# Economic Impact of the Ban on Menthol Cigarettes in Los Angeles

**Prepared for the**
**California Fuels & Convenience Alliance**


**By**

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### Executive Summary

The City of Los Angeles already has one of the worst retail environments for cigarettes and other tobacco products in the country. The per pack tax on cigarettes is already $5.30 (including MSA payments) which is about 44.9 percent of the current average estimated retail price of $11.80.[1] (Table 1) While not the highest in the nation, cigarette taxes in California are 88 percent above the average, and the taxable sales per adult are just one-quarter of the nationwide average.[2]

While the unincorporated areas of Los Angeles County have banned the sale of menthol cigarettes, such a ban in the much more populous city of Los Angeles will have dramatic economic consequences, particularly as businesses try to recover from the devastation surrounding the government-imposed economic shutdown in response to the COVID-19 virus.

The impact of this regulation is of particular interest to the convenience store industry. Due to their already thin margins, convenience stores and gas stations are particularly harmed by this ban, as many rely on tobacco sales to maintain their profitability.[3] In addition, these stores are disproportionately harmed as many adult consumers who may make purchases in addition to tobacco, chose to do so outside of Los Angeles, where they can purchase their preferred tobacco products.

Overall, the direct loss to the economy of Los Angeles as a result of the ban would be almost $96.6 million in sales, and $4.6 million in local cigarette tax revenue annually. Convenience stores alone would lose approximately 254 jobs in the city as a result of the ban.

In addition to this, based on a model of tobacco demand, and the 2019 impact analysis of the menthol segment, over half (866) of the roughly 1,605 people in the city whose livelihoods depend on the production, distribution and sale of menthol cigarettes would see their jobs disappear, along with $50.8 million in local wages. The economic loss to Los Angeles would be over $137.4 million. (Table 3)

One the tax losses from the reduced economic activity are accounted for, Los Angeles would experience a reduction of nearly $7.6 million in tax and fee revenues as a result of this proposed ban.

Results:

The County of Los Angeles recently banned the sale of menthol cigarettes in its unincorporated areas. Since the ban only applied to sparsely populated rural parts of the county, the effects were not substantial. However, were the city of Los Angeles to follow suit and ban menthol cigarettes, a product that has roughly 40 percent of the market share, the economic effects could be substantial.

Los Angeles already has one of the worst retail environments for cigarettes and other tobacco products in the country. The per pack tax on cigarettes is already $5.30 (including MSA payments) which is about

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[1] Based on data from the Economic Impact of Menthol Cigarettes: 2019, Prepared by John Dunham & Associates, for Reynolds American Inc.

[2] Nationwide sales based on *The Tax Burden on Tobacco* Volume 54, Orzechowski and Walker, 2019. Adult population (21+) from the US Department of Commerce, Bureau of the Census, American Community Survey.

| | Packs | Adult Population (21+) | Packs Per Adult |
|---|---|---|---|
| United States | 11,111,479,311 | 240,352,655 | 46.23 |
| Los Angeles | 35,714,273 | 3,022,096 | 11.82 |

[3] See for example: Gleeson Patrick and Jayne Thompson, *What Is the Average Gross Revenue of a Convenience Store?* Houston Cornicle, online updated on April 2, 2019, at: https://smallbusiness.chron.com/average-gross-revenue-convenience-store-35712.html

44.9 percent of the current average estimated retail price of $11.80.[4] (Table 1) While not the highest in the nation, cigarette taxes in California are 88 percent above the average, and the taxable sales per adult are just one-quarter of the nationwide average.[5]

**Table 1**
**Cigarette Taxes and Fees in Los Angeles**

| Levy | Amount Per Pack |
|---|---|
| Federal Excise Tax | $1.01 |
| CA Excise Tax | $2.87 |
| Total Tax | $3.88 |
| Master Settlement Agreement | $1.42 |
| Total | $5.30 |

Were Los Angeles to ban the sale of menthol cigarettes, not only would local retailers and distributors be hurt, it would further exasperate the problem of smuggled cigarettes and cross border sales. In addition, Los Angeles would lose upwards of $4.6 million in cigarette tax revenues. Table 2 below shows the estimated tax revenue change for Los Angeles were the ban to go into effect.

**Table 2**
**Sales and Excise Tax Impact of A Menthol Cigarette Ban in Los Angeles**

| | Before | After | Change |
|---|---|---|---|
| LA Sales Tax | $9,481,355 | $7,308,487 | ($2,172,868) |
| LA MSA Allocation | $10,615,000 | $8,182,331 | ($2,432,669) |
| Total Cigarette Tax | $20,096,355 | $15,490,818 | ($4,605,537) |

The economic impact would be far larger. Today, roughly 1,600 people in Los Angeles rely on the production, distribution and sale of menthol cigarettes for their livelihood.[6] Were the ban to go into effect, about 866 of these people (or 54.0 percent) would see their jobs disappear, along with $50.8 million in local wages. The economic loss to Los Angeles would be over $137.4 million. (Table 3 on the following page.)

These lost jobs and wages will also lead to tax revenue reductions. When stores close, or people lose their jobs, they also reduce tax revenues that Los Angeles collects from property, income, and sales taxes, fees, and other sources. It is estimated that the economic losses in the city will result in $5.4 million in revenue reductions, of which 98.6 percent will come from reduced business taxes and fees. Table 4 outlines these losses by revenue type.

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4 Based on data from the Economic Impact of Menthol Cigarettes: 2019, Prepared by John Dunham & Associates, for Reynolds American Inc.

5 Nationwide sales based on *The Tax Burden on Tobacco* Volume 54, Orzechowski and Walker, 2019. Adult population (21+) from the US Department of Commerce, Bureau of the Census, American Community Survey.

| | Packs | Adult Population (21+) | Packs Per Adult |
|---|---|---|---|
| United States | 11,111,479,311 | 240,352,655 | 46.23 |
| Los Angeles | 35,714,273 | 3,022,096 | 11.82 |

6 Based on data from *The Menthol Industry Economic Impact Study*, Prepared for Reynolds American, Inc., by John Dunham & Associates, May 1, 2019

**Table 3**
**Economic Impact of A Menthol Cigarette Ban in Los Angeles**

| | Jobs | Wages | Economic Output |
|---|---|---|---|
| Direct | (518) | $ (28,996,500) | $ (71,434,222) |
| Manufacturing | - | $ - | $ - |
| Wholesaling | (156) | $ (13,054,965) | $ (39,140,489) |
| Retailing | (363) | $ (15,941,534) | $ (32,293,733) |
| Supplier | (139) | $ (10,125,979) | $ (31,861,746) |
| Induced | (209) | $ (11,676,755) | $ (34,109,931) |
| Total | (866) | $ (50,799,233) | $ (137,405,898) |

Overall, a ban on the sale of menthol cigarettes in Los Angeles, will result in a reduction of over $7.6 million in tax and fee revenues.[7] (Table 4)

**Table 4**
**Business and Personal Tax Revenues Lost Due to A Menthol Cigarette Ban in Los Angeles**

| | Personal | Business | Total |
|---|---|---|---|
| Property Taxes | $ 19,924 | $ 5,156,335 | $ 5,176,259 |
| Income Taxes | $ - | $ 11,711 | $ 11,711 |
| Sales Taxes | $ - | $ 96,876 | $ 96,876 |
| Other Taxes | $ 27,190 | $ 80,744 | $ 107,934 |
| Fines/Fees/Licenses | $ 30,849 | $ 19,932 | $ 50,781 |
| Total | $ 77,963 | $ 5,365,597 | $ 5,443,560 |

The estimates in the model are robust. A similar ban was enacted in San Francisco in 2018 on all flavored tobacco products, including menthol cigarettes, flavored cigars, and vapor products. A year after this ban went into effect, tobacco sales in that city fell by 28.3 percent, an even higher loss than the 22.9 percent estimated reduction in this analysis.[8]

**Table 5**
**Total Revenues Lost Due to A Menthol Cigarette Ban in Los Angeles**

| Revenue Type | Revenue Loss |
|---|---|
| LA Cigarette Sales Tax | $ (2,172,868) |
| Personal Taxes | $ (77,963) |
| Business Taxes | $ (5,365,597) |
| Total | $ (7,616,428) |

The results from San Francisco showed a slight increase in unflavored cigarette sales following the ban of flavored tobacco, but only offsetting lost menthol sales by approximately 1.6 percent. Applying this to Los Angeles by adding together the 14.1 million lost sales of menthol cigarettes and the offsetting sales as some consumers switched to unflavored cigarettes, leads to a change in overall cigarette sales of $109 million. Using breaks established by the San Francisco study, the market was segmented into convenience

[7] Based on *Revenue Outlook: Supplement to the 2020-21 Proposed Budget*, City of Los Angeles, Administrative Officer, April 2020, at: http://cao.lacity.org/budget20-21/2020-21Revenue_Outlook.pdf and *2020-21 Governor's Budget, Schedule 8, Comparative Statement Of Revenue* at: http://www.ebudget.ca.gov/2020-21/pdf/BudgetSummary/BS_SCH8.pdf

[8] *Economic Impact of the Ban on Flavored Tobacco Products in San Francisco*, Prepared for the California Fuels & Convenience Alliance by John Dunham & Associates, New York, January 9, 2020

stores, gas stations with convenience stores, and other retail outlets. These results are shown in Table 6 on the following page.

The San Francisco study also demonstrated that a loss of a million dollars in retail sales translated to approximately 2.4 jobs lost in the convenience store sector and 1.8 jobs in the gas station sector, with no statistically observable impact on other retailers of tobacco products. The net impact on employment was calculated by multiplying those sales changes by those numbers, arriving at a total of 466 jobs lost in Los Angeles. This compares with the 363 lost retail jobs presented in Table 3.

**Table 6**
**Estimated Impact of Menthol Cigarette Ban on Retail Sales, Jobs, and Wages Based on San Francisco**

| | Sales | Jobs | Wages |
|---|---|---|---|
| Los Angeles | -$109,187,000 | (466) | -$11,993,000 |
| Convenience Stores | -$34,888,000 | (265) | -$6,353,000 |
| Gas Stations | -$26,545,000 | (201) | -$5,640,000 |
| Other | -$47,753,000 | * | * |

**Methodology**

This analysis is based on the Menthol Industry Economic Impact Study for 2019. This model incorporates a geographic distribution model that allocates all menthol cigarette production, distribution and retailing jobs across the country based on either individual facility geographic coordinates, or facility zip code.[9]

Overall, a total of 14,940 jobs in California depend on the sale of menthol cigarettes. Of these, 1,605, or 10.7 percent are located in Los Angeles.

This economic impact analysis was developed by JDA based on data provided by Reynolds American Inc. (RAI), Infogroup, The Tax Burden on Tobacco 2018, the Food and Drug Administration, Centers for Disease Control and Prevention (CDC), and Federal and state governments. The analysis utilizes the IMPLAN model in order to quantify the economic impact of the menthol cigarette industry on the economy of the United States, as well as individual states, congressional districts, and state legislative districts.[10] The model adopts an accounting framework through which the relationships between different inputs and outputs across industries and sectors are computed. It is based on the national income accounts generated by the US Department of Commerce, Bureau of Economic Analysis (BEA).[11]

The menthol share of sales in California is 28.2 percent of total cigarette sales, based on data provided by RAI. LA's share of menthol sales is 39.5 percent.

Every economic impact analysis begins with a description of the industry being examined. In the case of the menthol industry it is defined as the three components of the United States' menthol cigarette industry. This will incorporate firms in the following economic sectors:

9 Based on data from *The Menthol Industry Economic Impact Study*, Prepared for Reynolds American, Inc., by John Dunham & Associates, May 1, 2019

10 The model uses 2016 input/output accounts.

11 The IMPLAN model is based on a series of national input-output accounts known as RIMS II. These data are developed and maintained by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool.

- Manufacturers: Menthol cigarette manufacturing plants, warehouses, offices.
- Wholesalers: Includes firms involved in the distribution and storage of menthol cigarettes.
- Retailers: Includes firms involved in the sale of menthol cigarettes. This sector includes retail establishments (e.g. grocery stores, convenience stores, gas stations, menthol stores, etc.)

The IMPLAN model is designed to run based on the input of specific direct economic factors. It generates estimates of the other direct impacts, tax impacts and indirect and induced impacts based on these entries. In the case of the menthol model, direct employment in the menthol cigarette industry is a starting point for the analysis. Direct employment is based on data provided to John Dunham & Associates by Infogroup, RAI, and the Food and Drug Administration as of January 2017. Infogroup data are recognized nationally as a premier source of micro industry data. Infogroup is the leading provider of business and consumer data for the top search engines and leading in-car navigation systems in North America. Infogroup gathers data from a variety of sources, by sourcing, refining, matching, appending, filtering, and delivering the best quality data. Infogroup verifies its data at the rate of almost 100,000 phone calls per day to ensure absolute accuracy.

Once the initial direct employment figures have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of direct wages and output. Wages are derived from data from the U.S. Department of Labor's ES-202 reports that are used by IMPLAN to provide annual average wage and salary establishment counts, employment counts and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction workers, and certain government employees. Data are then adjusted to account for counties where non-disclosure rules apply. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. It includes all income paid to workers and proprietors/partners by employers.

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

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

While IMPLAN is used to calculate the state level impacts, Infogroup data provide the basis for Los Angeles level estimates. Publicly available data at the county and local level is limited by disclosure restrictions, especially for smaller sectors of the economy. This model therefore uses actual physical location data provided by Infogroup in order to allocate jobs – and the resulting economic activity – by physical address or when that is not available, zip code. For zip codes contained in a single congressional district, jobs are allocated based on the total sector jobs in each zip. For zip codes that are broken by congressional districts, allocations are based on the percentage of total jobs physically located in each segment of the zip. Physical locations are based on either actual address of the facility, or the zip code of the facility, with facilities placed randomly throughout the zip code area.

Demand Model

Once the base economic impact of the menthol cigarette industry is developed, the effects of the proposed ban are calculated using a standard demand model. When Los Angeles bans the sale of menthol cigarettes, adults who prefer these products will react in one of four ways. They could:

1) Stop smoking cigarettes or switch to another tobacco product;
2) Switch from smoking menthol cigarettes to tobacco flavored cigarettes;
3) Continue to smoke menthol cigarettes but purchase them from other parts of California;
4) Continue to smoke menthol cigarettes but purchase them from other states and jurisdictions, or over the black market.

In the case of this analysis, two of these factors matter. Since no menthol cigarettes will be legally sold in Los Angeles, the fact that consumers are switching to the black market or purchase their tobacco products outside of the city does not impact either the revenue or economic impact projections. The bottom line is that 100 percent of the taxable menthol cigarette sales will disappear.

If adult smokers decide to continue to smoke menthol cigarettes and purchase them in California, there will be a small countervailing benefit to the rest of the state's economy, which is calculated in this analysis.

Finally, adult smokers could switch to non-menthol cigarettes, and this would mitigate the lost sales in Los Angeles.

In order to calculate the effect of the ban on cigarette sales in Los Angeles, it is essential to know how consumers would react – both in terms of the percent of purchases outside of the city but in California, but also in terms of what percent would switch to other cigarette products. These percentages are called elasticities by economists. Cigarette elasticities have been studied in depth, but most academic research has focused on the effects of taxes on demand, or on the substitution effects of vapor products.

One comprehensive study on the menthol cigarette market was conducted by Compass Lexecon for Lorillard Tobacco Company in 2011.[12] This study provides a series of estimates on all the different elasticities required for this model.

According to the Compass Lexecon analysis, the cross-elasticity of demand between menthol and non-menthol cigarettes ranges from 0.28 to 0.42. This means that a 100 percent reduction in the sale of menthol cigarettes (as would happen under the proposed ban) would lead to an increase of non-menthol cigarettes equal to between 28 and 42 percent of the initial menthol product demand. For this analysis of the proposed ban the most conservative estimate – 0.42 – was used, meaning that the analysis assumes the least impact to the Los Angeles economy from the proposed ban.

In addition, the Compass Lexicon report provided a series of additional elasticities related to quitting and black-market sales. Since any non-reported sale of cigarettes to a consumer in Los Angeles from any other source would technically be a black-market sale under the methodology used in the analysis, then the difference between 1.0 and the sum of the switching, quitting would equal the and black-market elasticity. Some of these sales would go to California retailers. Currently, according to the Tax

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[12] *Estimating Consequences of a Ban on the Legal Sale of Menthol Cigarettes*, prepared by Compass Lexecon for Lorillard Tobacco Company, January 19, 2011. On-line at: https://www.thecre.com/ccsf/wp-content/uploads/2011/03/compass_1_19_2011.pdf According to its website, Compass Lexecon is *one of the world's leading economic consulting firms*.

Foundation, the black-market sales in California are already equal to 28.3 percent of the market.[13] Taking the inverse of this (71.7 percent) would equal the legal sales. Assuming that the black-market rate stays constant, then the shift from Los Angeles to other parts of California sales would be 0.28 multiplied by 0.717, or 0.201. This means that 20 percent of lost menthol sales would transfer to other parts of California.

With these substitution percentages, the effect of the ban on both Los Angeles and California sales can be calculated. (See Table 7)

**Table 7**
**State and City Impacts Resulting from A Menthol Cigarette Ban in Los Angeles**

| | Direct | | Supplier | | Induced | | Total | |
|---|---|---|---|---|---|---|---|---|
| | LA | CA | LA | CA | LA | CA | LA | CA |
| Jobs | (518) | 179 | (139) | 76 | (209) | 146 | (866) | 401 |
| Wages | $ (28,996,500) | $ 9,531,079 | $ (10,125,979) | $ 6,197,553 | $ (11,676,755) | $ 9,237,233 | $ (50,799,233) | $ 24,965,865 |
| Economic Output | $ (71,434,222) | $ 23,279,499 | $ (31,861,746) | $ 26,799,974 | $ (34,109,931) | $ 28,332,316 | $ (137,405,898) | $ 78,411,789 |

As the table shows, 518 jobs directly related to the sale of menthol cigarettes will be lost in Los Angeles, offset by 179 jobs gained in other parts of California, and 57.1 percent of the overall economic loss to LA would be made up for by economic gains in the state economy. These effects are due to adult smokers purchasing their menthol cigarettes in California, outside of Los Angeles.

Cigarette Sales and Tax Revenues

Cigarette tax revenues are driven by both the volume of cigarettes sold in a particular jurisdiction as well as the price. Actual sales volumes in Los Angeles were provided by the California Fuels & Convenience Alliance.

The average retail price for a pack of cigarettes (less sales taxes) in Los Angeles is calculated to be $11.80. This price estimate is calculated based on the retail output (or gross margin) from the economic impact model. Dividing gross output by the retail margin of 0.2399 provides an estimate of the price of cigarettes prior to taxes.[14] The final price of $11.80 per pack, is calculated by adding in Federal and state excise taxes, as well as the MSA payment.

**Table 8**
**State and City Impacts Resulting from A Menthol Cigarette Ban in Los Angeles**

| | Existing | After Ban |
|---|---|---|
| Total Packs | 35,714,273 | 27,529,534 |
| Total Value | $ 421,393,564 | $ 324,821,641 |
| Menthol Packs | 14,111,618 | - |
| Menthol Value | $ 166,503,316 | $ - |
| Non-Menthol Packs | 21,602,655 | 27,529,534 |
| Non-Menthol Value | $ 254,890,248 | $ 324,821,641 |

Based on the price of $11.80 per pack, a total of $421.4 million worth of menthol cigarettes are currently

13 Drenkard, Scott, *Cigarette Taxes and Cigarette Smuggling by State, 2015*, FISCAL FACT No. 565, The Tax Foundation, November 6, 2017. On-line at: https://files.taxfoundation.org/20171106130335/Tax-Foundation-FF565.pdf

14 See: *Margins After Redefinitions: 2007 Detail*, Industry Economic Accounts Directorate, Bureau of Economic Analysis (BEA), U.S. Department of Commerce.

sold on an annual basis in Los Angeles. With a city sales tax of 2.5 percent, this generates a total of nearly $9.5 million in sales tax revenues.

If the sale of menthol cigarettes were banned Los Angeles, the entire $421.4 million worth of sales would be lost. Based on the elasticities the lost menthol sales would be offset by gains in other cigarette sales of 5.9 million packs, or about $69.9 million. (Table 8)

**San Francisco Methodology**

Two primary data sources were used in deducing the impact of San Francisco's ban on flavored tobacco products, the Quarterly Census of Employment and Wages, a publication produced by the Bureau of Labor Statistics tracking 95 percent of all jobs in the United States, and proprietary scanner data tracking shipments of tobacco products to San Francisco and surrounding counties.[15] For this analysis, measurements from both these sources date from January 2017, and capture monthly information concerning employment and sales respectively.

To compute the effect of the ban on employment, several relevant industries were selected, including convenience stores, gas stations, tobacco stores, and liquor stores, and then their monthly employment statistics in each Bay Area county were pulled from the QCEW database.[16] These numbers were then regressed against time, the respective industry employment numbers for the state of California, seasonal adjustment factors, and an added dummy variable corresponding to the start of the flavor ban. Ultimately, these models demonstrated a statistically significant impact ($p < .001$) on employment for both convenience stores and gas stations in San Francisco, although no statistically significant impacts were found in surrounding counties.

**Table 9**
**Outputs for Regression on QCEW Data**

Convenience Store Employees

| Variable Name | Coefficient | P-Value | Significance |
|---|---|---|---|
| (Intercept) | (96.52) | 0.67 | Not signficant |
| Date | - | 0.25 | Not signficant |
| CA Convenience Employees | 0.01 | 0.00 | 99% |
| Flavor Ban | (45.84) | 0.00 | 99% |
| January | 4.47 | 0.52 | Not signficant |
| February | 2.81 | 0.65 | Not signficant |
| March | (3.43) | 0.54 | Not signficant |
| April | (0.50) | 0.94 | Not signficant |
| May | 2.02 | 0.72 | Not signficant |
| June | (6.62) | 0.20 | Not signficant |
| July | (19.51) | 0.00 | 99% |
| August | (20.66) | 0.00 | 99% |
| September | (10.49) | 0.07 | 93% |
| October | 2.02 | 0.71 | Not signficant |
| November | (0.52) | 0.92 | Not signficant |
| Model F Statistic: | 35.02 | $R^2$: | 0.9703 |
| Model Significance: | 99% | Adj $R^2$: | 0.9426 |

Gas Station Convenience Store Employees

| Variable Name | Coefficient | P-Value | Significance |
|---|---|---|---|
| (Intercept) | 398.80 | 0.08 | 90% |
| Date | - | 0.29 | Not signficant |
| CA Gas Employees | 0.02 | 0.04 | 95% |
| Flavor Ban | (34.88) | 0.00 | 99% |
| January | (8.74) | 0.37 | Not signficant |
| February | (11.11) | 0.22 | Not signficant |
| March | (4.57) | 0.60 | Not signficant |
| April | (2.30) | 0.79 | Not signficant |
| May | 4.21 | 0.63 | Not signficant |
| June | (2.18) | 0.81 | Not signficant |
| July | 4.54 | 0.69 | Not signficant |
| August | 1.00 | 0.94 | Not signficant |
| September | (7.05) | 0.54 | Not signficant |
| October | 7.41 | 0.45 | Not signficant |
| November | (1.87) | 0.84 | Not signficant |
| Model F Statistic: | 10.59 | $R^2$: | 0.9703 |
| Model Significance: | 99% | Adj $R^2$: | 0.9426 |

To compute the effect of the ban on sales of tobacco products, scanner data for each tobacco product in each county was regressed against time, seasonal adjustment factors, and a dummy variable to measure the effect of the ban. Additionally, the information was further broken down and regressed to measure the effect on convenience stores, as the previous regressions conducted on employment data had indicated they were the most severely impacted industry.

[15] Proprietary data source capturing retail data for tobacco related products.

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