

The Monthly Retail Trade Survey: Use of administrative data

The Monthly Retail Trade Survey (MRTS) is one of several business surveys conducted by Statistics Canada (SC) which generate estimates measuring economic activity in Canada. This information is vital to government and private sector decision-making processes. Respondent burden is an important issue faced by SC when conducting surveys. To alleviate some of this burden, SC rationalizes the data collected and where possible, uses administrative data as a substitute for survey data.

The MRTS is one of the surveys for which existing administrative data (tax data), proven to be an adequate replacement for survey data, are now used.

About the GST and the Monthly Retail Trade Survey**Goods and Services Tax**

The Goods and Services Tax (GST) and the Harmonized Sales Tax (HST) are taxes levied on the goods and services consumed in Canada.

All businesses, with the exception of those with revenues under \$30,000, are required to file GST remittances. According to their annual revenues, businesses must file either monthly, quarterly or annual returns. Monthly and quarterly reporters must remit within 30 days of the period end date, while annual reporters must remit within three months of their period end date. It is important to note that businesses may choose to remit more often than required.

Every month, the Canadian Revenue agency (CRA) sends the GST file to StatCan's Tax Data Division (TDD), which carries out further processing solely for statistical purposes. This processing ensures that the database accessed by the various business survey programs is clean and complete. It includes, among other things, an editing and imputation process to detect and correct outliers and to replace missing values for businesses that filed their returns too late. In the case of businesses for which CRA is not expecting a report (e.g. businesses that report quarterly or annually), the missing values are replaced by extrapolated data. Following this, TTD calendarizes the data, in order to have a file with the monthly values for all businesses. This processing is not done to administer or monitor the GST program and no modifications are sent back to CRA.

Monthly Retail Trade Survey¹

The MRTS is a sample survey used to gather monthly information on Canadian retail sales. In order to reduce response burden and to lower collection costs, the smallest units of the survey population (that represent the monetary value of sales for each industrial group by province, or about 10%) are excluded. Their actual monthly contribution will be assessed based on administrative data. This allowed us to reduce the sampling frame, which went from approximately 200,000 retail outlets in Canada to 85,000 units and, after clustering, this number comes down to approximately 55,000 sample units.

The MRTS sample is stratified by industry, geographic region and size (based on the monetary value of annual sales). The stratification regions are the provinces and territories, as well as three provincial sub-regions. The sample of 10,000 units is made up of 5,500 large clusters and about 9% of the remaining units, or 4,500 clusters. The units remain the same from month-to-month, except for new units (births), which are sampled with the same probability as the units in the original sampling frame.

Possible replacement of survey data by Goods and Services Tax data

The MRTS sample contains two types of units: simple and complex. For complex units (units consisting of more than one establishment), it's often the case that one GST value corresponds to all establishments and therefore covers more than one industrial and/or geographic dimension. Complex units account for about 40% of the MRTS sample and were deemed ineligible for replacement by GST data. The other sample units are simple units and, for the most part, were deemed eligible for replacement by GST data.

¹For more information on the MRTS methodology, please consult **Definitions, data sources and methods: survey number 2406**.

The definition of a simple unit applies to both small and large establishments. As a result, not all units that are deemed simple may be replaced. To ensure that the use of GST data does not have a considerable impact on the overall estimates, only units that are simple, live and are not included in the units that represent the top 25% of a commercial group within an industry—the top 25% of a certain geographic region, in terms of sales—can be replaced. This ensures that large or dominant establishments will not be excluded from the survey. We should also avoid replacing a unit with seasonal activity or that shows a monthly revenue pattern that is erratic over time. New car dealerships are excluded from the MRTS due to their significant impact on the overall estimate.

Data availability

Due to time constraints related to the release dates of the MRTS and the retrieval of tax data from CRA, the GST data are not available in time to be used by the MRTS for the current reference month. The previous month's GST data (e.g. GST data for the month of February and the MRTS reference month of March) are received early enough to be incorporated into the MRTS data processing procedure.

Sales Modelling

A model was created based on the sales data for the current month (M) and on the GST revenue data for the previous month (M-1). The model is based on the relationship between sales and GST revenue values for units that were available for replacement but remained in the surveyed portion and were still alive. This model was then applied to the GST revenue data for those units that were selected for replacement.

To ensure that a proper model was created, outliers were removed from the model group. These were observations where the relationship between the GST revenues and the reported sales data didn't correspond to most units in the model group.

Quality of the estimates

The process of GST data replacement has proven itself since 2005, when it was first introduced. Prior to its introduction, a major assessment was carried out to demonstrate its merits. In particular, the estimates produced using the survey data were compared to those obtained with modelled data.

Conclusion

The replacement of survey data with administrative data, specifically GST data, maintains the high quality of the MRTS estimates while reducing respondent burden for small businesses in particular. This initiative also allows for more flexibility in selecting units to be surveyed, as these units can be replaced by administrative data without impacting overall estimates.