

Modeling Marijuana Businesses and Costs of Legal Compliance

Luigi Zamarra

BOTEC Analysis Corp.
I-502 Project #430-5b
Final
August 10, 2013

Introduction

Business models of each of the three license types (producer, processor, and retail), including the 25/25/25 excise taxes, are modeled herein in order to provide the WSLCB with a working understanding of the forces that will drive the taxation system for legal marijuana.

We obtained profit and loss benchmark percentages through interviews with ten producers, four processors and ten retailers. From these data it is possible to construct an image of a typical business in the current state, with expense line items shown as percentages of gross revenues, and further broken down to show expenses that are necessary even for an illicit business and to distinguish the additional expenses required for legal operation.

We then added expenses for the Washington State excise tax and all other taxes that will be required of a legal operator. We have added input fields to allow the user of the model to make assumptions as to the percentage of statewide industry businesses that will be compliant for each type of tax.

We have run various scenarios with the model in order to gain an understanding of the following:

- (a) What happens to the net income of typical businesses as they become compliant with all of the various taxes, assuming that the price paid by the consumer remains the same;
- (b) What happens to the price that must be paid by the consumer as the industry becomes compliant with all of the various taxes, assuming that the net income of the business remains the same?

We built the model to allow the WSLCB to make changes by altering variables easily to show the impact of various assumptions. This paper analyzes compliance factors typical for the industry to increase the board's understanding of the dynamics of how taxes interact with previously illicit market prices and previously illicit profits for business operators.

Caveats

All of the businesses used for the benchmark studies were selected because they were operating in a professional manner and as legally as possible. As a result, the sample pool is made up of the larger operators. In analyzing the data, we assume the operations will remain the same as for these larger operators (e.g., labor costs per hour will be similar and the amount of labor needed for a given harvest will be similar).

The results of the benchmark studies should be viewed as a picture of how the industry is today, not as a projection of how the industry will operate in the future. As the industry matures, inefficient operators will either terminate or merge into more efficient operators, and technological progress will continue to move the “efficiency frontier”

forward. Both of these dynamics may, over time, change the benchmarks that are presented here.

Understanding Consumer Behavior

This paper provides a detailed discussion of the interplay between taxes, price and the consumer's choice between a legal purveyor and an illegal purveyor is beyond the scope of this task.

We already know that consumers are willing to pay a premium price to purchase from a legal operator, but how much more consumers would be willing to pay is still unknown. If the price premium to purchase from a legal operator is set too high, consumers at some point will prefer to purchase more cheaply from an illicit operator.

This modeling is designed to show the impact on prices and profits; we will leave the conclusions as to the effect on consumer behavior to others who may find the modeling helpful to their understanding.

Understanding Business Operators and Business Profits

Business operators understand their profits by reference to what they have invested into the business since they need to obtain a return on their investment. Although the return comes in many forms, for purposes of this project we have chosen to focus on the three main forms of repayment:

- (a) Long-term loan interest payments;
- (b) Executive group salaries;
- (c) Actual or true net income after deductions for the previous two.

Most business models will group these three together when analyzing business values. EBITDA is a common business abbreviation for "earnings before interest, taxes, depreciation and amortization." However, because we want a model that takes into account depreciation and amortization, we have factored estimates for these as expenses rather than as part of the return on investment. We have grouped the other items together as a total of net income subject to corporate income tax.

We recognize that business owners will have a choice as to how much they take out as salary and interest versus how much they take out as dividends. We further recognize that salary and interest on loans are deductible to the business before calculating the business income taxes. However, it is useful to think of these items together, since any deduction for salary and interest payments will still be taxed-- the only distinction is that they will be taxed to the individual business owner. For logic, as well as simplicity, it makes sense to group these together and measure the income taxes using the corporate tax rate.

Compliance Rates

Not all businesses comply completely with every tax law. We have built this model to allow different assumptions regarding the percentages of compliance when analyzing the statewide industries.

Producer Activities versus Processor Activities

Among the producers surveyed, we found that virtually all of them have performed the finishing procedures (drying, trimming and curing) themselves. As the industry operates today, these procedures are part of production, not part of processing. Therefore, all of the costs for these procedures are already included in the cost data of the benchmarks presented here for producers. This conforms to existing industry practices. It may be difficult to change this industry norm to have these finishing procedures performed by a different business, i.e., the processor, since that would entail transportation of plants during a time when the plant is vulnerable to damage, disease and theft.

Internal Revenue Code Section 280E

IRC Section 280E was enacted to deny income tax deductions for normal business expenses if those expenses involve trafficking a federally control substance, such as marijuana. It does not apply to any expenses that are properly treated as Cost of Goods Sold (due to technical construction of the law), but it does apply to expenses that relate to selling activities.

Two simple examples will illustrate how Section 280E works: (a) A producer incurs costs for rent, utilities and soil nutrients of \$1,050 and he then sells the marijuana produced for \$2,000 and pays a \$100 sales commission, leaving a net profit of \$850. In this case, he may deduct the \$1,050 since all of those costs are part of Cost of Goods Sold, but the sales commission deduction of \$100 would be denied under Section 280E. The producer would pay income tax on \$950 even though he earned only \$850. (b) A retailer incurs costs for rent and wages of \$800 to sell \$2,000 of marijuana that the retailer purchased for \$1,050. In this case, the retailer has earned \$150, however he will have to pay tax on \$950 since none of the selling expenses of \$800 are deductible under Section 280E (under a strict interpretation).

I. Producer Model

The benchmarks for producers tell the story of a typical farmer, with very low variable costs and very high net incomes. The average producer will grow roughly 200 pounds of saleable marijuana per year and sell those pounds for \$2,500 each. Since most of the reward is coming from effort, rather than from investment in capital assets or from the resale of product purchased with working capital, this makes logical sense. The gross margins are very high at 79.4% and the net income of the base illicit operation is likewise relatively high at 53.2%. Total variable costs were 20.6% and total fixed costs were 26.2%.

Based upon this data, we might expect there to be roughly 1,000 producers in Washington State at full production.

Producers' Added Costs for Legal Operations

These added costs are not insignificant. Because of various issues related to federal enforcement against producers, fewer of these companies are operating with all of the costs needed for fully legal operations; we have had to make some assumptions. We have assumed workers compensation insurance and payroll taxes will approximate those for retailers. Other added legal costs include insurance, security, and professional fees. Please note that professional fees do not include personal criminal defense funds that are sometimes set aside. In total, these added costs were only 5.5 percent of gross revenues, resulting in a net income margin of 47.7% (the 53.2% from above less this 5.5%).

The large resulting net income all goes into the profit retained by the grower. This large net is in line with what a talented and experienced grower currently expects to receive. Based upon an average-sized operation of \$500,000 gross, the grower is taking \$238,600 into income after these costs, but before excise and income taxes.

Producers' Added Excise Tax

The excise tax for the average-sized producer is expected to be \$125,000 per year (25% of \$500,000). Assuming a high compliance rate of 99%, the State can expect to receive \$123,750,000 annually based upon an assumed statewide producer market of \$500 million, with negligible market share remaining in the illicit market (however, please see the BOTE report on Task 430-8(b) for a deeper analysis of this assumption).

However, there are two factors that will affect the expected excise tax collections from producers: (a) the compliant producer will want to increase prices to recoup the cost of the excise tax, and this price increase will itself result in more taxes collected, (b) the compliance rate statewide may be less than 99%.

We assume that those who are compliant with the excise tax will also tend to be compliant with federal and state taxes. This is important in our analysis, since the excise tax is a deduction for federal income tax purposes, and we want to measure the impact based upon after-tax take-home pay of the producer.

Producers' Added Federal and State Taxes

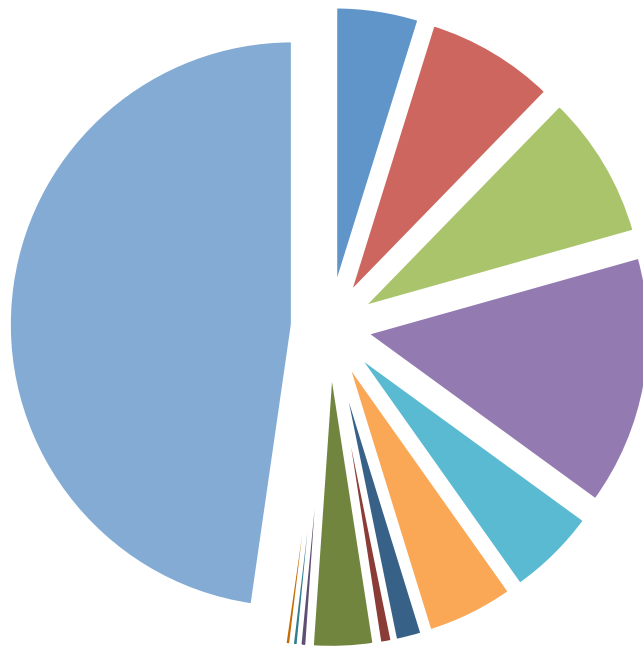
The Business and Occupation tax for wholesalers is currently 0.484% (or 48.4 basis points). This tax is not very material at \$2,420 for the average producer with gross revenues of \$500,000. For the statewide industry, the total, assuming 100% compliance, is \$2.4 million of revenue for the state. Because the tax rate is quite low, this tax has a relatively high compliance rate: 97% is assumed as a starting point (the WSLCB might obtain information to confirm compliance rates for the B&O tax).

Federal income taxes are much more significant. We have assumed that the grower is a corporation subject to the relatively flat 34% corporate tax rate that applies to most medium-sized businesses (this assumption is made for simplicity and understanding of the model). We have also assumed that there will be a minimal impact of IRC Section 280E, which generally allows most expenses for producers since most of the expenses may be properly treated as Cost of Goods Sold. Delivery and wholesale selling costs are not very material to the overall operation.

Figure 1a. Producer Model Financials

	Benchmark Percentages	Tax-compliant producer
Gross Revenue	100.00%	500,000
<i>Variable Costs:</i>		
Soil/Nutrients/Pesticides/CO2	4.80%	24,018
Utilities	7.48%	37,384
Labor - Trimmers	8.36%	41,775
Subtotals	20.64%	103,177
Gross Margin	79.36%	396,823
<i>Fixed Costs:</i>		
Labor - Skilled	14.38%	71,894
Rent	5.18%	25,910
Start-Up Amortization	5.04%	25,183
Other Operating Costs	1.58%	7,876
Subtotals	26.17%	130,863
Net Income of an Illicit Operation	53.19%	265,960
<i>Added Costs for Legal Operations:</i>		
Workers Comp	0.75%	3,751
Payroll Taxes	3.54%	17,685
Insurance	0.44%	2,189
Security Costs	0.38%	1,880
Employee Benefits	0.37%	1,837
Subtotals	5.47%	27,341
<i>Total Available to Investors:</i>		
Total Net of a Legal Operation Before Excise Tax	47.72%	238,619
B&O Taxes		2,420
State Excise Taxes Wholesale Only		125,000
Total Net of a Legal Operation After Excise Tax		111,199
Federal Income Taxes		37,808
Net After All Taxes		73,391

Figure 1b. Revenue analysis: Tax-compliant producer



Impact of Taxes on Profits and Prices for the Producer

If we assume that the market wholesale price of marijuana will remain the same at the current market price, the average producer will see his after-tax take-home pay reduced from \$238,600 to \$73,400.

In order to preserve his take-home pay after complying with all taxes, at the level he had while illicit, the producer would need to increase the wholesale price by 68%, e.g., a pound of marijuana that previously sold for \$2,500 would have to sell for \$4,200. Since we anticipate consumer reluctance to pay such a steep increase, it is likely the producer will be taking home much less pay.

This is logical because (a) federal taxes are half of after tax take home pay, and (b) the excise tax rate is relatively large.

A more realistic price increase to anticipate from the producer would be 25%, the actual excise tax rate itself. The average producer would take home \$134,900 for operating a producer business that was selling the same quantity of marijuana and generating \$625,000 of gross revenues. The same pound of marijuana that sold for \$2,500 would now be priced at \$3,125.

This might be a reasonable outcome. The table below summarizes some of these data points (the first four rows could be viewed as the new profit paradigm and the last two rows as the old profit paradigm):

Price Increase	Price per Pound	Total Gross Revs	After-tax Pay
10 Percent	2,750	550,000	97,981
20 Percent	3,000	600,000	122,572
25 Percent	3,125	625,000	134,867
35 Percent	3,375	675,000	159,457
60 Percent	4,000	800,000	220,933
75 Percent	4,375	875,000	257,818

II. Processor Model

Processors are manufacturers of products that are infused with marijuana extracts. Most products fall into one of five categories: (1) food, (2) beverages, (3) sublingual tinctures, (4) topical salves, or (5) pills and capsules. Their operations look like commercial factories or kitchens and usually involve two phases: First, the active ingredients must be extracted from marijuana plant, typically using pressure and chemicals, such as butane or CO2, which separate the active ingredients from the inactive plant material. Thereafter, the product is manufactured using extraction, and then packaged.

Processor financial information was much more difficult to obtain due to various factors. In most distribution chains, the processing of bulk useable flowers into retail packaging is performed by either the retailer or the producer under existing market conditions; there is no separate processor in most circumstances. All of the financial data presented here was obtained from four infused product manufacturers. This relatively small sample size may cause the resulting benchmarks to be less indicative of the actual industry than for producers and retailers.

Adding to this difficulty, the financial data was much less uniform than for the producers and retailers, as the product/service was much less uniform. As a result, we have assumed that missing expense categories have been lumped together with other costs to arrive at reasonable benchmarks.

The benchmarks for processors of infused products show most of the costs are attributable to ingredients, labor and packaging. Laboratory testing, rent, delivery costs and advertising costs make up the second tier of the most significant expense categories. The net income is relatively low: 17% for base illicit operations.

The difference between variable and fixed costs is blurred and therefore gross margin percentages are less helpful in this analysis.

The average size of the processor from this sample group was \$700,000 of gross revenues. Currently the market for infused products is small, but growing at a consistent pace, taking market share from usable flowers. Some industry experts believe infused products are capturing between 10% and 12% of the market currently. Based upon this information, we might expect there to be roughly 150 processors in Washington State at full production.

Processors' Added Costs for Legal Operations

We discovered a relatively low level of compliance for processors of infused products with respect to such costs as workers compensation, payroll taxes, insurance, and legal/accounting fees. In total, these costs made up less than 7% of gross revenues, resulting in net income for legal operations of less than 10%. The average-sized processor grossing \$700,000 can expect to earn roughly \$70,000 before taxes.

Relative to producers and retailers, processors fit somewhere in between. Their net income is from a balanced mixture of effort of the owner (a skilled worker similar to a baker) and investment in capital costs such as manufacturing and kitchen equipment.

Processors' Added Excise Tax

The excise tax for the average-sized processor is expected to be \$175,000 per year (25% of \$700,000). Assuming a high compliance rate of 99%, the State can expect to receive \$25,988,000 annually, based on a statewide processor market of \$105 million and assuming the market share that remains in the illicit market will be negligible.

Just as with producers, compliance rates and price increases needed to cover the excise tax will have an impact on the amount of excise taxes collected from processors: the interplay between the excise taxes, price increases to cover the taxes, income taxes, and take-home pay are complex. Assuming that all processors will increase their prices by 25% to cover their added excise tax cost, then the State might expect to receive as much as \$32 million in excise taxes from processors statewide.

Processors' Added Federal and State Taxes

The Business and Occupation tax for wholesalers of 0.484% (48.4 basis points) was used in the model as the most appropriate B&O classification for processors. For the average processor grossing \$700,000, this tax at \$3,388 is not very material to the overall business. For the statewide processor industry, this tax could be expected to generate only \$500,000 assuming complete compliance. Even if we assume the processor will increase prices to cover the excise tax, the B&O tax will generate only slightly more than \$600,000.

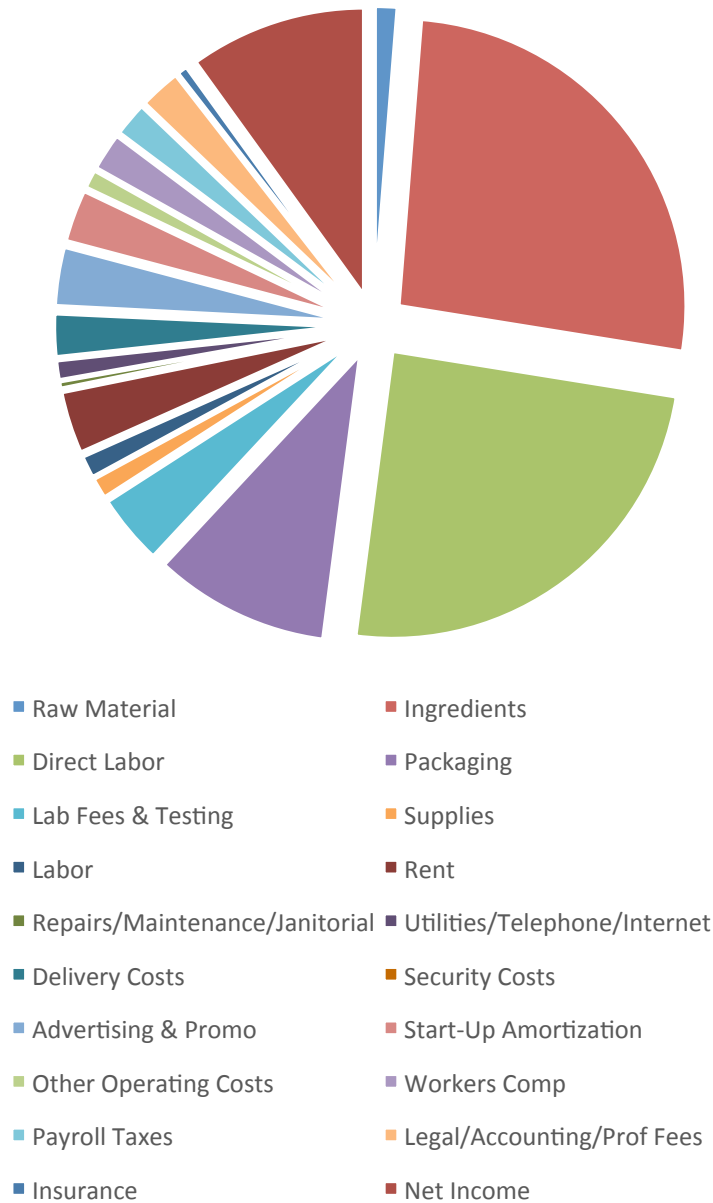
Federal income taxes will have a much more pronounced impact on after-tax take-home pay. We have assumed the processor is a corporation subject to the relatively flat 34% tax rate that applies to most medium-sized businesses.

Like producers, IRC Section 280E will not be very material, as most of the costs can be properly allocated to Cost of Good Sold and therefore not subject to this provision. However, unlike producers, processors will have expenses such as advertising and delivery costs that are much greater as a percentage of revenues and these costs may be subject to Section 280E. On the other hand, unlike retailers, these selling costs are relatively low. For ease of understanding of the model, we have not factored provisions for Section 280E into the processor model. See the discussion below related to Section 280E for retailers to better understand how federal taxes increase (as a percentage of net income) as selling costs increase.

Figure 2a. Processor Model Financials

	Benchmark Percentages	Tax-compliant processor
Gross Revenue	100.00%	700,000
<i>Variable Costs:</i>		
Raw Material	1.26%	8,794
Ingredients	26.28%	183,988
Direct Labor	24.52%	171,667
Packaging	9.88%	69,140
Lab Fees & Testing	3.96%	27,721
Supplies	1.17%	8,212
Subtotals	67.07%	469,522
Gross Margin	32.93%	230,478
<i>Fixed Costs Illicit Operations:</i>		
Labor	1.25%	8,750
Rent	3.49%	24,462
Repairs/Maintenance/Janitorial	0.40%	2,766
Utilities/Telephone/Internet	1.09%	7,655
Delivery Costs	2.42%	16,931
Security Costs	0.09%	663
Advertising & Promo	3.31%	23,175
Start-Up Amortization	2.94%	20,582
Other Operating Costs	1.05%	7,351
Subtotals	16.05%	112,336
Income of Illicit Operations	16.88%	118,142
<i>Costs for Legal Operations:</i>		
Workers Comp	2.11%	14,760
Payroll Taxes	1.92%	13,452
Legal/Accounting/Prof Fees	2.32%	16,236
Insurance	0.58%	4,074
Subtotals	6.93%	48,522
Net Income	9.95%	69,621
<i>Total Available to Investors:</i>		
Total Net of a Legal Operation Before Excise Tax		69,621
B&O Taxes		3,388
State Excise Taxes Processor Only		175,000
Total Net of a Legal Operation After Excise Tax		(108,767)
Federal Income Taxes		-
Net After All Taxes		(108,767)

Figure 2b. Revenue analysis: Tax-compliant processor



Impact of Taxes on Profits and Prices for the Processor

If we assume that the market wholesale prices of infused products will remain the same at the current market prices, the average processor previously earning \$70,000, will instead *lose* more than \$100,000.

In order to preserve his take-home pay (after complying with all taxes) at the level he had while illicit, the processor would need to increase prices by more than 41%. Given

that the average processor was not making very much previously, it is likely the prices for infused products will increase.

If we assume it is realistic to expect price increases of 35% for infused products, the average processor will take-home roughly \$49,000 based on gross revenues of \$945,000 for manufacturing the same number of infused products. An infused cookie or brownie that previously sold for \$7.50 would now sell for over \$10.

This outcome may be reasonable and attainable. The table below summarizes some of these data points:

Price Increase	Price per Cookie	Total Gross Revs	After-tax Pay
15 Percent	8.65	805,000	-30,500
25 Percent	9.40	875,000	14,280
35 Percent	10.10	945,000	48,706
40 Percent	10.50	980,000	65,919
42 Percent	10.65	994,000	72,804
45 Percent	10.90	1,015,000	83,132

III. Retailer Model

The benchmarks for the retailer model establish that marijuana retailing resembles other forms of retailing, where the direct Cost of Goods Sold is a little more than half of the selling price. (However, please see the report on Task 430-8(a) that analyzes gross margins across many different types of retailers.) Taking into consideration the other variable direct costs of packaging, testing, and lost/damaged inventory, the resulting gross margin is 60.4%. After factoring in fixed costs, the net income margin of illicit operations averages 18.25%. Here there is more risk and costs for the initial investment in build out and the maintenance of a workforce that is much larger than for a producer.

Because of the lower margins, most retailers tend to have much higher gross revenues than producers (at least in the historical markets). We have estimated the average retailer is grossing slightly more than \$3.1 million annually under existing market conditions (excluding outliers from this average). Note that this assumes that the retailer is a storefront, not a delivery service, as storefronts tend to be larger. Based upon this data, we might expect there to be approximately 350 retailers in Washington at full market.

Retailers' Added Costs for Legal Operations

All of the retailers surveyed for the benchmark study were chosen because they were operating as legally as possible with the support of state and local governments. As a result, the data for the costs necessary for legal operation may be more reliable. All of these retailers were paying payroll taxes, insurance and professional fees, and all but two were paying workers compensation insurance. In total these costs totaled 5.6% of revenues, resulting in a "modified" net income margin of 12.7%.

This “modified” net income margin is made up of three components: (a) interest on long-term debt of approximately .8% (80 basis points), (b) Executive Group Salaries of 5.3%, and (c) net income of the corporate body of 6.6%. As discussed above, these are best viewed together as a group; simplest to model and understand the income tax impact by treating all of these as subject to corporate income tax rates, so that the after tax net income available to the owners may be comparable. For the average sized retailer grossing \$3.1 million, the business can expect net income of \$392,200.

Retailers’ Added Excise Tax

The excise tax for the average-sized retailer is expected to be \$775,000 per year (25% of \$3.1 million). Assuming a high compliance rate of 99%, the State can expect to receive \$268,537,000 annually based upon an assumed statewide retailer market of approximately \$1.1 billion, assuming negligible market share remaining in the illicit market (however, please see the BOTEC report on Task 430-8(b) for a deeper analysis of this assumption).

This report analyzes the results of operations for producers, processors and retailers separately. We assume that the gross margin relationship for the retailer will hold true to the normal retail benchmarks even though excise taxes applied to producers and processors are likely to result in higher wholesale prices. In other words, if the average producer must increase the wholesale price by 25% to maintain a viable take-home pay amount, we assume that the retailer will still analyze his cost structure to peg this wholesale cost to 56% of their retail price *before making any price increase at the retailer level for the excise tax.* Please review the detailed Retailer Model to gain a deeper understanding of this assumption. Other members of the BOTEC team are working on pricing models that factor in the effects of the multi-layered excise tax.

Retailers’ Added Federal and State Taxes

The Business and Occupation tax for retailers is currently 0.471% (47.1 basis points). For the average retailer grossing \$3.1 million, this tax is \$14,601, again not very material to the overall business. For the statewide retail industry, this tax could be expected to generate \$5,110,000 for the state, assuming 100% compliance, or \$4,957,000 at a 97% compliance rate. As with the producers, we can expect a relatively high compliance rate and a minimal impact on pricing behavior.

Federal income taxes will have a much larger impact on pricing behavior, especially when we start to consider the implications of IRC Section 280E. Retailers, unlike producers and processors, have many costs that might be disallowed for tax deduction purposes under this law provision. In theory, if Section 280E were to be strictly applied, the retail marijuana industry simply could not exist because the economics could not support income taxes calculated on gross margins. Under this theory, the excise tax paid by retailers to Washington State would not be deductible. Using the average-sized retailer as an example, the federal income tax would be \$417,400, but the retailer would only net \$392,200 before payment of any excise tax or federal income tax. Thus, even excluding the retailer excise

tax, the retailer would not have enough cash to pay the federal income tax (assuming strict application of Section 280E).

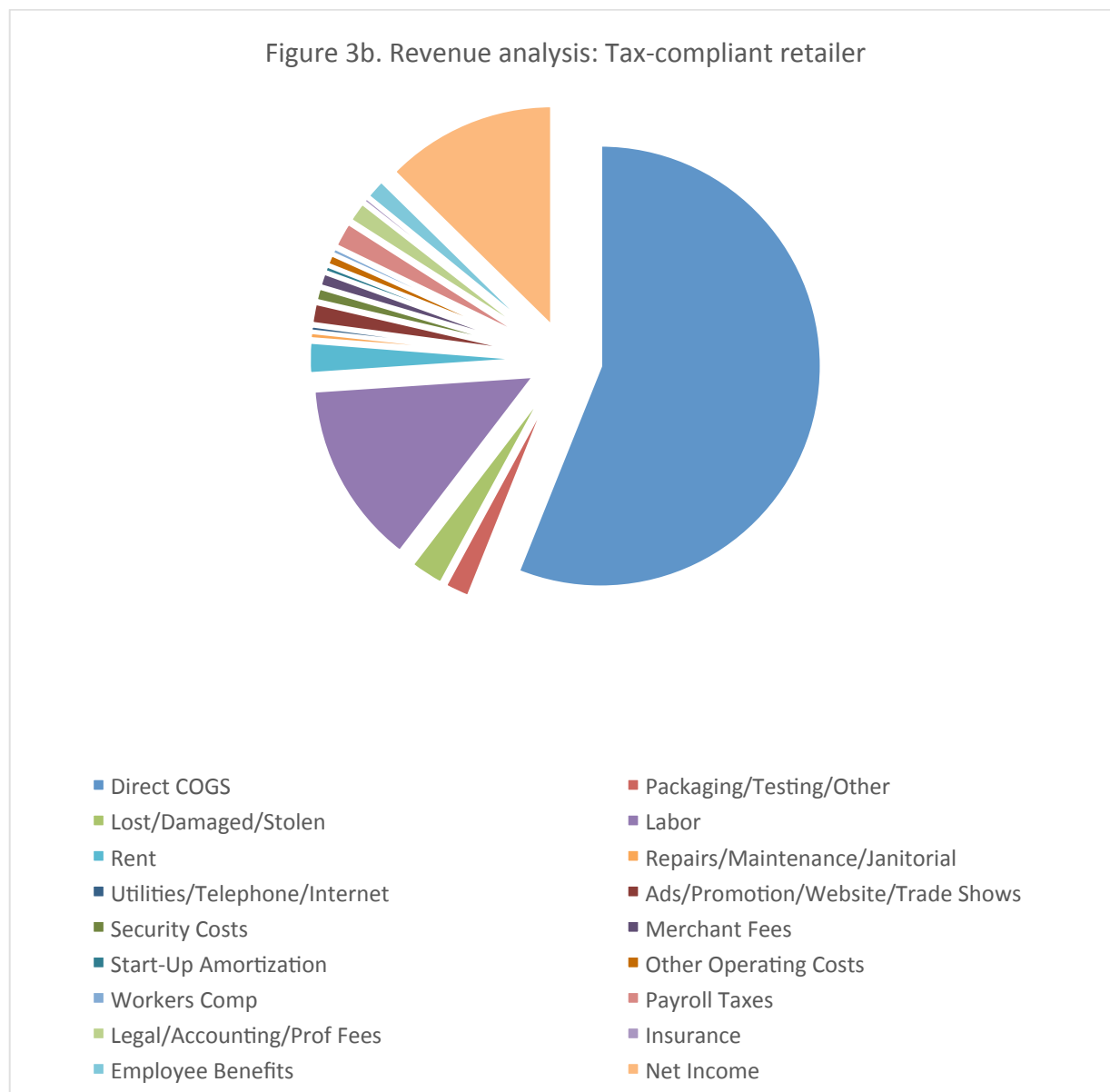
For this reason, in order to continue with this analysis, we must assume that 280E will not apply to retailers *strictly*. The user of the model can take into account Section 280E at a macro level by entering the Section 280E Disallowance Rate. Based upon the current situation with IRS auditors, it might be reasonable to assume that Section 280E will reduce expenses available for deduction by 20%; so as a baseline we have entered the Section 280E Disallowance Rate at 20%. (This is an assumption fraught with issues that are beyond the scope of this paper.)

The conclusion we have drawn from this analysis is that the conflict between federal and state marijuana laws will have a direct impact on state tax revenues actually collectible from the industry.

Figure 3a. Retailer Model Financials

	Benchmark Percentages	Tax-compliant retailer
Gross Revenue	100.00%	3,100,000
<i>Variable Costs Required:</i>		
Direct COGS	56.07%	1,738,168
Packaging/Testing/Other	1.85%	57,212
Lost/Damaged/Stolen	2.48%	77,032
Subtotals	60.40%	1,872,412
Gross Margin	39.60%	1,227,588
<i>Fixed Costs Required:</i>		
Labor	13.53%	419,526
Rent	2.31%	71,556
Repairs/Maintenance/Janitorial	0.48%	15,028
Utilities/Telephone/Internet	0.40%	12,476
Ads/Promotion/Website/Trade Shows	1.49%	46,246
Security Costs	0.94%	29,229
Merchant Fees	0.97%	30,161
Start-Up Amortization	0.45%	13,981
Other Operating Costs	0.77%	23,780
subtotal	21.35%	661,983
Net Income of an Illicit Operation	18.25%	565,604
<i>Added Costs for Legal Operations:</i>		
Workers Comp	0.43%	13,441
Payroll Taxes	1.85%	57,357
Legal/Accounting/Prof Fees	1.49%	46,319
Insurance	0.36%	11,042
Employee Benefits	1.46%	45,207
Subtotals	5.59%	173,367
Total Net of a Legal Operation Before Tax	12.65%	392,238
<i>Total Available to Investors:</i>		
Executive Group Salaries	5.30%	164,182
Long-Term Loan Interest	0.77%	23,789
Net Income	6.59%	204,267

Figure 3b. Revenue analysis: Tax-compliant retailer



Impact of Taxes on Prices and Profits for the Retailer

Ignoring IRC Section 280E

If we assume that the retail price of marijuana remains the same at the current market price, the average retailer will *lose* \$397,400 after payment of the excise tax and B&O tax. Because of the loss, there will be no federal income taxes due, assuming 280E is not applied.

To preserve a retailer's take home-pay after complying with all of the licit-market taxes, he or she would need to increase the retail price by 44%; a gram that previously sold for \$12 would now have to sell for \$17.28. Various market forces would again seem to indicate that the retailer is likely to take home much less pay.

Assuming that consumers would be willing to pay the equivalent of the excise tax amount in terms of higher prices in order to purchase from a legal operator, the retailer might set their prices 25% higher. The average retailer will take home \$112,800 after taxes for operating a retail business that was selling the same quantity of marijuana, previously grossing \$3,100,000 but now grossing \$3,875,000 million.

Based on salary data from other non-marijuana industries, that is at the low end of the range for take-home pay for operating a business of this size. For comparison, the net income before income tax (after excise tax) would be \$170,800.

Because the profit margins for retailers are so much lower than those for producers, we see that after-tax take-home pay is much more sensitive to price increases.

The table below summaries some data points assuming that Section 280E will not apply:

Price Increase	Price per Gram	Total Gross Revs	After-tax Pay
10 Percent	13.20	3,410,000	(169,361) loss
20 Percent	14.40	3,720,000	37,950
25 Percent	15.00	3,875,000	112,754
30 Percent	15.60	4,030,000	187,459
35 Percent	16.20	4,185,000	262,065
45 Percent	17.40	4,495,000	410,979

Factoring in Section 280E

IRC Section 280E is currently a reality that retailers will have to take into account when setting prices to make a living. Currently, some IRS agents are accepting 280E allocations that disallow 20% to 25% of the expenses (other than Cost of Goods Sold).

The table below summarizes these same data points assuming that Section 280E will result in 20% fewer deductions for federal income taxes:

Price Increase	Price per Gram	Total Gross Revs	After-tax Pay
10 Percent	13.20	3,410,000	(169,361) loss
20 Percent	14.40	3,720,000	25,670
25 Percent	15.00	3,875,000	100,326
30 Percent	15.60	4,030,000	174,873
35 Percent	16.20	4,185,000	249,310
45 Percent	17.40	4,495,000	397,856

Conclusions

We can see from the business models that prices will likely increase. We can also see that the business profits will likely decrease, even if the market is able to absorb some price increases.

The WSLCB should consider developing a plan of action designed to influence the market forces so as to maximize compliance with the new excise tax paradigm. They might consider a public service announcement campaign to inform consumers that the average prices for marijuana should be expected to be higher. They should also consider a similar campaign to inform business operators of the likely reduction in their net profits.

Both of these campaigns will likely help to set expectations for both consumers and business operators and help them to re-set market prices to a new, higher level. The WSLCB is uniquely positioned to have the type of market influence that will be necessary to achieve the sort of price increases needed to ensure sufficient compliance with the new excise tax laws. Proactive influence on market prices may be the best way to ensure the success of I-502.