

# Hot weather – cool drinks: Is day temperature associated with retail sales of alcoholic beverages?

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## **Abstract**

**Purpose** – Little research on the influence of external factors, such as weather and holiday periods, on retail sales is available with regards to the alcoholic beverages industry. This study investigates how weekly retail sales of alcoholic beverages vary in association with daily maximum temperatures and annual federal holidays across US counties in the years 2013 to 2015.

**Design/Methodology/Approach** – Secondary data of weekly retail sales (volume) of alcoholic beverages from stores in 651 counties in the US are analysed. The data covers on average 21% of all existing US counties and 12% of the total US off-trade retail sales of alcoholic beverages in the period studied (Euromonitor 2017). Data of federal holidays and meteorological data are collated for each county in the sample. Seasonal autoregressive integrated moving average models with exogenous regressors (SARIMAX) are applied for the time series to investigate possible relationships and effects.

**Findings** – The results indicate that off-trade retail sales of beer, liquor, red and white wine are temperature sensitive overall throughout the year, while rosé, sparkling and other wine are not. Sales sensitivities to temperature also differ by geographies. In the warmest regions liquor and white wine sales do not respond to temperature changes. Public holidays represent a constant influencing factor on sales increases for all categories investigated.

**Keywords** – retail, alcoholic beverages, temperature, holidays, time-series, SARIMAX

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