Witness Testimony Feb 21 SB0824.pdf
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Witness Testimony – SB 0824

Thank you Chair Beidle and Vice Chair Hayes, and everyone else on the Fianance Committee, for considering my testimony.

My name is Alex Arnsberger and I live in Silver Spring with my husband and 6 year old daughter. I am here to express support for SB 0824.

As with any retail consumer, I am motivated by three factors when I decide where I shop and what I buy. I am motivated by cost, convenience, and selection. As a resident of Montgomery County, and a consumer of both beer and wine, I would give poor scores to all three of those factors for Maryland when it comes to purchasing wine.

As a consequence of these three factors, the economically rational decision I have made is to drive to Virginia and spend my money and tax dollars in another state. The cost of commuting pays for itself by the money I save on the product. It's less convenient, sure, but I already need to make a special trip to purchase wine anyway. And, most importantly, I am able to purchase the products that I want, which are not available for purchase anywhere in the state of Maryland.

I hear and understand the argument for protecting the livelihoods of Maryland's small business owners that operate the existing wine and beer retail shops. However, a nuance that I want to bring attention to is that the laws as they currently exist do not bring my business to the small retailers that these rules are aiming to protect. When I visit one of these establishments, I often leave emptyhanded because the selection is minimal and the costs are too high. These small retailers would not be losing my business if this bill were to pass, because they never had it. I am going to spend my money on the products I want, and I'd rather do that in my home state than in Virigina. I know other family, friends and neighbors that commute to Virginia in order to purchase products not available in Maryland.

SB 0824 helps solve for the issues that prevent citizens from shopping in Maryland, and I urge you to support this bill. Thank you.

Final MRA Alcohol Report 11-14-24.pdf
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The Potential Benefits of Allowing Beer and Wine Sales in Supermarkets, Grocery, and Convenience Stores in Maryland 2024 Update

Prepared for the:

MRA
Maryland Retailers Association

Prepared by:

JOHN DUNHAM & ASSOCIATES

November 12, 2024

DRAFT

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Introduction

Following the repeal of Prohibition in December of 1933, most control over the sale of beverage alcohol products (including distilled spirits, wines, and malt beverages) was given to state governments. Each of the states implemented alcohol control laws, some of which were extremely stringent. In Maryland, most liquor laws are implemented at the county level, making it unique among states in this regard.

Adults who choose to purchase beverage alcohol products in the state have traditionally faced many restrictions which have encouraged a fairly non-competitive retail system and forced consumers to pay relatively higher prices. This in turn has led many shoppers to seek out both lower prices and better selections, particularly in the bordering jurisdictions of Delaware and Washington D.C. One thing is certain, while Maryland's diffuse system of control of beverage alcohol sales and regulations does allow for more local control, it does make it difficult for the state's businesses, consumers, and visitors to navigate. This makes it less efficient, and more expensive, to sell beverage alcohol products in the state.

In 2020 John Dunham & Associates (JDA) conducted an analysis for the Maryland Retailers Association (MRA) to examine the impact of these stringent regulations on both the beverage alcohol industry and the general economy of the state of Maryland. That analysis found that were the state to allow for beer and wine sales in non-package stores, there would be a net increase of $192.9 million in sales, resulting in the creation of 760 additional full-time equivalent (FTE) jobs in Maryland, and an increase in tax collections of nearly $24.2 million.[1]

Based on this updated analysis of the Maryland retail economy, allowing beer and wine to be sold in additional food retailers (as is allowed in 39 states) would increase overall alcohol sales in Maryland by $214.4 million resulting in 754 net additional retail jobs and $31.6 million in increased tax revenues.[2]

The following presents the results of this updated analysis based on the most recently available data.

Summary

The state of Maryland restricts beverage alcohol sales for off-premise consumption to package stores, save for a few food retailers that are allowed to sell these products as they were grandfathered when the restrictions were adopted. This makes Maryland one of only a handful of states that do not at least allow for the sale of beer and/or wine at licensed food retailers.

Table 1
Potential Impact of Allowing Non-Package Store Beer and Wine Sales in Maryland (2024)

	Direct	Supplier	Induced	Total
Jobs	753	154	160	1,067
Wages	$31,948,151	$9,591,667	$9,573,780	$51,113,597
Economic Output	$74,168,816	$30,719,972	$29,701,337	$134,590,124
Federal Taxes				$12,403,394
State and Local Taxes				$12,975,834

The limits on the availability of beverage alcohol products in the state have hampered sales, reducing the volume of alcoholic beverages purchased in the state. Rationalizing the access of adult consumers to beer and wine products would lead to more stores selling these products, increasing employment by as much as 753 full-time equivalent (FTE) jobs at retailers. Once supplier and multiplier effects are included, the state could increase employment by as much as 1,070 jobs, which would pay employees over $51.1

[1] See: Douglas Moran, Catherine, *Grocers are battling alcohol laws. Here's how the fight is going in 3 states*, Grocery Dive, March 25, 2021, Updated April 5, 2021, at: https://www.grocerydive.com/news/grocers-are-battling-alcohol-laws-heres-how-the-fight-is-going-in-3-state/597080/. Link to JDA analysis: https://irp-cdn.multiscreensite.com/cf5489a9/files/uploaded/Dunham_EconomicStudy.pdf

[2] This is even after offsetting any sales that might be lost to current package store sellers.

million in additional wages and benefits. Overall the economy of the Old Line State would be about $134.6 million larger. (Table 1 on the prior page)

In addition to increasing economic activity in Maryland, the rationalization of alcohol retailing would increase state and local revenues. Additional excise taxes, sales taxes, business and personal taxes, and bottle taxes in Baltimore would raise an additional $13.0 million in revenues annually, or about 0.02 percent.

Markets in Other States

Before Prohibition, alcohol manufacturers either directly owned or had exclusive contracts with individual taverns to sell only their products. These "tied-houses" resulted in marketing practices that many thought to have encouraged intemperance.[3] In 1933, the 21st Amendment to the Constitution repealed Prohibition on a national level. Section 2 of the Amendment empowered states to enact their own laws concerning the production, distribution, and sale of alcohol. After the repeal of Prohibition, Congress and the general public believed that alcohol manufacturers should be separate from retailers. To ensure that this was the case, state and federal governments adopted laws and regulations that created a three-tier system of alcohol distribution.[4,5]

Although this structure is not federally mandated, 49 of the 50 states and Washington D.C. all have established some variation of the three-tier system. The structure of the system differs across states, with some having more restrictive regulations, while others are more open. Over time, however, states have begun to loosen the restrictions, making beverage alcohol products more accessible to adult consumers.

Table 2
Grocery Store Alcohol Sales by Restrictions

	Number of States (2020)	Percent	Number of States (2024)	Percent
No Alcohol Sales*	6	11.8%	5	9.8%
Beer Sales Only**	9	17.6%	7	13.7%
Beer and Wine	16	31.4%	19	37.3%
Beer, Wine and Spirits***	20	39.2%	20	39.2%
Total	51	100.0%	51	100.0%

* Note that New Jersey does allow for limited alcohol sales in certain grocery stores subject to ownership restrictions, while there are a handful of grocery stores in Maryland allowed to sell alcohol as they were grandfathered when the current restrictions were enacted.

** Minnesota allows for the sale of beer with an alcohol content of 3.2 percent or less, and New York allows grocers to sell low-alcohol "wine products."

*** West Virgina allows for sales from contracted "agency stores." A limited number of grocery stores have been contracted as agents for the state.

While there are retailers in Maryland that sell beer and wine beyond just package stores, the number is limited to those that held licenses prior to the enactment of a 1978 state law prohibiting food retailers and chains from holding licenses.[6] Certain retailers were exempted from this restriction as their licenses were grandfathered in the state code. This provision effectively limits the sale of all alcohol products for off-

[3] The name comes from a practice in England where a bar may be tied, by ownership links or contractual obligations, to a specific manufacturer.

[4] Fosdick, Raymond B., and Albert L. Scott, Toward Liquor Control, (Harper & Brothers: New York), 1933.

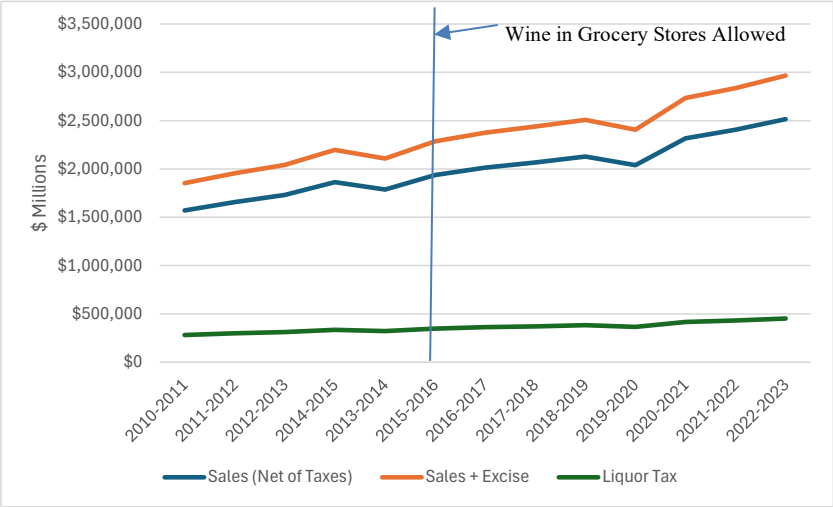
[3] *Code of Fair Competition for the Distilled Spirits Industry*, Federal Alcohol Control Administration, August 1, 1934, at: https://babel.hathitrust.org/cgi/pt?id=umn.31951d03592405e&view=1up&seq=3

[5] *The Three-Tier System: A Modern View*, National Alcohol Beverage Control Association, March 2015, at: www.nabca.org/three-tier-system-modern-view-0,

[6] Maryland Code, Alcoholic Beverages, Division 1:4, § 4-205, at: https://casetext.com/statute/code-of-maryland/article-alcoholic-beverages-and-cannabis/division-i-general-provisions-affecting-multiple-jurisdictions/title-4-local-licensing/subtitle-2-issuance-or-denial-of-local-licenses/section-4-205-chain-store-supermarket-or-discount-house

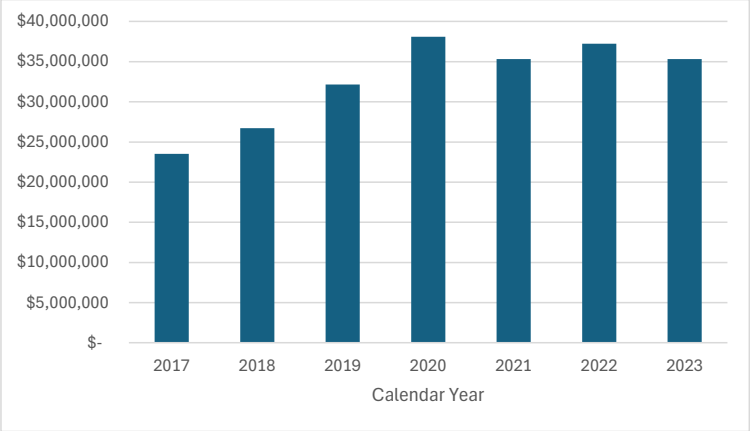
premise consumption to package liquor stores. Equivalently stringent restrictions currently exist in only 5 other states.[7]

Figure 1
Wine and Spirits Sales in Pennsylvania



In 2016, the Commonwealth of Pennsylvania, a state with some of the most restrictive beverage alcohol sales laws in the country, began allowing certain grocers to sell up to four bottles of wine to each legal-age customer. In the year following, according to the State Department of Revenue, overall liquor tax collections were up by 6.5 percent over the prior year. This is nearly double the growth rate in liquor tax revenue prior to the change in the law.[8] Over time, the number of retailers licensed to sell wine for off-premise consumption has grown from 285 retailers to nearly 1,400.[9] This has more than tripled the number of locations in the state where consumers can purchase wine. At the same time, the number of state stores has remained fairly constant, with 607 stores operating in 2016 and 586 in FY 2023. This follows the State's decision to close its state operated retail stores during the COVID-19 pandemic.

Figure 2
Oklahoma Alcohol Tax Revenues By Calendar Year



[7] Alaska, Delaware, New Jersey, North Dakota, and Rhode Island. Note that New Jersey permits a limited number of grocery stores to sell wine, while Pennsylvania allows for beer and limited wine sales in grocery stores subject to certain limits.

[8] *Monthly Revenue Report*, Pennsylvania Department of Revenue, at: http://www.revenue.pa.gov/GeneralTaxInformation/News%20and%20Statistics/Pages/Reports%20and%20Statistics/MRR/2016%20Monthly%20Revenue%20Reports.aspx#.WHj0ZhsrKUk. Includes beer taxes.

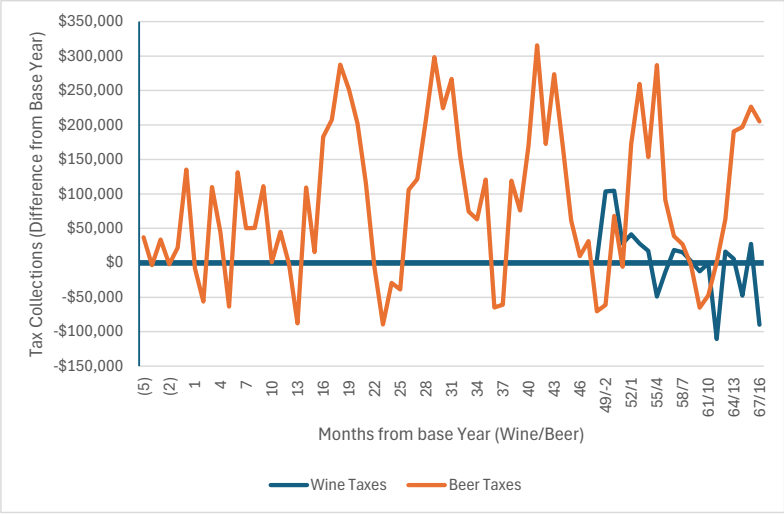
[9] *Annual Report*, Pennsylvania Liquor Control Board, various dates. At: https://www.lcb.pa.gov/About-Us/News-and-Reports/Pages/Annual-Reports.aspx. Note that this does not include restaurants and hotels.

Overall, the growth in wine sales through private grocery and convenience retailers has soared, up by 256.3 percent since 2016 when the first licenses began operating, however, at the same time, sales in state owned stores have not fallen but increased at a compound annual growth rate of 3.1 percent, a figure that includes the period when stores were shut down. Figure 1 on the prior page shows overall sales of wine and spirits in Pennsylvania as well as total excise taxes paid over the last 13 fiscal years.

In October of 2018, Oklahoma loosened its restriction of the sale of alcohol, allowing for the sale of "strong-beer," rather than lower alcohol 3.2 beer, and table wines (under 15 percent alcohol by volume (ABV)) in grocery stores, convenience stores, pharmacies and other establishments. Following the implementation of these changes, tax revenues on alcoholic beverages increased by 13.6 percent in 2018, 20.4 percent in 2019, and 18.4 percent in 2020. These tax increases occurred in spite of the onset of COVID-19 and the shutdown of much of the economy. Tax rates remained flat during this period of rapidly increasing revenues, meaning that volumes increased during the period.[10]

The most recent state to allow for the sale of wine in grocery and convenience retailers was Colorado, which began loosening restrictions on the sale of beer at the beginning of 2019. Previously grocers in Colorado could only sell beer with an alcohol by weight below 3.2 percent, effectively limiting beer, wine, and liquor sales to package stores. After voters passed a proposition in 2022, the state began to allow for the sale of wine in grocery and convenience stores beginning in March 2023.

Figure 3
Colorado Growth in Beer and Wine Excise Tax Collection



Changes in beer sales restrictions have been in effect for over 5 years and as Figure 3 shows, same-month excise tax collections from the sale of malt beverages have generally outpaced those from the period prior to the state allowing for full-strength beer to be sold by food retailers. The story of wine excise taxes has not been as dramatic, however there was a sizable jump in tax revenues right around the period when the law changed. In more recent months, wine tax collections have not kept pace with the base year figures; however, wine sales in general have been falling nationwide, and this may be simply a continuation of an existing trend.[11]

Finally, a recent analysis of a 2016 change in regulations allowing for the sale of wine in retail food stores in the state of Tennessee, found no statistically significant impact on the number of package stores in the state.[12] This study, which was produced for the Food Marketing Institute by Dr. Vincenzina Caputo, an

[10] *Daily Report of Taxes Collected,* Oklahoma Tax Commission, at: https://oktap.tax.ok.gov/OkTAP/Web/_/#15
[11] *Liquor Excise Taxes,* Colorado Department of Revenue, at: https://www.colorado.gov/pacific/revenue/colorado-liquor-excise-taxes
[12] Caputo, Vincenzina, *Assessing the Impact of Wine Sale Reform: A Case Study of Tennessee*, prepared for the Food Marketing Institute, undated.

academic economist, used a modeling methodology called a Synthetic Control Method. In effect, this method creates a baseline control state using data from those other states that are statistically most like Tennessee and compares data over time against what happened in the state. The model assumes that the artificial control state would behave like Tennessee if the regulatory change were not to have taken place. According to Dr. Caputo, *This methodological approach ensures a more robust evaluation of policy interventions with limited samples*.[13]

According to this analysis, the number of liquor stores selling wine in Tennessee grew from 505 in 2004 to 728 in 2019; however, Tennessee had 10.29 fewer liquor stores per capita (per million people) selling wine in the post-reform period from 2016 to 2019 than was predicted by the model. This result was not statistically significant, meaning that one could not interpret this decrease from the baseline as meaningful. Dr. Caputo also examined wine sales tax revenues using the same methodology. She found that following the reform Tennessee experienced a significant 23 percent surge in wine sales taxes relative to the base case meaning Tennessee's expansion of wine sales to retail food stores led to a statistically significant increase in state wine sales tax volume and, consequently, increased tax revenues overall.

Therefore, in all four of the recent cases where states rationalized their off-premise beer and/or wine sales restrictions, they experienced more economic activity and an overall increase in sales and tax revenues.

Maryland's Beverage Alcohol Environment

According to the Food Marketing Institute, consumers average 1.6 trips to the supermarket per week. This has remained fairly constant over the past 10 years in spite of the COVID-19 shutdown of the economy, and the growth in online retailing.[14] Maryland's restrictions limit taxable sales at food retailers and cost the state jobs and tax revenues.

According to the most recent comparative analysis of beverage alcohol sales volumes across states, Maryland ranks right in the middle (26th) in total gallonage of alcohol, and 19th in wine gallonage sold.[15] However, on a per adult basis, businesses in Maryland ranks at the bottom of the list (50th) in beverage alcohol sales, and 26th in wine sales.[16]

This compares to border states that include Delaware, Pennsylvania, West Virginia, Virginia, and the District of Columbia, which rank 4th, 35th, 14th, 51st and 1st in wine sales per adult respectively. This suggests that there is much more involved in the demand for wine than simply the availability at grocery stores, however, as the analysis below shows, this is an important factor.

It is also important to note that all of the border states save for Delaware are *control jurisdictions*, all of which have state-controlled alcohol wholesaling and/or retailing. The District of Columbia does allow for a market system of alcohol wholesaling and retailing, but levies some of the highest taxes on beverage alcohol products in the country.

Other restrictions in Maryland include:

- A control system in Montgomery County that allows only state stores to sell spirits for off-premise consumption. Retailers can be licensed to sell beer and table wines, but these must generally be purchased from the county's Department of Alcohol Beverage Services.

[13] Ibid.
[14] 2024 figures. See: https://www.fmi.org/our-research/research-reports/u-s-grocery-shopper-trends
[15] 2022 Estimates, John Dunham & Associates.
[16] *Annual Estimates of the Civilian Population by Single Year of Age and Sex for the United States and States: April 1, 2020 to July 1*, 2023 (SC-EST2023-AGESEX-CIV) https://www.census.gov/data/datasets/time-series/demo/popest/2020s-state-detail.html

- Sunday sales restrictions vary by county, and several counties, including those with large populations such as Prince George's and Baltimore counties prohibit Sunday sales.

- Retail licensing at the county level with no central location to locate or track the number of retailers authorized in a given community.

- Varied provisions regulating the sale and serving of alcoholic beverages. In some locations servers must be 21, while in others those as young as 15 (or even younger if they are a family member of the license holder) may serve alcoholic beverages from behind a bar.

One thing is certain, while Maryland's diffuse system of control of beverage alcohol sales and regulations does allow for more local control, it does make it difficult for the state's businesses, consumers, and visitors to navigate. This makes it less efficient, and more expensive, to sell beverage alcohol products in the state. Based on the following analysis of the Maryland retail economy, allowing beer and wine to be sold in additional food retailers (as is allowed in 39 states) would increase overall alcohol sales in Maryland by $214.4 million resulting in 754 net additional retail jobs and $31.6 million in increased tax revenues.[17]

Beverage Alcohol Retailing in Maryland

The regulations and licensing governing firms involved in selling alcoholic products are handled primarily by county governments in Maryland, and comprehensive data are not available. The Maryland Alcohol, Tobacco and Cannabis Commission does provide an annual count of licenses for most of the counties, although the latest data are from 2023. This includes the number of licenses for retailers that sell for consumption on-premise, including in taverns, restaurants, and brewpubs as well as licenses for sale for off-premise consumption. These licenses also differentiate the types of products permitted for sale by businesses, separating stores based on their sales of beer, wine, and/or spirits. More limited current data for Anne Arundel and Montgomery County can be found on those jurisdictions' web sites, but data for Calvert, Dorchester, Sommerset and Wicomico counties are not generally available.

JDA searched the Anne Arundel and Montgomery County data to determine how many off-premise retailers there were in each of these jurisdictions. This involved matching facilities with the 2020 data, locating the facilities in the Data Axle data and marking them appropriately, or as a last resort, searching for the facilities on Google Maps to determine if they were a package store or grocery store allowed to sell alcohol.

For the four counties with missing data, FY 2021 license counts from the Maryland Alcohol, Tobacco and Cannabis Commission were either inflated or deflated by the population weighted average change for known counties with a population of under 150,000. The four counties all have populations of less than 125,000 individuals. While this is not an exact estimate of the number of alcohol retailers in each of these counties, it does provide a solid method to estimate these figures.

Based on this analysis as of December 2023, a total of 1,277 retailers in Maryland had been authorized to sell liquor, wine and beer, and 369 additional stores had also been licensed to sell beer and/or wine in certain counties. These retail establishments range in size from large supermarkets to small local delis and convenience stores. These stores exist throughout the state, with the largest number located in Montgomery County, where the control retail system is managed by the Alcohol Beverage Services Department. This control system dramatically limits the number of package stores in the county to just 27 government-controlled establishments. Other counties with a significant number of retailers allowed to sell beer and/or wine include Frederick, Wicomico and Worcester. Table 3 on the following page shows the number of retailers by county.

[17] This is even after offsetting any sales that might be lost to current package store sellers.

Table 3
Off-Premise Alcohol Retail Licenses by County and Independent City in Maryland

County	Package	Beer and Wine	Beer	Total
Allegany MD	84	8	-	92
Annapolis City MD	13	3	1	17
Anne Arundel MD	108	-	-	108
Baltimore City MD	171	16	-	187
Baltimore MD	199	6	-	205
Calvert MD**	31	7	-	38
Caroline MD	18	5	3	26
Carroll MD	39	1	-	40
Cecil MD	24	3	-	27
Charles MD	27	-	-	27
Dorchester MD**	16	17	15	47
Frederick MD	64	36	5	105
Garrett MD	39	4	1	44
Harford MD	49	5	-	54
Howard MD	66	-	-	66
Kent MD	15	5	-	20
Montgomery MD*	45	100	-	145
Prince George's MD	140	1	-	141
Queen Anne's MD	21	10	2	33
Somerset MD**	-	9	1	10
St. Mary's MD	41	4	1	46
Talbot MD	16	8	-	24
Washington MD	40	2	1	43
Wicomico MD**	3	40	3	46
Worcester MD	8	47	-	55
Total	1,277	336	33	1,646

* 2024 Data from Montgomery County and Anne Arundel County

** Estimated. No Data Available

Based on data from the State, beer and wine sales have not recovered from the COVID-19 shutdowns. Prior to the shutdowns in the winter of 2019, the state was collecting nearly $15.0 million per year in excise taxes on beer and wine sales. Following the shutdowns, this had fallen to about $13.0 million annually.[18] (Table 4)

Table 4
Beverage Alcohol Excise Tax Collections in Maryland

Product	2017	2018	2019	2020	2021	2022	2023
Beer	$ 8,361,000	$ 8,201,000	$ 8,354,000	$ 6,882,000	$ 7,582,592	$ 7,324,602	$ 7,140,423
Wine	$ 6,891,000	$ 6,473,000	$ 6,374,000	$ 4,824,000	$ 6,198,003	$ 5,647,094	$ 5,972,527
Subtotal	$ 15,252,000	$ 14,674,000	$ 14,728,000	$ 11,706,000	$ 13,780,595	$ 12,971,696	$ 13,112,950
Spirits	$ 16,899,000	$ 17,007,000	$ 17,437,000	$ 12,743,000	$ 21,078,446	$ 21,078,446	$ 19,810,208
Total	$ 32,151,000	$ 31,681,000	$ 32,165,000	$ 24,449,000	$ 34,859,041	$ 34,050,142	$ 32,923,158

Spirits sales, on the other hand, recovered sharply after the COVID-19 shutdowns. This is partly due to the shift in consumer preferences toward spirits and spirits-based products, and away from wine. These types of shifts happen regularly in the beverage alcohol industry and reflect changes in demographic patterns in and between states. In addition, the number of retail licenses granting the privilege to sell either beer or beer and wine has been falling in Maryland, while package store licenses have increased.[19]

The Economic Impact of Beverage Alcohol Retailing in Maryland

In order to estimate the impact of allowing for expanded beer and wine sales in various types of retailers, it's important to understand the current market. This section compares the number of jobs in package

[18] *Proposed (FY 2025) Budget Documents*, State of Maryland, Department of Management and Budget, at: https://dbm.maryland.gov/budget/Pages/operbudhome.aspx

[19] *Annual Report*, Maryland Alcohol, Tobacco, and Cannabis Commission, various years, at: https://atcc.maryland.gov/resources/publications/#annual-reports and JDA estimates.

stores (including other retail locations that currently are allowed to sell beer and wine), and retail locations likely to acquire an off-premise beer and wine license should it become available, including convenience stores, grocery stores, large supermarkets, and warehouse clubs.

Table 5
Off Premise Alcohol Licenses by Type

Fiscal Year	Package	Beer and Wine	Wine Only	Beer Only	Total	Pct Package
2019	1,076	415	-	36	1,527	70.5%
2021	1,077	376	47	37	1,537	70.1%
2022	1,077	408	-	34	1,519	70.9%
2023/2024 (est.)	1,277	336	-	33	1,646	77.6%

With only limited data on the number of alcohol licenses by county, it is not possible to use government data to differentiate between licensees in terms of size and employment. Detailed data on businesses able to obtain liquor licenses in Maryland were gathered from a detailed business database maintained by Data Axle.[20] These data provide not only information on the address of businesses in the United States, but also on their classification, full-time equivalent employment and estimates of sales. The Data Axle data were matched to the license counts in the different counties, and also used to estimate the total number of licensed retailers in those counties lacking data.

Table 6
Current and Potential Off-Premise Beverage Alcohol Retailers in Maryland

		Stores	Jobs	Jobs/Store
Stores Currently Selling Alcohol	Beer, Wine, Spirits	1,277	6,081	4.76
	Beer and/or Wine	369	2,133	5.78
Potential Off-Premise Alcohol Retailers	Convenience Stores	2,546	12,077	4.74
	Variety Stores	543	4,898	9.02
	Grocery Stores	1,272	22,932	18.03
	Supermarkets and Sup	475	44,254	93.17
	Warehouse Clubs	39	6,766	173.49

Based on these data, package stores in Maryland tend to be small businesses, though there are retailers with as many as 50 jobs. Among the small number of food retailers that are licensed to sell beer and wine are a handful of supermarkets and grocery stores, as well as a large number of smaller corner convenience stores. Combining data from the Federal government's Supplemental Nutrition Assistant Program (SNAP) and the Infogroup database, gives a list of food retailers in the state, including their location, type, and employment levels. There are about 4,875 food retailers in the Old Line State.

Table 6 shows the current number of licensed stores (and their associated employment) as well as the number of food stores that could be licensed to sell wine and spirits under an expansion of the licensing regime.

Overall, food retailers in Maryland provide over 90,900 full-time equivalent jobs, paying almost $3.9 billion in wages and benefits. In addition, more than 18,650 jobs are generated in Maryland based firms that supply grocery retailers with services and equipment that they need to operate like shelving, electricity, or accounting services.[21] The re-spending of wages received by the 90,927 food retail

[20] Data Axle is the leading provider of business and consumer data for the top search engines and leading in-car navigation systems in North America. Data Axle gathers data from a variety of sources, by sourcing, refining, matching, appending, filtering, and delivering the best quality data. The company verifies its data at the rate of almost 100,000 phone calls per day to ensure absolute accuracy. Where jobs are not available, median job numbers were used.

[21] Note that this does not include jobs in companies that provide the products that are sold in the stores like meat, vegetables or milk.

employees and the 18,652 people working in supplier firms generates an additional 19,320 jobs in the Maryland economy.[22]

Table 7
Economic Impact of the Food Retailing Industry in Maryland

	Direct	Supplier	Induced	Total
Jobs	90,927	18,652	19,321	128,899
Wages	$ 3,857,834,658	$ 1,158,222,457	$ 1,156,062,486	$ 6,172,119,601
Economic Output	$ 8,956,106,125	$ 3,709,528,417	$ 3,586,525,132	$ 16,252,159,674
Federal Taxes				$ 1,497,746,923
State and Local Taxes				$ 1,566,870,746

All told, the grocery retailing industry creates nearly $16.3 billion in economic activity in the state and generates close to $1.6 billion in various state and local taxes (not including excise and sales taxes on the products sold to consumers). Table 8 outlines the overall economic impact of the grocery industry in the state.[23]

Table 8
Economic Impact of the Off-Premise Alcohol Retailing Industry in Maryland
Including Jobs from Alcohol Sales from Food Retailers Licensed to Sell Beer and Wine

	Direct	Supplier	Induced	Total
Jobs	8,214	1,674	1,747	11,635
Wages	$ 350,066,728	$ 102,924,175	$ 104,537,077	$ 557,527,980
Economic Output	$ 801,431,184	$ 333,247,460	$ 324,307,534	$ 1,458,986,179
Federal Taxes				$ 135,053,122
State and Local Taxes				$ 136,106,695

While grocery retailers are responsible for over 90,900 full-time equivalent jobs in Maryland, the off-premise alcohol retailing industry is much smaller. The 1,646 stores in the state employ about 8,210 full-time equivalent workers and pay just under $350.1 million in wages and benefits.[24] In total, about 11,635 full-time equivalent positions in the state are dependent on off-premise alcohol sales. These stores generate just under $1.46 billion in economic activity and drive about $136.1 million in state and local taxes (again not including sales and excise taxes on the products which are directly paid by consumers).

Measuring Potential Additional Sales from Expanded Food Retailers Licensure

While it is impossible to know which of Maryland's 4,875 food retailers that do not currently sell beer or wine would purchase licenses were the state to open up the sale of beer and wine by food retailers, the effect this change would have on the industry, and thus the state and local economies, can be estimated using data from other jurisdictions where similar proposals were implemented.

The current volume and dollar sales of beer, wine and spirits in Maryland can be calculated by multiplying the average prices by the volume data shown in Table 9 on the following page.

These numbers represent the current sales of beer and wine by package stores and other retailers currently licensed to sell these products in Maryland. A mathematical model is used to derive the impact of a

[22] Often economic impact studies present results with very large multipliers – as high as 4 or 5. These studies invariably include the firms supplying the supplier industries as part of the induced impact. John Dunham & Associates believes that this is not an appropriate definition of the induced impact and as such limits this calculation to only the effect of spending by direct and supplier employees. Multipliers have fallen dramatically throughout the economy over the past few years reflecting stagnant income levels, higher levels of saving, and lower levels of spending.

[23] Detailed data by state legislative district can be found in the Appendix.

[24] Job numbers are from Data Axle. Where jobs are not available estimated using median job numbers.

modernization of the sales restrictions on overall beverage alcohol sales, and specifically which of these sales will transfer to food retailers. This model examines those states that have passed measures reducing restrictions on food retailers selling alcohol, in order to predict the percent change that will occur to alcohol sales if Maryland implements similar measures. Table 10 presents the output of seasonally adjusted semi-logarithmic regression models to measure such changes based on monthly sales data in both Colorado and Oklahoma.[25]

Table 9
Beer and Wine Sales in Maryland

Product Volume (Gallons)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	% Change (2019-2023)
Spirits	10,954,279	11,011,704	10,954,279	13,407,515	14,815,694	35.3%
Wine	14,612,595	15,177,445	14,612,595	21,712,470	13,412,884	-8.2%
Beer	83,385,796	80,665,552	83,385,796	75,565,191	76,228,083	-8.6%
Total	108,952,670	106,854,701	108,952,670	110,685,176	104,456,661	-4.1%

Off Premise Share (%)	FY 2019	FY 2020	FY 2021*	FY 2022	FY 2023	% Change (2019-2023)
Spirits	71%	68%	76%	84%	87%	22%
Wine	79%	73%	75%	77%	80%	1%
Beer	77%	77%	78%	80%	82%	8%

Product Price (Gallon)	FY 2019	FY 2020	FY 2021*	FY 2022	FY 2023	% Change (2019-2023)
Spirits	$ 92.34	$ 79.26	$ 79.28	$ 79.30	$ 81.66	-11.6%
Wine	$ 69.55	$ 76.26	$ 76.28	$ 76.30	$ 78.57	13.0%
Beer	$ 18.07	$ 19.65	$ 23.67	$ 27.70	$ 28.52	57.9%

Product Sales ($)	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	% Change (2019-2023)
Spirits	$ 720,184,525	$ 591,027,439	$ 660,769,532	$ 897,932,332	$ 1,052,055,723	46.1%
Wine	$ 800,651,609	$ 844,567,890	$ 837,291,161	$ 1,280,019,322	$ 838,399,264	4.7%
Beer	$ 1,153,095,727	$ 1,213,083,718	$ 1,545,246,712	$ 1,674,824,242	$ 1,791,364,146	55.4%
Total	$ 2,673,931,861	$ 2,648,679,046	$ 3,043,307,406	$ 3,852,775,896	$ 3,681,819,132	37.7%

Using monthly data collected on employment in package stores in Oklahoma beginning in 2017, and on gallons of product sales in Colorado beginning in from Colorado, models were developed to understand how policy changes impacted both employment in alcohol retailing and sales of beer and wine products.

Table 10
Regression Outputs Measuring Impact of Policy Changes in Colorado and Oklahoma

Percent Effect on Package Store Employment

Variable Name	Coeffecient	P-Value	Signficance
Year	0.52%	0.30	Not significant
Policy Change	-4.43%	0.00	Dummy
COVID	3.35%	0.10	Dummy
January	0.00%	N/A	Dummy
February	-1.65%	N/A	Dummy
March	-1.63%	0.42	Dummy
April	-3.68%	0.08	Dummy
May	-2.02%	0.32	Dummy
June	0.07%	0.97	Dummy
July	-0.07%	0.97	Dummy
August	0.36%	0.85	Dummy
September	1.74%	0.35	Dummy
October	2.97%	0.12	Dummy
November	3.43%	0.08	Dummy
December	3.09%	0.11	Dummy
Model F Statistic:	2.675	R2:	0.496
Model Signficance:	0.990	Adjusted R2:	0.284

Percent Effect on Sales Volume (Beer)

Variable Name	Coeffecient	P-Value	Signficance
Year	-0.80%	0.02	0.97
COVID	-3.64%	0.21	Dummy
Beer	7.84%	0.00	0.99
January	-19.37%	0.00	Dummy
February	-24.01%	0.00	Dummy
March	-7.09%	0.01	Dummy
April	-6.10%	0.02	Dummy
May	7.35%	0.00	Dummy
June	17.00%	0.00	Dummy
July	8.99%	0.00	Dummy
August	16.92%	0.00	Dummy
September	0.00%	N/A	N/A
October	-6.51%	N/A	N/A
November	-10.05%	0.00	Dummy
December	-12.34%	0.00	Dummy
Model F Statistic:	49.5004	R^2:	0.8862
Model Signficance:	0.99	Adjusted R^2:	0.8571

Percent Effect on Sales Volume (Wine)

Variable Name	Coeffecient	P-Value	Signficance
Year	0.05%	0.91	Not significant
COVID	-8.96%	0.05	Dummy
Wine	-0.41%	0.89	Not significant
Jan	-45.48%	0.00	Dummy
Feb	-22.43%	0.00	Dummy
Mar	-15.90%	0.00	Dummy
Apr	-28.91%	0.00	Dummy
May	-28.06%	0.00	Dummy
Jun	-13.56%	0.00	Dummy
Jul	-26.16%	0.00	Dummy
Aug	-13.62%	0.00	Dummy
Sep	-29.67%	0.00	Dummy
Oct	-18.56%	0.00	Dummy
Nov	-9.17%	0.03	Dummy
Dec	0.00%	N/A	N/A
Model F Statistic:	13.1820	R2:	0.6746
Model Signficance:	0.99	Adjusted R2:	0.6122

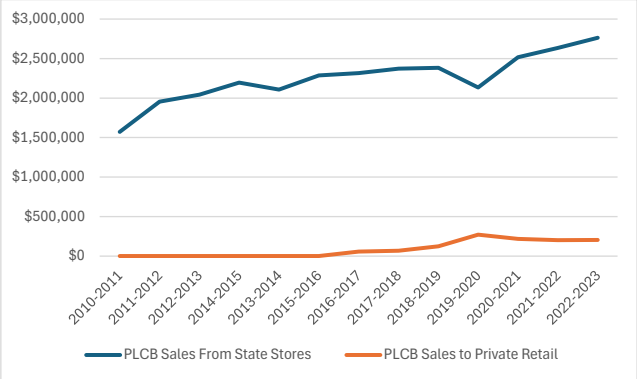
These results are then applied to Maryland to develop estimates of how changes in rules to allow more beer and wine sales in food retailers would impact the state. Data for Pennsylvania were not used as monthly statistics were not available, and because that state still maintains control of wholesaling through

[25] Note that Pennsylvania only releases annual data.

its state-owned retailers. Even so, the annual data suggests that allowing private retailers to sell wine and beer has not impacted the PLCB's own retail sales through state stores. In fact, the only decline in sales occurred during the COVID-19 pandemic, when the governor of the Commonwealth shut down state owned wine and spirits stores.

The regression models show that, despite beer and wine sales constituting a core part of package store's business, there is expected to be only a 4.4 percent decline in employment in that sector following a change in regulations that would allow for the sale of beer and wine in grocery stores.[26]

Figure 4
Sales of Wine and Spirits in Pennsylvania



These job losses in package stores would more than be made up through increased employment at food retailers, which would now be able to sell beer and wine. Based on the averages from what happened in Colorado when these retailers were first able to sell beer, and later began to sell wine, overall beer sales increased dramatically, up by about 7.8 percent. Sales of wine remained fairly constant, down by about 0.4 percent overall, however, that value was not statistically significant and may likely be more representative of the secular decline in wine sales nationally. Together, these changes would result in a net increase in beer and wine sales of about 7.5 percent, with this coming from food retailers that would now be able to offer these products. Table 11 below outlines the estimated net impact in Maryland were similar rules to be adopted in the state.

Table 11
Estimated Change in Off-Premise Beverage Alcohol Sales in Maryland

	Beer	Wine	Total
Food Retailer Sales	$ 305,174,778	$ 12,724,741	$ 317,899,518
"Cannibalized" Package Store Sales	$ (99,404,084)	$ (4,144,809)	$ (103,548,893)
Net Change in Sales	$ 205,770,693	$ 8,579,932	$ 214,350,625

Multiplying the sales figures in Table 11 by the rates from the regression models, provides an estimate of additional sales of about $317.9 million for food retailers, with an associated $103.5 million decline in sales for current retailers of alcohol, netting $214.4 million in additional sales for retailers across the state of Maryland. In volume terms, the net sales increase in Maryland is estimated to be 63.4 million additional bottles of beer and about 567,500 bottles of wine. (See Table 12 on the following page.)

A second model, generated using beer and wine excise tax collection data collected from the Colorado Department of Revenue and the Oklahoma Taxpayer Access Point, demonstrates that, while there is a small decline in employment in package liquor store employment following the passage of these laws,

[26] *Quarterly Census of Employment and Wages*, US Department of Labor, Bureau of Labor Statistics, at: https://www.bls.gov/cew/

there is a significant 7.5 percent increase in overall sales of beer and wine in these states.[27,28] This is similar to the growth in sales and tax revenues in other states that have rationalized their alcohol sales restrictions.

It should be noted that the sales lost by package stores are calculated in volume terms. It is impossible to know exactly how an individual store will react to the increased competition from grocery type retail stores selling beverage alcohol. It is possible that some package stores will go out of business, while on the other hand some may actually expand. When supermarkets began selling beer in Pennsylvania, the existing beer retailers worried that they would be devastated by the competition. This proved to be unfounded, and as the Pennsylvania Supreme Court commented, 3 years after the change went into effect, the number of active beer distributor licenses has remained steady since 2007 (when grocery stores began selling beer), despite the fact that 117 new grocery store/café licenses have been granted during that period of time.[29]

Table 12
Estimated Effect of Proposal on Beer and Wine Sales by Volume, Sales and Excise Tax Collection

	Net Volume Increase (gallons)	Net Volume Increase (bottles)	Net Sales Increase	Net Tax Increase
Beer Sales	5,944,001	63,402,681	$ 205,770,693	17,641,916
Wine Sales	112,450	567,559	$ 8,579,932	$ 753,035
Total Impcat	6,056,451	63,970,240	$ 214,350,625	$ 18,394,950

Potential Additional Tax Revenues from Additional Alcohol Sales

The higher sales volumes will come from three sources. First, and most importantly, some Maryland consumers purchase wine and spirits from retailers located outside of the state, thereby avoiding paying Maryland state excise and sales taxes. Some of these tax-avoiding sales may come home to Maryland retailers from these other jurisdictions. In addition, by opening up the market to more retailers, the state will make it more convenient for shoppers to purchase wine and spirits. Since the time involved in shopping constitutes a "cost" for consumers, this convenience factor should not be overlooked. By making it easier to purchase wine and spirits, the State will be in effect reducing the overall cost of these products, and as with all normal goods, lower costs equate to higher sales. Finally, more competition will lead to lower costs and greater variety as supermarkets and other food retailers will compete with local package stores mainly in the lower end of the market. As Table 11 shows, these three factors together should increase overall beer sales by 63.4 million 12 oz bottles (or 3.2 bottles per adult in the state), and wine sales by 567,560 750 ml bottles (or 0.03 bottles per adult).[30]

Table 13
Estimated New Revenue from Wine Sales in Food Retailers

Revenue Source	From Beer	From Wine	Total
Sales Taxes	$ 16,979,736	$ 708,055	$ 17,687,791
Excise Taxes	$ 662,179	$ 44,980	$ 707,159
Corporate Taxes	$ 12,459,218	$ 516,615	$ 12,975,834

Since Maryland's excise taxes on beer and wine are based on volumes, and sales taxes are based on overall dollar sales, these increased taxable sales will increase overall state revenues. Overall, the state of Maryland should see a net increase of about $30.3 million in new taxes from beer sales and $1.3 million from wine sales (this is net of any lost sales from package stores). Total revenue for the state can be expected to increase by up to $31.6 million.

27 Colorado Department of Revenue, Liquor Excise Taxes, https://www.colorado.gov/pacific/revenue/colorado-liquor-excise-taxes
28 *Daily Report of Taxes Collected*, Oklahoma Tax Commission, at: https://oktap.tax.ok.gov/OkTAP/Web/_/#15
29 Malt. Beverages. Distributors. Ass'n. v. PA Liquor Control Board, 8 A. 3d 885 (Pa. 2010) ("Wegmans").
30 Op. cit. Footnote 12.

Economic Impact of Additional Alcohol Sales

The change in sales volumes can be used to estimate the larger impact on jobs, wages, and the Maryland economy using IMPLAN, an input-output analysis model designed for performing impact analyses.[31] As Table 14 on the following page shows, JDA estimates that 753 new jobs (on net) would be directly created in the retailing sectors as a result of the change in sales, with supermarkets gaining about 1,117 jobs and package stores losing 364 jobs. The bulk of the impact would come from shifts in beer sales from package stores to food retailers.

Table 14
Estimated Direct Economic Impact in Terms of Jobs

	Food Retailers	Package Stores	Total
Jobs from Beer Sales	1,073	(349)	723
Jobs from Wine Sales	45	(15)	30
Total Job Change	1,117	(364)	753

These new retail jobs will also create new economic activity from supplier jobs in the state. In addition to the 753 new jobs created in retailing locations, this loosening of sales restrictions will create 154 additional jobs in firms that supply those retailers with the goods and services that they need to operate, and an additional 160 full-time equivalent jobs will be created throughout the state as a result of the re-spending of employee wages. All told, workers in Maryland will receive over $51.1 million in additional wages and benefits as a result of this change and the state economy will grow by $134.6 million.

In addition to the $18.4 million in on-going additional revenues that the State would receive from excise and sales taxes paid by consumers, state and local governments will receive nearly $13.0 million in additional business and personal tax revenues (for example property taxes, income taxes, gasoline excise taxes) resulting from the increased employment and economic activity.

Table 15
Estimated Economic Impact from Change

	Direct	Supplier	Induced	Total
Jobs	753	154	160	1,067
Wages	$31,948,151	$9,591,667	$9,573,780	$51,113,597
Economic Output	$74,168,816	$30,719,972	$29,701,337	$134,590,124
Federal Taxes				$12,403,394
State and Local Taxes				$12,975,834

Conclusions

In the past, Maryland allowed food retailers such as supermarkets to sell beverage alcohol products. This convenience to the state's consumers was ended in 1978 when the state adopted regulations designed to protect package stores from competition. Maryland has an opportunity to abolish this anti-consumer policy and create a "win-win" scenario by opening up beer and wine sales to more food retailers. Not only will these retailers earn new revenues with which to hire new workers, but consumers gain convenience and greater access to lower-priced products. All told, as many as 753 new jobs could be created at Maryland retailers simply by eliminating these prohibition era restrictions. All told, nearly 1,070 full-time-equivalent jobs would be created.

[31] IMPLAN® model, 2022 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (2024), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078, www.IMPLAN.com.

On top of the economic benefits, the State of Maryland could benefit from additional tax revenues. It is not often that state revenues can increase without legislatively increasing tax rates, but in this case, constituents would be happy to pay taxes as they are receiving the benefit of increased convenience and lower overall costs to purchase products that they would buy normally. It is estimated that Maryland and its localities could receive as much as $13.0 million in new tax revenue as a result of this regulatory change.

While some jobs will be lost in the package store business, these losses will be more than offset by new jobs at food retailers, netting tens of millions of dollars in wages and tax revenue for the people and state of Maryland.

Table 16
Economic Impact of Package Stores by State Senate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1	187	$ 7,988,984	$ 18,289,715	131	$ 8,469,897	$ 23,562,173	318	$ 16,458,881	$ 41,851,888
MD 2	199	$ 8,471,834	$ 19,395,137	71	$ 4,413,346	$ 12,869,466	270	$ 12,885,181	$ 32,264,603
MD 3	224	$ 9,547,274	$ 21,857,214	6	$ 339,760	$ 1,054,368	230	$ 9,887,034	$ 22,911,582
MD 4	152	$ 6,496,536	$ 14,872,955	82	$ 4,972,264	$ 15,256,892	234	$ 11,468,800	$ 30,129,847
MD 5	170	$ 7,242,760	$ 16,581,335	22	$ 1,228,078	$ 3,500,937	192	$ 8,470,838	$ 20,082,272
MD 6	127	$ 5,399,148	$ 12,360,631	126	$ 9,300,392	$ 28,822,649	253	$ 14,699,540	$ 41,183,281
MD 7	119	$ 5,091,880	$ 11,657,181	78	$ 5,163,716	$ 13,711,633	197	$ 10,255,596	$ 25,368,813
MD 8	218	$ 9,305,849	$ 21,304,503	61	$ 4,008,254	$ 10,366,620	280	$ 13,314,103	$ 31,671,123
MD 9	141	$ 6,013,685	$ 13,767,533	71	$ 4,106,975	$ 12,228,231	212	$ 10,120,661	$ 25,995,763
MD 10	89	$ 3,775,014	$ 8,642,393	81	$ 4,776,212	$ 13,841,325	169	$ 8,551,226	$ 22,483,718
MD 11	230	$ 9,788,700	$ 22,409,925	32	$ 1,894,303	$ 5,722,804	262	$ 11,683,002	$ 28,132,729
MD 12	217	$ 9,261,954	$ 21,204,010	44	$ 2,680,600	$ 7,427,168	261	$ 11,942,554	$ 28,631,179
MD 13	116	$ 4,960,193	$ 11,355,702	66	$ 3,764,338	$ 10,555,779	183	$ 8,724,532	$ 21,911,481
MD 14	122	$ 5,179,671	$ 11,858,167	31	$ 1,938,656	$ 5,572,525	153	$ 7,118,327	$ 17,430,692
MD 15	73	$ 3,094,634	$ 7,084,752	28	$ 1,590,241	$ 4,778,046	101	$ 4,684,874	$ 11,862,798
MD 16	129	$ 5,508,887	$ 12,611,864	157	$ 9,638,703	$ 32,824,515	286	$ 15,147,590	$ 45,436,379
MD 17	184	$ 7,835,349	$ 17,937,990	192	$ 12,056,256	$ 38,888,695	375	$ 19,891,606	$ 56,826,685
MD 18	99	$ 4,235,917	$ 9,697,569	53	$ 3,065,922	$ 9,208,435	152	$ 7,301,839	$ 18,906,004
MD 19	62	$ 2,633,731	$ 6,029,576	47	$ 2,823,899	$ 8,379,211	109	$ 5,457,630	$ 14,408,787
MD 20	149	$ 6,342,902	$ 14,521,230	65	$ 3,962,770	$ 10,407,582	214	$ 10,305,672	$ 24,928,812
MD 21	191	$ 8,120,670	$ 18,591,194	117	$ 6,414,285	$ 17,964,109	307	$ 14,534,956	$ 36,555,302
MD 22	186	$ 7,945,088	$ 18,189,222	70	$ 3,699,479	$ 10,203,139	257	$ 11,644,567	$ 28,392,361
MD 23	111	$ 4,740,716	$ 10,853,237	17	$ 927,722	$ 2,677,373	129	$ 5,668,437	$ 13,530,611
MD 24	162	$ 6,913,544	$ 15,827,638	44	$ 2,895,055	$ 9,354,198	207	$ 9,808,599	$ 25,181,836
MD 25	190	$ 8,076,775	$ 18,490,701	65	$ 3,681,086	$ 11,158,682	255	$ 11,757,861	$ 29,649,383
MD 26	103	$ 4,389,551	$ 10,049,294	23	$ 1,324,407	$ 4,095,085	126	$ 5,713,959	$ 14,144,379
MD 27	198	$ 8,427,939	$ 19,294,644	94	$ 5,333,335	$ 14,654,078	292	$ 13,761,274	$ 33,948,723
MD 28	172	$ 7,330,551	$ 16,782,321	116	$ 6,465,612	$ 19,018,743	288	$ 13,796,163	$ 35,801,064
MD 29	215	$ 9,174,163	$ 21,003,024	91	$ 5,419,479	$ 16,769,173	306	$ 14,593,641	$ 37,772,197
MD 30	255	$ 10,886,088	$ 24,922,249	47	$ 2,495,514	$ 6,738,891	302	$ 13,381,602	$ 31,661,140
MD 31	98	$ 4,170,074	$ 9,546,829	19	$ 1,113,903	$ 3,111,607	117	$ 5,283,977	$ 12,658,436
MD 32	160	$ 6,803,805	$ 15,576,405	117	$ 7,000,195	$ 21,170,009	277	$ 13,804,000	$ 36,746,414
MD 33	132	$ 5,618,626	$ 12,863,096	55	$ 2,974,871	$ 8,632,633	187	$ 8,593,497	$ 21,495,729
MD 34	200	$ 8,515,730	$ 19,495,630	74	$ 4,491,681	$ 13,531,365	273	$ 13,007,411	$ 33,026,995
MD 35	110	$ 4,696,820	$ 10,752,744	27	$ 1,650,109	$ 4,629,124	138	$ 6,346,929	$ 15,381,868
MD 36	363	$ 15,451,221	$ 35,373,514	23	$ 1,325,072	$ 3,719,308	386	$ 16,776,293	$ 39,092,823
MD 37	421	$ 17,931,318	$ 41,051,365	87	$ 5,826,193	$ 18,308,376	508	$ 23,757,510	$ 59,359,742
MD 38	534	$ 22,759,824	$ 52,105,589	109	$ 6,325,249	$ 18,502,102	643	$ 29,085,073	$ 70,607,691
MD 39	90	$ 3,840,858	$ 8,793,132	35	$ 2,089,538	$ 6,242,572	125	$ 5,930,395	$ 15,035,704
MD 40	312	$ 13,278,393	$ 30,399,114	48	$ 3,143,644	$ 8,711,585	360	$ 16,422,037	$ 39,110,699
MD 41	138	$ 5,881,999	$ 13,466,054	14	$ 793,465	$ 2,776,649	152	$ 6,675,464	$ 16,242,702
MD 42	73	$ 3,094,634	$ 7,084,752	129	$ 8,184,913	$ 25,422,745	202	$ 11,279,547	$ 32,507,497
MD 43	142	$ 6,035,633	$ 13,817,779	95	$ 5,837,804	$ 14,729,096	237	$ 11,873,438	$ 28,546,875
MD 44	163	$ 6,935,491	$ 15,877,884	64	$ 3,627,697	$ 9,522,293	227	$ 10,563,189	$ 25,400,177
MD 45	155	$ 6,606,275	$ 15,124,187	54	$ 3,077,622	$ 8,996,109	209	$ 9,683,897	$ 24,120,296
MD 46	213	$ 9,086,371	$ 20,802,038	293	$ 16,309,079	$ 45,299,832	506	$ 25,395,451	$ 66,101,870
MD 47	122	$ 5,179,671	$ 11,858,167	14	$ 801,895	$ 1,998,473	136	$ 5,981,566	$ 13,856,640
Total	8,214	$ 350,066,728	$ 801,431,184	3,387	$ 203,423,489	$ 596,916,403	11,601	$ 553,490,217	$ 1,398,347,588

Table 17
Economic Impact of Package Stores by State Delegate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1A	87	$ 3,687,223	$ 8,441,407	27	$ 1,400,857	$ 3,676,960	114	$ 5,088,080	$ 12,118,367
MD 1B	51	$ 2,194,776	$ 5,024,647	2	$ 106,127	$ 337,298	53	$ 2,300,903	$ 5,361,945
MD 1C	49	$ 2,106,985	$ 4,823,661	30	$ 1,862,899	$ 5,642,318	79	$ 3,969,884	$ 10,465,979
MD 2A	88	$ 3,731,119	$ 8,541,900	33	$ 1,976,467	$ 5,979,060	120	$ 5,707,586	$ 14,520,960
MD 2B	111	$ 4,740,716	$ 10,853,237	223	$ 13,518,051	$ 39,426,364	334	$ 18,258,766	$ 50,279,601
MD 3	224	$ 9,547,274	$ 21,857,214	15	$ 863,358	$ 2,701,315	239	$ 10,410,632	$ 24,558,529
MD 4	152	$ 6,496,536	$ 14,872,955	131	$ 8,769,778	$ 24,861,769	283	$ 15,266,314	$ 39,734,724
MD 5	170	$ 7,242,760	$ 16,581,335	30	$ 1,858,138	$ 5,202,804	200	$ 9,100,898	$ 21,784,139
MD 6	127	$ 5,399,148	$ 12,360,631	17	$ 977,127	$ 3,057,393	143	$ 6,376,276	$ 15,418,024
MD 7A	78	$ 3,336,059	$ 7,637,463	77	$ 4,578,252	$ 15,188,448	156	$ 7,914,312	$ 22,825,911
MD 7B	41	$ 1,755,821	$ 4,019,718	4	$ 190,325	$ 503,176	45	$ 1,946,146	$ 4,522,893
MD 8	218	$ 9,305,849	$ 21,304,503	24	$ 1,477,601	$ 4,548,761	242	$ 10,783,450	$ 25,853,264
MD 9A	118	$ 5,047,984	$ 11,556,688	129	$ 7,189,967	$ 20,204,408	247	$ 12,237,951	$ 31,761,096
MD 9B	23	$ 965,701	$ 2,210,845	14	$ 670,516	$ 1,908,372	37	$ 1,636,217	$ 4,119,216
MD 10	89	$ 3,775,014	$ 8,642,393	42	$ 2,717,569	$ 9,194,888	131	$ 6,492,584	$ 17,837,281
MD 11A	12	$ 526,746	$ 1,205,915	2	$ 106,179	$ 317,005	14	$ 632,925	$ 1,522,920
MD 11B	217	$ 9,261,954	$ 21,204,010	125	$ 7,952,624	$ 23,238,882	342	$ 17,214,578	$ 44,442,892
MD 12A	179	$ 7,637,820	$ 17,485,771	0	$ 23,380	$ 58,760	180	$ 7,661,199	$ 17,544,532
MD 12B	38	$ 1,624,134	$ 3,718,239	37	$ 2,750,343	$ 8,776,356	75	$ 4,374,477	$ 12,494,595
MD 13	116	$ 4,960,193	$ 11,355,702	30	$ 1,990,568	$ 6,685,374	146	$ 6,950,761	$ 18,041,076
MD 14	122	$ 5,179,671	$ 11,858,167	72	$ 3,980,617	$ 11,124,818	194	$ 9,160,288	$ 22,982,985
MD 15	73	$ 3,094,634	$ 7,084,752	28	$ 1,566,820	$ 4,643,174	101	$ 4,661,454	$ 11,727,926
MD 16	129	$ 5,508,887	$ 12,611,864	112	$ 6,590,022	$ 19,678,392	241	$ 12,098,909	$ 32,290,256
MD 17	184	$ 7,835,349	$ 17,937,990	6	$ 309,829	$ 821,479	190	$ 8,145,179	$ 18,759,468
MD 18	99	$ 4,235,917	$ 9,697,569	5	$ 223,500	$ 1,106,219	104	$ 4,459,417	$ 10,803,787
MD 19	62	$ 2,633,731	$ 6,029,576	5	$ 251,207	$ 695,180	66	$ 2,884,938	$ 6,724,757
MD 20	149	$ 6,342,902	$ 14,521,230	172	$ 10,383,081	$ 31,922,194	321	$ 16,725,983	$ 46,443,423
MD 21	191	$ 8,120,670	$ 18,591,194	17	$ 1,063,477	$ 2,891,447	208	$ 9,184,148	$ 21,482,641
MD 22	186	$ 7,945,088	$ 18,189,222	1	$ 69,897	$ 198,417	188	$ 8,014,985	$ 18,387,639
MD 23	111	$ 4,740,716	$ 10,853,237	91	$ 4,821,790	$ 12,847,515	202	$ 9,562,505	$ 23,700,753
MD 24	162	$ 6,913,544	$ 15,827,638	0	$ 6,893	$ 12,959	162	$ 6,920,436	$ 15,840,596
MD 25	190	$ 8,076,775	$ 18,490,701	26	$ 1,530,947	$ 4,793,966	216	$ 9,607,722	$ 23,284,667
MD 26	103	$ 4,389,551	$ 10,049,294	76	$ 4,420,623	$ 13,347,074	179	$ 8,810,175	$ 23,396,368
MD 27A	41	$ 1,755,821	$ 4,019,718	27	$ 1,460,526	$ 4,056,525	68	$ 3,216,346	$ 8,076,243
MD 27B	74	$ 3,160,477	$ 7,235,492	38	$ 2,323,490	$ 8,513,258	113	$ 5,483,968	$ 15,748,749
MD 27C	82	$ 3,511,641	$ 8,039,435	38	$ 2,660,451	$ 10,151,206	121	$ 6,172,093	$ 18,190,641
MD 28	172	$ 7,330,551	$ 16,782,321	21	$ 1,164,376	$ 3,198,444	193	$ 8,494,927	$ 19,980,765
MD 29A	91	$ 3,862,805	$ 8,843,379	12	$ 700,541	$ 2,230,498	103	$ 4,563,346	$ 11,073,877
MD 29B	57	$ 2,414,253	$ 5,527,112	9	$ 568,222	$ 1,835,953	66	$ 2,982,476	$ 7,363,065
MD 29C	68	$ 2,897,104	$ 6,632,534	27	$ 1,577,690	$ 5,043,292	95	$ 4,474,794	$ 11,675,826
MD 30A	148	$ 6,320,954	$ 14,470,983	28	$ 1,557,389	$ 4,356,007	176	$ 7,878,343	$ 18,826,990
MD 30B	107	$ 4,565,134	$ 10,451,266	68	$ 4,403,669	$ 15,179,725	176	$ 8,968,802	$ 25,630,991
MD 31	98	$ 4,170,074	$ 9,546,829	71	$ 3,726,430	$ 11,050,116	169	$ 7,896,504	$ 20,596,945
MD 32	160	$ 6,803,805	$ 15,576,405	74	$ 4,431,956	$ 12,378,355	233	$ 11,235,761	$ 27,954,760
MD 33A	40	$ 1,711,925	$ 3,919,225	1	$ 51,484	$ 152,159	41	$ 1,763,409	$ 4,071,384
MD 33B	55	$ 2,326,462	$ 5,326,126	45	$ 2,581,251	$ 7,355,438	99	$ 4,907,713	$ 12,681,564
MD 33C	37	$ 1,580,239	$ 3,617,746	45	$ 2,484,594	$ 7,030,927	82	$ 4,064,833	$ 10,648,673
MD 34A	104	$ 4,433,447	$ 10,149,787	14	$ 727,754	$ 2,003,263	118	$ 5,161,201	$ 12,153,049
MD 34B	96	$ 4,082,283	$ 9,345,843	5	$ 228,557	$ 560,068	101	$ 4,310,840	$ 9,905,912
MD 35A	61	$ 2,589,835	$ 5,929,083	26	$ 1,337,335	$ 3,618,992	87	$ 3,927,170	$ 9,548,075
MD 35B	49	$ 2,106,985	$ 4,823,661	68	$ 3,963,178	$ 11,719,269	118	$ 6,070,163	$ 16,542,930
MD 36	363	$ 15,451,221	$ 35,373,514	85	$ 4,927,338	$ 14,282,754	448	$ 20,378,560	$ 49,656,268
MD 37A	179	$ 7,615,872	$ 17,435,525	9	$ 617,744	$ 1,510,810	188	$ 8,233,615	$ 18,946,335
MD 37B	242	$ 10,315,446	$ 23,615,841	426	$ 27,624,855	$ 75,249,249	668	$ 37,940,301	$ 98,865,089
MD 38A	149	$ 6,342,902	$ 14,521,230	6	$ 347,847	$ 979,647	155	$ 6,690,749	$ 15,500,877
MD 38B	79	$ 3,379,955	$ 7,737,956	2	$ 121,591	$ 541,401	81	$ 3,501,546	$ 8,279,358
MD 38C	306	$ 13,036,968	$ 29,846,403	14	$ 680,673	$ 1,975,542	319	$ 13,717,640	$ 31,821,944
MD 39	90	$ 3,840,858	$ 8,793,132	40	$ 2,515,460	$ 7,222,237	131	$ 6,356,317	$ 16,015,369
MD 40	312	$ 13,278,393	$ 30,399,114	0	$ 25,111	$ 65,357	312	$ 13,303,504	$ 30,464,471
MD 41	138	$ 5,881,999	$ 13,466,054	38	$ 2,177,167	$ 6,359,207	176	$ 8,059,166	$ 19,825,261
MD 42A	41	$ 1,733,873	$ 3,969,471	44	$ 2,640,878	$ 8,123,991	85	$ 4,374,751	$ 12,093,462
MD 42B	5	$ 219,478	$ 502,465	2	$ 101,176	$ 314,732	7	$ 320,653	$ 817,196
MD 42C	27	$ 1,141,283	$ 2,612,816	24	$ 1,453,215	$ 4,022,056	51	$ 2,594,499	$ 6,634,872
MD 43A	119	$ 5,069,932	$ 11,606,934	19	$ 1,097,615	$ 3,402,851	138	$ 6,167,547	$ 15,009,786
MD 43B	23	$ 965,701	$ 2,210,845	12	$ 718,297	$ 2,074,130	35	$ 1,683,998	$ 4,284,975
MD 44A	31	$ 1,316,865	$ 3,014,788	5	$ 270,520	$ 773,705	36	$ 1,587,385	$ 3,788,493
MD 44B	132	$ 5,618,626	$ 12,863,096	15	$ 857,681	$ 2,488,952	147	$ 6,476,307	$ 15,352,048
MD 45	155	$ 6,606,275	$ 15,124,187	26	$ 1,563,027	$ 4,535,975	181	$ 8,169,302	$ 19,660,162
MD 46	213	$ 9,086,371	$ 20,802,038	392	$ 22,998,772	$ 65,434,373	605	$ 32,085,143	$ 86,236,411
MD 47A	99	$ 4,213,969	$ 9,647,322	9	$ 509,375	$ 1,465,037	108	$ 4,723,344	$ 11,112,359
MD 47B	23	$ 965,701	$ 2,210,845	1	$ 28,983	$ 78,296	23	$ 994,684	$ 2,289,140
Total	8,214	$ 350,066,728	$ 801,431,184	3,387	$ 203,425,045	$ 596,926,343	11,601	$ 553,491,773	$ 1,398,357,527

Table 18
Economic Impact of Food Retailers by State Senate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1	3,244	$ 137,620,575	$ 319,491,266	1,450	$ 94,358,675	$ 261,792,316	4,693	$ 231,979,250	$ 581,283,582
MD 2	3,730	$ 158,267,091	$ 367,422,917	785	$ 48,917,270	$ 142,391,729	4,516	$ 207,184,361	$ 509,814,646
MD 3	3,514	$ 149,075,619	$ 346,084,574	69	$ 3,765,616	$ 11,634,814	3,583	$ 152,841,235	$ 357,719,388
MD 4	725	$ 30,775,427	$ 71,446,294	906	$ 55,329,629	$ 169,115,675	1,631	$ 86,105,056	$ 240,561,969
MD 5	1,745	$ 74,057,658	$ 171,927,597	240	$ 13,712,455	$ 38,935,205	1,985	$ 87,770,113	$ 210,862,803
MD 6	1,662	$ 70,513,682	$ 163,700,127	1,394	$ 103,666,757	$ 319,249,048	3,056	$ 174,180,440	$ 482,949,175
MD 7	856	$ 36,308,602	$ 84,291,764	875	$ 59,083,281	$ 155,007,737	1,731	$ 95,391,882	$ 239,299,501
MD 8	2,693	$ 114,253,201	$ 265,243,039	684	$ 45,453,227	$ 116,580,420	3,377	$ 159,706,427	$ 381,823,459
MD 9	1,231	$ 52,245,060	$ 121,288,842	783	$ 45,611,607	$ 135,319,811	2,014	$ 97,856,667	$ 256,608,653
MD 10	688	$ 29,174,922	$ 67,730,662	895	$ 53,290,283	$ 153,555,348	1,582	$ 82,465,205	$ 221,286,010
MD 11	2,328	$ 98,774,030	$ 229,307,571	358	$ 21,348,222	$ 64,058,280	2,686	$ 120,122,252	$ 293,365,851
MD 12	1,992	$ 84,506,670	$ 196,185,366	482	$ 29,675,356	$ 82,049,846	2,474	$ 114,182,026	$ 278,235,212
MD 13	3,322	$ 140,958,772	$ 327,241,012	728	$ 41,417,621	$ 116,063,016	4,050	$ 182,376,393	$ 443,304,028
MD 14	1,132	$ 48,015,153	$ 111,468,958	348	$ 21,900,617	$ 62,293,174	1,480	$ 69,915,771	$ 173,762,132
MD 15	792	$ 33,610,607	$ 78,028,271	316	$ 17,709,407	$ 53,036,697	1,108	$ 51,320,014	$ 131,064,967
MD 16	2,396	$ 101,654,939	$ 235,995,708	1,741	$ 106,871,824	$ 362,087,676	4,137	$ 208,526,763	$ 598,083,384
MD 17	2,610	$ 110,732,089	$ 257,068,649	2,122	$ 134,123,496	$ 430,589,327	4,731	$ 244,855,585	$ 687,657,976
MD 18	2,656	$ 112,698,424	$ 261,633,568	583	$ 34,018,873	$ 101,975,360	3,239	$ 146,717,297	$ 363,608,928
MD 19	1,688	$ 71,611,172	$ 166,247,989	522	$ 31,390,035	$ 92,804,825	2,210	$ 103,001,206	$ 259,052,814
MD 20	2,182	$ 92,577,789	$ 214,922,767	724	$ 43,956,745	$ 115,230,142	2,906	$ 136,534,534	$ 330,152,909
MD 21	2,184	$ 92,646,382	$ 215,082,008	1,300	$ 71,626,151	$ 199,837,412	3,484	$ 164,272,533	$ 414,919,420
MD 22	2,253	$ 95,595,884	$ 221,929,387	777	$ 41,064,506	$ 113,001,596	3,030	$ 136,660,390	$ 334,930,983
MD 23	2,015	$ 85,512,702	$ 198,520,906	194	$ 10,365,978	$ 29,746,143	2,209	$ 95,878,679	$ 228,267,049
MD 24	2,236	$ 94,887,089	$ 220,283,893	496	$ 32,846,349	$ 104,618,657	2,732	$ 127,733,438	$ 324,902,550
MD 25	1,872	$ 79,407,918	$ 184,348,424	731	$ 41,620,137	$ 125,106,087	2,602	$ 121,028,055	$ 309,454,512
MD 26	1,967	$ 83,454,909	$ 193,743,665	261	$ 14,815,218	$ 45,538,337	2,228	$ 98,270,127	$ 239,282,002
MD 27	1,797	$ 76,252,636	$ 177,023,321	1,036	$ 59,029,914	$ 161,971,515	2,833	$ 135,282,550	$ 338,994,836
MD 28	1,361	$ 57,755,370	$ 134,081,232	1,288	$ 71,879,641	$ 210,593,919	2,649	$ 129,635,011	$ 344,675,151
MD 29	1,947	$ 82,586,064	$ 191,726,608	1,001	$ 60,040,851	$ 185,088,684	2,948	$ 142,626,915	$ 376,815,292
MD 30	1,643	$ 69,713,430	$ 161,842,311	521	$ 27,799,854	$ 74,853,216	2,164	$ 97,513,284	$ 236,695,526
MD 31	1,616	$ 68,547,348	$ 159,135,208	210	$ 12,523,053	$ 34,721,862	1,825	$ 81,070,400	$ 193,857,070
MD 32	2,473	$ 104,924,542	$ 243,586,213	1,299	$ 78,070,423	$ 235,089,618	3,772	$ 182,994,966	$ 478,675,832
MD 33	955	$ 40,515,644	$ 94,058,568	609	$ 33,192,290	$ 96,040,807	1,564	$ 73,707,933	$ 190,099,375
MD 34	1,265	$ 53,662,650	$ 124,579,831	812	$ 49,812,614	$ 149,711,012	2,077	$ 103,475,264	$ 274,290,842
MD 35	1,435	$ 60,864,923	$ 141,300,174	304	$ 18,460,745	$ 51,503,560	1,739	$ 79,325,668	$ 192,803,735
MD 36	2,277	$ 96,624,780	$ 224,318,008	259	$ 14,805,365	$ 41,329,548	2,536	$ 111,430,145	$ 265,647,555
MD 37	3,026	$ 128,383,374	$ 298,046,761	971	$ 65,089,305	$ 202,922,345	3,997	$ 193,472,679	$ 500,969,106
MD 38	3,595	$ 152,528,137	$ 354,099,723	1,212	$ 70,416,781	$ 205,415,993	4,807	$ 222,944,918	$ 559,515,716
MD 39	2,543	$ 107,896,909	$ 250,486,673	384	$ 23,254,208	$ 69,187,140	2,927	$ 131,151,117	$ 319,673,813
MD 40	1,283	$ 54,417,174	$ 126,331,486	532	$ 34,839,394	$ 96,306,753	1,814	$ 89,256,568	$ 222,638,239
MD 41	1,247	$ 52,908,126	$ 122,828,176	157	$ 8,930,257	$ 30,930,041	1,404	$ 61,838,383	$ 153,758,216
MD 42	1,304	$ 55,331,748	$ 128,454,704	1,438	$ 91,899,431	$ 283,394,811	2,742	$ 147,231,179	$ 411,849,515
MD 43	974	$ 41,338,761	$ 95,969,465	1,063	$ 65,482,873	$ 164,400,832	2,037	$ 106,821,633	$ 260,370,297
MD 44	1,464	$ 62,099,598	$ 144,166,519	717	$ 40,849,696	$ 106,598,669	2,180	$ 102,949,294	$ 250,765,188
MD 45	917	$ 38,915,139	$ 90,342,936	597	$ 34,286,522	$ 99,947,392	1,515	$ 73,201,661	$ 190,290,329
MD 46	2,291	$ 97,219,253	$ 225,698,100	3,263	$ 182,659,833	$ 504,599,419	5,555	$ 279,879,086	$ 730,297,518
MD 47	1,801	$ 76,412,687	$ 177,394,884	159	$ 8,957,081	$ 22,268,609	1,960	$ 85,369,768	$ 199,663,493
Total	90,927	$ 3,857,834,658	$ 8,956,106,125	37,597	$ 2,270,219,465	$ 6,628,494,424	128,524	$ 6,128,054,124	$ 15,584,600,548

Table 19
Economic Impact of Food Retailers by State Delegate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1A	1,109	$ 47,054,850	$ 109,239,579	305	$ 15,646,966	$ 40,894,145	1,414	$ 62,701,817	$ 150,133,724
MD 1B	1,346	$ 57,115,168	$ 132,594,979	19	$ 1,176,143	$ 3,738,075	1,365	$ 58,291,311	$ 136,333,055
MD 1C	788	$ 33,450,557	$ 77,656,707	328	$ 20,695,701	$ 62,478,574	1,117	$ 54,146,258	$ 140,135,282
MD 2A	1,641	$ 69,644,837	$ 161,683,069	363	$ 21,932,732	$ 66,208,767	2,004	$ 91,577,569	$ 227,891,836
MD 2B	2,089	$ 88,622,255	$ 205,739,848	2,468	$ 150,628,226	$ 437,425,697	4,557	$ 239,250,481	$ 643,165,546
MD 3	3,514	$ 149,075,619	$ 346,084,574	164	$ 9,639,016	$ 30,077,007	3,678	$ 158,714,635	$ 376,161,581
MD 4	725	$ 30,775,427	$ 71,446,294	1,452	$ 98,062,044	$ 276,598,547	2,177	$ 128,837,471	$ 348,044,841
MD 5	1,745	$ 74,057,658	$ 171,927,597	335	$ 20,607,162	$ 57,562,363	2,081	$ 94,664,820	$ 229,489,960
MD 6	1,662	$ 70,513,682	$ 163,700,127	185	$ 10,894,800	$ 34,002,693	1,847	$ 81,408,482	$ 197,702,820
MD 7A	515	$ 21,858,327	$ 50,744,916	855	$ 50,909,926	$ 168,100,549	1,370	$ 72,768,253	$ 218,845,465
MD 7B	341	$ 14,450,275	$ 33,546,848	41	$ 2,119,868	$ 5,591,882	382	$ 16,570,142	$ 39,138,730
MD 8	2,693	$ 114,253,201	$ 265,243,039	265	$ 16,449,039	$ 50,460,123	2,958	$ 130,702,239	$ 315,703,162
MD 9A	947	$ 40,195,543	$ 93,315,442	1,436	$ 80,538,742	$ 225,110,397	2,384	$ 120,734,284	$ 318,425,839
MD 9B	284	$ 12,049,517	$ 27,973,400	155	$ 7,448,548	$ 21,160,013	439	$ 19,498,065	$ 49,133,413
MD 10	688	$ 29,174,922	$ 67,730,662	466	$ 30,083,843	$ 101,632,197	1,154	$ 59,258,765	$ 169,362,859
MD 11A	719	$ 30,523,919	$ 70,862,409	21	$ 1,177,252	$ 3,507,622	740	$ 31,701,171	$ 74,370,031
MD 11B	1,609	$ 68,250,111	$ 158,445,162	1,386	$ 89,163,328	$ 258,919,999	2,994	$ 157,413,439	$ 417,365,160
MD 12A	863	$ 36,628,703	$ 85,034,891	5	$ 263,463	$ 658,449	868	$ 36,892,166	$ 85,693,340
MD 12B	1,128	$ 47,877,967	$ 111,150,475	410	$ 30,515,649	$ 97,032,325	1,539	$ 78,393,616	$ 208,182,800
MD 13	3,322	$ 140,958,772	$ 327,241,012	334	$ 22,392,605	$ 74,276,490	3,656	$ 163,351,377	$ 401,517,502
MD 14	1,132	$ 48,015,153	$ 111,468,958	800	$ 44,155,369	$ 123,208,453	1,932	$ 92,170,522	$ 234,677,411
MD 15	792	$ 33,610,607	$ 78,028,271	310	$ 17,491,777	$ 51,593,098	1,102	$ 51,102,384	$ 129,621,368
MD 16	2,396	$ 101,654,939	$ 235,995,708	1,240	$ 73,976,254	$ 218,877,121	3,636	$ 175,631,193	$ 454,872,829
MD 17	2,610	$ 110,732,089	$ 257,068,649	67	$ 3,434,156	$ 9,091,480	2,677	$ 114,166,246	$ 266,160,130
MD 18	2,656	$ 112,698,424	$ 261,633,568	54	$ 2,455,587	$ 12,100,233	2,710	$ 115,154,012	$ 273,733,802
MD 19	1,688	$ 71,611,172	$ 166,247,989	51	$ 2,796,199	$ 7,710,727	1,739	$ 74,407,371	$ 173,958,716
MD 20	2,182	$ 92,577,789	$ 214,922,767	1,909	$ 116,232,861	$ 355,305,711	4,091	$ 208,810,650	$ 570,228,478
MD 21	2,184	$ 92,646,382	$ 215,082,008	189	$ 11,849,717	$ 32,179,498	2,373	$ 104,496,098	$ 247,261,506
MD 22	2,253	$ 95,595,884	$ 221,929,387	12	$ 769,310	$ 2,181,864	2,265	$ 96,365,194	$ 224,111,251
MD 23	2,015	$ 85,512,702	$ 198,520,906	1,002	$ 53,388,894	$ 142,093,585	3,018	$ 138,901,596	$ 340,614,491
MD 24	2,236	$ 94,887,089	$ 220,283,893	1	$ 76,546	$ 144,290	2,237	$ 94,963,635	$ 220,428,183
MD 25	1,872	$ 79,407,918	$ 184,348,424	292	$ 17,001,724	$ 53,023,701	2,163	$ 96,409,642	$ 237,372,125
MD 26	1,967	$ 83,454,909	$ 193,743,665	849	$ 49,129,848	$ 147,638,707	2,816	$ 132,584,757	$ 341,382,372
MD 27A	434	$ 18,405,809	$ 42,729,767	297	$ 16,323,036	$ 45,200,651	730	$ 34,728,845	$ 87,930,418
MD 27B	828	$ 35,119,655	$ 81,531,581	427	$ 25,821,809	$ 93,925,056	1,254	$ 60,941,464	$ 175,456,637
MD 27C	536	$ 22,727,173	$ 52,761,973	425	$ 29,414,679	$ 111,512,679	960	$ 52,141,852	$ 164,274,653
MD 28	1,361	$ 57,755,370	$ 134,081,232	227	$ 12,911,137	$ 35,411,016	1,589	$ 70,666,508	$ 169,492,248
MD 29A	541	$ 22,955,816	$ 53,292,778	137	$ 7,823,369	$ 24,866,842	678	$ 30,779,185	$ 78,159,620
MD 29B	903	$ 38,320,665	$ 88,962,845	101	$ 6,308,071	$ 20,391,657	1,004	$ 44,628,737	$ 109,354,501
MD 29C	502	$ 21,309,582	$ 49,470,985	295	$ 17,441,492	$ 55,703,156	798	$ 38,751,074	$ 105,174,141
MD 30A	1,265	$ 53,662,650	$ 124,579,831	309	$ 17,456,780	$ 48,575,915	1,574	$ 71,119,430	$ 173,155,746
MD 30B	378	$ 16,050,780	$ 37,262,480	758	$ 48,847,100	$ 167,461,073	1,136	$ 64,897,879	$ 204,723,553
MD 31	1,616	$ 68,547,348	$ 159,135,208	788	$ 41,371,415	$ 122,234,612	2,404	$ 109,918,763	$ 281,369,819
MD 32	2,473	$ 104,924,542	$ 243,586,213	814	$ 49,083,268	$ 136,880,434	3,287	$ 154,007,810	$ 380,466,647
MD 33A	519	$ 22,041,242	$ 51,169,560	10	$ 568,927	$ 1,676,247	529	$ 22,610,169	$ 52,845,806
MD 33B	103	$ 4,389,957	$ 10,191,448	498	$ 28,741,641	$ 81,612,630	601	$ 33,131,598	$ 91,804,078
MD 33C	332	$ 14,084,445	$ 32,697,561	500	$ 27,708,188	$ 78,173,649	832	$ 41,792,633	$ 110,871,210
MD 34A	694	$ 29,449,294	$ 68,367,628	150	$ 8,076,122	$ 22,189,130	844	$ 37,525,416	$ 90,556,758
MD 34B	571	$ 24,213,356	$ 56,212,203	53	$ 2,562,648	$ 6,271,442	624	$ 26,776,004	$ 62,483,645
MD 35A	946	$ 40,149,814	$ 93,209,281	288	$ 14,881,764	$ 40,193,253	1,234	$ 55,031,578	$ 133,402,534
MD 35B	488	$ 20,715,109	$ 48,090,893	758	$ 44,174,162	$ 130,177,044	1,246	$ 64,889,271	$ 178,267,937
MD 36	2,277	$ 96,624,780	$ 224,318,008	944	$ 54,668,344	$ 158,230,788	3,222	$ 151,293,124	$ 382,548,796
MD 37A	1,188	$ 50,393,047	$ 116,989,325	101	$ 6,873,186	$ 16,778,357	1,289	$ 57,266,233	$ 133,767,682
MD 37B	1,838	$ 77,990,328	$ 181,057,436	4,745	$ 310,725,412	$ 840,401,581	6,584	$ 388,715,739	$ 1,021,459,017
MD 38A	651	$ 27,620,145	$ 64,121,191	63	$ 3,842,362	$ 10,828,318	714	$ 31,462,507	$ 74,949,509
MD 38B	1,917	$ 81,328,524	$ 188,807,183	20	$ 1,330,222	$ 5,892,018	1,937	$ 82,658,747	$ 194,699,201
MD 38C	1,027	$ 43,579,468	$ 101,171,349	149	$ 7,628,260	$ 21,979,198	1,176	$ 51,207,728	$ 123,150,548
MD 39	2,543	$ 107,896,909	$ 250,486,673	448	$ 27,972,534	$ 80,023,158	2,991	$ 135,869,443	$ 330,509,830
MD 40	1,283	$ 54,417,174	$ 126,331,486	4	$ 274,902	$ 715,844	1,286	$ 54,692,076	$ 127,047,329
MD 41	1,247	$ 52,908,126	$ 122,828,176	418	$ 24,213,580	$ 70,432,477	1,665	$ 77,121,706	$ 193,260,653
MD 42A	333	$ 14,130,174	$ 32,803,722	491	$ 29,322,774	$ 89,843,256	824	$ 43,452,948	$ 122,646,977
MD 42B	468	$ 19,846,263	$ 46,073,836	20	$ 1,122,689	$ 3,476,165	488	$ 20,968,953	$ 49,550,000
MD 42C	503	$ 21,355,311	$ 49,577,146	271	$ 16,142,841	$ 44,606,051	774	$ 37,498,152	$ 94,183,197
MD 43A	812	$ 34,433,724	$ 79,939,167	212	$ 12,194,483	$ 37,687,254	1,023	$ 46,628,207	$ 117,626,421
MD 43B	163	$ 6,905,036	$ 16,030,298	132	$ 7,974,066	$ 22,973,948	295	$ 14,879,102	$ 39,004,246
MD 44A	647	$ 27,437,230	$ 63,696,547	52	$ 2,986,540	$ 8,532,960	699	$ 30,423,771	$ 72,229,507
MD 44B	817	$ 34,662,368	$ 80,469,972	171	$ 9,524,579	$ 27,541,504	988	$ 44,186,947	$ 108,011,476
MD 45	917	$ 38,915,139	$ 90,342,936	286	$ 17,642,048	$ 50,696,884	1,203	$ 56,557,187	$ 141,039,820
MD 46	2,291	$ 97,219,253	$ 225,698,100	4,360	$ 257,229,858	$ 727,911,214	6,651	$ 354,449,111	$ 953,609,313
MD 47A	1,485	$ 63,014,173	$ 146,289,737	102	$ 5,631,981	$ 16,162,850	1,587	$ 68,646,154	$ 162,452,587
MD 47B	316	$ 13,398,514	$ 31,105,147	6	$ 321,122	$ 866,667	321	$ 13,719,636	$ 31,971,814
Total	90,927	$ 3,857,834,658	$ 8,956,106,125	37,597	$ 2,270,240,688	$ 6,628,621,361	128,524	$ 6,128,075,347	$ 15,584,727,486

Table 20
Economic Impact of All Current Alcohol Retailers by State Senate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1	3,431	$ 145,609,559	$ 337,780,980	1,580	$ 102,828,572	$ 285,354,490	5,011	$ 248,438,131	$ 623,135,470
MD 2	3,929	$ 166,738,926	$ 386,818,055	856	$ 53,330,616	$ 155,261,195	4,785	$ 220,069,542	$ 542,079,249
MD 3	3,738	$ 158,622,893	$ 367,941,788	76	$ 4,105,376	$ 12,689,182	3,813	$ 162,728,269	$ 380,630,970
MD 4	878	$ 37,271,963	$ 86,319,249	988	$ 60,301,893	$ 184,372,567	1,865	$ 97,573,856	$ 270,691,816
MD 5	1,915	$ 81,300,418	$ 188,508,932	261	$ 14,940,533	$ 42,436,142	2,177	$ 96,240,951	$ 230,945,075
MD 6	1,789	$ 75,912,831	$ 176,060,758	1,520	$ 112,967,149	$ 348,071,698	3,309	$ 188,879,980	$ 524,132,456
MD 7	975	$ 41,400,481	$ 95,948,945	953	$ 64,246,997	$ 168,719,370	1,928	$ 105,647,478	$ 264,668,315
MD 8	2,911	$ 123,559,050	$ 286,547,542	746	$ 49,461,480	$ 126,947,040	3,657	$ 173,020,530	$ 413,494,582
MD 9	1,372	$ 58,258,745	$ 135,056,375	854	$ 49,718,582	$ 147,548,042	2,226	$ 107,977,327	$ 282,604,417
MD 10	776	$ 32,949,936	$ 76,373,055	975	$ 58,066,495	$ 167,396,673	1,752	$ 91,016,431	$ 243,769,728
MD 11	2,558	$ 108,562,730	$ 251,717,496	390	$ 23,242,525	$ 69,781,084	2,948	$ 131,805,254	$ 321,498,579
MD 12	2,209	$ 93,768,623	$ 217,389,376	526	$ 32,355,956	$ 89,477,015	2,735	$ 126,124,580	$ 306,866,391
MD 13	3,439	$ 145,918,965	$ 338,596,714	795	$ 45,181,959	$ 126,618,795	4,233	$ 191,100,924	$ 465,215,509
MD 14	1,253	$ 53,194,824	$ 123,327,125	379	$ 23,839,274	$ 67,865,699	1,633	$ 77,034,098	$ 191,192,824
MD 15	865	$ 36,705,241	$ 85,113,023	344	$ 19,299,648	$ 57,814,742	1,209	$ 56,004,889	$ 142,927,765
MD 16	2,525	$ 107,163,826	$ 248,607,572	1,898	$ 116,510,527	$ 394,912,191	4,423	$ 223,674,354	$ 643,519,763
MD 17	2,794	$ 118,567,439	$ 275,006,639	2,313	$ 146,179,752	$ 469,478,022	5,107	$ 264,747,191	$ 744,484,661
MD 18	2,756	$ 116,934,341	$ 271,331,137	636	$ 37,084,795	$ 111,183,795	3,392	$ 154,019,136	$ 382,514,932
MD 19	1,750	$ 74,244,902	$ 172,277,565	569	$ 34,213,934	$ 101,184,036	2,319	$ 108,458,836	$ 273,461,601
MD 20	2,331	$ 98,920,690	$ 229,443,997	790	$ 47,919,515	$ 125,637,724	3,120	$ 146,840,206	$ 355,081,721
MD 21	2,374	$ 100,767,052	$ 233,673,202	1,417	$ 78,040,437	$ 217,801,521	3,791	$ 178,807,488	$ 451,474,723
MD 22	2,440	$ 103,540,972	$ 240,118,609	847	$ 44,763,985	$ 123,204,735	3,287	$ 148,304,957	$ 363,323,344
MD 23	2,127	$ 90,253,417	$ 209,374,143	211	$ 11,293,699	$ 32,423,517	2,338	$ 101,547,116	$ 241,797,660
MD 24	2,399	$ 101,800,632	$ 236,111,531	540	$ 35,741,404	$ 113,972,855	2,939	$ 137,542,036	$ 350,084,385
MD 25	2,061	$ 87,484,693	$ 202,839,125	796	$ 45,301,223	$ 136,264,770	2,857	$ 132,785,915	$ 339,103,895
MD 26	2,070	$ 87,844,461	$ 203,792,959	284	$ 16,139,625	$ 49,633,422	2,354	$ 103,984,086	$ 253,426,381
MD 27	1,995	$ 84,680,575	$ 196,317,965	1,130	$ 64,363,249	$ 176,625,593	3,125	$ 149,043,824	$ 372,943,558
MD 28	1,533	$ 65,085,921	$ 150,863,553	1,404	$ 78,345,253	$ 229,612,662	2,937	$ 143,431,174	$ 380,476,215
MD 29	2,162	$ 91,760,226	$ 212,729,632	1,092	$ 65,460,330	$ 201,857,857	3,253	$ 157,220,556	$ 414,587,489
MD 30	1,899	$ 80,599,517	$ 186,764,560	568	$ 30,295,369	$ 81,592,107	2,467	$ 110,894,886	$ 268,356,666
MD 31	1,713	$ 72,717,421	$ 168,682,037	229	$ 13,636,956	$ 37,833,470	1,942	$ 86,354,377	$ 206,515,506
MD 32	2,633	$ 111,728,347	$ 259,162,619	1,416	$ 85,070,619	$ 256,259,627	4,049	$ 196,798,966	$ 515,422,246
MD 33	1,087	$ 46,134,270	$ 106,921,664	664	$ 36,167,160	$ 104,673,440	1,750	$ 82,301,430	$ 211,595,105
MD 34	1,465	$ 62,178,380	$ 144,075,461	886	$ 54,304,295	$ 163,242,376	2,350	$ 116,482,675	$ 307,317,837
MD 35	1,545	$ 65,561,743	$ 152,052,919	332	$ 20,110,854	$ 56,132,684	1,876	$ 85,672,597	$ 208,185,603
MD 36	2,640	$ 112,076,001	$ 259,691,522	282	$ 16,130,437	$ 45,048,856	2,922	$ 128,206,438	$ 304,740,378
MD 37	3,447	$ 146,314,692	$ 339,098,127	1,059	$ 70,915,497	$ 221,230,721	4,505	$ 217,230,189	$ 560,328,848
MD 38	4,129	$ 175,287,961	$ 406,205,312	1,321	$ 76,742,030	$ 223,918,095	5,450	$ 252,029,991	$ 630,123,407
MD 39	2,633	$ 111,737,766	$ 259,279,805	419	$ 25,343,745	$ 75,429,712	3,052	$ 137,081,512	$ 334,709,516
MD 40	1,594	$ 67,695,567	$ 156,730,600	580	$ 37,983,038	$ 105,018,338	2,174	$ 105,678,605	$ 261,748,937
MD 41	1,385	$ 58,790,125	$ 136,294,229	172	$ 9,723,722	$ 33,706,689	1,557	$ 68,513,848	$ 170,000,918
MD 42	1,377	$ 58,426,382	$ 135,539,456	1,568	$ 100,084,344	$ 308,817,556	2,944	$ 158,510,726	$ 444,357,012
MD 43	1,116	$ 47,374,394	$ 109,787,244	1,158	$ 71,320,677	$ 179,129,928	2,274	$ 118,695,071	$ 288,917,172
MD 44	1,626	$ 69,035,090	$ 160,044,403	781	$ 44,477,393	$ 116,120,962	2,407	$ 113,512,483	$ 276,165,365
MD 45	1,072	$ 45,521,414	$ 105,467,124	651	$ 37,364,145	$ 108,943,501	1,723	$ 82,885,558	$ 214,410,625
MD 46	2,505	$ 106,305,625	$ 246,500,138	3,556	$ 198,968,912	$ 549,899,250	6,060	$ 305,274,537	$ 796,399,388
MD 47	1,923	$ 81,592,358	$ 189,253,051	173	$ 9,758,976	$ 24,267,082	2,096	$ 91,351,334	$ 213,520,133
Total	99,141	$ 4,207,901,386	$ 9,757,537,309	40,984	$ 2,473,642,954	$ 7,225,410,827	140,125	$ 6,681,544,340	$ 16,982,948,136

Table 21
Economic Impact of All Current Alcohol Retailers by State Delegate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1A	1,196	$ 50,742,074	$ 117,680,986	332	$ 17,047,823	$ 44,571,106	1,528	$ 67,789,897	$ 162,252,091
MD 1B	1,398	$ 59,309,944	$ 137,619,626	21	$ 1,282,270	$ 4,075,373	1,419	$ 60,592,214	$ 141,695,000
MD 1C	838	$ 35,557,542	$ 82,480,368	358	$ 22,558,600	$ 68,120,892	1,196	$ 58,116,142	$ 150,601,260
MD 2A	1,729	$ 73,375,955	$ 170,224,969	396	$ 23,909,199	$ 72,187,827	2,125	$ 97,285,155	$ 242,412,796
MD 2B	2,200	$ 93,362,970	$ 216,593,085	2,691	$ 164,146,277	$ 476,852,061	4,891	$ 257,509,247	$ 693,445,146
MD 3	3,738	$ 158,622,893	$ 367,941,788	179	$ 10,502,374	$ 32,778,322	3,917	$ 169,125,268	$ 400,720,110
MD 4	878	$ 37,271,963	$ 86,319,249	1,582	$ 106,831,822	$ 301,460,317	2,460	$ 144,103,785	$ 387,779,565
MD 5	1,915	$ 81,300,418	$ 188,508,932	366	$ 22,465,300	$ 62,765,166	2,281	$ 103,765,718	$ 251,274,099
MD 6	1,789	$ 75,912,831	$ 176,060,758	202	$ 11,871,927	$ 37,060,086	1,990	$ 87,784,758	$ 213,120,844
MD 7A	593	$ 25,194,386	$ 58,382,379	932	$ 55,488,179	$ 183,288,996	1,526	$ 80,682,565	$ 241,671,376
MD 7B	382	$ 16,206,095	$ 37,566,566	45	$ 2,310,193	$ 6,095,058	426	$ 18,516,288	$ 43,661,624
MD 8	2,911	$ 123,559,050	$ 286,547,542	289	$ 17,926,640	$ 55,008,884	3,200	$ 141,485,689	$ 341,556,427
MD 9A	1,066	$ 45,243,527	$ 104,872,130	1,565	$ 87,728,709	$ 245,314,806	2,631	$ 132,972,236	$ 350,186,936
MD 9B	307	$ 13,015,218	$ 30,184,245	169	$ 8,119,064	$ 23,068,384	476	$ 21,134,282	$ 53,252,629
MD 10	776	$ 32,949,936	$ 76,373,055	508	$ 32,801,412	$ 110,827,085	1,284	$ 65,751,348	$ 187,200,140
MD 11A	732	$ 31,050,665	$ 72,068,324	23	$ 1,283,431	$ 3,824,627	755	$ 32,334,096	$ 75,892,951
MD 11B	1,826	$ 77,512,064	$ 179,649,172	1,511	$ 97,115,952	$ 282,158,881	3,336	$ 174,628,016	$ 461,808,052
MD 12A	1,043	$ 44,266,522	$ 102,520,662	5	$ 286,843	$ 717,209	1,048	$ 44,553,365	$ 103,237,872
MD 12B	1,167	$ 49,502,101	$ 114,868,714	447	$ 33,265,992	$ 105,808,682	1,614	$ 82,768,093	$ 220,677,395
MD 13	3,439	$ 145,918,965	$ 338,596,714	364	$ 24,383,173	$ 80,961,865	3,803	$ 170,302,138	$ 419,558,579
MD 14	1,253	$ 53,194,824	$ 123,327,125	873	$ 48,135,986	$ 134,333,271	2,126	$ 101,330,810	$ 257,660,396
MD 15	865	$ 36,705,241	$ 85,113,023	338	$ 19,058,597	$ 56,236,272	1,203	$ 55,763,838	$ 141,349,295
MD 16	2,525	$ 107,163,826	$ 248,607,572	1,352	$ 80,566,275	$ 238,555,512	3,877	$ 187,730,101	$ 487,163,084
MD 17	2,794	$ 118,567,439	$ 275,006,639	73	$ 3,743,985	$ 9,912,959	2,866	$ 122,311,424	$ 284,919,598
MD 18	2,756	$ 116,934,341	$ 271,331,137	59	$ 2,679,087	$ 13,206,452	2,814	$ 119,613,429	$ 284,537,589
MD 19	1,750	$ 74,244,902	$ 172,277,565	55	$ 3,047,406	$ 8,405,908	1,805	$ 77,292,309	$ 180,683,473
MD 20	2,331	$ 98,920,690	$ 229,443,997	2,081	$ 126,615,942	$ 387,227,905	4,412	$ 225,536,633	$ 616,671,901
MD 21	2,374	$ 100,767,052	$ 233,673,202	207	$ 12,913,194	$ 35,070,945	2,581	$ 113,680,246	$ 268,744,147
MD 22	2,440	$ 103,540,972	$ 240,118,609	13	$ 839,207	$ 2,380,281	2,453	$ 104,380,179	$ 242,498,890
MD 23	2,127	$ 90,253,417	$ 209,374,143	1,093	$ 58,210,684	$ 154,941,100	3,220	$ 148,464,101	$ 364,315,243
MD 24	2,399	$ 101,800,632	$ 236,111,531	1	$ 83,439	$ 157,249	2,400	$ 101,884,071	$ 236,268,780
MD 25	2,061	$ 87,484,693	$ 202,839,125	318	$ 18,532,671	$ 57,817,667	2,379	$ 106,017,364	$ 260,656,792
MD 26	2,070	$ 87,844,461	$ 203,792,959	925	$ 53,550,471	$ 160,985,782	2,995	$ 141,394,932	$ 364,778,740
MD 27A	475	$ 20,161,629	$ 46,749,485	323	$ 17,783,562	$ 49,257,176	798	$ 37,945,191	$ 96,006,661
MD 27B	902	$ 38,280,132	$ 88,767,072	465	$ 28,145,300	$ 102,438,314	1,367	$ 66,425,432	$ 191,205,386
MD 27C	618	$ 26,238,814	$ 60,801,408	463	$ 32,075,131	$ 121,663,886	1,081	$ 58,313,944	$ 182,465,294
MD 28	1,533	$ 65,085,921	$ 150,863,553	248	$ 14,075,514	$ 38,609,460	1,781	$ 79,161,435	$ 189,473,013
MD 29A	632	$ 26,818,621	$ 62,136,157	149	$ 8,523,910	$ 27,097,340	781	$ 35,342,531	$ 89,233,497
MD 29B	960	$ 40,734,919	$ 94,489,956	110	$ 6,876,294	$ 22,227,610	1,070	$ 47,611,212	$ 116,717,566
MD 29C	570	$ 24,206,686	$ 56,103,519	322	$ 19,019,181	$ 60,746,448	892	$ 43,225,868	$ 116,849,967
MD 30A	1,413	$ 59,983,604	$ 139,050,814	337	$ 19,014,169	$ 52,931,922	1,750	$ 78,997,773	$ 191,982,736
MD 30B	485	$ 20,615,913	$ 47,713,746	826	$ 53,250,768	$ 182,640,798	1,311	$ 73,866,682	$ 230,354,544
MD 31	1,713	$ 72,717,421	$ 168,682,037	860	$ 45,097,845	$ 133,284,728	2,573	$ 117,815,267	$ 301,966,765
MD 32	2,633	$ 111,728,347	$ 259,162,619	887	$ 53,515,223	$ 149,258,789	3,520	$ 165,243,570	$ 408,421,408
MD 33A	560	$ 23,753,167	$ 55,088,784	11	$ 620,411	$ 1,828,406	570	$ 24,373,578	$ 56,917,190
MD 33B	158	$ 6,716,419	$ 15,517,573	543	$ 31,322,891	$ 88,968,068	701	$ 38,039,311	$ 104,485,642
MD 33C	369	$ 15,664,684	$ 36,315,307	545	$ 30,192,782	$ 85,204,576	914	$ 45,857,465	$ 121,519,883
MD 34A	798	$ 33,882,741	$ 78,517,414	163	$ 8,803,876	$ 24,192,393	961	$ 42,686,617	$ 102,709,807
MD 34B	666	$ 28,295,639	$ 65,558,046	58	$ 2,791,205	$ 6,831,510	724	$ 31,086,844	$ 72,389,557
MD 35A	1,007	$ 42,739,649	$ 99,138,364	314	$ 16,219,099	$ 43,812,244	1,321	$ 58,958,749	$ 142,950,609
MD 35B	538	$ 22,822,094	$ 52,914,554	826	$ 48,137,340	$ 141,896,313	1,364	$ 70,959,434	$ 194,810,868
MD 36	2,640	$ 112,076,001	$ 259,691,522	1,030	$ 59,595,683	$ 172,513,542	3,670	$ 171,671,684	$ 432,205,064
MD 37A	1,366	$ 58,008,918	$ 134,424,850	110	$ 7,490,930	$ 18,289,167	1,477	$ 65,499,848	$ 152,714,017
MD 37B	2,080	$ 88,305,774	$ 204,673,276	5,171	$ 338,350,267	$ 915,650,829	7,252	$ 426,656,040	$ 1,120,324,106
MD 38A	800	$ 33,963,047	$ 78,642,421	68	$ 4,190,209	$ 11,807,965	868	$ 38,153,256	$ 90,450,386
MD 38B	1,996	$ 84,708,479	$ 196,545,139	22	$ 1,451,814	$ 6,433,420	2,018	$ 86,160,293	$ 202,978,558
MD 38C	1,333	$ 56,616,436	$ 131,017,752	163	$ 8,308,933	$ 23,954,740	1,496	$ 64,925,368	$ 154,972,492
MD 39	2,633	$ 111,737,766	$ 259,279,805	488	$ 30,487,994	$ 87,245,395	3,121	$ 142,225,761	$ 346,525,200
MD 40	1,594	$ 67,695,567	$ 156,730,600	4	$ 300,013	$ 781,201	1,598	$ 67,995,579	$ 157,511,800
MD 41	1,385	$ 58,790,125	$ 136,294,229	455	$ 26,390,747	$ 76,791,684	1,840	$ 85,180,872	$ 213,085,913
MD 42A	374	$ 15,864,047	$ 36,773,193	535	$ 31,963,652	$ 97,967,246	909	$ 47,827,699	$ 134,740,439
MD 42B	473	$ 20,065,741	$ 46,576,301	22	$ 1,223,865	$ 3,790,896	495	$ 21,289,606	$ 50,367,197
MD 42C	530	$ 22,496,594	$ 52,189,962	295	$ 17,596,057	$ 48,628,107	825	$ 40,092,651	$ 100,818,069
MD 43A	931	$ 39,503,656	$ 91,546,101	231	$ 13,292,098	$ 41,090,106	1,161	$ 52,795,754	$ 132,636,207
MD 43B	185	$ 7,870,738	$ 18,241,142	144	$ 8,692,363	$ 25,048,078	330	$ 16,563,101	$ 43,289,221
MD 44A	678	$ 28,754,096	$ 66,711,336	57	$ 3,257,060	$ 9,306,665	734	$ 32,011,156	$ 76,018,000
MD 44B	949	$ 40,280,994	$ 93,333,068	186	$ 10,382,260	$ 30,030,456	1,135	$ 50,663,254	$ 123,363,524
MD 45	1,072	$ 45,521,414	$ 105,467,124	312	$ 19,205,075	$ 55,232,858	1,384	$ 64,726,488	$ 160,699,982
MD 46	2,505	$ 106,305,625	$ 246,500,138	4,752	$ 280,228,629	$ 793,345,586	7,256	$ 386,534,254	$ 1,039,845,724
MD 47A	1,584	$ 67,228,142	$ 155,937,059	111	$ 6,141,355	$ 17,627,887	1,695	$ 73,369,498	$ 173,564,946
MD 47B	338	$ 14,364,216	$ 33,315,992	6	$ 350,104	$ 944,963	345	$ 14,714,320	$ 34,260,955
Total	99,141	$ 4,207,901,386	$ 9,757,537,309	40,984	$ 2,473,665,734	$ 7,225,547,705	140,125	$ 6,681,567,120	$ 16,983,085,014

Table 22
Economic Impact of Proposed Change in Laws by State Senate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1	32	$ 1,338,089	$ 3,117,811	12	$ 786,212	$ 2,181,777	44	$ 2,124,300	$ 5,299,589
MD 2	37	$ 1,570,552	$ 3,658,171	7	$ 407,758	$ 1,187,104	44	$ 1,978,309	$ 4,845,275
MD 3	33	$ 1,409,878	$ 3,286,696	1	$ 31,389	$ 97,020	34	$ 1,441,267	$ 3,383,715
MD 4	2	$ 90,504	$ 219,371	8	$ 461,059	$ 1,409,685	10	$ 551,563	$ 1,629,056
MD 5	14	$ 589,615	$ 1,379,139	2	$ 114,233	$ 324,460	16	$ 703,848	$ 1,703,599
MD 6	15	$ 627,740	$ 1,465,020	12	$ 863,730	$ 2,661,304	26	$ 1,491,470	$ 4,126,323
MD 7	5	$ 220,786	$ 519,822	7	$ 491,223	$ 1,290,003	13	$ 712,009	$ 1,809,825
MD 8	23	$ 992,416	$ 2,317,196	6	$ 378,175	$ 970,618	29	$ 1,370,591	$ 3,287,814
MD 9	9	$ 375,884	$ 881,201	7	$ 380,141	$ 1,128,130	15	$ 756,024	$ 2,009,331
MD 10	5	$ 191,431	$ 449,795	7	$ 443,968	$ 1,279,890	12	$ 635,398	$ 1,729,685
MD 11	18	$ 780,692	$ 1,826,362	3	$ 177,709	$ 533,536	21	$ 958,401	$ 2,359,897
MD 12	15	$ 628,610	$ 1,472,546	4	$ 247,389	$ 684,128	19	$ 875,999	$ 2,156,673
MD 13	36	$ 1,513,356	$ 3,520,383	6	$ 345,454	$ 968,108	42	$ 1,858,810	$ 4,488,492
MD 14	9	$ 360,834	$ 845,074	3	$ 182,271	$ 518,891	11	$ 543,106	$ 1,363,965
MD 15	7	$ 276,122	$ 645,438	3	$ 147,562	$ 442,043	9	$ 423,684	$ 1,087,481
MD 16	24	$ 1,005,777	$ 2,342,802	15	$ 890,822	$ 3,019,439	38	$ 1,896,599	$ 5,362,241
MD 17	24	$ 1,014,287	$ 2,365,876	18	$ 1,117,668	$ 3,589,558	42	$ 2,131,956	$ 5,955,434
MD 18	28	$ 1,197,975	$ 2,787,183	5	$ 283,545	$ 850,095	33	$ 1,481,520	$ 3,637,278
MD 19	18	$ 763,786	$ 1,776,911	4	$ 261,595	$ 773,638	22	$ 1,025,380	$ 2,550,549
MD 20	20	$ 857,208	$ 1,999,084	6	$ 366,385	$ 960,607	26	$ 1,223,594	$ 2,959,691
MD 21	18	$ 779,269	$ 1,820,679	11	$ 596,685	$ 1,665,278	29	$ 1,375,954	$ 3,485,957
MD 22	19	$ 823,316	$ 1,922,685	6	$ 342,259	$ 942,005	26	$ 1,165,575	$ 2,864,690
MD 23	20	$ 841,341	$ 1,959,962	2	$ 86,350	$ 247,905	21	$ 927,691	$ 2,207,868
MD 24	20	$ 860,314	$ 2,007,108	4	$ 273,273	$ 871,419	24	$ 1,133,588	$ 2,878,527
MD 25	15	$ 618,440	$ 1,447,245	6	$ 346,366	$ 1,041,860	21	$ 964,806	$ 2,489,105
MD 26	20	$ 831,601	$ 1,936,851	2	$ 123,401	$ 379,490	22	$ 955,002	$ 2,316,340
MD 27	13	$ 564,082	$ 1,321,552	9	$ 492,112	$ 1,350,453	22	$ 1,056,193	$ 2,672,004
MD 28	9	$ 385,278	$ 904,889	11	$ 599,016	$ 1,755,584	20	$ 984,294	$ 2,660,473
MD 29	14	$ 608,886	$ 1,426,629	8	$ 500,500	$ 1,543,375	23	$ 1,109,385	$ 2,970,004
MD 30	9	$ 374,744	$ 885,502	4	$ 231,634	$ 623,841	13	$ 606,378	$ 1,509,343
MD 31	16	$ 658,030	$ 1,533,587	2	$ 104,266	$ 289,269	17	$ 762,296	$ 1,822,856
MD 32	23	$ 988,594	$ 2,304,757	11	$ 650,437	$ 1,959,322	34	$ 1,639,031	$ 4,264,079
MD 33	6	$ 249,171	$ 586,470	5	$ 276,529	$ 800,317	11	$ 525,700	$ 1,386,787
MD 34	7	$ 282,434	$ 667,822	7	$ 415,202	$ 1,248,127	13	$ 697,637	$ 1,915,949
MD 35	13	$ 540,227	$ 1,260,854	3	$ 153,765	$ 429,182	15	$ 693,992	$ 1,690,036
MD 36	12	$ 503,329	$ 1,190,524	2	$ 123,331	$ 344,437	14	$ 626,659	$ 1,534,960
MD 37	19	$ 783,912	$ 1,845,444	8	$ 542,209	$ 1,691,497	27	$ 1,326,121	$ 3,536,941
MD 38	21	$ 866,808	$ 2,044,774	10	$ 586,758	$ 1,712,044	31	$ 1,453,566	$ 3,756,818
MD 39	27	$ 1,156,445	$ 2,690,206	3	$ 193,774	$ 576,724	30	$ 1,350,220	$ 3,266,930
MD 40	2	$ 80,652	$ 206,166	4	$ 290,413	$ 802,954	6	$ 371,064	$ 1,009,120
MD 41	9	$ 389,872	$ 913,488	1	$ 74,346	$ 257,716	11	$ 464,218	$ 1,171,204
MD 42	13	$ 543,195	$ 1,265,460	12	$ 765,230	$ 2,361,172	25	$ 1,308,425	$ 3,626,633
MD 43	6	$ 240,812	$ 567,658	9	$ 545,307	$ 1,369,600	15	$ 786,119	$ 1,937,258
MD 44	11	$ 456,201	$ 1,068,974	6	$ 340,067	$ 887,843	17	$ 796,268	$ 1,956,817
MD 45	4	$ 185,724	$ 440,582	5	$ 285,681	$ 832,966	9	$ 471,404	$ 1,273,548
MD 46	19	$ 792,700	$ 1,853,235	27	$ 1,521,286	$ 4,204,447	46	$ 2,313,986	$ 6,057,682
MD 47	17	$ 709,998	$ 1,655,672	1	$ 74,616	$ 185,542	18	$ 784,614	$ 1,841,214
Total	754	$ 31,920,916	$ 74,604,657	313	$ 18,913,101	$ 55,244,401	1,067	$ 50,834,017	$ 129,849,058

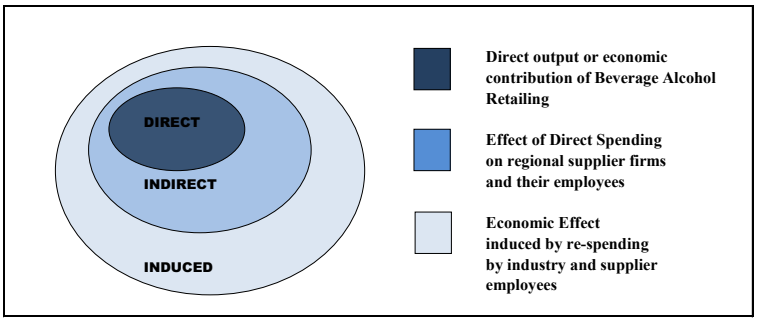
Table 23
Economic Impact of Proposed Change in Laws by State Delegate District

	Direct			Multiplier			Total		
	Jobs	Wages	Output	Jobs	Wages	Output	Jobs	Wages	Output
MD 1A	10	$ 415,165	$ 969,078	3	$ 130,345	$ 340,784	12	$ 545,510	$ 1,309,862
MD 1B	14	$ 605,001	$ 1,407,662	0	$ 9,804	$ 31,160	14	$ 614,805	$ 1,438,822
MD 1C	8	$ 317,922	$ 741,071	3	$ 172,480	$ 520,842	10	$ 490,401	$ 1,261,913
MD 2A	16	$ 690,977	$ 1,609,448	3	$ 182,806	$ 551,937	19	$ 873,783	$ 2,161,385
MD 2B	21	$ 879,575	$ 2,048,723	21	$ 1,255,038	$ 3,645,939	41	$ 2,134,612	$ 5,694,662
MD 3	33	$ 1,409,878	$ 3,286,696	1	$ 80,300	$ 250,618	35	$ 1,490,178	$ 3,537,314
MD 4	2	$ 90,504	$ 219,371	12	$ 816,820	$ 2,304,920	14	$ 907,324	$ 2,524,291
MD 5	14	$ 589,615	$ 1,379,139	3	$ 171,766	$ 479,893	17	$ 761,381	$ 1,859,032
MD 6	15	$ 627,740	$ 1,465,020	2	$ 90,771	$ 283,356	16	$ 718,511	$ 1,748,376
MD 7A	3	$ 120,922	$ 285,480	7	$ 424,254	$ 1,401,400	10	$ 545,176	$ 1,686,880
MD 7B	2	$ 99,864	$ 234,342	0	$ 17,663	$ 46,602	3	$ 117,528	$ 280,944
MD 8	23	$ 992,416	$ 2,317,196	2	$ 137,064	$ 420,590	26	$ 1,129,480	$ 2,737,786
MD 9A	6	$ 270,523	$ 635,227	12	$ 670,760	$ 1,875,640	18	$ 941,284	$ 2,510,867
MD 9B	2	$ 105,360	$ 245,974	1	$ 62,077	$ 176,377	4	$ 167,437	$ 422,352
MD 10	5	$ 191,431	$ 449,795	4	$ 250,795	$ 847,367	8	$ 442,225	$ 1,297,163
MD 11A	8	$ 351,966	$ 817,853	0	$ 9,813	$ 29,243	8	$ 361,779	$ 847,096
MD 11B	10	$ 428,726	$ 1,008,508	12	$ 742,534	$ 2,157,344	22	$ 1,171,260	$ 3,165,852
MD 12A	3	$ 111,897	$ 270,662	0	$ 2,193	$ 5,484	3	$ 114,090	$ 276,146
MD 12B	12	$ 516,713	$ 1,201,884	3	$ 254,347	$ 808,997	16	$ 771,060	$ 2,010,881
MD 13	36	$ 1,513,356	$ 3,520,383	3	$ 186,430	$ 619,022	38	$ 1,699,786	$ 4,139,406
MD 14	9	$ 360,834	$ 845,074	7	$ 368,040	$ 1,027,092	15	$ 728,875	$ 1,872,166
MD 15	7	$ 276,122	$ 645,438	3	$ 145,719	$ 429,974	9	$ 421,841	$ 1,075,412
MD 16	24	$ 1,005,777	$ 2,342,802	10	$ 615,998	$ 1,823,959	34	$ 1,621,775	$ 4,166,762
MD 17	24	$ 1,014,287	$ 2,365,876	1	$ 28,626	$ 75,793	24	$ 1,042,913	$ 2,441,669
MD 18	28	$ 1,197,975	$ 2,787,183	0	$ 20,484	$ 100,975	29	$ 1,218,459	$ 2,888,158
MD 19	18	$ 763,786	$ 1,776,911	0	$ 23,300	$ 64,270	18	$ 787,086	$ 1,841,182
MD 20	20	$ 857,208	$ 1,999,084	16	$ 968,086	$ 2,960,686	36	$ 1,825,295	$ 4,959,770
MD 21	18	$ 779,269	$ 1,820,679	2	$ 98,732	$ 268,147	20	$ 878,001	$ 2,088,826
MD 22	19	$ 823,316	$ 1,922,685	0	$ 6,416	$ 18,199	20	$ 829,732	$ 1,940,884
MD 23	20	$ 841,341	$ 1,959,962	8	$ 445,070	$ 1,184,656	28	$ 1,286,411	$ 3,144,619
MD 24	20	$ 860,314	$ 2,007,108	0	$ 638	$ 1,202	20	$ 860,952	$ 2,008,310
MD 25	15	$ 618,440	$ 1,447,245	2	$ 141,698	$ 442,065	17	$ 760,138	$ 1,889,310
MD 26	20	$ 831,601	$ 1,936,851	7	$ 409,439	$ 1,230,873	27	$ 1,241,040	$ 3,167,724
MD 27A	4	$ 148,500	$ 347,251	2	$ 135,970	$ 376,613	6	$ 284,470	$ 723,864
MD 27B	7	$ 291,758	$ 681,833	4	$ 215,195	$ 783,228	10	$ 506,953	$ 1,465,061
MD 27C	3	$ 123,824	$ 292,467	4	$ 245,242	$ 930,224	6	$ 369,065	$ 1,222,691
MD 28	9	$ 385,278	$ 904,889	2	$ 107,619	$ 295,202	11	$ 492,898	$ 1,200,091
MD 29A	3	$ 111,073	$ 263,367	1	$ 65,173	$ 207,182	4	$ 176,245	$ 470,549
MD 29B	9	$ 364,186	$ 848,913	1	$ 52,575	$ 169,949	9	$ 416,761	$ 1,018,862
MD 29C	3	$ 133,627	$ 314,350	2	$ 145,418	$ 464,458	6	$ 279,045	$ 778,808
MD 30A	9	$ 379,697	$ 890,492	3	$ 145,379	$ 404,709	12	$ 525,076	$ 1,295,201
MD 30B	(0)	$ (4,953)	$ (4,990)	6	$ 407,147	$ 1,396,444	6	$ 402,195	$ 1,391,454
MD 31	16	$ 658,030	$ 1,533,587	7	$ 344,811	$ 1,019,075	22	$ 1,002,842	$ 2,552,662
MD 32	23	$ 988,594	$ 2,304,757	7	$ 409,169	$ 1,141,210	30	$ 1,397,763	$ 3,445,967
MD 33A	5	$ 195,145	$ 455,477	0	$ 4,744	$ 13,980	5	$ 199,889	$ 469,457
MD 33B	(1)	$ (49,121)	$ (110,720)	4	$ 239,490	$ 680,236	3	$ 190,369	$ 569,516
MD 33C	2	$ 103,147	$ 241,713	4	$ 230,849	$ 651,461	7	$ 333,997	$ 893,174
MD 34A	4	$ 165,626	$ 390,826	1	$ 67,313	$ 184,971	5	$ 232,939	$ 575,798
MD 34B	3	$ 116,809	$ 276,996	0	$ 21,341	$ 52,233	3	$ 138,150	$ 329,228
MD 35A	9	$ 378,895	$ 883,312	2	$ 124,009	$ 334,982	11	$ 502,904	$ 1,218,293
MD 35B	4	$ 161,332	$ 377,542	6	$ 368,051	$ 1,084,918	10	$ 529,383	$ 1,462,460
MD 36	12	$ 503,329	$ 1,190,524	8	$ 455,660	$ 1,319,013	20	$ 958,988	$ 2,509,536
MD 37A	7	$ 282,110	$ 665,787	1	$ 57,275	$ 139,836	8	$ 339,385	$ 805,623
MD 37B	12	$ 501,802	$ 1,179,657	40	$ 2,586,975	$ 7,000,928	51	$ 3,088,777	$ 8,180,585
MD 38A	1	$ 58,517	$ 144,891	1	$ 32,038	$ 90,282	2	$ 90,554	$ 235,173
MD 38B	20	$ 850,197	$ 1,978,582	0	$ 11,100	$ 49,189	20	$ 861,297	$ 2,027,771
MD 38C	(1)	$ (41,905)	$ (78,699)	1	$ 63,529	$ 183,154	0	$ 21,624	$ 104,456
MD 39	27	$ 1,156,445	$ 2,690,206	4	$ 233,107	$ 667,065	31	$ 1,389,552	$ 3,357,271
MD 40	2	$ 80,652	$ 206,166	0	$ 2,294	$ 5,973	2	$ 82,946	$ 212,139
MD 41	9	$ 389,872	$ 913,488	3	$ 201,780	$ 587,138	13	$ 591,652	$ 1,500,626
MD 42A	2	$ 96,901	$ 227,432	4	$ 244,389	$ 749,043	6	$ 341,290	$ 976,474
MD 42B	6	$ 234,295	$ 544,237	0	$ 9,357	$ 28,985	6	$ 243,652	$ 573,222
MD 42C	5	$ 211,999	$ 493,791	2	$ 134,537	$ 371,803	7	$ 346,536	$ 865,594
MD 43A	5	$ 198,706	$ 468,531	2	$ 101,629	$ 314,169	6	$ 300,335	$ 782,700
MD 43B	1	$ 42,106	$ 99,127	1	$ 66,460	$ 191,514	2	$ 108,566	$ 290,641
MD 44A	7	$ 278,999	$ 649,584	0	$ 24,903	$ 71,157	7	$ 303,902	$ 720,741
MD 44B	4	$ 177,201	$ 419,390	1	$ 79,381	$ 229,608	6	$ 256,583	$ 648,998
MD 45	4	$ 185,724	$ 440,582	2	$ 146,839	$ 422,302	7	$ 332,563	$ 862,884
MD 46	19	$ 792,700	$ 1,853,235	36	$ 2,142,586	$ 6,065,801	55	$ 2,935,285	$ 7,919,036
MD 47A	14	$ 588,051	$ 1,371,191	1	$ 46,956	$ 134,780	15	$ 635,007	$ 1,505,971
MD 47B	3	$ 121,947	$ 284,481	0	$ 2,677	$ 7,225	3	$ 124,624	$ 291,706
Total	754	$ 31,920,916	$ 74,604,657	313	$ 18,913,275	$ 55,245,447	1,067	$ 50,834,191	$ 129,850,105

Economic Impact Methodology

The economic impact of the beverage retailing industry begins with an accounting of the direct employment in the various sectors – grocery stores, supermarkets and package stores.

It is sometimes mistakenly thought that initial spending accounts for all of the impact of an economic activity or a product. For example, at first glance it may appear that consumer expenditures for a product are the sum total of the impact on the local economy. However, one economic activity always leads to a ripple effect whereby other sectors and industries benefit from this initial spending. This inter-industry effect of an economic activity can be assessed using multipliers from regional input-output modeling.



The economic activities of events are linked to other industries in the state and national economies. The activities required to sell a bottle of wine, from storage, to customer service, to ensuring that sales are made to legal age consumers, generate the direct effects on the economy. Regional (or indirect) impacts occur when these activities require purchases of goods and services such as building materials from local or regional suppliers. Additional, induced impacts occur when workers involved in direct and indirect activities spend their wages in the region. The ratio between total economic impact and direct impact is termed the multiplier. The framework in the chart illustrates these linkages.

This method of analysis allows the impact of local production activities to be quantified in terms of final demand, earnings, and employment in the states and the nation as a whole.

Once the direct impact of the industry has been calculated, the input-output methodology discussed below is used to calculate the contribution of the supplier sector and of the re-spending in the economy by employees in the industry and its suppliers. This induced impact is the most controversial part of economic impact studies and is often quite inflated. In the case of this model, only the most conservative estimate of the induced impact has been used.

This analysis utilizes the IMPLAN model (2022 Tables) in order to quantify the economic impact of the beverage alcohol retailing industry in Maryland.[32] The model adopts an accounting framework through which the relationships between different inputs and outputs across industries and sectors are computed. This model can show the impact of a given economic decision – such as a factory opening or other operation of a sports facility – on a pre-defined, geographic region. It is based on the national income accounts generated by the US Department of Commerce, Bureau of Economic Analysis (BEA). [33]

The analysis begins with the identification of companies and facilities engaged in the retail sales of beverage alcohol. Individual store data are gathered from the 2020 analysis, Data Axle, and from alcohol licensing agencies in Anne Arundel and Montgomery counties.

All of the data sources were combined and duplicate records, or records for companies that did not handle beverage alcohol were eliminated. These data were used for facility-based employment estimates where they existed, with missing data replaced by either jobs per square foot figures, or median job numbers.

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[32] IMPLAN® model, 2022 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (2024), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078, www.IMPLAN.com.

[33] RIMS II is a product developed by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool. IMPLAN was originally developed by the US Forest Service, the Federal Emergency Management Agency and the Bureau of Land Management. It was converted to a user-friendly model by the Minnesota IMPLAN Group in 1993.

Once the initial direct employment figures have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of direct wages and output in each of the retail sectors, as well as the supplier and induced impacts of the industry on the larger economy. IMPLAN was originally developed by the US Forest Service, the Federal Emergency Management Agency and the Bureau of Land Management. It was converted to a user-friendly model by the Minnesota IMPLAN Group in 1993. The IMPLAN data and model closely follow the conventions used in the "Input-Output Study of the US Economy," which was developed by the BEA.

- Wages: Data from the US Department of Labor's ES-202 reports are used to provide annual average wage and salary establishment counts, employment counts and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction employees, and certain government employees. Data are then adjusted to account for counties where non-disclosure rules apply. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. It includes all income paid to workers by employees. Further details are available from the IMPLAN at http://www.implan.com.

- Output: Total output is the value of production by industry in a given state. It is estimated by IMPLAN from sources similar to those used by the BEA in its RIMS II series. Where no Census or government surveys are available, IMPLAN uses models such as the Bureau of Labor Statistics Growth model to estimate the missing output.

- Taxes: The model also includes information on income received by the Federal, state and local governments, and produces estimates for the following taxes at the Federal level: Corporate income; payroll, personal income, estate and gift, and excise taxes, customs duties; and fines, fees, etc. State and local tax revenues include estimates of: Corporate profits, property, sales, severance, estate and gift and personal income taxes; licenses and fees and certain payroll taxes.

While IMPLAN is used to calculate the state level impacts, Data Axle data provide the basis for congressional and state legislative district, and county level estimates. Publicly available data at the county and Congressional district level is limited by disclosure restrictions, especially for smaller sectors of the economy. The model uses actual physical location data provided by Data Axle in order to allocate jobs – and the resulting economic activity – by physical address or when that is not available, zip code. For zips entirely contained in a single congressional district, jobs are allocated based on the percentage of total sector jobs in each zip. For zips that are broken by congressional districts, allocations are based on the percentage of total jobs physically located in each segment of the zip. Physical locations are based on either the actual address of the facility, or the zip code of the facility, with facilities placed randomly throughout the zip code area. All supplier and indirect jobs are allocated based on the percentage of a state's employment in that sector in each of the districts. Again, these percentages are based on Infogroup data.

IMPLAN Methodology[34]

Francois Quesnay, one of the fathers of modern economics, first developed the analytical concept of inter-industry relationships in 1758. The concept was actualized into input-output analysis by Wassily Leontief during the Second World War, an accomplishment for which he received the 1973 Nobel Prize in Economics.

Input-Output analysis is an econometric technique used to examine the relationships within an economy. It captures all monetary market transactions for consumption in a given period and for a specific geography. The IMPLAN model uses data from many different sources such as published government

[34] This section is paraphrased from IMPLAN Professional: Users Guide, Analysis Guide, Data Guide, Version 2.0, MIG, Inc., June 2000.

data series, unpublished data, sets of relationships, ratios, or as estimates. The Minnesota IMPLAN group gathers this data, converts it into a consistent format, and estimates the missing components.

There are three different levels of data generally available in the United States: federal, state and county. Most of the detailed data is available at the county level, and as such there are many issues with disclosure, especially in the case of smaller industries. IMPLAN overcomes these disclosure problems by combining a large number of datasets and by estimating those variables that are not found from any of them. The data is then converted into national input-output matrices (Use, Make, By-products, Absorption and Market Shares) as well as national tables for deflators, regional purchase coefficients and margins.

The IMPLAN Make matrix represents the production of commodities by industry. The Bureau of Economic Analysis (BEA) Benchmark I/O Study of the US Make Table forms the basis of the IMPLAN model. The Benchmark Make Table is updated to current year prices and rearranged into the IMPLAN sector format. The IMPLAN Use matrix is based on estimates of final demand, value-added by sector and total industry and commodity output data as provided by government statistics or estimated by IMPLAN. The BEA Benchmark Use Table is then bridged to the IMPLAN sectors. Once the re-sectoring is complete, the Use Tables can be updated based on the other data and model calculations of interstate and international trade.

In the IMPLAN model, as with any input-output framework, all expenditures are in terms of producer prices. This allocates all expenditures to the industries that produce goods and services. As a result, all data not received in producer prices is converted using margins which are derived from the BEA Input-Output model. Margins represent the difference between producer and consumer prices. As such, the margins for any good add to one. If, for example, 10 percent of the consumer price of a bottle of wine is from the purchase of electricity, then the electricity margin would be 0.1.

Deflators, which account for relative price changes during different time periods, are derived from the Bureau of Labor Statistics (BLS) Growth Model. The BLS model is mapped to the 546 sectors of the IMPLAN model. Where data are missing, deflators from BEA's Survey of Current Businesses are used.

Finally, one of the most important parts of the IMPLAN model, the Regional Purchase Coefficients (RPCs) must be derived. IMPLAN is derived from a national model, which represents the "average" condition for a particular industry. Since national production functions do not necessarily represent particular regional differences, adjustments need to be made. Regional trade flows are estimated based on the Multi-Regional Input-Output Accounts, a cross-sectional database with consistent cross interstate trade flows developed in 1977. These data are updated and bridged to the 546 sector IMPLAN model.

Once the databases and matrices are created, they go through an extensive validation process. IMPLAN builds separate state and county models and evaluates them, checking to ensure that no ratios are outside of recognized bounds. The final datasets and matrices are not released before extensive testing takes place.

About John Dunham & Associates

John Dunham & Associates is a leading Florida-based economic consulting firm specializing in the economics of fast-moving issues. JDA is an expert at translating complex economic concepts into clear, easily understandable messages that can be transmitted to any audience. Its clients include a wide variety of businesses and organizations, including some of the largest Fortune 500 companies in America.

John Dunham is a professional economist with over 30 years of experience. He has worked as a manager and an analyst in both the public and private sectors, conducting cost-benefit modeling, industry analysis, transportation analysis, economic research and tax and fiscal analysis.

As a senior economist for Philip Morris, he developed tax-analysis programs, increased cost-center productivity and created economic research operations. He has presented testimony on economic and technical issues in federal court and before state and federal agencies. Prior to Phillip Morris, Dunham was an economist with the Port Authority of New York and New Jersey, the Philadelphia Regional Port Authority, and the City of New York's Department of Ports & Trade.

He earned a Master of Arts degree in economics from the New School for Social Research and a Master of Business Administration degree from Columbia University. He also has a professional certificate in logistics from New York University.

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FMI THE FOOD INDUSTRY ASSOCIATION

ASSESSING THE IMPACT OF WINE SALE REFORM: A CASE STUDY OF TENNESSEE

Dr. Vincenzina Caputo,
Michigan State University

Executive Summary

Background

In the United States, alcohol-related policies vary significantly across states and are constantly evolving. A central ongoing policy debate is whether grocery stores should be permitted to sell wine and how such a change would affect the operational activities of liquor stores and overall alcohol consumption.

This study evaluates the effects of a 2016 Tennessee policy allowing wine sales in retail food stores, including grocery and convenience stores. This policy shift may have implications for consumer behavior and alcohol retail management. Opponents of these reforms claim that allowing wine sales in retail food stores could significantly reduce liquor store sales, potentially leading to staff reductions and store closures. Proponents of wine sale reform counter these claims, arguing that allowing wine sales in retail food stores could enhance consumer well-being[1] and intensify competition in the alcohol market[2]. Additionally, allowing wine sales could increase state and local sales tax collection and, ultimately, state revenue. In fact, past FMI research has found that the benefits of allowing wine sales in food stores include job creation, increased government revenues, and consumer choice.[3]

This research informs this debate by assessing the impact of allowing retail food stores to sell wine in two key areas: 1) the number of liquor stores in Tennessee and 2) changes in wine sales tax volume before and after the implementation of the reform.

Methods

We use synthetic control methods to achieve our two objectives. This approach constructs a synthetic version of Tennessee based on a weighted average of control states that did not undergo the policy change, thus allowing the estimation of the counterfactual outcome for Tennessee had the policy reform not taken place. To evaluate the impact of the Tennessee wine sale reform on the number of liquor stores (objective 1), we used annual state-level data from the 2004-2019 NIQ – TDLinx panel maintained by the Nielsen Company. To assess the effect of the policy reform on wine sales tax volume (objective 2), we collected monthly state tax receipts and tax collection report data from 2011 to 2019. This data was sourced from various publicly available sources, including state departments of revenue across different states. Various robustness tests and supplemental analyses were also done to check the sensitivity of our results.

[1] Aldrich, Anna Zarra. "UConn Research Informs Policy Debate over Wine Sales in Grocery Stores" UConn Today. February 21, 2023. https://today.uconn.edu/2023/02/uconn-research-informs-policy-debate-over-wine-sales-in-grocery-stores/#

[2] Illanes, G., & Moshary, S. (2020). Market structure and product assortment: Evidence from a natural experiment in liquor licensure (No. w27016). National Bureau of Economic Research.

[3] FMI. (2012). The Economics Impact of Allowing Shoppers to Purchase Wine in Food Stores. Available at *FMI* website: http://fmi.org/docs/state-affairs/fmi_wine_study.pdf?sfvrsn=0

Results

The data indicates that the number of liquor stores selling wine in Tennessee grew from 505 in 2004 to 728 in 2019, though most states also saw an increase over this time horizon. The data also suggests that Tennessee liquor stores held the largest number of licenses to sell wine in the state despite expanding sales to retail food stores. However, the alcohol industry underwent significant change during this time frame, indicating the need for a more in-depth analysis to evaluate the effects of this policy change.

The results from the synthetic control method indicate that Tennessee had 10.29 fewer liquor stores per capita (per million people) selling wine in the post-reform period from 2016 to 2019 than was predicted for the synthetic control/counterfactual (control states with no wine reform). However, this reduction is not found to be statistically significant compared to the control states, indicating that the wine sale reform did not significantly decrease the number of liquor stores selling wine in Tennessee. Rather, this indicates that the number of liquor stores stabilized following the reform. This finding is consistent across supplemental analyses ensuring the robustness of our results.

In assessing the change in wine sales tax volume, we show that the policy increased wine sales and sales tax revenue in Tennessee. Specifically, synthetic Tennessee would have exhibited a gradual growth trend in wine sales tax volume. After the wine sale reform in 2016, however, real-world Tennessee experienced a significant surge in wine sales. These new sales accounted for approximately 23% of the total wine sales tax volume. The research suggests that Tennessee's expansion of wine sales to retail food stores led to a statistically significant increase in state wine sales tax volume and, consequently, increased tax revenues overall.

Conclusion

This examination of Tennessee's wine sale reform provides a case study into some of the economic implications of allowing retail food stores to sell wine. The results suggest that the reform did not lead to a significant reduction in liquor stores. Meanwhile, the reform resulted in a noteworthy increase in wine sales tax revenue, contributing to increased state revenue. This increase in tax volume can be attributed to factors such as increased convenience and consumer demand, expanded consumer choices, and potentially improved market competition within the wine industry.

Citation: Caputo, Vincenzina, Jiayu Sun, Aaron Staples, and Achilleas Vassilopoulos. 2024. Assessing the Impact of Wine Sale Reform: A Case Study of Tennessee. FMI report[4].

[4]Mrs. Jiayu Sun and Dr. Aaron Staples were PhD students at the time of the research. Jiayu Sun assisted Dr. Caputo with the data analysis, while Aaron Staples assisted Dr. Caputo with collecting some descriptive statistics and reviewing the report. Dr. Achilleas Vassilopoulos provided comments on the data analysis.

Bio: Dr. Vincenzina Caputo is an agricultural and food economist. She serves as a Professor and the Homer Nowlin Chair in Consumer and Food Economics at Michigan State University. Her research program focuses on three key areas: 1) empirical analysis of consumer decision-making behavior to advance knowledge on how people make food choices, 2) methodological innovations to evaluate the effects of these choices on food systems, supply chains, and policies, and 3) outreach and extension activities to translate findings into practical recommendations for key stakeholders, including farmers, processors, retailers, food companies, consumers, and policymakers.

Dr. Caputo's empirical and outreach efforts guide food industry and policy decisions, while her methodological research contributes to the academic literature and debate. Her work is published in well-respected academic journals, including the *American Journal of Agricultural Economics*, *European Review of Agricultural Economics*, *Journal of Economic Behavior & Organization*, *Economic Inquiry, Journal of Agricultural Economics*, *Food Policy*, among others. Her research is supported by public entities such as National Science Foundation and the United States Department of Agriculture; national industry players like the FMI Food Industry Association and Farm Foundation; commodity groups such as United Egg Producers and United Soybean Board, and local institutions like M-AAA and Project GREEEN. She serves as one of the editors-in-chief of the *European Review of Agricultural Economics* and holds positions as an associate editor or advisory board member for *Food Policy*, *Agricultural Economics*, and the *American Journal of Agricultural Economics*. She also serves on the board of directors of the Agricultural & Applied Economics Association and is the co-founder and co-director of the *Survey Design and Experimental Methods in Applied and Agricultural Economics* international workshop. Beyond academia, Dr. Caputo's expertise is highly sought after by industry leaders in agriculture and food, where her evidence-based solutions influence decisions and address specific industry challenges.

The Market of Wine in the United States

The wine industry in the United States has experienced significant growth and evolution over the past two decades, becoming a major player in the global wine market. On the production side, the United States is one of the largest wine-producing countries worldwide, alongside countries like France, Italy, and Spain. California is the leading wine-producing state, responsible for most of the country's wine production, followed by Washington, Oregon, New York, and Texas[5]. Over time, there has been a notable increase in the total number of wine producers in the United States (see **Figure 1**). From 2010 to 2021, the number of wine producers has grown by 60%, from 6,941 to 11,053[6]. California alone accounts for approximately 50% of all wineries in the United States[7] and 84% of the country's domestic wine production[8].

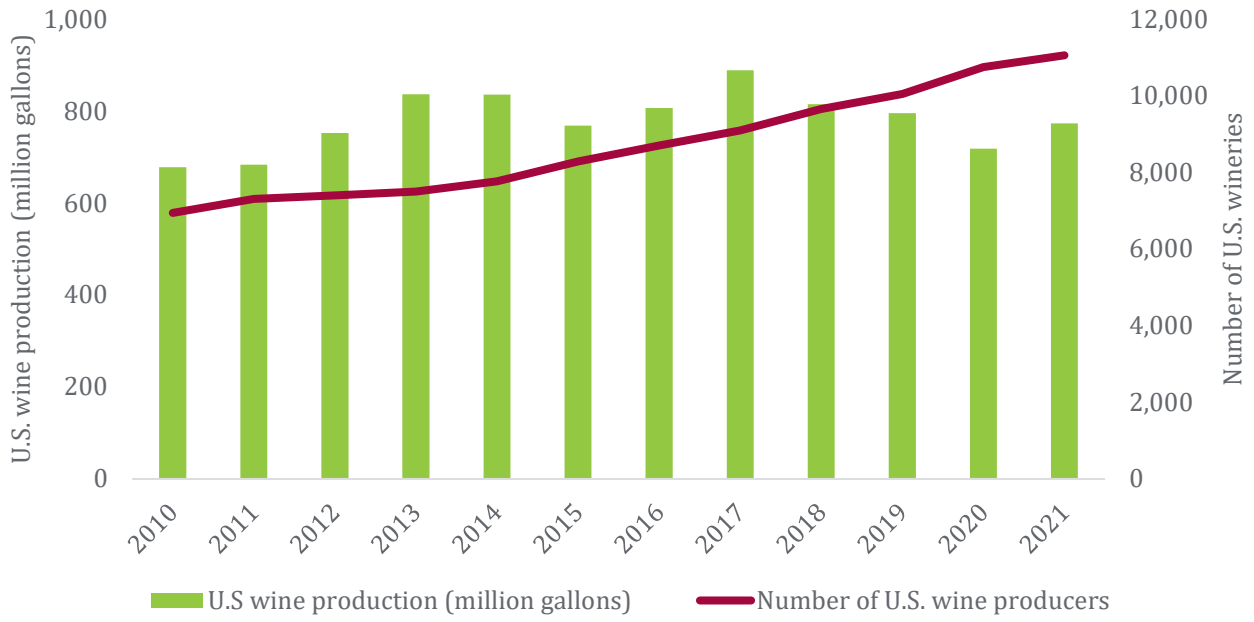

Figure 1. Domestic wine production and the number of producers over time, Sources: Wine Institute (2022a), and Wines Vines Analytics (2021, 2023)

However, despite the 60% increase in wine producers from 2010 – 2021, domestic wine production only grew by 14% during the same period (see **Figure 2**). This indicates a trend of smaller-sized wineries in the United States. Approximately 47% of wineries produce less than 1,000 cases of wine per year, while

[5] The National Association of American Wineries (2018). Top 10 Wine Producing States. Available at the National Association of American Wineries website: https://wineamerica.org/policy/by-the-numbers/

[6] Wines Vines Analytics (January 2021). Number of wineries in the United States in 2021, by production size. Available at Statista website: https://www.statista.com/statistics/259395/number-of-wineries-in-the-us-by-production-size/ [last accessed March 16, 2023]

[7] VinePair (November 24, 2021). The States with the most wineries in 2021. Available at VinePair website: https://vinepair.com/articles/map-states-wineries/ [last accessed March 16, 2023]

[8] Wine Institute (September 2022a). California & US wine sales. Available at Wine Institute website: https://wineinstitute.org/our-industry/statistics/california-us-wine-sales/ [last accessed March 17, 2023]

just 3% produce more than 50,000 cases per year[9]. In addition, the growth in the wineries has expanded to non-traditional grape-growing regions (see **Figure 2**). This trend is driven by the increasing consumer preference for locally manufactured craft beverages[10].

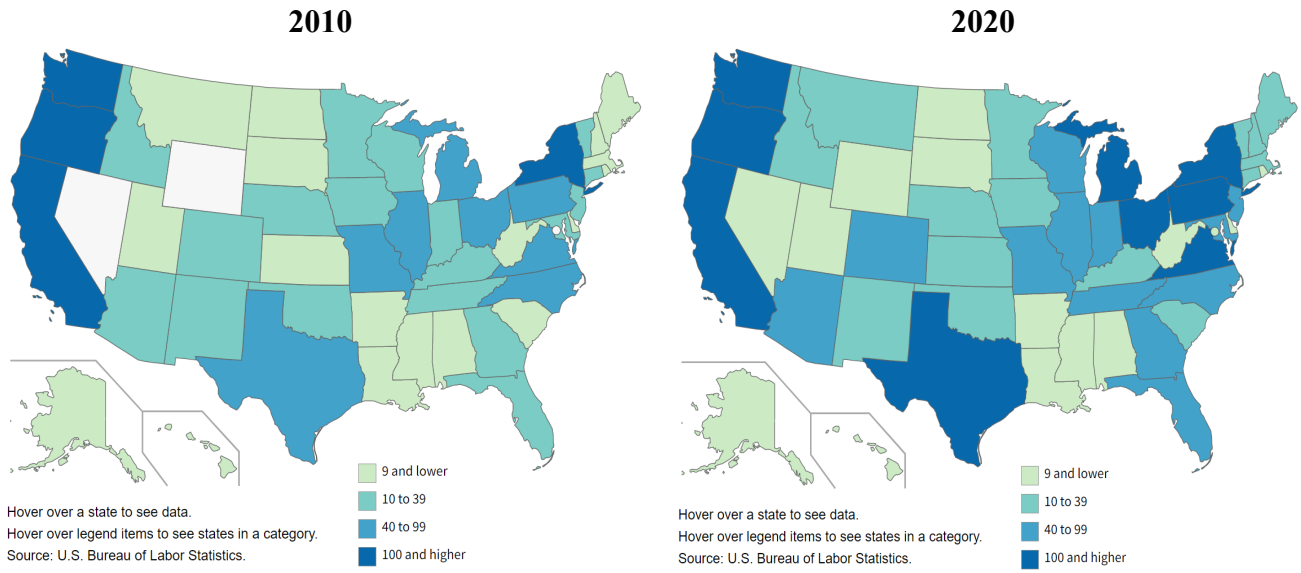

Figure 2. Geographical variation in wineries over time, Source: BLS (2021)

On the demand side, statistics indicate a steady increase in wine consumption over the years, both at home and away from home. From 2010 to 2021, U.S. wine consumption grew by 38%, reaching over 1 billion gallons in 2021[11]. A few factors contribute to the difference in growth rates between domestic wine production and consumption. First, there is a time lag between wine production and consumption due to aging. Second, domestic consumption relies heavily on imported wine, where the United States is the world's largest importer of wine[12]. **Figure 3**, sourced from the USDA Economic Research Service

[9] Wines Vines Analytics (January 2021). Number of wineries in the United States in 2021, by production size. Available at Statista website: https://www.statista.com/statistics/259395/number-of-wineries-in-the-us-by-production-size/ [last accessed March 16, 2023]

[10] Dobis, E. A., Reid, N., Schmidt, C., & Goetz, S. J. (2019). The role of craft breweries in expanding (local) hop production. Journal of Wine Economics, 14(4), 374-382. https://doi.org/10.1017/jwe.2019.17; Farris, J., Malone, T., Robison, L. J., & Rothwell, N. L. (2019). Is "localness" about distance or relationships? Evidence from hard cider. Journal of Wine Economics, 14(3), 252-273. https://doi.org/10.1017/jwe.2019.42; Hart, J. (2018). Drink beer for science: An experiment on consumer preferences for local craft beer. Journal of Wine Economics, 13(4), 429-441. https://doi.org/10.1017/jwe.2018.38

[11] Wine Institute (October 2022b). Total wine consumption of the United States from 2005 to 2021 (in million gallons) https://www.statista.com/statistics/233722/total-wine-consumption-of-the-us-by-wine-type/ [last accessed March 17, 2023]

[12] Observatory of Economic Complexity (n.d.). Wine in the United States. Available at OEC World website: https://oec.world/en/profile/bilateral-product/wine/reporter/usa [last accessed March 16, 2023].

(ERS), illustrates the value of wine imports from various countries. Italy and France are the top importers, and their imports have increased in recent years[13].

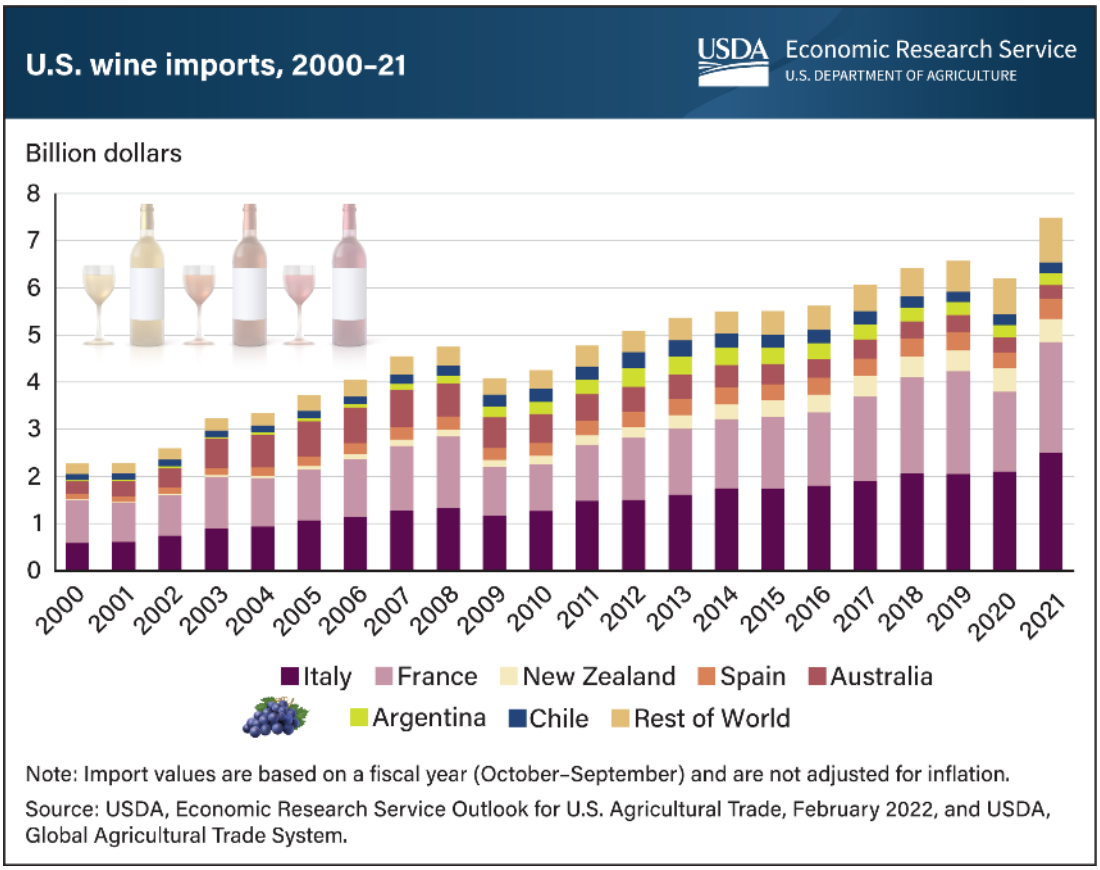

Figure 3. Value of U.S. wine imports over time, 2020-2021, Source: USDA ERS (2022)

Figure 4 presents the retail value of U.S. wine sales over time, including domestic and imported wines. The graph shows that, except for 2020, total retail wine sales have been increasing over time. As of 2021, total U.S. retail wine sales approached $80 billion in value[14]. During the first year of the pandemic, it is estimated that the retail value of wine sales fell by approximately 10%. However, the industry recovered in 2021, where wine sales were 5% higher relative to their pre-pandemic 2019 levels.

Despite the growth in retail sales, wine's market share has declined over the past five years. Since 2017, wine's market share has fallen 1.3 percentage points - from 17.3% to 16%[15]. The U.S. alcohol industry

[13] USDA ERS (May 24, 2022). U.S. wine imports reach nearly $7.5 billion in 2021. Available at USDA ERS website: https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=103967 [last accessed March 17, 2023].
[14] Wine Institute (September 2022a). California & US wine sales. Available at Wine Institute website: https://wineinstitute.org/our-industry/statistics/california-us-wine-sales/ [last accessed March 17, 2023].
[15] Distilled Spirits Council (February 9, 2023). Annual economic briefing: Support tables – 2022. Available at Distilled Spirits Council of the United States website: https://www.distilledspirits.org/wp-content/uploads/2023/02/ECONOMIC-BRIEFING-SUPPORT-TABLES-2022.pdf [last accessed March 17, 2023].

was valued at $247 billion in sales in 2021[16]; 1.3% of $247 billion is more than $3 billion. This market share decline is primarily the result of an evolving alcohol landscape and variety-seeking consumers. Over the past few years, the market saw the emergence of new products, including hard seltzers[17] and ready-to-drink cocktails[18]. Market research has shown that these products could be economic substitutes for wine, particularly for younger consumers. This is critical as younger consumers transition to wine slower than other alcohol categories[19].

Figure 4. Total wine retail sales and wine market share over time, 2010 – 2021, Sources: Distilled Spirits Council (2022) and Wine Institute (2022a)

Regulatory Framework

The U.S. wine industry operates under various federal, state, and local alcohol regulations. On the federal front, the Alcohol and Tobacco Tax and Trade Bureau (TTB) enforces the Federal Alcohol Administration Act, which regulates, among other things, alcohol production, labeling, and advertising. However, state and local regulations were established following the end of Prohibition in 1932, leading to a significant variation in alcohol regulations across states[20].

[16] Beverage Information Group (September 2022a). Total alcoholic beverage sales in the United States from 2006 to 2021(in million U.S. dollars). Available at Statista website: https://www.statista.com/statistics/207936/us-total-alcoholic-beverages-sales-since-1990/ [last accessed March 17, 2023].

[17]Hard Seltzer (2023). Revenue-United States. Available at Statista website: https://www.statista.com/outlook/cmo/alcoholic-drinks/hard-seltzer/united-states#revenue [last accessed March 17, 2023].

[18]Distilled Spirits Council (September 14, 2022). Spirits-based ready-to-drink beverages experience tremendous market growth. Available at Distilled Spirits Council of the United States website: https://www.distilledspirits.org/wp-content/uploads/2022/09/Final-DISCUS-Handout-9.14.22-v2-1.pdf [last accessed March 17, 2023]

[19] McMillan, R. (2023). State of the U.S. wine industry. Available at Silicon Valley Bank Wine Division website: https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-wine-industry-report-2023.pdf [last accessed March 16, 2023]

[20]Staples, A. J., Chambers, D., & Malone, T. (2022). How many regulations does it take to get a beer? The geography of beer regulations. Regulation & Governance, 16(4), 1197-1210. https://doi.org/10.1111/rego.12403

One area of particular interest is the state-level variation in alcohol retail laws. Most notable is the variation in state policy surrounding whether grocery and other food retail stores can sell beer, wine, and distilled spirits. **Figure 5** depicts the legality of alcohol sales by category, including wine, by state as of March 2023. States can be categorized into four policy types regarding alcohol sales in retail food stores.

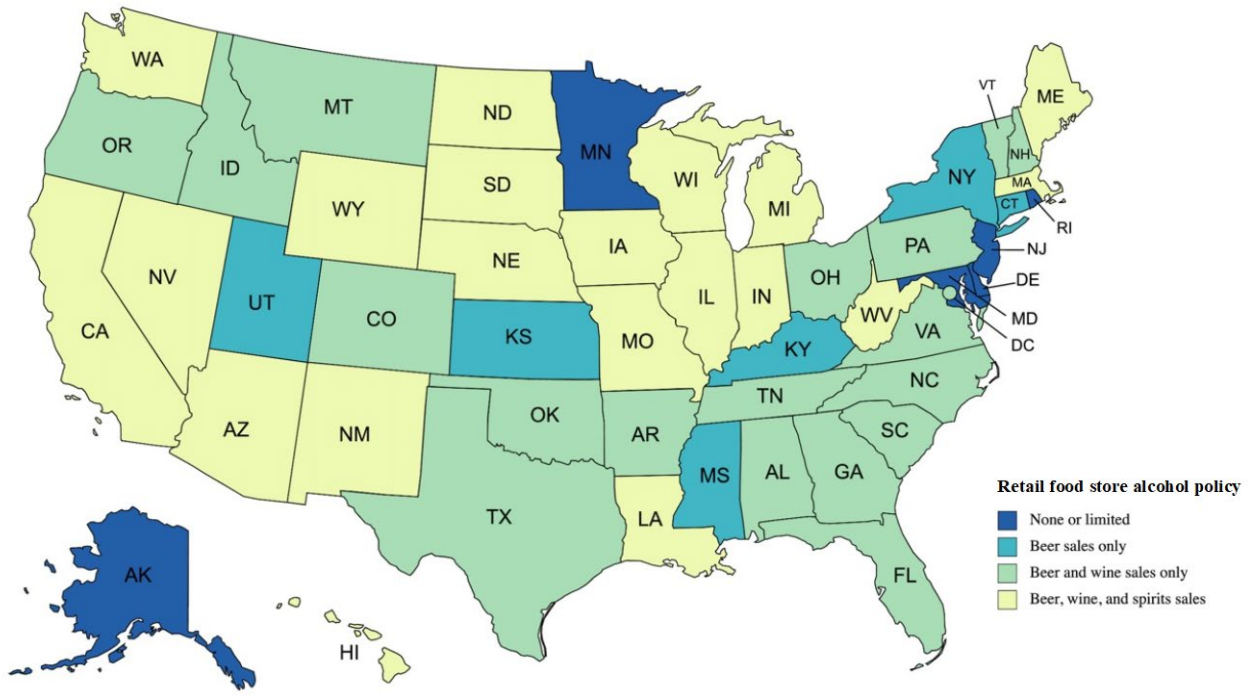

Figure 5. Retail food store alcohol policy across the United States[21]

The first policy category shown in Figure 5, "none or limited," prohibits alcohol sales in retail food stores. Under this regulatory regime, only liquor stores, specialized shops, or other licensed establishments can sell wine, beer, and spirits. This policy is becoming less common, with only six states currently implementing it: Alaska, Delaware, Maryland, Minnesota, New Jersey, and Rhode Island. The second policy limits alcohol sales in retail food stores to beer only and is currently in place in six states as of March 2023. These states are Connecticut, Kansas, Kentucky, Mississippi[22], New York[23], and Utah. The third policy permits beer and wine sales in retail food stores, with 19 states adhering to this policy: Alabama, Arkansas, Colorado, Florida, Georgia, Idaho, Montana, New Hampshire, North

[21]Please note that the specific states mentioned in the examples are subject to change since the time of research. Hence, it is advisable to consult the current laws and regulations of each state for accurate and up-to-date information on alcohol sales in grocery stores.

[22] Mississippi only allows grocery stores to sell wine with less than 5% ABV, but there is no standard wine below this threshold (Park Street, 2020).

[23] New York only allows grocery stores to sell wine coolers with less than 6% ABV (New York State Liquor Authority, July 31st, 2013).

Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia; and also, the District of Columbia. The fourth policy permits the sale of beer, wine, and distilled spirits in retail food stores. Twenty states follow this policy: Arizona, California, Hawaii, Illinois, Indiana, Iowa, Louisiana, Maine, Massachusetts, Michigan, Missouri, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Washington, West Virginia, Wisconsin, and Wyoming.

Therefore, at the time of this report, 39 states allow retail food stores to sell wine. However, even within these states, there are different regulations on selling hours, display requirements, etc. For instance, Arkansas prohibits the sale of wine on Sundays.[24] In addition, different states have different limits on the alcoholic content of wine sold in retail food stores. Oklahoma, Tennessee, and Arkansas have set limits of 15%, 18%, and 20% volume, respectively, for wine sold in retail food stores.[25]

Figure 6 provides an overview of wine sales in the country from 2018 to 2022, categorizing them into three channels: grocery stores, liquor stores, and convenience stores. The data shows that grocery stores have the highest wine sales, ranging from $8.9 to $10.9 billion. This is followed by liquor stores with sales between $5.6 and $5.9 billion, and convenience stores at $1.1 to $1.5 billion. Importantly, it should be noted that the popular wine products differ across these channels. Red still wine[26] dominates grocery and liquor store sales, accounting for 45% and 47% of wine sales, respectively. On the other hand, white still wine holds the largest share of wine sales (44%) in convenience stores (NIQ – RMS Bev Al Data – for FMI, calculated by own).

[24] AR Code § 3-3-210, 2017.
[25] Oklahoma Senate Bill 383 (2016), Section 21, Part B, Page 47; Tennessee Code § 57-3-803; AR Code § 3-5-1802 (2017).
[26] According to 27 CFR § 24.10, still wine is defined as wine containing less than 0.392 grams of carbon dioxide per 100 milliliters of wine. The NIQ – RMS dataset classifies wine into still wine and sparkling wine (e.g., champagne). Still wine is further classified into red still wine, white still wine, and others.

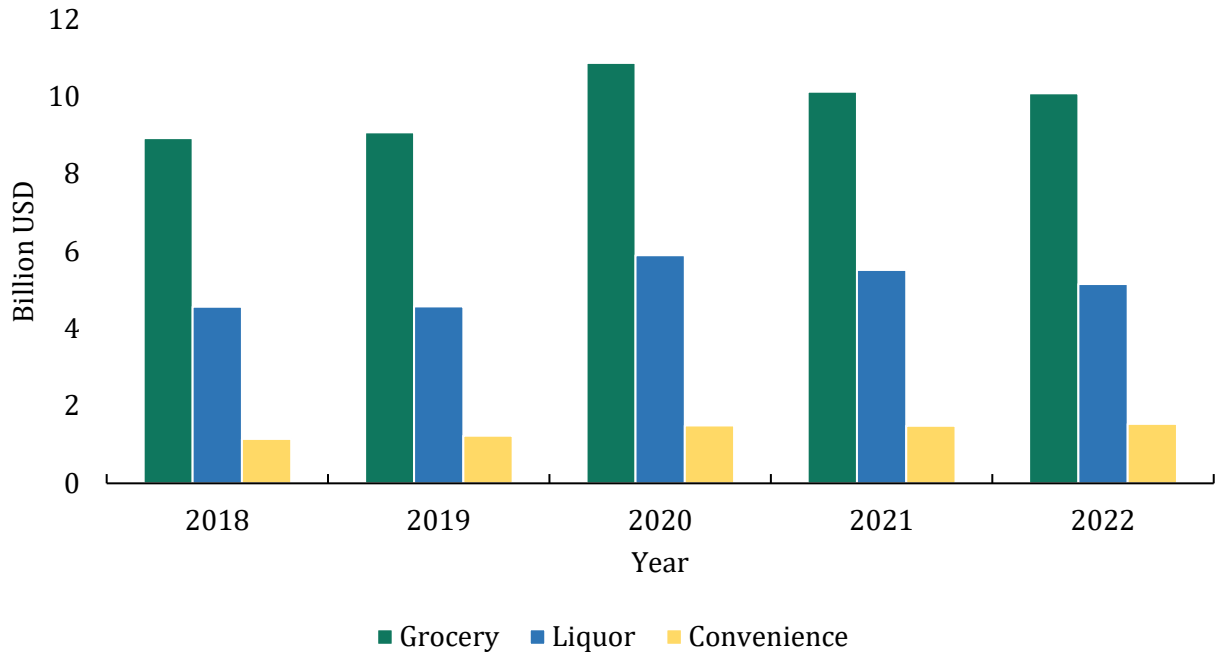

Figure 6. Wine sales in the United States, by different channels, 2018-2022, Source: NIQ – RMS Bev Al Data – for FMI, created by own.

The Case of Tennessee

Background

The Tennessee wine industry has experienced significant growth over the past two decades. On the production side, the number of wineries in Tennessee has more than tripled, increasing from 11 in 2001 to 47 wineries in 2020 (see **Figure 7**). As a result, the employment opportunities within Tennessee wineries have grown by over 500%, with the number of workers increasing from 78 in 2001 to 476 in 2020. As of 2022, the production volume of bottled wine in Tennessee has reached 537,740 gallons [27].

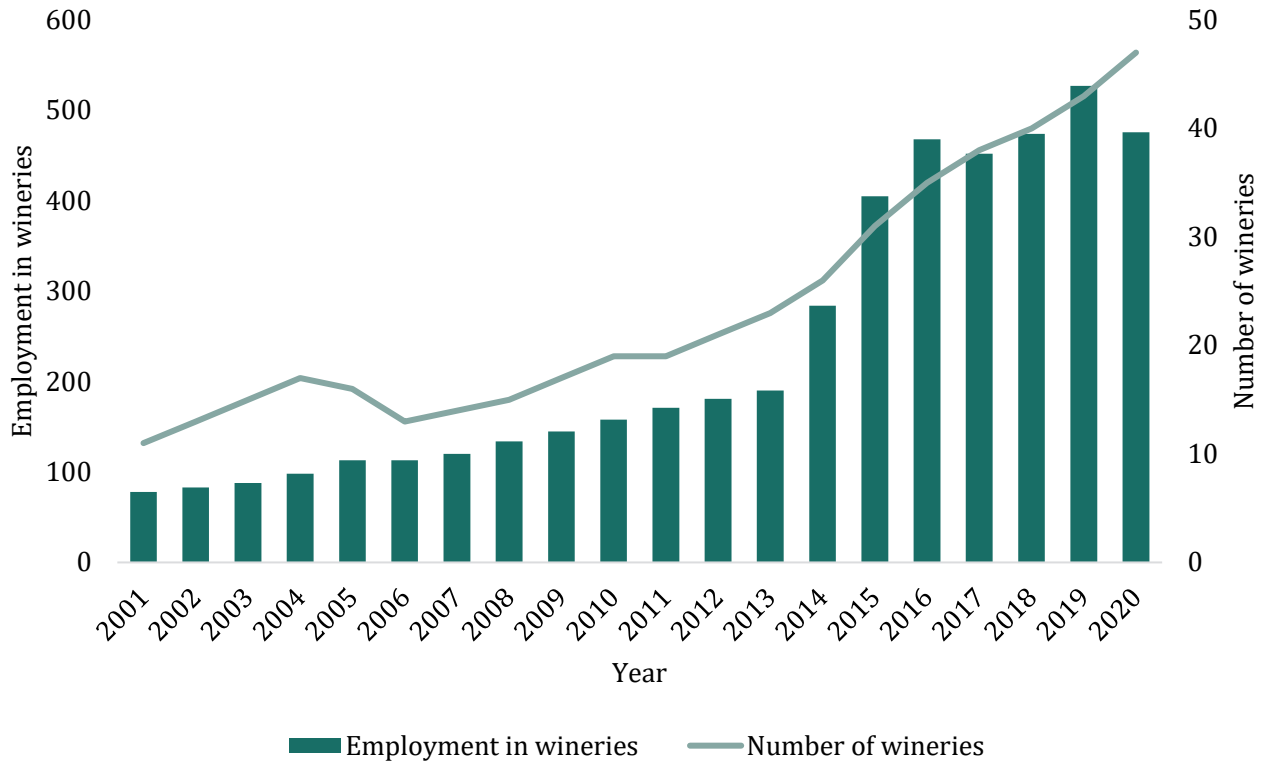

Figure 7. Number of wineries and winery employment in Tennessee, 2001-2020, Source: U.S. Bureau of Labor Statistics

On the demand side, Tennessee has also experienced significant growth in wine consumption over the past two decades. From 2001 to 2021, there has been a noteworthy 119% increase in annual per capita wine consumption, rising from 0.16 to 0.35 per capita (see **Figure 8**). In 2021 alone, Tennessee consumed 15.72 million gallons of wine, which ranks it 19th among all the U.S. states.[28]

[27] TTB. (March 10, 2023). Production volume of bottled wine in the United States in 2022, by state (in thousand gallons). Available at Statista website: https://www.statista.com/statistics/737529/leading-bottled-wine-producing-states-us /
[28] Vinepari (2023). The States that drink the most wine in America. https://vinepair.com/articles/map-states-drink-wine-america-2023/

Figure 8. Per capita annual wine consumption in Tennessee, 2001-2021, Source: Slater and Alpert (2023)

Before July 1, 2016, only liquor stores, also known in Tennessee as "package stores," could sell wine. However, the signing of the "Sale of Wine in Retail Food Stores Act"[29] on March 26, 2014, set the stage for wine sales in food retail stores. Upon enactment, the law immediately allowed liquor stores to sell beer, snacks, ice, mixers, cigars, cigarettes, and party supplies. To allow the sale of wine in food retail stores, the law required voters to decide, so each municipality in Tennessee was authorized to collect a certain number of signatures to place the issue on their local ballot. Beginning July 1, 2016, food retail stores[30] in municipalities that approved the initiative began selling wine six days a week (Monday – Saturday), mirroring liquor store days and hours.

On April 20, 2018, legislation allowing Sunday wine sales was enacted.[31] Liquor stores could immediately start selling wine seven days a week, whereas retail food stores could begin selling wine on Sundays on January 1, 2019. In addition to Sundays, wine may now be purchased on Labor Day, the

[29] Tennessee SB 837, Public Chapter C554.
[30] According to Tennessee Code § 57-3-802, "*retail food store' means an establishment that is open to the public that derives at least twenty percent (20%) of its sales taxable sales from the retail sale of food and food ingredients for human consumption taxed at the rate provided in § 67-6-228(a) and has retail floor space of at least one thousand two hundred square feet (1,200 sq. ft.)*".
[31] Tennessee HB 1540, Public Chapter 783

Fourth of July, and New Year's Day in liquor stores and retail food stores. However, these sales remain prohibited on Thanksgiving, Christmas, and Easter.

The expansion of wine accessibility through these policy changes has the potential to influence consumer shopping behavior and impact alcohol retail management.[32] Allowing retail food stores to sell wine offers convenience to consumers, purchasing groceries and wine in one trip, saving travel time and costs[33]. Research indicates that consumers who prioritize convenience and price tend to buy wine in grocery stores, while those seeking a more specialized experience, such as better service or tasting options, opt for other outlets like liquor stores.[34]

There is a long history of studies examining the effects of alcohol policy on societal outcomes. Many studies have focused on the liberalization of beer regulations on the number of producers[35], consumption[36], economic growth[37], and pricing[38]. Only a few studies have examined the effect of retail wine sale regulations on wine consumption and sales across retail channels. Among the first was Rickard (2012), who simulated the potential effects of wine grocery stores in New York. Rickard's results suggest that the state's tax revenue would increase by $22 million due to increased sales. This would also benefit in-state wineries, whose revenues were expected to increase by 13%. However, liquor store owners would experience a 28% decline in expected revenue as the grocery stores give consumers an alternative place of purchase. Thus, much of the pushback for legalizing grocery sales of different alcohols comes from liquor store owners and their affiliated lobbying groups[39]. Further research analyzing grocery store

[32] FMI. (2012). The Economics Impact of Allowing Shoppers to Purchase Wine in Food Stores. Available at FMI website: http://fmi.org/docs/state-affairs/fmi_wine_study.pdf?sfvrsn=0; Ho, S. T., & Rickard, B. J. (2021). Regulation and purchase diversity: Empirical evidence from the US alcohol market. International Review of Law and Economics, 68, 106008. https://doi.org/10.1016/j.irle.2021.106008

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[35] Malone, T., & Lusk, J. L. (2016). Brewing up entrepreneurship: Government intervention in beer. Journal of Entrepreneurship and Public Policy, 5(3), 325-342. https://doi.org/10.1108/JEPP-02-2016-0004; McCullough, M., Berning, J., & Hanson, J. L. (2019). Learning by brewing: Homebrewing legalization and the brewing industry. Contemporary Economic Policy, 37(1), 25-39. https://doi.org/10.1111/coep.12394

[36] Meany, B., Berning, J., Smith, T., & Rejesus, R. M. (2017). The Effect of Sunday Alcohol Sales Bans on Teen Drinking in Georgia. Applied Economic Perspectives and Policy, 40(3), 461-481. https://doi.org/10.1093/aepp/ppx046; Palardy, N., Costanigro, M., Cannon, J., Thilmany, D., Berning, J., Bayham, J., & Callaway, J. (2023). Beer sales in grocery and convenience stores: a glass half-full for craft brewers? Regional Studies, 1-14. https://doi.org/10.1080/00343404.2023.2166914

[37] Malone, T. & Hall, J. (2017). Can liberalization of local food marketing channels influence local economies? A case study of West Virginia's craft beer distribution laws. Economics and Business Letters 6(2), 54-58. http://zbw.eu/econis-archiv/bitstream/11159/849/1/2017%202%205.pdf

[38] Burgdorf, J. (2019). Impact of mandated exclusive territories in the US brewing industry: Evidence from scanner level data. International Journal of Industrial Organization, 63, 376-416. https://doi.org/10.1016/j.ijindorg.2018.12.001

[39] Rickard, B. J. (2012). The economics of introducing wine into grocery stores. Contemporary Economic Policy, 30(3), 382-398. https://doi.org/10.1111/j.1465-7287.2011.00272.x

alcohol policy suggests that states that allow wine sales have lower wine prices and higher wine consumption rates.[40]

This study adds to the existing literature by evaluating two key aspects: 1) the effect of the Tennessee wine sale reform on the number of liquor stores in the state, and 2) the changes in wine sales tax volume before and after implementing the reform. In the following section, we describe the data used, outline the methodologies employed, and present the findings for each research area.

The Impact of Tennessee Wine Sale Reform on the Number of Liquor Stores

Methodology

We employed the Synthetic Control Method (SCM)[41]. This approach offers distinct advantages over difference-in-difference and other methods commonly used in policy evaluations.[42] For instance, unlike difference-in-difference, the SCM is robust to non-parallel trends and suitable for situations with limited sample sizes and few observed interventions. [43] In our application, for example, the SCM allows us to 1) estimate the effects of infrequent events that exclusively affect a single unit (Tennessee) and) 2) evaluate the impact of a policy intervention by leveraging a restricted set of control units (other states with similar pre-intervention characteristics) within a panel data framework,.

The SCM also differs from traditional comparative case studies that select a single control unit. Instead, the SCM selects a group of control units with similar pre-intervention characteristics to the treated unit[44]. The idea behind the SCM is to construct a synthetic counterfactual outcome that takes a weighted average of these control units, thereby creating a synthetic counterpart that closely aligns with the characteristics of the treated unit (in our case, Tennessee)[45]. This methodological approach ensures a more robust evaluation of policy interventions with limited samples. For this reason, the SCM method has been widely used in various sub-fields of applied economics to estimate the effects of various policies, including immigration policies[46], taxation[47], and healthcare programs[48]. Within agricultural and food

[40] Rickard, B. J., Costanigro, M., & Garg, T. (2013). Economic and social implications of regulating alcohol availability in grocery stores. *Applied Economic Perspectives and Policy*, 35(4), 613-633.
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[42] Athey, S., & Imbens, G. W. (2017). The state of applied econometrics: Causality and policy evaluation. *Journal of Economic perspectives*, *31*(2), 3-32.
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[44] Abadie, A. (2021).
[45] Abadie, A. (2021).
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[47] Kleven, H. J., Landais, C., & Saez, E. (2013). Taxation and international migration of superstars: Evidence from the European football market. American economic review, 103(5), 1892-1924. https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.103.5.1892
[48] Kreif, N., Grieve, R., Hangartner, D., Turner, A. J., Nikolova, S., & Sutton, M. (2016). Examination of the synthetic control method for evaluating health policies with multiple treated units. Health economics, 25(12), 1514-1528. https://doi.org/10.1002/hec.3258

economics, SCM has been used to evaluate the effect of a soda tax[49], alcohol tax[50], and tobacco control programs[51].

Data and Sampling Strategy

We used annual state-level NIQ – TDLinx panel data maintained by Nielsen to conduct the analysis. The data includes the number of stores selling alcohol in different channels - liquor stores, grocery stores, convenience stores, mass merchandisers, wholesale clubs, and cigarette outlets, from 2004 to 2022. The number of stores selling wine were counted in December of each year. **Figure 9** depicts the trend in the number of stores selling wine across these channels in Tennessee, where the wine sales reform was launched, from 2004 to 2022. Throughout this period, liquor stores consistently held the highest number of licenses, starting at 505 in 2004 and increasing to 733 in 2022. As expected, following the wine sale reform in 2016, there was a significant growth in the number of grocery and convenience stores selling wine. In 2016, 408 grocery stores started selling wine, peaking at 647 in 2018. Although convenience stores have been allowed to sell wine since 2016 as well, the data show that convenience stores primarily entered the market in 2018, and there were 452 convenience stores selling wine in 2018. In addition, we observe a decrease in the number of stores selling wine in all channels from 2020 to 2021, likely driven by COVID-19.

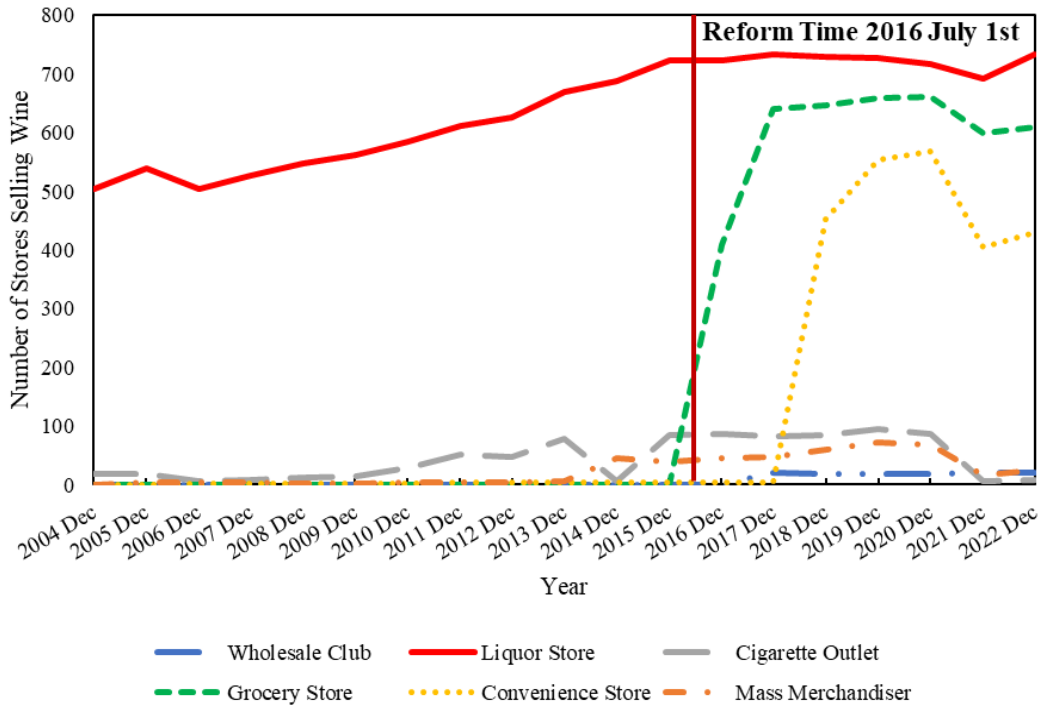

Figure 9. Number of licenses for selling wine across channels in Tennessee, 2004-2022, Source: NIQ – RMS Bev Al Data.

[49] Grogger, J. (2017). Soda taxes and the prices of sodas and other drinks: evidence from Mexico. American Journal of Agricultural Economics, 99(2), 481-498. https://doi.org/10.1093/ajae/aax024
[50] McClelland, R., & Iselin, J. (2019). Do State Excise Taxes Reduce Alcohol-Related Fatal Motor Vehicle Crashes?. Economic Inquiry, 57(4), 1821-1841. https://doi.org/10.1111/ecin.12811
[51] Abadie, A. (2021).

In this study, we focus on the channel of liquors stores and evaluate the effects of wine sales reform on the number of liquor stores in Tennessee. Specifically, we employ SCM to assess the impact of wine sales reform on the number of liquor stores per capita in Tennessee.[52] To do so, we followed two steps. In the first step, we defined the treated state or unit (Tennessee) and the pool of potential control states. As the control states should have similar pre-intervention characteristics as the treatment state (Tennessee), we had to study the wine-related reforms implemented in the 50 states and identify states that do not allow grocery stores to sell wine. From this process, we identified 12 states that, to date, do not allow grocery stores to sell wine. These states are Utah, Kansas, Colorado, Alaska, Delaware, Minnesota, New Jersey, Rhode Island, Connecticut, Kentucky, Mississippi, and New York.

In the second step, we followed Abadie et al. (2010)[53], Grogger (2017)[54],and Mohan (2017)[55] to redefine the pool of control states and the timeframe for analysis. We applied two criteria. The first is the "*data-overlap*" criterion, which requires that for all predictors and the outcome (number of liquor stores per capita) there were states with values that were both above and below that of Tennessee. This is crucial for constructing a reliable counterfactual scenario, that relies on interpolation and not extrapolation. This is also the reason that weights in the synthetic control method are restricted to be non-negative and sum to one[56]. The second criterion is the "*other alcohol reforms*" criterion, aimed to verify that besides wine-related policy reforms, there were no other alcohol-related policy changes in these 12 selected states. This criterion ensures the comparison group remains unaffected by other alcohol-related policy reforms, allowing us to isolate the specific impact of the wine-related policy reforms on per capita liquor store numbers in Tennessee.

Regarding the first criterion ("*data-overlap*"), the descriptive statistics concerning the number of liquor stores per capita before and after the wine reform in the 12 selected states of the control group (see **Figure 10**). **Figure 10** shows that only Utah has fewer liquor stores per capita than Tennessee. This indicates that Utah must be included in the pool of control states to meet the "data overlap" criterion[57].

[52]The number of liquor stores per capita is selected as the outcome variable of interest because it is more comparable across states and time than the total number of liquor stores. As a robustness check, we also use the standardized total number of liquor stores as the outcome variable of interest. These results are consistent with our main findings, and results from this supplemental analysis are available in Appendix A [Click Here].

[53]Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. *Journal of the American statistical Association*, *105*(490), 493-505.

[54]Grogger, J. (2017). Soda Taxes and The Prices of Sodas And Other Drinks: Evidence From Mexico. *American Journal of Agricultural Economics*, *99*(2), 481-498.

[55]Mohan, P. (2017). The economic impact of hurricanes on bananas: a case study of Dominica using synthetic control methods. *Food policy*, *68*, 21-30.

[56]Convex combinations can only replicate exactly variables whose value for the treated unit lies in-between those of the donor unit.

[57]According to the figures in Appendix C [click here], the predictors reveal no issues with the other variables used in the model.

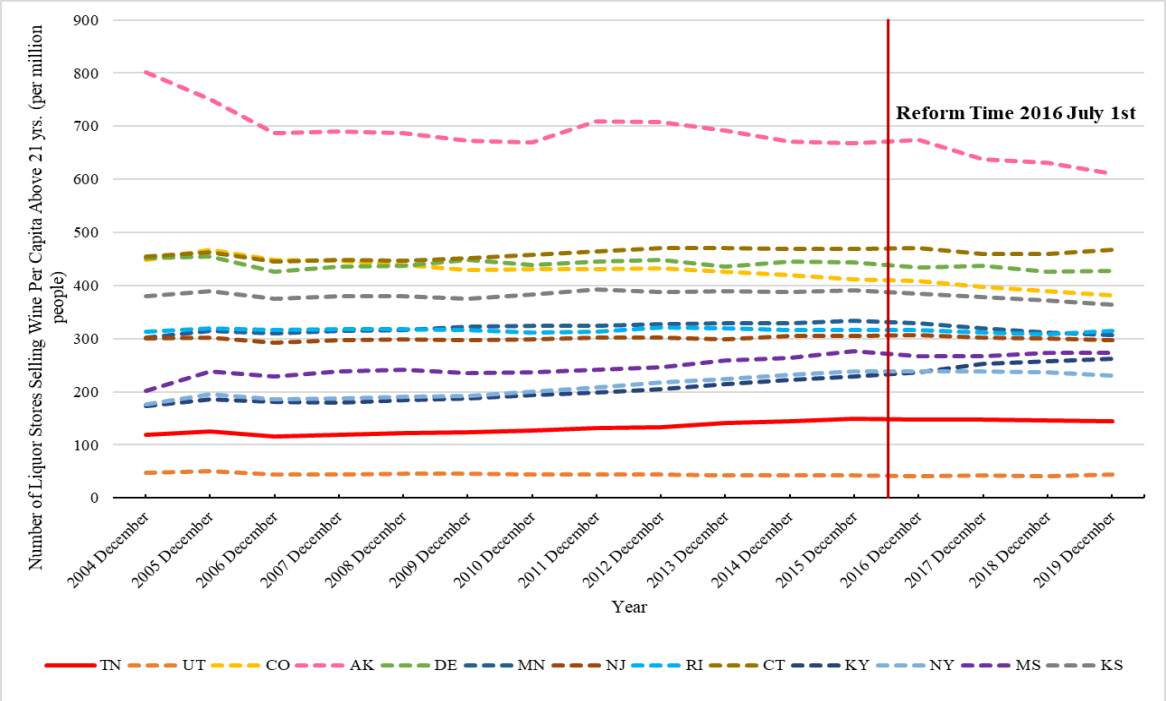

Figure 10. Number of liquor stores per capita selling wine across states, 2004-2019, Source: NIQ – RMS Bev Al Data.

To assess the second criterion ("*other alcohol reforms*"), we analyzed the retail-level alcohol policy reforms enacted across various states, utilizing the Alcohol Policy Information System (APIS) as our primary source of data (https://alcoholpolicy.niaaa.nih.gov/). We identified 10 distinct reforms, summarized in **Table 1**, which have been implemented in different times across the 12 potential donor states, as shown and outlined in **Table 2**. We consulted previous studies to discern the direct or indirect impact of these reforms on liquor store activities. We considered reforms that implemented beverage sales training (reforms 1 and 2), repealed sales bans (reform 3), and enacted fiscal reforms (reforms 4, 5, and 6) as having no discernible effect on the number of liquor stores.[58, 59, 60, 61] On the other hand, we excluded policy reforms such as allowing grocery stores to sell beer (reform 10) and retail distribution reforms (reforms 7, 8, 9) as they can have an impact on the number of liquor stores.[62] Including the reform allowing grocery stores to sell beer complicates the analysis, as it becomes challenging to isolate

[58] Chinman, M., Burkhart, Q., Ebener, P., Fan, C. C., Imm, P., Osilla, K. C., ... & Wright, A. (2011). The premises is the premise: understanding off-and on-premises alcohol sales outlets to improve environmental alcohol prevention strategies. *Prevention science*, *12*, 181-191.

[59] Kerr, W. C., Williams, E., & Greenfield, T. K. (2015). Analysis of price changes in Washington following the 2012 liquor privatization. *Alcohol and Alcoholism*, *50*(6), 654-660.

[60] Gehrsitz, M., Saffer, H., & Grossman, M. (2021). The effect of changes in alcohol tax differentials on alcohol consumption. *Journal of public economics*, *204*, 104520.

[61] Connolly, C., Graziano, M., McDonnell, A., & Steinbach, S. (2023). In Cervisia Veritas: The impact of repealing Sunday blue laws on alcohol sales and retail competition. *Journal of Wine Economics*, *18*(4), 312-323.

[62] As a robustness check, we also apply a stricter criterion to select the control states and time framework. We excluded from the analysis states with the reform of allowing grocery stores to sell beer (reform 10), retail distribution reforms (reforms 7, 8, 9), and any fiscal policy reforms (specifically, reforms 4, 5, and 6) that are ongoing in the focused time framework. The results from the robustness check, which are available in Appendix B [Click Here], are consistent with our main results as presented in the following section.

the impact of beer sales reform from wine sales reform. In addition, distribution reforms might redefine alcohol content criteria for beer, wine, and spirits in retail distribution, potentially resulting in some wines with low alcohol content being classified as beer and sold in grocery stores. [63,64] This factor makes it difficult to disentangle the impact of beer sales reform from wine sales reform.

Table 1: Alcohol retail reforms from 2004 to 2022 in potential donor states.

	Reform	Description
Beverage Sells Training		
(1)	Mandatory Beverages Sell Training	Laws specifying requirements for retail alcohol outlets to participate in server training programs (often referred to as Responsible Beverage Service).
(2)	Voluntary Beverage Sell Training	Laws specifying incentives for retail alcohol outlets to participate in server training programs (often referred to as Responsible Beverage Service).
Sales Ban Repealed		
(3)	Sunday Sales Ban Repealed	Laws banning Sunday sales of alcoholic beverages for off-premises consumption as of January 1, 1998 and repeals from that date forward.
Fiscal Policies		
(4)	Change in Beer Tax	Change of laws (usually change the tax volume) specifying the two major types of taxes levied on beer – "specific excise taxes" (taxes levied on the quantity of a beverage) and "ad valorem excise taxes" (taxes levied on the price of a beverage).
(5)	Change in Spirit Tax	Change of laws (usually change the tax volume) specifying the two major types of taxes levied on distilled spirits – "specific excise taxes" (taxes levied on the quantity of a beverage) and "ad valorem excise taxes" (taxes levied on the price of a beverage).
(6)	Change in Wine Tax	Change of laws (usually change the tax volume) specifying the two major types of taxes levied on wine – "specific excise taxes" (taxes levied on the quantity of a beverage) and "ad valorem excise taxes" (taxes levied on the price of a beverage).
Retail Distribution		
(7)	Change in Retail Distribution for Beer	Change of laws addressing retail distribution (usually change the definition, such as alcohol content, of beer) of beer including State-run, private licensed sellers, or combination systems.
(8)	Change in Retail Distribution for Spirit	Change of laws addressing retail distribution (usually change the definition, such as alcohol content, of distilled spirits) of distilled spirits including State-run, private licensed sellers, or combination systems.
(9)	Change in Retail Distribution for Wine	Change of laws addressing retail distribution (usually change the definition, such as alcohol content, of wine) of wine including State-run, private licensed sellers, or combination systems.
Beer Grocery store reform		

[63] Palardy, N., Costanigro, M., Cannon, J., Thilmany, D., Berning, J., Bayham, J., & Callaway, J. (2023). Beer sales in grocery and convenience stores: a glass half-full for craft brewers?. *Regional Studies*, *57*(10), 1981-1994.
[64] APIS. Retail Distribution Systems for Beer. https://alcoholpolicy.niaaa.nih.gov/apis-policy-topics/retail-distribution-systems-for-beer/5/changes-over-time#page-content

(10)	Start to allow Grocery Store Sell Beer	Please click the links to check the details for the reform in each state. UT (link), KS (link), and CO (link).

Table 2: Alcohol-related reforms implemented from 2004 and 2022.

	Year	Treated	Potential Control Pool										
		TN	AK	CO	CT	DE	KY	MN	NJ	NY	RI	UT	KS	MS
Pre-reform Time Period	2004										3			
	2005						4,5,6						3	
	2006	2						4,6				1		
	2007							2						
	2008			3								7,8,9		
	2009								5,6	4,6				
	2010												4,5,6	
	2011				4,5,6									
	2012				3									7
	2013	4					3				4,5,6		4,5,6	
	2014	1												
	2015						4,6						4,5,6	
Post-reform Time Period	2016			1			4,6							
	2017					4,5,6	4,6	3					10	
	2018	3					4,6							
	2019			10	4,5,6							3,4,7,10		
	2020													
	2021													
	2022													

Notes: 1) Numbers in the table refer to the 10 reforms reported in Table 1. 2) The selected control states and time frame for further analysis are highlighted in yellow.

Overall, the application of these two criteria ("*data-overlap*" and "*other alcohol reforms*") led us to select the timeframe of 2009-2018. Time periods before 2009 were excluded because Utah implemented a change in retail distribution for beer reform in 2008, while time periods after 2018 were excluded because three donor states (Utah, Connecticut, and Colorado) started to allow grocery stores to sell beer in 2019. Applying these two criteria reduced the number of control states from 12 to 10. Kansas is excluded, as it began allowing grocery stores to sell beer in 2018. Mississippi is also excluded due to distribution reforms implemented in 2012 that altered the definition of beer's alcohol content from 5%

alcohol by weight (ABW) to 8% alcohol by volume (ABW). Therefore, the final control pool comprised Utah, Colorado, Alaska, Delaware, Minnesota, New Jersey, Rhode Island, Connecticut, Kentucky, and New York. These states prohibited food retail stores from selling wine and did not undergo other significant alcohol sale reforms during our study period.

Empirical Model and Specification

Our sampling strategies described above resulted in a pool of 10 control states, 10-year timeframe ($T = T_{Pre} + T_{Post} = 10$), spanning from 2009 to 2018, with seven years of pre-intervention ($T_{Pre} = 7$) and three years of post-intervention ($T_{Post} = 3$). To initiate our data analysis and calculate the net effect of the reform, we began by selecting the outcome variables. These variables represent the number of liquor stores per capita selling wine after the reform in both Tennessee and the control states. We denoted $\mathbf{Y_{Post}^{1}}$ as the outcome variable for Tennessee after the reform ($T_{Post} \times 1$ vector), and $\mathbf{Y_{Post}^{0}}$ for the J control states ($T_{Post} \times J$ vector). The descriptive statistics of the outcome variable are presented in Table 3.

Next, to capture the pre-intervention characteristics and trends in both Tennessee and the control states, we selected K pre-intervention predictive variables. These were denoted as $(\mathbf{X_{Pre}^{1}})$ for Tennessee and $(\mathbf{X_{Pre}^{0}})$ the control states, representing the $(K \times J)$ vectors of pre-intervention variables. These variables were chosen to reflect various aspects such as population density, demographic factors, economic indicators, and liquor store data. We selected 9 variables as follows: 1) population density (persons per square mile, 2010), 2) proportion of civilian population above 21 years old (2009-2015), 3) average income per capita ($, 2009-2015), 3) wine consumption per capita (gallons, 2009-2015), 4) proportion of population (>25 yrs.) with college degree and above, 5) number of wineries (2009-2015), 6) unemployment rate (%, 2009-2015) 7) proportion of non-white population (2010), 8) number of liquor stores per capita in 2009, and 9) number of liquor stores per capita in 2015. The descriptive statistics of these predictors are presented in **Table 3**.

Next, we estimated the weights assigned to each control unit state to construct a "synthetic" Tennessee. This involved creating a simulated version of Tennessee that closely resembles its pre-intervention characteristics using data from the control states. Accordingly, the number of liquor stores in synthetic Tennessee after the reform was expressed as:

$$\mathbf{Y_{Post}^{1}}^{*} = \mathbf{Y_{Post}^{0}}\mathbf{W}^{*} \tag{1}$$

where $\mathbf{W}^{*}$ represents the solution obtained by minimizing the difference between the pre-intervention predictor variables of Tennessee ($\mathbf{X_{Pre}^{1}}$) and the weighted average of the control units ($\mathbf{X_{Pre}^{0}}\mathbf{W}$) according to the equation:

$$\min \sqrt{(\mathbf{X_{Pre}^{1}} - \mathbf{X_{Pre}^{0}}\mathbf{W})'\mathbf{V}(\mathbf{X_{Pre}^{1}} - \mathbf{X_{Pre}^{0}}\mathbf{W})} \tag{2}$$

where $\mathbf{V}$ is a $(k \times k)$ symmetric and positive semidefinite matrix. To assess the similarity between the outcome variable of Tennessee and its synthetic counterpart, we calculated the pre-treatment root mean square prediction error (RMSPE) using the formula:

$$Pre - Treatment\ RMSPE = \sqrt{(\frac{1}{T_{Pre}} \sum_{t=1}^{T_{Pre}} (Y_t^1 - \boldsymbol{Y_t^0 W}^*)^2)} \quad (3)$$

A smaller pre-treatment RMSPE indicates a better fit for synthetic Tennessee to actual Tennessee.

Finally, to estimate the reform effect, we calculated the difference between the observed outcome in Tennessee and its synthetic counterpart:

$$\hat{\boldsymbol{\alpha}} = \mathbf{Y_{Post}^1} - \mathbf{Y_{Post}^1}^* \quad (4)$$

where $\hat{\boldsymbol{\alpha}}$ represents the estimated reform effect. The statistical significance of these estimates was evaluated using placebo tests, which computed p-values based on the estimated placebo effect for each control state (Mohan 2017; Grogger 2017):

$$p - value_\alpha = \Pr(\hat{\alpha}^{PL} \leq \hat{\alpha}) = \frac{\sum_{j=2}^{J} 1[\hat{\alpha}_j^{PL} \leq \hat{\alpha}]}{J} \quad (5)$$

where $\hat{\alpha}_j^{PL}$ is the estimated placebo effect for each control state j (Alaska, Colorado, Connecticut, Delaware, Kentucky, Minnesota, New Jersey, New York, Rhode Island, and Utah). The p-value measures determine the probability of observing a decrease in the number of liquor stores selling wine larger than the estimated reform effect ($\hat{\boldsymbol{\alpha}}$) under the null hypothesis of no reform.

Descriptive statistics

Table 3 reports the descriptive statistics of the outcome variable ($\boldsymbol{Y_{Post}}$) and predictors ($\boldsymbol{X_{Pre}}$) for Tennessee and the ten control states. For the outcome variable, Tennessee (148 per million people) has a higher average number of liquor stores per capita from 2016 to 2018 than Utah (42 per million people), but lower than the other nine control states, which is consistent with **Figure 10**. For the predictors, Tennessee has a lower population density than Delaware, New Jersey, Rhode Island, Connecticut, and New York but higher than Utah, Colorado, Alaska, Minnesota, and Kentucky. Tennessee has a comparable proportion of population above 21 years, unemployment rate, and non-white population to the control states. Most states have a higher average income per capita and wine consumption per capita than Tennessee, except for Utah and Kentucky. In addition, Tennessee has more wineries than Utah, Alaska, Minnesota, Delaware, Rhode Island, and Connecticut but fewer than Colorado, New Jersey, Kentucky, and New York.

Table 3. Summary statistics for predictors: Tennessee *versus* control states

	Treated	Control Pool									
	TN	**UT**	**CO**	**AK**	**DE**	**MN**	**NJ**	**RI**	**CT**	**KY**	**NY**
Outcome Variable (Y_{Post})											
The number of liquor stores per capita (per million people, 2016 Dec – 2018 Dec)	148 (1.05)	42 (0.68)	399 (7.98)	648 (18.56)	433 (4.59)	320 (6.63)	303 (2.26)	312 (2.98)	463 (4.99)	249 (8.79)	238 (0.96)
Predictors (X_{Pre})											
Population density (persons per square mile, 2010)	153.9 (--)	33.6 (--)	48.5 (--)	1.2 (--)	460.8 (--)	66.6 (--)	1195.5 (--)	1018.1 (--)	738.1 (--)	109.9 (--)	411.2 (--)
Proportion of civilian population above 21 years old (2009-2015)	0.73 (0.00)	0.64 (0.01)	0.72 (0.01)	0.70 (0.01)	0.73 (0.01)	0.72 (0.00)	0.73 (0.00)	0.74 (0.01)	0.73 (0.00)	0.73 (0.00)	0.74 (0.01)
Average income per capita ($, 2009-2015)	38524 (2690)	35783 (3070)	45742 (4358)	52672 (3327)	43976 (2428)	46769 (3749)	55247 (3594)	45571 (2868)	64170 (2564)	35483 (2261)	53176 (3916)
Wine consumption per capita (Gallons, 2009-2015)	0.24 (0.02)	0.19 (0.01)	0.50 (0.02)	0.53 (0.02)	0.69 (0.02)	0.39 (0.02)	0.59 (0.02)	0.56 (0.02)	0.61 (0.02)	0.20 (0.02)	0.50 (0.02)
Proportion of population (>25 yrs.) with college degree and above, 2015	0.25 (--)	0.32 (--)	0.39 (--)	0.24 (--)	0.31 (--)	0.34 (--)	0.38 (--)	0.33 (--)	0.38 (--)	0.23 (--)	0.35 (--)
The number of wineries (2009-2015)	22.3 (4.5)	2.7 (1.4)	36.7 (6.8)	3.6 (0.9)	2.1 (0.8)	21.6 (2.1)	42.3 (6.4)	2.1 (1.4)	21.9 (3.6)	23.6 (9.1)	151.7 (18.7)
The unemployment rate (%, 2009-2015)	8.1 (1.5)	5.5 (1.7)	7.0 (1.9)	7.3 (0.7)	7.0 (1.3)	5.8 (1.4)	8.3 (1.4)	9.6 (1.9)	7.9 (1.3)	8.3 (1.9)	7.6 (1.2)
The proportion of non-white population (2010)	0.20 (--)	0.09 (--)	0.14 (--)	0.26 (--)	0.27 (--)	0.12 (--)	0.29 (--)	0.16 (--)	0.20 (--)	0.10 (--)	0.32 (--)
The number of liquor stores per capita (per million people, 2009 Dec)	123 (--)	45 (--)	429 (--)	673 (--)	449 (--)	323 (--)	298 (--)	317 (--)	452 (--)	188 (--)	193 (--)
The number of liquor stores per capita (per million people, 2015 Dec)	150 (--)	43 (--)	413 (--)	668 (--)	444 (--)	334 (--)	305 (--)	317 (--)	470 (--)	228 (--)	238 (--)

Notes: 1) Population density, civilian population above 21 years old, education, race, and income from the U.S. Census Bureau (2020). 2) The number of wineries in each state from the U.S. Bureau of Labor Statistics (2020). 3) The wine consumption per capita from the National Institute on Alcohol Abuse and Alcoholism (2023). 4) Numbers in Parentheses are standard deviations. "--" refers to the statistics based on one year. 5) Please check the details of the predictors in Appendix C [Click Here].

Results from Synthetic Control Analysis

Based on the methodology outlined earlier, we constructed the synthetic Tennessee using equations (1) and (2). Our findings reveal that the trend of the number of liquor stores selling wine in Tennessee prior to the reform can be most accurately replicated by a combination of Utah (0.448), Kentucky (0.327), and New York (0.225) (see **Table 4**). The other control states have zero weights, indicating their no contribution to synthetic Tennessee. This is common in synthetic control studies because weights are typically sparse.

Table 4. Synthetic Weights

State	Synthetic Control Weight
UT: Utah	**0.448**
CO: Colorado	0.000
AK: Alaska	0.000
DE: Delaware	0.000
MN: Minnesota	0.000
NJ: New Jersey	0.000
RI: Rhode Island	0.000
CT: Connecticut	0.000
KY: Kentucky	**0.327**
NY: New York	**0.225**

Table 5 compares pre-reform predictors among Tennessee, synthetic Tennessee, and the simple average of 10 control states. The results show that the characteristics of synthetic Tennessee more closely match those of actual Tennessee than the simple average of the control states does. This suggests that synthetic Tennessee offers a more accurate comparison base with actual Tennessee. Exceptions include a slightly lower proportion of the civilian population over 21 years old and a higher number of wineries in synthetic Tennessee.

Table 5. Summary statistics for predictors: Tennessee *versus* synthetic Tennessee *versus* simple control average

Variables	TN	Synthetic TN	Average of 10 Control States
Population density (persons per square mile, 2010)	153.9	143.5	408.4
Proportion of civilian population above 21 years old (2009-2015)	0.73	0.69	0.72
Average income per capita ($, 2009-2015)	38,524.43	39,598.26	47,858.86
Wine consumption per capita (Gallons, 2009-2015)	0.24	0.26	0.48
Proportion of population (>25 yrs.) with college degree and above, 2015	0.25	0.29	0.32
The number of wineries (2009-2015)	22.29	43.05	30.83
The unemployment rate (%, 2009-2015)	8.14	6.89	7.44
The proportion of non-white population (2010)	0.20	0.15	0.19
The number of liquor stores per capita (per million people, 2009 Dec)	123.45	125.14	336.61
The number of liquor stores per capita (per million people, 2015 Dec)	149.75	147.26	345.92

Note: "Average of 10 Control States" is the unweighted average of Utah, Colorado, Alaska, Delaware, Minnesota, New Jersey, Rhode Island, Connecticut, Kentucky, and New York.

Figure 11 illustrates the trends in the number of liquor stores selling wine per capita in Tennessee and synthetic Tennessee during the studied period. Focusing on the pre-reform period, synthetic Tennessee closely aligns with actual Tennessee, as evidenced by an RMPSE of 1.565. This close fit suggests that synthetic Tennessee follows the trajectory of Tennessee in the number of liquor stores selling wine per capita throughout the entire pre-reform period. Consequently, synthetic Tennessee serves as a reliable proxy for estimating the number of liquor stores selling wine per capita in actual Tennessee from 2016 to 2018, had the reform not been implemented.

After the reform, the difference in the per capita number of liquor stores selling wine between Tennessee and synthetic Tennessee indicates the net effect of the reform. Post-reform analysis reveals that, unlike actual Tennessee, the number of liquor stores per capita selling wine in synthetic Tennessee continued to increase. This finding implies that the reform may have prevented an increase in the number of liquor stores selling wine in Tennessee, unlike its synthetic control where the number of liquor stores continued

to grow. However, it remains to be determined whether this increase in the number of liquor stores in the synthetic Tennessee is statistically different from the one in Tennessee.

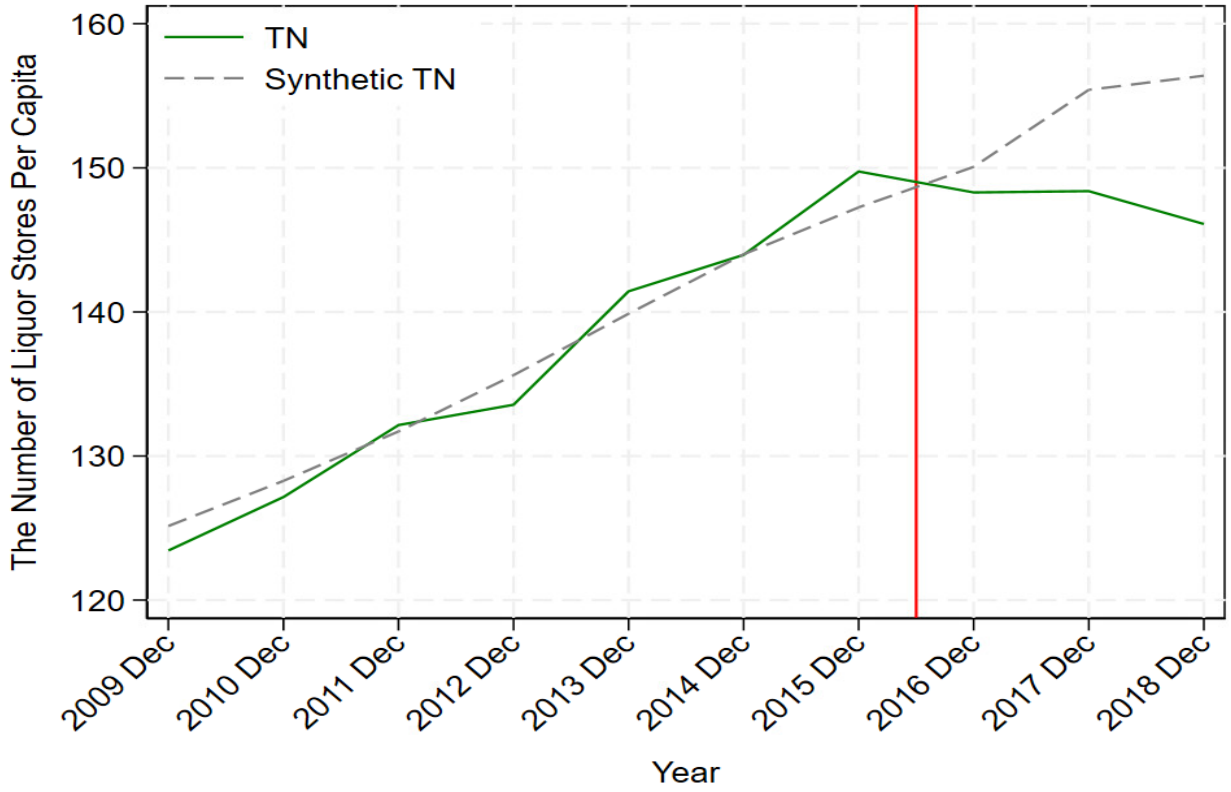

Figure 11. Trends in the number of liquor stores selling wine per capita: Tennessee *versus* Synthetic Tennessee

To determine if the difference in the number of liquor stores between Tennessee and its synthetic control after the reform is statistically significant, we report the SCM coefficient estimates in **Table 6**. These coefficients quantify the effect of the wine reform on the per capita number of liquor stores, as outlined in Equation (4). Negative (positive) coefficients indicate a reduction (increase) in the number of liquor stores after allowing grocery stores to sell wine. The standardized p-values[65] shown in parentheses indicate whether the coefficient estimates are statistically significant. Our coefficient estimates are all negative, indicating that the per capita number of liquor stores decreased by 1.78 in 2016, 7.03 in 2017, and 10.29 in 2018. However, the large standardized p-values (ranging from 0.38 to 0.50) for each post-treatment year, as outlined in Equation (5), suggest that these reductions are not statistically significant in any post-treatment period.

[65]Standardized p-values are calculated by dividing all estimated effect in formula (5) by their corresponding pre-treatment match quality (pre-treatment RMSPE)

Table 6. The SCM estimates of the reform impacts on the number of liquor stores

Post Year (After Reform)	The Number of Liquor Store Per Capita
2016	-1.78 (0.50)[a]
2017	-7.03 (0.38)
2018	-10.29 (0.38)

[a] Number in parentheses are standardized p-values.

To test the robustness of our findings, we conducted an in-space placebo test following previous literature.[66, 67] This test evaluates whether similar or larger effects of the wine sales reform could be observed in states that were not exposed to the reform, known as "placebo effects." The test was performed in three steps: 1) reassigning the "reform" treatment to the 10 control states included in our study, 2) re-running the SCM for each reassignment, 3) comparing the effect size of the wine sales reform in Tennessee to the placebo effect sizes in the control states with the treatment artificially reassigned. The effect size for the wine sales reform and the placebo effects are measured by the post-treatment to pre-treatment Root Mean Squared Prediction Error (RMSPE) ratio.[68]A larger ratio indicates a more significant reform or placebo effect. If larger ratios of post-treatment to pre-treatment RMSPE are observed in the artificially treated control states than in Tennessee, it would imply that the observed impact of the wine sales reform on the number of liquor stores could be due to chance rather than a causal effect of the reform.

The post- and pre-treatment RMSPEs from the in-space placebo test are presented in **Table 7**. Tennessee has the fourth-highest post- to pre-treatment RMSPE ratio (4.54) among the 11 states considered (Teneness plus 10 control states). This ratio is lower than those of states like Kentucky (15.27), New York (9.29), and Minnesota (7.21), even though these states did not implement the policy. Indeed, in

[66] Abadie, A., Diamond, A., & Hainmueller, J. (2015). Comparative politics and the synthetic control method. *American Journal of Political Science*, *59*(2), 495-510.
[67] Chen, Q., & Yan, G. (2023). A mixed placebo test for synthetic control method. *Economics Letters*, *224*, 111004.
[68] The calculation of pre-treatment RMSPE is in equation (3). The post-treatment RMSPE could be calculated as follows:

$$Post-Treatment\ RMSPE = \sqrt{\left(\frac{1}{T_{Post}} \sum_{t=T_{Pre}+1}^{T_{Post}} (Y_t^1 - \boldsymbol{Y_t^0 W^*})^2\right)}$$

The post-treatment RMSPE measures the gap between synthetic TN and actual TN. It should be noticed that a large post-treatment RMSPE is not indicative of a large effect of the reform if the pre-treatment RMSPE is also large. Thus, the ratio of post- and pre-treatment RMSPE is employed to indicate the impact size of the reform.

about 36% (joint standardized p-value is 0.36) of the cases (or 4 out of 11 times), other states showed larger changes than Tennessee when the policy was hypothetically applied to them for the test. It indicates that the average negative impact of the wine sales reform on the per capita number of liquor stores over the three years is not statistically significant. These changes in states unaffected by the policy suggest that the observed changes in Tennessee might not be directly attributable to the policy. This indicates a lack of statistically significant impact from the wine reforms in Tennessee. Thus, the results from the SCM pass the in-space placebo test.

Table 7. Post- and pre-treatment RMSPEs from in-space placebo test

	Pre-Treatment RMSPE	Post-Treatment RMSPE	Ratio
KY	1.72	26.24	15.27
NY	2.24	20.80	9.29
MN	1.69	12.19	7.21
TN (Real Treated)	1.57	7.11	4.54
CT	4.70	10.23	2.18
CO	6.15	11.79	1.92
DE	6.26	8.66	1.38
RI	2.36	3.17	1.34
UT	92.67	105.36	1.14
NJ	2.77	2.36	0.85
AK	220.00	185.20	0.84

Alternative empirical strategies

In addition to the in-space placebo test, we used various alternative modeling approaches to further assess the robustness of our findings. The first approach is the Synthetic Difference-in-Difference (Synthetic DID) method introduced by Arkhangelsky et al. (2021)[69] and applied in studies such as Porreca (2022)[70] and Huang et al. (2023)[71]. Second is Conformal Inference by Chernozhukov et al. (2021), which incorporates machine learning techniques. Detailed descriptions of these methods and their results are provided in the following subsections.

[69]Arkhangelsky, D., Athey, S., Hirshberg, D. A., Imbens, G. W., & Wager, S. (2021). Synthetic difference-in-differences. *American Economic Review*, *111*(12), 4088-4118.
[70]Porreca, Z. (2022). Synthetic difference-in-differences estimation with staggered treatment timing. *Economics Letters*, *220*, 110874.
[71]Huang, H. C., Ma, Y., & Wang, Y. (2023). Open data policy and journal impacts: a synthetic difference-in-differences approach. *Applied Economics Letters*, 1-6.

Synthetic Difference-in-Difference

The Synthetic DID method combines features of the SCM and the difference-in-difference approach. Like SCM, the Synthetic DID constructs a synthetic control state from a weighted average of a control group, reducing reliance on parallel trend assumptions (Arkhangelsky et al., 2021). Concurrently, it is invariant to additive state-level shifts, akin to the difference-in-differences method, which is advantageous for analyzing data across many states over time. Arkhangelsky et al. (2021) demonstrate that Synthetic DID performs competitively or even dominates SCM in terms of bias and RMSE, especially when the control pool and time framework expand.

We applied the Synthetic DID method to estimate the impact of wine sales reform on the per capita number of liquor stores in Tennessee, using the same control pool and time frame as in the SCM analysis. **Figure 12** plots the trends in the per capita number of liquor stores in Tennessee (treated) compared to the synthetic control created by Synthetic DID. The shaded green area in the figure indicates the optimal pre-treatment weights. We observe that the per capita number of liquor stores in Tennessee is lower than that in the synthetic control state. This discrepancy arises because the Synthetic DID aims to align the trends between Tennessee and the synthetic control, focusing on parallel trends rather than copying the exact number of liquor stores per capita in Tennessee as the SCM does. The parallel trends in the pre-treatment period lend credibility to the Synthetic DID results. The change in the gap between Tennessee and the synthetic control, before and after the wine sales reform, indicates the impact of the reform on the number of liquor stores in Tennessee. Notably, the parallel trend between Tennessee and the synthetic control remains consistent before and after the reform, suggesting that the wine sales reform has not affected the number of liquor stores in Tennessee.

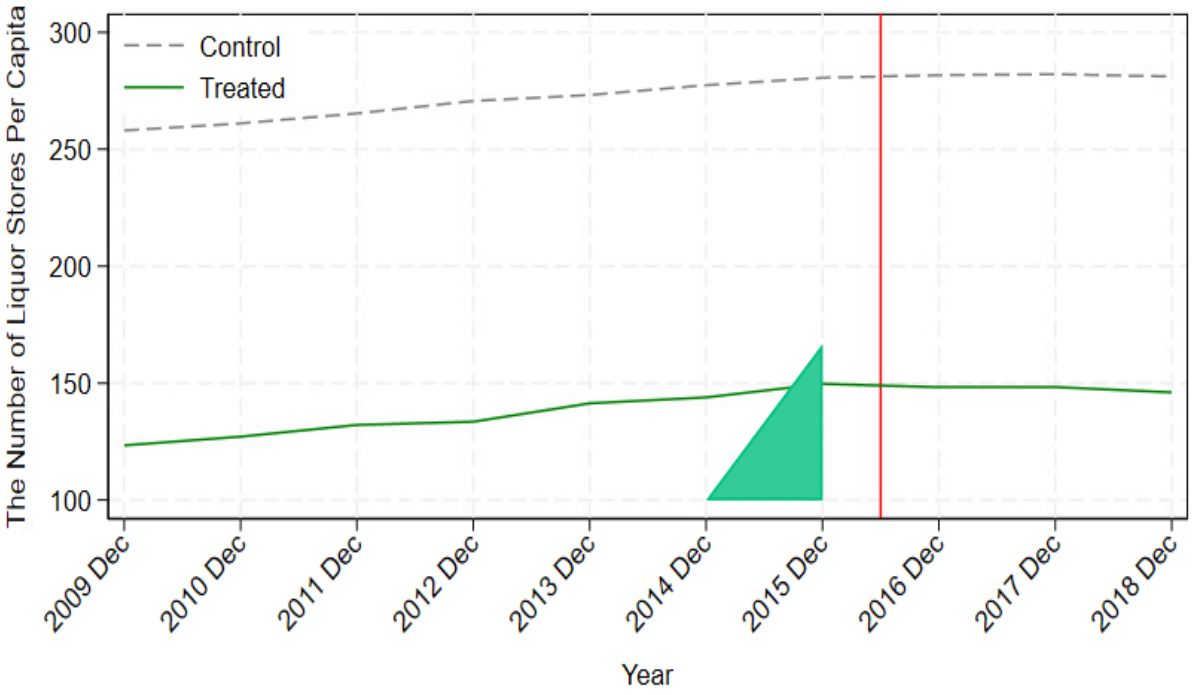

Figure 12. Trends in the number of liquor stores per capita: TN vs. weighted control.

Table 8 presents the results from the synthetic DID. The negative sign of the coefficient means the per capita number of liquor stores decreased by an average of 3.8 from 2016 to 2018 after the reform. However, a high p-value of 0.739 indicates that this decrease is not statistically significant over the three years following the reform. Thus, the findings from synthetic DID align with those from SCM.

Table 8. The treatment effect from Synthetic DID

	The Number of Liquor Store Per Capita
Treatment	-3.80 (0.739)

Note: The p-values are in parentheses, which are based on 1,000 placebo replications.

Conformal Inference (Machine Learning)

The conformal inference, introduced by Chernozhukov et al. (2021),[72] is a new inference procedure that uses the LASSO technique to create synthetic controls. Its distinguishing feature lies in its robustness to model misspecification, producing reliable results even in instances where the foundational assumptions of the model may not fully align with the underlying data, as long as the predicted errors behave consistently under the hypothesis being tested. Unlike SCM and Synthetic DID, which only use pre-treatment data to calculate control weights, conformal inference also incorporates post-treatment data.[73] This method has been shown to perform well in situations with small sample sizes, as evidenced by simulations conducted by Chernozhukov et al. (2021).

We used the conformal inference approach to construct synthetic control and evaluate the impact of wine sales reform on the number of liquor stores in Tennessee. **Table 9** presents the weights assigned to states in the control pool by conformal inference. Unlike SCM, conformal inference permits negative weights for control states. This flexibility, stemming from removing the non-negativity constraint on weights, results in conformal inference weights that significantly differ from those derived via SCM. Minnesota and New York received positive weights of 0.31 and 0.44, respectively, while Colorado, Delaware, and Rhode Island were assigned negative weights of -0.14, -0.05, and -0.06. Utah, Alaska, New Jersey, Connecticut, and Kentucky were given zero weights.

[72]Chernozhukov, V., Wüthrich, K., & Zhu, Y. (2021). An exact and robust conformal inference method for counterfactual and synthetic controls. *Journal of the American Statistical Association*, *116*(536), 1849-1864.

[73] Unlike SCM, conformal inference using constrained LASSO allows extrapolation. Thus, another robustness check could be to run the conformal inference but this time without worrying about the "data-overlap" criterion when choosing the donors. This would also give us more pre-treatment periods (which were excluded because of Utah) that results in better more robust estimates in conformal inference. To compare the results from conformal inference and SCM, the results presented in this section are based on the same donor pool and time framework as those in SCM. However, as a robustness test, we re-select the donor pool and time framework with relief of the "data-overlap" criterion. The results are presented Appendix F [Click Here].

Table 9. Conformal Inference Weights

State	Conformal Inference Weight
Utah (UT)	0.00
Colorado (CO)	-0.14
Alaska (AK)	0.00
Delaware (DE)	-0.05
Minnesota (MN)	0.31
New Jersey (NJ)	0.00
Rhode Island (RI)	-0.06
Connecticut (CT)	0.00
Kentucky (KY)	0.00
New York (NY)	0.44

The difference between Tennessee and synthetic Tennessee in the post-treatment periods reflects the impact of wine sales reform on the number of liquor stores per capita in TN. **Figure 13** plots the difference between Tennessee and synthetic Tennessee from 2016 to 2018, along with 80% confidence intervals.[74,75] The graph indicates a negative difference across all three post-treatment years, suggesting a reduction in the per capita number of liquor stores in Tennessee following the wine sales reform. However, the broad confidence intervals, which overlap with zero, imply that these reductions are not statistically significant at the 20% significance level for any of the post-treatment years. Specifically, the p-values for the effects of the wine sales reform are 0.60 using Moving Block Permutations and 0.64 using iid Permutations. Therefore, the results obtained from conformal inference align with those from SCM and synthetic DID.

[74] Following Chernozhukov et al. (2021), we conducted the placebo tests and plots the residues for the conformal inference in Appendix D [Click Here], which provides evidence of the credibility of conformal inference method.

[75] With seven pre-treatment periods, we utilize eight time periods in total to construct the p-value metric for conformal inference, which is the proportion of residuals whose absolute values are at least as great as the absolute value of the residual for the treated period. Consequently, a p-value of 0.125 (1/8) is attainable for any treatment effect under the null hypothesis, as its residual is always as extreme as itself. Thus, a p-value of 0.125 (1/8) is achievable for any treatment effect under the null (its residual is always as extreme as itself). We chose an 80% confidence interval (p-value < 0.2) as it captures treatment effects that, when posited as the null hypothesis, produce at least one pre-treatment-period residual—2 in total, including the post-treatment residual—as extreme or more extreme than the post-treatment residual.

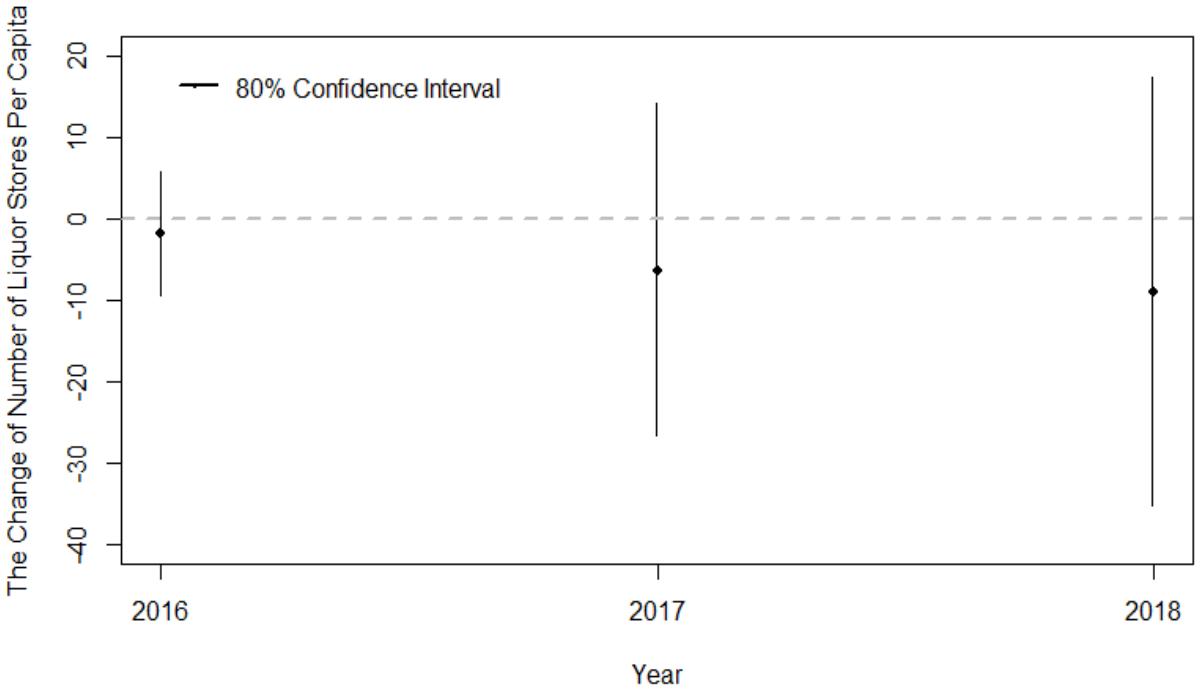

Figure 13. The difference between TN and synthetic TN Confidence Intervals

The Impact of Tennessee Wine Sale Reform on Overall Wine Sales Tax

Methodology

To assess the impact of the Tennessee wine sales reform on overall wine sales tax revenue, we applied the SCM, mirroring the approach taken to analyze its effect on the per capita number of liquor stores. Tennessee served as the treated state in this analysis as well. However, the selection criteria for the time framework and control states diverged from those used in the liquor store estimation, owing to the specific nature of the impact on tax revenues. We considered fiscal policy reforms (namely, reforms 4, 5, and 6), the authorization for grocery stores to sell beer (reform 10), and retail distribution reforms (reforms 7, 8, and 9) as significant factors. It is critical to consider these reforms because they are directly relevant to wine sales tax, thus guiding our selection of control states and the study period.

Given the revised criteria incorporating other alcohol reforms, the time frame is narrowed to 2014-2018. This adjustment accounts for a beer tax reform in Tennessee in 2013. Delaware and Kentucky were excluded due to fiscal policies affecting them in 2017 and from 2015 to 2018, respectively. Also, New Jersey, Rhode Island, and Utah were removed from the control group because they did not fully report wine sales tax data during 2014-2018. Therefore, our analysis focuses on the 2014-2018 period, with a control pool consisting of five states: Alaska, New York, Minnesota, Connecticut, and Colorado.

Data

We gathered annual wine sales tax data for Tennessee (the treated state) and the control states from Fiscal Year (FY) 2014 to 2019. Data were obtained from state tax receipts and tax collection reports from the following sources: Department of Revenue, Tennessee; Alaska Department of Revenue – Tax Division; New York State Department of Taxation and Finance; Minnesota Department of Revenue; Connecticut State Department of Revenue Services; Colorado Department of Revenue. Each fiscal year begins in July of the previous calendar year and ends in June of the current year. For instance, FY 2014 includes wine sales tax data from July 2013 to June 2014. As the reform took effect on July 1, 2016, marking the beginning of FY 2017, the post-reform period includes FY 2017, 2018, and 2019.

Similar to analyzing the number of liquor stores per capita, we use wine sales tax per capita as the outcome variable to make it comparable across time and states. **Figure 14** presents the trend in wine sales tax per capita from FY 2014 to 2019. The wine sales tax per capita in Tennessee is higher than New York, Minnesota, and Colorado but lower than Connecticut and Alaska. Notably, the wine sales tax per capita in Tennessee increases in FY 2017, a trend not observed in the control states.

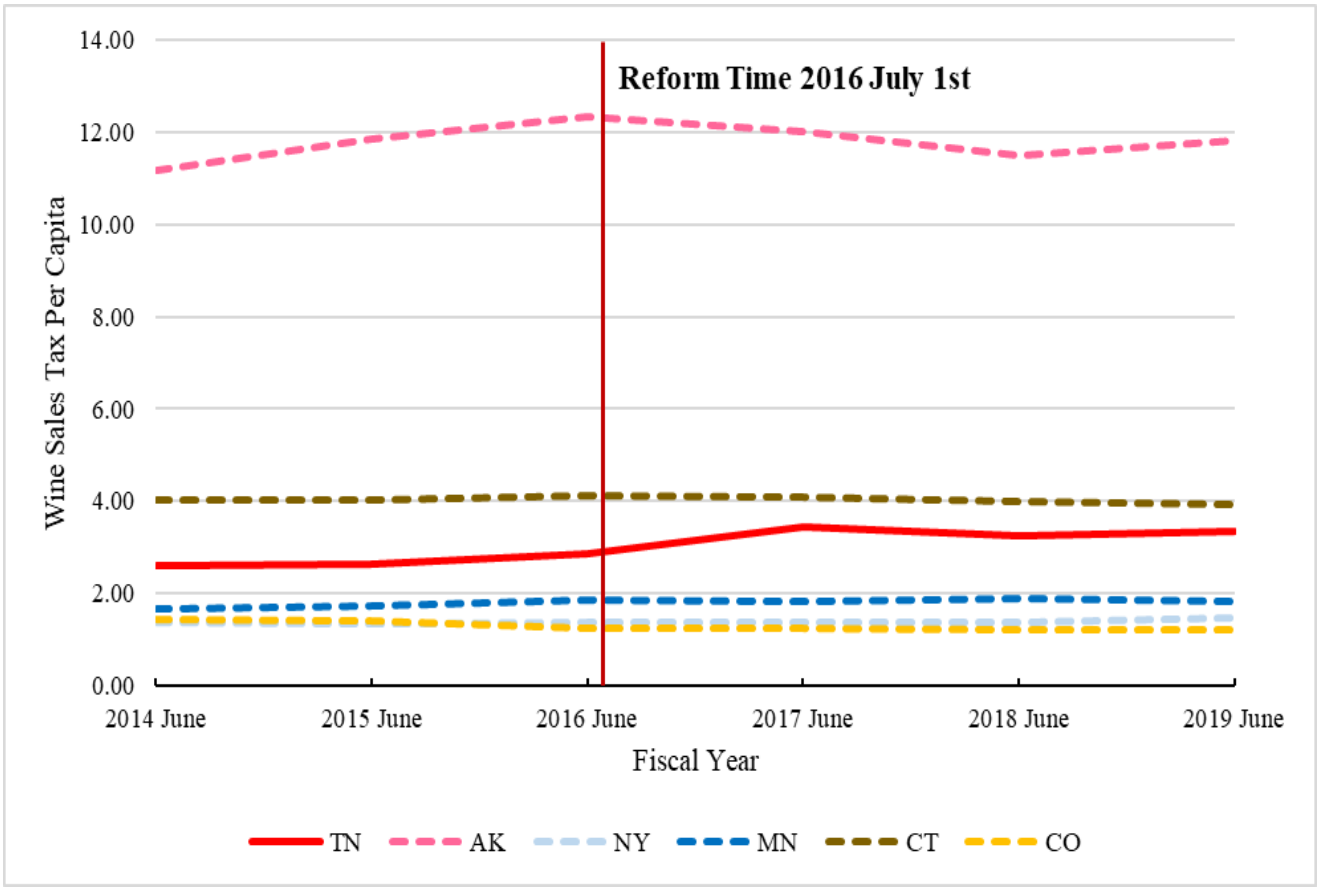

Figure 14. Trends in wine sales tax, FY 2014-2019: Tennessee *versus* control states

Similar to estimating the policy impact on the number of liquor stores per capita, nine variables are included as predictors: 1) population density, 2) proportion of civilian population above 21 years old, 3) average income per capita, 3) wine consumption per capita, 4) proportion of the population with a college degree and above, 5) the number of wineries, 6) unemployment rate, 7) the proportion of non-white population, 8) wine sales tax per capita in FY 2014, and 9) wine sales tax per capita in FY 2016. The descriptive statistics of these predictors are presented in **Table 3** and **Figure 14**.

Results from Synthetic Control Analysis

Following the methodology outlined earlier, we constructed synthetic Tennessee using equations (1) and (2). Our analysis indicates that the trend of wine sales tax per capita in Tennessee before the reform is most accurately replicated by a combination of Alaska (weight: 0.101), Minnesota (weight: 0.711), and New York (weight: 0.225) (see **Table 10**). The remaining control states have zero weights, signifying their negligible contribution to the synthetic Tennessee.

Table 10. Synthetic Weights

State	Synthetic Control Weight
CO	0.000
AK	**0.101**
MN	**0.711**
CT	0.000
NY	**0.225**

Table 11 compares the pre-reform characteristics (predictors) among Tennessee, synthetic Tennessee, and the simple average of the five control states. The results indicate that the characteristics of synthetic Tennessee resemble those of actual Tennessee, except for the unemployment rate and proportion of the non-white population. Therefore, the synthetic Tennessee provides a more accurate basis for comparison with actual Tennessee than the simple average of the control states.

Table 11. Summary statistics for predictors: Tennessee *versus* synthetic Tennessee *versus* simple control average

Variables	TN	Synthetic TN	Average of 5 Control States
Population density (persons per square mile, 2010)	153.9	124.8	253.1
Proportion of civilian population above 21 years old (2009-2015)	0.73	0.73	0.73
Average income per capita ($, 2009-2015)	42350.33	53732.80	57539.13
Wine consumption per capita (Gallons, 2009-2015)	0.28	0.46	0.52
Proportion of population (>25 yrs.) with college degree and above, 2015	0.25	0.33	0.34
The number of wineries (2009-2015)	30.67	53.44	57.27
The unemployment rate (%, 2009-2015)	5.63	4.53	5.12
The proportion of non-white population (2010)	0.20	0.17	0.21
Wine sales tax per capita in fiscal year 2014	2.61	2.56	3.93
Wine sales tax per capita in fiscal year 2016	2.86	2.83	4.18

Note: "Average of 5 Control States" is the unweighted average of CO, AK, MN, CT, and NY.

Figure 15 depicts the trends in wine sales tax per capita in Tennessee and synthetic Tennessee. Synthetic Tennessee closely mirrors the actual trajectory of Tennessee during the pre-reform period, with an RMPSE of 0.044, indicating a close fit. This suggests that synthetic Tennessee provides a reasonable approximation of wine sales tax per capita in actual Tennessee from FY 2017 to 2019 in the absence of the reform.

The difference between wine sales tax per capita in Tennessee and synthetic Tennessee after the reform represents the net effect of the reform. Comparing outcomes post-reform, it is evident that wine sales tax per capita in synthetic Tennessee remains stable, while in actual Tennessee, it increased in FY 2017 before stabilizing. This suggests that the wine sales reform led to an increase in wine sales tax per capita in Tennessee, contrasting with states where the reform was not implemented, and wine sales tax per capita remained unchanged.

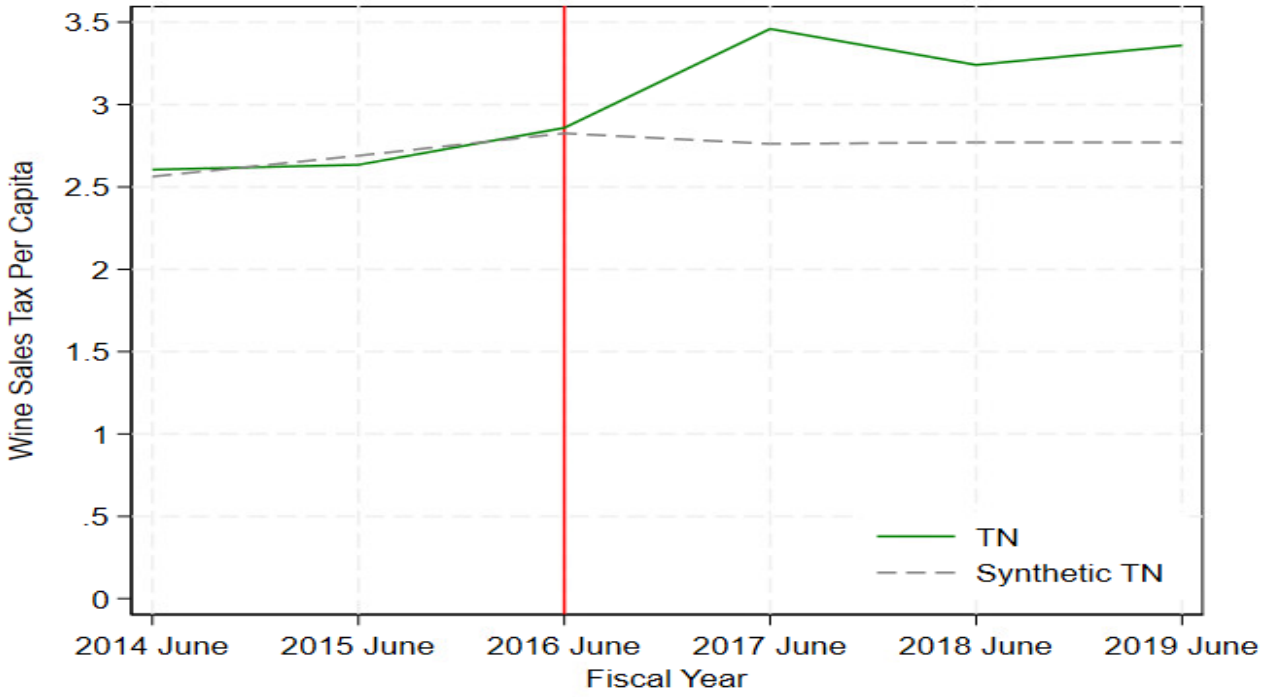

Figure 15. Trends in wine sales tax per capita: Tennessee *versus* Synthetic Tennessee

To determine the significance of the differing trends in the number of liquor stores between Tennessee and its synthetic control after the reform, we applied the SCE method, and the results are reported in Table 11. The results indicate that wine sales tax per capita increased by 0.698 in Fiscal Year (FY) 2017, 0.417 in FY 2018, and 0.590 in FY 2019 after the reform. The standardized p-values (<0.001) for each post-treatment year suggest that these increases are statistically significant in all post-treatment fiscal years.

Table 12. The SCM estimates of the reform impacts on wine sales tax per capita

Post Year (After Reform)	Wine Sales Tax Per Capita
FY 2017	0.698 (0.000)[a]
FY 2018	0.471 (0.000)
FY 2019	0.590 (0.000)

[a] Number in parentheses are standardized p-values.

To assess the robustness of our results, we conducted the in-space placebo test once again. Table 13 presents the post- and pre-treatment RMSPEs from this test. Tennessee exhibits the highest post- to pre-treatment RMSPE ratio at 13.52, approximately 10 times higher than the other states. Conversely, states such as New York, Colorado, Connecticut, Alaska, and Minnesota have ratios close to or below 1, indicating no treatment effect in these states. The significantly higher ratio observed in Tennessee supports our findings that the wine sales reform significantly increased the wine sales tax in TN. Indeed, there are no cases (joint standardized p-value is 0.00) showing larger changes than Tennessee when the policy was hypothetically applied to them for the test. It indicates that the average positive impact of the wine sales reform on the wine sales tax over the three years is statistically significant. Thus, the results from the SCM pass the in-space placebo test.

Table 13. Post- and pre-treatment RMSPEs from in-space placebo test

	Pre-Treatment RMSPE	Post-Treatment RMSPE	Ratio
TN	0.04	0.59	13.52
NY	0.10	0.17	1.75
CO	0.38	0.57	1.49
CT	0.07	0.07	1.02
AK	7.74	7.77	1.00
MN	0.11	0.07	0.64

Alternative empirical strategies

Synthetic Difference-in-Difference

Based on the same control pool and time framework used in SCM, we employed Synthetic DID to estimate the impact of the wine sales reform on wine sales tax per capita in Tennessee. Figure 16 illustrates the trend of wine sales tax per capita in Tennessee (treated) alongside the synthetic control constructed by Synthetic DID. Again, the shaded green area represents the optimal pre-treatment

weights. Notably, wine sales tax per capita in Tennessee is observed to be lower than that in the synthetic control state. The parallel trends of Tennessee and the synthetic control in the pre-treatment period enhance the credibility of the Synthetic DID results. The change in the gap between Tennessee and the synthetic control before and after the wine sales reform reflects the impact of the reform on wine sales tax per capita in Tennessee. It is observed that the wine sales tax per capita trend remains stable after the reform, while there is an increase in wine sales tax per capita in Tennessee. This suggests a positive impact of the wine sales reform on wine sales tax per capita in Tennessee.

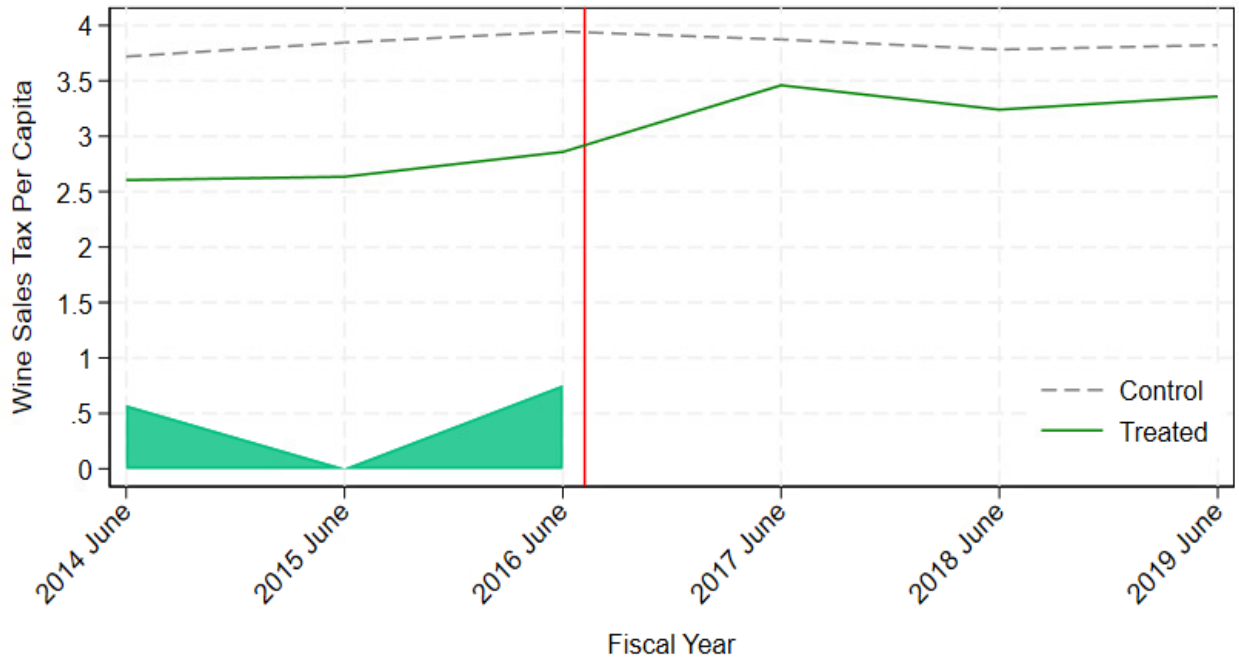

Figure 16. Trends in wine sales tax per capita: TN vs. weighted control

Table 14 presents the results from synthetic DID, indicating that the reform generated a wine sales tax per capita increase of 0.614 from FY 2017 to FY 2019. The p-value (0.022) suggests this increase is statistically significant at the 5% level over three post-treatment fiscal years. Thus, the result of synthetic DID is consistent with that from SCM.

Table 14. The treatment effect from Synthetic DID

	The Wine Sales Tax Per Capita
Treatment	0.614 (0.022)

Note: p-values are in parentheses, which are based on 1,000 placebo replications.

Conformal Inference (Machine Learning)

Similar to the methodology employed for estimating the impacts on the number of liquor stores per capita, we utilized conformal inference to construct synthetic control and assess the impact of the wine sales reform on wine sales per capita in Tennessee. Table 15 presents the conformal inference weight of states in the control pool. According to conformal inference, Alaska (0.05) has a positive weight, while Colorado (-0.95) has a negative weight. Alaska, Minnesota, and Connecticut have zero weights.

Table 15. Conformal Inference Weights

State	Conformal Inference Weight
AK	0.05
NY	0.00
MN	0.00
CT	0.00
CO	-0.95

The difference between Tennessee and synthetic Tennessee in the post-treatment periods reflects the impact of wine sales reform on the per capita wine sales tax in Tennessee. **Figure 13** plots the difference between Tennessee and synthetic Tennessee from FY 2017 to FY 2019 and 70% confidence intervals.[76] It shows that the difference between Tennessee and synthetic Tennessee is positive across three post-treatment years, which means there is an increase in wine sales tax per capita in Tennessee after the wine sales reform. However, the result is only statistically significant at the 30% level, which could be attributable to the small size of the control pool. Indeed, the p-values of the wine sales reform effects are 0.66 based on Moving Block Permutations and 0.56 based on iid Permutations, respectively. The effects from conformal inference are consistent with those from SCM and synthetic control, but it is not statistically significant.

With three pre-treatment periods, we utilize four time periods in total to construct the p-value metric for conformal inference, which is the proportion of residuals whose absolute values are at least as great as the absolute value of the residual for the treated period. Consequently, a p-value of 0.25 (1/4) is attainable for any treatment effect under the null hypothesis, as its residual is always as extreme as itself. Thus, a p-value of 0.25 (1/4) is achievable for any treatment effect under the null (its residual is always as extreme as itself). We chose an 70% confidence interval (p-value < 0.3) as it captures treatment effects that, when posited as the null hypothesis, produce at least one pre-treatment-period residual—2 in total, including the post-treatment residual—as extreme or more extreme than the post-treatment residual.

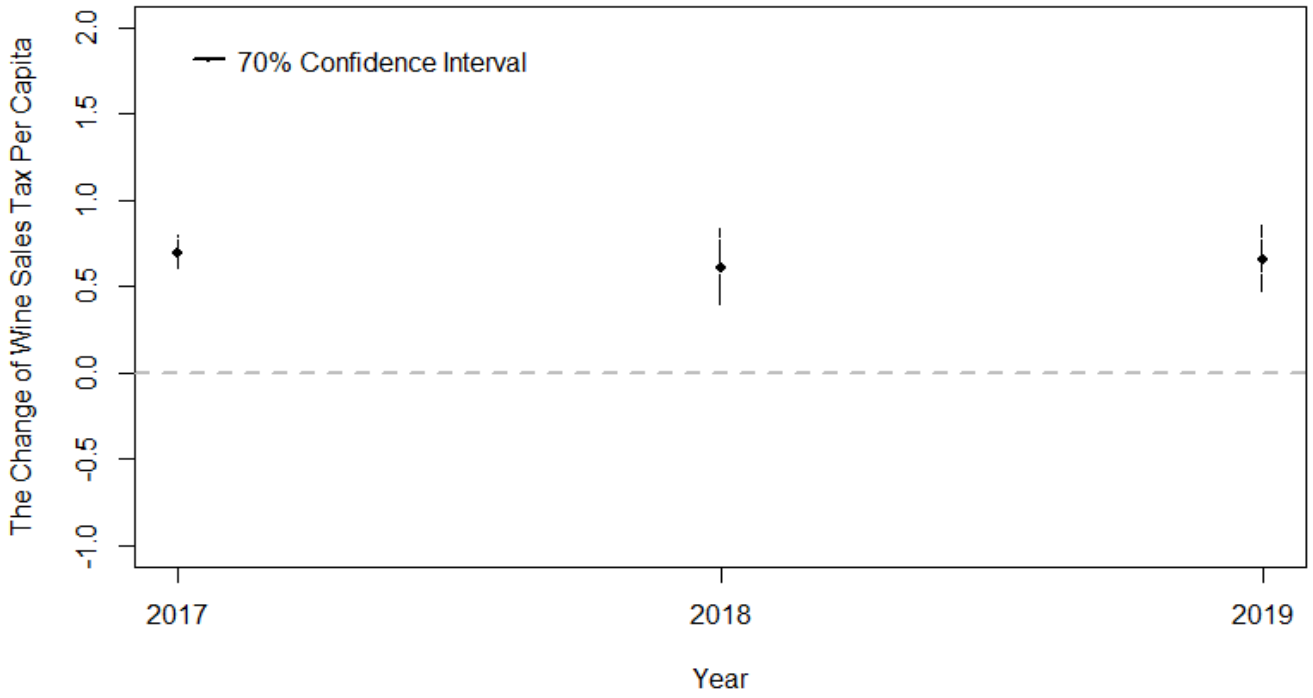

Figure 13. The difference between TN and synthetic TN Confidence Intervals

Final Remarks

Tennessee's expansion of wine sales to retail food stores did not result in significant liquor store closures. While this study does show that the reform may have prevented further increases in liquor stores selling wine compared to a hypothetical synthetic Tennessee without the policy reform, any such restraint on growth was not statistically significant. At the same time, wine sales expansion triggered a significant surge in sales tax collected and, consequently, in state revenue.

It is also necessary to note the study's limitations and areas for future evaluation on the research topic. First, our assessment of the Tennessee policy reform represents just one case study into the effect of wine grocery store sales on liquor store closures and sales. The Tennessee policy serves as a natural experiment with tremendous policy relevance, but other research could consider the effects seen in other states that have implemented similar policies to see the generalizability of our findings.

On a related note, it is important to consider how the effects of legalizing wine in grocery stores could be different from legalizing beer or distilled spirits sales in grocery stores. In the case of Tennessee, grocery stores could already sell beer. This could mean that the marginal effect on liquor store closures could have been dampened by the fact that grocery stores could already sell beer. With this, it would also be worth exploring how allowing distilled spirit sales would impact outcomes. Tennessee does not allow grocery stores to sell distilled spirits, which means consumers must still go to a liquor store for these products. As Tennessee consumers are among the leading consumers of whiskey (VinePair,

2021)[77], liquor stores could, for example, specialize in whiskey product offerings while supplementing sales with general beer and wine offerings. If this policy were to change, where grocery stores could also sell distilled spirits, the effect on liquor stores could be stronger than what we observe here. Therefore, stakeholders and policymakers should exercise caution when applying these results to other beer, wine, and spirit policy reforms.

The study is also constrained by data availability, where we only have access to the number of liquor store licenses by retail channel. We do not observe sales volume by retail channel, meaning we cannot assess the effect of the reform on liquor store sales following the reform. Past research simulated how allowing grocery stores to sell wine in grocery stores could influence sales in New York, suggesting that liquor store owners could experience a 28% decline in revenue (Rickard, 2012). Without access to sales data across different channels and across the treatment and control states, we cannot address this outcome. Thus, while the study demonstrates a non-statistically significant effect of the policy on liquor store closures, there could still be an impact on liquor store sales and revenue. Relatedly, we do not observe how average wine prices changed following the reform. Further analysis is needed to address this question.

Lastly, another limitation of our study is the focus on three post-policy reform periods due to data and/or SCM requirements. This potentially affects our ability to confidently assess long-term effects and trends that may emerge over a more extended period; as well as our ability to observe and analyze the adaptation behaviors of the affected entities and the market as a whole, which might only become apparent after a longer period. Taken together, these factors highlight the need for further research with extended post-policy data.

Despite these limitations, our results provide important insights into the liberalization of wine sales in grocery stores. Consumers consistently tell pollsters they prefer to purchase wine with their food. A recent review of the literature finds a "*consensus that consumers prefer having a large number of marketplace choices that are more convenient, easily accessible and reasonably priced.*"[78] Balanced against this clear consumer preference is the fear among opponents of the policy that expanding wine sales to food stores will result in the closure of existing liquor stores. This potential tradeoff must be considered on a case-by-case basis, as concerns over the unintended consequences of these reforms are not entirely unjustified. However, in the case of Tennessee's grocery store wine reform, we find non statistically significant effects on liquor store closures and a statistically significant increase in wine sales.

[77] Vinepair (2021). The states that drink the most American whiskey. https://vinepair.com/articles/states-drink-most-american-whiskey-map/

[78] Center for Public Private Partnerships in Health, University of Delaware, College of Health Sciences. (2021). *The Economic Benefit of Beer and Wine Sales in Grocery Stores*.

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UFCW 400 Favorable Written Testimony for SB0824 -

Uploaded by: Kayla Mock

Position: FAV

Testimony in Support of SB0824

Alcoholic Beverages - Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses – Repeal

February 19, 2025

To: Honorable Chair Pamela Beidle, Vice Chair Antonio Hayes, and members of the Senate Finance Committee

From: Kayla Mock, Political & Legislative Director
United Food and Commercial Workers Union, Local 400

Chair Beidle and members of the Senate Finance Matters Committee, I appreciate the chance to share my testimony on behalf of our over 10,000 members in Maryland, working in grocery, retail, food distribution, cannabis, and healthcare. Through collective bargaining, our members raise the workplace standards of wages, benefits, safety, and retirement for all workers. Union members are critical to addressing inequality and uplifting the middle class.

Our members are the hardworking men and women who keep Maryland's grocery stores running, ensuring families have access to fresh food and essential goods.

We support SB0824 and urge you to vote this bill favorably.

This legislation is not just about convenience for consumers — it is about **creating and preserving good jobs, generating much-needed state revenue, and modernizing our outdated laws.**

Passing this bill will:

1. **Generate $32 Million in New Revenue Without Raising Taxes** – At a time when Maryland is facing significant budget challenges, this legislation provides an opportunity to add **$32 million in new state revenue** without imposing any new taxes on residents. This is a win-win solution that benefits both workers and taxpayers.

2. **Strengthen Union Jobs & Economic Growth** – Allowing beer and wine sales in grocery stores will expand employment opportunities, increase work hours, and provide better wages and benefits for thousands of union grocery workers across the state.

3. **Enhance Consumer Convenience** – Maryland is one of the few remaining states that does not allow grocery stores to sell beer and wine. This legislation will give residents the same convenience that consumers in most other states already enjoy. In fact, **polls show that three out of four Maryland consumers support this change.** It's time for our laws to catch up with consumer demand.

4. **Ensure Safe & Responsible Alcohol Sales** – Grocery stores already follow strict ID verification procedures for products like tobacco and lottery tickets. Many major retailers successfully sell alcohol in other states while adhering to strong responsible sales practices. Maryland grocers are prepared to do the same.

Maryland needs revenue, Maryland consumers want convenience, and Maryland businesses deserve the opportunity to grow and thrive. This legislation accomplishes all three. I urge the committee to give it favorable consideration.

We urge a favorable report on SB0824.

SB 824 Sen. McCray's Testimony.pdf
Uploaded by: tamika winkler
Position: FAV

CORY V. MCCRAY
Legislative District 45
Baltimore City

DEPUTY MAJORITY WHIP

Budget and Taxation Committee
Subcommittees
Chair, Health and Human Services
Vice Chair, Capital Budget

Executive Nominations Committee

Legislative Policy Committee
Joint Committee on Gaming Oversight

THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

James Senate Office Building
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Cory.McCray@senate.state.md.us

Vote Yes on Senate Bill 824

Bill Title: Alcoholic Beverages – Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses – Repeal

Committee: Finance

Hearing Date: February 21st 2025

Dear Finance Committee Chair Senator Pamela Beidle, Vice Chair Senator Antonio Hayes, and Esteemed Members of the Committee,

I respectfully ask for your support of Senate Bill 824, which repeals the current prohibition on issuing Class A alcoholic beverage licenses to chain stores, supermarkets, and discount houses. This bill is a necessary update to reflect the evolving retail landscape in Maryland.

By lifting this restriction, we allow established retailers to meet consumer demand for convenience while maintaining strong local oversight of alcohol sales. This change will provide businesses with the opportunity to expand their offerings responsibly, without compromising public safety or regulation.

Senate Bill 824 will encourage fair competition, benefit Maryland's economy, and offer consumers more choices, all while ensuring that alcohol sales remain properly regulated. I ask for your support in advancing this important legislation.

Continued Blessings,

Cory V. McCray
45th District

wine.pdf
Uploaded by: Terry Niner
Position: FAV

Concerning SBO824

Before we moved to Maryland from Colorado when we visited our daughter we found it more cost effective to buy wine online and ship it to her residence. Now that we live in Maryland we find it more cost effective to buy wine at Costco in DC or Virginia again with taxes begin paid out of state, an opportunity for funding government missed. I suspect that Costco as the second largest wine retailer gets a lot of out of state business. Also perhaps that would encourage the largest wine retailer Total Wine to have stores in Montgomery County. Seems odd they are headquartered in the county without any retail presence.

It seems there are an abundance of marijuana shops competing against each other but not any real competition in wine sales. The same thing used to occur in Colorado until wine was sold at grocery stores. It's also nice to ensure that a large collection grocery stores continues to exist especially during cyclic economic downturns.

Finally any legislation which does get pass I hope doesn't get watered down by lobbyists from private stores limiting the number of stores each year as Colorado did. Until another vote just allowed all groceries stores.

SB0824 Opposition Letter Prohibition on Class A Li

Uploaded by: Deborah Owston

Position: UNF

SB 0824
FEBRUARY 21, 2025 at 1:00 PM

GARRETT COUNTY GOVERNMENT
Board of License Commissioners - Liquor Control Board
203 South Fourth Street, Room 208, Oakland, Maryland 21550
garrettcountymd.gov/liquor-control-board –
Phone 301-334-1925 – Fax 301-334-5023
liquorcontrolboard@garrettcountymd.gov

February 19, 2025

The Honorable Pamela Beidle
Finance Committee
3 East Miller Senate Office Building
11 Bladen Street
Annapolis, MD 21401

RE: SB 0824 – Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses - Repeal

Dear Chair Beidle:

On behalf of the Garrett County Board of License Commissioners (Board), this office recommends you oppose Senate Bill 0824 – Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses - Repeal as written.

The Board opposes SB 0824 since it creates an exception for Class A licenses to be issued to chain stores, supermarkets, and discount houses. The Board would like to point out that this proposed legislation will negatively impact small family-owned businesses in Garrett County. Currently, in our rural county there are approximately twenty-five "chain store" businesses in operation who are prohibited from holding an alcoholic beverage license. These stores are predominantly owned and operated by large corporations. Garrett County currently has 79 licensed establishments. If the “chain store” businesses were licensed, that would be an increase of approximately 30 % more licenses in the county. The current small business owners will be negatively hit hard financially by such an influx of “chain stores” being permitted to sell alcoholic beverages.

The Garrett County Board of License Commissioners urge you to oppose Senate Bill 0824. Thank you for the attention you may give to this legislative issue.

Sincerely,

Deborah R. Owston,
Administrator of the Board of License Commissioners

cc: Senator Mike McCay
Delegate Jim Hinebaugh, Jr.

Public Health Law Clinic_SB824_OPP.pdf
Uploaded by: Jacquelyn Ellis
Position: UNF

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Testimony in Opposition to Senate Bill 824

Alcoholic Beverages - Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses – Repeal

Before the Finance Committee: February 21, 2025

The Public Health Law Clinic submits this testimony in opposition to Senate Bill 824 because it increases accessibility to alcohol, directly impacting the public health of the general population, especially those living with alcohol use disorder.

Increased Availability Leads to Higher Consumption

Higher availability of alcohol leads to higher levels of drinking. Therefore, when alcohol is sold in grocery stores, per capita alcohol consumption increases.[1] This correlation between access and consumption is not unique to any given community or population. Given that no population is immune to resist indulgence when tempted with ease of accessibility, public health guidance recommends restricting sales of alcohol, such as regulating where, when, and to whom alcohol is sold, as an effective way to lower alcohol consumption.[2] Senate Bill 824 aims to accomplish the opposite. By approving the sale of alcohol in grocery stores and convenience stores, the legislature would be expanding access to alcohol purely for convenience to the detriment of public health and safety.

Public Health Harms of Increased Alcohol Access

Greater accessibility and alcohol outlet density is not only associated with increased alcohol consumption, but is also related to increased harm, including violence, injuries, and other health issues. Alcohol outlet density is associated with an increase in violent crime exposure—with each 10% increase in alcohol outlet access being correlated with a 4.2% increase in violent crime exposure.[3] This correlation between increased exposure to violent crimes and alcohol outlet density is more pronounced when the alcohol outlets are for off-premises consumption. Access to alcohol outlets for off-premises consumption is associated with a 37% greater incidence of violent crime compared to access to on-premises outlets.[4] The most frequently investigated alcohol-related incidents are assault, with alcohol outlet density being recognized as a community characteristic associated with high rates of firearm assault—so much so that

---

[1] Norman Giesbrecht & Daniel T. Myran, *Harms and Costs of Proposed Changes in How Alcohol is Sold in Ontario*, 196 CANADIAN MEDICAL ASSOCIATION JOURNAL 447, 448 (2024), https://pmc.ncbi.nlm.nih.gov/articles/PMC11001388/pdf/196e447.pdf.

[2] *Global Status Report on Alcohol and Health*, WORLD HEALTH ORGANIZATION (2018), https://iris.who.int/bitstream/handle/10665/274603/9789241565639-eng.pdf?sequence=1.

[3] Pamela J. Trangenstein, *Outlet Type, Access to Alcohol, and Violent Crime*, ALCOHOL, CLINICAL AND EXPERIMENTAL RSCH. (2018), https://pmc.ncbi.nlm.nih.gov/articles/PMC6214776/pdf/nihms-986850.pdf.

[4] *Baltimore Liquor Stores Linked More to Violent Crime Than Bars and Restaurants*, Johns Hopkins Bloomberg School of Public Health (Sep. 26, 2018), https://publichealth.jhu.edu/2018/baltimore-liquor-stores-linked-more-to-violent-crime-than-bars-and-restaurants.

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reducing off-premises alcohol outlet density may reduce firearm violence.[5] However, this increase in violence also reflects an increase in homicides, domestic violence incidents, and child abuse.[6]

In addition to an increase in violent crimes, increased accessibility to alcohol is correlated with an increase in injuries not stemming from violence, such as accidents and suicides. Alcohol has numerous effects on the body, often impacting mental alertness, level of coordination, ability to respond to hazards, and willingness to engage in risk-taking behaviors—all of which contribute to an increased risk of bodily injury. Cities and communities with a high density of off-premises alcohol outlets—such as convenience stores or grocery stores that sell alcohol—are more than twice as likely to have high alcohol-related hospitalization rates compared to cities and communities with low density off-premises alcohol outlets.[7]

Excessive alcohol use is a leading and preventable cause of death in the United States. Approximately 178,000 people die from excessive drinking each year.[8] Among these deaths, about two thirds are attributed to chronic conditions, including several types of cancer, heart disease, liver disease, and alcohol use disorder, all of which develop from alcohol consumption over an extended period. However, even moderate drinking increases risks of cancer, heart disease, and early death—meaning that greater access increases harm, no matter the user.[9] Also included in these preventable deaths are fatalities from alcohol-related car crashes. Communities, especially residential areas, with greater alcohol-outlet densities experience higher alcohol-related crash rates.[10] Drunk driving crashes account for nearly 1/3 of all traffic fatalities in Maryland and within the past five years, nearly 800 Maryland residents have been killed in crashes involving an impaired driver.[11]

Impact on People in Recovery from Alcohol Use Disorder

In addition to impacting the general population, greater availability of alcohol presents a uniquely harmful impact on those recovering from, or trying to recover from, alcohol use

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[5] Veronica A. Pear et al., *Community-Level Risk Factors for Firearm Assault and Homicide: The Role of Local Firearm Dealers and Alcohol Outlets*, 34 EPIDEMIOLOGY 798, 801 (2023), https://journals.lww.com/epidem/fulltext/2023/11000/community_level_risk_factors_for_firearm_assault.6.aspx.
[6] David Fone et al. *Change in alcohol outlet density and alcohol-related harm to population health (CHALICE): a comprehensive record-linked database study in Wales*, 4 Public Health Research 1, 2 (2016), https://www.ncbi.nlm.nih.gov/books/NBK350757/.
[7] L.A. COUNTY DEP'T OF PUB. HEALTH, ALCOHOL OUTLET DENSITY AND ALCOHOL-RELATED CONSEQUENCES 7 (2022). *See Baltimore Liquor Stores Linked More to Violent Crime Than Bars and Restaurants*, Johns Hopkins Bloomberg School of Public Health (Sep. 26, 2018), https://publichealth.jhu.edu/2018/baltimore-liquor-stores-linked-more-to-violent-crime-than-bars-and-restaurants (finding that off-premises alcohol outlets have a stronger association with incidents of violent crimes than on-premises alcohol outlets).
[8] *Facts About U.S. Deaths from Excessive Alcohol Use*, CENTERS FOR DISEASE CONTROL AND PREVENTION (Aug. 6, 2024), https://www.cdc.gov/alcohol/facts-stats/index.html.
[9] Iona Y. Millwood et al., *Alcohol Intake and Cause-Specific Mortality: Conventional and Genetic Evidence in a Prospective Cohort Study of 512,000 Adults in China*, 9 THE LANCET PUB. HEALTH 956, 966 (2023), https://www.thelancet.com/action/showPdf?pii=S2468-2667%2823%2900217-7.
[10] Paul J. Gruenewald & Fred W. Johnson, *Drinking, Driving, and Crashing: A Traffic-Flow Model of Alcohol-Related Motor Vehicle Accidents*, 71 J. OF STUD. ON ALCOHOL AND DRUGS 237, 237–38 (2010), https://pmc.ncbi.nlm.nih.gov/articles/PMC2841734/pdf/jsad237.pdf.
[11] Impaired Driving, ZERO DEATHS MARYLAND, https://zerodeathsmd.gov/road-safety/impaired-driving/.

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disorder. Environmental factors play a significant role in an individual's long-term recovery, and in order for there to be improvements in long-term recovery outcomes, there must be access to substance-free spaces.[12] However, increased alcohol availability—such as the sale of alcohol in grocery stores or convenience stores—negatively affects people in recovery, as it makes it harder for them to avoid triggers. Today, someone recovering from alcohol use disorder has the freedom to walk into a grocery store, browse the produce section, and select what they want to fill their fridge with for the upcoming week—without the challenge of turning down an aisle and facing the very substance they are working to overcome. Someone recovering from alcohol use disorder can go on a road trip to Southern Maryland and stop at a chain convenience store on the way to pick up snacks or use the restroom without the discomfort of confronting a substance they have fought hard to overcome. Senate Bill 824 alters these realities, making it impossible for someone with alcohol use disorder to visit a grocery store or convenience store without the risk of confronting their disorder.

Because individuals in recovery face higher relapse rates when alcohol is widely available in their communities, recovery groups like Alcoholics Anonymous emphasize that safe, alcohol-free spaces are crucial for long-term sobriety. By allowing grocery stores and convenience stores to sell alcohol, Senate Bill 824 removes alcohol-free spaces—putting the recovery of those with alcohol use disorder at risk in exchange for the convenience of the general population.

Conclusion

Increased availability of alcohol leads to higher consumption rates, creating several public health concerns including an increase in community and domestic violence and an increase in illness and deaths attributed to chronic conditions. Moreover, the greater availability of alcohol negatively impacts individuals recovering from alcohol use disorder by further limiting the number of public spaces that do not present a trigger. For these reasons, we request an unfavorable report on Senate Bill 824.

This testimony is submitted on behalf of the Public Health Law Clinic at the University of Maryland Carey School of Law and not by the School of Law, the University of Maryland, Baltimore, or the University of Maryland System.

[12] Leonard A. Jason et al., *The Emergence, Role, and Impact of Recovery Support Services*, 41 ALCOHOL RSCH. CURRENT REV. 1, 7–8 (2021), https://pmc.ncbi.nlm.nih.gov/articles/PMC7996242/pdf/arcr-41-1-4.pdf.

Alcohol - grocery stores SB824 UNFAV MDDCSAM.pdf
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MDDCSAM is the Maryland state chapter of the American Society of Addiction Medicine whose members are physicians and other health providers who treat people with substance use disorders.

SB 824: Alcoholic Beverages – Prohibition of Class A Licenses for Chain Stores, Supermarkets and Discount Houses - Repeal
Senate Finance Committee Hearing: February 19, 2025

UNFAVORABLE

My name is Sangeeta Iyer, and I am a double board-certified internist and preventive medicine physician, who is also an addiction medicine fellow at Howard University. I would like to thank you for the opportunity to provide written testimony on behalf of the Maryland/DC Chapter of the American Society of Addiction Medicine (MDDCSAM) whose members are physicians and other health providers who treat people with substance use disorders.

MDDCSAM urges the Finance Committee to **vote in opposition to SB 824**, which would lead to increased alcohol availability to Marylanders lending to negative public health outcomes and increased individual alcohol related harms, such promoting youth alcohol consumption, increasing incidents of violence and increasing health care expenditures.

In January 2025, the former Surgeon General Vivek Murthy issued an advisory highlighting that ***alcohol use is a leading preventable cause of cancer*** in the United States. It is estimated to contribute to nearly 100,000 cancer cases with approximately 20% leading to cancer.[1] His report, which linked 7 cancers to consumption, recommends alcohol carry health warnings like tobacco. Normalizing the consumption of alcohol in a supermarket and placing it next to healthy options like fruits and vegetables, **will not help** the public in understanding the risk of alcohol as noted by the Surgeon General's report. Instead, it is more likely to encourage frequent and daily drinking lending to higher health burdens for Marylanders.

Increasing the geographic access is associated with higher alcohol consumption by adolescents as it provides more opportunities for teenagers to purchase alcohol, exposes them to alcohol marketing and normalizes the consumption of alcohol.[2] In 2022, 20% of Marylanders under the age of 17 admitted to consuming alcohol in the past month.[3] That same year, there were 80 alcohol-attributable deaths in persons under 21 and 4,544 years of potential **life lost**. Expansion of alcohol sales and visibility will only lend to increased use by vulnerable populations such as children contributing to an already **growing public health crisis**.

Supporters of this bill will claim that by allowing grocery stores to be able to sell alcohol beverages, gaps in revenue will be met such that large grocery chains may be incentivized to open in food deserts. Cross sectional studies **do not** support this claim. Instead, they suggest that **greater availability of alcohol correlates with higher rates of alcohol related deaths**, STI transmission, and domestic violence incidents.[4] In Los Angeles county, researchers estimated that every additional alcohol outlet was associated with 3-4 additional violent incidents per year.[5]

Beyond a cost to individual health, reducing the number of alcohol outlets and conversely reducing alcohol misuse will save Marylanders. The National Institute for Alcohol Abuse and Alcoholism (NIAAA) estimates that alcohol misuse costs the United States $249 Billion with lost productivity contributing to 71.9% of the cost.[i] Maryland alone this was $860 per capita.[6] **Increasing access with only lead to increased expenses.**

For the health and safety of all Marylanders, the MDDCSAM respectfully urges an unfavorable vote to SB 824. Maintaining Maryland's current restrictions aligns with an evidence-based, prevention focused, public health strategy.

Sangeeta R. Iyer, MD MPH,
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[7] Ibid.

NCADD-MD - 2025 SB 824 UNF - Beer & Wine in Grocer

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Position: UNF

Senate Finance Committee
February 21, 2025

Senate Bill 824
Alcoholic Beverages - Prohibition on Class A Licenses for Chain Stores, Supermarkets, and Discount Houses – Repeal

Oppose

NCADD-Maryland respectfully opposes Senate Bill 824 which would allow beer and wine licenses to be issued to a chain store, supermarket, or discount house. This would increase the number of alcohol outlets throughout the state for off-premises drinking by almost two-fold. The Centers for Disease Control and Prevention report that high alcohol outlet density is known to be an environmental risk factor for excessive drinking. Based on strong scientific evidence of intervention efficacy, they recommend using public policy to limit, not expand, alcohol outlet density. Excessive drinking in turn leads to increases in violence, criminal activity, domestic violence, and child maltreatment.

It is also true that with an increase in alcohol outlets, the opportunity for people under the age of 21 to purchase alcohol increases. There have been studies that show that reducing the commercial availability of alcohol as part of a comprehensive prevention strategy can contribute to a reduction in underage drinking and alcohol-related problems. Research has also shown that liquor stores do a much better job than grocery stores in checking identification of people purchasing alcohol. We know the harms that result from underage drinking are far reaching, contributing to negative consequences including injuries, sexual assaults, and deaths.

We ask for an unfavorable report on Senate Bill 824.