2019–2023 Econometric Report on the Impact on Tons from the Paper and Packaging Board Advertising Campaign

Frequently Asked Questions

The primary goal of this study was to conduct an independent economic evaluation of the effectiveness and impacts of the Paper and Packaging Board (P+PB) campaign over the past five years, 2019–2023, for five paper grades: bond paper, printing and writing paper, kraft paper, paperboard and containerboard.

Q1: What are the key findings from the econometric study about annual consumption?

A: The 2019–2023 economic evaluation of P+PB's advertising campaign indicates it helped increase or protect the consumption of 1.2 million tons per year of paper grades compared to what consumption would have been without the program. Charged with stemming the decline in paper and growing demand for paper packaging, it is estimated that without the promotional campaign, paper consumption would have been 63,851 tons less annually and packaging consumption would have been 1.1 million tons less annually over the five-year period.

Q2: What types of inputs and data sets were used in this research model?

A: This study was based on an econometric model developed for the paper industry created by independent economist Harry M. Kaiser, PhD, of Cornell. Dr. Kaiser is the Gellert Family Professor of Applied Economics and Management at Cornell University and a widely recognized expert on evaluating the impact of checkoff programs.

Dr. Kaiser developed five separate models including bond paper, printing and writing paper, containerboard, paperboard and kraft paper to evaluate total impact. The models use statistical techniques and annual consumption and related data to determine what the main drivers of consumption are for each paper grade.

On the paper side, the paper models included a host of demand drivers including GDP, Covid-19 indicator variable, price of stationery, price of postage stamps, mobile phone screen time and advertising campaign expenditures. For the packaging demand models, the following demand drivers were included: Nondurable and durable goods production, e-commerce, basis weight, Covid-19 indicator variable, GDP, food and beverage sales, and advertising campaign expenditures.

The econometric model then determines whether any of these potential demand drivers have a significant effect on consumption, and, if so, how big of an effect. The advantage of these models is that the impact of the advertising campaign can be netted out from the impact of these other demand drivers. Models are designed to understand historical consumption data but do not model future demand or predictive outcomes.

Q3: Given the challenges facing the paper sector, these results are surprising.

A: The USDA-required econometric analysis considers incremental consumption declines that are mitigated as a result of the campaign. In other words, the advertising campaign had the effect of protecting the loss of 63,851 tons in annual paper consumption. The campaign had no effect on bond paper.

Q4: On the packaging side, why does the volume attributed to the campaign's advertising look similar to industry growth numbers?

A: The two are completely unrelated. The econometric results are used to simulate the impacts of the P+PB campaign on demand for each of the five paper grades under two scenarios:

1) "With the P+PB campaign" baseline scenario where all demand drivers, including P+PB marketing expenditures, are set at their historical levels for the most recent five-year period, 2019–2023.

2) "Without the P+PB campaign" counterfactual scenario, which is identical to the first scenario except that P+PB marketing expenditures are set to zero for 2019- 2023.

A comparison of simulated paper and paper-based packaging product demand between the two scenarios provides a measure of the impact of the P+PB campaign on demand.

Q5: Is the main takeaway of the report that without the P+PB campaign, paper and packaging tons would be 2% less?

A: Yes. It is estimated that without the campaign, paper and packaging consumption combined would be 1.2 million tons less per year or 2% lower than it was for 2019–2023.

Q6: What ROI does the model estimate the industry collectively received?

A: The econometric models estimate for every dollar invested the P+PB campaign returned $13.96 in net profit to the industry. This demonstrates that the campaign is having a positive impact on the industry.

Q7: How do the models take into account Covid-19?

A: We measure the impact of Covid-19 as an indicator variable that is equal to zero from 1995-2023, except for 2020 and 2021, where it is equal to one. Inclusion of this indicator variable allows us to see when 2020 and 2021 were statistically significantly different in terms of demand due to Covid-19.