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Interim Hearing of the Assembly Committee on Public Safety on Examining the Fiscal and Legal Implications of Legalization and Regulation of Marijuana

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Good morning, Mr. Chair and Members. I'm Robert Ingenito, Chief of the Research and Statistics Section at the Board of Equalization (BOE). Before I highlight the assumptions and methodology we used to estimate the amount of revenue that the legalization and subsequent taxation of marijuana consumption could generate, I thought it would be helpful to the Committee for me to give a brief overview of the Board's tax administration activities.

The Board of Equalization currently collects taxes and fees that provide about one-third of the annual revenue for state government and essential funding at the local level, especially for cities, counties and special districts. BOE-administered taxes and fees produced about $53 billion in 2007-08. The BOE administers the state's sales and use tax and nearly two dozen special taxes, including the state's fuel, cigarette and tobacco taxes.

The BOE's Research and Statistics Unit prepares revenue estimates on a regular basis as part of its standard workload. More generally, BOE staff prepares legislative analyses on all bills that would impact the tax programs we administer, as well as bills of interest to our five elected Board Members. Thus far in 2009, we have prepared over 100 formal and informal revenue estimates for a variety of stakeholders, including our Board Members, the Legislature, the Legislative Analyst's Office, the Commission on the 21st Century Economy, and the Department of Finance. Thus, while the request to estimate the revenue from the legalization/taxation of marijuana is a new one for us, the general process of revenue estimation is not.

When we were asked to estimate the revenue that would result from the legalization and taxation of marijuana, we approached the request using the same analytical framework we use to model the change in revenues resulting from an increase in the tax rate for cigarettes or alcohol. To complete a revenue estimate of, say, an increase in the tax rate of cigarettes, we need data on the consumption and price of cigarettes before the tax rate change. We then estimate the impact of the tax increase on cigarette consumption and price.

Before I lay out the specifics of the methodology we used, I would like to stress the uncertainty, considerable uncertainty, surrounding all the assumptions we had to make. Specifically, we had to make assumptions regarding five key variables all of which are

unknown. To the extent that any of them were to turn out higher or lower than our assumptions, our overall revenue estimate would move up or down similarly.

With that as background, our estimate of the revenue gain from the legalization/taxation of marijuana is a six-step process.

The first step is actually one we don't need to do in the case of cigarettes. A key challenge with respect to determining the revenue impact from the legalization and taxation of marijuana is that we simply do not have actual data on current consumption and price. So at the outset, they must be estimated too.

We have assumed that current annual consumption in California amounts to roughly one million pounds, or 16 million ounces. This estimate is based on data from a federal survey, the *National Survey on Drug Use & Health* published by the Substance Abuse and Mental Health Services Administration inside the U.S. Department of Health and Human Services. This survey is conducted annually, and it reports that in 2007, about 2.9 million Californians aged 18 and older reported that they used marijuana within the past year, with about 1.7 million of the reporting usage within the past month. We assumed that the legalization age would be 21, and the federal drug usage survey does not include data at the state level for the 21 and older population cohort as part of its routine reporting process. We have a request into the federal government for this data, but in the meantime, using national data from the survey, we estimate that 2.4 million Californians have consumed marijuana in 2007.

In addition to the total number of users, we next need data on frequency of use (how many users consume marijuana daily, weekly, etc). Unfortunately, the federal survey does not provide the detail we need. The only frequency of use question on the survey gives respondents three choices: within the last month, within the last two-to-twelve months, and more than a year ago. The survey does, however, report data on daily usage at the national level from time to time, most recently in 2003. From the national data, we estimated that roughly 400,000 Californians currently use marijuana on a daily basis. At the same time, the United Nations, in a 2006 report on drug usage DID report marijuana usage at varying levels of frequency. The UN report breaks out usage as follows:

- 45 percent of users consume marijuana, on average, four times per year
- 41 percent of users consume it, on average, 100 timers per year
- 9 percent of users consume it on a daily basis
- 4 percent of users consume it multiple times per day

The estimates of the proportion of daily marijuana users from the two sources were similar. So we used both sources to allocate the 2.4 million residents to the various levels of use. In doing so, we calculated total annual consumption to be about one million pounds.

The second step in the process is to determine what would happen to consumption if marijuana were legalized. Standard microeconomic analysis indicates that the price of marijuana would decline because its legalization would lead to an increase in the supply of the drug, which in turn would push down its price. We have assumed that the price of marijuana would decline by 50 percent upon legalization.

Step three is to determine how the consumption of marijuana changes in response to the decline in price. Again, standard microeconomic analysis indicates that the amount of marijuana consumed would rise when its price declines. Here too, there is no reliable data available, so we've assumed that the "price sensitivity" of marijuana users is similar to that of cigarette users, for which there is a large body of research. Using this assumption, we have calculated that the legalization of marijuana would lead to a 40 percent increase in consumption. Thus consumption would rise to 22.4 million ounces.

Step four is to introduce the excise tax into the analysis. Taxing marijuana would, of course, lead to an increase in its price, which would, in turn, reduce demand. The higher the tax rate, the greater the reduction in demand. We have calculated that a hypothetical tax rate of $50 per ounce of marijuana would reduce demand by 11 percent from the post-legalization level. In other words, consumption after the tax was imposed would be about 19.8 million ounces. Overall, we estimate that consumption of marijuana in a legalized and taxed scenario would be about 24 percent higher than the current level.

Now that we have estimated the consumption of marijuana in a legalized and taxed scenario, we can multiply that consumption number by the proposed tax rate to determine the excise tax revenue. Assuming the same hypothetical tax rate as before (namely $50 per ounce), our assumptions indicate an increase in excise tax revenues of $990 million.

The sixth and final step of the process is to determine the sales tax increase. Under current law, retail sales of marijuana and any other drugs or medicines sold without a prescription are subject to sales tax to the same extent as any other retail sales of goods. We have estimated that the potential state and local sales tax gain could be as high as an additional $392 million, $263 million of which would be General Fund. Thus, the total revenue increase from a hypothetical $50 per ounce tax could be as high as about $1.4 billion.

However, the ultimate amount of *new* sales tax revenue generated by the legalization of marijuana would depend on what consumers purchased with that same income prior to legalization. If all the consumption of marijuana resulted from consumers buying less nontaxable goods or services, then the full $392 million in new sales and use tax revenues would be realized. If, on the other hand, the additional consumption of marijuana results in an identical corresponding reduction of consumption of other taxable goods (for instance, consumers buy marijuana and less clothing instead), the amount of new sales tax revenue would be zero. Thus, for the full $392 million in sales tax revenues to be achieved, consumers would have to make marijuana purchases such that all current taxable sales are not adversely impacted. We feel that some substitution by consumers would occur, putting the total state and local revenue increase between $990 million and $1.4 billion.

So in conclusion, estimating the revenue gain resulting from the legalization of marijuana is admittedly an imprecise exercise. The assumptions made at each of the six steps of our process contain at least some element of uncertainty. One final element of uncertainty comes from a second potential consumer response to the legalization and taxation of marijuana. To the extent that consumers switch their consumption toward marijuana and away from currently taxed items such as cigarettes and alcohol, net new revenues from the proposal would be lower.

Because we simply don't have reliable data on the current price and consumption of

marijuana, our revenue estimate is subject to somewhat less confidence than the typical revenue estimate we produce. Nevertheless, as the federal drug-usage survey indicates, marijuana consumption among a segment of the California population occurs on a regular basis, so from a purely fiscal perspective, legalizing and taxing it could provide policymakers with a new source of revenue.