

Pricing Analysis: Effect on Market Consumer Prices

Walmart provides an important economic contribution to Canadian communities through the range of goods it supplies and jobs it creates. Moreover, research also shows that Walmart's presence lowers consumer prices across the entire market. Deloitte conducted a pricing analysis to assess the relationship between Walmart's presence in major metropolitan areas across Canada and consumer prices. To do this, Deloitte developed an econometric model that explored the impact that one additional Walmart store per 100,000 population in the area has on local consumer prices in the market across various consumer products categories.

An average decrease of local consumer prices

Deloitte's analysis found that an increase in Walmart's presence in a metropolitan area lowers local consumer prices in the entire market. On average, over 2001-2019, each additional store per 100,000 population in a given metropolitan area is associated with savings of approximately \$638 million in the purchase of a general basket of consumer products.

A similar impact on prices was identified for specific consumer products categories, as described in Figure 1.

The impact of Walmart's presence on the communities is even more important in the current **context of inflation**, where low-income populations are most vulnerable to inflationary price increases.

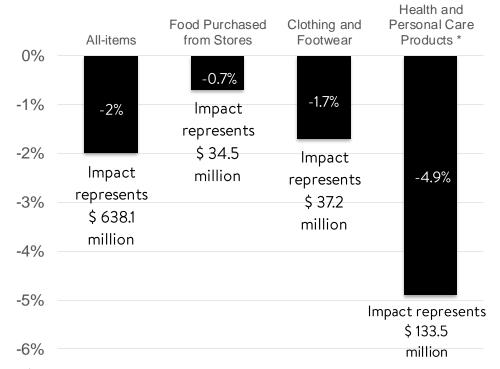
Promotion of access to health and personal care products

On average, over 2001-2019, each additional Walmart store per 100,000 population in a given metropolitan area is associated with savings of over \$133 million in the purchase of health and personal care products.

By decreasing the average prices for health and personal care products,
Walmart is helping to improve
accessibility of these products across
Canada.

This achievement complements
Walmart's commitment to improve
patient outcomes and increase access to
healthcare services for underserved and
marginalized groups through fundraising
and National, Regional and Community
Grant Programs.

Figure 1: Impact on Inter-City Price Differentials per Consumer Product Commodity



^{*} **Note:** Health and Personal Care Products includes prescription medicine, non-prescription medicine, eye care goods, soap, toiletry items and cosmetics, oral-hygiene products, and other health care and personal care products.

Pricing Analysis: Effect of Walmart on Consumer Prices (cont.)

Impact of having one additional Walmart store per 100,000 population on the following consumer products prices in the market

	All-Items	Food Purchased from Stores	Clothing and Footwear	Health and Personal Care Products
Impact on Inter-City Price Differentials	- 2.0%	0.7%	1.7 %	4.9%

Effect of Walmart on consumer prices

The analysis found an inverse relationship between Walmart's presence in a given metropolitan area and local consumer prices. On average, over 2001-2019, each additional store per 100,000 population is associated with a **2.0% decrease** in the price of a **general basket of consumer products**.*

A similar impact was identified for specific consumer products categories, including a 0.7% decrease in the price of food purchased from stores, a 1.7% decrease in the price of clothing and footwear, and a 4.9% decrease in the price of health and personal care products.

Impact on the average Canadian household

Accounting for household spending patterns³ during 2019, these results would imply that each additional Walmart store in a given metropolitan area is associated with annual savings of \$975 for the average Canadian household when purchasing a general basket of consumer products, which include savings of \$204 when spending on health and personal care products.

Pricing analysis 1

Deloitte developed an econometric model to assess the relationship between Walmart's presence in major metropolitan areas across Canada and consumer prices.

This model explored the impact that one additional Walmart store per 100,000 population in the area had on local consumer prices across various consumer products categories.

Specifically, this relationship was analyzed for 11 Census Metropolitan Areas (CMAs)² across four categories of consumer products: (1) all-items, (2) food, (3) clothing and footwear, and (4) health and personal care products, using quarterly data from 2001 to 2019.

The model controls for factors that affect domestic and international prices, including direct and indirect demand drivers such as import prices for specific categories of goods and the national economic position over the business cycle.

- Please refer to the accompanying Pricing Analysis Appendix for a detailed explanation of the model.
- The CMAs are St. John's, Charlottetown and Summerside, Halifax, Saint John, Montréal, Ottawa, Toronto, Winnipeg, Regina, Edmonton, and Vancouver.
- 3. Source: Statistics Canada Table 11-10-0224-01.

^{*} Note: A general basket of consumer products includes food, household operations, clothing, transportation, health care, recreation, education, tobacco, alcoholic beverages, and other consumer goods (except shelter).



Pricing Analysis Methodology - Effect of Walmart on Consumer Prices

Deloitte modelled the relationship between Walmart's presence in 11 Census Metropolitan Areas (CMAs)¹ and consumer prices.² This assessment was performed through the development of an econometric model, using quarterly data from 2001 to 2019, that assessed the impact of an additional Walmart store per 100,000 population on the corresponding CMA's inter-city index of price differentials of consumer products³. The categories of consumer products analyzed include: (1) All-Items, (2) Food Purchased from Stores, (3) Clothing and Footwear, and (4) Health and Personal Care Products.

The following econometric specification was estimated:

$$\log(\textit{Consumer Price}_{j,\textit{CMA},t}) = \alpha + \beta \textit{Walmart presence}_{\textit{CMA},t} + \gamma \textit{Imp_Price_Index}_{j,t} + \delta \textit{Pmzoil}_t + \mu \textit{Ogap}_t + \varepsilon$$

in which superscripts correspond to,

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j \in \{AII\text{-ltems}, Food Purchased from Stores, Clothing and Footwear, Health and Personal Care Products}\};
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CMA E {St. John's, Charlottetown and Summerside, Halifax, Saint John, Montréal, Ottawa, Toronto, Winnipeg, Regina, Edmonton, Vancouver}

 $t \in \{1Q2001, 2Q2001, 3Q2001, 4Q2001, 1Q2002, ..., 4Q2019\}$

and variables are as follows,

Consumer Price_{i.CMA,t} is the relevant inter-city index of price differentials for category of consumer products j in metropolitan area CMA in time t;

 $Walmart\ presence_{CMAt}$ are the number of Walmart stores per 100,000 population in metropolitan area CMA in time t;

 $Imp_Price_Index_{i,t}$ is the National Import Price Index or relevant weighted import price index for category of consumer products j in time t;

 ${\it Pmzoil}_t$ is the National Import Price Index for relevant commodities in time t;

 $Ogap_t$ is the National Output Gap which captures overall price pressures in the economy in time t

- 1. The CMAs are St. John's, Charlottetown and Summerside, Halifax, Saint John, Montréal, Ottawa, Toronto, Winnipeg, Regina, Edmonton, and Vancouver.
- 2. In undertaking this analysis, Deloitte relied on sales information and number of stores data provided by Walmart. The results of Deloitte's analysis are subject to the general qualification that the data provided is accurate and reliable; Deloitte has not independently validated this data.
- 3. A spatial index that measures the price differences of specific categories of consumer products across CMAs. Source: Statistics Canada Table 18-10-0003-01.

Note to Reader

The results presented within this document have been provided to Walmart Canada for the purpose of assessing the relationship between Walmart's presence in major metropolitan areas across Canada and consumer prices.

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The full extent of the ongoing COVID-19 pandemic's impact on the economic outlook remains uncertain. It is, therefore, important for readers to consider that the analysis is based on third-party data (e.g., economic and industry data) up to September 2022 and does not include any consideration of the likely economic impact of either COVID events or the related fiscal stimulus measures.

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