Title
Booze and bud: Evaluating alcohol and cannabis preferences using a basket-based choice experiment

I want to submit an abstract for:
Conference Presentation

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<tr>
<th>Name</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Valerie</td>
<td>Kilders</td>
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<tr>
<td>Vincenzina</td>
<td>Caputo</td>
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Keywords
basket-based choice experiment, alcohol, cannabis, simultaneous use, experimental design

Research Question
This study evaluates U.S. adult preferences for various alcohol and cannabis products following cannabis legalization. It also determines a vulnerable population that is most likely to use these substances together.

Methods
We embed a basket-based choice experiment in an online survey distributed to a nationally representative sample of 2,010 U.S. adults.

Results
The results suggest that most consumers view alcohol and cannabis as separate markets, but males aged 21-44 with high income are more likely to view them as complements.

Abstract
Alcohol and marijuana are two of the most prevalent adult substances in society, each carrying various economic benefits (e.g., tax revenue, jobs) and private and social costs (e.g., addiction/dependence, traffic fatalities). While marijuana remains federally illegal in the United States and in many countries across the globe, cannabis policy reform is well underway. Despite a host of studies evaluating the economic effects of legalization, health officials and policymakers are still working to understand the relationship between alcohol and cannabis markets and identify who uses these substances simultaneously.

Several studies have attempted to address the question of whether alcohol and cannabis are complements or substitutes, yielding mixed results (for a review, see Guttmannova et al., 2016). However, limitations related to data aggregation, granularity, and sample representativeness prevent a holistic understanding of the effects of
recreational marijuana legalization. We use a basket-based choice experiment (BBCE) to overcome these limitations and demonstrate why the answer is not so black-and-white.

First introduced in Caputo & Lusk (2022), BBCEs extend the conventional discrete choice experiment framework that has gained immense popularity in the profession over the past decade. BBCEs have the same desired properties—external validity and resemblance to real-world purchasing environments—with one critical advancement: BBCEs estimate complementarity and substitution effects.

Our BBCE was embedded in an online survey of a national sample of 2,010 U.S. adults. Respondents are asked to envision that marijuana has been legalized in their state (if it has not already) and that they can purchase cannabis from state-licensed dispensaries. Respondents are then presented with various alcohol and cannabis products and asked to select the alternatives they would buy if spending a weekend night with friends. In creating their basket of goods, respondents choose bundles that include alcohol, marijuana, both, or neither. Eight alcoholic products spanning beer, wine, and spirits are included, and nine cannabis products mimic a recreational cannabis dispensary. Soda is also included as a possible mixer or non-alcoholic product alternative. Prices vary across each alternative, and the respondents repeat the exercise several times under different prices. Figure 1 presents an example choice task.

Using summary statistics and multivariate logistic regression analysis (Richards & Bonnet, 2018), we offer new insights into the relationship between alcohol and cannabis markets to inform public health and policy discussions. First, we explore purchasing behaviors, which include analyzing choice frequencies and bundling behavior. For example, Table 1 shows the 10 most frequently bundled products. Loose marijuana flower with pre-rolled joints is the most prevalent combination, followed by pairing red with white wine and light beer with flower. Additionally, the results suggest that most consumers view alcohol and marijuana as neither complements nor substitutes; they are separate markets. However, a non-trivial segment of consumers view them as complements, and it is critical to understand who resides in this vulnerable population.

This is the second contribution of our study: identifying the characteristics of individuals who commonly bundle alcohol and cannabis. Results indicate that males, individuals aged 21 - 44, and high-income households are more likely to pair these two substances. We also have preliminary evidence suggesting that personality contributes to this purchasing behavior. Using the Big Six personality scale (Lachman & Weaver, 1997), we see a positive correlation between alcohol and cannabis bundling and extraversion, neuroticism, and openness. There is a negative correlation between bundling and conscientiousness.

Finally, we conduct simulations to analyze how consumer purchasing behavior could change with heightened taxes, expanded cannabis access, and other market shocks. In making these three contributions, the study provides policymakers and public health officials with important insights as they research the risks of simultaneous substance use and develop awareness campaigns for vulnerable populations.

We hope that presenting this working paper at the 16th Annual AAWE Conference in Lausanne, Switzerland, will allow us to gain valuable input from topic area experts. With this feedback, we will tighten our analysis and messaging to enhance the policy relevance of our work.

References


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Figure 1. Example choice task
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<table>
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<tr>
<th>#</th>
<th>Product combo</th>
<th>% of tasks</th>
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<tr>
<td>1</td>
<td>Flower and pre-rolled joint</td>
<td>7.4</td>
</tr>
<tr>
<td>2</td>
<td>Red wine and white wine</td>
<td>6.0</td>
</tr>
<tr>
<td>3</td>
<td>Light beer and flower</td>
<td>6.0</td>
</tr>
<tr>
<td>4</td>
<td>Soda and flower</td>
<td>5.8</td>
</tr>
<tr>
<td>5</td>
<td>Whiskey and flower</td>
<td>5.8</td>
</tr>
<tr>
<td>6</td>
<td>Light beer and whiskey</td>
<td>5.8</td>
</tr>
<tr>
<td>7</td>
<td>Flower and edibles</td>
<td>5.8</td>
</tr>
<tr>
<td>8</td>
<td>Light beer and soda</td>
<td>5.8</td>
</tr>
<tr>
<td>9</td>
<td>Soda and edibles</td>
<td>5.6</td>
</tr>
<tr>
<td>10</td>
<td>Craft beer and flower</td>
<td>5.5</td>
</tr>
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References


