

The background of the cover features a large, faint watermark of the Cornell University seal. The seal is circular and contains the text "CORNELL UNIVERSITY" at the top and "FOUNDED A.D. 1865" at the bottom. In the center of the seal is a shield with a book and a sunburst.

**An Independent Economic Evaluation
of the Impacts of the
Paper and Packaging Board
Advertising Campaign: 2019 - 2023**

By Harry Kaiser, PhD

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Executive Summary

The primary findings of this study were:

- ✓ The P+PB campaign had a positive and statistically significant impact on consumption of four of the five paper grades, with the exception of bond paper.
- ✓ Overall, the P+PB campaign increased or protected the consumption of four of the five paper grades by a total of 1.2 million tons per year compared to what it would have been in the absence of the program. In other words, had there not been a P+PB campaign, consumption would have been 2% lower than it actually was for 2019-2023.
- ✓ Over the past five years, the industry spent a total of \$114.3 million on the P+PB campaign. The campaign returned a total of \$1.71 billion over this period.
- ✓ Therefore, the net ROI is 13.96:1. That is, every dollar invested in the P+PB campaign returned \$13.96 in profit to the industry.
- ✓ A 90% confidence interval for this ROI is (-0.27, 17.73). Since the majority of that range is well above zero, this provides significant confidence that the true ROI is above zero indicating profitability of the P+PB campaign to the industry.

My independent economic evaluation of the Paper and Packaging Board's (P+PB) advertising campaign indicates that the campaign had an average annual impact of 1.2 million tons of consumption from 2019–2023. Charged with stemming the decline in paper consumption, the advertising campaign help mitigate the loss of 63,851 short tons per year in printing and writing paper consumption. The campaign was also charged with growing demand on the packaging side, where it helped create 1.1 million short tons per year of packaging consumption.

This study was based on an econometric model of the paper and packaging industry developed by working with the companies supporting the paper checkoff. The model uses statistical techniques and consumption and related data to determine what the main drivers of consumption are for the industry. Five separate “demand” models for bond paper, printing and writing paper, containerboard, paperboard and kraft paper products were developed in order to evaluate impact.

On the paper side, the paper models include 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, demand drivers

include: Nondurable and durable goods production, e-commerce, basis weight, Covid-19 indicator variable, GDP, food and beverage sales, and advertising campaign expenditures. The models initially included other demand drivers not listed here but were excluded from the final models because they were either statistically not significant or they were highly correlated with the other demand drivers.

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. The models are designed to compare historical consumption trends, showing what happened in the market with the advertising present, and simulating what would have happened had there not been the advertising campaign.

Overall, the P+PB campaign had a positive and statistically significant impact on consumption of four of the five grades with the exception of bond paper. The campaign increased or protected the consumption of 1.2 million tons per year compared to what it would have been in the absence of the program. In other words, had there not been a P+PB campaign, consumption would have been 2% lower than it actually was for 2019–2023.

In addition, the gross profitability of the incremental sales generated by P+PB activities was estimated. These benefits to firms in the paper and paper-based packaging industry were compared with the costs associated with the P+PB campaign. Based on the estimated impacts from the demand models, a rate of return on investment (ROI) was derived for the P+PB campaign.

Over the past five years, the industry spent a total of \$114.3 million on the P+PB campaign. The campaign returned a total of \$1.71 billion over this period. Therefore, the net ROI is 13.96:1. That is, every dollar invested in the P+PB campaign returned \$13.96 in net profit to the industry.

View the full report [here](#).

Harry M. Kaiser, PhD

This independent evaluation is carried out by Dr. Harry M. Kaiser, the Gellert Family Professor of Applied Economics and Management at Cornell University. Dr. Kaiser is a national and internationally renowned expert in the economics of generic advertising and promotion programs. Dr. Kaiser has written 150 refereed journal articles, five books, 17 book chapters, over 150 research bulletins, and received \$8 million in research grants in the area of agricultural marketing with an emphasis on promotion programs.