

## Financial Income Analysis of I-28

By Mike Mullins

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In most cases we will present facts from known sources. In these cases we will footnote the source. In other cases there will be **variables**. On the attached spreadsheet these **variables** are located below the worksheet and **highlighted in green**. All of the adjoining worksheet above the variable is contingent on the variable. If you change the **green variable**, the worksheet above will use your new changes to calculate results. **Note that you cannot change any of the data from this document. You can change the spreadsheet.** The spread sheet is locked down with formulas. You may only change items in green and cannot change formulas or modify sheets. This is done so that you may use your own variables to see results. You may safely change things without screwing up the calculations so go ahead and have fun. When changing something in green, be aware that it may affect many other sheets and charts.

In the following writing we will discuss the impact as well as how we calculated each variable. Categories that we will discuss are Cardholders, Dispensaries, and Production. Further study was done to incorporate the consumption and production rates to assist in calculating revenue.

The study takes in a 10 year period beginning in 2010, the date the proposed act would begin. Each year of the 10 is represented for number of cardholders, calculated on the present growth rate as determined by the population of cardholders for the last 10 years<sup>1</sup>.

An important part of this study is the Summary document and excel spreadsheet. Please keep these handy as a reference while reading this document. Each section below describes a page of the excel document. For the most part we will take you through as it was created, which also makes the most logical approach.

### **Cardholder History (History Growth Rate)**

The growth rate is determined by the population of cardholders for the last 10 years<sup>2</sup>. Percentage of growth from each year is calculated. The average is calculated using all 10 years to a single percentage. Only patient cardholders were used for this study. Caregivers and PRG was not included. This percentage will not be used as the variable for the Cardholder Revenue percentage of growth. At this writing we use a 20% growth rate factor which is more conservative than the numbers provided (53 over 10 years and 32 percent over 5) by DHS<sup>3</sup>.

Note that had we used the 32% historical value, the gross revenue would double to 2 billion dollars.. According to the Oregon Pain Management Commission over 9%, or currently over 300,000 Oregonians are dealing with severe pain. It is conceivable therefore that the program will incur a population of over 150,000 patients in the next 12 years.

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<sup>1</sup> DHS OMMP Statistics 10/1/08

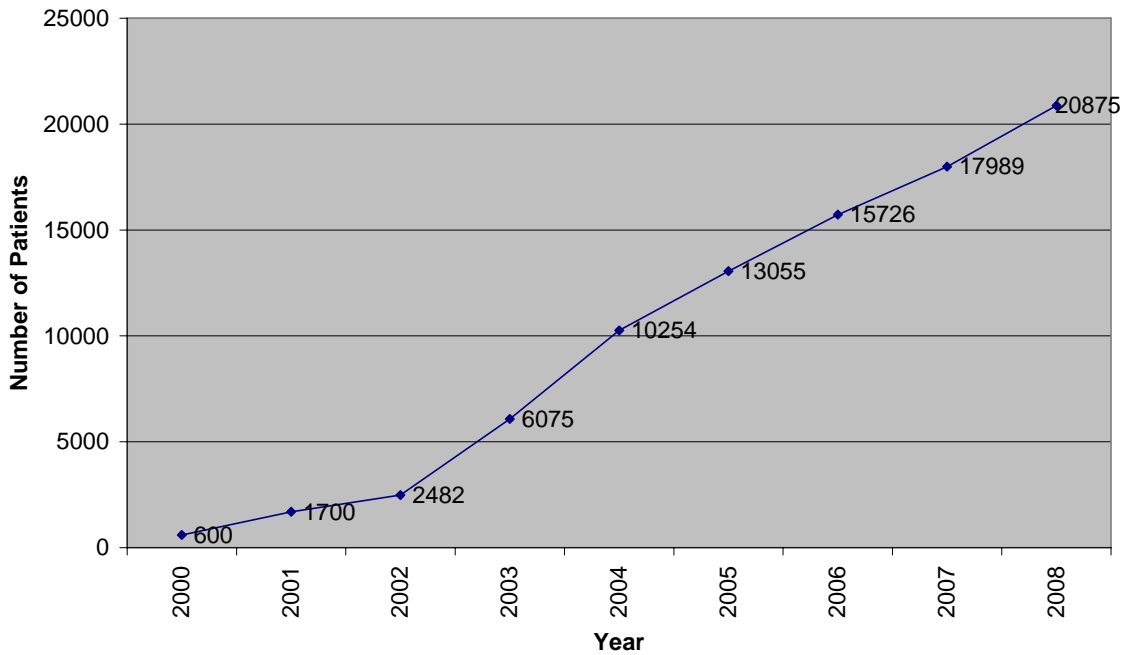
<sup>2</sup> DHS OMMP Statistics 10/1/08

<sup>3</sup> DSH Excel Data of 01/26/09

**Growth Rate 2000 to 2008**

Year	Number of Patients	% Growth Rate	
2000	600	0%	
2001	1700	183%	
2002	2482	46%	
2003	6075	145%	
2004	10254	69%	0.687901
2005	13055	27%	0.273162
2006	15726	20%	0.204596
2007	17989	14%	0.143902
2008	23,114	28%	0.284896
<b>Average Rate of Growth</b>		<b>53%</b>	<b>32%</b>

**OMMP Trends Over Time 2000-2008**



**Cardholder Revenue (Card)**

Here we will determine the revenue generated by the cardholders. Only patient cardholders were used for this study. Caregivers and PRG was not included.

In the following scenario there are two variables; **Growth Percentage** and **Licensing Fee**. The Growth Percentage variable comes from the History Growth Rate sheet.

We did not use a historical percentage growth factor as the variable. Using a straight 20 percent allows a conservative approach.

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We calculated out 10 years using the percentage of growth. We did not adjust upward for cost of living, increase in licensing, or additional growth rates.

The licensing fee variable was calculated by the revenue as reported by DHS<sup>4</sup> divided by the number of current cardholders for the same period of time. This allowed us to get a fairly accurate average number to use. Here are the results:

### Card Holder Revenue

	No. Patients	Licensing
2008	20,547	\$1,643,760
2009	24,656	\$1,972,512
2010	29,588	\$2,367,014
2011	35,505	\$2,840,417
2012	42,606	\$3,408,501
2013	51,128	\$4,090,201
2014	61,353	\$4,908,241
2015	73,624	\$5,889,889
2016	88,348	\$7,067,867
2017	106,018	\$8,481,441
2018	127,222	\$10,177,729
2019	152,666	\$12,213,274
		\$63,417,086

**Growth Rate** 20.00%  
**License Fee Average** \$80.00 82.56

License fee average is based on number of cardholders divided by gross revenue

## Consumption

It is important to know the consumption rate when calculating production and dispensary quotas.

There are two variables used for Consumption; **Ounce** and **Cost**. The assumption is made that the average patient will consume two ounces of medicine per month. This, simply put, is an 24 ounces per year.

*Reasoning:* It is well known that the two ounces per month is a standard amongst many providers. This however is not a true case. The argument can be made in either direction and there is no recommended amount to use as a medicine. Each individual and each case differs. Some use much less and many use much more. Most patients we talk to cannot survive with only two ounces per month. For the sake of knowing that this unit of measure is easy to verify, we have used it. According to a British survey by the Independent Drug Monitoring Unit<sup>5</sup>, "regular" users average 2 oz of cannabis per month or about 2 grams per day (a gram yields one or two joints).

<sup>4</sup> DHS Financial Statement September 12, 2008

<sup>5</sup> M. Atha and S. Blanchard, "Self-reported drug consumption patterns and attitudes towards drugs among 1333 regular cannabis users," Published by the Independent Drug Monitoring Unit 1997. Cited in Leslie Iversen, *The Science of Marijuana*, Oxford Press. 2000, pp. 217-9.

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To determine Cost we used the \$40.00 per eighth ounce figure. This appears at this time to be the best market value that would be used in our area. This figure is at the low end of the scale and we hope this is not a true reflection of what will be.

According to National Studies<sup>6</sup>, “the total value of the domestic marijuana market can be estimated on the basis of its current retail price. Depending on quality, retail price of a single gram (one or two joints) ranges around \$10 - \$15 (\$280 - \$420/ounce) for domestic bud, or as low as \$5-7 for Mexican grass. For comparison, the prevailing price on the quasi-legal Dutch market is \$6/gram. In a legal market, prices could be expected to fall. If they fell to current Dutch prices, the retail value of the current market would be less. However, this decrease would be at least partly offset by an increase in consumption”.

Studies have shown that in areas where marijuana has been legalized, prices have dropped 30 percent. We fully expect the price to be much lower than that which we use in this study. This factor should be set by open competition and not pre determined by any authority.

The calculations are done in both ounces and pounds. Here are the results.

### Potential Patient Consumption Income Generation

Year	Patients	Annual Use Cost	Annual Use Ounces	Pounds
2010	29,588	\$227,233,382	710,104	44,382
2011	35,505	\$272,680,059	852,125	53,258
2012	42,606	\$327,216,071	1,022,550	63,909
2013	51,128	\$392,659,285	1,227,060	76,691
2014	61,353	\$471,191,142	1,472,472	92,030
2015	73,624	\$565,429,370	1,766,967	110,435
2016	88,348	\$678,515,244	2,120,360	132,523
2017	106,018	\$814,218,293	2,544,432	159,027
2018	127,222	\$977,061,952	3,053,319	190,832
2019	152,666	\$1,172,474,342	3,663,982	228,999
		<b>\$5,898,679,139</b>		1,152,086

### Production and Dispensaries In General

This area required the most work. To calculate this we used two differing methods then compared the two methods we used against each other. We then took the matching results to use in this report.

### Dispensaries

To calculate the revenue of dispensaries, we used the number of dispensaries from Consumption with the combined revenue of licensing and tax, based on gross sales.

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<sup>6</sup> California NORML Report  
by Dale Gieringer, Ph.D. - Updated Feb. 2009

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Gross sales were figured at an average annual rate of \$50,000 per dispensary. In our second revision we matched this figure by calculating consumption and production requirements to meet the determined consumption rate. Both methods cross referenced with the same results. Here we use the Consumption Quota for Dispensary Gross Sales. This variable comes from Dispensary Gross Sales figures on the Production sheet. The Gross Sales Variable of 50k is not used. The only variable change on this sheet is the number of Dispensaries which will change License fees. You must change the Dispensary Gross Sales from the Production sheet.

Licensing is set at the \$2000 dollar annual cost. Tax is figured at 10% gross revenue of dispensary. There was no provision made for business licensing, employment and other taxes. Here are the results.

### Dispensary Revenue

Year	Dispensary	License	Gross Sales	Tax	Combined Revenue
2010	200	\$400,000	\$227,233,382	\$22,723,338	\$23,123,338
2011	300	\$600,000	\$272,680,059	\$27,268,006	\$27,868,006
2012	400	\$800,000	\$327,216,071	\$32,721,607	\$33,521,607
2013	500	\$1,000,000	\$392,659,285	\$39,265,928	\$40,265,928
2014	600	\$1,200,000	\$471,191,142	\$47,119,114	\$48,319,114
2015	700	\$1,400,000	\$565,429,370	\$56,542,937	\$57,942,937
2016	800	\$1,600,000	\$678,515,244	\$67,851,524	\$69,451,524
2017	900	\$1,800,000	\$814,218,293	\$81,421,829	\$83,221,829
2018	1,000	\$2,000,000	\$977,061,952	\$97,706,195	\$99,706,195
2019	1,100	\$2,200,000	\$1,172,474,342	\$117,247,434	\$119,447,434
			<b>\$5,898,679,139</b>	<b>\$589,867,914</b>	<b>\$602,867,914</b>

License Fee	2,000
Gross Sales	50,000
Tax	10%

## Production

To figure production revenue we first calculated production rates. This allows us to calculate the number of producers required for the consumption rate. We used this method to match and cross reference both our Dispensary and Production revenues.

### *Production Yields*

First we configured the annual production rate for a single producer. This is based on the 24 plant limit, each plant producing 5 ounces, 4 cycles per year. The assumption is that the indoor plant will produce at best 5 ounces, four times per year, matching an outdoor plant at approximately one pound per year. Thus 5 ounces was used as the variable.

Once the production yield was calculated we used this result against the annual consumption rate in ounces. Ounces were calculated at \$320 each for Dispensary and \$150 each for producers. Here is the result.

### Production Yields

Producer Info

Max Plants allowed	Max Yield Ounces	Total per grow Ounces	Grows per year	Annual Production
24	5	120	4	480

Year	Annual Use Ounces	Avg Yield/Producer	Sites Required	Disp Gross Sales	Prod Gross Sales
2010	710,104	480	1,479	\$227,233,382	\$106,515,648
2011	852,125	480	1,775	\$272,680,059	\$127,818,778
2012	1,022,550	480	2,130	\$327,216,071	\$153,382,533
2013	1,227,060	480	2,556	\$392,659,285	\$184,059,040
2014	1,472,472	480	3,068	\$471,191,142	\$220,870,848
2015	1,766,967	480	3,681	\$565,429,370	\$265,045,017
2016	2,120,360	480	4,417	\$678,515,244	\$318,054,021
2017	2,544,432	480	5,301	\$814,218,293	\$381,664,825
2018	3,053,319	480	6,361	\$977,061,952	\$457,997,790
2019	3,663,982	480	7,633	\$1,172,474,342	\$549,597,348
				<b>\$5,898,679,139</b>	<b>\$2,765,005,846</b>

In view of not every patient using the dispensary services, we have calculated only a small percent for production licensing. It is also expected that there will be wholesale pricing when discussing sales of goods from the producer to a dispensary. This has been taken into account in the calculations through reduction of the ounce price to 150 per unit..

In the following chart, we simply calculate the revenue by taking the number of producers times the combined licensing fee and 10% tax on gross sales. Here is the result.

### Production Revenue

Year	Production Sites	License	Prod Gross Sales	Tax	Combined Revenue
2010	1,479	\$1,479,384	\$106,515,648	\$10,651,565	\$12,130,949
2011	1,775	\$1,775,261	\$127,818,778	\$12,781,878	\$14,557,139
2012	2,130	\$2,130,313	\$153,382,533	\$15,338,253	\$17,468,566
2013	2,556	\$2,556,376	\$184,059,040	\$18,405,904	\$20,962,280
2014	3,068	\$3,067,651	\$220,870,848	\$22,087,085	\$25,154,735
2015	3,681	\$3,681,181	\$265,045,017	\$26,504,502	\$30,185,683
2016	4,417	\$4,417,417	\$318,054,021	\$31,805,402	\$36,222,819
2017	5,301	\$5,300,900	\$381,664,825	\$38,166,482	\$43,467,383
2018	6,361	\$6,361,080	\$457,997,790	\$45,799,779	\$52,160,859
2019	7,633	\$7,633,296	\$549,597,348	\$54,959,735	\$62,593,031
			<b>\$2,765,005,846</b>	<b>\$276,500,585</b>	<b>\$314,903,444</b>

License Fee           **\$1,000**  
 Gross Sales           **25,000**  
 Tax                       **10%**

**The Results (Master)**

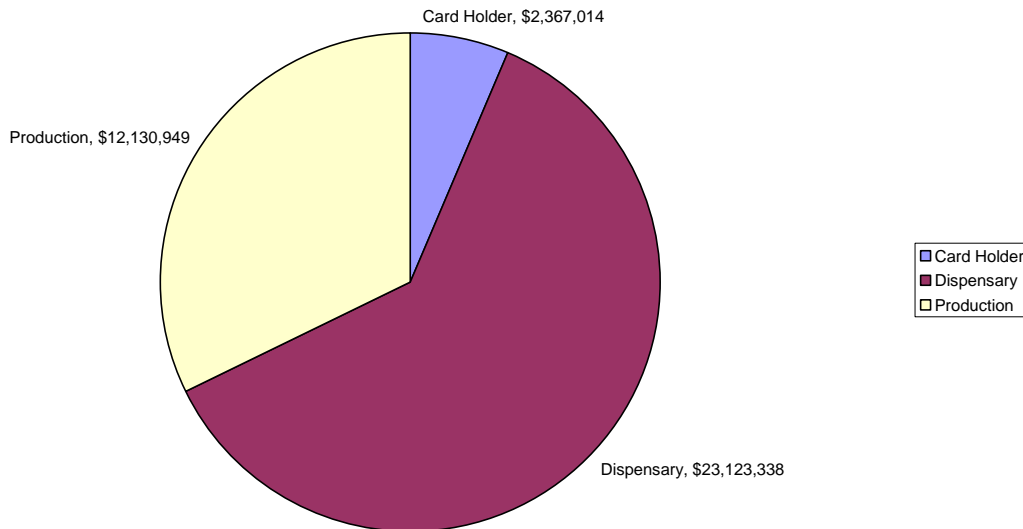
The final results show the combined income of card holders, dispensaries and producers. Here is the result.

**Projected Income from I-28**

Year	Card Holder	Dispensary	Production	Total
2010	\$2,367,014	\$23,123,338	\$12,130,949	<b>\$37,621,301</b>
2011	\$2,840,417	\$27,868,006	\$14,557,139	<b>\$45,265,562</b>
2012	\$3,408,501	\$33,521,607	\$17,468,566	<b>\$54,398,674</b>
2013	\$4,090,201	\$40,265,928	\$20,962,280	<b>\$65,318,409</b>
2014	\$4,908,241	\$48,319,114	\$25,154,735	<b>\$78,382,091</b>
2015	\$5,889,889	\$57,942,937	\$30,185,683	<b>\$94,018,509</b>
2016	\$7,067,867	\$69,451,524	\$36,222,819	<b>\$112,742,211</b>
2017	\$8,481,441	\$83,221,829	\$43,467,383	<b>\$135,170,653</b>
2018	\$10,177,729	\$99,706,195	\$52,160,859	<b>\$162,044,783</b>
2019	\$12,213,274	\$119,447,434	\$62,593,031	<b>\$194,253,740</b>
<b>Total Revenue</b>				<b>\$979,215,932</b>

Looking at just the first year, we can see that the addition of I-28 will be significant financial revenue for the State.

**2010 Revenue**



### Additional Federal and State Taxes

In addition to the new taxes are the standard taxes of running a business. We calculated a 30% Federal and State tax on Gross Income from Dispensaries. We also included the number of employees that will be required to run these dispensaries. Note that this does not include local city license and taxes. Here are the results.

#### Existing Federal, State and Employment Taxes

Year	Number Dispensaries	Employees	Fed/State Taxes	Payroll @15/hr
2010	200	2,000	\$68,170,015	\$50,000,000
2011	300	3,000	\$81,804,018	\$75,000,000
2012	400	4,000	\$98,164,821	\$100,000,000
2013	500	5,000	\$117,797,785	\$125,000,000
2014	600	6,000	\$141,357,343	\$150,000,000
2015	700	7,000	\$169,628,811	\$175,000,000
2016	800	8,000	\$203,554,573	\$200,000,000
2017	900	9,000	\$244,265,488	\$225,000,000
2018	1,000	10,000	\$293,118,585	\$250,000,000
2019	1,100	11,000	\$351,742,303	\$275,000,000
			<b>\$1,769,603,742</b>	<b>\$1,625,000,000</b>

### Summary

The summary of this work is found on the I-28 document attached to this study.

Oregon Medical Marijuana Program  
Dept. of Human Services ~ Public Health Division  
Financial Statement ~ At September 12, 2008

	Actual 7/97-6/99	Actual 7/99-6/01	Actual 7/01-6/03	Actual 7/03-6/05	Actual 7/05-6/07	A Actual 7/07-5/08	B Actual 7/07-8/08	C Projected 7/07 - 6/09
<b>Revenue</b>								
Beginning Cash Balance	0	(14,028)	227,000	730,599	82,598	186,672	186,672	186,672
Revenue	15,450	499,300	1,383,049	1,632,484	1,988,250	1,305,205	1,698,287	2,353,824
<b>Total Resources</b>	15,450	485,272	1,610,049	2,363,083	2,070,848	1,491,877	1,884,959	2,540,496
<b>Expenditures</b>								
Personal Services	16,142	117,915	448,817	673,910	896,215	635,788	832,210	1,242,886
Services & Supplies								
Attorney General	7,700	31,866	68,365	70,806	49,840	16,966	22,069	36,458
Professional Services	1,827	11,851	180,800	148,600	68,557	12,408	19,878	19,800
Expendable Equipment	0	16,905	24,700	48,776	7,420	8,162	8,469	11,000
Rent & Space Remodel	0	4,562	10,815	8,182	38,302	533	1,943	15,000
Postage/Printing	1,445	21,556	38,092	123,659	200,502	99,134	124,047	186,139
In-state Travel	252	1,865	1,612	1,168	12,966	4,258	6,497	22,752
Telecommunications	0	507	13,019	4,828	17,271	7,445	11,069	12,566
Office Supplies	2,112	22,004	43,194	29,544	45,572	22,847	30,546	57,968
Information Systems Support	0	1,186	36,808	50,911	192,195	272,433	377,470	414,884
Other Services & Supplies	0	25,533	10,798	517	2,615	1,547	6,305	3,073
State Gov't Service Charges	0	2,522	6,626	1,700	0	0	0	0
Cost Allocation & Admin.				215,746	352,721	166,623	241,817	283,985
<b>Total Services &amp; Supplies</b>	13,336	140,357	434,829	704,437	987,962	612,354	850,111	1,063,626
Extraordinary Event: HB 5077 Transfer to General Fund				902,139	0	0	0	0
<b>Total Expenditures</b>	29,478	258,272	883,646	2,280,486	1,884,176	1,248,142	1,682,321	2,306,512
<b>Cash Balance Ending</b>	(14,028)	227,000	726,403	82,598	186,672	243,735	202,638	233,984
<i>ACMM costs included in above:</i>								
Attorney General					4,527	3,506	3,733	4,980
In-state Travel					10,739	3,485	4,562	21,600
Other Services & Supplies					11	318	963	50
<b>Total</b>					15,277	7,309	9,258	26,630
<i>MyLicense-2000 costs included in above:</i>								
Personnel					142,402	217,131	300,398	383,304
Contractors						42,716	59,684	0
Other Services & Supplies					12,437	12,288	17,090	31,580
<b>Total</b>					154,838	272,135	377,173	414,884

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### DHS Financial Report