407	202	65	1850	1287	272
	550	220	50	2000	985	250
Missouri	2267	1400	563	4433	401	152
	2900	1100	500	4500	380	90
N. Carolina	933	673	23	1267	671	0
	950	750	20	1350	670	0
Oklahoma	182	6967	397	297	343	0
	210	6800	520	320	200	0
S. Carolina	0	317	13	570	286	0
	340	300	6	600	290	0
Tennessee	693	573	26	1143	610	0
	730	560	15	1300	500	0
Texas	2117	5933	3300	253	5884	325
	2100	6000	3600	380	5532	290
Virginia	460	293	0	510	84	0
	500	280	0	510	101	0

* The top number is the 1994-96 average. The bottom number is the 1997 planted acres.

Some acreage shifts were indicated in other parts of the South as well. Tennessee cotton acres decreased 18 percent (110,000 acres) in 1997 from the three-year average. Over the same time period, soybean acres increased by 14 percent (157,000 acres). Missouri acreages show declines in rice, wheat, sorghum and cotton, and increases in corn and soybeans. Some caution should be used in interpretation because the changes in the Missouri cotton and soybean acres are within the ranges observed over the 1994-96 period. Corn and soybean acres increased in Kentucky and Alabama while wheat acres increased in Alabama. Cotton acres appear to increase in Alabama, Georgia, Florida and Virginia.

Impacts of the 1996 Farm Bill on Representative Farms

To analyze the farm level impacts of the 1996 farm bill, the Agricultural and Food Policy Center (AFPC) set of representative crop farms was utilized. Emphasis in this analysis was placed on the effects of increased price and income risk resulting from the farm bill provisions largely related to the substitution of decoupled lump sum payments for the target price.

The FAPRI November 1997 baseline, which projects prices over the crop year period 1997-2005, was utilized (Table 4). The assumption is that policy will be as specified in the 1996 farm bill over this time period, with payments at the 2002 level through 2005.

The farm level analysis involved the utilization of AFPC's FLIPSIM model developed by Richardson and Nixon. The Farm-Level Income and Policy Simulator (FLIPSIM) is a computer model that simulates, under price and yield risk, the annual economic activities of a farm using accounting equations, identities, and probability distributions (Richardson and Nixon 1986).

Table 4. FAPRI November 1997 Baseline Prices and Contract Payment Rates, 1996-2005.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Crop Prices										
Corn ($/bu.)										
Baseline	2.70	2.59	2.46	2.41	2.45	2.49	2.56	2.63	2.69	2.75
Wheat ($/bu.)										
Baseline	4.30	3.56	3.30	3.43	3.52	3.66	3.73	3.63	3.74	3.71
Cotton ($/lb.)										
Baseline	0.6930	0.6894	0.6610	0.6606	0.6664	0.6724	0.6789	0.6841	0.6861	0.6916
Sorghum ($/bu.)										
Baseline	2.34	2.30	2.33	2.27	2.34	2.38	2.45	2.50	2.54	2.60
Soybeans ($/bu.)										
Baseline	7.38	6.45	5.98	5.95	5.92	6.08	6.12	6.31	6.35	6.56
Rice ($/cwt.)										
Baseline	9.90	9.68	9.37	9.34	9.34	9.36	9.41	9.46	9.51	9.53
Annual Contract Payment Rates										
Corn ($/bu.)										
Baseline	0.2508	0.2807	0.3762	0.3657	0.3344	0.2717	0.2612	0.2612	0.2612	0.2612
Wheat ($/bu.)										
Baseline	0.5238	0.6126	0.6528	0.6327	0.5725	0.4620	0.4519	0.4519	0.4519	0.4519
Cotton ($/lb.)										
Baseline	0.0703	0.0725	0.0772	0.0745	0.0682	0.0553	0.0536	0.0536	0.0536	0.0536
Sorghum ($/bu.)										
Baseline	0.3233	0.3265	0.4381	0.4172	0.3859	0.3129	0.3024	0.3024	0.3024	0.3024
Rice ($/cwt.)										
Baseline	2.7655	2.7257	2.9427	2.8352	2.5964	2.0990	2.0203	2.0203	2.0203	2.0203

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University, November 1997.

Among the model output are the variables that make up an income statement, cash flow, balance sheet, and financial ratios describing the economic viability of the farm. Stochastic yields and prices are used to calculate empirical probability distributions for key variables.

The representative farms analyzed include Southern feed grain, cotton, and rice farms. Two risk scenarios were analyzed.

- A historical risk scenario (history) based on the de-trended price variance. This scenario, in essence, assumes that the same level of price and yield risk would exist on the 1997-2005 period as existed over the 1986-1996 period.
- The variance determined by Ray and Richardson under the 1996 farm bill provisions (POLYSYS). Ray and Richardson did not address sorghum and rice. For the purpose of the analysis we assumed the same increase in price variance due to corn for sorghum and cotton for rice.

The difference between the historical level of risk and risk level estimated by Ray and Richardson is an estimation of the increased annual price risk incurred as a result of the 1996 farm bill. Identical price mean levels were utilized in each scenario. Under the Polysis scenario corn and sorghum price variability was increased by the equivalent of a 92 percent increase in the coefficient of variation. The coefficient of variation was increased 57 percent for wheat, 45 percent for soybeans, and 17 percent for cotton and rice.

The impacts of the two policy/risk scenarios were measured by two variables generated by the FLIPSIM model:

- The level of net cash farm income described as gross farm receipts, including government payments, minus all cash expenses.

- The probability that net cash farm income would be less than additional cash outflows including principal payments, family living withdrawals, income taxes and machinery cash replacement costs, i.e. the probability of an annual cash flow deficit that must be financed from accumulated cash reserves or refinanced through external sources.

The results of the analyses are indicated in Table 5 for a set of 8 representative farms analyzed. The three representative feedgrain farms are located in the Texas Northern Plains, South Carolina, and Central Missouri, cotton farms are located in Texas Southern Plains, Texas Coastal Bend, and Mississippi, and the rice farms are in Arkansas and Louisiana. A brief description of each farm is included in Appendix A.

Increased price variability is expected to increase mean net cash farm incomes given the marketing loan safety net common to both price risk scenarios. The minimum and maximum net cash farm incomes, however, will likely expand under the increased price risk scenario, although not symmetrically. That is, the minimum level will likely be reduced less than the maximum level increases due to the marketing loan safety net.

Net cash farm income

As anticipated the mean net cash farm income levels increase on the eight southern farms analyzed. The increases in average net cash farm incomes range from 1.4 percent on the Texas Southern Plains cotton and peanut farm to 15.5 percent on the Texas Coastal Bend cotton and feedgrain operation (Table 5). Mean net cash farm incomes on the other six farms increased from 3 to 6 percent.

The increases in mean average net cash farm incomes, however, does not come as a windfall. The minimum average net cash farm incomes experienced over the 1997-2005 decline marginally

Table 5. Net Cash Farm Income and Probability of Annual Cash Flow Deficits for Representative Southern Grain, Cotton, and Rice Farms.

	Missouri Grain		Texas N. P. Grain		South Carolina Grain	
	History	POLYSYS	History	POLYSIS	History	POLYSIS
Net Cash Farm Income ($1000)						
1997-2005 Average	209.45	216.75	119.76	126.23	177.00	185.41
1997-2005 Std Dev	27.33	34.37	19.94	28.47	44.71	54.89
1997-2005 Minimum	144.25	136.96	55.33	44.82	33.32	9.69
1997-2005 Maximum	304.60	340.75	185.49	222.32	320.36	372.69
Prob Annual Cash Flow Deficit (%)						
1997	25.00	26.00	11.00	18.00	26.00	30.00
1998	30.00	30.00	12.00	20.00	30.00	33.00
1999	6.00	7.00	20.00	21.00	48.00	49.00
2000	26.00	27.00	37.00	41.00	27.00	29.00
2001	13.00	15.00	26.00	33.00	35.00	34.00
2002	17.00	18.00	25.00	31.00	40.00	43.00
2003	26.00	29.00	43.00	45.00	42.00	49.00
2004	25.00	28.00	50.00	51.00	30.00	35.00
2005	13.00	15.00	32.00	42.00	25.00	31.00
	Texas S. P. Cotton		**Texas C. B. Cotton**		**Mississippi Cotton**	
	History	POLYSYS	History	POLYSYS	History	POLYSYS
Net Cash Farm Income ($1000)						
1997-2005 Average	82.40	83.56	33.27	38.42	92.82	98.59
1997-2005 Std Dev	29.86	30.06	37.30	39.47	65.73	67.05
1997-2005 Minimum	-0.10	1.60	-48.44	-52.44	-71.81	-67.30
1997-2005 Maximum	148.95	150.25	130.87	149.43	248.39	257.77
Prob Annual Cash Flow Deficit (%)						
1997	47.00	47.00	64.00	65.00	50.00	49.00
1998	48.00	47.00	57.00	58.00	53.00	52.00
1999	59.00	58.00	65.00	63.00	56.00	54.00
2000	55.00	55.00	78.00	70.00	63.00	63.00
2001	59.00	59.00	79.00	80.00	75.00	73.00
2002	60.00	60.00	80.00	79.00	74.00	72.00
2003	60.00	60.00	87.00	84.00	78.00	78.00
2004	63.00	61.00	88.00	83.00	82.00	79.00
2005	63.00	62.00	91.00	89.00	85.00	84.00
		Arkansas Rice		**Louisiana Rice**		
		History	POLYSYS	History	POLYSYS	
Net Cash Farm Income ($1000)						
1997-2005 Average		133.02	137.69	66.13	68.81	
1997-2005 Std Dev		26.96	29.51	14.83	16.12	
1997-2005 Minimum		57.20	58.75	27.58	27.09	
1997-2005 Maximum		186.04	197.01	92.08	97.12	
Prob Annual Cash Flow Deficit (%)						
1997		30.00	29.00	36.00	35.00	
1998		47.00	46.00	50.00	48.00	
1999		57.00	53.00	68.00	64.00	
2000		33.00	33.00	70.00	66.00	
2001		42.00	44.00	83.00	81.00	
2002		51.00	52.00	89.00	84.00	
2003		53.00	51.00	94.00	92.00	
2004		72.00	69.00	92.00	87.00	
2005		65.00	60.00	83.00	77.00	

on the Missouri, Texas Northern Plains and South Carolina grain farms as well as the Texas Coastal Bend cotton and the Louisiana rice farms under the expanded price risk scenario. The marginal declines in minimum expectations for average net cash farm incomes range from as little as $490 (2 percent) annually on the Louisiana rice operation to $23,600 (71 percent) on the South Carolina grain farm.

The minimum annual average net cash farm income over the 1997-2005 period actually increases modestly on the Texas Southern Plains cotton farm ($1,700), the Mississippi cotton farm ($4,500), and the Arkansas rice farm ($1,550). The reason for the apparent contradiction in expectations rest on the dependence of these farms on cotton and rice receipts. The marketing loan provisions in cotton and rice have been effective in providing a downside safety net due to lower price expectations. This safety net alone will not result in improved expectations for net cash farm incomes over the 1997-2005 period. However, when coupled with the increased positive benefits that run with higher prices due to reduced interest expense, the minimum net cash farm incomes increase and improve.

Probability of Annual Cash Flow Deficits

The increased price risk projected by Ray and Richardson show differential impacts on the feedgrain and wheat farms as compared to those farms more dependent on cotton and rice. Over the 1997-2005 period the average probability that the farm will have to draw on past cash reserves or refinance to meet all cash obligations increases by 1.6 percentage points on the Missouri farm, 5.0 percentage points on the Texas Northern Plains farm and 3.3 percentage points for the South Carolina farm. The opposite occurs for the predominantly cotton and rice farms. On these farms the probability that the farm cannot meet annual cash flow needs actually improves

from 1 to 3 percentage points. Again, the difference is due to the more effective downside safety net for cotton and rice compared to wheat, feedgrains, and oilseeds.

The marginal improvement in the cash flow probabilities for cotton and rice and the mean expected levels in net cash farm incomes, however, should not be interpreted to imply that producers will prefer these crops over the wheat, feedgrains, and oilseeds. The overall probability of annual cash flow deficits are substantially higher for the cotton and rice farms than for the feed grain, wheat, and oilseed operations.

Conclusions and Implications

The Texas and Kansas risk management teams found that producers perceive commodity price variability as the most important risk management issue they face. When higher levels of price variability were estimated and introduced in a farm level context, representative grain farms faced higher mean net cash farm incomes, but also more risk, i.e. higher probability of annual cash flow deficits. The representative farm analysis concurred with the focus group perceptions in the Texas and Kansas grain producing areas.

Producers in the focus groups identified government program participation in the top half of important risk management tools. Interestingly, the marketing loan program for cotton and rice may aid those producers relatively more than grain producers in reducing risk.

While it is impossible to conclude definitive trends in acreage shifts given only one year of operation under the 1996 farm bill, survey results, expected returns relative to variable risk cost exposure, and the general economies on the representative farms will favor feedgrains, wheat and oilseeds relative to cotton and rice.

Regardless of the debate on the relative increase or decrease in the risk exposure on farms and agribusinesses due to the 1996 farm bill, there is little controversy that agriculture faces considerable risk. Risk management is a major concern of producers and agribusinesses. The profession will likely place considerable research, extension, and teaching resources on understanding the complexities of the risk management challenge.

References

Duffy, Patricia A. "Is the New Deal New?" *J. Agr. and Appl Econ*. 29, 1 (1997): 1-15

FAPRI November 1997 U.S. Agricultural Outlook. University of Missouri, Columbia. December 1997.

National Research Council. *Alternative Agriculture*. Washington D.C.: National Academy Press. 1989.

Ray, Daryll E. and James W. Richardson. "Agriculture Sector Impacts of the 1996 Farm Bill on the South." Invited paper. SAEA Annual Meeting. Little Rock, AR. (1998).

Richardson, J. W. and C. J. Nixon. "Producer Preference for a Cotton Farmer Owned Reserve: An Application of Simulation and Stochastic Dominance." *W. J. Agr. Econ.*, 7(1982):123-32.

Richardson, J. W. and C. J. Nixon. *Description of FLIPSIM V: A General Firm Level Policy Simulation Model*. Texas Agriculture Experiment Station, Bulletin B-1528, 1986.

Texas and Kansas Risk Management Teams. *Producer and Agribusiness Perspectives of Risk Management Needs*. Texas Agricultural Extension Service, Texas A&M University. 1998.

Appendix Table A. Characteristics of Representative Farms in Missouri, Texas, South Carolina, Louisiana, Mississippi and Arkansas.

	MO Grain	TX Grain	SC Grain	TXSP Cotton	TXCB Cotton	MS Cotton	AR Rice	LA Rice
Total Cropland	1500.	1600.	1500.	1682.	1700.	1635.	1260.	1100.
Acres Owned	750.	320.	500.	653.	300.	735.	440.	50.
Acres Leased	750.	1280.	1000.	1029.	1400.	900.	820.	1050.
Assets ($1000)								
Total	1782.	568.	934.	613.	512.	1546.	1388.	304.
Real Estate	1345.	185.	567.	295.	286.	944.	736.	78.
Machinery	361.	316.	271.	288.	216.	541.	585.	197.
Other & Livestock	76.	68.	96.	29.	10.	62.	67.	29.
Debt/Asset Ratios								
Total	0.21	0.16	0.17	0.18	0.19	0.21	0.19	0.20
Intermediate	0.28	0.15	0.13	0.16	0.18	0.22	0.19	0.20
Long Run	0.19	0.20	0.20	0.19	0.19	0.19	0.19	0.19
1996 Gross Receipts ($1000)*								
Total	390.4	376.5	618.0	295.6	421.0	887.7	572.3	392.2
Corn	171.2	186.0	192.4	0.0	0.0	0.0	0.0	0.0
	43.9%	49.4%	31.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Sorghum	0.0	68.7	0.0	0.0	126.5	0.0	0.0	0.0
	0.0%	18.2%	0.0%	0.0	30.0%	0.0%	0.0%	0.0%
Wheat	45.9	121.9	386.2	0.0	0.0	0.0	59.7	0.0
	11.7%	32.4%	62.5%	0.0%	0.0%	0.0%	10.4%	0.0%
Soybeans	163.2	0.0	39.4*	0.0	0.0	123.2	73.7	52.9
	41.8%	0.0%	6.4%	0.0%	0.0%	13.9%	12.9%	16.1%
Cotton	0.0	0.0	0.0	240.1	294.5	764.4	0.0	0.0
	0.0%	0.0%	0.0%	81.2%	70.0%	86.1%	0.0%	0.0%
Medium Grain Rice	0.0	0.0	0.0	0.0	0.0	0.0	226.0	95.7
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	39.5%	29.1%
Long Grain Rice	0.0	0.0	0.0	0.0	0.0	0.0	211.9	177.6
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.0%	53.9%
Additional Peanuts	0.0	0.0	0.0	45.2	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	15.3%	0.0%	0.0%	0.0%	0.0%
Other Receipts	10.0	0.0	0.0	10.3	0.0	0.0	1.0	3.0
	2.6%	0.0%	0.0%	3.5%	0.0%	0.0%	0.2%	0.9%
1996 Planted Acres**								
Total	1500.0	1600.0	1500.0	1239.0	1700.0	1565.0	1160.0	1100.0
Corn	550.0	470.0	600.0	0.0	0.0	0.0	0.0	0.0
	36.7%	29.4%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sorghum	0.0	280.0	0.0	0.0	935.0	0.0	0.0	0.0
	0.0%	17.5%	0.0%	0.0%	55.0%	0.0%	0.0%	0.0%
Wheat	250.0	642.0	750.0	0.0	0.0	0.0	145.0	0.0
	16.7%	40.1%	50.0%	0.0%	0.0%	0.0%	12.5%	0.0%
Soybeans	700.0	0.0	900.0*	0.0	0.0	640.0	319.0	361.9
	46.7%	0.0%	10.0%	0.0%	0.0%	40.9%	27.5%	32.9%
Cotton	0.0	0.0	0.0	961.0	765.0	925.0	0.0	0.0
	0.0%	0.0%	0.0%	77.6%	45.0%	59.1%	0.0%	0.0%
Medium Grain Rice	0.0	0.0	0.0	0.0	0.0	0.0	348.0	189.1
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	17.2%
Long Grain Rice	0.0	0.0	0.0	0.0	0.0	0.0	348.0	350.9
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	31.9%
Fallow	0.0	208.0	0.0	0.0	0.0	0.0	0.0	198.1
	0.0%	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%
Additional Peanuts	0.0	0.0	0.0	95.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%
CRP	0.0	0.0	0.0	183.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	14.8%	0.0%	0.0%	0.0%	0.0%

TXSP is the Texas Southern Plains and TXCB is the Texas Coastal Bend.
*South Carolina double crops 750 acres of soybeans on wheat.