

MEMORANDUM

To: Courtney Armour
From: David Ozgo
Date: February 9, 2008
Re: Full strength beer in Kansas grocery and convenience stores

You asked me to estimate the impact on the spirits industry if legislation allowing Kansas grocery and convenience stores to carry full strength beer were to become law. This memo makes the following points:

- Since 70% of spirits buyers are also beer buyers there is a danger that many shoppers will forgo or curtail spirits purchases as they begin shopping for beer in stores that do not carry spirits. Many will substitute spirits occasions for beer occasions. Spirits volumes are projected to fall by 107,000 cases as a result.
- While the proposal will increase full strength beer availability by 500%, total full strength beer volume sold through off-premise outlets is projected to increase from 12.8 to 20.2 million cases – an increase of less than 60%. Thus average cases of full strength beer sold per licensee is expected to fall by 13,000 cases annually.
- Beer represents incremental business to food stores. Since most full strength beer sales will be incremental business for food stores, food stores do not need to sell as much volume to make beer sales profitable.
- However, beer sales make up an estimated 55% of total package store revenues – they are a core part of package store business. The reduction in beer sales, along with lost spirits sales will, initially, reduce average package store revenues by 45%.
- As a result of lost revenues, 217 package stores are projected to go out of business. As spirits become less available, an additional 64,000 cases of spirits sales will be lost annually.
- Between beer substitution and a reduction in spirits availability the spirits industry is projected to see a reduction of 169,000 cases worth \$15.2 million to suppliers.

These points are discussed in more detail below.

I. Analysis of Kansas beverage alcohol market.

Full strength beer claims the overwhelming share (79%) of the total beer market in Kansas, despite the fact that only 726 package stores currently carry it. Clearly, consumers prefer full strength beer over 3.2 beer.

Assuming 40% of full strength beer is sold through on-premise outlets would mean that almost 12.8 million cases of full strength beer are sold annually through package stores. These sales would be worth over \$255 million to package store retailers.

Table 1
Estimation of Off-Premise Volumes

	Full Strength	3.2	Total Beer	Spirits	Wine
Total Cases (000)	19,668	5,128	24,796	1,393	1,075
Off Premise	12,784	4,872	17,656	1,037	833

Sources: Adams Handbooks, Kansas Dept. of Revenue

The average package store generates an estimated \$352,000 annually from beer sales – roughly 55% of total sales. Clearly, any policy that threatens these revenues also threatens the viability of the package stores themselves.

Table 2
Estimated Package Store Revenues

Beverage	Revenue (000)	Per Store (000)
Spirits	\$ 155,612	\$ 214
Wine	\$ 49,988	\$ 69
Beer	\$ 255,683	\$ 352
Total	\$ 461,283	\$ 635

Source: Adams Handbooks, DISCUS Estimates

II. Substituting spirits drinking occasions for beer occasions.

The dangers to the spirits industry are two fold. First, spirits buyers and beer buyers are drawn from similar populations. Some 70% of all spirits consumers also drink beer.¹ Additionally, large numbers of shoppers purchase both beer and spirits when they visit a package store.² Shopping decisions are often driven

¹ Special analysis by Gallup Organization, September 29, 2006.

² The owner of a large “destination” package store estimated that well over 50% of his customers purchase both spirits and beer at the same time. While the figure is likely to vary by state and the size of the package store the percentage will still be significant.

by customer convenience. If full strength beer is available at grocery and convenience stores many shoppers will opt to visit food stores where spirits are not available. Faced with having to make a special trip to a package store to purchase spirits many will substitute beer consumption for spirits consumption.

**Table 3
Kansas Off Premise Retail Outlets, Current and Proposed**

	Spirits, Wine & Beer	3.2 Beer Only	Full Strength Beer	Total Spirits	Total Full Strength Beer	Beer Outlets Per Capita
Current	726	3790	726	726	726	0.38
Proposed	726	3790	3790	726	4516	2.34
Increase	0		3064	0	3790	1.96

Source: Adams Liquor Handbook, U.S. Census and DISCUS calculations

Currently, there are 3,790 grocery and convenience stores that sell 3.2 beer and 726 package stores that sell full strength beer, wine and spirits. The number of full strength beer outlets per 1000 adult adults is 0.38. If all of the 3.2 beer stores begin selling full strength beer the number of outlets per 1000 adults would climb over 500% to 2.34.

**Table 4
Estimation of New Beer Sales**

Increase in Per Capita Beer Outlets	1.96
Per Capita Consumption Reaction¹	0.1022
Increase in Per Capita Beer Consumption	3.02
Total New Beer Gallons (000)	5,827
Cases (000)	2,590

¹ See Appendix A

As the number of full strength beer outlets increases, so too will the amount of beer sold. As Table 4 shows, nearly 2.6 million additional cases of beer are projected to be sold as a result. Some of these new beer purchases will be substituted for spirits purchases. As shown in Table 5, these lost sales will amount to an estimated 107,000 9-liter cases worth almost \$16 million to package stores.

**Table 5
Lost Retail Spirits Revenue from Increased
Beer Sales**

New Beer Drinks (000)	62,157
Spirits Equivalent Gallons (000)	728
Spirits Equivalent Cases (000)	306
Estimated Diversion (000)¹	107
Lost Spirits Retail Revenue (000) \$	16,084

¹ See Appendix A

III. Impact on package stores.

The second danger stems from the projected reduction in package stores – the only venue for off premise spirits sales. The package stores rely on beer sales as well as spirits and wine sales to stay in business.

Assuming that all 3.2 beer becomes full strength beer and adding in the 2.6 million new cases estimated in Table 4, total off-premise full strength beer volumes will increase from around 12.8 million cases to 20.2 million cases.

Currently, the 726 package stores allowed to sell full strength beer sell an estimated 17,600 cases per year. Accounting for both the new beer volumes *and* the new number of full strength beer licenses, the average number of cases sold per outlet will decline to around 4,480 cases per year.

**Table 6
Volume Impact for Current Licensees**

	Full Strength Beer Licensees	Beer Volume (000)	Average Cases Per License (000)
Current	726	12,784	17.61
Proposal	4516	20,246	4.48
Decline in Average Cases			13.13

For the new full strength beer licensees, most of the new volume will be incremental (except that volume which is replacing 3.2 beer sales). Thus, grocery and convenience stores will be able to sell comparatively low volumes of full strength beer profitably. Obviously, this does not preclude large supermarkets from selling tremendous volumes. What it does mean, however, is that the 3,790 convenience and grocery stores in the state will be able to obtain full strength beer licenses and take sales away from traditional package stores.

As sales at traditional package stores decline some will inevitably be forced out of business, making the purchase of distilled spirits less convenient. As spirits become less convenient to purchase sales will suffer.

Table 7
Estimated Package Store Revenues

Beverage	Current		Proposed			Percentage Loss
	Annual Revenue (000)	Per Store (000)	Annual Revenue (000)	Annual Per Store (000)	Lost Revenue Per Store	
Spirits	\$ 155,612	\$ 214	\$ 139,527	\$ 192	\$ (22)	-10%
Wine	\$ 49,988	\$ 69	\$ 49,988	\$ 69	\$ -	0%
Beer	\$ 255,683	\$ 352	\$ 65,095	\$ 90	\$ (263)	-75%
Total	\$ 461,283	\$ 635	\$ 254,610	\$ 351	\$ (285)	-45%

Source: Adams Handbooks, DISCUS Estimates

Accounting for both the lost spirits sales and lost beer sales, total package store revenues would decline from \$461.3 million to \$254.6 million – a 45% reduction. If all package stores were to remain in business, average annual package store revenues would fall from an estimated \$635,000 to \$351,000.

III. Impact from reduced spirits outlets.

Clearly, not all businesses could withstand a 46% decline in revenues. As a result, we would expect a decline in the number of package stores. Assuming that the average package store would need at least \$500,000 in annual revenue to stay solvent, the \$254.6 million in total package stores would support a total of 509 package stores. Thus, 217 package stores are projected to go out of business.

Table 8
Volume Lost From Reduced Availability

Estimated Loss in Spirits Outlets	217
Decline Per 1k Adults	(0.11)
Decline in per Capita Consumption¹	-3.2%
Volume Decline (000, Cases)	-62

¹ See Appendix A

Naturally, as the number package stores declines the availability of spirits will decline as well. Because of lost availability, spirits sales are projected to decline by an additional 62,000 cases annually.

IV. Total spirits industry impact.

As a result of the proposal to allow the sale of full strength beer in grocery and convenience stores spirits volumes are projected to decline by a total of 229,000 cases worth \$20.6 million in supplier revenues.

Table 9
Supplier Impact

Impact	Cases (000)	Supplier Revenues (000)
Substitution	(107)	\$ (9,651)
Lost Availability	(62)	\$ (5,582)
Total	(169)	\$ (15,233)

Appendix A

A. Per capita beer response to change in outlets.

The natural log of Per capita beer consumption was regressed against the natural log of beer outlets per 1000 adults and median household income, and whether or not the state attracts large amounts of cross border traffic and whether or not more than 25% of the population is Baptist or Mormon. All independent variables were significant.

The coefficient on Beer Outlets/1k adults is equal to the elasticity of per capita consumption to beer outlets. Given the large increase in the number of per capita outlets (521%) that the legislation would allow, the percentage increase in per capita consumption was calculated by the formula:

$$(1 + 5.21)^{0.53224} - 1 = 0.1021$$

Thus, per capital consumption was increased by 10.21%.

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.666125222
R Square	0.443722811
Adjusted R Square	0.395350882
Standard Error	0.131471016
Observations	51

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	0.63421772	0.158554	9.173147	1.55287E-05
Residual	46	0.79509288	0.017285		
Total	50	1.4293106			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	5.375098259	0.55296714	9.720466	9.95E-13	4.262033147	6.4881634
Beer Outlets/1k Adults	0.053224072	0.02470332	2.154531	0.036469	0.003498871	0.1029493
Median Household Income	-0.50286338	0.14502811	-3.46735	0.001151	-0.79478983	-0.210937
Cross Border or Tourist	0.225037896	0.08029813	2.80253	0.007397	0.063406147	0.3866696
Heavy Mormon or Baptist	-0.14811085	0.05136397	-2.88356	0.005962	-0.25150115	-0.044721

B. Reaction of spirits consumers to increased beer availability.

70% of spirits drinkers also drink spirits. The 500% increase in full strength beer availability will make beer fare more convenient to purchase than spirits. Assuming that the 500% increase in availability will impact the purchase decisions 10% of the time, 50% of consumers who drink both beer and spirits

would be impacted. Multiplying 70% (spirits drinkers who also drink beer) by 50% yields 35%. Thus, 35% of all new beer drinking occasions will be taken from spirits drinking occasions.

B. Per capita spirits response to change in outlets.

Per capita spirits consumption was regressed against spirits outlets per 1000 adults, median household income, whether or not the state attracts large amounts of cross border traffic and whether or not more than 25% of the population is Baptist or Mormon.

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.8647107
R Square	0.74772459
Adjusted R Square	0.7257876
Standard Error	0.37704732
Observations	51

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	19.38279	4.845697	34.0851	3.19E-13
Residual	46	6.539575	0.142165		
Total	50	25.92236			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.89500286	0.405713	2.206	0.032418	0.078345	1.711661
Spirits Outlest/1k Adults	0.28582906	0.110512	2.586405	0.012928	0.06338	0.508278
Median Household Income	0.02218339	0.008463	2.621138	0.011839	0.005148	0.039219
Cross Border or Tourist	2.1063314	0.228129	9.233065	4.83E-12	1.647131	2.565532
Heavy Mormon or Baptist	-0.28703618	0.142533	-2.013817	0.0499	-0.573941	-0.000131