An Estimation of the Regulatory Cost on California Agricultural Producers

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Regulations can have many different effects on producers—both positive and negative. They can positively affect producers by improving marketability of the crop and increasing worker's safety which would provide benefits to producers in the form of higher prices and/or potential cost savings. They can also negatively affect producers by increasing the cost of production by mandating that producers use more costly or less efficacious inputs, causing negative effects to the producers' bottom-line.[1] Regulations can also have a negative effect on producers by increasing non-cash costs related to management time.

The usual question that an economist or policymaker would ask when examining a regulation is whether the benefits of the regulation outweigh its cost? This question is usually posed in a marginal sense, i.e., what is the change in benefits and costs due to the regulation. The answer to this question usually dictates whether a new regulation is enacted or not. Since the focus of cost benefit studies are on whether the marginal benefits outweigh the marginal cost, the effect of the regulation on the competitiveness of an industry is not examined. Any regulation enacted can have an effect on the competitiveness of an industry even if the benefits do outweigh the cost.

The common focus of most studies that are done on the impact of regulations is on the marginal effect of the regulation on costs and benefits. Little emphasis is given to how the single new regulation affects the whole basket of regulations which in turn affect the producer/industry. This paper puts forth that the cumulative effect is also important information that the policymaker should have when making decisions on whether to enact a new regulation.

[1] In the case of California, producers are not allowed to use inputs that are available to both domestic and global competitors (Federighi and Brank, 2001).

One way to examine the cumulative effect of regulations is to develop a benchmark cost of the regulatory regime the industry faces. Attempts have been made by the federal government to obtain the total cost of the regulatory environment (Office of Information and Regulatory Affairs, 1997). While the federal government attempts to investigate the costs of the regulatory environment on the regulations it manages, it usually does not take into account the regulations also imposed by the state. Hence, any estimate on the cost of regulations for the country is skewed downward.

The California agricultural industry provides an interesting backdrop for developing the cost of the regulatory environment. With over 300 commodities and over $30 billion dollars in agricultural revenue, it mirrors the complexity level of the US agricultural industry as a whole. California is known for its regulatory policies that tend to be more stringent than the federal government.

This paper develops an estimation of the cost of regulations on California agricultural producers which can be used as a baseline for comparing regulatory environments. These estimated costs are related only to operating costs and not total costs or non-cash transaction costs. Hence, a lower bound estimate to the regulatory cost that producers face is developed with the use of a survey and data from the USDA.[2] Once this cost is established, a distribution of these costs is given across income levels. This in turn will give policymakers a baseline on costs that they can use for comparison purposes.

The rest of this paper is divided into the following sections. The next section provides a brief overview of select regulatory studies that have been conducted. The third section describes

[2] The reason that the result is a lower bound on the regulatory cost is because only the regulatory costs associated with operating expenses are estimated. There was no attempt made to estimate the cost of the capital investments made by producers due to the regulatory environment because of the difficulties that arise with estimating the depreciation of the capital good over time.

the data collection process and the survey instrument used. Section four explains how regulatory costs were estimated. The fifth section presents an estimate of the cost of regulations for California producers and examines how each income bracket is affected by regulations. Section six outlines some major results from the survey instrument used that give a flavor for what has happened with regulatory costs in California in the past five years. The final section provides summary, conclusions, and future research ideas.

Brief Review of Past Regulatory Studies

Porter and van der Linde (1995) have studied how environmental regulations affect the competitiveness of an industry. They believe that the effect on competitiveness has been primarily analyzed from the static world model rather than a dynamic model in previous literature. Hence, they argue that stricter regulations, specifically environmental regulations, can improve an industry's competitiveness by inducing innovation which reduces overall costs.

Palmer, Oates, and Portney (1995) dispute the overall conclusion of Porter and van der Linde (1995). While they concede that some regulations can enhance competitiveness of an industry, they show there are conditions in a dynamic market where competitiveness is negatively affected by new regulations. They further point out that it is important to look at more than one regulations effect.

Metcalfe (2002) examined how environmental regulations in the United States (US), Canada, and the Europeans Union (EU) would affect the competitiveness of the pork industry in each country. His work implies that it is the relative changes in regulations across countries that matters in terms of competitiveness. He believes that even though regulations will increase in the US pork industry, this industry should not be significantly affected because it is expected that the EU will develop even more stringent regulations.

Upon reviewing the literature on how environmental regulations affect competitiveness, Colyer (2004) finds "that the costs of environmental regulations are generally relatively small and do not tend to be significant in terms of competitiveness (p.76)." He believes that one factor that diminishes the effect of environmental regulations is innovation that decreases the cost of the regulation. Another mitigating effect is the subsidy programs that many countries have to offset the cost of environmental regulations. This implies that the effects of one regulation may cause little if any harm to an industry when examined in isolation.

Much work has been done on estimating the effect of regulatory costs on manufacturing businesses. Gray found evidence that the cost of regulations imposed by Occupational Safety and Health Administration (OSHA) and the Environmental Production Agency (EPA) reduced productivity growth in the manufacturing industry. Crain and Hopkins found that small businesses "bear a disproportionately large share of the regulatory burden (pg. 2)." Hazilla and Kopp (1990) and Christiansen and Haveman (1981) have demonstrated that regulations can reduce productivity. Bynoe (2004) has examined the inefficiencies caused by environmental regulations in Guyana for the agricultural and manufacturing sector. He demonstrates that these regulations have increased inefficiencies in agricultural, but decreased inefficiencies in manufacturing.

Antle has examined the cost of food safety regulations on the meat industry (2000). Specifically, he examined how a new food safety regulation, HACCP, would affect the meat industry. Antle was able to show that product safety regulations can have an affect on variable

costs. Furthermore, he estimates that the food safety regulation that the government was considering would cost the industry at a minimum between $500 million to $5 billion.[3]

Kaplan, Johansson, and Peters (2004) examine the economic outcomes from new confined animal feedlot operations (CAFO) regulations imposed by the US Environmental Protection Agency (EPA). These researchers examine the cost and benefits of this new set of regulations on a national scale assuming that only large animal operations meet the nutrient regulations. One of their findings is that producers affected by this regulation could potentially lose approximately $830 million.

In relationship to the magnitude of the problem, little work has been done on examining the impact of regulations on California agriculture. A few studies exist that examine the marginal/specific effect of a change in a regulation on a particular industry. For example, Carter et al. conducted an economic analysis on how the January 2001 DPR regulations would affect the strawberry producers, as well as the whole strawberry industry. Carter et al. found that the January 2001 fumigation regulations "imposed a relatively higher cost on growers with smaller fields (pg. 3)."

In 1995, the University of California's Agricultural Issues Center (AIC) conducted a survey of 263 California farmers to analyze the impacts of government regulations on California farms (Coppock). This survey focused on farmer's perception and attitudes towards regulations. This research found that more than 70% of the farmers surveyed were affected by regulations in the past three years. These effects ranged from increased paperwork required to be in compliance with regulation to changes in the availability and/or use of chemicals for crops and antibiotics for livestock.

[3] It should be noted that Antle's estimation only accounts for the operational efficiency when he estimates the cost.

Esseks et al. also did a study that examined farmers' attitudes and perceptions relative to the cost of regulations. In their study, they examined how farmers perceived land use regulations and how these impacted the value of their farmland and ranches. This research was a national study of 1,729 respondents from six regions in the US—the West, Southern Plains, Northern Plains, Midwest, Southeast, and Northeast. A major finding in this study was that 46.8% of the respondents believed that their land was devalued due to one or more government regulations.

There have been a few studies done that have examined how a particular regulation would affect California producers on the aggregate. One such example is a study by Cash and Swoboda. They attempted to analyze the aggregate cost to agricultural producers from banning organophosphates. While several studies have been done on the impacts of a specific regulation on a specific product or industry there are relatively few studies that have looked at the cumulative impact of regulations on agricultural production.

From this brief review of the literature, it can be seen that regulations have been studied from many different vantage points in the past. Studies have been conducted to investigate the marginal costs and benefits of regulations. Some studies examined how a particular regulation will affect a particular crop, while other studies investigate the effect of a regulation on an industry. There are studies that looked out how a regulation will affect a particular state, while others look at how all the states are affected. There are studies that have taken into consideration the issue of how regulatory policy affects competitiveness. Other studies have examined producers' perceptions and attitudes towards regulations. One area in the literature that seems to be lacking are studies related to the cumulative impact of a regulation on an industry.

Data Collection

To obtain the cost of the regulatory environment on California producers, a survey was mailed to the producers in the state. The survey was administered by the California Agricultural Statistical Service (CASS). CASS ran a random sample of 10,000 producers in the state which gave each producer in the state approximately a one in eight chance of participating in this study. The survey was sent out in early March. Two follow-up post cards were sent out to remind producers of the survey. Out of the 10,000 surveys sent out, 1,323 usable surveys were returned.

The survey was broken into five major areas—general demographic information, the regulatory environment, regulatory compliance cost, technological choice, and managerial issues. To estimate the cost of regulations, three values are pulled from the producer's survey—farm income, percentage of farm income to variable costs, and percentage of variable costs devoted to regulatory expense.

Estimating the Cost of the Regulatory Environment to California Producers

The cost of regulations to California producers was developed in an indirect fashion. Producers were not directly asked in the survey to indicate what regulations are costing them. Instead, producers were queried on three different items that allow for an estimation to be developed. One question asked the producers what their gross income was. This data was collected in categorical data form. Another question asked what percentage of the producer's gross income is allocated to operating costs. The third question asked the producers what percentage of their operating cost was devoted to regulatory compliance. Once the survey data was acquired, a three step process was used to develop a cost of the regulatory environment on California producers.

The first step in the estimation was to establish an estimate of the cost of the regulatory environment for producer k in the survey who answered all three pertinent questions, which will

be defined as COR_k. This cost was estimated by multiplying the producer's income, m_k, by the percentage of income devoted to operating cost, $POIC_k$. This result was multiplied by the percentage of operating cost allocated towards regulatory compliance, $POCRC_k$. The outcome of multiplying these three items together was an estimate of the cost of the regulatory environment on each producer, i.e., $COR_k = m_k * POIC_k * POCRC_k$.

Since producers were asked to indicate what range of income they fell in rather than the actual dollar amount they earned, a proxy value for m_k was developed under three different scenarios. This value will be defined as M_{ij} where i indicates one of six different income brackets that the producers fall into and j denotes one of the three scenarios used to estimate each income. M_{ij} is defined as a function which maps a categorical income response into an actual dollar amount, i.e., $M_{ij} = f_j(m_k)$. When j =1, income for brackets one through five were estimated to be the lower end of their range. If j = 2, income was estimated at the median for each of the respective income brackets. When j = 3, income for the first five brackets is estimated at the upper end of their income range.

Since the last income bracket had only a bottom end with no limit on the top, a different type of estimate was used. The income estimate, M_{6j}, for the highest income bracket earners was defined as the following:

$$M_{6j} = \frac{FI - \sum_{i=1}^{5} N_i M_{ij}}{N_6} .$$

FI represents the total farm income of all agricultural producers in the state of California. This value is $34.3 billion, which was taken from Parker's estimate of California's total farm income in 2004. The number of farms in California that fall into income bracket i is defined as N_i. To develop an estimate of N_i for this study, a distribution of farms by income level was developed

using Parker's distribution of farms by income distribution and coupling it with the 2002 USDA Census' estimate of the number of farms in California in each income distribution.[4] N_i was calculated by multiplying 77,000 farms by the percentage of farms in each income bracket.[5]

Table 1 gives the estimate of income used for each income bracket level, as well as, the number of farms allocated to each income bracket. Under Scenario 1 where the five lower income brackets are estimated at the lower end of their ranges, the upper income bracket is estimated at $4.21 million dollars. Scenario 2 used an estimated income at the median of the income brackets. This gave an estimate of $3.99 million for the upper income bracket for scenario 2. The estimate of the upper income level for Scenario 3, which used the upper end of the income distributions for the lowest five income brackets, is approximately $3.77 million.

After the income was estimated for each bracket under each scenario, i.e., M_{ij}, this estimate was used to estimate the cost of regulations for producer k that fell in the i^{th} income bracket under the j^{th} scenario, which will be denoted $ECOR_{ijk}$.

$ECOR_{ijk} = M_{ij} * POIC_k * POCRC_k$.

Next, an average cost of regulation was developed for each income bracket for each scenario which will be denoted as $ACOR_{ij}$.

$$ACOR_{ij} = \frac{\sum_{k=1}^{q_i} ECOR_{ijk}}{q_i},$$

where q_i denotes the number of producers in the survey who answered all three pertinent questions and fell in the i^{th} income bracket.

[4] The distribution of number of farms by income brackets from the 2002 USDA Census did not completely match the surveys income bracket. Hence, information from Parker was used to interpolate the percentage of farms by income that would match the bracketing of the incomes used in the survey for this study.
[5] Due to rounding errors, the actual amount of farms used was 76,692.

To estimate the total cost of the regulation under scenario j for all the agricultural producers in California, $TCOR_j$, the following formula is used:

$$TCOR_j = \sum_{i=1}^{6} N_i * ACOR_{ij} ,$$

where N_i is the number of California producers who fall under the i^{th} income bracket.

Estimation of the Cost of the Regulatory Environment on California Agricultural Producers

Table 2 presents the six different income categories and shows the distribution of producers who were used to estimate the cost of the regulatory environment. This table also shows the percentage of producers who were in each income bracket from the producers' survey and the percentage of producers who were in each income bracket in the 2002 USDA census. Comparing the distribution of farms who answered the income question from the sample with the USDA 2002 Census results shows that the two distributions are very similar. The largest difference seen is 1.81% for the income range of $10,000 to $49,999. Using a Chi-Square Goodness-of-Fit test outlined in Ott and Longnecker (2001), the null hypothesis of equality of the proportions for each income bracket cannot be rejected at the 0.001 level of confidence (χ^2=0.97). This implies that the producers who answered all three questions appear to be closely distributed to the census results.

Table 3 presents the first estimate of the regulatory cost by farm income level. This table represents the second scenario explained above where producers are allocated to the median of the income bracket. Under this scenario, it is estimated that California producers spend approximately $2.2 billion on regulatory compliance related to their operating costs. This equates to 6.41% of their total farm income is used to comply with regulations that have a direct effect on the producers' operating costs.

For farms with less than ten thousand dollars of annual farm income, it is estimated that these producers are paying approximately $9.3 million which averages to $262 per farm. These producers, which make up approximately 46% of the California farm population, pay less than one half of a percent of the total regulatory cost. Farms that have an income above $500,000 pay an estimated $1.9 billion of their farm income to regulatory compliance. This implies that nearly 88% of regulatory costs are being paid by approximately 10% of California producers. Producers in the range of $100,000 to $249,999 pay the second highest amount of their income to regulatory expenses. This group represents 9% of the producers in the state and pays a little over 5% of the total regulatory cost.

Examining the average regulatory cost for each farm income bracket shows that producers who produce less than $10,000 worth of agricultural commodities pay an average of 262 dollars per farm to comply with regulations. On the opposite side of the spectrum, producers in the highest income bracket pay an estimated $252,518 per farm. As would be expected, as income increase so does the average amount paid by each farm.

While the average regulatory costs were increasing as farm income increased, this is not the case for the percentage of income paid. At 9.19%, producers with an income range between $100,000 and $249,999 devoted the highest percentage of their total income to regulatory compliance. The second highest percentage paid was by the producers who earn $10,000 and $49,999. This group devoted 8.16% of their income. Producers at the highest income level paid 6.33% of their farm income to regulatory compliance. This was slightly below the overall average of 6.41%. Producers at the lowest end of the income spectrum devoted only 5.24% of their income to regulatory compliance. These results suggest that there are economies of scale that may be obtained in regulatory compliance cost by becoming a large producer, i.e., producers

may gain relative cost savings by producing more in order to spread the regulatory costs across more output.

Scenario one is represented in Table 4. This scenario assumed that producers' income was at the upper end of the income range. In this table, information is provided on the total regulatory cost and the average regulatory cost by income bracket. Under this situation, the cost to California producers of regulatory compliance is estimated at $2.21 billion. This equates to less than a fifteen million dollar difference than scenario one. The producers at the lowest income bracket paid an estimated $18.6 million which equates to an average farm cost of $524. The largest income producers paid approximately 1.82 billion dollars of their income to regulatory compliance. This implies an average farm cost of $238,510. Comparing this result with the previous result shows that under this scenario, the largest producers are paying less on average. The average regulatory cost per farm is increasing with each income level.

The third scenario is represented in Table 5 which provides the total and average regulatory cost by income bracket. This scenario, which estimates producers' income at the lowest end of the income range, gives the lowest estimate of the total regulatory cost. Under this scenario, California producers are estimated to pay approximately $2.19 billion. This represents less than a thirty million dollar difference between this estimate and the highest estimate. Producers in the highest income bracket are estimated to pay $2.03 billion in regulatory cost which averaged to $266,527 per farm.

Given the three scenarios examined above, a few interesting results should be noted. First, the estimated regulatory cost for producers is between $2.19 billion to $2.21 billion. It must be emphasized that this estimated range is a lower bound on the cost of regulatory compliance that producers must pay. Due to limitations in the survey, no estimate was made for

the capital costs that are incurred by producers due to the regulatory environment. The reason that this estimate of regulatory cost has such a tight range is because the largest producers are paying the lion's share of the regulatory costs. When you examine the percentage of income devoted towards regulatory compliance, many of the middle income brackets have higher percentages. The range on percentage of income allocated to regulatory cost is between 5.24% and 9.19%. It also appears that there are gains to be made in cost savings to being a large operation because economies of scale favor the larger producer in regards to regulatory compliance.

A Look at the California Regulatory Environment

An estimation of the cost of the regulatory environment does not give the full picture of what is occurring in California. To provide a clearer view, producers were asked to estimate the costs of certain regulatory items for 1999 and 2004. Table 6 provides the average cost reported by producers for various permits, fees, and workers' compensation costs for both 1999 and 2004. The largest fees paid by producers are water quality fees. These fees were $968 in 1999 and increased to $993 in 2004 representing an increase of 2.6%. Solid waste fees increased approximately twice that percentage at 5.2%. The lowest fees that producers paid were for burning permits. In 1999, these fees averaged $38 and have increased to $129 in 2004. This represents a 240% increase in costs. This percentage increase is small in comparison to the 940% increase in air quality fees that occurred between 1999 and 2004. Chemical use fees have increased by only 125%. In this same time period, workers' compensation has increased on average by $11,625 representing a 180% increase. It is evident from the survey that many fees over the last five years have substantially increased.

Producers were asked to indicate what percentage of their operating cost was allocated to regulatory compliance in 1999 and 2004. As can be seen in Table 6, in the past five years the producers have indicated an increase in the cost of regulatory compliance. The producers in the survey indicated that the percentage of operating cost devoted to regulatory compliance in 1999 was 6.30%. In 2004, this percentage has increased to 10.67%, which represents a 69% increase in the last five years. The most important fact to pull from Table 6 is that many fees in the past five years have substantially increased in terms of percentages and dollar values.

Summary and Conclusions

This study was meant to provide a baseline cost estimate of the California regulatory environment from the standpoint of the producers. This issue was investigated with the use of a producers' survey that was handled through CASS and the 2002 USDA Census. This survey examined producers' perceptions and attitudes regarding the regulatory environment. From this survey, a cost of the regulatory environment as it pertains to operating cost was estimated. Also estimated was the regulatory burden in percentage terms on each income level.

California producers are paying a hefty sum for regulatory compliance. The estimated regulatory cost in relationship to operating costs for producers is between $2.19 billion to $2.21 billion. It must be emphasized that this estimated range is a lower bound on the cost of regulatory compliance that producers must pay. Due to limitations in the survey, no estimate was made for the capital costs that are incurred by producers due to the regulatory environment. To put the amount that California producers spend on regulations into perspective, California producers pay more in regulatory costs than Tennessee produces in total agricultural production. It should be noted that Tennessee is ranked 31st in agricultural production for the country. This

amount is greater than the combined sum of agricultural production from Alaska, Rhode Island, New Hampshire, Massachusetts, Nevada, Maine, and Connecticut.

While large income producers, those earning over $500,000 in income, are paying the majority of the regulatory costs, middle income producers are paying a higher percentage of their income towards regulatory compliance. Examining the percentage of income devoted towards regulatory compliance, many of the middle income brackets have higher percentages. The range on percentage of income allocated to regulatory cost is between 5.24% and 9.19%. It appears from the results of this research that there are gains to be made in cost savings to being a large operation because economies of scale favor larger producers in regards to regulatory compliance.

In the last five years, California producers have noticed a substantial increase in fees and permits that they must pay to maintain regulatory compliance. Three of their fees/costs (air quality fees, chemical use fees, and workers compensation costs) have increased over 100% from 1999 to 2004. Producers also report that there has been a 69% increase in the amount of operating cost allocated to regulatory compliance over the last five years.

Every indication in the survey shows that the regulatory environment is increasingly absorbing more and more of the producers' resources. The most important policy implication of this work is that government regulatory agencies need to make an effort to minimize the impact of the regulatory environment on producers while still maintaining their goals. This requires them to not only examine the marginal effect of a regulation on the regulatory environment, but to also the cumulative effect. The authors of this paper put forth that typical analysis that occurs with regulations is deficient in California because it does not typically examine how a regulation may affect the regulatory environment as a whole and that a baseline of the cost of regulations is needed. This paper has provided an estimate of that baseline.

Future Research

A cost of the regulatory environment was provided by this research. But this estimated cost was only a lower limit of what the true cost is. This study did not examine the cost of capital investment incurred due to the regulatory environment. This could be a significant cost that has yet to be determined. Hence it is necessary that future research attempts to estimate this cost. From the producers survey it is known that approximately 11% of producers' capital investment goes towards regulatory compliance. These cash costs are not the only costs that need to be considered. The survey showed that there are some non-cash costs that need to be examined also. More work needs to be done identifying what all these costs are and what is there true impact on the producers. These non-cash costs could be the ones that will drive producers out of the agricultural industry.

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Table 1: Incomes Used to Estimate Regulatory Cost under Three Different Scenarios

Farm Income Range	Number of Farms (N_i)	Scenario 1	Scenario 2	Scenario 3
Under $10,000	35,497	$ 0	$ 5,000	$ 9,999
$10,000 - $49,999	16,016	$ 10,000	$ 30,000	$ 49,999
$50,000 - $99,999	6,545	$ 50,000	$ 75,000	$ 99,999
$100,000 - $249,999	7,007	$ 100,000	$ 175,000	$ 249,999
$250,000 - $449,999	4,004	$ 250,000	$ 375,000	$ 499,999
$500,000 +	7,623	$ 4,211,638	$ 3,990,275	$ 3,768,920

Table 2: Distribution of Producers in Each Income Category

Farm Income Range	Number of Producers Used to Estimate Cost	Percent of Total	Number of Farms answering income question	Percent of Total	USDA 2002 Agricultural Census Results
Under $10,000	93	46.73%	561	44.63%	46.10%
$10,000 - $49,999	45	22.61%	323	25.70%	20.80%
$50,000 - $99,999	18	9.05%	129	10.26%	8.50%
$100,000 - $249,999	16	8.04%	101	8.04%	9.10%
$250,000 - $449,999	9	4.52%	40	3.18%	5.20%
$500,000 +	18	9.05%	103	8.19%	9.90%
All Incomes	199		1257		

Table 3: Estimated Regulatory Cost by Farm Income for Scenario 2

Farm Income Range	Regulatory Cost	Average Regulatory Cost per Farm	Average Regulatory Cost per Acre	Regulatory Cost as a Percent of Farm Income
Under $10,000	$ 9,306,511	$ 262	$ 51	5.24%
$10,000 - $49,999	$ 39,190,084	$ 2,447	$ 189	8.16%
$50,000 - $99,999	$ 30,816,042	$ 4,708	$ 152	6.28%
$100,000 - $249,999	$ 112,659,422	$ 16,078	$ 167	9.19%
$250,000 - $449,999	$ 82,966,217	$ 20,721	$ 271	5.53%
$500,000 +	$ 1,924,943,890	$ 252,518	$ 638	6.33%
All Incomes	$ 2,199,882,166	$ 28,570	$ 162	6.41%

Table 4: Estimated Regulatory Cost by Farm Income for Scenario 1

Farm Income Range	Regulatory Cost	Average Regulatory Cost per Farm
Under $10,000	$ 18,611,162	$ 524
$10,000 - $49,999	$ 65,315,501	$ 4,078
$50,000 - $99,999	$ 41,087,645	$ 6,278
$100,000 - $249,999	$ 160,941,387	$ 22,969
$250,000 - $449,999	$ 110,621,401	$ 27,628
$500,000 +	$ 1,818,160,484	$ 238,510
All Incomes	$ 2,214,737,580	$ 28,763

Table 5: Estimated Regulatory Cost by Farm Income for Scenario 3

Farm Income Range	Regulatory Cost	Average Regulatory Cost per Farm
Under $10,000	$ 0	$ 0
$10,000 - $49,999	$ 13,063,361	$ 816
$50,000 - $99,999	$ 20,544,028	$ 3,139
$100,000 - $249,999	$ 64,376,813	$ 9,188
$250,000 - $449,999	$ 55,310,811	$ 13,814
$500,000 +	$ 2,031,731,667	$ 266,527
All Incomes	$ 2,185,026,680	$ 28,377

Table 6: Average Regulatory Costs in 1999 and 2004

Regulatory Cost	1999 Estimate	2004 Estimate	Percentage Change
Burning Fees	$ 29	$ 38	31%
Air Quality Fees	$ 52	$ 542	942%
Chemical Use Fees	$ 252	$ 571	127%
Solid Waste Fees	$ 697	$ 733	5%
Water Quality Fees	$ 968	$ 993	3%
Workers Compensation Costs	$ 6,462	$ 18,087	180%
Percentage of Operating Cost Devoted to Regulatory Compliance	6.30%	10.67%	69%