

## Alcohol Control Reform and Public Health and Safety

By Michael LaFaive and Antony Davies, Ph.D.

*An executive summary of this Policy Brief appears on the back cover.*

### Introduction

The state regulates alcohol traffic in Michigan through a 74,000-word law, the Michigan Liquor Control Code of 1998,\* and through another 37,000 words of rules promulgated by the Michigan Liquor Control Commission.† The MLCC was created in 1933.‡ This Prohibition-era bureaucracy is responsible for overseeing and enforcing the control code and related rules system.

As part of this alcohol control system, the LCC acts as Michigan's official wholesaler for spirituous ("hard") liquor products and issues licenses to alcohol retailers and to beer and wine suppliers and wholesalers. This supplier-wholesaler-retailer troika represents Michigan's "three-tier" system of alcohol control: No one tier may have an ownership interest in another.

Michigan law also mandates that most beer and wine producers grant exclusive monopolies to private wholesalers over the sale of the producers' products within specific Michigan sales territories.‡ Retailers

\* "Michigan Liquor Control Code of 1998: Act 58 of 1998," (Michigan Legislature, 1998), <http://goo.gl/8DtOc> (accessed August 3, 2011). The word count is approximate.

† "Licensing and Regulatory Affairs: Liquor Control Commission," (State of Michigan: Department of Licensing and Regulatory Affairs, 2012), <http://goo.gl/zDBaW> (accessed March 29, 2012). The word count is approximate.

‡ Wineries and small-scale beer producers, such as "brew pubs," may produce their product and sell it on the premises. MCL 436.1113(9); MCL 436.1105(12) (see "Michigan Liquor Control Code of 1998: Act 58 of 1998," (Michigan Legislature, 1998), <http://goo.gl/8DtOc> (accessed August 3, 2011)).

### ABOUT THE AUTHORS

Michael LaFaive is director of the Morey Fiscal Policy Initiative at the Mackinac Center for Public Policy. Antony Davies, Ph.D., is an associate professor of economics at Duquesne University.

of beer and wine in each territory can buy only from these private wholesale monopolies. The law also uses a population quota to limit the number of retail licenses available for selling packaged liquor for off-premise consumption.§

This extensive regulation has direct consequences for consumers. Artificially reducing marketplace competition and the availability of alcohol products increases prices and other consumer costs.¶

This year, the state Legislature is expected to remake the legal regulations governing the purchase, sale and distribution of alcohol in the state. Last year, the state Office of Regulatory Reinvention appointed a 21-member Liquor Control Advisory Rules Committee to make recommendations for reform to Michigan's alcohol control system.‡

Some groups and individuals have cautioned against changes to the state's alcohol control regime on grounds of public health and safety.¶ Such concerns are worth exploring, since they were instrumental in justifying Prohibition¶ and the regulations that replaced Prohibition after its repeal.\*\*

§ "Specially Designated Distributor License," (State of Michigan: Michigan Business One Stop, 2010), <http://goo.gl/mY1EQ> (accessed April 25, 2012). Interestingly, there is no such quota limitation on the sale of beer and wine licenses for packaged carry out. "Specially Designated Merchant License," (State of Michigan, 2010), <http://goo.gl/Ejmg7> (accessed March 29, 2012).

¶ In his book "Last Call: The Rise and Fall of Prohibition," author Daniel Okrent details the extent to which this occurred, noting that the Woman's Christian Temperance Union insisted, "[T]he elimination of alcoholic beverages was necessary for the health, welfare, and safety of the American family. ..." Daniel Okrent, *The Last Call: The Rise and Fall of Prohibition* (New York, NY: Scribner: A Division of Simon and Schuster, 2010), 18.

\*\* Raymond B. Fosdick and Albert L. Scott, *Toward Liquor Control* (Alexandria, VA: The Center for Alcohol Policy, 2011). Even some of the most ardent "dry" supporters and other teetotalers recognized that Prohibition had been a public policy failure. Indeed, none other than John D. Rockefeller Jr., a prominent early supporter of Prohibition and the son of Standard Oil founder John D. Rockefeller, confessed that

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## Alcohol Control and Public Health and Safety

In examining alcohol control and public safety, it is generally best to consider more than one state at a time and more than one year's worth of data. Data for a single state or a single year may be influenced by population size, socioeconomic status, weather or other factors dependent on that particular state or year, but independent of the alcohol controls themselves.

A 2010 study by Donald J. Boudreaux and Julia Williams examined Centers for Disease Control data for 2001 through 2005 on total alcohol-related deaths.<sup>\*</sup> Boudreaux, an economist with George Mason University, and Williams, a private consultant at Regulatory Economics Group LLC, followed common practice and divided states into "control" and "license" states. In control states, state government acts as a wholesaler of spirituous liquor, buying from producers almost every legal drop of hard liquor ultimately sold by retailers and consumed in the state. In license states, government simply licenses private wholesale and retail providers.

By this definition, 18 states, including Michigan, are control states, while 32 states are license states.<sup>†</sup> The District of Columbia is also a licensing jurisdiction.

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coerced abstinence did not work. He did so in the preface to *Toward Liquor Control*, a book he helped sponsor and a hugely influential work that inspired regulators to address the "liquor problem." His preface is worth quoting:

But with repeal the problem is far from solved. As Senator Capper has aptly said, "We may repeal Prohibition, but we cannot repeal the Liquor Problem." If carefully laid plans of control are not made, the old evils against which [P]rohibition was invoked can easily return.

\* Donald J. Boudreaux and Julia Williams, "Impaired Judgment: The Failure of Control States to Reduce Alcohol-Related Problems," (Virginia Institute for Public Policy, 2010), <http://goo.gl/nrp6x> (accessed March 27, 2012). The authors use data from the Alcohol-Related Disease Impact database and describe the deaths as "alcohol-related." These total death numbers are for alcohol-attributable deaths in the CDC's nomenclature. Ibid.; "Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI)," (Centers for Disease Control and Prevention, 2008), Alcohol-Related Disease Impact (ARDI) Alcohol-Attributable Deaths, <http://goo.gl/U5GsA> (accessed April 20, 2012). The methods that the CDC uses to estimate alcohol-attributable deaths can lead to changes in the reported number of such deaths for a specific time period, even after that period has passed. Dafna Kanny, Centers for Disease Control and Prevention, email correspondence with Michael D. LaFaive, Mackinac Center for Public Policy, May 4, 2012.

† Maryland, usually classified as a license state, is sometimes viewed as a control state. By that count, there are 19 control states and 31 license states. This inconsistent classification is due to the fact that the degree of alcohol control varies across Maryland's counties. "History and Philosophy," (Montgomery County, Maryland, Department of Liquor Control, 2012), <http://goo.gl/3pwjv> (accessed April 23, 2012).

Reviewing the data for total alcohol-related deaths per 100,000 persons for control states and license states,<sup>‡</sup> Boudreaux and Williams concluded, "Clearly, there is not much difference here between the two kinds of states." They added:

Breaking these data down on a state-by-state basis, and using various regression analyses to estimate the relationship between alcohol-related death rates in control states and such death rates in license states, we find no statistically significant relationship among the two types of states and their different regimes of spirits sales. Government-monopoly control of spirits does not reduce citizens' risks of dying from alcohol-related causes.<sup>§</sup>

Boudreaux and Williams also used data from the National Highway Traffic Safety Administration and the Substance Abuse and Mental Health Services Administration to investigate the specific problems of drunk-driving fatalities, binge drinking among 12- to 17-year-olds and binge drinking among 18- to 25-year-olds.<sup>§</sup> In all three cases, the average rates for control states and license states were similar, and in no case did regression analyses reveal a statistically significant relationship between alcohol control and these alcohol-related problems.<sup>¶</sup>

## Degrees of Alcohol Control and Public Health

Some have argued that Michigan differs from other control states because Michigan government is not a retailer of alcohol products and because it acts as a wholesaler for only one type of alcohol: spirituous liquor. In light of this less intrusive regime, Michigan is said to have struck a balance between the need to control alcohol and the need to allow market competition and business opportunities.<sup>¶¶</sup>

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‡ The number of alcohol-related deaths will tend to be higher in populous states simply because of their population size, not their alcohol control policy. Computing the number of alcohol-related deaths per 100,000 people in the state allows large and small states to be compared directly.

§ Boudreaux and Williams cite the National Institute on Alcoholism and Alcohol Abuse's definition of binge drinking "as the consumption of five or more drinks for a male, or four or more drinks for a female, during a single 'occasion.'" Boudreaux and Williams, "Impaired Judgment: The Failure of Control States to Reduce Alcohol-Related Problems," (Virginia Institute for Public Policy, 2010), 5, <http://goo.gl/nrp6x> (accessed March 27, 2012).

¶¶ For instance, in a news release calling for "strong alcohol laws," the executive director of Michigan Alcohol Policy Promoting Health & Safety stated, "For many years, Michigan's alcohol laws have served to promote public health, moderation and safety, while balancing the needs of businesses to pursue new opportunities and growth in the beer, wine and liquor sector." Tobias and Hansen, "Dozens

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Does Michigan's intermediate alcohol control regime lead to different safety results? We assess that view by revisiting the data and subdividing states into four categories of state alcohol control: "heavy control," "moderate control," "light control" and license states.

Each of the categories has a specific definition. In a heavy-control state, state government sells at least two of the three major types of alcohol (beer, wine or spirits) at the retail level and also sells one or more of these at the wholesale level. In a moderate-control state, state government sells only one of the three major types of alcohol at the retail level, but still sells one or more at the wholesale level.

In a light-control state, such as Michigan, state government sells no alcohol at the retail level, but sells at least one or more of the three alcohols at the wholesale level (in Michigan's case, hard liquor). As before, a license state simply licenses private retailers and wholesalers of the three types of alcohol.<sup>7</sup>

Note that these four terms are relative. It is difficult to review Michigan's extensive controls and consider them "light," even if state government's marketplace intervention is less intrusive than in some other states.

Graphic 1 shows total alcohol-attributable deaths per 100,000 residents in 48 states during the period from 2001 through 2005, the most recent years for which data are available from the Centers for Disease Control and Prevention.<sup>8</sup> The data include deaths of both adults and children. The states in Graphic 1 are grouped from left to

right by the four degrees of liquor control: heavy-control, moderate-control, light-control and license states.

The four groups are essentially indistinguishable. If state alcohol controls worked in proportion to their scope, the bars would tend to rise like stair steps from left to right across the graphic. Instead, to take just one example, the average alcohol-attributable fatality rate is lower in the license group than in the low-control group (28.46 vs. 29.95 deaths per 100,000 people, respectively). The same holds true for the under-21 fatality rate, where the average in license states is 1.70 and the average in light-control states is 1.84.<sup>8</sup> Statistical tests do not indicate that a state's alcohol control regime affects average alcohol-attributable death rates.<sup>†</sup>

Note that of the 10 states with the lowest fatality rates, eight are license states. The two others are a light-control state, Iowa (eighth), and a moderate-control state, New Hampshire (10th); none of the top 10 is a high-control state.

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of Groups Sign Letter Supporting Strong Alcohol Laws and Public Health as Controversial Committee Recommends Changes," (Michigan Alcohol Policy Promoting Health & Safety, 2011), <http://goo.gl/wSwnY> (accessed February 2, 2012). The president of the Michigan Beer and Wine Wholesalers Association has likewise stated: "Alcohol is not like other consumer products. It must be regulated at a higher standard. Here in Michigan, we have found a balance that emphasizes accountability yet promotes competition and wide consumer choice, and that's why Michigan is a national model for alcohol regulations." "National Study: Americans support meaningful alcohol regulations," *Today's Wholesaler* Volume 35, no. 2 (2011) <http://goo.gl/3P5NX> (accessed March 27, 2012).

\* "Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI)," (Centers for Disease Control and Prevention, 2008), Alcohol-Related Disease Impact (ARDI) Alcohol-Attributable Deaths, <http://goo.gl/U5GsA> (accessed April 20, 2012). Alcohol-attributable deaths include 54 acute and chronic causes in which alcohol played a direct or indirect role; see *ibid.*; "Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI): Methods," (Centers for Disease Control and Prevention, 2008), <http://goo.gl/qhd0U> (accessed April 22, 2012). The state population figures used to generate the rates were averages from 2001 through 2005 drawn from "Population Estimates: State Intercensal Estimates (2000-2010)," (United States Census Bureau, 2011), <http://goo.gl/TJv2M> (accessed April 20, 2012). Utah is excluded from the analysis because it changed classifications during the time period. Maryland is also excluded, since the degree of alcohol control varies among its counties.

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† P-values do not suggest a link between the average alcohol-attributable fatality rates and the level of alcohol control. The following results are generated for tests of the null hypothesis that there is no difference in the population means:

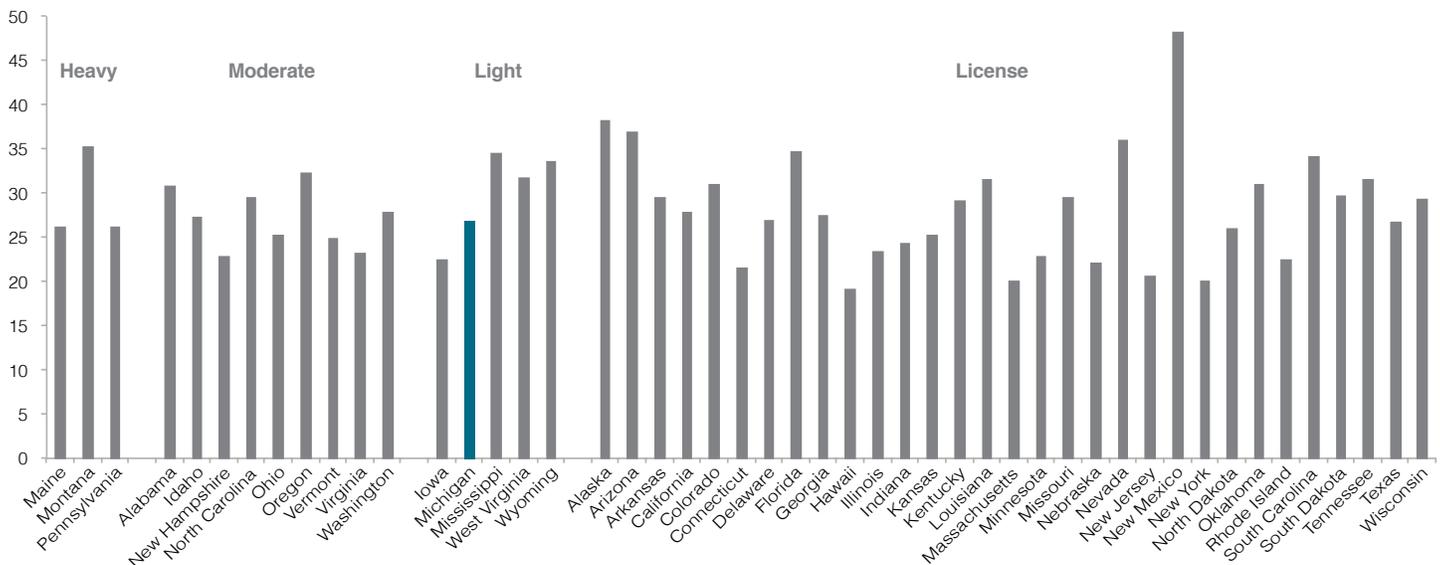
- Joint difference among heavy, moderate, light and license: p-value of 0.85 for ANOVA test
- Difference between heavy/moderate/light and license: p-value of 0.97 for difference of means test
- Difference between heavy/moderate and light/license: p-value of 0.55 for difference of means test.

P-values produce similar conclusions for the under-21 alcohol-attributable fatality rate:

- Joint difference among heavy, moderate, light and license: p-value of 0.52 for ANOVA test
- Difference between heavy/moderate/light and license: p-value of 0.51 for difference of means test
- Difference between heavy/moderate and light/license: p-value of 0.15 for difference of means test.

Note that other difference-of-means tests are problematic due to the small number of observations.

**Graphic 1: Annual Average Alcohol-Attributable Deaths per 100,000 People by State, 2001-2005**



Source: Authors' calculations based on "Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI)," (Centers for Disease Control and Prevention, 2008), Alcohol-Related Disease Impact (ARDI) Alcohol-Attributable Deaths, <http://goo.gl/U5GsA> (accessed April 20, 2012); "Population Estimates: State Intercensal Estimates (2000-2010)," (United States Census Bureau, 2011), State Intercensal Estimates (2000-2010): Annual Population Estimates, <http://goo.gl/TJv2M> (accessed April 20, 2012). Fatality rates include deaths from 54 chronic and acute causes and also include both adults and children. Average populations for 2001 through 2005 were used. Utah is excluded from the analysis because it changed classifications during the time period. Maryland is also excluded, because the degree of alcohol control is not constant among its counties.

It is worth noting here that some other unmeasured factors may be unduly influencing reported alcohol-attributable deaths. Proponents of strict alcohol regulation might argue that statistically controlling, for example, for a state's unemployment rate or proportion of heavy drinkers, the bars would surely line up stepwise.

However, since atypical factors specific to individual states will tend to cancel out in the averages, the unmeasured factor would have to be related to the level of control so that it affected control states differently than it affected noncontrol states. The fact that some excluded factor differs across states is not enough, in itself, to produce the lack of evidence in Graphic 1 for the efficacy of state alcohol controls.

## Alcohol-Related Driving Fatalities

A frequent source of concern is alcohol-related driving fatalities. The nonprofit Michigan Alcohol Policy Promoting Health & Safety has observed that the average fatal alcohol-related crash rate in 2009 was 7.5 percent lower for control states than for license states, according to data provided by the National Highway Traffic Safety Administration.<sup>\*</sup>

\* Tobias and Hansen, "Dozens of Groups Sign Letter Supporting Strong Alcohol Laws and Public Health as Controversial Committee Recommends Changes," (Michigan Alcohol Policy Promoting Health & Safety, 2011), 4, <http://goo.gl/wSwnY> (accessed February 2, 2012). The source for the data used in the computation was

This finding is for a single year and is therefore susceptible to bias and one-time deviations from the norm. Indeed, a difference-of-means test using the NHTSA data indicates the observed difference between the averages for control and license states is likely due to random chance, rather than the states' alcohol policies.<sup>†</sup>

A more comprehensive analysis of traffic data has yielded interesting results. In a recent paper, John Pulito and Antony Davies (co-author of this Policy Brief) reviewed data on traffic fatalities from 1982 to 2002 in 49 states. They developed a statistical model that incorporated the aforementioned four-part classification of license states and heavy-, moderate- and light-control states, and they controlled for the presence of seat belt mandates, keg registration laws and other personal-conduct and alcohol-use laws that can influence traffic fatality rates.<sup>9</sup>

the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (see "FARS Data Tables," (National Highway Traffic Safety Administration), <http://goo.gl/KDS3X> (accessed March 26, 2012)). Based on our attempt to recreate the finding, we believe that MAPPHS included data for the District of Columbia and classified Maryland as a control state. MAPPHS did not provide the dataset it employed in its calculations. Michael A. Tobias, email correspondence with Director Michael D. LaFaive, Morey Fiscal Policy Initiative, Mackinac Center for Public Policy, January 8, 2012.

† The difference-of-means test for control versus license states yields 0.12. Authors' calculations based on data in "FARS Data Tables," (National Highway Traffic Safety Administration), <http://goo.gl/KDS3X> (accessed March 26, 2012).

Pulito and Davies looked at alcohol-impaired traffic fatalities as measured by the National Highway Traffic Safety Administration and found that the fatality rates did not follow the expected pattern of declining as the degree of state alcohol control increased. Instead, for instance, there was no statistically significant difference between the alcohol-impaired fatality rates of light-control states and those of license states, whether for underage or legal-age drinkers. In moderate-control states, alcohol-impaired fatality rates were significantly greater than those for license states, again for both underage and legal-age drinkers.<sup>10</sup> This unexpected result actually suggested alcohol controls might be associated with greater harms. The outcome for moderate-control states was balanced, however, by the finding that heavy-control states did have significantly lower alcohol-impaired fatality rates than license states for underage and legal-age drinkers.<sup>11</sup>

Pulito and Davies also investigated a broader measure of alcohol-related fatalities known as “alcohol-involved” fatalities.<sup>9</sup> Unlike alcohol-impaired accidents, alcohol-involved fatalities include the deaths of pedestrians and other nonmotorists, and they include accidents in which blood alcohol content levels of the people involved in the crash are above 0.01 grams per deciliter (not just 0.08 grams per deciliter, as in alcohol-impaired fatalities).<sup>12</sup>

With this broader measure, the results were more uniform and ran against the expected pattern. Alcohol-involved fatality rates were significantly higher in light-control states than in license states for legal-age drinkers; for underage drinkers, there was no statistically significant difference. Alcohol-involved fatality rates were significantly higher in moderate-control states than in license states for both underage and legal-age drinkers.<sup>13</sup> The rates were also significantly higher in heavy-control states than in license states for legal-age drinkers, though for underage drinkers, there was no statistically significant difference.<sup>14</sup> Hence, state alcohol controls do not appear to improve alcohol-involved fatality rates; indeed, they are frequently linked with worse alcohol-involved fatality rates.

Pulito and Davies’ findings are arguably ambiguous under the more restrictive definition (alcohol-impaired fatalities), but are unambiguous under the more comprehensive definition (alcohol-involved fatalities). On the whole, their findings do not support the view that state alcohol controls reduce traffic-related fatalities. This outcome dovetails with Boudreaux and Williams’ finding,

\* Here, the authors are using “alcohol-related” in a generic sense. The National Highway Traffic Safety Administration, however, equates the terms “alcohol-related” and “alcohol-involved.”

described above, of a lack of a statistically significant relationship between 2001-2005 drunk-driving fatalities and whether a state was a control state or license state.<sup>15</sup>

These results, of course, do not mean control states can’t experience improvements in alcohol-involved safety. Using data from the National Highway Traffic Safety Administration and the U.S. Census Bureau, the authors calculate that Michigan witnessed a 17 percent decline in alcohol-involved driving fatalities<sup>†</sup> per capita between 2001 and 2005.<sup>16</sup> This is good news.

But the reduction should be seen in context. For instance, seven other states saw their alcohol-involved driving fatality rates fall more quickly during the same period (see Graphic 2).<sup>‡</sup> Under the four-category classification described earlier, five of these states were license states (“no control”), while two, like Michigan, were light-control states. None was a moderate- or heavy-control state.

Some observers might suspect that Michigan’s fatality rate declines were lower than the seven states in the graphic because these states started with higher alcohol-involved driving fatality rates to begin with. But Connecticut and Massachusetts both had lower rates than Michigan did in 2001, while Iowa’s rate was initially close to Michigan’s — 4.9 vs. 4.7 deaths per 100,000 people, respectively — but ended below Michigan’s.<sup>17</sup> Nor is it clear that a higher initial death rate would make declines easier to achieve. A higher initial death rate could be a sign of systemic challenges that are intrinsic to the state and harder to address through policy initiatives. In any event, statistical tests again do not indicate that a state’s alcohol control regime affected the declines in alcohol-involved driving fatalities per capita.<sup>§</sup>

† The National Highway Traffic Safety Administration “defines a fatal crash as alcohol-related or alcohol-involved if at least one driver or nonoccupant (such as a pedestrian or pedalcyclist) involved in the crash is determined to have had a blood alcohol concentration (BAC) of .01 gram per deciliter (g/dL) or higher. Thus, any fatality that occurs in an alcohol-related crash is considered an alcohol-related fatality.” See, for instance, “Priority Program Areas,” (National Highway Traffic Safety Administration), <http://goo.gl/5e3Ge> (accessed April 22, 2012).

‡ Utah and Maryland were excluded from this analysis for reasons that have been described above (see Graphic 1).

§ P-values do not suggest a link between the level of alcohol control and the average percent decline in alcohol-involved driving fatalities per capita between 2001 and 2005. The following results are generated for tests of the null hypothesis that there is no difference in the population means:

- Joint difference among heavy, moderate, light and license: p-value of 0.85 for ANOVA test
- Difference between heavy/moderate/light and license: p-value of 0.86 for difference of means test
- Difference between heavy/moderate and light/license: p-value of 0.50 for difference of means test.

**Graphic 2: States With a Larger Percentage Decline Than Michigan’s in Alcohol-Involved Driving Fatalities per Capita Between 2001 and 2005**

State	Alcohol Control Classification (Four-Part)	Percent Decline in Alcohol-Involved Driving Fatalities per Capita (2001 to 2005)
Alaska	License	32
Kansas	License	27
Colorado	License	25
Wyoming	Light Control	25
Connecticut	License	24
Iowa	Light Control	23
Massachusetts	License	18

Source: Authors’ calculations based on 2001 and 2005 data in “Fatality Analysis Reporting System (FARS) Encyclopedia: FARS Data Tables,” (National Highway Traffic Safety Administration), FARS Data Tables, <http://goo.gl/KDS3X> (accessed April 21, 2012); “Population Estimates: State Intercensal Estimates (2000-2010),” (United States Census Bureau, 2011), <http://goo.gl/TJv2M> (accessed April 20, 2012). “Alcohol-related” means that at least one driver had a blood alcohol content of 0.01 grams per deciliter (see footnote quoting NHTSA’s definition on Page 5). Note that Maryland and Utah were excluded from the analysis for the reasons stated in Graphic 1.

From 2001 to 2005, most states recorded declines in alcohol-involved fatality rates, and this appears to be statistically independent of the level of state alcohol controls. There are license states that have seen more rapid declines than Michigan has, and there are license states that registered lower alcohol-involved fatality rates at the end of the period than Michigan did.<sup>18</sup> Michigan’s alcohol controls do not appear to be responsible for its declining alcohol-related fatality rates.

**Alcohol Consumption**

Another common alcohol-related concern is the overall level of alcohol consumption. MAPPHS has also cited a Centers for Disease Control and Prevention task force report that concluded that there is “strong evidence that privatization results in increased per capita alcohol consumption, a well-established proxy for excessive consumption.”<sup>19</sup> The statement is apparently meant to imply that liberalizing Michigan’s alcohol control regime could lead to increased drinking, which in turn would produce higher rates of problem drinking.

Several points should be made here, however. First, the CDC report being referenced by MAPPHS is based on a review of existing literature about the privatization or deregulation of *retail* alcohol sales. Michigan state

government closed its last government-owned retail store in 1989, some 23 years ago.<sup>20</sup> Since Michigan state government acts only as a wholesaler, not retailer, of spirituous liquor, the CDC study is unrelated to existing regulation in Michigan.

Some might argue based on this one literature review that Michigan could turn back the clock and remonopolize its retail operation in the name of public safety. Aside from the obvious difficulty of adopting such a course, it is important to recall that other research, including the research cited in this study, has arrived at a different conclusion about the efficacy of alcohol control regimes in reducing problems associated with excessive alcohol consumption.<sup>21</sup>

Is it possible, however, to find a correlation between alcohol-control regimes and decreased alcohol consumption (as opposed to alcohol-related harms)? Indeed, it is. One of the co-authors of this Policy Brief, in fact, found in earlier research that light-control states had lower rates of alcohol consumption and that this relationship was statistically significant.<sup>22</sup>

Such a finding raises a question about the goal of alcohol control, however. If the goal is reducing consumption on the whole, then the most effective approach is almost certainly not the light-control regime that Michigan has adopted. Instead, it is a return to Prohibition.

America has already tried alcohol prohibition, however, and the general consensus is that the public-health hazards of criminalizing the alcohol trade exceeded the benefits of decreased alcohol consumption. This observation returns us to a public-health goal that seems more appropriate: reducing the harms of excessive consumption. And as we noted above, there is no established relationship between alcohol-control regimes and fewer alcohol-related harms.

In the same vein, it is worth reflecting on what it would mean to act on the CDC’s observation by instituting additional state alcohol controls short of outright prohibition. In the study cited earlier, Boudreaux and Williams comment on the link between per-capita alcohol consumption and drinking problems:

Not surprisingly, the likelihood of dying from alcohol-related causes rises with per-capita consumption of alcohol. Our analyses reveal a highly significant correlation between alcohol-related death rates and per-capita alcohol consumption, a relationship which can be estimated. Specifically, a one-gallon-per-year

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increase in a state's per-capita alcohol consumption increases that state's alcohol-related death rate by about three percent.

While this kind of strong correlation can be seductive to policy makers, it should be noted that a one-gallon reduction in per-capita alcohol consumption is a 40 percent reduction in total consumption – a rather considerable amount. And, if a state were to achieve a 40 percent reduction in consumption, it would still have to craft a strategy for the 97 percent of deaths not impacted. This finding indicates that attacking problem drinking through population level consumption controls, the philosophy behind the control-state system, is not a particularly useful strategy.<sup>23</sup> [Citations omitted.]

Boudreaux and Williams also suggest a reason why state-level controls probably fail to achieve the desired results:

... [I]t's worth noting that, because most truly abusive drinkers are not particularly responsive to prices, it takes really draconian regulatory restrictions or high taxes to actually get problem drinkers to significantly reduce their drinking. And because abusive drinkers' alcohol consumption accounts for such a large percentage of measured per-capita alcohol consumption, meaningfully reducing measured per-capita alcohol consumption is impossible without such draconian restrictions or taxes.<sup>†</sup>

## Alcohol-Related Problems and Retail Density

In addition to Michigan's monopoly over the wholesaling of spirituous liquor, the state regulates the number of retail liquor stores according to population density. By controlling the number of liquor stores, the state hopes to control the availability of alcohol and thereby reduce the

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\* Boudreaux and Williams, "Impaired Judgment: The Failure of Control States to Reduce Alcohol-Related Problems," (Virginia Institute for Public Policy, 2010), 5, n. 3, <http://goo.gl/nrp6x> (accessed March 27, 2012). The idea that problem drinkers are less responsive to increases in price has been investigated elsewhere. In a paper for the National Bureau of Economic Research, four scholars from Yale University and a fifth from Hunter College used Health and Retirement Survey data to investigate how adults' alcohol consumption was affected by price. They summarized: "Only a subgroup responds significantly to price. Importantly, the unresponsive group drinks more heavily, suggesting that a higher price could fail to curb drinking by those most likely to cause negative externalities. In contrast, those least likely to impose costs on others are more responsive, thus suffering greater deadweight loss yet with less prevention of negative externalities." Padmaja Ayyagari et al., "Sin Taxes: Do Heterogeneous Responses Undercut Their Value?," (National Bureau of Economic Research, 2009), <http://goo.gl/dRlMw> (accessed April 12, 2012).

rate of problematic alcohol consumption. As a MAPPHS spokesman told a Detroit News reporter, "We know that the more alcohol outlets there are, the more alcohol-related problems and harm there is [sic]."<sup>24</sup>

There is research, however, that casts doubt on this view. Tenaya Marie Sunbury, a University of Michigan Ph.D. candidate, studied alcohol-related problems in Michigan in her 2010 dissertation, titled "Urban-Rural Influences on Driving Behaviors and Driving Outcomes Among Michigan Young Adults: An Investigation of Roadway Characteristics, Alcohol Establishments, and Social Influences."<sup>25</sup> Her research is unique in investigating the issue of retail density in Michigan at a "micro-level" — that is, it included *individual* characteristics of the Michigan residents who were part of the study. These characteristics included age, sex, marital status, education, personal income, vehicle type and miles driven.<sup>26</sup> Sunbury also incorporates "psychosocial" characteristics measured by the individuals' responses to survey questions about, for instance, whether they "like to live dangerously," think it is wrong "to shoplift something of value from a store" or "hit back" if "people push me around." These characteristics, which described individuals' tolerance of deviance, risk-taking and verbal and physical hostility, were selected as relevant to the respondents' "driving behaviors."<sup>27</sup>

Among other findings, she concluded, "For both men and women, higher density of alcohol establishments was related to lower alcohol consumption (quantity/frequency), binge drinking, and drink/driving [sic]."<sup>28</sup> Sunbury further found, "[P]eople who reside near fewer alcohol establishments (e.g. rural areas) are at greater risk of alcohol misuse and alcohol-related crashes."<sup>29</sup> Sunbury hypothesizes this may be due to greater driving distances, which increase the risk of a crash.<sup>†</sup>

Another intriguing paper, titled "Alcohol-related crashes and alcohol availability in grass-roots communities" was published in 2003 by economist Patrick McCarthy.<sup>30</sup> His research involved data from an eight-year period during the 1980s and examined the alcohol outlet density in 111 California nonmetropolitan cities and the density of alcohol-related establishments and alcohol-related auto accidents.<sup>31</sup>

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† Sunbury, "Urban-Rural Influences on Driving Behaviors and Driving Outcomes Among Michigan Young Adults: An Investigation of Roadway Characteristics, Alcohol Establishments, and Social Influences," (University of Michigan, 2010), 79, <http://goo.gl/VL2BU> (accessed March 29, 2012). Sunbury also speculates that the finding may be a function of a possible "drinking culture" that may make drinking and driving more accepted in rural areas. Ibid.

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McCarthy considered two main types of outlets: “off-site” and “on-site.” An off-site establishment sells alcohol for consumption off the premises. An on-site establishment permits alcohol consumption on the business’s property. He also looked at two types of licenses: general alcohol licenses, which permit an establishment to sell all types of alcohol (including hard liquor), and beer-and-wine licenses, which do not permit liquor sales.<sup>32</sup>

McCarthy found that an increase in the density of off-site general spirits establishments was associated with *decreases* in both fatal and nonfatal alcohol-related auto accidents.<sup>33</sup> He found that the density of off-site outlets with beer-and-wine licenses had no effect on fatal crashes, but was again associated with decreases in nonfatal crashes and total crashes.<sup>34</sup>

McCarthy also found that an increase in the density of on-site beer-and-wine establishments had no effect on alcohol-related crashes.<sup>35</sup> He did, however, observe that the density of on-site sellers with general alcohol licenses was associated with higher nonfatal car crashes, though it was not associated with higher fatal crashes.

On the whole, McCarthy’s study suggests that increasing the density of all four types of establishments — onsite and offsite with either general alcohol or beer-and-wine licenses — had either no effect or a beneficial effect on alcohol-related crashes, with the exception of on-site general alcohol businesses, which had a negative effect on nonfatal alcohol-related crashes. On balance, McCarthy notes, the positive effects outweighed the negative result, and, “[A] uniform increase in general alcohol licenses (on- and off-site) will be safety-enhancing.”<sup>36</sup>

It is worth noting that McCarthy’s study did not review the economic costs of this retail density regulation on consumers and the retail economy. Both of these costs could themselves reduce the population’s well-being.

These are only two studies.\* Nevertheless, each involved extensive data — in one case, from Michigan itself — and both suggest that retail density regulation does not

generally have positive effects on driving safety and may even have negative effects.

## Conclusion: Deregulation and Revising Public-Health Strategies

This paper has provided evidence that an alcohol regime like Michigan’s does not improve public safety. If it did, at least some of the numerous measures of alcohol-related problems would be significantly related to a state’s alcohol control regime.

State wholesale and retail alcohol controls do impose significant costs on Michigan residents and entrepreneurs, however. Indeed, it can be argued that the burden of proving that wholesale and retail alcohol controls provide greater relative safety should lie with those who make such claims. These controls restrict the freedom of Michigan residents to engage in wholesale and retail alcohol businesses and to buy alcohol more conveniently and at lower prices in a deregulated market. Before reducing Michiganders’ freedom and the vigor of Michigan’s economy, convincing evidence would seem appropriate. Given the research evidence, however, it is difficult to see how public safety can be raised as an objection to liberalization.

Indeed, the evidence arguably provides a public-health rationale for liberalization. Alcohol controls like those in Michigan and other states are an expensive regulatory regime in terms of both money and work-hours. State government and Michigan consumers bear these costs — the state in developing and enforcing its alcohol control regime, and the consumer in higher costs and more time spent procuring alcohol that is less available than it would be otherwise.

The economic distortions of Michigan’s apparently ineffective system consume time and resources that may be better used on other alcohol harm-reduction strategies. Policymakers sincerely concerned about the damage of excessive alcohol consumption should consider the risk that maintaining the current approach actually prevents a greater reduction in alcohol-related public health problems. ☞

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\* These are not the only studies to find that regulation of retail density does not produce the intended public health effects. Research by Gabriel Picone et al. used data from 1985 to 2001 for four major U.S. cities to investigate the relationship between alcohol consumption and the proximity of bars to people’s residences. The authors found, “When person-specific fixed effects are included, the relationship between alcohol consumption and the number of bars within a 0.5 km radius of the person’s place of residence disappears. . . . We conclude that bar density in the area surrounding the individuals’ homes has at most a very small positive effect on alcohol consumption.” Gabriel Picone et al., “The Effects of Residential Proximity to Bars on Alcohol Consumption,” *International Journal of Health Care Finance and Economics* Vol. 10, no. 4 (2010): 347.

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140 West Main Street, P.O. Box 568 Midland, Michigan 48640 989-631-0900 Fax: 989-631-0964  
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## Notes





## **Executive Summary**

### **Alcohol Control Reform and Public Health and Safety**

*Continued from back cover*

Research evidence also casts doubt on the view that restricting the retail availability of alcohol, as Michigan does for spirituous liquor, decreases alcohol-related harms. For example, in a 2010 doctoral thesis at the University of Michigan, Tenaya Marie Sunbury looked at retail density in rural Michigan and concluded, “For both men and women, higher density of alcohol establishments was related to lower alcohol consumption (quantity/frequency), binge drinking and drink/driving [sic].” If so, Michigan’s retail regulations may even be counterproductive.

Michigan’s alcohol control interventions do not appear to improve public health. The state’s regime does, however, impose real costs on business and consumers. Policymakers should consider the possibility that the current system of alcohol control hinders economic growth and diverts resources that might be directed to better strategies to reduce alcohol harm. ☞

# Policy Brief

*Following is the Executive Summary of this Policy Brief. The full report begins on Page One.*

## **Executive Summary\***

### **Alcohol Control Reform and Public Health and Safety**

Michigan regulates the sale of beer, wine and “spirituous” (hard) liquor through state statute and rules promulgated by the Michigan Liquor Control Commission. As part of this system, state government intervenes in the spirituous liquor market as a monopoly wholesaler, a role it has filled since the end of Prohibition. The state also mandates that most suppliers of beer and wine grant exclusive sales territories to a select group of wholesalers. These and other restrictions artificially raise prices and reduce the availability of alcohol to Michigan’s consumers.

Last year, a state Liquor Control Advisory Rules Committee was charged with developing alcohol control reform proposals. Some critics, however, have cautioned that the state’s present alcohol laws are necessary to protect public health. This Policy Brief examines the health and safety effects of alcohol regulations like Michigan’s.

For example, the authors review Donald J. Boudreaux and Julia Williams’ 2010 study, which compared alcohol “control” states with “license” states — that is, states that act as liquor wholesalers or retailers with states that simply license private wholesalers and retailers. Based on federal data, including data from the Centers for Disease Control and Prevention, Boudreaux and Williams found no statistically significant differences between the 18 control states and the 32 license states (and the District of Columbia) in rates of alcohol-related deaths, drunk-driving fatalities or binge drinking. They found similar results for rates of drunk-driving fatalities and binge drinking among youths.

The Policy Brief’s authors likewise reviewed the CDC’s alcohol-attributable deaths data, but differentiated between license states and three levels of state alcohol control — heavy, moderate and light, depending on the extent of the state’s presence in wholesale and retail alcohol markets. Analyzing the figures for 2001 through 2005 (the most recent available), the authors found the four types of states statistically indistinguishable in the rate of alcohol-attributable deaths.

Indeed, the average alcohol-attributable death rate for light-control states, such as Michigan, was slightly higher than that of license states (though not significantly so). The same was true for the death rate among those under 21. Of the 10 states with the lowest alcohol-attributable fatality rates per 100,000 people, eight were license states.

The authors examine a finding advanced by the group Michigan Alcohol Policy Promoting Health & Safety: MAPPHS calculates that in 2009, the rate of fatal alcohol-related crashes in license states exceeded that in control states by 7.5 percent. The authors note that this finding, which involves a single year, is subject to one-time deviations from the norm. They also note that a difference-of-means test indicates the result is likely due to random chance, rather than state alcohol-control policies.

In a more extensive analysis, John Pulito and Antony Davies (co-author of the Policy Brief) reviewed 1982-2002 data from the National Highway Traffic Safety Administration for both alcohol-impaired traffic fatalities and alcohol-involved traffic fatalities. The two sets of statistics are narrower and broader measures of alcohol fatality rates, respectively.

In neither case did the results fit the expected pattern of decreasing fatality rates with increasing levels of state alcohol control. With alcohol-impaired traffic fatality rates, only heavy-control states were significantly lower than license states; moderate- and light-control states were either significantly higher or not significantly different, depending on whether the fatalities involved underage or legal-age drinkers. With alcohol-involved traffic fatality rates — the broader of the two measures — heavy-, moderate- and light-control states were either significantly higher or not significantly different from license states, depending again on whether the fatalities involved underage or legal-age drinkers.

\* Citations are provided in the main text.