

Final Report

**The Economic Impact of the 2008 Kansas City Missouri  
Smoke-Free Air Ordinance**

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## **Introduction**

On Thursday April 8th, Kansas City Missouri voters approved Question 3, a ballot initiative requiring private workplaces, restaurants, and bars to be smoke-free. The Kansas City, Missouri smoking ordinance took full effect on June 21, 2008. Kansas City joined an ever growing number of countries, states, and cities around the world that protect workers and patrons from the deleterious effects of secondhand smoke. According to the Americans for Nonsmokers' Rights Foundation (ANRF), as of October 1, 2010, a total of 35 states and the District of Columbia have laws in effect that require 100 percent smoke-free workplaces and/or restaurants and/or bars (23 of these states have laws in effect that require 100 percent smoke-free workplaces, restaurants, and bars) (ANRF, 2010a). Moreover, according to ANRF, 902 municipalities have a 100 percent smoke-free air provision in effect at the local level in workplaces and/or restaurants and/or bars (430 municipalities require workplaces, restaurants, and bars to be 100 percent smoke-free). ANRF estimates that as of October 1, 2010, 73.9 percent, 62.2 percent, and 63.4 percent of the total US population is covered by a state or local policy making restaurants, workplaces, and bars, respectively smoke-free (ANRF, 2010b).

While the prevalence of states and municipalities with smoke-free policies covering eating and drinking establishments continues to increase, tobacco companies, or others acting with support of the tobacco industry, continue to maintain that these policies will lead to reductions in the sales of establishments covered by policies (United States Department of Health and Human Services (USDHHD), 2006). However, the consensus from numerous peer-reviewed studies on the impact of smoke-free policies on restaurant and/or bar revenues is that these policies have no negative effect on sales, with many studies finding that smoke-free policies have a small, statistically significant positive impact on sales. Similar conclusions are reached when looking at the impact of smoke-free policies on other indicators of economic

activity, including employment and business openings/closings. For a comprehensive review of these studies see Eriksen and Chaloupka (2007), the 2006 Surgeon General's report (USDHHS, 2006), and the International Agency for Research on Cancer's Handbook on the effectiveness of smoke free policies (IARC, 2009). Indeed, the 2009 systematic review by IARC of the extensive research on this issue concluded, assigning its highest classification for the quality and consistency of evidence, that smoke-free air legislation does not have an adverse economic impact on the hospitality industry (including restaurants, bars, hotels, and tourism).

To date, there has been little research on the economic impact of smoke-free policies in Kansas or Missouri. The only previous study we found, conducted by Pakko (2008), examined the effect of the Columbia, Missouri comprehensive smoke-free policy on sales tax revenues for bars and restaurants in Columbia. Using time-series data for Columbia, Pakko concluded that the smoke-free policy had a positive, but insignificant, effect on sales tax revenues for eating places, but that the policy had a negative and significant impact on sales tax revenues for bars as well as restaurants that classify themselves as both eating and drinking establishments.

To the best of our knowledge, no peer reviewed studies have examined the economic impact of the Kansas City Missouri smoke-free policy on eating and drinking establishments. This project addresses this by assessing the impact of the smoke-free policy on taxable sales in restaurants and bars. The results from this study are consistent with previous peer reviewed studies for other jurisdictions and suggest that after controlling for confounding factors, the Kansas City smoke-free policy had no negative impact on overall sales in eating and drinking establishments in Kansas City. Moreover, this study finds that smoke-free policies have had no negative impacts on eating and drinking establishment sales in Missouri and Kansas.

## Data

From the Missouri and Kansas Department of Revenues we obtained monthly taxable sales figures for eating establishment and for drinking establishments for every city in Missouri and Kansas with a population of 25,000 or more.<sup>1</sup> A total of 25 cities in Missouri and 16 cities in Kansas had populations greater than 25,000 individuals.<sup>2</sup> The sales data span the time period between July 2000 and March 2010. The city-specific eating and drinking establishment sales were deflated by the monthly Consumer Price Index published by the Bureau of Labor Statistics (1982-1984=100) to adjust for inflation.

From these data we created three dependent variables: inflation-adjusted eating establishment sales and drinking establishment sales combined; inflation-adjusted eating establishment sales; and inflation-adjusted drinking establishment sales. In calendar year 2002, the state of Kansas transitioned from collecting data using the standard industrial classification system (SICS) to collecting data using the North American industrial classification system (NAICS). During the conversion from SIC to NAICS, some drinking establishments were improperly classified as eating establishments. Over time, these drinking establishments were slowly reclassified correctly. To account for the misclassification of drinking places, we created a dichotomous variable that takes on a value of 1 for cities in Kansas in years 2002-2004, and

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<sup>1</sup> The industrial classifications used were as follows: for drinking places, NAICS 722410 and SIC 5813; for eating places, NAICS 711110, 722110, 722211, 722212, 722213, 722310, 722320, and SIC 5812.

<sup>2</sup> The cities in Kansas that had a population greater than 25,000 were: Dodge City, Emporia, Garden City, Hutchinson, Kansas City, Lawrence, Leavenworth, Leawood, Lenexa, Manhattan, Olathe, Overland Park, Salina, Shawnee, Topeka, and Wichita. The cities in Missouri that had a population greater than 25,00 were: Ballwin, Blue Springs, Cape Girardeau, Chesterfield, Columbia, Florissant, Gladstone, Hazelwood, Independence, Jefferson City, Joplin, Kansas City, Kirkwood, Lees Summit, Liberty, Maryland Heights, Ofallon, Raytown, Springfield, St. Charles, St. Joseph, St. Louis, St. Peters, University City, and Wildwood.

takes on a value of zero otherwise. Finally, due to confidentiality concerns given the small number of drinking establishments in some cities in some months, the Missouri Department of Revenue did not provide taxable sales data in drinking establishments for each month for the cities of Ballwin, Chesterfield, Gladstone, Hazelwood, and Liberty. These cities are omitted from the regressions when drinking establishment taxable sales are modeled and when eating and drinking establishment taxable sales are combined.

From the Missouri and Kansas Department of Revenues we also obtained total taxable sales for every city in Missouri and Kansas with a population of 25,000 or more. We created three measures of overall economic activity in each city: total taxable sales less eating and drinking establishment sales; total taxable sales less eating establishment sales; and total taxable sales less drinking establishment sales. Again, these total taxable sales were deflated by the monthly Consumer Price Index published by the Bureau of Labor Statistics (1982-1984=100) to adjust for inflation. Accounting for overall economic activity within cities is essential if proper inference is to be made on the impact of smoke-free policies on eating and drinking establishment taxable sales.

We created a variable that captures the existence of a comprehensive smoke-free policy governing smoking in restaurants and bars. The variable takes on a value of 1 for cities that have enacted a comprehensive smoke-free policy in restaurants and bars and takes on a value of zero otherwise. The timing of the effective date of the policy is taken into account when constructing the variable. For example, the comprehensive smoke-free policy variable equals one for the city of Kansas City post June 2008, equals zero prior to June 2008, and equals 0.267 for the month of June 2008 (i.e. the smoke-free policy is in effect 8 out of 30 days in June 2008 in Kansas City). We also created two additional dichotomous variables that capture 1) the existence of a less than

comprehensive smoke-free policy in restaurants that allows for exemptions and 2) the existence of less than comprehensive smoke-free policy in bars that allows for exemptions. Again, the timing of the effective date of the policies with exemptions is taken into account when constructing these variables.

Moreover, we created mutually exclusive but all-inclusive dichotomous indicators for each city, each year, and each month. The dichotomous city indicators capture all time-invariant city-level unobserved heterogeneity. The year indicators account for overall trends in taxable sales over time, while the month indicators control for the seasonality in eating and drinking establishment sales.

### **Statistical Methods**

We employed fixed-effects regression techniques in the analyses. These fixed effects control for city-specific, year-specific, and month-specific determinants of eating and drinking taxable sales. The fixed effects approach amounts to including a dichotomous indicator for each city (less one), each year (less one), and each month (less one) as explanatory variables in the models. This assumes that the differences across cities, over time, and in different months of the year not captured by the other covariates included in the model, can be fully captured by the city, year, and month fixed effects. Specifically, we estimate the following pooled cross-sectional time series multivariate equation:

$$Y_{itm} = X_{itm}\beta + SFA_{itm}\lambda + SFAER_{itm}\delta + SFAEB_{itm}\psi + SIC\sigma + c_i + y_t + m_m + e_{itm}. \quad (1)$$

Y represents one of the three dependent variables (total eating and drinking establishment taxable sales, total eating establishment taxable sales, and total drinking establishment taxable

sales) for city  $i$ , in year  $t$ , in month  $m$ .  $X$  is the total taxable sales excluding eating and drinking taxable sales in city  $i$ , in year  $t$ , in month  $m$  when the dependent variable is total restaurant and drinking establishment taxable sales. Similarly,  $X$  is the total taxable sales excluding eating establishment taxable sales and drinking establishment taxable sales in city  $i$ , in year  $t$ , in month  $m$  when the dependent variable is total restaurant establishment taxable sales and drinking establishment taxable sales, respectively.  $SFA$  is a variable that captures the existence of a comprehensive smoke-free policy in restaurants and bars in city  $i$ , in year  $t$ , in month  $m$ .  $SFAER$  is a variable that captures the existence of the less than comprehensive smoke-free policies covering restaurants in city  $i$ , in year  $t$ , in month  $m$ , in cities that allow certain restaurants to be less than 100 percent smoke free<sup>3</sup>.  $SFAEB$  is a variable that captures the existence of similarly less than comprehensive smoke-free policies addressing smoking in bars in city  $i$ , in year  $t$ , in month  $m$ .<sup>4</sup> The  $SIC$  variable captures the conversion from SIC to NAICS for cities in Kansas between 2002 and 2004. The  $SIC$  variable is included only in models that include observations from both Missouri and Kansas and only when the drinking establishment and eating

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<sup>3</sup> There are 2 cities in Missouri with populations greater than 25,000 that have smoke-free policies addressing smoking in restaurants but that exempt certain types of restaurants: Blue Springs and Springfield. Blue Springs exempts restaurants that 1) seat less than 50 people or 2) restaurants that receive less than 60% of their revenue from food sales. Springfield exempts restaurants that 1) seat less than 50 people or 2) restaurants with alcohol sales that exceed \$200,000 per year or 3) restaurants with more than 50% proceeds from alcohol sales or 4) separately ventilated bar areas of restaurants. Cities in Kansas with populations greater than 25,000 that exempt certain types of restaurants are Kansas City, Shawnee, and Wichita.

<sup>4</sup> Three cities (Kansas City, KS; Shawnee, KS; and Wichita, KS) with populations greater than 25,000 exempt certain types of bars from their smoke-free policy. For example, any business in Kansas City, KS that pays \$250 per year to obtain a license to allow smoking is exempt from the smoke-free policy. Shawnee, KS exempts establishments that derive less than 33% of their gross annual revenues from food sales. Wichita, KS exempts bars that have smoking rooms enclosed on all sides by solid impenetrable walls or windows extending from the floor to the ceiling; and must have a self closing door; and maintain a negative air pressure where smoke cannot be returned through the HVAC system; and no person below 18 years of age is allowed to enter such smoking rooms.

establishment taxable sales are estimated separately. Finally,  $c$  represents the city fixed effects,  $y$  the year fixed effects, and  $m$  the monthly fixed effects, and  $e$  is the idiosyncratic error term. The parameters are estimated by Prais-Winsten regression to control for first-order autocorrelation, AR(1), where the coefficient of the AR(1) process is common to all the panels.<sup>5</sup>

## Models

Table 1 contains the estimates from the combined eating and drinking establishment taxable sales equations, Table 2 contains the estimates from the eating establishment taxable sales equations, and Table 3 contains the estimates from the drinking establishment taxable sales equations. We estimated three alternative models for each dependent variable. The first two models are counterfactual models that estimate the taxable sales equations using observations from Kansas City and cities that have not enacted smoke-free air legislation. Model 1 estimates the taxable sales equations using only cities in Missouri, whereas, Model 2 estimates the taxable sales equations using cities in both Missouri and Kansas. These two counterfactual models are designed to quantify the impact of the Kansas City, Missouri smoke free policy on taxable sales in restaurants and drinking establishments in Kansas City. Model 3, on the other hand, includes all cities in Missouri and Kansas with populations greater than 25,000.<sup>6</sup> As some of these cities have implemented smoke-free policies addressing smoking in eating and drinking

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<sup>5</sup> We also estimated the parameters by Prais-Winsten regressions to control for first-order autocorrelation where the coefficient of the AR(1) process is specific to each panel. While Beck and Katz (1995) make a strong case against estimating panel-specific AR parameters, the estimates from these regressions are similar to the estimates presented in Tables 1-3 and are available upon request.

<sup>6</sup> Again, the Missouri Department of revenue did not provide data on drinking establishment taxable sales for the following cities: Ballwin, Chesterfield, Gladstone, Hazelwood, and Liberty. Therefore, observations for these cities were excluded from the drinking establishment taxable sales equations and the combined eating and drinking establishment sales equations.

establishments, the estimates that result from Model 3 quantify the average impact of smoke-free policies on taxable sales in the states of Missouri and Kansas.

## **Results**

Figures One through Three below present the data for taxable sales in restaurants and bars, restaurants, and bars, respectively. The figures indicate that the trend in and level of taxable sales following the implementation of Kansas City's comprehensive smoke-free policy were little different than they were prior to the implementation of the policy. This finding is confirmed by the multivariate econometric analysis, the results from which provide no evidence that Kansas City's smoke-free policy had any impact on taxable sales. Specifically, Kansas City's comprehensive smoke-free policy is found to have an insignificant impact on combined bar and restaurant taxable sales, restaurant taxable sales, and bar taxable sales in both of the counterfactual models that were estimated. Moreover, comprehensive smoke-free policies in Kansas and Missouri were found to have an insignificant impact on combined bar and restaurant taxable sales, restaurant taxable sales, and bar taxable sales. Cities that adopted smoke-free policies covering bars but that allowed exemptions had higher combined taxable sales for eating and drinking establishments and higher taxable sales in drinking establishments alone than did cities that had no smoke-free policies in place. We also found that cities that adopted less than comprehensive smoke-free policies covering restaurants had higher taxable sales for eating establishments than did cities that had no smoke-free policies in place. These latter estimates are statistically significant at conventional levels.

Total taxable sales excluding eating and drinking establishments, a variable designed to capture overall economic activity, was found to have a positive and significant impact on combined eating and drinking taxable sales in all the models that were estimated. This implies

that eating and drinking establishment revenues increase during times of general economic prosperity and decline with downturns in the economy. We found similar positive and significant findings for overall economic activity in the eating establishment taxable sales equations and the drinking establishment taxable sales equations.

Seasonality plays an important role in eating and drinking establishment revenues. That is, holding other factors constant, combined eating and drinking establishment sales are significantly larger in the months of March, April, May, June, July, August, September, and October than in January. There are no statistically significant differences in combined taxable sales in restaurants and bars between January and February or December of each year. Similar seasonality patterns can be found for drinking establishment taxable sales and eating place taxable sales when examined alone.

Combined restaurant and eating establishment taxable sales were found to be significantly larger in years 2001–2010 than they were in year 2000. A similar pattern for restaurant taxable sales can be found for years 2001–2010. The results for drinking establishment taxable sales and years are not quite as robust. However, drinking establishment taxable sales tend to be significantly higher in years 2005 – 2010 than they were in the year 2000.

## **Conclusions**

Opponents of comprehensive smoke-free air policies claim that the enactment of policies that make restaurant and bars 100 percent smoke-free have a significant negative impact on restaurant and bar sales. Using multivariate regression techniques, our study concludes that the Kansas City smoke-free air law has had no negative impact on restaurant and bar sales. Further,

using multivariate regression techniques and consistent with the weight of the evidence from the large existing literature on the economic impact of smoke-free policies in other jurisdictions, our study concludes that smoke-free air laws in Missouri and Kansas have had no negative effects on average taxable sales in restaurants and bars in the states of Missouri and Kansas. These findings clearly counter tobacco industry and hospitality sector claims that comprehensive smoke-free policies have a negative economic impact on restaurants and bars, and provide new evidence to state and local policy makers on the economic effects of enacting these policies.

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**Table 1****Combined Eating and Drinking Establishment Taxable Sales**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Comprehensive Smoke-Free Bar and Restaurant Policy	666,179.01 (1.05)	711,322.84 (1.16)	-60,346.30 (-0.98)
Smoke-Free Restaurant Policy with Exceptions			-123,847.89 (-0.73)
Smoke-Free Bar Policy with Exceptions			817,010.46 (2.95)
Total Taxable Sales excluding restaurants and Bars	0.04 (24.70)	0.04 (24.55)	0.04 (26.58)
year_2001	71,562.85 (0.65)	47,671.76 (0.51)	86,942.28 (1.03)
year_2002	122,050.85 (0.97)	75,150.80 (0.71)	159,082.56 (1.65)
year_2003	206,461.86 (1.60)	148,684.14 (1.37)	281,638.01 (2.84)
year_2004	424,086.43 (3.26)	326,425.18 (2.99)	407,484.10 (4.09)
year_2005	593,440.92 (4.55)	474,135.75 (4.33)	568,779.30 (5.70)
year_2006	829,979.21 (6.37)	691,779.58 (6.32)	796,656.19 (7.97)
year_2007	739,643.50 (5.68)	622,365.20 (5.69)	693,113.92 (6.88)
year_2008	762,134.22 (5.87)	631,377.48 (5.80)	724,365.15 (7.13)
year_2009	786,271.23 (5.98)	658,492.95 (5.99)	777,757.52 (7.53)
year_2010	673,432.87 (4.08)	575,399.48 (4.14)	749,819.06 (5.79)
month_2	78,848.96 (1.85)	55,117.54 (1.50)	54,652.54 (1.66)
month_3	510,017.36 (8.92)	447,531.36 (9.11)	449,830.63 (10.47)
month_4	389,692.06 (6.25)	327,207.33 (6.11)	266,074.56 (5.54)
month_5	544,117.77 (8.17)	463,965.84 (8.14)	384,404.88 (7.50)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
month_6	501,607.23 (7.08)	445,497.99 (7.36)	364,468.71 (6.80)
month_7	611,923.72 (8.94)	525,517.81 (8.99)	365,909.37 (6.93)
month_8	577,684.02 (8.46)	488,205.61 (8.37)	335,801.29 (6.37)
month_9	465,665.18 (6.78)	431,449.31 (7.35)	359,685.07 (6.94)
month_10	526,962.60 (8.35)	443,924.38 (8.21)	369,107.49 (7.61)
month_11	233,842.85 (4.09)	185,560.39 (3.77)	43,293.48 (0.98)
month_12	30,314.16 (0.51)	48,323.56 (0.94)	-45,049.78 (-1.01)

*Note.* All equations also include an intercept and dichotomous indicators for each city in the sample (less one as the benchmark). Asymptotic z ratios are in parentheses. The critical values for the z ratios are 2.58 (2.33), 1.96 (1.64), and 1.64 (1.28) at the 1%, 5%, and 10% significance levels, respectively, based on a 2-tailed (1-tailed) test.

**Table 2****Eating Establishment Taxable Sales**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Comprehensive Smoke-Free Bar and Restaurant Policy	678,151.52 (0.95)	764,646.50 (1.13)	-36,127.77 (-0.66)
Smoke-Free Restaurant Policy with Exceptions			262,966.44 (2.18)
Total Taxable Sales excluding restaurants	0.04 (24.48)	0.04 (24.27)	0.03 (26.21)
SIC to NAICS conversion		121,276.82 (1.05)	-18,834.22 (-0.21)
year_2001	41,518.68 (0.45)	33,753.02 (0.42)	76,330.03 (1.07)
year_2002	60,699.31 (0.55)	30,762.86 (0.31)	171,767.39 (1.93)
year_2003	74,554.62 (0.64)	-54,731.79 (-0.36)	297,944.22 (2.40)
year_2004	296,352.44 (2.51)	128,566.12 (0.84)	424,679.12 (3.41)
year_2005	441,222.87 (3.72)	371,871.43 (3.70)	488,463.41 (5.56)
year_2006	620,357.23 (5.22)	531,438.23 (5.28)	639,305.98 (7.26)
year_2007	504,506.78 (4.24)	432,407.18 (4.29)	537,463.36 (6.06)
year_2008	529,786.72 (4.46)	444,028.92 (4.43)	573,869.15 (6.43)
year_2009	599,711.29 (4.94)	509,998.38 (5.00)	641,859.64 (7.03)
year_2010	493,659.05 (3.34)	426,811.00 (3.39)	591,551.08 (5.22)
month_2	39,547.58 (1.17)	31,522.62 (1.05)	32,193.86 (1.21)
month_3	325,574.49 (7.16)	295,561.19 (7.35)	323,275.39 (9.24)
month_4	266,043.97 (5.24)	233,162.53 (5.20)	203,318.00 (5.15)
month_5	379,442.58 (6.93)	334,858.65 (6.96)	294,299.34 (6.93)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
month_6	359,924.99 (6.19)	324,361.40 (6.36)	276,365.87 (6.21)
month_7	461,580.88 (8.11)	405,115.14 (8.12)	290,633.85 (6.61)
month_8	454,535.37 (8.03)	392,245.51 (7.90)	277,688.34 (6.33)
month_9	300,724.66 (5.35)	289,942.14 (5.88)	265,693.63 (6.18)
month_10	330,298.70 (6.40)	288,278.18 (6.34)	285,480.68 (7.13)
month_11	106,889.17 (2.30)	86,595.31 (2.11)	26,229.54 (0.73)
month_12	-70,795.17 (-1.50)	-48,133.48 (-1.15)	-63,180.16 (-1.76)

*Note.* All equations also include an intercept and dichotomous indicators for each city in the sample (less one as the benchmark). Asymptotic z ratios are in parentheses. The critical values for the z ratios are 2.58 (2.33), 1.96 (1.64), and 1.64 (1.28) at the 1%, 5%, and 10% significance levels, respectively, based on a 2-tailed (1-tailed) test.

**Table 3****Drinking Establishment Taxable Sales**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Comprehensive Smoke-Free Bar and Restaurant Policy	-156,696.63 (-1.11)	-166,610.04 (-1.20)	-24,701.55 (-0.92)
Smoke-Free Bar Policy with Exceptions			209,425.83 (2.13)
Total Taxable Sales excluding Bars	0.01 (18.57)	0.01 (18.50)	0.01 (21.72)
SIC to NAICS conversion		-25,151.88 (-0.58)	-30,048.03 (-0.61)
year_2001	33,391.52 (1.37)	18,622.79 (0.87)	7,395.61 (0.29)
year_2002	76,816.57 (2.71)	45,147.13 (1.69)	-2,582.30 (-0.08)
year_2003	136,265.89 (4.64)	110,629.21 (2.19)	17,240.61 (0.29)
year_2004	136,163.70 (4.59)	112,866.97 (2.23)	506.15 (0.01)
year_2005	178,538.23 (6.00)	134,901.53 (5.14)	56,465.24 (1.66)
year_2006	209,743.44 (7.04)	175,464.72 (6.68)	109,484.13 (3.21)
year_2007	194,071.08 (6.50)	168,537.57 (6.40)	77,912.37 (2.26)
year_2008	193,716.91 (6.37)	168,488.27 (6.29)	83,120.55 (2.43)
year_2009	165,678.57 (5.17)	142,002.25 (5.06)	83,680.55 (2.37)
year_2010	165,882.24 (4.21)	143,893.35 (4.16)	101,718.08 (2.39)
month_2	20,808.67 (2.26)	10,026.12 (1.23)	13,700.94 (1.54)
month_3	101,986.64 (8.10)	89,544.64 (8.10)	76,539.39 (6.44)
month_4	54,505.67 (3.99)	42,903.47 (3.56)	29,724.15 (2.19)
month_5	75,741.94 (5.17)	63,521.88 (4.91)	46,018.56 (3.13)
month_6	52,836.03 (3.35)	53,870.27 (3.89)	42,363.18 (2.74)
month_7	63,826.08 (4.20)	58,197.10 (4.34)	36,686.58 (2.38)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
month_8	42,815.86 (2.83)	40,089.15 (3.00)	24,629.28 (1.61)
month_9	77,246.15 (5.04)	70,565.11 (5.24)	43,943.19 (2.93)
month_10	117,350.06 (8.43)	97,225.75 (7.92)	38,002.26 (2.74)
month_11	83,125.81 (6.60)	66,244.90 (5.97)	2,777.48 (0.22)
month_12	62,534.86 (4.62)	61,072.22 (5.20)	1,975.43 (0.18)

*Note.* All equations also include an intercept and dichotomous indicators for each city in the sample (less one as the benchmark). Asymptotic z ratios are in parentheses. The critical values for the z ratios are 2.58 (2.33), 1.96 (1.64), and 1.64 (1.28) at the 1%, 5%, and 10% significance levels, respectively, based on a 2-tailed (1-tailed) test.

Figure One

Taxable Restaurant and Bar Sales, Inflation Adjusted, Kansas City, July 2000 - March 2010

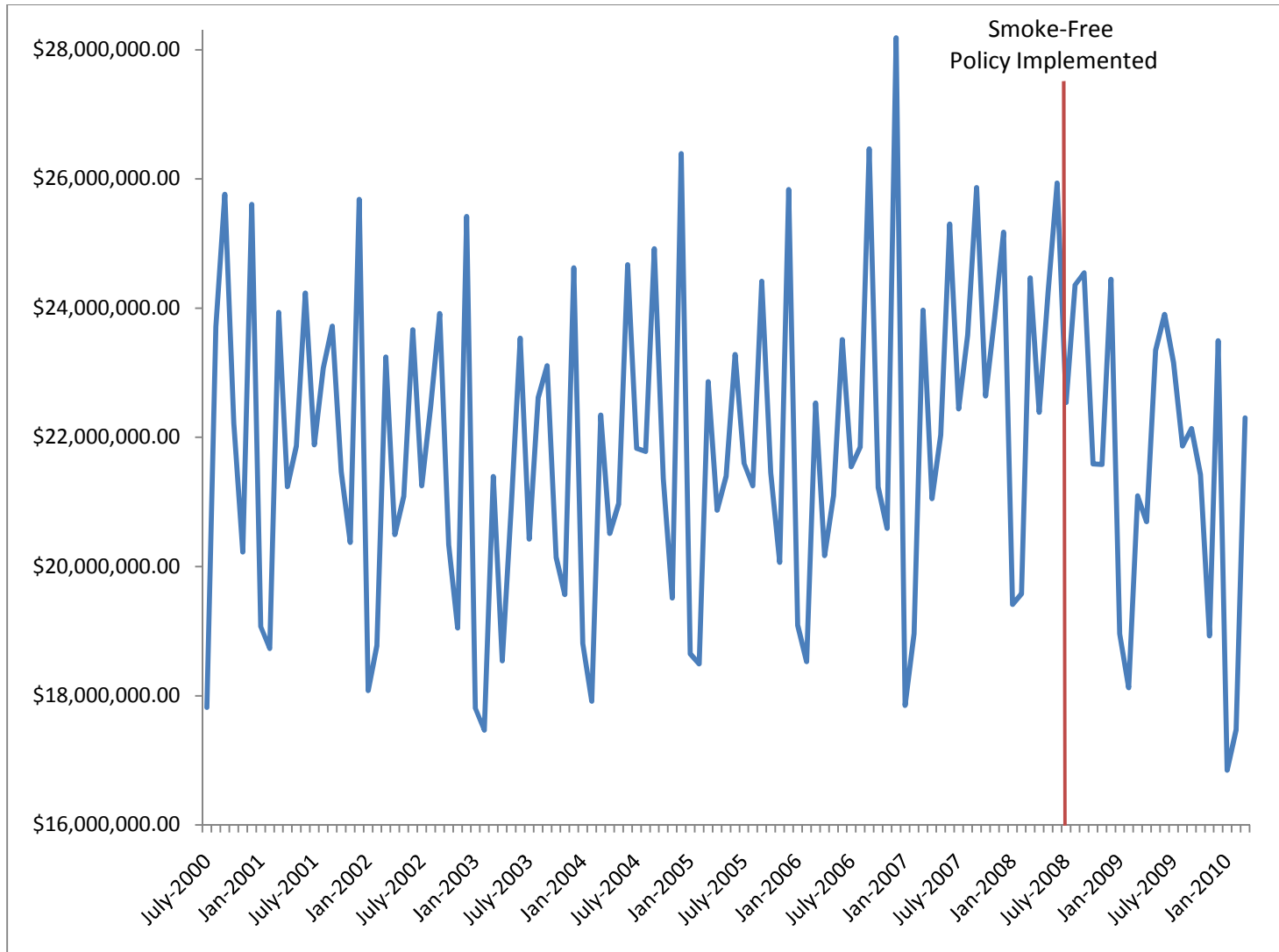


Figure Two

Taxable Restaurant Sales, Inflation Adjusted, Kansas City, July 2000 - March 2010

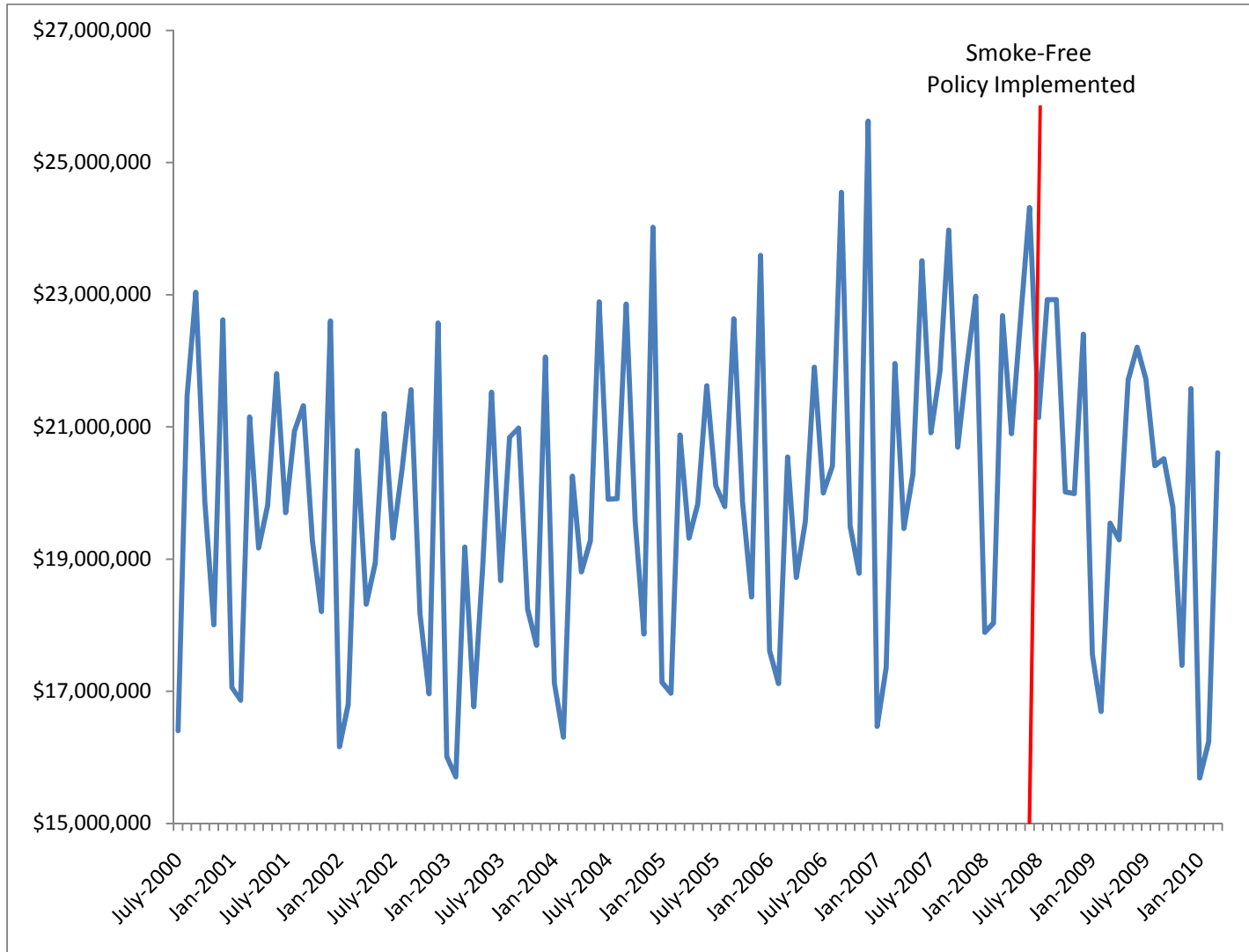


Figure Three

Taxable Bar Sales, Inflation Adjusted, Kansas City, July 2000 - March 2010

