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Abstract

Farmers in the United States receive billions of dollars per year from federal farm support programs. While the nature of these programs has evolved since the Great Depression, they both persist and expand with the passage of every farm bill. This paper studies the political activities of individual farmers and the political action committees that represent their interests by exploiting a vote to amend the 2008 farm bill that, had it passed, would have curtailed a cotton subsidy program. I find evidence that cotton farmers contribute substantially to campaigns in the House of Representatives. The more a cotton farmer receives in farm subsidies, the more likely they are to make political contributions. Further, there is evidence that cotton farmers contribute substantially to non-local races, and that these contribution patterns closely resemble those of cotton political action committees. Results on the effectiveness of these contributions in influencing legislative outcomes is inconclusive.

Key words: Agricultural Policy, Lobbying, Rent Seeking, Campaign Finance

JEL classification: Q18,D72

Farm owners receive substantial benefits from federal agricultural programs. While the nature of these programs has evolved over time, extensive federal support for agriculture persists. Gardner

(1987) finds that these benefits are not spread evenly among the agricultural industry. They accrue instead to farmers with a comparative advantage in political organizing. According to Smart (1990), farmers are known to structure their operations to avoid maximum subsidy limits. Even Scottie Pippen, of Chicago Bulls fame, received over $200,000 in payments from the Conservation Reserve Program, according to the USDA Farm Services Agency (2016). Farmers have strong incentives to protect farm support programs through political action. Understanding the political activities of farmers is crucial to understanding why farm income support programs remain so firmly entrenched in modern agricultural policy.

This paper studies the political activities of farmers by exploiting a vote to amend the House version of what became the 2008 farm bill, which would have reduced cotton subsidy payments, had it passed. There are three primary research objectives. The first objective is to assess whether or not cotton farmers contribute significantly to campaigns in the House of Representatives, and determine if this behavior resembles that of cotton political action committees (PACs). The second objective is to assess whether or not cotton farmers and cotton PACs contribute in order to influence legislation. The final objective is to determine if these contributions affect legislative outcomes.

Two prior literatures inform this research. The first is the literature on the activities of agricultural PACs. Stratmann (1995) studies the impact of the timing of campaign contributions made by agricultural PACs on farm bill amendment votes, finding that contributions made in the same cycle as the vote have a stronger effect than contributions made in the prior congress. Brooks, Cameron, and Carter (1998) study the effect of PAC campaign contributions on a failed vote to repeal sugar tariffs, finding that both pro and anti-sugar PACs affect voting behavior in congress. Stratmann (1998) finds that agricultural PAC campaign contributions are highly clustered around farm bill amendment votes. Stratmann (1992b) finds empirical evidence that agricultural PACs engage in log-rolling behavior. More recently, Russell (2014) finds evidence that the agricultural lobby effectively influenced the 2014 farm bill vote, while the most significant determinant of legislator vote behavior is the size of their agricultural constituency.

Several issues remain unresolved in the literature on PAC direct campaign contributions. Despite low contribution limits, these limits rarely bind, according to Ansolabehere et al. (2003). Unlike corporate PACs, farming PACs are formed, organized and funded by individual farmers. Farmer interests drive the behavior of farming PACs, and should be incorporated into models of PAC influence.

The second relevant literature is the literature on campaign contributions by individuals. Much of this literature studies the actions of individuals at large, rather than individuals with an identifiable special interest. Ensley (2009) studies the impact of candidate ideology on individual campaign contributions, finding that individuals are motivated by the absolute policy positions of candidates rather than the relative difference between them. Gimpel, Lee, and Kaminski (2006) find that donors to both political parties tend to be affluent, and come from largely the same geographic areas. Gimpel, Lee, and Pearson-Merkowitz (2008) extend this research, studying the impact of the donors location relative to the recipient's congressional district, finding that contributors vary their contribution strategies by geography. They also find that the more powerful and senior the legislator is, the higher the percentage of campaign funding received from outside their district.

The studies that do focus on campaign contributions by individuals with special interests analyze the behavior of corporate CEOs. Fremeth, Richter, and Schaufele (2013) finds evidence that CEOs strategically donate during their tenure, increasing contributions after becoming CEOs and substantially reducing contributions after retirement. Gordon, Hafer, and Landa (2007) makes a distinction between consumption and investment motivations for contributing to federal campaigns, finding that CEOs contribute disproportionately to legislators with power over their industry. Most similar in spirit to this research is the work of Ovtchinnikov and Pantaleoni (2012). They find that individuals living in close proximity to major firms will contribute to legislators with oversight functions over said firms. The implication is that individuals who are economically dependent on firms contribute to further the firm's interests.

Agricultural PACs are political organizations created by farmers to further their political objectives. This paper adds to the literature on agricultural political action by quantifying the political behavior of individual farmers in a framework that allows for the comparison of farmer and farming PAC behavior. Furthermore, this paper contributes to the literature on individual campaign contribution behavior by extending it to include a broader group of individuals with a joint policy objective. Further insight into the political activities of both individual farmers and their political organizations is critical in understanding the continued existence and expansion of federal farm support programs.

Section two outlines the theory of political behavior that underlies the empirical model, which is explained in section three. Section four describes the data and the method used to identify individual farmer campaign contributions. Section five discusses the empirical results, and section six concludes.

Theory

In order to get advantageous policies passed into law, farmers require a simple majority of legislators to vote in favor of it. This has implications for what campaign contribution behavior is optimal, if the objective is influencing legislation. Stratmann (1991) finds evidence that agricultural PACs contribute the most to legislators with a median farming constituency. When faced with limited budgets, agricultural PACs have an incentive to contribute to legislators they believe are undecided. In terms of constituency characteristics, legislators with median farm constituency characteristics are the most likely to be undecided, according to Stratmann (1992b).

Thus, if the agricultural lobby seeks to influence agricultural policy using campaign contributions as a tool, they should follow two strategies. The first, is to contribute to legislators with median farming constituencies who are likely to be undecided. These legislators are necessary to secure a majority coalition. Secondly, the agricultural lobby should contribute to legislators with control over agricultural legislation. In the House of Representatives, members of the House

Committee on Agriculture control bills pertaining to agricultural policy, and thus, members of this committee should receive substantial contributions from the agricultural lobby.

The primary goal of this paper is to determine if individual farmer contribution behavior is consistent with these theories of PAC behavior. For my purposes, it will be sufficient to compare contributions made by cotton farmers to contributions made by cotton PACs and assess whether contributions flow to legislators with a median cotton farming constituency.

Fremeth, Richter, and Schaufele (2013) make a delineation between two different incentives for individual campaign contributions. The first motivation is consumption motivation. Contributions made as a form of consumption are made for the benefit of the contributor, with no expectation of influencing the legislative process other than improving the chances the recipient wins reelection. On the other hand, contributions made as a form of investment are intended to influence policy outcomes.

Since the underlying motivation is unobserved, the only way to ensure that contributions are motivated by investment incentives is to exploit the timing of the vote. It is highly unlikely for individuals to contribute outside of primary or general election seasons unless they seek to influence policy. Thus, the ideal vote for analysis should have the following characteristics. First, it should occur in an off election year, well before the primary election season. Secondly, to isolate the effect of contributions, the vote should be decided by a narrow margin. Since farm bill amendment votes tend to be considered on the same day, to isolate the effect of contributions on the specific vote, it should affect a narrow subset of the agricultural industry. In this study, the vote affects cotton farmers. Finally, a focus on the finalized farm bill vote should be avoided, since finalized farm bills always pass with a veto proof majority.

Empirical Model

The empirical specification is a simultaneous probit-tobit model. This empirical model, introduced by Henry W. Chappell (1982), allows for the simultaneous estimation of the reduced form campaign contribution equations and the structural legislative vote equation. Let $\alpha_0 - \alpha_3$, $\beta_0 - \beta_1$ and $\gamma_0 - \gamma_1$ denote vectors of parameters. Let $\varepsilon_{v,j}, \varepsilon_{p,j}$ and $\varepsilon_{f,j}$ denote error terms and $\rho_{v,p}, \rho_{v,f}$ and $\rho_{p,f}$ denote correlations between error terms.

(1) $V_j^* = \alpha_0 + \alpha_1 D_j^p + \alpha_2 D_j^f + \alpha_3 X_j + \varepsilon_{v,j}$

(2) $D_j^{p,*} = \beta_0 + \beta_1 X_j + \beta_2 Y_j + \sigma_p \varepsilon_{p,j}$

(3) $D_j^{f,*} = \gamma_0 + \gamma_1 X_j + \gamma_2 Y_j + \sigma_f \varepsilon_{f,j}$

(4) $V_j = \begin{cases} 1 \text{ if } V_j^* > 0 \\ 0 \text{ otherwise.} \end{cases}$

(5) $D_j^p = \begin{cases} D_j^{p,*} \text{ if } D_j^{p,*} > 0 \\ 0 \text{ otherwise.} \end{cases}$

(6) $D_j^f = \begin{cases} D_j^{f,*} \text{ if } D_j^{f,*} > 0 \\ 0 \text{ otherwise.} \end{cases}$

(7) $E[\varepsilon_{v,j}] = E[\varepsilon_{p,j}] = E[\varepsilon_{f,j}] = 0$

(8) $E[\varepsilon_{v,j}^2] = E[\varepsilon_{p,j}^2] = E[\varepsilon_{f,j}^2] = 1$

(9) $E[\varepsilon_{v,j}\varepsilon_{p,j}] = \rho_{v,p}$

(10) $E[\varepsilon_{v,j}\varepsilon_{f,j}] = \rho_{v,f}$

(11) $E[\varepsilon_{p,j}\varepsilon_{f,j}] = \rho_{p,f}$

(12) $E[\varepsilon_{k,j}\varepsilon_{k',j'}] = 0, k \neq k', j \neq j'$

The variable V_j denotes the observed vote decision made by legislator j. This vote is determined by a latent, continuous vote propensity, denoted by V_j^*. If this latent propensity is greater than zero, then the observed vote equals one. This vote is a function of campaign contributions made by cotton PACs, denoted by D_j^p, contributions made by cotton farmers, denoted by D_j^f and other characteristics, denoted by X_j. These other characteristics include party affiliation, political ideology, membership on the House Committee on Agriculture, the number of cotton farmers within their district, and spatial controls. It is expected that the size of the cotton farming constituency and membership on the House Committee on Agriculture should negatively affect the propensity to vote for a reduction in cotton subsidies.

The reduced form contribution equations serve two functions. The primary function is to assess what factors motivate cotton farmers and cotton PACs to contribute. The secondary function is to instrument contributions in the vote equation to control for possible endogeniety between contributions and votes. The observed contributions are based on a latent propensity to contribute. The observed contribution equals the propensity if the propensity exceeds zero. The propensity reasoning follows from the fact that whether or not a PAC or farmer weakly or strongly dislikes a congressional candidate, the observed contribution is still zero.

These contributions are determined in part by the same determinants as the vote decision, X_j. Membership on the House Committee on Agriculture is hypothesized to increase contributions. Y_j denotes the exclusion restrictions. These exclusion restrictions include whether or not the legislator is a freshman, won by a landslide in the last election or ran unopposed in the last election[1]. While these characteristics influence whether or not legislator receive campaign contributions from interest groups, they have no effect on their views towards cotton subsidies.

Of critical importance is the inclusion of the square of the cotton farming population. If cotton farmers and PACs contribute predominantly to legislators with a median farming constituency,

[1]Legislators that are virtually guaranteed to win reelection are less likely to be swayed by campaign contributions. Likewise, legislators serving their first term are an unknown quantity from the perspective of cotton farmers and PACs. They have yet to reveal their preferences, and lack the seniority to influence the content of legislation.

then there exists a contribution maximizing number of cotton farmers. Including the square of the number of cotton farmers allows for testing this hypothesis. A necessary condition for the existence of a contribution maximizing cotton farming constituency is a positive coefficient on cotton farming population and a negative coefficient on its square.

Since the chosen amendment vote occurs on the same day as other amendment votes that affect agriculture as a whole, contributions from non-cotton farming PACs are included in the cotton PAC contribution equation to control for unrelated contributions. For the same reason, contributions from non-cotton farmers are included in the cotton farmer contribution equation.

The correlation coefficients $\rho_{v,p}$ and $\rho_{v,f}$ measure the endogeneity between votes and cotton PAC contributions and between votes and cotton farmer contributions. If these correlation coefficients are statistically significant, then contributions are endogenous and the simultaneous equations framework is necessary to obtain unbiased estimates. This model is estimated using the QLIM Procedure in SAS Software. Marginal effects are calculated using the average of partial effects approach, as explained in Wooldridge (2010).

Data

Legislative voting data comes from Civic Impulse LLC (2007). House amendment 715, roll call 752, sought to reduce the direct payment rate for cotton by two thirds of a cent in order to increase funding to the Grassland Reserve Program. Given that the direct payment rate was $0.0667 per pound of cotton, the proposed amendment would reduce direct payments to cotton farmers by 10%. Taking place on July 27th, 2007, this vote failed by a margin of 175-251. This vote satisfies two of the three criteria for study. While the vote margin is wide, it does occur well before the primary election season, and affects farmers of a specific crop.

Cotton farmers are identified using data from the USDA Farm Services Agency (2016), obtained via a FOIA request. These data contain a record of every farm subsidy transaction made between 1995 and 2016, including the crop the transaction pertains to and the full names and mailing ad-

dresses of the recipients. The names and postal zip codes of cotton subsidy recipients are cross referenced with campaign contributors using data from the Federal Election Commission (2017). Farmers and contributors are matched using their last name, first initial, suffix and postal zip code. Note that the Federal Election Commission only reports contributions in excess of $200. Thus, cotton farmer contributions are underreported, and their estimated effect on vote decisions should be considered a lower bound on the true effect.

Table 2 reports summary statistics for campaign contributions. A total of 115 cotton farmers made 136 campaign contributions between January 1st and July 27th of 2007, contributing $117,570.73. In contrast, 11 cotton PACs made 148 contributions during this time, totaling $198,776.23. While cotton PACs did contribute more than cotton farmers, cotton farmer contributions are far from trivial. Using spatial shape files obtained from Lewis et al. (2013) and contributor postal zip codes, the congressional district the farmer resides in is identified. While farmers contributed slightly more to legislators within district, they made a larger number of contributions to non-local legislators. Contributing to legislators representing different districts strongly suggests investment motivations.

Figures 1 and 2 show scatter plots of cotton farmer and cotton PAC contributions as a function of the number of cotton farmers within a legislator's district. Legislators representing districts with relatively low numbers of cotton farmers receive more in contributions than legislators with a large number of cotton farmers. This is consistent with the existence of a contribution maximizing number of cotton farmers, beyond which contributions decline. Figures 3 and 4 show that cotton farmers and cotton PACs are contributing predominantly to the same legislators. Many of these legislators represent districts without cotton farming, further suggesting investment motivation.

Cotton farmers that receive higher levels of cotton subsidies are more likely to contribute. Table 4 reports cotton farmer contributions by quintile of subsidy receipts. Farmers in the top quintile of farm subsidy receipts made twice as many contributions as farmers in the second quintile, who in turn made twice as many contributions as farmers in the third quintile. While more farmers

contributed in the higher quintiles, their per capita contributions are lower than in lower quintiles, suggesting a possible free rider problem.

The number of cotton farmers within a legislator's district, depicted in figure 5, is determined by counting how many individuals within each district received cotton farm subsidies.

Data on party affiliation, membership and tenure on the House Committee on Agriculture come from Stewart III and Woon. Legislators serving their first term in office are coded as freshman. Information on legislator ideology comes from Royce et al. (2016). Their DW-Nominate dataset plots legislator ideology on a two dimensional space. Their second dimension coordinate, which corresponds to attitudes on economic freedom, is used to construct the liberalism variable. Liberalism is scaled so that a score of 100% denotes a strong propensity towards government intervention in the market. Information on the percentage of the vote that legislators received in their last election comes from Kollman et al. (2016). These data are used to construct the landslide variable (defined as a vote share greater than 70%) and the unopposed variable. These binary distinctions are more appropriate than vote percentages, since nearly all incumbent legislators have high vote shares. Finally, following along the lines of Russell (2014), USDA ARMS III production regions are manually coded to control for spatial heterogeneity.

Summary statistics for model variables are reported in table 3. Note that contribution levels and the number of cotton farmers are rescaled in terms of thousands to facilitate estimation. All dollar amounts are adjusted to 2017 dollars using the consumer price index. Due to the fact that the Federal Election Commission only reports personal campaign contributions in excess of $200, cotton farmer campaign contributions are censored below at $241.10 after inflation adjustment.

Results

Estimation results are reported in tables 5 and 6, and marginal effects estimates are reported in table 7. Three estimations are conducted. The first estimates the complete model. The second omits legislators on the House Committee on Agriculture to assess if contribution strategies differ

for non-members. The final estimation omits the reduced for contribution equations.

In the complete model, members of the House Committee on Agriculture receive more contributions from both cotton farmers and cotton PACs, though the effect is only statistically significant in the cotton PAC equation. Members of the agricultural committee receive $392 more from cotton farmers and $278 more from cotton PACs. Tenure on the committee also increases contributions, though the effect is only weakly statistically significant in the cotton PAC contribution equation.

In both the cotton farmer and cotton PAC contribution equations, the coefficients on the cotton farming population and squared cotton farming population variables are consistent with the hypothesis that representing a median cotton farming constituency maximizes contributions. The level term has a positive coefficient, while the squared term has a negative coefficient, with both terms being statistically significant. The coefficient on the squared term in the cotton farmer contribution equation in the estimation that omits members of the House Committee on Agriculture is also negative, but lacks statistical significance.

Coefficients for contributions from non-cotton farmers and non-cotton PACs suggests positive correlation between contributions from cotton and non-cotton farming interest groups. This suggests that farmers of various crops are supporting the same legislators, and result holds in the estimation that omits members of the House Committee on Agriculture. Given that all of the amendment votes occurred within a 48 hour period, this could indicate log-rolling.

Differences between cotton farmer and cotton PAC contributions manifest in the political ideology variables. Cotton farmers appear to contribute more to Democrats and less to liberals, while cotton PACs contribute less to Democrats and more to liberals. This suggests, as discussed by Russell (2014), that moderate legislators are more likely to favor agricultural programs than either the far left or the far right. Legislators on the far left likely view farm subsidies as a form of corporate welfare, while legislators on the far right likely view farm subsidies as wasteful spending.

Also, coefficients for the freshman, landslide and unopposed variables yield surprising results. While freshmen receive less from farmers, they receive between $189 and $308 more from cot-

ton PACs, with the cotton PAC coefficients being statistically significant. One would expect these coefficients to be negative, given the fact that junior legislators have less clout than senior ones. Cotton farmers contribute more to legislators who won by large margins and less to legislators that ran unopposed, which is consistent with the theory that legislators assured of winning reelection receive fewer contributions.

In each estimation, both cotton farmer and cotton PAC contributions reduce the probability that a legislator votes for the subsidy reduction. While the individual effects are not statistically significant in the complete model, the joint effect is weakly statistically significant. Estimates suggest that a $1,000 increase in cotton farmer contributions reduces the probability a legislator votes for the subsidy reduction by 13 percent, with the same increase in cotton PAC contributions reducing the probability by 12 to 17 percent. These implausibly large estimates are likely driven by the fact that the vote was defeated by a large margin. Table 8 reports predicted and counterfactual vote tallies. All models underestimate the effectiveness of campaign contributions, predicting a higher vote tally for the subsidy reduction than actually occurred. Each counterfactual predicts that the vote would have passed had it not been for campaign contributions.

The correlations between the error terms of the vote equation and each of the contribution equations, reported in table 9, lacks statistical significance in both the complete model and the model omitting members of the House Committee on Agriculture. This suggests that contributions are not endogenous. Table 6 reports estimates from a probit estimation which treats contributions as exogenous. While the coefficients and marginal effect estimates do not change substantially, cotton farmer and cotton PAC contributions are statistically significant.

Wald tests of joint significance are reported in table 10. The exclusion restrictions are statistically significant in both the cotton farmer and cotton PAC contribution equations in the complete model, while statistical significance is lost in the cotton farmer contribution equation in the model that omits members of the agricultural committee.

Conclusion

From this analysis, three implications are clear. The first is that cotton farmers contribute significantly to campaigns in the House of Representatives. Secondly, they employ a contribution strategy more sophisticated than simply contributing to their local legislators, and one that closely resembles that of their political action committees. In particular, both cotton farmers and cotton PACs seem to contribute to legislators with a median cotton farming constituency rather than to legislators representing cotton farming districts, suggesting that cotton farmers are strategic in their contribution behavior. Third, cotton farmers that receive more in subsidies from federal farm programs are more likely to contribute to House campaigns. On the other hand, due to limitations with the empirical framework, there is insufficient evidence to conclude that these contributions significantly influence farm policy decisions in the House of Representatives.

While results support the assertion that farmers follow the same contribution strategies as the PACs that represent them, the results are weaker for farmers. This is not unexpected. Unlike farming PACs, farmers face a collective action problem. Subsidy program benefits, according to Gardner (1987), acrue to farmers of geographically concentrated crops. In other words, the easier it is to organize, the more farmers of a given crop receive in federal support. Future research should focus on the political activities of farmers who farm geographically concentrated crops, such as peanuts, rice or sugar.

It is important to keep agricultural PACs in perspective. These organizations are created by farmers to further their political objectives. To the best of my knowledge, no one has studied what factors motivate farmers to contribute to farming PACs. This is a ripe topic for future research.

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Appendix

Table 1. Description of variable names in the following tables.

Variable	Description
PAC Don.	Campaign donations from cotton PACs to a given legislator.
Farmer Don.	Campaign donations form cotton farmers to a given legislator.
Farming Pop.	Number of cotton subsidy recipients within a legislator's district.
Sq. Farming Pop.	Square of the number of cotton subsidy recipients within a legislator's district.
Ag. Committee	Indicator denoting membership on the House Committee on Agriculture
Ag. Com. Tenure	Tenure on the House Committee on Agriculture.
Democrat	Indicator denoting Democratic Party membership.
Liberal	Measure of liberalism in percentage terms constructed from DW-Nominate.
Freshman	Indicator equal to one if the legislator has served less than one term.
Land Slide	Indicator equal to one if the legislator won by at least 70% of the vote.
Unopposed	Indicator equal to one if the legislator ran unopposed.
Other PAC Don.	Campaign donations from all non-cotton agricultural PACs to a given legislator.
Other Farmer Don.	Campaign donations from all non-cotton farmers to a given legislator.
West	Indicator denoting if the legislator represents a district in the ARMS III Western region.
Plains	Indicator denoting if the legislator represents a district in the ARMS III Plains region.
Midwest	Indicator denoting if the legislator represents a district in the ARMS III Midwest region.
South	Indicator denoting if the legislator represents a district in the ARMS III South region.
Atlantic	Indicator denoting if the legislator represents a district in the ARMS III Atlantic region.

Table 2. Descriptive statistics for campaign contributions and the subsidies received by donating farmers between January 1st and July 27th, 2007. Note that 115 cotton farmers made a total of 136 donations, and 11 cotton PACs made a total of 148 donations. All dollar amounts are adjusted to 2017 dollars.

Variable	N	Min	Max	Mean	St. Dev	Sum
Cotton PAC Don.	148	600.29	3,051.09	1,343.08	580.65	198,776.23
Cotton Farmer Don.	136	240.12	5,584.97	864.49	940.00	117,570.73
Local Cotton Farmer Don.	59	240.12	5,584.97	1,092.80	1,140.02	64,475.38
Non-Local Cotton Farmer Don.	77	242.10	5,205.11	689.55	711.51	53,095.35
Cotton Farmer Subsidies	136	1.23	179,084.99	21,685.85	30,866.47	2,949,275.92
Local Cotton Farmer Subsidies	59	1.23	77,966.05	10,957.73	16,511.05	646,506.28
Non-Local Cotton Farmer Subsidies	77	66.03	179,084.99	29,906.10	36,421.24	2,302,769.64

Table 3. Descriptive statistics for model variables. All dollar amounts are adjusted to 2017 dollars.

Variable	Min	Max	Mean	St. Dev	Sum
Yes Vote	0.00	1.00	0.40	0.49	171.00
Cotton PAC Don.	0.00	17,667.29	445.99	1,601.45	117,570.73
Other PAC Don.	0.00	126,226.49	7,353.83	12,572.58	3,118,025.08
Cotton Farmer Don.	0.00	11,905.13	493.37	1,148.06	209,189.41
Other Farmer Don.	0.00	16,102.00	542.66	1,523.16	230,087.52
Farming Pop.	0	7443	218.715	777.426	92,735.000
Ag. Committee	0	1	0.106	0.308	
Ag. Com. Tenure	0	9	0.333	1.219	
Democrat	0	1	0.540	0.499	
Liberal	6.534	96.686	59.154	24.457	
Freshman	0	1	0.219	0.414	
Land Slide	0	1	0.283	0.451	
Unopposed	0	1	0.026	0.159	

Table 4. Campaign donations from cotton farmers by cotton subsidy receipt quintile. All dollar amounts are adjusted to 2017 dollars.

Quartile	N	Min	Max	Mean	Std.	Sum
1st	69	240.12	5,205.11	694.52	768.42	47,922.21
2nd	33	242.10	5,584.97	958.15	1,304.64	31,619.10
3rd	13	302.62	2,772.67	1,029.63	790.87	13,385.15
4th	12	300.15	2,428.25	1,021.59	646.25	12,259.06
5th	9	301.38	2,784.13	1,376.13	953.89	12,385.21

Table 5. Estimation results for the complete model.

Equation	Complete	Complete	Complete	Complete	Complete	Complete
Dep Var.	Vote	Vote	Farmer Don.	Farmer Don.	PAC Don.	PAC Don.
Variable	Estimate	SE	Estimate	SE	Estimate	SE
Constant	0.293	(0.475)	-5.251	(2.486)**	-10.419	(2.468)***
PAC Don.	-0.616	(0.387)				
Farmer Don.	-0.442	(0.294)				
Farming Pop.	-5.800	(2.035)***	2.552	(0.959)***	3.281	(0.868)***
Squared Farming Pop.			-0.273	(0.138)**	-0.355	(0.135)***
Ag. Committee	-0.945	(0.418)**	2.666	(1.660)	1.915	(1.147)*
Ag. Com. Tenure			0.193	(0.348)	0.527	(0.276)*
Democrat	1.130	(0.556)**	2.844	(1.999)	-1.676	(1.855)
Liberal	-0.014	(0.011)	-0.069	(0.042)*	0.028	(0.041)
Freshman			-1.671	(1.126)	2.185	(0.675)***
Land Slide			1.030	(0.917)	0.501	(0.639)
Unopposed			-0.533	(1.693)	-1.899	(1.643)
Other PAC Don.					0.140	(0.022)***
Other Farmer Don.			0.561	(0.221)		
West	0.586	(0.264)**	0.745	(1.799)	3.131	(1.541)**
Plains	0.437	(0.450)	3.426	(1.926)*	0.946	(1.499)
Midwest	0.116	(0.278)	1.193	(1.853)	-0.304	(1.753)
South	-0.469	(0.346)	2.056	(1.795)	3.525	(1.455)**
Atlantic	0.257	(0.251)	0.698	(1.935)	2.486	-1.532
Sigma			3.816	(0.664)***	0.140	(0.022)***

Table 6. Estimation results for the model omitting members of the House Committee on Agriculture, and the model which omits the contribution equations.

Equation	No Agcom	No Agcom	No Agcom	No Agcom	No Agcom	No Agcom	Vote Only	Vote Only
Dep Var.	Vote	Vote	Farmer Don.	Farmer Don.	PAC Don.	PAC Don.	Vote	Vote
Variable	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Constant	0.382	(0.486)	-5.486	(2.757)**	-16.216	(5.336)***	0.306	(0.465)
PAC Don.	-0.424	(0.427)					-0.579	(0.245)**
Farmer Don.	-0.393	(0.353)					-0.469	(0.236)**
Farming Pop.	-4.984	(1.985)**	2.577	(1.188)**	3.907	(0.870)***	-5.792	(2.048)***
Sq. Farming Pop.			-0.318	(0.166)*	-0.605	(0.187)***		
Ag. Committee							-0.974	(0.336)***
Ag. Com. Tenure								
Democrat	1.310	(0.566)**	0.998	(2.179)	0.290	(1.895)	1.140	(0.557)**
Liberal	-0.017	(0.011)	-0.050	(0.044)	0.003	(0.041)	-0.014	(0.011)
Freshman			-2.272	(1.521)	2.015	(0.597)***		
Land Slide			1.339	(1.211)	0.303	(0.672)		
Unopposed			-16.606	(10.120)	-1.382	(1.055)		
Other PAC Don.					0.160	(0.022)***		
Other Farmer Don.			0.434	(0.375)				
West	0.485	(0.275)*	0.289	(1.897)	11.023	(6.438)*	0.582	(0.261)**
Plains	-0.107	(0.508)	3.932	(2.154)*	8.445	(6.366)	0.440	(0.439)
Midwest	0.136	(0.293)	1.087	(1.956)	7.732	(6.372)	0.116	(0.278)
South	-0.547	(0.359)	1.900	(1.879)	9.995	(6.262)	-0.479	(0.338)
Atlantic	0.218	(0.259)	0.893	(1.922)	9.250	(6.464)	0.252	(0.250)
Sigma			3.951	(0.891)***	2.323	(0.331)***		

Table 7. Marginal effects estimates. Marginal effects are calculated using the average of partial effects approach.

Equation Dep Var.	Complete Vote	Complete Farmer Don.	Complete PAC Don.	No Agcom Vote	No Agcom Farmer Don.	No Agcom PAC Don.	Vote Only Vote
PAC Don.	-0.173			-0.120			-0.167
Farmer Don.	-0.128			-0.127			-0.135
Farming Pop.	-1.667	0.273	0.393	-1.517	0.203	0.275	-1.665
Ag. Committee	-0.255	0.392	0.278				-0.259
Ag. Com. Tenure		0.020	0.064				
Democrat	0.318	0.348	-0.217	0.383	0.088	0.020	0.320
Liberal	-0.004	-0.007	0.003	-0.005	-0.004	0.000	-0.004
Freshman		-0.160	0.308		-0.137	0.189	
Land Slide		0.122	0.064		0.123	0.023	
Unopposed		-0.053	-0.185		-0.192	-0.078	
Other PAC Don.			0.017			0.011	
Other Farmer Don.		0.057			0.032		
West	0.168	0.085	0.527	0.147	0.021	4.353	0.167
Plains	0.121	0.563	0.129	-0.033	0.563	3.439	0.122
Midwest	0.033	0.151	-0.037	0.042	0.105	2.947	0.033
South	-0.136	0.279	0.616	-0.169	0.194	4.253	-0.138
Atlantic	0.074	0.079	0.381	0.067	0.081	3.106	0.073

Table 8. Actual vote tallies, predicted votes tallies given observed contribution levels, and counterfactual vote tallies if no contributions were made.

Description	Model	Yes		No
Actual	Complete	171	-	253
Predicted	Complete	187	-	237
Counterfactual	Complete	212	-	212
Actual	No Ag. Com.	167	-	212
Predicted	No Ag. Com.	184	-	195
Counterfactual	No Ag. Com.	203	-	176
Predicted	Vote Only	187	-	237
Counterfactual	Vote Only	215	-	209

Table 9. Fit statistics for each estimation.

Model Statistic	Complete Estimate	No Ag. Com. Estimate	Vote Only Estimate
N	424	379	424
Log-Like	-584.229	-428.677	-214.164
Rho_af	0.287***	0.243	
Rho_av	0.055	-0.153	
Rho_fv	-0.024	0.014	

Table 10. Wald statistics of joint statistical significance.

Test	Equation	Complete	No Ag. Com	Vote Only
Contributions	Vote	5.430*	1.870	10.360***
All Regressors	Farmer	59.990***	23.850**	
All Exclusion Restrictions	Farmer	13.39**	6.760	
Farming Population	Farmer	11.130***	4.980*	
All Regressors	PAC	99.500***	168.120**	
All Exclusion Restrictions	PAC	55.450***	64.110***	
Farming Population	PAC	24.560***	31.110***	

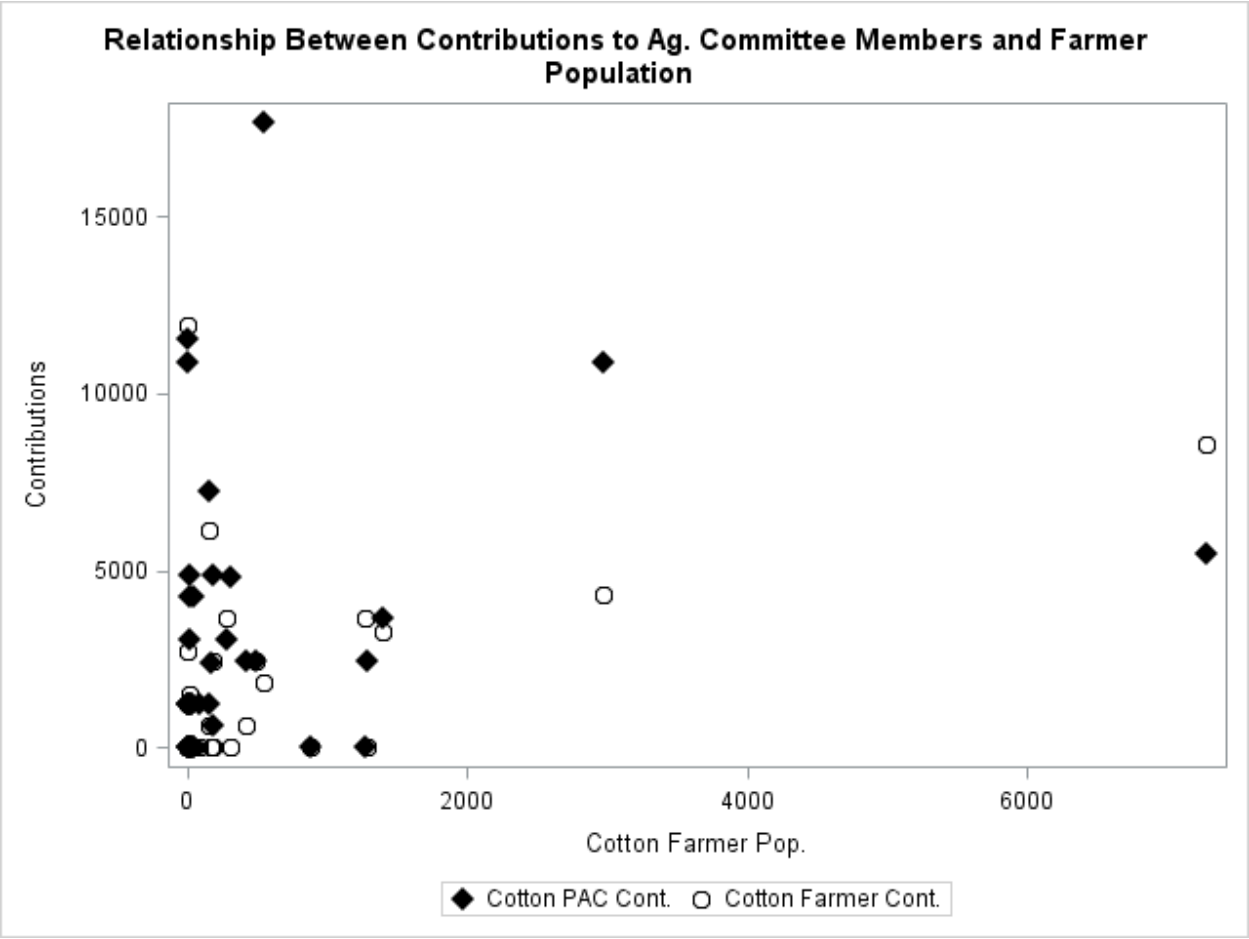

Figure 1. Relationship between contributions to a given legislator on the House Committee of Agriculture and the number of cotton farmers living in their district.

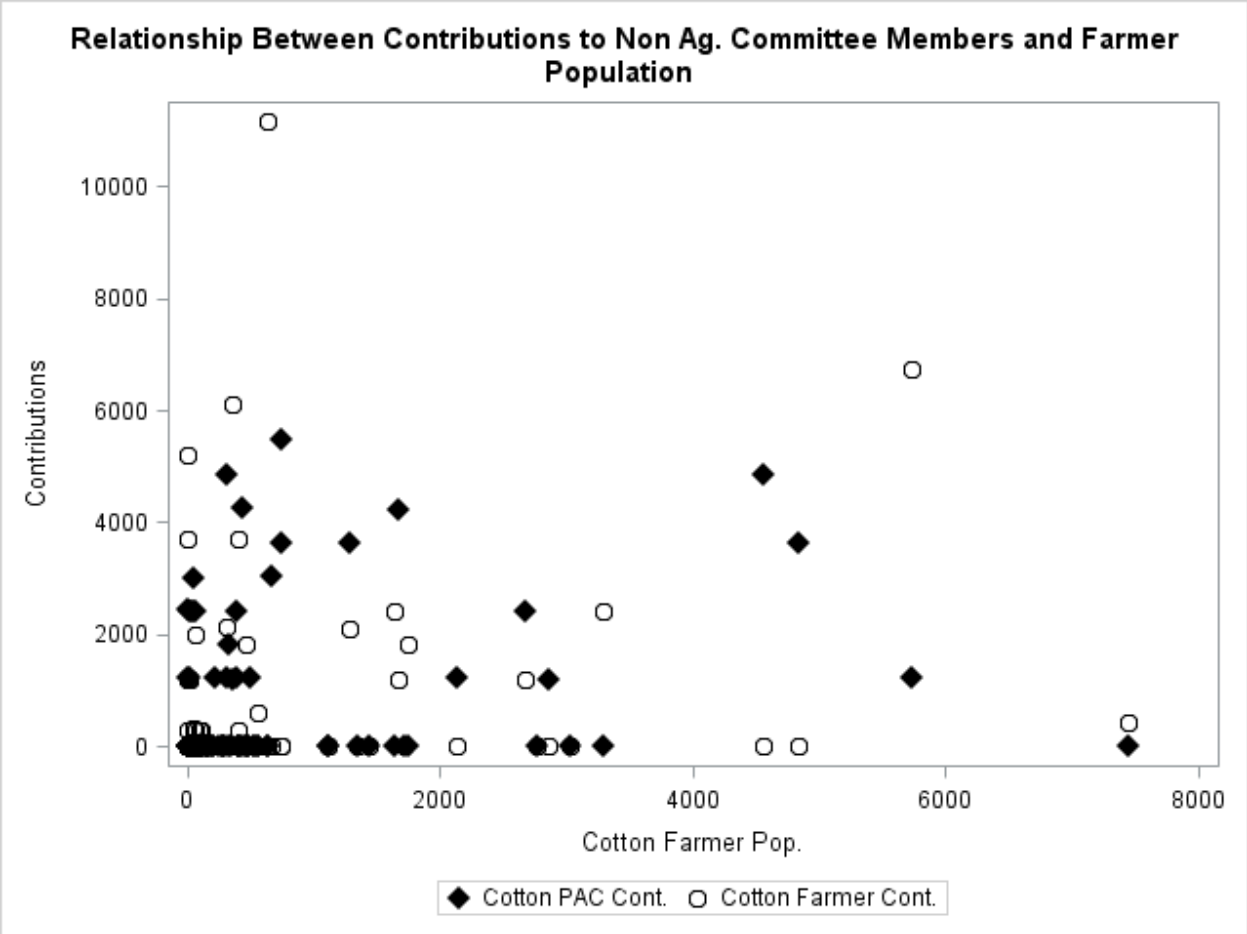

Figure 2. Relationship between contributions to a given legislator who is not on the House Committee of Agriculture and the number of cotton farmers living in their district.

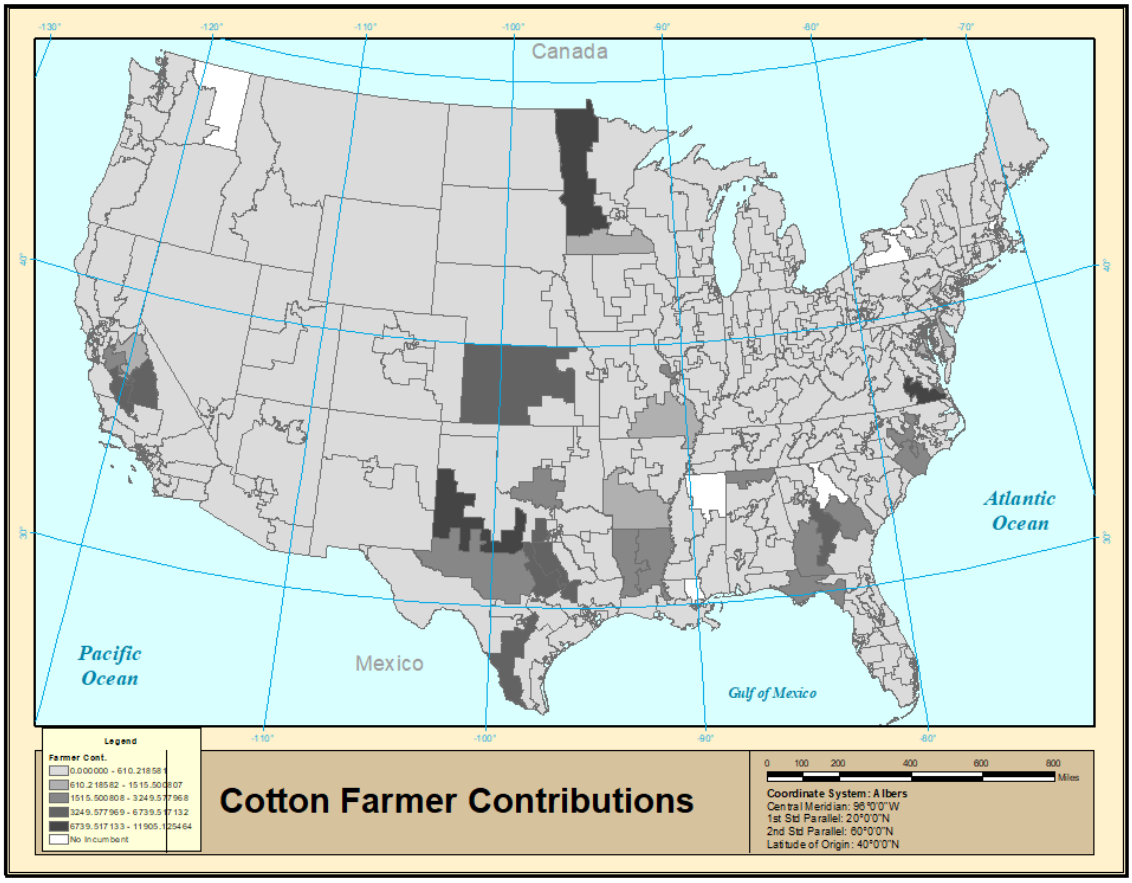

Figure 3. Choropleth map depicting the receipts of campaign contributions from cotton farmers by congressional district.

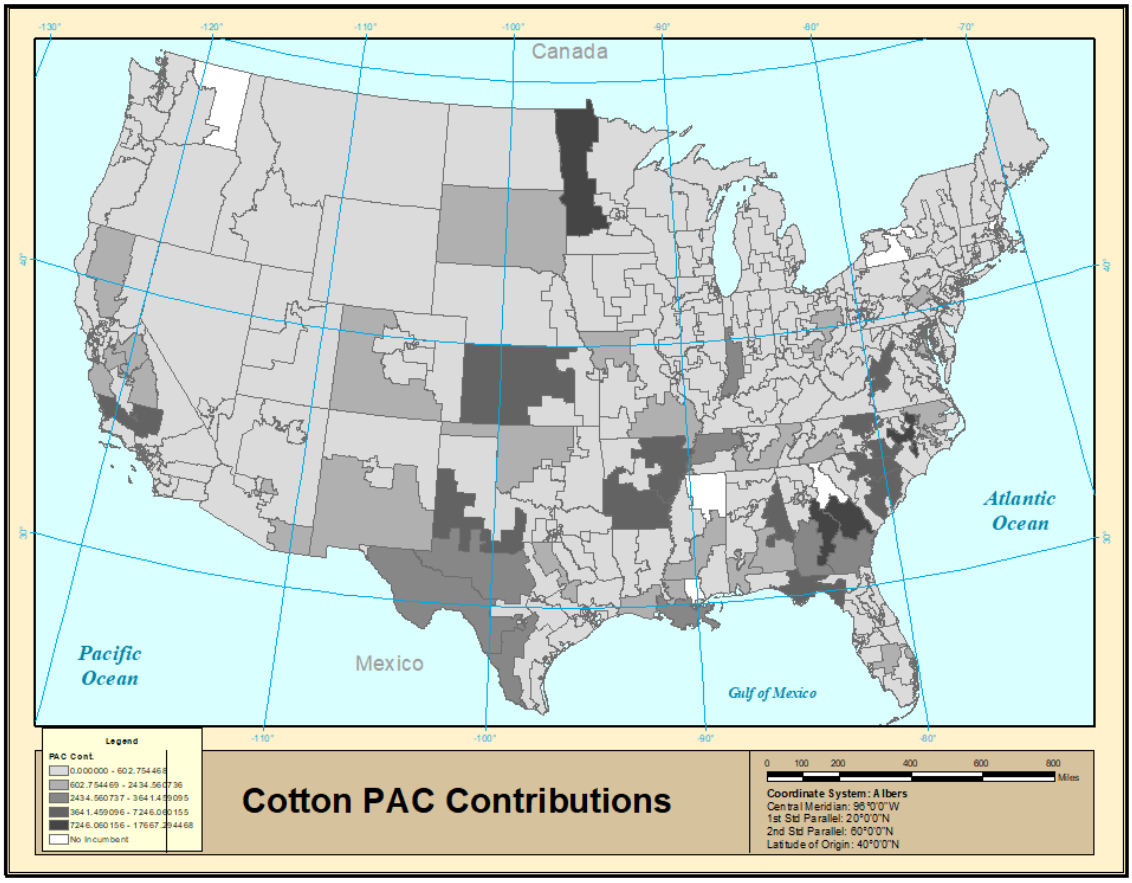

Figure 4. Choropleth map depicting the receipts of campaign contributions from cotton PACs by congressional district.

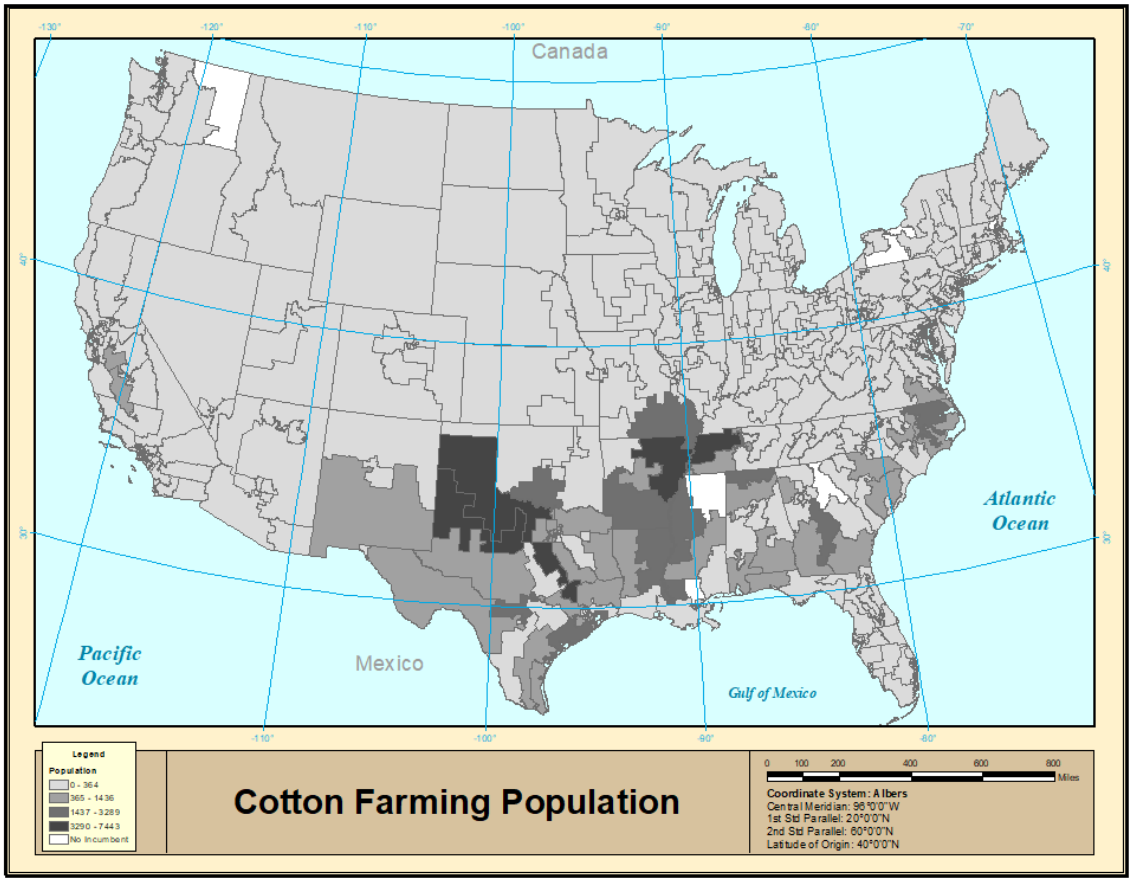

Figure 5. Choropleth map depicting cotton farmer population by congressional district.