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Economic Analysis of CAOA Tax provisions

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Overview:

The Cannabis Administration & Opportunity Act (CAOA) is sponsored by Senators Schumer (NY), Booker (NJ) and Wyden (OR). A draft proposal was published with the intention of receiving public input on concepts. Whitney Economics has examined the CAOA from an economics perspective. The following provides an analysis and recommendations related to this policy paper.

Objective:

To review CAOA from an economic and tax perspective, provide summary findings and potential recommendations.

Findings and Recommendations:

- From a tax and equity perspective, the current structure, even with 280E, would carry a lower tax burden than what is being proposed. Assuming the graduated tax rates were implemented at the beginning of 2021, the cannabis industry would pay an additional $1.1 billion in higher taxes over the five-year period from 2021 to 2025.
- The impact of a tax increase on businesses would be to drive out small and minority-owned businesses and force consolidation into the market. There would be less opportunity for small craft operators, as there would not be the cost structure to support smaller businesses under a consolidated market.
- When examining this bill from a tax perspective, in its current form, the cannabis industry is projected to have increased tax exposure, lower margins and a higher rate of small business failures.
- From a global competitive perspective, the CAOA appears to place the U.S. domestic cannabis operators at a comparative DISADVANTAGE to other global suppliers.
- From a regulatory perspective, the proposed model requires the federal government to create complex bureaucratic systems to manage the federal program. The regulatory and tax structure would lack transparency. A sales tax would be much more streamlined.
- The proposed bill makes no tax provisions for medical patients, thereby increasing their costs for cannabis-based healthcare costs.
- The proposed bill would potentially have a harmful environmental impact and disincentivize technology driven efficiencies that would benefit the environment and lower production costs.
- The influence of the illicit supply chain is being under estimated in the CAOA.

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Methodology:

- The tax comparison to 280E analysis assumed the graduated tax levels (10%, 15%, 20%, 25%) was in place immediately in 2021 and based on the forecast for retail revenues that was developed by Whitney Economics.
    - The cannabis industry would pay $1.1 billion more in taxes when comparing the current structure and the graduated structure proposed in the CAOA.
- The state tax impact assumed a retail doubling of wholesale prices and federal tax on only the wholesale price.

Analysis:

When examining the retail forecast through 2025 and applying the graduated tax program on wholesale, the cannabis industry would pay MORE in taxes over the next 5 years than under the existing 280E structure both at the federal level AND the state level.

- With the gradual wholesale excise taxes combined with federal business taxes, the U.S. cannabis industry would pay an estimated $1.1 billion in additional taxes under the proposed bill when compared to the existing 280E structure.

Proposed Tax Structure	Industry Wide demand	2021	2022	2023	2024	2025	Total
	Retail revenue	$25,000,000,000	$29,661,758,310	$33,017,999,667	$39,704,267,742	$44,922,223,109	
	Wholesale revenue	$12,500,000,000	$14,830,879,155	$16,508,999,834	$19,852,133,871	$22,461,111,555	
	G&A expenses	$7,500,000,000	$8,898,527,493	$9,905,399,900	$11,911,280,323	$13,476,666,933	
	Taxable corporate profit	$5,000,000,000	$5,932,351,662	$6,603,599,933	$7,940,853,548	$8,984,444,622	
	Tax rate	10%	15%	20%	25%	25%	
	Tax	$1,250,000,000	$2,224,631,873	$3,301,799,967	$4,963,033,468	$5,615,277,889	
0.21	Federal business tax	$1,050,000,000	$1,245,793,849	$1,386,755,986	$1,667,579,245	$1,886,733,371	
		$2,300,000,000	$3,470,425,722	$4,688,555,953	$6,630,612,713	$7,502,011,259	$24,591,605,647
280e Tax Revenue Under Biden	Under 280E	2021	2022	2023	2024	2025	
Business Taxes Based on 21%	Retail	$2,625,000,000	$3,114,484,623	$3,466,889,965	$4,168,948,113	$4,716,833,426	
	Supply Chain	$787,500,000	$934,345,387	$1,040,066,990	$1,250,684,434	$1,415,050,028	
	Total	$3,412,502,021	$4,048,832,031	$4,506,958,978	$5,419,634,571	$6,131,885,479	$23,519,813,080
Business Taxes Based on 21%	Difference --->	($1,112,502,021)	($578,406,309)	$181,596,975	$1,210,978,142	$1,370,125,780	$1,071,792,567
	Percentage	-32.6%	-14.3%	4.0%	22.3%	22.3%	

Source: Whitney Economics

The CAOA results in both a federal tax increase to operators as well as a state tax increase to consumers.

- The tax imposed on sales at the state level would also be increased since the selling price would be increased by the CAOA excise tax. Therefore, this is not only a federal tax increase but also a state one.

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Example of state tax increase impact					
Current			Proposed		Difference
Wholesale price	$37.50		Wholesale price	$37.50	
Federal excise tax @ 0%	$0.00		Federal excise tax @ 25%	$18.75	
Retail price	$75.00		Retail price (2x wlsle + Tax)	$93.75	
Tax at 10%	$7.50		Tax at 10%	$9.38	$1.88
Total Price to consumer	$82.50		Total Price to consumer	$103.13	$20.63

Source: Whitney Economics

CAOA-based price increases would be borne mostly by cannabis operators, furthering the negative impact on small businesses, particularly those with female or minority ownership.

- Consumers are price sensitive. Given the demand elasticity, the price increases will be borne mostly by operators and less so by the consumer further eroding margins and driving out small businesses.

The proposed structure for taxation would set prices based on the previous year's prevailing prices, thereby having the federal government setting the price for taxation versus allowing for market forces to do so. This federal involvement in the market would potentially introduce multiple externalities.

- The federal government lacks the ability or knowledge of the cannabis market to understand the complexities enough to set prices appropriately.
- The lack of cannabis specific NAICS codes (used by other industries to track pricing) would not enable the federal government to track the flow of goods and services sufficiently to set prices in the marketplace.
- The setting of the price based on prior year's prices would be an additional tax increase on producers in an environment of falling prices.
- In a period of price increases, the federal government risks missing out on potential tax revenues

The taxation at the wholesale level could reduce federal tax revenue potential when compared to a retail-based sales tax.

- The math is simple. Retailers on the average mark up wholesale prices by 100% (ex. acquire at $37.50, sell for $75.00), therefore a sales tax at or above 12.5% would generate the same amount of revenue, without the regulatory complexity associated with the CAOA.

Why a prevailing price tax has its challenges - Federal government missing out on tax revenue			
Year	**2021**	**2022**	**2023**
Price scenario #1 - prices go up YoY	$100.00	$200.00	$250.00
Tax based on prior year		$25.00	$50.00
Total price		$225.00	$300.00
Tax if based on current market		$50.00	$62.50
Price if based on current market		$250.00	$312.50
Comment: Federal government missing out on tax revenue			

Why a prevailing price tax has its challenges - Operators pay more taxes			
Year	**2021**	**2022**	**2023**
Price scenario #2 - prices go down YoY	$ 100.00	$ 75.00	$ 50.00
Tax based on prior year		$ 25.00	$ 50.00
Total price		$ 100.00	$ 100.00
Tax if based on current market		$ 18.75	$ 12.50
Price if based on current market		$ 93.75	$ 62.50
Comment: Operator paying higher taxes in a period of declining prices, further hurting small businesses			

Source: Whitney Economics

Issues associated with the prevailing pricing model

- It is not clear what issue basing a taxation model on prevailing prices from the previous year would fix.
- A previous year prevailing price structure provides a disincentive to drive cost reductions by operators.
- A previous year prevailing price structure rewards high cost and inefficient producers by disincentivizing cost reduction efforts.
- A previous year prevailing price structure provides a disincentive to implement environmentally friendly practices, such as water efficiency and energy efficient processes that would normally reduce costs and prices to the consumer.
    - This will have a negative environmental impact as it dis-incentivizes innovation that can reduce cannabis impact on the environment.
        - For example, this structure examines pricing over the previous 12 months from the previous quarter, when prices collapsed in Oregon in 2017/2018, cannabis cultivators and processors developed innovative process and technological advancements to drive costs out of the process in order to remain cost effective.
        - There would be no incentive to invest or drive technology innovation if the taxes do not change for a year.
        - A second example is water, energy and pesticide usage. Cannabis may consume a large amount of water and electricity. Massachusetts has implemented policies to limit the carbon impact of cannabis.
    - With taxes based on a predetermined price, there would be no incentive or market driver that would result in efficient innovative change. In fact, those operators that are high water and energy consumers are rewarded with even lower effective tax rates than would the efficient suppliers as excise taxes would be the same regardless of the operators' cost structure.
- By disincentivizing lower prices, the current bill would make U.S. based operators UNCOMPETITIVE relative to low cost, internationally based suppliers.

- A tax based on prevailing prices from the previous year would require significant expansion of federal bureaucracies, increase compliance and regulatory costs and add significant audit complexities.
- A prevailing price policy would not allow for regional pricing differences.

The payment of tax every two weeks and resulting tax credit disproportionately impacts smaller businesses and would drive them out

- In its current form, the CAOA requires operators to pay the higher tax rate throughout the year and then apply for a tax credit at the end of the year. Tax payments are required to be made every two weeks.
- For operators making less than $20 million per year in revenues, the CAOA requires cannabis operators to pay twice the required rates, taking valuable cash out of the business.
    - By paying double the tax required for small businesses (under $20 million per year), it is essentially a tax-free loan to the government that is reducing the operating capital for small businesses.
- At its maximum, the 25% tax is the equivalent of a tax payment of $208,333 every other week, $104,168 of which is an overpayment of the tax liability in the amount of $2.7 million per year.
    - As a general example, with such a heavy tax burden, if a small business has a delay in accounts receivable, and misses tax payments, this could put them in violation of this law.
- Potential changes to the tax payment model, including allowing some smaller designated craft and/or minority owned businesses to pay lower taxes throughout the year, in lieu of a tax credit, may address this issue.

The lack of vertical integration and clauses about associations would harm small operators and would keep the market fragmented.

- The CAOA would impose a “Tied House” model similar to that of the alcohol industry. The model separates the value chain into multiple tiers and prohibits associations to form from one tier to the next or that may result in corruption or tax avoidance practices.
- A fragmented cannabis market is generally inefficient, higher priced and would not be able to compete on a global scale.
- The lack of vertical integration would limit commercial scale, or even small cooperatives like in other agricultural sectors.
- The 3-tier system is basically outlined in the CAOA. This does not fit the cannabis market and would create conflicts between state and federal policies.
- In other industries, craft operators are not subject to the “Tied House” restrictions and are allowed to vertically integrate under certain conditions. This is a potential solution to this issue.

The immediate allowance for imports would have a devastating effect on the U.S. domestic market.

- Most countries outside of the U.S. have had years to develop a unified domestic and export market. As a result, they are able to produce cannabis efficiently and at low cost.
- By contrast, the U.S. market is fragmented, does not have scale and has much higher production costs. Cost of wholesale cannabis in Asian and South American markets are 25 times lower than in the U.S. ($5 – $10 dollar per pound versus $100 - $250 for U.S.). Even Canadian producers can enter the U.S. market at a lower cost structure than U.S. based suppliers.

- Without a period of protective policies, U.S. suppliers will not only have to compete in a consolidating market that is driven by large corporations that already have had time to scale, but would also have to compete low-cost international suppliers as well. Few will survive.

Other comments related to the economics of the CAOA:

- **The federal regulatory structure would not have sufficient time to successfully deploy.** The banking infrastructure would require a MINIMUM of 6 months to develop compliance software required to provide banking services, thereby requiring U.S. Treasury to accept cash payments.
- **The current lack of a federal data collection system would violate provisions of the CAOA requiring the BLS to track the cannabis economy.** Given that there is no current NAICS tracking of the cannabis industry, there would be no systemic data collection tool to track the flow of goods and services until at least 2027.
  - There would be no tracking at the banking, tax, employment or reporting level anywhere throughout the cannabis economy.
- **There would be an increase costs of federal and state compliance software** as there would potentially be two tracking systems in place (State and federal). This creates an extra burden on cannabis operators, particularly in the short and medium terms.
- **Regulatory licensing programs would be operated at the state level**. By defaulting to the states, state-based models would remain intact, thereby **potentially impacting the ability to conduct interstate commerce.**
  - The lack of a federally harmonized set of standards would present barriers to interstate commerce.
  - This is not unique to cannabis as the hemp industry is experiencing the same issues, even after 3 years post 2018 farm bill.
- **It is not clear if the dispensary model currently being used in multiple states would be allowed.**
  - What is clear is that the state-based licensing structure would be retained and would limit the cannabis industry's reach to consumers.
  - It would not be on equal footing to tobacco or alcohol sales through convenience stores for example.
- **The bill in its current form does not have a provision for operators currently in arrears on federal taxes due to IRC 280E** and would therefore favor new entrants into the market.
- **The proposed bill makes no tax provisions for medical patients**, thereby increasing their costs for cannabis-based healthcare costs.
- **The influence of the illicit supply chain is being under estimated** especially if retaining the dispensary model in each state involved limited access to consumers.

Potential solutions to minimize economic impacts associated with CAOA*:*

- Consider a retail sales tax in lieu of a complex wholesale tax based on a 3-tier model.
  - Infrastructure is already in place at the state level.
  - Great consumer transparency.
- Examine tax payment frequency, align with best practices from other industries instead of reducing small operator cash flow that places the business at risk. Tax payments would be more effective and have less negative impact on operators if paid either monthly, quarterly or semi-annually.

- Reduce economic impact to medical cannabis patients by allowing for medical insurance benefits and tax-free status for medical card holding patients.
- Enable data collection at the federal level and mandate NAICS codes specific to the cannabis industry.
- Minimize disruptions to the markets by maintaining the vertical integration that is already in place in multiple states.
- Allow for a period of no fewer than 5 years before allowing for imports. This will help protect the domestic market while it is being stood up federally.
    - This is common in nascent markets.
    - A tariff on imports would accomplish the same thing.

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About the Author / Conflict of Interest Statement

Beau Whitney, Cannabis Economics, Operations and Supply Chain Expert

Beau Whitney is the founder and Chief Economist at Whitney Economics, a global leader in cannabis and hemp business consulting, data and economic research.

Serving an international clientele, Mr. Whitney is considered one of the leading cannabis economists in the U.S. and globally. His applications of economic principles to create actionable operational and policy recommendations has been recognized by governments, and throughout the economic, investment and business communities.

Drawing upon his previous hi-tech experience, Mr. Whitney has applied his supply chain and operations expertise to the cannabis industry, where he has designed and implemented efficiencies into the cultivation, extraction, edible manufacturing, wholesale and retail distribution operations of a vertically integrated cannabis operation, that eventually went public in 2015.

Mr. Whitney's analysis of the adult-use, medical and industrial cannabis markets is regularly referenced in the media, Bloomberg, the Wall Street Journal, Washington Post, New York Times, USA Today, the Associated Press, as well as in leading cannabis industry publications. Whitney is a member of the American Economic Association, the Oregon chapter president of the National Association of Business Economics, is a member of multiple regulatory advisory committees throughout the U.S. and participates on the Oregon Governor's Council of Economic Advisors.

Beau Whitney has provided policy recommendations at the state, national and international levels and is considered to be an authority on cannabis economics and the supply chain.

Statement of Conflicts

- Whitney Economics receives compensation for business and economic analysis of the cannabis industry, including for this report.
- Mr. Whitney has previously held positions and licenses within the legal regulated cannabis industry.
- Mr. Whitney currently has investments in a cannabis investment fund, Mantis Growth Investments, and he is a member of the fund's Board of Directors.
- Mr. Whitney serves in an unpaid role as Chief Economist for the National Industrial Hemp Council.
- Mr. Whitney is a paid contractor, serving as Chief Economist for the National Cannabis Industry Association.
- Whitney Economics is a member of the European Industrial Hemp Association.