Grafting The Next Generation:

A Public Policy Approach For Expanding Viticulture In Arkansas

Prepared for the Arkansas Wine Producers Council

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Acknowledgments

The following report represents a sincere and collaborative effort to craft a policy solution that can bring about a renaissance in Arkansas Wine Country. With the help of Audrey House, Chair of the Arkansas Wine Producers Council, I believe I have laid out the case for why Arkansas, and the country more broadly, should believe in Arkansas farmers and Arkansas wine.

I would like to thank my wife, Savannah, for encouraging me to pursue the Arkansas Wine Producer's Council as a client and Ms. House for her assistance in formulating a path forward for Arkansas grape growers. This report would also not be possible without the help of Professors James Wyckoff and Sebastian Tello-Trillo, whose patience and assistance have been invaluable.

The forthcoming pages describe a love of two things: Arkansas and wine. I hope you will join me in believing in Arkansas and seeing the potential of grafting the next generation of Arkansas grape farmers.

Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

On my honor as a student, I have neither given nor received any unauthorized aid on this assignment.

Acronyms And Key Terms

§ 20(d) – Texas Constitution Article 16 § 20(d)

ABRA – Arkansas Beverage Retailors Association

Dry County – a locality that forbids the production and sale of alcohol

Damp/Moist County – a locality where the county's wet/dry designation does not match the wet/dry designation of a city or town within the same county

Enology – Winemaking

GIS – Geographic Information System Mapping

Local Option Election – Election whereby a locality determines the legality of alcohol within its borders

Natural State – Arkansas state motto

TWMRI – Texas Wine Marketing Research Institute

UBRA – United Beverage Retailers of Arkansas

Virginia Tech – Virginia Technical University

Viticulture – Grape Growing

Wine Council – Arkansas Wine Producers Council

Wet County – a locality that allows the production and sale of alcohol

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Executive Summary

The Arkansas winemaking industry is a shadow of its former self (Eley, 2017, pp. 36–37; Harper, 2016, pp. 530–532). Once America's mecca of grape growing and winemaking, the Natural State's viticulture and enology sector lags far behind each of its neighbors (National Association of American Wineries, 2017). The hollowing out of Arkansas Wine Country is largely due to the state's regulatory regime, which perpetuates dry counties, localities that outlaw the production and sale of alcohol.

The forthcoming pages discuss this problem and lay out four possible alternatives for solving it. Based on a specified set of criteria discussed below, it is recommended that the Arkansas Wine Producers Council (Wine Council) lobby the Arkansas legislature to allow wineries to operate in now-dry counties. Texas tried a similar approach in 2003 and has had massive growth in its viticulture and enology sector (MKF Research LLC et al., 2005, 2009, 2009, 2011, 2015, 2017).

Introduction

Problem Statement

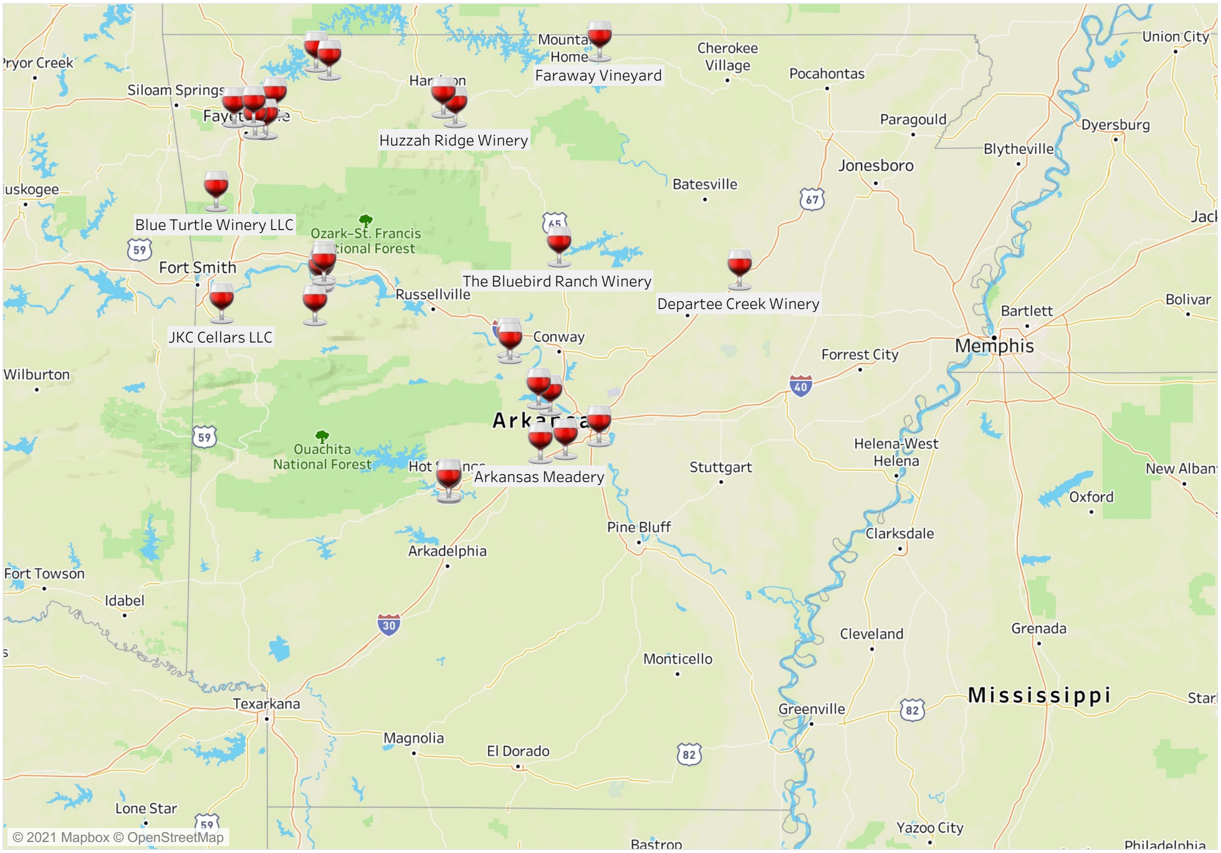
Italy, France, and California are three of the largest wine producers in the world and they are known for their overall quality and viticulture excellence (*Top Wine Producing Regions of The World*, 2020). Over 100 years ago, Arkansas also topped the list of largest wine-producing regions, boasting over 160 wineries and making "more wine and grapes than any other state in the union" (Eley, 2017, pp. 36–37). Prohibition obliterated this once thriving industry. The Natural State's current regulatory scheme that allows localities to forbid alcohol sales has further left Arkansas' grapevines and the industry that cultivated them rotting in the sun (Eley, 2017, pp. 36–37; Harper, 2016, pp. 530–532). This regulatory scheme, codified in Arkansas Code § 3-8-101, prevents existing Arkansas wineries from expanding operations and discourages new vintners from entering the viticulture and enology marketplace (Ark. Code Ann. § 3-8-101, 1955).

Arkansas' Once And Future Wine-Making Industry

The Arkansas viticulture tradition traces its roots to the late 1800s when French, German, and Swiss Catholics first settled in the state (Eley, 2017, p. 36; Rohrbach, 2005). Intrigued by the unique topography of the land straddling the Ozark Mountains and the Arkansas River Valley, these newcomers believed they found an area suitable for grape growing and winemaking (Cowie, n.d.; Eley, 2017, p. 36; Rohrbach, 2005). They laid down their first vines in 1870 and established the Mecca of Arkansas wine country – St. Mary's Mountain – near Altus (Eley, 2017, p. 36; Rohrbach, 2005; Thomas, 2015). Grape growing and winemaking quickly took root across the Natural State, and Arkansas became one of the largest growers and manufacturers of grapes and wine in the United States (Cowie, n.d.; Eley, 2017, pp. 36–37). Prohibition and the rise of local option elections[1] would later uproot this once thriving industry and leave it withering on the vine (Eley, 2017, pp. 36–37). As a result, Arkansas has but a fraction of the wineries it once did, and the Natural State's viticulture and enology sectors lag far behind its neighbors (Alcohol And Tobacco Tax And Trade Bureau, 2021; Cowie, n.d.; Eley, 2017, pp. 36–37; National Association of American Wineries, 2017). Before Prohibition, almost 160 wine production facilities existed in Arkansas (Eley, 2017, p. 36). Today, as shown on the map below, only 37 bonded wineries exist in the Natural State (Alcohol And Tobacco Tax And Trade Bureau, 2021).

[1] Elections whereby a locality's population chooses whether or not to allow the manufacture and sale of alcohol. Localities that choose to forbid alcohol are known as "dry."

Bonded Wineries In Arkansas
2020



Source: Alcohol And Tobacco Tax And Trade Bureau. (2021). List of Permittees.

Despite the current reality, the evolving consumer market and regulatory environments are ripe for Arkansas to grow and expand its winemaking sectors (Eley, 2017, p. 37). For example, Millennials prefer sweeter wines than previous generations, and Arkansas' geographic and climatic conditions are ideal for creating "unusually sweet wines" (Barlow, 2018; Chivu-Draghia & Antoce, 2016; McGeeney, 2018; Olsen et al., 2007, p. 16). This shift in consumer preference creates a natural opening for the Arkansas wine industry. However, a more favorable regulatory environment is needed to push Arkansas' wine industry toward meeting that changing consumer demand. More must be done to alter the wet/dry regulatory scheme that locks almost half of Arkansas' counties out of wine production.

To its credit, the Arkansas Legislature has taken steps in recent decades to increase the wine industry's economic capacity, and it is now committed to "actively encourag[ing]" the growth and production of viticulture products in Arkansas (Ark. Code Ann. § 27-67-224, 2011). Arkansas law now allows for grape importation, establishes and supports a wine council, sponsors a grant and subsidy program, and maintains a wine trail (Ark. Code Ann. § 3-5-601, 1975; Ark. Code Ann. § 3-5-701, 1983; Ark. Code Ann. § 3-5-901, 1985; Ark. Code Ann. § 3-5-903, 1985; Ark. Code Ann. § 27-67-224, 2011). These efforts represent a market shift from the Prohibition era. But, the Arkansas regulatory scheme around the sale and production of alcohol continues to limit the wine industry's potential (Harper, 2016). A change to this regulatory environment could bring about a renaissance of Arkansas wine, jumpstart economic development, and serve as a boom to the state's agritourism industry.

Why Believe In Arkansas Wine?

Some might look at the above-described problem and ask, "Why is this a public policy problem? Is this not more of a private-sector 'business' issue?" This issue does involve private entities attempting to maximize profits by selling a specific good – fermented grape juice. Only looking at the private actors and profit motives misses the public implications that these private actors have on the economy and government policy. Whenever a government entity intervenes in a private marketplace through regulation, taxes, or some other policy instrument meant to influence behavior, that issue becomes an area of societal concern. In Arkansas, the state provides a million dollars in annual subsidies to bolster its winemaking industry (*Agency Budget Summaries: Department of Commerce*, 2020, p. 268). The state appropriates an additional 1.2 million dollars per year for a viticulture tourism center and funds a state wine producers council (Arkansas Legislature, 2020, pp. 323–326). In total, Arkansas spends almost two million dollars annually to foster economic growth in the state's winemaking industry (Arkansas Legislature, 2020, pp. 268, 323–326). Simultaneously, the state endorses a regulatory scheme for alcohol production and consumption that prevents the state's viticulture and enology industry from reaching its pre-Prohibition production levels (Ark. Code Ann. § 3-8-101, 1955; Eley, 2017, pp. 36–37; Harper, 2016). This regulatory environment costs the state both jobs and money. Arkansas' viticulture sector lags behind most, if not all, of its neighbors in total economic impact, industry jobs, winery visits, total tourists, and overall spending (National Association of American Wineries, 2017).

Arkansas has made wine production a policy priority by injecting taxpayer money into the market, while at the same time hindering producers and would-be vintners through a dry county regulatory scheme that prevents them from reaching their full potential. The state's substantial intervention into the private market highlights why exploring policy mechanisms aimed at viticulture and enology expansion is a public policy problem. The potential economic growth that could result from such an expansion demonstrates why this is a public policy problem worth solving (National Association of American Wineries, 2017).

The Arkansas Wine Producers Council: Client Focused On Economic Development

The Arkansas Wine Producers Council (Wine Council) is a government-sponsored organization within the state's Department of Commerce that promotes the wine industry in Arkansas (Arkansas Department of Commerce, n.d.). The Wine Council works to foster economic growth through research and development, education, and agritourism expansion (Arkansas Department of Commerce, n.d.). It consists of seven members, five of whom are appointed by the governor and confirmed by the state senate (Arkansas Department of Commerce, n.d.). Two state agencies appoint the other two members (Arkansas Department of Commerce, n.d.). The Wine Council works with an annual budget of $5,000, administers a million dollar local winery subsidy program, and will soon oversee a multi-million dollar wine center (Arkansas Legislature, 2020, pp. 268, 323–326).

Audrey House, the main point of contact for this project, is the Chair of the Wine Council and the main driving force of the Arkansas wine industry (Arkansas Department of Commerce, n.d.).

She works with legislators to create a regulatory environment that benefits native wine production, as well as partners with local vintners to develop strategies to improve "product quality, marketing, and opportunity for business and employment growth in the industry" (Arkansas Department of Commerce, n.d.). Outside of her work on the Wine Council, Ms. House owns a vineyard and winery named Chateau Aux Arc (House, n.d.). Her passion for viticulture runs as deep as her grapevines. Nicknamed Arkansas' "Grape Lady," Ms. House pushed the Arkansas legislature to make Cynthiana the official state grape and continues to lobby for Arkansas viticulture expansion (House, n.d.).

Survey of Literature

Arkansas Coalitions Perpetuate Prohibition In The Modern World

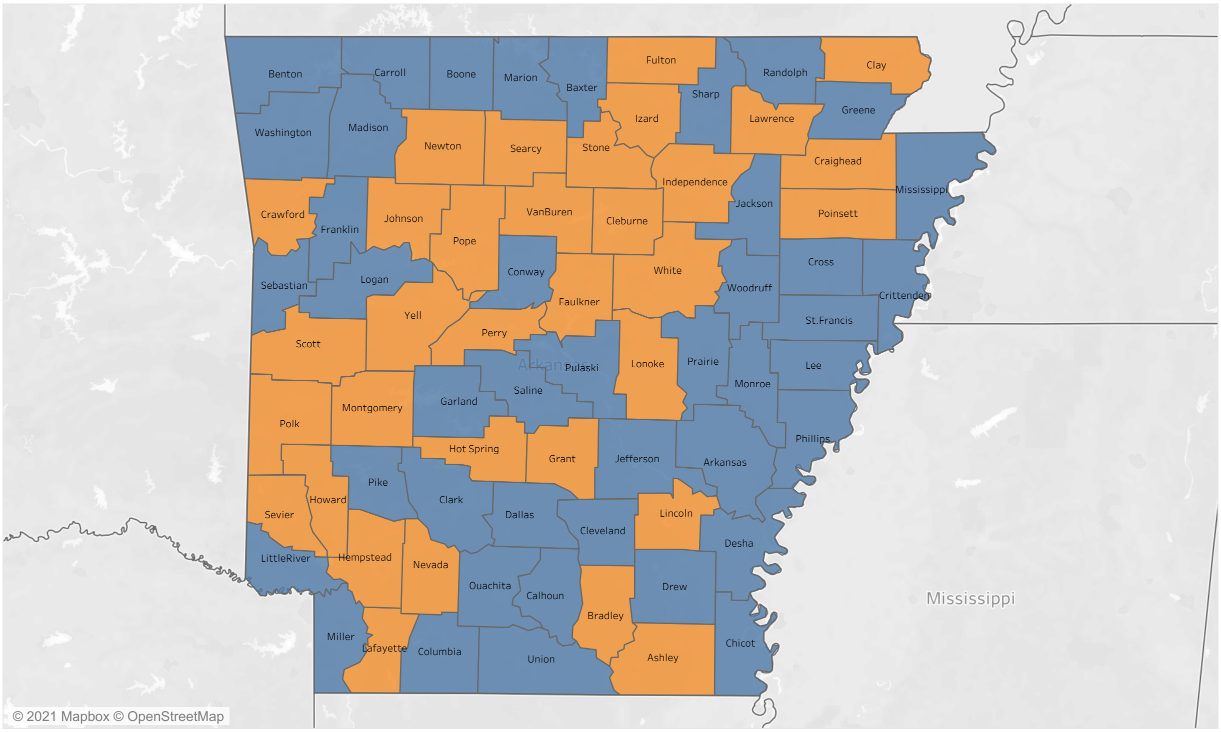
Bruce Yandle, former executive director of the Federal Trade Commission, aptly pointed out in 1983 that "we can scarcely expect full-scale deregulation to occur often. Not when the Baptists and the bootleggers vote together" (Yandle, 1983, p. 14). Nowhere has the literal coalition of Baptists and bootleggers[2] been more visible than in Arkansas. In Arkansas, county-line liquor stores, those establishments that straddle wet and dry counties, have aligned with certain religious groups to defeat numerous initiatives to expand alcohol access in the state (Harper, 2016, pp. 540–541; Horpedahl, 2020, pp. 7–9). Horpedahl (2020) explores the Yandle paradox in Arkansas and explains that Baptists' and bootleggers' converging interests can be explained as "coalition members … play[ing] different roles in the political process" (Horpedahl, 2020, p. 1). County-line liquor stores act as Yandel's "bootleggers," as they financially benefit from funding efforts to defeat increased alcohol access in neighboring dry counties. Yandel's "Baptists" are those members of Arkansas' religious community who oppose expanding alcohol access for moral reasons (Horpedahl, 2020, pp. 8–12).[3] Together,

[2] The term "bootleggers" refers to those engaged in the illicit drug trade during Prohibition (Funderburg, 2014, p. 32). Modern literature uses bootleggers to refer to liquor retailers who oppose the expansion of alcohol access to maintain the market status quo (Harper, 2016, pp. 540–541; Horpedahl, 2020).

[3] Seventy-nine percent of Arkansans identify as Christian while 46 percent identify as evangelical (Pew Research Center's Religion & Public Life Project, n.d.).

these groups fund and build grassroots opposition to ending Prohibition in the Natural State. The map below shows the fruits of the Arkansas Baptist and Bootleggers coalition's labor. Thirty-three of

Arkansas Counties Wet/Dry Status



Dry
Wet

Source: Knapp, T. (2017, December 7). Wet State, Dry County: Local Option Elections for Alcohol Sales in Arkansas. Wet State, Dry County: Local Option Elections for Alcohol Sales in Arkansas.

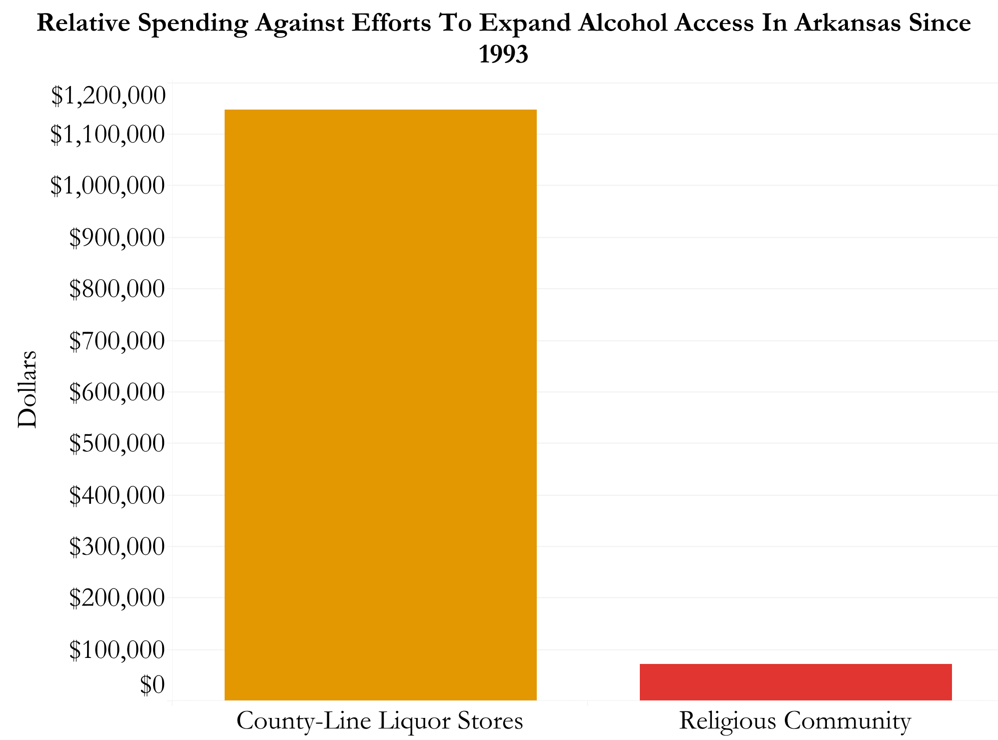
Arkansas' 75 counties remain fully dry, meaning that almost forty percent of the state's population has no local access to alcohol.[4]

Liquor Stores Provide The Funds; Religious Leaders Provide The Voters

The county-line liquor stores' business model leverages Arkansas' regulatory framework to turn a profit. These establishments resist any change to current regulations because Arkansas' wet/dry

[4] The map above does not include "damp" or "moist" designations. "Damp" or "moist" counties are those localities where a county's wet/dry designation does not match the wet/dry designation of a city or town within the same county. For example, Sebastian County, Arkansas, is a dry county. However, Ft. Smith, the county seat, is wet. Some classify Sebastian County as "damp" or "moist" for this reason. This report does not make such distinctions. Any county classified as "damp" by the University of Arkansas is reported above as wet (Arkansas Department of Finance and Administration, n.d.; Knapp, 2017).

dichotomy provides them a consistent stream of dry-county customers forced to leave their home locality to purchase alcohol in a different county. Dry-county residents are not required to purchase alcohol from establishments just over the border. But, as Harper (2016) points out, there is a "convenience factor" that keeps these county-line establishments in business (Harper, 2016, pp. 541–542). The University of Arkansas' 2013 report on the economic impact of legalizing retail sales in three major Arkansas counties provides an even clearer picture of the financial incentives county-line liquor stores receive and why they are willing to spend large sums to maintain the status quo (Deck et al., 2014). In Faulkner County, the Natural State's fifth-largest county and a dry county, the University of Arkansas' economic report estimates that residents would have spent almost $31 million[5] on alcohol in 2013 (K. Deck et al., 2014, p. 11; United States Census Bureau, 2019). Assuming a large majority of that money was spent in neighboring wet counties in 2013, it is easy to see why county-line liquor stores are willing to spend vast sums of money to protect their business interests (Harper, 2016, pp.



Source: Horpedahl, J. (2020). Bootleggers, Baptists and ballots: Coalitions in Arkansas' alcohol-legalization.

[5] This figure was converted from its original amount and is reflected in 2020 dollars.

541–542; Horpedahl, 2020, p. 8). In fact, when it comes to defeating measures aimed at turning dry counties wet, county-line liquor stores have spent over a million dollars since 1993 – fifteen times more than members of the religious community (Horpedahl, 2020, p. 8). The graph above shows the relative spending by couny-line liquor stores and the religious community since 1993 (Horpedahl, 2020, p. 8).

The relatively low spending on behalf of religious objectors should not distract from the fact that these opponents play a significant role in maintaining the status quo. For example, an Arkansas pastor claimed in 2014 that alcohol access does not "fix" social problems, and another said that more "wholesome environments" existed in "dry counties" (Horpedahl, 2020, pp. 11–12). These religious leaders worry about degrading moral standards and are actively working to keep congregants from "doing []thing[s] they shouldn't" (Glionna, 2014). They do this by galvanizing their followers to oppose alcohol access by creating newsletters, appearing on television programming, and publishing opinion pieces aimed at thwarting alcohol expansion (Horpedahl, 2020, pp. 10–13).

Case Study: 2014 Arkansas Alcoholic Beverage Amendment

Arkansas voters had the opportunity to abandon local control over alcohol production and sales in 2014. Issue 4, the Arkansas Alcohol Amendment, would have amended the Arkansas Constitution and eliminated dry counties statewide (McDaniel, 2014). County-line liquor stores and the religious community, each seeking to protect their relative interests, joined forces to defeat the bill (Horpedahl, 2020, p. 10). With the support of both liquor store owners and members of the religious community, the "Let Local Communities Decide for Themselves" organization raised over $1.75 million (Horpedahl, 2020, p. 10). The measure was ultimately defeated 57 percent to 43 percent (Arkansas Secretary of State, 2014).

Understanding The Impacts Of Increased Alcohol Access

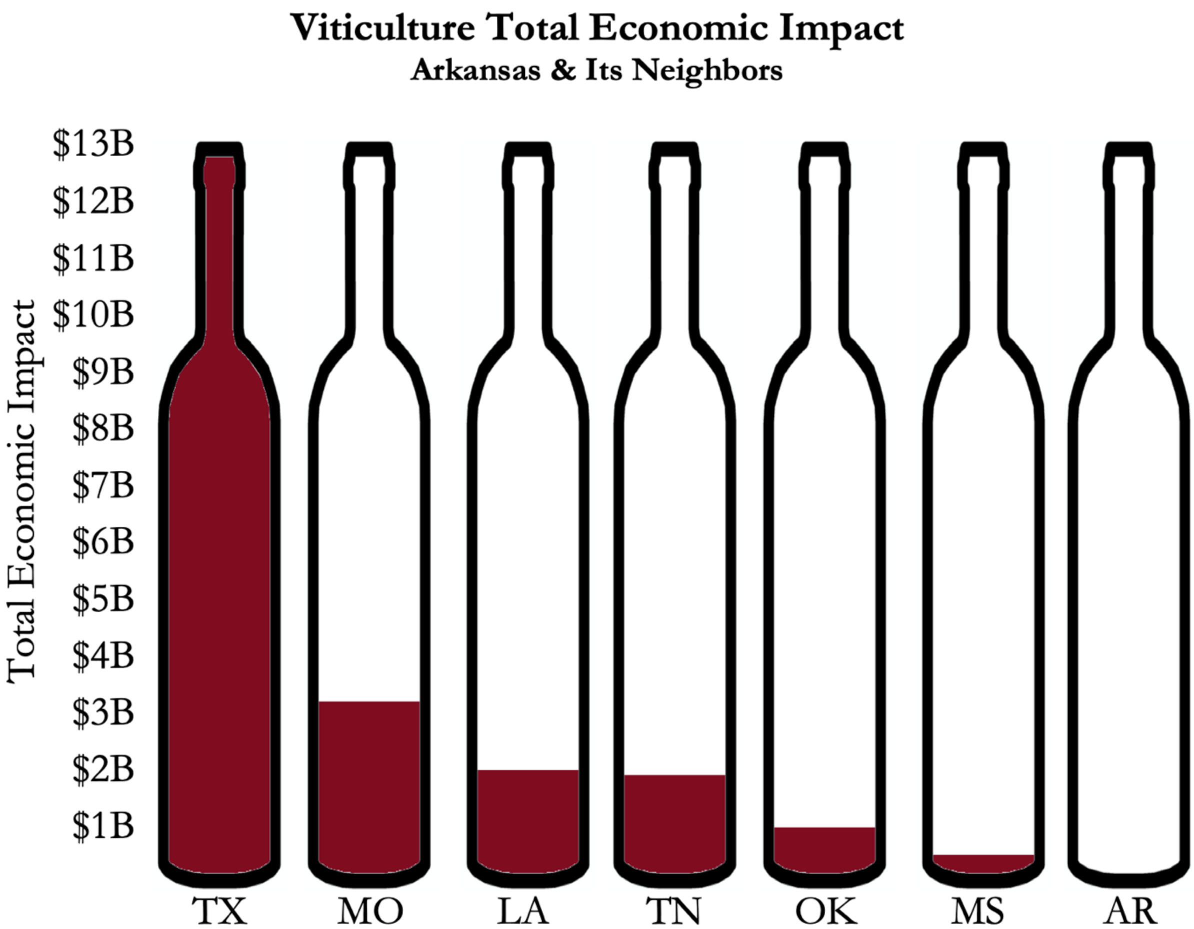
The Economic Ramifications Of Alcohol Legalization

The Half-Empty Bottle: Arkansas' Empty Economic Impact

The long-lasting effects of Prohibition, coupled with Arkansas' law that allows localities to control alcohol sales, hinders the expansion of the viticulture and enology sectors. Arkansas policymakers need only look to their neighbor to the north – Missouri – to see the positive impacts that a thriving wine industry can have on a state. Missouri, deemed one of the "most promising up-and-coming wine regions in the United States" by Karen MacNeil, author of *The Wine Bible*, boasts 298 bonded wineries compared to Arkansas' 39 (Alcohol And Tobacco Tax And Trade Bureau, 2021; MacNeil, 2001, p. 768). Missouri's wine sector dedicates over a thousand more acres to grape production than Arkansas, and the total economic impact of Missouri's wine industry outpaces Arkansas by $3.14 billion (*Wine Industry Economic Impact Reports*, 2017).

Missouri and Arkansas share a centuries-old winemaking tradition (Eley, 2017; MacNeil, 2001, p. 768). In the 1800s, Missouri was the second-largest grape producer in the United States (MacNeil, 2001, p. 768). And, similar to Arkansas, the industry all but died after Prohibition (MacNeil, 2001, p. 769). However, unlike Arkansas, Missouri does not limit a locality's ability to prohibit alcohol production (Mo. Ann. Stat. § 311.110, 1939). There are no "dry" counties in Missouri that thwart potential growth in the wine sector (Mo. Ann. Stat. § 311.110, 1939). By contrast, nearly half of all Arkansas counties are "dry" (Arkansas Department of Finance and Administration, n.d.)

Little literature exists on the direct effects of Missouri's wet-only alcohol regulatory scheme on wine production. However, the University of Arkansas has researched and published a series of studies on the economic impacts of Arkansas counties moving from dry to wet (K. A. Deck & Jebaraj, 2016d, 2016b, 2016c, 2016a). These studies, published by the University's Center for Business & Economic Research, analyze population data and estimate potential sales in current wet areas. In doing so, researchers extrapolate the total economic impact of counties converting from dry to wet. The researchers concluded that, in 2015, 71.6 percent of Arkansans were at least 21 years old and that they spent, on average, $360 on alcohol annually – $194 on beer and $162 on liquor and wine (K. A. Deck & Jebaraj, 2016d, p. 5, 2016b, p. 5, 2016c, p. 5, 2016a, p. 5). Adjusting these figures for inflation, dry county residents spend approximately $330 million on alcohol – $ 249 million on beer and $ 208 million on wine and liquor (K. A. Deck & Jebaraj, 2016d, p. 5, 2016b, p. 5, 2016c, p. 5, 2016a, p. 5; United States Census Bureau, 2019)[6]. Though promising, this data is limited in practical value. It only



Source: National Association of American Wineries. (2017). Wine Industry Economic Impact Reports. Wine America.

[6] The 2015 figures mentioned in the proceeding paragraph were adjusted for inflation and are expressed in 2019 dollars. For additional information please see Appendix 1

focuses on county-wide retail alcohol sales, and it does not define the extent to which economic expansion in one county represents actual growth or constitutes a transfer from other counties.

Despite the limited application of the University of Arkansas' work, it shows that now-dry counties could benefit economically by ending alcohol prohibitions. Furthermore, the above-highlighted contrast in economic impact between Arkansas' and Missouri's wine sectors is not unique and is due in part to Arkansas' alcohol regulatory scheme. The graph titled "Viticulture Total Economic Impact" shows the extent to which Arkansas trails Missouri and every one of its neighbors in total economic impact (National Association of American Wineries, 2017). This reality demonstrates both the sad state of Arkansas viticulture and enology, as well as the potential for growth and development.

How Texas Two Stepped The Wet-Dry Debate

Like Arkansas, Texas faces religious-based cultural opposition to expanding in-state wine production, as both states have large evangelical populations (Glionna, 2014; Pew Research Center's Religion & Public Life Project, n.d.). Both states are also known for alcohol regiments that allow localities to outlaw the manufacture and sale of alcohol (Knapp, 2017; Texas Almanac, 2014). However, Texas, home to the country's first local-option election, created a constitutional exception to local alcohol control in 2003 (Kerr, 2019; Tex. Const. Art. XVI, § 20(d), 2003). The state now allows in-state wineries to operate and sell in any county, regardless of a locality's wet/dry designation (Tex. Const. Art. XVI, § 20(d), 2003).

During the 2003 debate around the adoption of the constitutional amendment (hereinafter, § 20(d)), the Texas Legislative Council published an analysis listing the arguments for and against the amendment's adoption (Texas Legislative Council, 2003, pp. 71–73). The report identified the potential for "large growth in the state's agricultural" sector as a significant benefit of § 20(d)'s passage (Texas Legislative Council, 2003, p. 72). It also argued that the amendment balanced the choices of each locality by creating a "very narrow exemption" from local control that would bring about "greater uniformity" in the state's viticulture and enology sectors (Texas Legislative Council, 2003, p. 73).

Little research appears to address whether or not "large growth in the state's agricultural" sector resulted from § 20(d)'s passage (Texas Legislative Council, 2003; N. Velikova, personal communication, October 19, 2020). Dr. Natalia Velikova, a professor studying winemaking and marketing at Texas Tech University, confirmed this lack of research during a personal communication in October 2020 (Texas Tech University, n.d.; N. Velikova, personal communication, October 19, 2020). Velikova noted that, despite the lack of economic studies demonstrating the causal impact of the § 20(d)'s passage, reports do show a blossoming Texas Wine Industry following the constitutional change (N. Velikova, personal communication, October 19, 2020). The reports Velikova cited are generated regularly by the Texas Wine Marketing Research Institute (TWMRI). They detail the overall economic impact of the Lone Star State's viticulture and enology sectors (MKF Research LLC et al., 2005, 2009, 2011, 2015, 2017; N. Velikova, personal communication, October 19, 2020).

The TWMRI reports Velikova cited span from 2005 to 2015 and show an 86 percent increase in the size of Texas' wine industry following § 20(d)'s passage – from $1.4 billion to $ 2.5 billion (MKF Research LLC et al., 2005, p. 3, 2009, p. 3, 2011, p. 3, 2015, p. 3, 2017).[7] However, these reports do not show a causal impact of § 20(d)'s adoption (MKF Research LLC et al., 2005, 2009, 2011, 2015, 2017). Additional information about the industry's impact before 2005 is needed to make a causal inference. Such research should consider market changes, population growth, and other key variables that affect an industry's overall impact.

[7] These figures are represented in 2020 dollars. Please see Appendix 2 for complete statistics on the growth of Texas viticulture since 2005.

Alcohol Access, Drug Use, And Public Safety

Changing Incentives: How Alcohol Access Decreases Illicit Drug Use

The impact of alcohol on human behavior is one of the most studied topics in modern society (Miron & Zwiebel, 1995). For example, Miron and Zwiebel (1995) detail the effects of alcohol and drug prohibitions, arguing that drug bans produce negative externalities for society and lead to increased violence and crime (Miron & Zwiebel, 1995, p. 190). Miron and Zwiebel make several observations relevant to any effort aimed at expanding alcohol access. Specifically, they note that "deaths due to alcoholism rose relative to other proxies for alcohol consumption" during Prohibition, while murder rates fell dramatically following the passage of the 21st Amendment (Miron & Zwiebel, 1995, pp. 178–179).

It is well established that alcohol is a substitute good for other drugs (Anderson et al., 2018; Crost & Guerrero, 2012; Deza, 2015; Fernadez et al., 2018, p. 1002). Fernadez et al. (2018) point to Miron and Zwiebel (1995) to support this idea and argue that drug use – licit and illicit – increases when alcohol bans are in place. Fernandez et al. (2018) contend that "alcohol bans flatten the punishment gradient for alcohol drinkers to engage in other illicit activities, encouraging illicit drug use by raising the relative price of a substitute" (pp. 1001–1002). They put that notion to the test by seeking to determine the effect that dry-counties have on methamphetamine use in Kentucky. The researchers concluded, after using an ordinary least squares model with fixed effects, that the Bluegrass State, where more than a fourth of all counties are dry, had more methamphetamine labs because of the prevalence of dry counties (Fernandez et al., 2018, pp. 1008, 1012). Fernadez et al. (2018) concluded that "if all counties in Kentucky became wet, the number of meth labs statewide would be reduced by 35%" (p. 1019). Such a result shows a causal link between a county's dry status and expanded meth production.

Conlin et al. (2005) bolster the findings of Fernadnez et al. (2018), concluding that "[c]hanging an alcohol access policy to allow the sale of alcohol decreases drug-related mortality" (Conlin et al., 2005, pp. 230–231). In one of their models, Conlin et al. (2005) find that Texas counties "switching from dry to wet status [are] estimated to lower drug-related mortality by approximately 14 percent and [are] statistically significant at the 10 percent level" (pp. 230). The results of Fernadez et al. (2018) and Conlin et al. (2005) are pertinent to any analysis dealing with alcohol access in Arkansas, as the Natural State leads the country in methamphetamine use (Lukowiak & Huksey, 2020, p. 7).

Driving Sober: Traffic Fatalities And Alcohol Access

One argument offered by those who support expanded alcohol access in dry areas is that it will cut down on mortality and driving accidents. After Boone County, Arkansas, converted from dry to wet, former Harrison Mayor Jeff Crockett claimed that he knew "for a fact fewer people [were] driving 30 miles for [alcohol and drinking it] on the way [home]" (Glionna, 2014).[8] A 1995 study by Giacopassi and Winn attempted to analyze the effects of "border drinking," the type described by Mr. Crockett (Giacopassi & Winn, 1995). After examining 77 dry counties in Kentucky, researchers found that "for most types of motor vehicle accidents, distance to legal alcohol is not a significant determinant of accident rates."(Giacopassi & Winn, 1995, p. 415). In contrast, a 2001 paper by Baughman et al. found that allowing the sale of beer and wine "may actually decrease expected accidents" (Baughman et al., 2001). The contrasting conclusions in these and other papers indicate that the effects of alcohol access on driving accidents are anything but straightforward (Baughman et al., 2001).

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[8] Harrison, Arkansas, is the county seat of Boone County.

Lowering Inhibitions: Alcohol Access And Public Safety

The relationship between alcohol use and violence is well documented. Graham and Livingston (2011) noted that "[t]he global Burden of Disease project estimated that alcohol-attributable violence accounted for 248,000 deaths annually worldwide"(p. 453). The Burden of Disease's data backs up what many researchers have found. Alcohol access is linked to an increase in crime.[9] For example, Anderson et al. (2018), "show[ed] that a 10% increase in drinking establishments is associated with a 3-5% increase in violent crime."[10] Biderman et al. (2010) used difference-in-difference modeling to determine that dry laws in certain parts of Brazil led to a 10 percent drop in homicides (p. 157). Researchers have also found that expanded alcohol access on weekends increases alcohol use and crime (Grönqvist & Niknami, 2014; Heaton, 2012, p. 42).[11] Most interestingly, Billings (2013) examined the changes in crime that followed counties as they converted from dry to wet or from dry to damp. The Billings (2013) paper observed that localities changing from wet to dry saw a 21 percent increase in arrests, while counties that incrementally changed from dry to damp or from damp to dry saw no statistically significant increase in arrests (Billings, 2011, pp. 5, 8, 24).[12]

<u>Expanding Viticulture Supply And Finding Consumer Demand</u>

GIS Can Assess An Area's Potential For Viticulture

The Geographic Information System (GIS) is shaping modern viticulture expansion projects. For example, in Virginia, researchers at Virginia Technical University (Virginia Tech) developed a GIS tool, which allows prospective vintners to examine a specified site for viticulture potential. The

[9] The Department of Justice's National Institute of Justice defines a violent crime as a crime where "a victim is harmed by or threatened with violence." These acts constituting violent crime "include rape and sexual assault, robbery, assault and murder" (National Institute of Justice, n.d.).

[10] Anderson et al. (2018) also found that "[t]he estimated relationship between drinking establishments and property crime is also positive, although smaller in magnitude" (Anderson et al., 2018, p. 1333).

[11] Please note that Heaton (2012) estimated that, when Virginia allowed Sunday alcohol sales, it "yielded roughly $12.2 million in additional state revenue." That figure is based on the assumption that no Sunday sales displaced weekday sales (p. 50).

[12] A discussion and definition of "damp" and "moist" counties can be found at note four above.

"GeoVine" tool, which is limited to the states of Virginia and Ohio, produces a report showing a given area's climate, elevation, slope, and soil properties (Center for Geospatial Information Technology, 2017).[13] The effect of tools like GeoVine appears to be unstudied but, some literature suggests the promise of GIS modeling. For example, Irimia and Patriche (2009) used GIS modeling to show the combined slope, aspect, and solar radiation of potential vineyard sites (Irimia & Patriche, 2010, p. 49). By analyzing the above-mentioned characteristics, Irima and Patriche concluded that 95 percent of a vineyard sitewas "favorable for producing high-quality white wines," while four percent of the land favored red wine production sites (Irimia & Patriche, 2010, p. 49).

Researchers in Spain conducted a similar GIS-based analysis of Spain's Extremadura region. By layering specific geographic characteristics, the researchers concluded that different areas in Extremadura had "different viticultural potential [though] … a high proportion of the region lays on suitable substrate" (Moral et al., 2016, p. 1).

Marketing And Consumer Attitudes

It is impossible to induce economic expansion in a sector without requisite consumer demand. Put simply, using policy levers to expand Arkansas viticulture will fail to have the intended effect if consumers are not ready to try Arkansas viticulture products. Dr. Velikova of Texas Tech studies this kind of consumer demand and published a report in 2008 analyzing local attitudes toward Texas wines (Velikova et al., 2008). Dr. Velikova wanted to gauge how to best market Texas viticulture products. The United States wine market is dominated by the likes of California, while places like Texas are not seen as significant winemaking destinations (MacNeil, 2001; Raubear, 2014). Such a reality presents a difficulty for growers in Texas and Arkansas.

[13] When it first launched, GeoVine covered Virignia and Maryland. Maryland was removed from the list of supported states after the state opted to no longer fund the project (Center for Geospatial Information Technology, 2017; B. Herndon, personal communication, March 10, 2021).

Using past research, Velikova and her colleagues segmented wine drinkers into market clusters and looked at a range of factors that impacted consumers' willingness to try local wine (Velikova et al., 2008, p. 323). The researchers stated that impressions of local wine form as a result of impersonal and personal sources of information, with "word of mouth" being a powerful influence on consumer choice (Velikova et al., 2008, p. 323). Thus, creating consumer demand requires finding ways to get people to recommend local wine (Velikova et al., 2008, p. 323).

Alternatives

Alternative 1 – Arkansas' Abiding Approach: Maintaining The Status Quo

Dry counties make Arkansas unique. Only five states in the Union have territories that bar the production, distribution, and sale of alcohol (Harris, 2015, p. 4). Alternative 1, the Arkansas Abiding Approach, calls for maintaining that status quo. Though this alternative neither answers the problem statement nor addresses the central issue facing Arkansas' wine industry, it serves as a baseline for evaluating other alternatives. Alternative 1 will be evaluated on the same criteria as the other options and will be included in the decision matrix, as it continues to be a politically viable option in the Natural State.

Alternative 2 – The Texas Two-Step: Allow Grape Growers To Produce And Sell Wine In Dry Counties

Like Arkansas, Texas permits localities to disallow the manufacture or sale of alcohol within its borders through local option elections (Texas Almanac, 2014). However, Texas also allows wineries to operate in dry counties, notwithstanding a locality's dry designation (Tex. Const. Art. XVI, § 20(d), 2003). The Texas-Two Step alternative aims to expand Arkansas' viticulture and enology sectors by following the Texas-based approach of two-stepping the wet/dry debate. Unlike Texas, allowing wineries to operate in dry counties does not require a state constitutional amendment (Ark. Const., 1874). Rather, all the state legislature must do is amend the state code to reflect the above-mentioned policy change (Ark. Code Ann. § 3-8-101, 1955).

Alternative 3 – Virginia's Technical Tenacity: Employing GIS To Expand Viticulture

Virginia is a modern viticulture success story (*The Roots of Virginia Wine*, n.d.). The Commonwealth, now home to over 300 wineries, had only six wineries in the 1970s (*The Roots of Virginia Wine*, n.d.). In 2017, researchers at Virginia Tech launched a GIS-based tool named GeoVine. GeoVine allows prospective vintners to examine a specified site for viticulture potential. The tool, which is limited to Virginia and Ohio usage, generates a report showing a given area's climate, elevation, slope, and soil properties (Center for Geospatial Information Technology, 2017).[14] Alternative 3 involves the Arkansas Legislature appropriating money so that the Wine Council can facilitate the Natural State's integration into the GeoVine system.

Alternative 4 – Missouri Modernization: Legislative Elimination Of Dry Counties

Missouri eliminated dry counties a year after Prohibition ended in 1933 (Missouri Department of Public Safety: Alcohol & Tobacco Control, n.d.). Moreover, Missouri's elected officials began cultivating a regulatory environment in the 1970s and 1980s that allowed Missouri's winemakers to thrive (MacNeil, 2001, p. 769). The Show-Me State now boasts a massive wine sector with a total economic impact worth over $3 billion (National Association of American Wineries, 2017).

Alternative Four brings the Missouri approach to Arkansas. This alternative calls for the elimination of Arkansas' dry counties by legislative means. Specifically, it requires the legislature to strip the Arkansas code of its local-option provision and replace it with language that would make every county wet.

Criteria

Political Feasibility

The history of dry counties in Arkansas spans almost 100 years (Harper, 2016, p. 528). Many Arkansas counties remain dry because of an alliance between religious groups and county line-liquor

[14] The tool once supported Maryland. However, site managers removed the state after Maryland stopped funding the project (B. Herndon, personal communication, March 10, 2021).

stores, whose different yet convergent interests perpetuate dry designations. The liquor stores maintain their financial bottom line, and the churches maintain community morality (Horpedahl, 2020, pp. 8–12). The defeat of the Arkansas Alcohol Amendment in 2014 was due, in large part, to these two interest groups funding an organization that hit the airwaves with ads opposing the amendment (Associated Press, 2014; Sanburn, 2014).

Any alternative must be politically feasible. That is, it must prevent the converging interests of county-line liquor stores and the religious community. Each alternative will be deemed feasible, moderately feasible, or infeasible. The chart below describes each designation, provides a working definition, and lists the points assigned to each designation for evaluation.

Designation	Definition	Points Assigned
Feasible	The alternative is unlikely to generate broad opposition by both county-line liquor stores or the religious community.	2
Moderately Feasible	The alternative could generate broad opposition from either county-line liquor stores or the religious community, but it is unlikely that both will oppose the measure.	1
Infeasible	The alternative is likely to generate broad opposition from both county-line liquor stores or the religious community.	0

Effectiveness

This report aims to identify a policy alternative that will increase the viticulture footprint in the Natural State. The effectiveness criterion attempts to qualitatively measure how effective each alternative is at generating wineries. Each alternative will be designated effective, moderately effective, or ineffective. The chart below names each designation, provides a working definition, and lists the points assigned to each designation for evaluation.

Designation	Definition	Points Assigned

Effective	The alternative is likely to lead to expansive growth in Arkansas' wine industry.	2
Moderately Effective	The alternative might lead to some growth in the Arkansas wine industry.	1
Ineffective	The alternative will lead to no growth in the Arkansas wine industry and might cause an industry contraction.	0

Cost

Cost measures outlay of taxpayer money by the state legislature. The legislature currently spends over $2.2 million annually to facilitate growth in the state's wine industry (Arkansas Legislature, 2020, pp. 268, 323–326). Each alternative will be designated as feasible, moderately feasible, or infeasible, based on how much additional investment the alternative requires. The chart below names each designation, provides a working definition, and lists the points assigned to each designation for evaluation.

Designation	Definition	Points Assigned
Feasible	The alternative requires no outlay of additional funds by the state legislature	2
Moderately Feasible	The alternative requires an outlay of state funds and represents no more than a five percent increase in funding to wine related activity.	1
Infeasible	The alternative requires an outlay of state funds in excess of a five percent increase in funding to wine related activity.	0

Industry Palpability

The Arkansas viticulture tradition spans two centuries, and whole families have invested generations in creating the industry as it is known today (Eley, 2017). Getting buy-in from key industry players could be the difference between changing the Arkansas regulatory regime and maintaining the status quo. The industry palpability criterion attempts to capture each alternative's impact on the industry as a whole and measure the alternative's ability to generate support from existing establishments. Because this project aims to expand Arkansas viticulture, preference will be given to those alternatives that favor new wineries, while even greater preference will be given to alternatives that balance the interests of new and existing vintners. The chart below names each designation for the industry palpability criterion, provides a working definition, and lists the points assigned to each designation for evaluation.

Designation	Definition	Points Assigned
Balances Interests Between New And Current Vintners	The alternative balances the interests of new vintners and existing wineries.	2
Favors New Vintners	The alternative favors the interests of new vintners over those of existing wineries.	1
Favors Current Vintners	The alternative favors the interests of existing wineries over new vintners.	0

Impact On Illicit Drug Use

Arkansas leads the country in methamphetamine abuse (Lukowiak & Huksey, 2020, p. 7). Any policy lever that discourages people from using methamphetamine or any other illicit drug will likely be viewed favorably by policymakers. As discussed in the literature review, Fernadez et. al. (2018) concluded that alcohol prohibitions only exacerbate the methamphetamine problem (Fernandez et al., 2018, p. 1001). The study concluded that Kentucky, another state with dry counties, would see a 35 percent reduction in meth lab seizures if it legalized alcohol statewide (Fernandez et al., 2018, p. 1019). This report assumes that Arkansas would see a similar reduction in meth lab seizures and uses the lab seizure rate from Fernandez et al. (2018) as a proxy for reductions in overall drug use.[15] The chart

[15] See Appendix 3 for trends of drug lab seizures between Arkansas and Kentucky.

below names each designation for the impact on illicit drug use criterion, provides a working definition, and lists the points assigned to each designation for evaluation.

Designation	Definition	Points Assigned
Effective	The alternative decreases overall drug use by 35 percent.	2
Moderately Effective	The alternative decreases overall drug use between five and 35 percent.	1
Ineffective	The alternative decreases overall drug use by less than five percent.	0

Criteria Weights

Each criterion is weighted based on its perceived importance to the overall analysis. The weights are as follows: political feasibility (.35), effectiveness (.3), Cost (.25), Industry Palpability (.05), Impact on Illicit Drug Use (.05).

Political feasibility garners the most weight because the Wine Council's ability to foster substantive change and expansion in the Arkansas wine industry is primarily limited by the state's unique political landscape. Effectiveness ranks second, as this criterion captures the Wine Council's goal of bolstering the state's agritourism industry by increasing the number of wineries. Cost ranks third because alternatives that involve less legislative investment are more likely to pass the state legislature. Industry palpability and impact on drugs carry the same weight of five percent because they represent essential but not central criteria for this analysis.

Alternative Evaluation And Recommendation

Alternative 1 – Arkansas' Abiding Approach

Political Feasibility

The Arkansas Abiding Approach is a politically feasible option, as it reflects almost a century of entrenched policy in the Natural State (Harper, 2016, p. 528). Following the adoption of the 21st Amendment and the end of Prohibition, Arkansas adopted the local option model, allowing localities to choose whether or not to permit alcohol production and sales within their borders (Harper, 2016, p. 531). Changes to this decades-old, local control model have been modest at best (Harper, 2016, p. 534). Most reforms focused on altering the signature threshold for getting the wet/dry question on local ballots (Harper, 2016, pp. 530–532). When local options made it to the ballot, the religious community and county-line liquor stores joined forces to defeat these attempts to increase alcohol availability (Horpedahl, 2020, pp. 9–10). Nowhere was this more obvious than in 2014, when "bootleggers and Baptists" joined forces to defeat an attempt to turn the whole state wet (Horpedahl, 2020, pp. 9–10).

The well-established tradition of local control, along with the Arkansas electorate's resounding rejection of the 2014 state constitutional amendment, demonstrates that abiding to the way of the past will not awaken the alliance of "bootleggers and Baptists" (Arkansas Secretary of State, 2014; Harper, 2016, p. 528; Horpedahl, 2020, pp. 9–10). This reality makes Alternative 1 a politically viable option in Arkansas.

Effectiveness

Maintaining the status quo is assumed to not increase the number of wineries in Arkansas. In 1943, anti-liquor activists successfully turned 32 counties dry and 11 more soon followed (Harper, 2016, p. 532). Arkansas' number of bonded wineries fell 45 percent in the five years following the 1943 elections (United States Department of the Treasury, 2012). For the proceeding reasons, Alternative 1 is deemed ineffective at creating new wineries.

Cost

Arkansas' status quo does not require the legislature to appropriate additional money. For this reason, it is feasible.

Industry Palpability

By maintaining the status quo, Arkansas policymakers favor current wineries over the potential of new vintners. This paper reaches that conclusion by analyzing Arkansas' current winery incentive program that awards state taxpayer money to wineries already in existence while providing few resources to would-be grape growers (Arkansas Legislature, 2020, pp. 268, 324, 326).

Impact On Illicit Drug Use

Maintaining Arkansas' current regulatory scheme should have little to no impact on illicit drug use (Fernandez et al., 2018, p. 1001; Miron & Zwiebel, 1995, p. 183). This conclusion assumes two variables will be held constant: 1) each county's current wet/dry status will not change and 2) demand for drugs will remain constant, as has been the trend in recent years (National Institute on Drug Abuse, 2016).[16]

Alternative 2 – The Texas Two-Step

Political Feasibility

The Texas Two-Step represents a moderately feasible alternative when assessing its political viability in Arkansas. In theory, the measure would lead to increased alcohol access through small-town wineries operating in dry counties. Access to alcohol is disfavored among some in the Arkansas religious community. Furthermore, Arkansas' county-line liquor stores generally oppose increased access to alcohol when it threatens their bottom line (Horpedahl, 2020, p. 8). These established liquor stores spent over a million dollars between 2008 and 2018 opposing local options that would have converted counties from dry to wet (Horpedahl, 2020, p. 8).

The Texas-Two Step alternative will likely only garner opposition from the religious community because county-line liquor stores will likely not view small-production wineries as a threat to their revenue stream. Locally-owned wineries are distinct and different entities from liquor stores. One aims to promote local agriculture and tourism while providing one type of alcoholic beverage – wine. The other provides a plethora of alcoholic beverages to varying customers, most of whom are local to a fixed geographic area. A lack of opposition on the part of county-line liquor stores, historically the main funders of anti-wet proposals, will force the religious community to be the only

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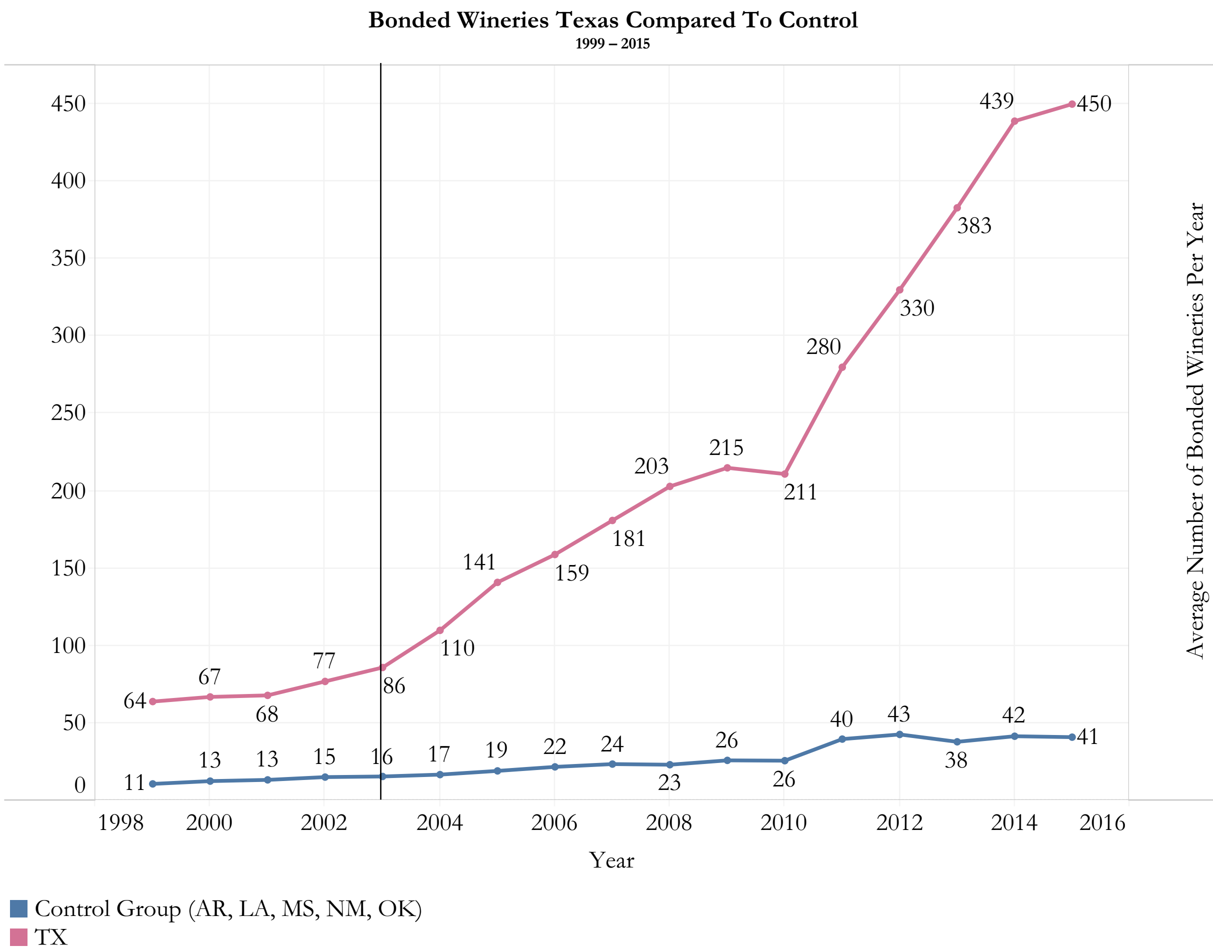
[16] The second variable, "demand for drug," is based on methamphetamine use in Arkansas.

interest group opposing the alternative (Horpedahl, 2020, p. 8). Their singular opposition can be overcome with only moderate political risk.

Effectiveness



Source: Alcohol And Tobacco Tax And Trade Bureau. (2021). List of Permittees.

The Texas-based approach is deemed effective at generating new wineries. The number of bonded Texas wineries grew exponentially following § 20(d)'s passage. On average, the number of bonded wineries in Texas grew 246 percent in the ten years following §20 (d)'s passage compared to the control group in the same time period. Though this basic analysis does not capture the direct causal impact of § 20(d)'s passage in Texas, it does provide enough insight to justify classifying the Texas-Two Step as effective for this criterion.

Cost

Adopting the Texas Two-Step approach in Arkansas would not require an additional appropriation of state money (A. House, personal communication, March 10, 2021). For this reason, it is deemed feasible.

Industry Palpability

Alternative 2 slightly favors new vintners, as it focuses on viticulture expansion in areas that are currently dry. However, the Texas Two-Step also holds the potential for established wineries that wish to expand production into the Ozark and Ouachita Mountain Ranges' micro-climates.

Impact On Illicit Drug Use

The Texas-Two Step increases Arkansans access to wine. Wine makes up 16 percent of Arkansas alcohol sales (HISTECON Associates, 2017, pp. 4–6). Using the Fernandez et al. (2018) conclusion that access to all alcohol reduces meth lab seizures as a proxy for reduced drug use, the Texas-Two Step would lead to a 5.45 percent reduction in drug use.[17]

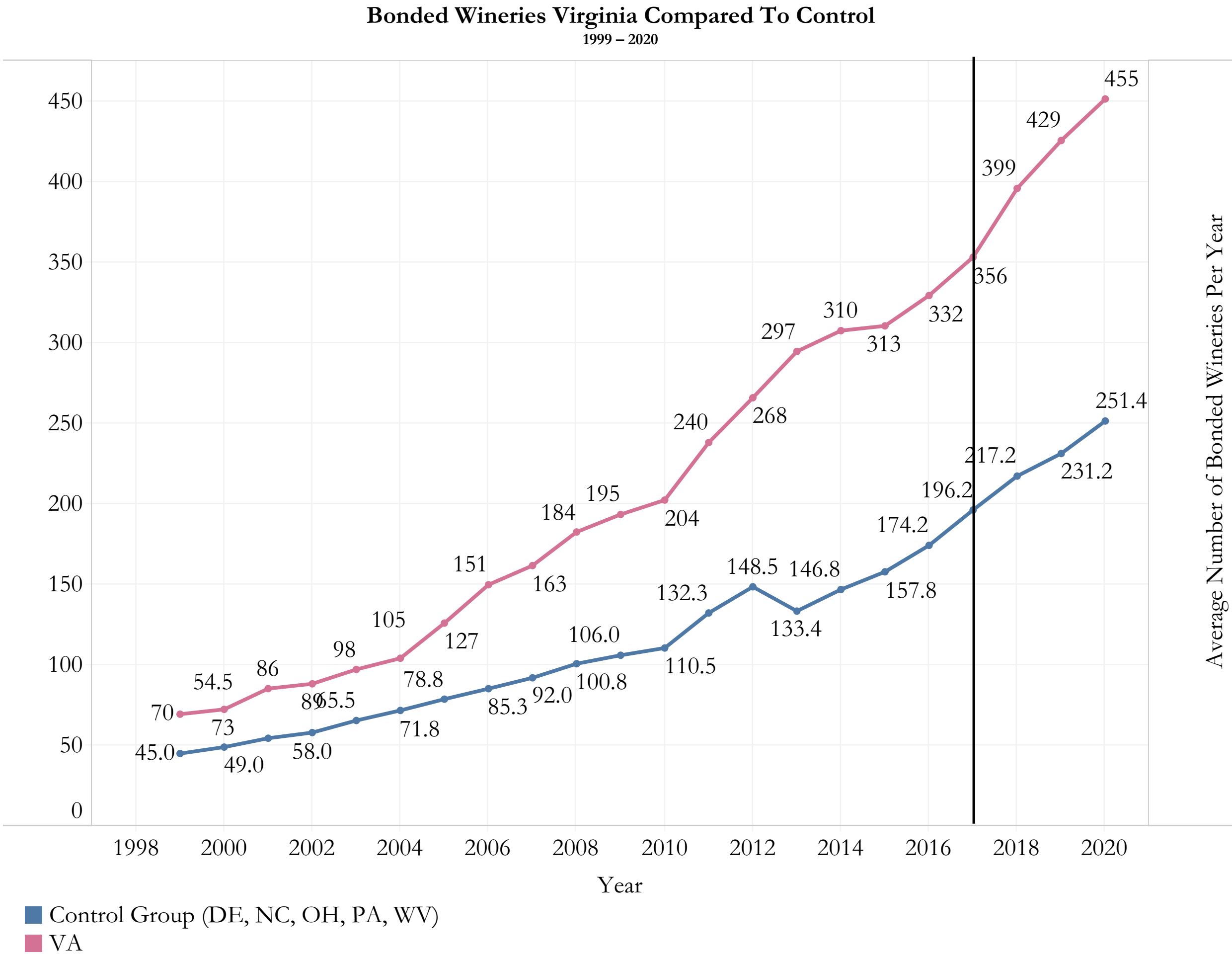
<u>Alternative 3 – Virginia's Technical Tenacity</u>

Political Feasibility

Creating a GIS-based tool for viticulture expansion in Arkansas is a politically feasible way to encourage grape growers and would-be vintners to expand operations into untouched areas of the Natural State. Alternative 3 does little to alter the well-established tradition of local control for alcohol production and sales. It does not do anything to upset profit margins for county-line liquor stores. If anything, joining Virginia Tech's GeoVine program gives existing liquor stores expanded access to more locally-grown products. Alternative 3 also poses little chance of frustrating members of the religious community as it does little to expand access to alcohol in currently dry areas.

[17] See the Appendix 4 for this calculation.

Effectiveness



Source: Alcohol And Tobacco Tax And Trade Bureau. (2021). List of Permittees.

Using a basic difference-in-difference visualization, it appears that Virginia's introduction of GeoVine in 2017 did not spur massive growth in Virginia's bonded wineries compared to the control group. Virginia did see a slight increase in wineries over the control. The difference in average bonded wineries in the three years before GeoVine's introduction compared to the three years following its introduction was 36, a 22 percent increase. This basic comparison does not capture the causal nature of GeoVine's impact on viticulture. Still, it indicates that Arkansas joining the GeoVine system could affect the state's total wine production. Given that Virginia saw a slight increase in bonded wineries following GeoVine's introduction, Alternative 3 garners a moderately effective designation for the effectiveness criterion.

Cost

According to Brandon Herndon, Operations Officer of Virginia Tech's Center for Geospatial Information Technology, it would cost Arkansas around $25,000 to join the GeoVine system and cost the state $10,000 every following year in maintenance fees. The net present value of that investment per year over the next ten years is $4,523.58 or $45,325.80 total (B. Herndon, personal communication, March 10, 2021).[18]

Industry Palpability

Alternative 3 balances the interests of established wineries and would-be vintners because of the alternative's direct and indirect effects. By enrolling in the GeoVine program, Arkansas would help new vintners find and establish vineyards and wineries. However, GeoVine also creates detailed reports that project the arrival of natural threats to vineyards like insects and mildew (B. Herndon, personal communication, March 10, 2021). These indirect effects of GeoVine would help current vintners balance their interests with those of farmers who are new to the market.

Impact On Illicit Drug Use

Alternative 3 would not impact drug use, as the alternative would not change a county's wet/dry status (Fernandez et al., 2018). The alternative earns an ineffective designation for this criterion.

Alternative 4 – Missouri Modernization

Political Feasibility

The Missouri Legislature eliminated dry counties a year after Prohibition ended in 1933 (Missouri Department of Public Safety: Alcohol & Tobacco Control, n.d.). Doing so opened up its economy for a massive expansion of its wine industry (MacNeil, 2001, p. 768). Such an alternative is not politically feasible in Arkansas because it would garner opposition from both the religious

[18] The figures above use a seven percent discount rate, which is in line with the Office of Management and Budget's Circular A-94 (Carter & Nesbitt, 2016).

community and county-line liquor stores. Arkansas legislators will likely not be willing to combat these two interest groups' joint opposition. Any push to adopt the Missouri Modernization Approach is sure to meet the same fate as the 2014 Alcoholic Beverage Initiative.

Effectiveness

Source: United States Department of the Treasury. (2012). Bonded Wineries Lists 1936-1988. Cornell University Library.

Following the end of Prohibition, the Arkansas wine industry was booming. The Natural State boasted an average of 83 bonded wineries in the five years before 1943 (United States Department of the Treasury, 2012). However, anti-liquor activists successfully campaigned to turn 32 Arkansas counties dry in 1943 (Harper, 2016, p. 532). Arkansas wineries saw the impact of these local-option elections in the five years that followed. Compared to Missouri, Arkansas experienced a 45 percent decrease in its total number of bonded wineries (United States Department of the Treasury, 2012).

The statistics and model described above do not capture the causal relationship between dry counties and wineries generated in the modern market. They demonstrate what occurred in the 1930s and 1940s, as well as serve as a key data point in describing the relationship between dry counties and contractions in a state's wine market. This information, coupled with the results of § 20(d)'s passage in Texas, leads to the conclusion that eliminating dry counties in Arkansas would lead to expansive growth in Arkansas' wine industry.[19] Thus, Alternative 4 is deemed effective.

Cost

Like the Texas Two-Step, the Missouri Modernization approach does not require an appropriation by the Arkansas legislature. It only requires the passage of a bill repealing Chapter 8 of Arkansas Code Title 3 (Arkansas Code § 3-8-101, n.d.). For this reason, it is deemed feasible.

Industry Palpability

Eliminating dry counties balances the interests of would-be vintners and the state's long-time wineries. An Arkansas without dry counties would open up the market to new winemakers in the same way the Texas Two-Step would. However, the Missouri approach would go one step further and create a market for native wine in every establishment selling alcohol in the state. This expanded market would benefit established wineries in the immediate and would likely lead to increased profits.

Impact On Illicit Drug Use

The Missouri Modernization approach not only increases Arkansans' access to wine; it also increases their access to beer and spirits. Using Fernandez et al.'s (2018) conclusion that access to all alcohol reduces meth lab seizures as a proxy for reduced drug use, the alcohol access expansion under Alternative 4 would lead to a 35 percent reduction in drug use.[20]

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[19] The passage of § 20(d), as described in the evaluation of Alternative 2, allowed for wineries to operate in the Lone Star State's dry counties. Texas experienced a rapid increase in bonded wineries in the ten years following the § 20(d)'s passage.

[20] See the Appendix 4 for this calculation.

Outcomes Matrix

	Political Feasibility	Effectiveness	Cost	Industry Palpability	Impact On Drug Use	Weighted Score
 **Alternative 1: Arkansas' Abiding Approach**	Feasible	Ineffective	Feasible	Favors Current Vintners	Ineffective	1.2
 **Alternative 2: The Texas Two-Step**	Moderately Feasible	Effective	Feasible	Favors New Vintners	Moderately Effective	1.55
 **Alternative 3: Virginia's Technological Tenacity**	Feasible	Moderately Effective	Moderately Feasible	Balances Interests	Ineffective	1.35
 **Alternative 4: Missouri Modernization**	Infeasible	Effective	Feasible	Balances Interests	Effective	1.05

The Outcome Matrix above summarizes the alternative evaluation contained in the proceeding paragraphs and indicates that Alternative 2 – The Texas-Two Step is the most viable policy option.

Recommendation And Next Steps

Recommendation: Two-Step The Wet/Dry Debate And Foster Growth In The Natural State

The analysis above indicates that the Arkansas Wine Producers Council should pursue Alternative 2 – the Texas Two-Step – as a viable way to expand Arkansas viticulture, promote agritourism, and spur economic development. Alternative 2 aims to channel a decade of expansive growth in the Texas viticulture sector and create a similar situation in Arkansas. The Texas Two-Step is not the most politically feasible option. But, it has the greatest potential to prevent an aligning of interests between the religious community and county-line liquor stores, while effectively increasing the number of wineries in the state at little to no cost. Alternative 2 also provides a palatable way forward and has the potential to decrease illicit drug use in the process.

Implementation

The forthcoming sections describe a step-by-step implementation plan for enacting the Texas Two-Step Alternative in the Natural State. The framework below provides the Wine Council with a concrete guide for successfully navigating Arkansas' political landscape and making viticulture agritourism a viable industry in Arkansas' dry counties.

<u>Implementation Overview</u>

Step 1: Gather Information
- Research legislators
- Identify counties most likely to benefit from policy change
- Finalize policy implementation plan

Step 2: Find Allies, Neutralize Opponents
- Reach out to Senate and House leadership to find supporters
- Create alliance or neutralize UBRA and ABRA
- Neutralize objections with economic benefits

Step 3: Lobby For Passage
- Find a bill sponsor
- Use legislative supporters to build momentum
- Secure bill passage

<u>*Step 1: Gather Information*</u>

Before the start of the 2023 legislative session, the Wine Council should put together a report detailing voting records of key legislators and use that information to identify supportive and unsupportive lawmakers. This interim period will also allow the Wine Council to identify the counties most likely to benefit economically from this policy change and provide the Council with the time to sharpen and change this implementation plan.

<u>*Step 2: Find Allies, Neutralize Opponents*</u>

The months leading up to 2023 should focus on generating support for the Texas Two-Step with House and Senate leadership. Wine Council representatives should reach out to the United

Beverage Retailers of Arkansas (UBRA) and the Arkansas Beverage Retailors Association (ABRA) to find areas of common ground. Any opposition should be met with a focus on the economic benefits of allowing wineries to operate in dry counties.

Step 3: Lobby For Passage

Using the connections formed from Step 2, the Wine Council should find a bill sponsor and educate legislators on the bill's benefits in order to secure passage.

Key Stakeholders Could Ensure Success Or Failure Of The Texas Two-Step In Arkansas

Legislative leaders and the reactions of key interest groups will determine the success of the Wine Council's efforts to pass legislation by implementing the Texas Two-Step in Arkansas. The section below identifies key leaders and interest groups and discusses how to best approach them.

Legislative Interests

Republican Leadership

Republican leaders in the Arkansas House and Senate are the main sources of legislative power in the Natural State. Republicans hold 26 of 35 seats in the Arkansas Senate and 76 of 100 seats in the Arkansas House of Representatives (Arkansas House of Representatives, 2021; Arkansas Senate, 2021). This political reality is unlikely to change in the coming years, as Arkansas is one of the country's reddest states (Brawner, 2020). Republican leaders – specifically, the Arkansas Speaker of the House and the President Pro Tempore of the Senate – should be lobbied for their support to ensure the success of the Wine Council's efforts. Representatives and senators choose their designated leaders at the end of the previous legislative session. It is impossible to know which representative or senator will assume control of her caucus (Wickline, 2020a, 2020b). Once the leaders are chosen, the Wine Council or its representatives should intensively review these two individuals' legislative histories and backgrounds to identify how to best earn their support. These Republican leaders will likely be swayed by pointing to the Texas Two-Step's economic benefits for rural communities.

Wine Council representatives should be prepared to counter any hesitancy about overturning the popular will of the citizens in dry counties by focusing on the narrow nature of the alternative. The Texas Two-Step is not about turning Arkansas wet. It is about acknowledging farmers and expanding the marketplace for agritourism and agriculture products.

Democratic Leadership

The Wine Council's Chair has a long and expansive relationship with the Democratic Party and its elected representatives (A. House, personal communication, March 16, 2021). These relationships will be key to building support among Democrats to push any legislative proposal through the Arkansas Legislature. That process begins by reaching out to House Minority Leader Tippi McCullough and Senate Minority Leader Keith Ingram (Arkansas House of Representatives, n.d.; Arkansas Senate, n.d.). The Wine Council should stress the economic benefits of the Texas Two-Step approach to build support among Democratic members. These members may be key to pushing the measure over the 50 percent hurdle if legislators representing dry counties stand in the way of passage.

Dry County Legislators

Nearly 23 of Arkansas' 35 senators and almost 50 of the state's 100 representatives represent dry areas (Thurston, n.d.). This sizeable majority of dry county legislators in the Senate and the near majority in the House indicate that some of these representatives may be weary of overturning their constituents' popular will. Again, the focus of the conversation with these legislators must be on the economic benefits that will follow the Texas Two-Step's implementation.

Interest Groups

Industry Groups

The two industry groups of primary concern are UBRA and ABRA. According to the Wine Council's Chair, UBRA represents locally-owned liquor stores and would likely support allowing local farmers to vint in dry counties (A. House, personal communication, March 16, 2021). ABRA, on the other hand, represents more county-line liquor stores than locally-owned ones, with the former possibly finding issue with the Texas approach in Arkansas (A. House, personal communication, March 16, 2021). Mitigating any potential risk from ABRA requires educating the group's lobbyist and explaining to him that allowing small farmers to produce wine in dry counties does not disrupt the county-line liquor stores' business model.

Conservative Religious Leaders.

As discussed in the Texas Two-Step political feasibility section, alcohol access is disfavored among certain members of Arkansas' religious community because it supposedly causes problems and creates unwholesome environments (Horpedahl, 2020, pp. 11–12). The Wine Council should be prepared for this group's opposition and stand ready to point out that increased access to native wine in dry counties will not only benefit the economy but will also lead to decreases in illicit drug use (Fernandez et al., 2018).

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Appendices

Appendix 1: Arkansan Alcohol Preferences

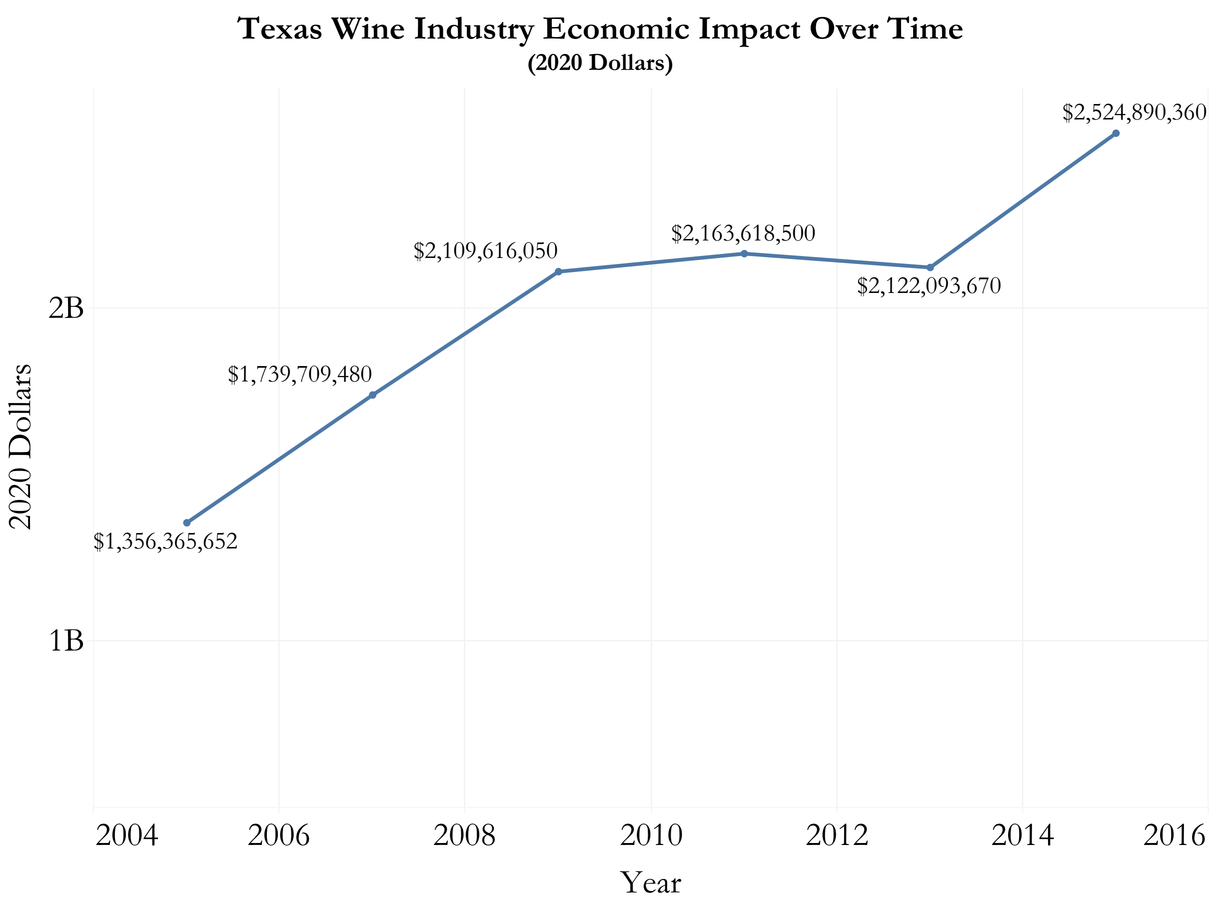
Deck and Jebaraj's series of reports estimate that in 2015, 71.6 percent of Arkansans were at least 21 years old and spent, on average, $360 on alcohol annually – $194 on beer and $162 on liquor and wine (K. A. Deck & Jebaraj, 2016d, p. 5, 2016b, p. 5, 2016c, p. 5, 2016a, p. 5). The chart below breaks those figures down by wet and dry counties. It also adjusts those figures to account for inflation and population growth, while assuming the number of residents over 21 reamined constant.

Arkansans Alcohol Preferences Adjusted For Inflation

County Designation	Population Estimate	Percent Of Population Over Age 21	Average Spent On Alcohol	Total Spent	Total Spent On Beer	Total Spent On Liquor & Wine
Dry	1,188,828.00	851,200.85	$ 388.80	$ 330,946,889	$ 249,083,242	$ 207,997,346
Wet	1,828,976.00	1,309,546.82	$ 388.80	$ 509,151,802	$ 383,207,051	$ 319,997,640

Appendix 2: Texas Wine Sector Growth Since 2005

The table and graph below details changes in the total economic impact of Texas' wine industry since 2005. Figures are represented in 2020 dollars and show an 86 percent increase in real dollars from 2005 to 2015.



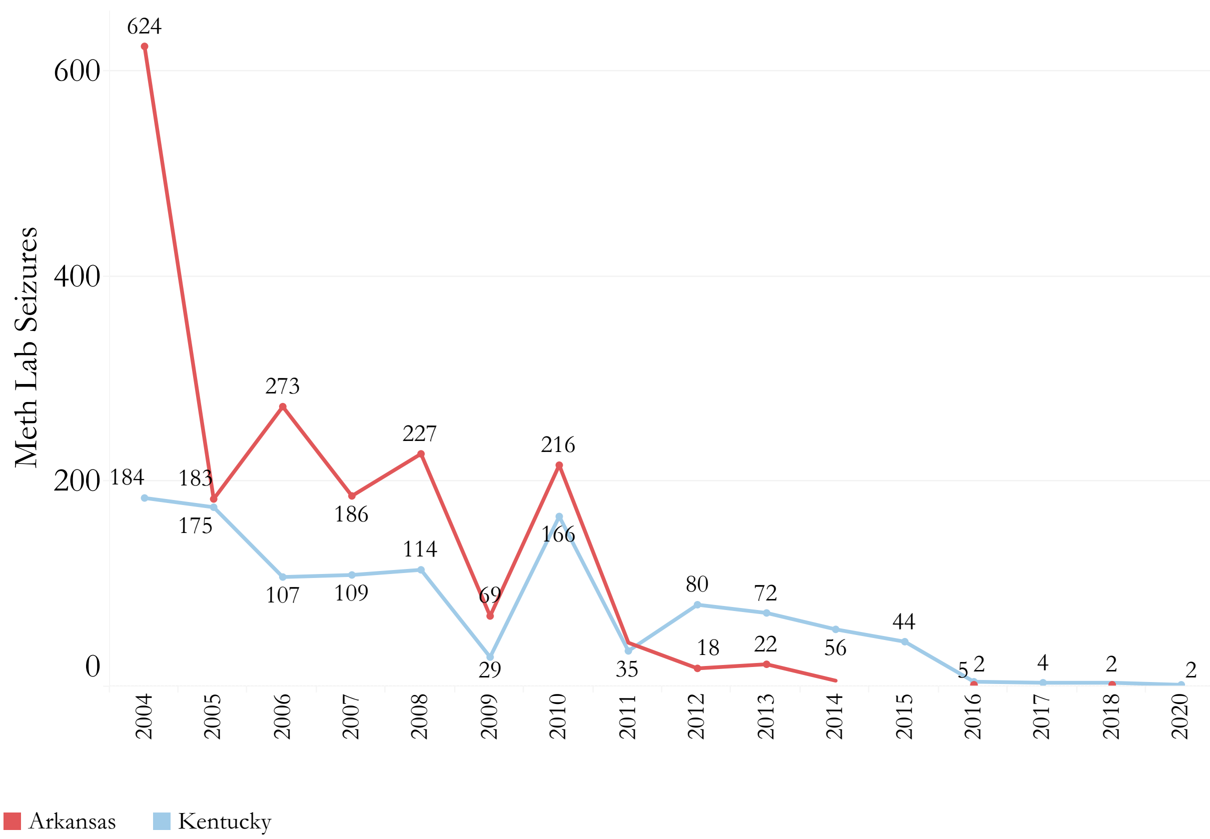
Source: MKF Research LLC, Texas Wine Marketing Research Institute, & Texas Wine and Grape Growers Association. (2005, 2009, 2011, 2015, 2017). The Economic Impact Of Wine And Wine Grapes On The State Of Texas.

Growth In The Texas Wine Sector Since 2005 (2020 Dollars)			
Year	**2020 Dollars**	**Percent Change From Previous Report**	**Percent Change From 2005**
2005	$ 1,356,365,652	0%	0%
2007	$ 1,739,709,480	28%	28%
2009	$ 2,109,616,050	21%	56%
2011	$ 2,163,618,500	3%	60%
2013	$ 2,122,093,670	-2%	56%
2015	$ 2,524,890,360	19%	86%

Appendix 3: Drug Lab Seizures In Arkansas And Kentucky

The Impact On Illicit Drug Use criterion uses the findings of Fernadez et al. (2018) to capture the effect that a change in alcohol policy might have on Arkansans' use of illicit drugs. The graph below uses Drug Enforcement Agency (DEA) data to show total drug lab seizures in Arkansas and Kentucky. Since 2008, these trends appear to follow the same trajectory in each state, with slight variations from 2012 to 2014 (United States Drug Enforcement Administration, n.d.). For this reason, this paper assumes that alcohol legalization in Arkansas would have a similar effect on illicit drug use as it would in Kentucky. The report also uses drug lab seizure rate as a proxy for illicit drug use.

Drug Lab Seizures, Kentucky And Arkansas
2004 – 2020



Source: United States Drug Enforcement Administration. (n.d.). Clandestine Drug Labs in the United States.

Appendix 4: Impact on Illicit Drug Use Calculations

The following table attempts to explain how the Impact On Illicit Drug Use criterion was calculated. Using the HISTECON Associates Report, this paper estimates the total sales of beer, liquor, and wine. It then calculates the percentage of total sales by category of alcohol. The next step involves taking the 35 percent reduction in meth lab seizures described in the Fernadez et al. (2018) paper and multiplying that number by the percent breakdown for a given category of alcohol to find the drug use reduction number.

This approach is limited in two significant ways. First, it assumes that meth lab seizures serve as a good proxy for drug use. Second, it assumes that all alcohol costs are relatively the same and that the total percentage of sales captures the percent of the volume of alcohol consumed. However, the HISTECON Associates Report indicates that the nationwide Alcohol Consumption mix is 53 percent for beer, 35 percent for liquor, and 12 percent for wine (HISTECON Associates, 2017, p. 3). That breakdown tracks very closely with the percent of total sales figure below, indicating it to be a good proxy for alcohol consumption in the Natural State.

Measuring The Impact On Illicit Drugs

Alcohol	Total Sales	Percent Of Total Sales	Percent Reduction In Drug Use
Beer	$420,000,000	53.64%	18.77%
Liquor	$241,000,000	30.78%	10.77%
Wine	122,000,000	15.58%	5.45%
Total	**783,000,000**	**100%**	**35 %**

Arkansas Abiding Approach Calculation

The Arkansas Abiding Approach does not increase alcohol availability in dry counties and does not contribute to any reduction in drug use.

Texas-Two Step Calculation

The Texas Two-Step increases alcohol access to wine in presently dry counties. Wine makes up 15.58 percent of Arkansas' consumption mix. The wine makeup figure multiplied by 35 equals 5.45, indicating a 5.45% reduction in illicit drug use resulting from implementing this policy.

Virginia Technological Tenacity Calculation

The Virginia Technological Tenacity Approach does not increase alcohol availability in dry counties and does not contribute to any reduction in drug use.

Missouri Modernization Calculation

The Missouri Modernization Alternative increases all alcohol access in presently dry counties. All alcohol makes up 100 percent of Arkansas' consumption mix. The 100 percent figure multiplied by 35 equals 35, indicating a 35% reduction in illicit drug use as a result of implementing this policy.