Implications of a New Cotton Support System in Georgia

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ABSTRACT

The economic conditions for cotton farmers have been on a downward spiral for the past 4 years. China's accumulation of stocks, falling world market price, flat demand, and the retraction of direct government payments have made for a situation that have people within the US cotton industry worried about the future. The cotton industry's current position has renewed calls to support cotton farmers in the US. Policy makers, farmers, and other industry professionals have been working together to propose a potential solution to help farmers in a time of need. This proposal has brought about the idea of a new support program for cotton by classifying cotton as an "other oilseed" and allowing direct government payments. By evaluating the effects and implications of this program may have, this analysis will provide the industry with relevant information on the possible outcomes of implementing this policy.

INTRODUCTION

The US cotton farming industry produced 6.5 billion dollars in revenue last year with only 745.2 million in profits.[1] The market for cotton in the US is driven by exports. Last year 69 percent of the US cotton industries revenue came from exports.[2] The United States is the largest exporter of cotton; in 2015 the US exported 10.2 million bales.[3] China, who buys the bulk of our cotton, had a 23.8 percent share of our cotton exports in 2015. The large number of exports is due to the outsourcing of textile mills to China and other places because of lower labor costs. Although cotton is produced and consumed in the US, the processing of the product takes place mainly overseas. This has created a large global market for US cotton. The US is the largest exporter; however, they are only the third largest producer behind India and China.[4] These countries are producing cotton as well as processing the cotton themselves. This creates a global market for the buying and selling of cotton which makes the industry competitive. The homogeneity along with the global scope of the industry is important because it makes farmers price takers. Since farmers are price takers the reliance on a global market price creates a problem for farmers here in the US.

The variability of cotton prices is a result of changing global conditions. In a business that is risky because of outside factors, the variability adds stress to farming operations. These include weather, agronomic variability, and infrastructure. A variable price adds even more risk to the equation. This makes cotton farming potentially an unprofitable venture for producers. That is why there is a necessity for farmers to

[1] (Haider 2014)
[2] (Cotton Incorporated November)
[3] (Cotton Incorporated November)
[4] (Doom 2016)

become more efficient and try to lower costs. Although it is important for farmers to try to continue to be the lowest cost producer, it is reaching times where even the lowest cost producer is struggling to break-even. This leads to the question of future profitability of cotton farming in the US.

Georgia is the second largest upland cotton producer in the US only behind Texas.[5] The total contribution of the cotton production sector and related industries in Georgia is $2.5 billion in output, accounting for 15,420 jobs, and $572 million in labor income.[6] In twenty-two different counties cotton production accounts for more than 7% of the counties total economic contribution.[7] This is a high percentage considering that cotton production of agriculture which makes up the largest economic contribution of the whole state. It is evident that cotton production in the US and in Georgia have a significant level of importance. With prices below the cost of production and no more government subsidies, is it possible for the cotton industry to survive in such a harsh environment? This is the question being asked by economists, politicians and especially farmers.

The current conditions of the cotton market have been provoking politicians, farmers and all industry stakeholders to find possible solutions to help the farmers under these current conditions. The House Committee on Agriculture has been meeting on Growing Farm Financial Pressure and several issues regarding policy have been mentioned and opened for further exploring.[8] In a study done at Louisiana State University economists show proof that cotton production is critical for the success of

[5] (President n.d.)
[6] (President n.d.)
[7] (Shurley, Kane and Wolfe n.d.)
[8] (Subcomittee Examines Growing Financial Pressure n.d.)

many local economies, especially in rural areas.[9] The importance shown in this statement provides sufficient grounds for consideration of finding new support for cotton farmers.

The National Cotton Council is proposing a new support program for cotton farmers. This program will "designate cottonseed as an 'other oilseed' covered commodity under the 2014 Farm Bill for purposes of PLC /ARC programs."[10] This will give cotton farmers the ability to receive direct payments from the government, and will provide cotton farmers with much needed support with the absence of direct payments from the government for cotton as a result of the WTO cotton case with Brazil. The objective of this study is to provide analysis of implementing this proposal. The proposed policy would provide some potential benefit to farmers by minimizing risk, allowing for reasonable profits, and balancing prices of other commodities. These all fit into the overarching goal of achieving future profitability for the cotton industry.

To evaluate the effects of the new cotton support program it is helpful to examine the effects of previous proposals. In Georgia, not only is it important to look at cotton production, but because of Georgia's agricultural diversity there are other major row crops that compete for cotton acres that need to be taken into account. The two major crops in Georgia besides cotton are peanuts and corn. These crops play a large role in Georgia agriculture and are necessary inclusions in the evaluation of policy effects on the agricultural landscape in Georgia. Considering all of the factors involved with a whole farm operation in Georgia will help us to evaluate the question at hand. Will this policy benefit Georgia farmers by minimizing risk, allowing profitability, and sustaining agricultural diversity?

[9] (Fannin, Paxton and Valco n.d.)
[10] (National Cotton Council n.d.)

REVIEW OF LITERATURE

COTTON SUPPORT IN THE US (2002-PRESENT)

In order to understand the implications of the policies introduced throughout the years it is first important to understand the different types of payments given to farmers throughout each of the 2002, 2008, and 2014 Farm Bills. The payment types that have been offered during this time include Direct and Counter-Cyclical Payments (DCP), and Loan Deficiency Payments (LDP). The direct and counter-cyclical payments are given based on target price, loan rate, and average marketing year price. The target price and loan rate are set out by the Farm Bill, and the average marketing year price is easily found by taking an average of the price for the year. The direct payment comes first and is given regardless of price and then counter-cyclical payments are given at the end of the marketing year for the lesser of the difference of the loan rate and average marketing year price.[11] The LDP's are calculated by the loan rate minus the Adjusted World Price (AWP) these payments are also known as Marketing Loan Gain (MLG). The STAX program is an area based insurance policy that can be purchased along with other insurance policies to cover between 70-90 percent of expected county revenue[12]. The target price and loan rate used for calculation are written into each of the policies. The summary of what program was included in each Farm Bill is in Table 1 below.

[11] (Laws n.d.)
[12] (USDA Farm Service Agency n.d.)

Table 1. Programs

Farm Bill Support	2002 Farm Bill	2008 Farm Bill	2014 Farm Bill
Direct and Counter-Cyclical Payments	X	X	
Loan Deficiency Payments	X	X	X
STAX			X

A summary of the protections/support offered in each program in is Table 2 below.

Table 2. Cotton Payment Calculations

Direct Payments	1/3*(Target Price-Loan Rate)
Counter-Cyclical Payments	Target Price-DP-max(loan rate, AVG Marketing Year Price)
Loan Deficiency Payments	Loan Rate-Adjusted World Price
STAX	Coverage of 70-90% of expected county revenue

The 2002 Farm Bill introduced direct payments to the farmer in the form of direct and countercyclical payments as well as loan deficiency payments. The 2008 Farm Bill continued both direct and counter-cyclical payments and loan deficiency payments. The 2014 Farm Bill, in response to the WTO dispute with Brazil did away with all direct payments for cotton and only allowed for loan deficiency payments. Along with the loan deficiency payments, policy makers pushed to have the STAX program included in order to give more help to farmers. The general consensus so far on the STAX program has been negative because of its limitations in ability to cover losses over a certain amount. Because of the low acceptance rate of only 28% nationally in 2015 and unavailability of

data on the new program I am not using this program in my analysis.[13] This is another reason for the consideration of the new policy.

OTHER CROP SUPPORT

When considering the implications of policy on a farm it is necessary to take into account the policy implications of other crops, not only cotton. Georgia has an agriculturally diverse landscape with climate conditions necessary for growing several different crops including cotton, corn, and peanuts, which is unique to only a few states in the US. For this reason, I have included the calculations for the respective policies for other crops in my model to show the full picture of support and the effect on a farm operation. This will also allow the potential balancing effect of other commodities prices to be shown in the results.

Table 3. Peanut PLC Payment Calculation[14]

Reference Price	$535/ton
Payment Rate	Reference-National Average Market Price
Payment Amount	85%*Yield*Payment Rate

Peanuts are almost always elected as price loss coverage or PLC payments.[15] PLC program payments are issued when the effective price of a covered commodity is less than the respective reference price for that commodity. The effective price equals the higher of the market year average price or the national average loan rate for the covered commodity.[16] The calculations above are similar to a direct payment in that they are based off of a reference price. The current peanut support system is shown in Table 3. Under

[13] (Georgia Cotton Commission n.d.)
[14] (National Center for Peanut Competitiveness n.d.)
[15] (Ethredge n.d.)
[16] (USDA Farm Service Agency n.d.)

current conditions peanut PLC payments make up a majority of subsidy payments in Georgia.[17]

Table 4. Corn ARC Payment Calculation

Benchmark Revenue	5 yr AVG County Yield*5yr National AVG Market Price
Actual Revenue	Average County Yield*National Average Market Price
Average Revenue Guarantee	86%*Benchmark Revenue
Payment Amount	Min((Average Revenue Guarantee-Actual Revenue), or 10% Benchmark Revenue)

Corn payments are usually elected as agricultural risk coverage or ARC payments.[18] The ARC program provides revenue loss coverage at the county level. ARC payments are issued when the actual county crop revenue of a covered commodity is less than the ARC guarantee for the covered commodity.[19] The calculations in Table 5 for the risk coverage are based off of county yield and average market price. This gives farmers some protection against risk.

[17] (Farm Subsidy Database n.d.)
[18] (Farm Subsidy Database n.d.)
[19] (USDA Farm Service Agency n.d.)

DATA AND METHIODS

YIELD AND PRICE DATA

The data used for the price and yield in this study are from the United States Department of Agriculture National Agricultural Statistics Service (NASS)[20]. NASS Quick Stats is an online database formed from surveys conducted each year in every aspect of agriculture along with data from the Census of Agriculture conducted every five years. The data used for yield and price are below in Table 5.

Table 5. Yield and Price Data

Yield and Price	Cotton		Cottonseed		Corn		Peanuts	
Year	Yield	Price/LB	Yield	Price/LB	Yield	Price/BU	Yield	Price/LB
1997	667	.69	767	.06	105	2.90	2570	.30
1998	627	.64	721	.06	85	2.46	2815	.30
1999	624	.47	718	.04	103	2.27	2575	.27
2000	611	.57	702	.05	107	2.06	2700	.29
2001	758	.35	872	.04	134	2.32	3330	.23
2002	604	.42	695	.05	110	2.70	2600	.18
2003	828	.66	952	.06	126	2.45	3450	.19
2004	701	.51	806	.05	128	2.20	2980	.19
2005	887	.48	1020	.05	128	2.20	2840	.17
2006	848	.47	975	.06	110	3.00	2780	.18
2007	840	.57	966	.08	127	4.50	3120	.20
2008	867	.60	997	.11	140	4.50	3400	.23
2009	938	.59	1078	.08	140	4.10	3560	.21
2010	856	.82	984	.08	146	5.95	3530	.22
2011	857	.96	985	.14	159	7.30	3625	.31
2012	1110	.71	1277	.13	180	7.90	4580	.29
2013	884	.82	1017	.15	175	5.17	4430	.24
2014	940	.68	1082	.09	170	4.17	4135	.21
Forecast	1500	.74	1125	.12	200	3.79	5000	.23

The specific data set that I am working with are prices and yield for the years 1997-2014. This timeframe was chosen to show the relevance of different support programs over the years. The yield data is specific to the top 30 producing counties in

[20] (USDA NASS n.d.)

southern Georgia, southern Georgia is where the vast majority of row crop agriculture is conducted, therefore providing a close representation of the whole state. However, the price data are only state specific data, because there is little variability in price among the state. The forecasts are based on predictions made by myself on the outcome of the 2016 season in Georgia. I have been involved with farm production for over 15 years and am heavily involved in the decision-making processes of our family farm, these predictions are what we consider to be reasonable under agronomic conditions in South Georgia. The selection of the yield and data helps to provide Georgia specific analysis when looking at the effects of the support programs.

COST DATA

The cost data below in Table 7 was taken from the UGA Extension and Outreach 2016 Budgets. These budgets give expected costs and are prepared annually or periodically as needed, it is stated that these budgets are thought to provide a representative of typical or average farming situations, and are used regularly for decision making processes. Table 7 provides a summary of the dollars per acre costs for a Georgia farm of each crop. For more information on cost data see Appendix A.

Table 6. Cost Data

Costs	Cotton	Corn	Peanuts
Land	195	195	195
Variable Costs	646.50	598.26	616.42
Fixed Costs	324.72	253.70	323.12
Total Costs	1166.23	1046.95	1134.54

METHODS

For the analysis, I have chosen to use a excel add in program by the name of Simetar. The program was developed by a well-known Agricultural Economist at Texas A&M by the name of Dr. James W. Richardson along with Dr. Keith D. Schumann. The program is regularly used in agricultural economics for analyzing risk, policy, and other economic issues.

Simetar was used to run a simulation of a whole farm model to examine to see the effect of the different policy situations on a per acre return on investment. Using return on investment per acre allows us to have a representation that is consistent across farm size, making the analysis more universal. In order to get to this ROI number a simulation of price and yield over a multivariate empirical distribution was formed for each crop. First, net return was calculated from the stochastic price and yield data and the fixed cost data from the previous section. The policies were formulated based off of the stochastic price and yield data and then added to the net return for each different policy. The different policies were then categorized into the four situations: baseline or no policy, conditions between 2002-2013, current conditions, and under the proposed policy. The ROIs were then calculated based upon each situation. The allocation of acres was then provided on the basis of three different scenarios, representing a whole farm in all cotton, a realistic crop mix, and a majority peanuts operation. These three scenarios were chosen in order to evaluate the full implications and effects of the policy. The result was a matrix of ROIs based on crop mix scenario and policy situation. Each of these were simulated using Simetar's latin hypercube sampling (LHS) method using 500 iterations,

in the end we are provided with a chart of probabilities of expected outcomes based on the simulation.[21]

PROPOSED POLICY

The new policy takes advantage of direct payment arrangements for crops classified as an "other oilseed" that gives the government a way to provide direct payments to cotton farmers for cottonseed. This proposed policy could give farmers a way to survive these tough economic times. The new cottonseed proposal is similar to the past support programs. It will also use a target price given in the 2014 Farm Bill for other oilseeds and also will use a proposed average marketing year price as a reference for the loan rate. The calculations are per pound of seed produced. It is important to note that the large difference between the target price and average market price provides a subsidy that could potentially be very beneficial to farmers.

Table 7. Proposed Policy Calculation

Cottonseed Policy	Target Price-AVG Proposed Market Price
Target Price	$0.20
AVG Market Price Proposed	$0.13
Support per pound of seed	$0.08

[21] (Richardson, Shumann and Feldman 2008)

RESULTS

OVERVIEW

The results in Figure 1, 2, and 3 are provided in an output produced by Simetar called a Stoplight Analysis graph. Each of the Figures shows a range of expected outcome probabilities in an easy to see format. The graph is separated by red, yellow, and green margins, each representing negative returns, returns between 0 and 15 percent, and returns in excess of 15 percent, respectively. This allows for the examination of the stochastic dominance of each situation. The results are broken into three scenarios in order to make a representation for each point of analysis, the minimization of risk, potential for reasonable profits, and a balancing effect on other commodity prices. The scenarios are defined by different crop mixes used to show the effects on a 100 percent cotton farm, a realistic crop mix for a Georgia farmer, and a majority peanut operation that is likely under current conditions.

SCENARIO 1

Figure 1. 100% Cotton Farmer

StopLight Analysis Results

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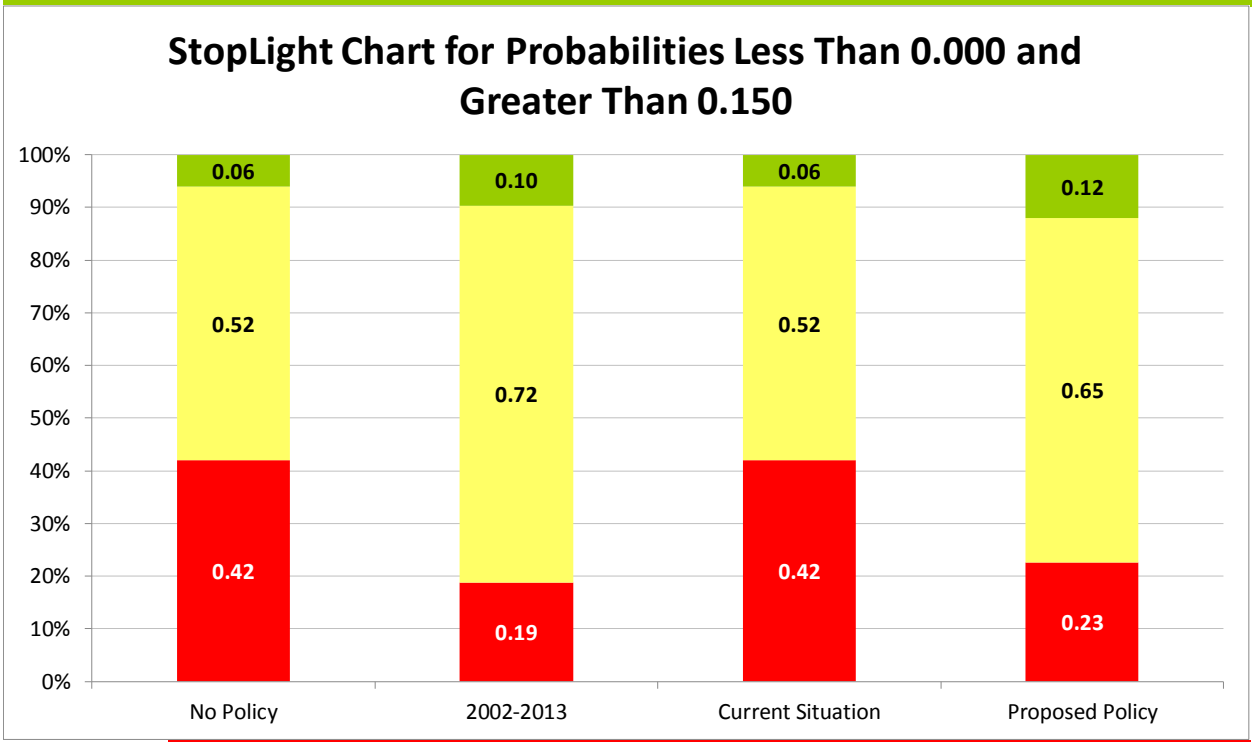
Lower Cut-Off Value	**0.00**	Upper Cut-Off Value	**0.15**	
	No Policy	2002-2013	Current Situation	Proposed Policy
Unfavorable	**0.42**	**0.19**	**0.42**	**0.23**
Cautionary	**0.52**	**0.72**	**0.52**	**0.65**
Favorable	**0.06**	**0.10**	**0.06**	**0.12**



The first result scenario is that of a 100% cotton farmer, displayed in Figure 1. This result provides evidence of the expected result under the new proposed program for cotton support. With the new support program, farmers have a greater chance for positive returns and a lesser chance for negative returns when compared to the current situation, which in this scenario is the same as the baseline or no policy condition. Although the outcome of the new policy will not return us to favored conditions of

profitability under the previous farm bills, it will however provide needed support for cotton farmers. The analysis for this scenario provides a representation of the effect on cotton acres but does not provide a full overview of a realistic farming operation in Georgia.

SCENARIO 2

Figure 2. 40%-20%-40% Crop Mix

StopLight Analysis Results

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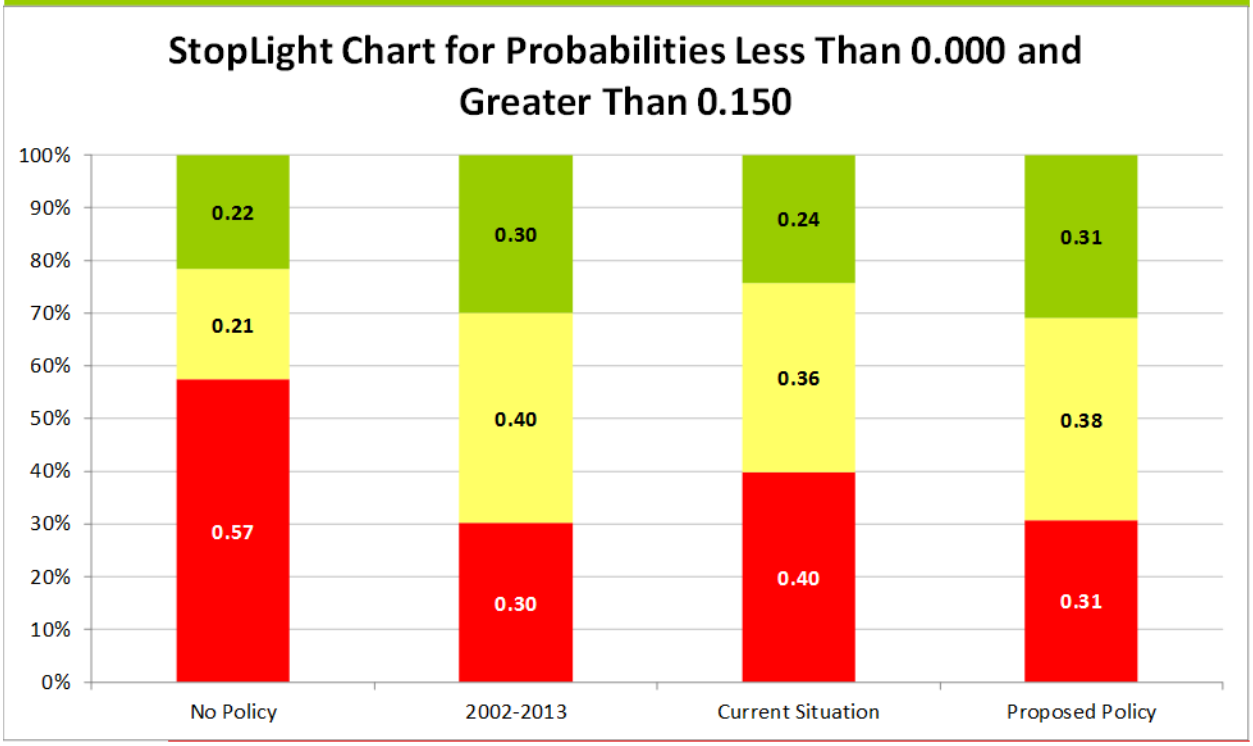
Lower Cut-Off Value	**0%**	Upper Cut-Off Value	**15%**	
	No Policy	2002-2013	Current Situation	Proposed Policy
Unfavorable	**0.57**	**0.30**	**0.40**	**0.31**
Cautionary	**0.21**	**0.40**	**0.36**	**0.38**
Favorable	**0.22**	**0.30**	**0.24**	**0.31**



The second scenario is the most realistic and representative of the three, this displays the most likely outcome for South Georgia farming operations. The above results show the probability outcome for a farming operation with a crop mix of 40 percent cotton, 40 percent peanuts, and 20 percent corn. The results for this scenario

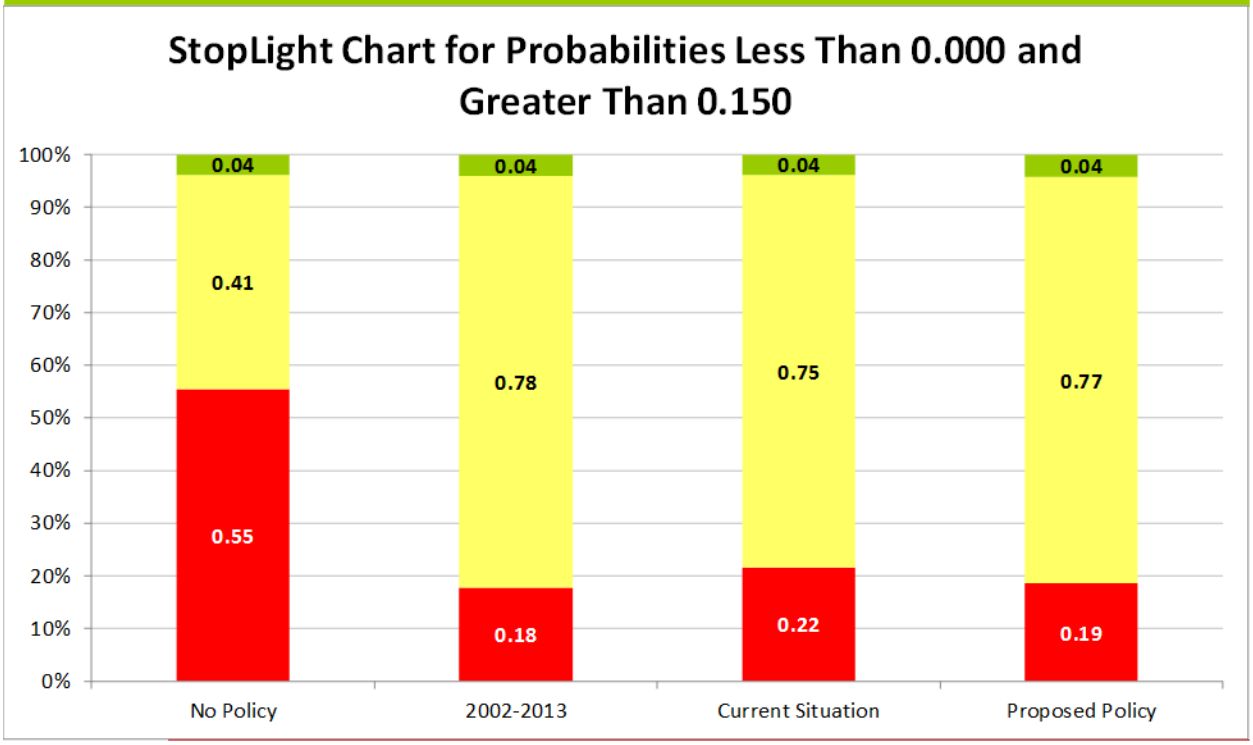
provide a representation that would support the notion that the proposed policy would be beneficial for farmers in South Georgia. The reason for this is that the proposed policy provides farmers minimized risk and increased probability of profits in excess of 15 percent. This gives us grounds to believe that implementing this policy would have a positive effect not only on cotton farmers but to a whole farming operation.

SCENARIO 3

Figure 3. 10%-10%-80% Majority Peanut Farmer

StopLight Analysis Results
© 2016

Lower Cut-Off Value	**0.00**	Upper Cut-Off Value	**0.15**	
	No Policy	2002-2013	Current Situation	Proposed Policy
Unfavorable	**0.55**	**0.18**	**0.22**	**0.19**
Cautionary	**0.41**	**0.78**	**0.75**	**0.77**
Favorable	**0.04**	**0.04**	**0.04**	**0.04**



The third scenario helps to develop the full picture of the current situation to help address the need for the proposed policy. This scenario portrays a realistic situation under current conditions, which is planting more peanuts in order to minimize risk. The

crop mix in this scenario is 80 percent peanuts, 10 percent cotton, and 10 percent corn. This is brought about by the loss of the cotton support along with the heavy support for peanuts under the current conditions. This market distortion leads to the planting of peanuts in order to receive the payments for them. The results above show how this situation would encourage people to plant this kind of crop mix in order to minimize risk, but at the same time they have left little room for making real profits in excess of 15 percent. The results above along with the results of the previous scenario give evidence to the balancing of other commodity prices. The planting of peanuts for payments will lead to a large inflation in the supply, in turn driving demand and price of peanuts down at significant levels. This is a known issue, Allen Olson, a lawyer who specializes in farm issues in southern Georgia states his concern as a problem called the "Peanut Apocalypse", His concern is that incentives in the recently enacted farm bill could lead to over-planting and depressed prices, and ultimately lead to farmers not receiving the benefits they expected.[22] Therefore, implementing the proposed cotton policy will give farmers incentive to move towards a more realistic and beneficial crop mix, and to balance commodities prices for a whole farm operation.

CONCLUSIONS AND IMPLICATIONS

The results of the first scenario in Figure 1 with a 100 percent cotton farmer were not surprising in that the policy helped cotton farmers, this is an obvious result because of there being no cost to the farmer. However, the full implications of this policy are seen when applying realistic crop mixes to the model in Figure 2 where the crop mix shows

[22] Adams, Chris. "Peanut Growers Worry about Unintended Impact of Farm Bill." McClatchy DC. http://www.mcclatchydc.com/news/nation-world/national/economy/article24768598.html.

the real effect of risk minimization and increased profitability. The effect of this policy on a whole farm operation can be different than on that of a strictly cotton operation. The crop mix of majority peanuts in Figure 3 gives a strong argument to the point that farmers are making decisions that are not agronomically, or economically beneficial in order to minimize risk under the current conditions. These results indicate that supporting the cotton industry through the proposed policy will have a positive effect on the industry as a whole. This proposed policy will minimize risk for the farmer, give opportunity for reasonable profit, and sustain agricultural diversity in Georgia. This positive effect also has the potential to not only benefit local farmers but many local communities and economies as well.

References

Adams, Chris. n.d. *Peanut Growers Worry about Unintended Impact of Farm Bill.* http://www.mcclatchydc.com/news/nation-world/national/economy/article24768598.html.

Cotton Incorporated. November. *Cotton Market Fundamentals and Price Outlook: Monthly Economic Letter*. 2016. Accessed November 2016.

Doom, Justin. 2016. *Top Five Cotton Producers, Exporters, Users in 2010-1011."*. November. http://www.bloomberg.com/news/articles/2011-08-19/top-five-cotton-producers-exporters-users-in-2010-2011-table-.

Ethredge, Rome. n.d. *Peanut Market Loan Gains and Payment Limitations.* http://growinggeorgia.com/news/2015/05/peanut-market-loan-gains-and-payment-limitations/.

Fannin, J M, K W Paxton, and T Valco. n.d. *Understanding the Interaction Between Cotton Ginning and Rural Economics in the Mid-South Under a Changing Cotton Environment.*

n.d. *Farm Subsidy Database.* https://farm.ewg.org/region.php?fips=13000.

Georgia Cotton Commission. n.d. *Stax Numbers Released.* https://gacotton.wordpress.com/2015/12/06/stax-numbers-released/.

Haider, Zeeshan. 2014. *Cotton Farming in the US.* Dec. http://www.ibisworld.com/industry/default.aspx?indid=37.

Laws, Forrest. n.d. *Cotton, peanut producers to recieve counter-cyclical payments.* http://deltafarmpress.com/government/cotton-peanut-producers-receive-counter-cyclical-payments.

National Center for Peanut Competitiveness. n.d. *2014 Peanut PLC Computation.* http://www.gapeanuts.com/growerinfo/legislativeinfo/2015/2014_plccomputation.pdf.

National Cotton Council. n.d. *Developing a Cottonseed Support Program.* http://www.ibat.org/PDFs/2015/10/26/national-cotton-council-developing-a-cottonseed-support-program.

President, BCG Senior Vice. n.d. *U.S. States with Highest Cotton Production, 2015.* https://www.statista.com/statistics/248776/top-10-us-states-for-cotton-production/.

Richardson, James W, Keith D Shumann, and Paul A Feldman. 2008. "Simeter: Simulation & Econometrics to Analyze Risk." 96. College Station, Texas: Simetar, Inc.

Shurley, Don W., Sharon P. Kane, and Kent Wolfe. n.d. *Economic Contribution of Cotton Production in the Georgia Economy, 2011.* http://www.georgiacottoncommission.org/images/E0010401/EconomicContributionofCottonProductioninGA2011_FINAL.pdf.

n.d. *Subcomittee Examines Growing Financial Pressure.* http://agriculture.house.gov/news/documentsingle.aspx?DocumentID=3282.

USDA Farm Service Agency. n.d. *ARC/PLC Program Landing Page.* http://www.fsa.usda.gov/programs-and-services/arcplc_program/index.

—. n.d. *Nonrecourse Marketing Assistance Loans and Loan Deficiency Payments.* https://www.fsa.usda.gov/Internet/FSA_File/mal_ldp_2014.pdf.

USDA NASS. n.d. *Quick Stats.* https://quickstats.nass.usda.gov/.

APPENDIX A

Cotton Cost Data				
Variable Costs	**Unit**	**Amount**	**$/Unit**	**Cost/Acre**
Seed (Including Technology Fees)	1,000 seed	36.30	$ 2.39	$ 86.65
Seed Treatments	1,000 seed	36.30	$ 0.39	$ 14.16
Lime- Custom Spread	Ton	0.33	$ 45.00	$ 14.85
Fertilizers				
Nitrogen	Lbs	90.00	$ 0.50	$ 45.00
Phosphate (P2O5)	Lbs	70.00	$ 0.42	$ 29.40
Potash (K2O)	Lbs	70.00	$ 0.34	$ 23.80
Chicken Litter- Custom Spread	Tons	-	$ 44.00	$ -
Boron, Sulfer, and Others	Acre	1.00	$ 5.50	$ 5.50
Weed Control				
Pre-Plant Broadcast or PPI	Acre	1.00	$ 6.76	$ 6.76
At Planting or PRE	Acre	1.00	$ 9.13	$ 9.13
POST	Acre	1.00	$ 32.54	$ 32.54
Layby	Acre	1.00	$ 15.49	$ 15.49
Hand Weeding	Acre	1.00	$ 15.00	$ 15.00
Insect Control				
Scouting	Acre	1.00	$ 10.00	$ 10.00
In-Furrow (If no seed treatment used)	Lbs	-	$ -	$ -
Spray- Caterpillar Pests	Applications	-	$ -	$ -
Spray- Stink Bugs, Other Pests	Applications	2.00	$ 3.85	$ 7.70
PGR	Ounces	36.00	$ 0.08	$ 2.81
Defoliant and Boll Opener	Acre	1.00	$ 11.63	$ 11.63
Irrigation	Applications	8.00	$ 8.00	$ 64.00
Machinery and Equipment				
Fuel and Lube	Gal	13.05	$ 1.80	$ 23.49
Repairs and Maintenance	Acre	1.00	$ 31.00	$ 31.00
Labor	Hrs	2.08	$ 12.50	$ 26.04
Interest on Operating	492.9494908	0.50	$ 0.07	$ 16.02
Crop Insurance (Including STAX)	Acre	1.00	$ 18.00	$ 18.00
Ginning and Warehousing				
Ginning	Lbs	1,200.00	$ 0.08	$ 96.00
Storage and Warehousing	Bale	2.42	$ 10.50	$ 25.45
Promotions, Boards, Classing	Bale	2.42	$ 5.88	$ 14.26
BWEP	Bale	2.42	$ 0.75	$ 1.82
Total Variable Costs:				**$ 646.50**
Fixed Costs				
Tractors and Sprayer	Acre	1.00	$ 51.41	$ 51.41
Equipment/Implements	Acre	1.00	$ 18.23	$ 18.23
Irrigation	Acre	1.00	$125.00	$ 125.00
Picker/BB/MB	Acre	1.00	$ 80.06	$ 80.06
Misc Overhead	% of Var Costs	500.25	$ 0.05	$ 25.01
Management	% of Var Costs	500.25	$ 0.05	$ 25.01
Total Fixed Costs:				**$ 324.72**
Total Costs				**$ 971.23**

Corn Cost Data				
Variable Costs	**Unit**	**Amount**	**$/Unit**	**Cost/Acre**
Seed	thousand	32.00	$ 2.95	$ 94.40
Lime	ton	0.50	$ 45.00	$ 22.50
Fertilizer				
Nitrogen	pounds	240.00	$ 0.50	$ 120.00
Phosphate	pounds	100.00	$ 0.42	$ 42.00
Potash	pounds	200.00	$ 0.34	$ 68.00
Weed Control	acre	1.00	$ 11.15	$ 11.15
Insect Control	acre	1.00	$ 9.31	$ 9.31
Disease Control	acre	1.00	$ 28.14	$ 28.14
Preharvest Machinery				
Fuel	gallon	5.10	$ 1.80	$ 9.17
Repairs and Maintenance	acre	1.00	$ 11.54	$ 11.54
Harvest Machinery				
Fuel	gallon	2.53	$ 1.80	$ 4.56
Repairs and Maintenance	acre	1.00	$ 7.64	$ 7.64
Labor	hours	1.08	$ 12.50	$ 13.49
Irrigation*	applications	8.00	$ 8.00	$ 64.00
Crop Insurance	acre	1.00	$ 14.00	$ 14.00
Interest on Operating Capital	percent	259.95	$ 0.07	$ 16.90
Drying - 8 Points	bushel	219.50	$ 0.28	$ 61.46
Total Variable Costs:				**$ 598.26**
Fixed Costs				
Preharvest Machinery	acre	1.00	$ 31.68	$ 31.68
Harvest Machinery	acre	1.00	$ 37.19	$ 37.19
Irrigation	acre	1.00	$125.00	$ 125.00
General Overhead	% of VC	598.26	$ 0.05	$ 29.91
Management	% of VC	598.26	$ 0.05	$ 29.91
Total Fixed Costs:				**$ 253.70**
Total Costs				**$ 851.95**

Peanut Cost Data				
Variable Costs	**Unit**	**Amount**	**$/Unit**	**Cost/Acre**
Seed *	pounds	150.00	$ 0.70	$ 105.00
Inoculant	pounds	5.00	$ 1.60	$ 8.00
Lime/Gypsum **	ton	0.50	$107.00	$ 53.50
Fertilizer				
Boron	pounds	0.50	$ 4.00	$ 2.00
Phosphate	pounds	-	$ 0.42	$ -
Potash	pounds	-	$ 0.34	$ -
Weed Control	acre	1.00	$ 42.13	$ 42.13
Handweeding	acre	1.00	$ 7.50	$ 7.50
Insect Control	acre	1.00	$ 46.73	$ 46.73
Scouting	acre	1.00	$ 10.00	$ 10.00
Disease Control ***	acre	1.00	$ 69.41	$ 69.41
Preharvest Machinery				
Fuel	gallon	9.23	$ 1.80	$ 16.62
Repairs and Maintenance	acre	1.00	$ 19.09	$ 19.09
Harvest Machinery				
Fuel	gallon	7.88	$ 1.80	$ 14.19
Repairs and Maintenance	acre	1.00	$ 26.75	$ 26.75
Labor	hours	2.51	$ 12.50	$ 31.42
Irrigation****	applications	6.00	$ 8.00	$ 48.00
Crop Insurance	acre	1.00	$ 21.00	$ 21.00
Interest on Operating Capital	percent	260.67	$ 0.07	$ 16.94
Cleaning	ton	0.78	$ 20.00	$ 15.51
Drying	ton	1.57	$ 30.00	$ 47.24
Marketing	ton	2.35	$ 3.00	$ 7.05
NPB Checkoff	dollars	0.01	$834.25	$ 8.34
Total Variable Costs:				**$ 616.42**
Fixed Costs				
Preharvest Machinery	acre	1.00	$ 55.26	$ 55.26
Harvest Machinery	acre	1.00	$ 81.21	$ 81.21
Irrigation	acre	1.00	$125.00	$ 125.00
General Overhead	% of VC	616.42	$ 0.05	$ 30.82
Management	% of VC	616.42	$ 0.05	$ 30.82
Total Fixed Costs:				**$ 323.12**
Total Costs				**$ 939.54**