CIERA™ 2025e | Creative Industries Economic Results Assessment™

Methodology

Updated for CIERA 2025 Release in November 2026

In 2019, Creative BC engaged Notio Media and Deetken Insight in a collaboration to design a bespoke mechanism of measurement for Creative BC to use annually, leveraging government datasets to track the economic impacts of each of the industries we serve and the creative industries in B.C. overall. Results from CIERA™ have been reported in each annual Impact Report since 2019/2020. The methodology is described here, including enhancements made for the 2025/26 report.

The methodology was designed to meet the following criteria: repeatability – the estimates can be updated and regularly and no less than annually; reliability – the data used to generate the estimates are from trusted sources and are well-documented; comparability – the estimates can be compared to those generated for other purposes (different sectors, regions, etc.); comprehensiveness – the data supports estimates that cover the full scope of economic impact (e.g. output, gross domestic product, employment); and alignment – the data supports estimates that align to the particular scope at hand, in this case, the B.C. creative sector.

APPROACH

The approach to build CIERA™ involved: 1) establishing industry scope by mapping North American Industry Classification System (NAICS) codes against a standard three-part value chain for each of the industries (creation>production>distribution); 2) assembling publicly available government data required to generate economic impact results for each industry, and 3) designing a tool to calculate output, gross domestic product (GDP), and jobs number each year that is easily updated as government datasets are refreshed and released.

A core component of the methodology is the Provincial and Territorial Culture Indicators (PTCI), which Statistics Canada developed as an extension of the Provincial and Territorial Culture Satellite Account. The satellite account is a product of both the Canadian Framework for Culture Statistics (CFCS) and the Canadian System of Macroeconomic Accounts (CSMA): the CFCS provides the guiding principles to define and identify cultural economic activity by culture domain and subdomain, while the CSMA provides the mechanism and data to derive the PTCI. CIERA™ uses the “industry perspective” version of the PTCI which represents all economic activity associated with those industries included within the CFCS.

The PTCI include results by culture domain and subdomain* for output, GDP, and jobs. Output is the value of the goods or services that are produced within an establishment that become available for use outside that establishment (or, in some special cases, within the producing establishment) and is net of subsidies** received. GDP represents an industry’s “value-add”, which is equal to the difference between an industry’s output and the cost of the intermediate inputs that are used up in the production of their goods and services. GDP is measured at basic prices, which means it excludes taxes on products, such as sales and excise taxes, and includes other taxes on production, such as property taxes, less any subsidies received. Both GDP and output are expressed in nominal terms and therefore reflect prices in a given period (as opposed to real values which are adjusted for inflation). Jobs refers to an industry’s total number of jobs. If a job exists for only part of the year, it counts as a job for the portion of the year it existed (e.g., 3 months = 1/4 of a job). However, a part-time job is valued the same as a full-time job (i.e., both are considered one job).

Statistics Canada provides a mapping of CSA domains and subdomains to industries based on the 2007 version of the North American Industry Classification System (NAICS). This mapping is done at the most detailed 6-digit level. NAICS Canada 2017 and 2022 versions were reviewed by Deetken to select the relevant industry codes to include in CIERA™ that best represent the creative industries that Creative BC serves. Concordances between NAICS versions were used to backwards-map 2017 and 2022 NAICS to 2007 NAICS codes.

Additional data from Statistics Canada’s Business Register (BR) is used to allocate the PTCI to in-scope 6-digit NAICS and thus to the Creative BC industries. The BR reports the number of businesses that have employees within a certain range (e.g. 1-4, 5-9, 10-19, etc.) by 6-digit NAICS industry. The total employment count for a given NAICS industry is estimated by first multiplying the midpoint of each employment range by its corresponding number of businesses and then summing across all employment ranges. (Note that the PTCI results reflect the jurisdiction where business activity occurs whereas BR data reflect the jurisdiction in which a business is registered. The BR data, therefore, is used in CIERA™ as a proxy for where business activity occurred.)

This BR data, combined with output data by industry from Statistics Canada’s Supply and Use Tables (SUTs), is used to apportion PTCI results to a given Creative BC industry. The SUTs include a wide range of for each Input-Output Industry Classification (IOIC) industry, including total output. The IOIC system is a special aggregation of NAICS. A mapping between these two systems allows for output to be estimated for 6-digit NAICS industries. Estimated employment counts for each NAICS industry are mapped to their corresponding IOIC industries and summed to derive output-per-employee benchmarks for relevant IOIC industries. These benchmarks are, in turn, used to estimate output per 6-digit NAICS industry, and these results are used to apportion PTCI results to a given Creative BC industry.

PTCI data reflects the direct economic impact of the culture industries, that is, the immediate economic activity of those businesses within the culture industries. Statistics Canada’s input-output multipliers are used to estimate corresponding indirect and induced impacts for a given IOIC industry. The indirect impact reflects the demand from culture industries for intermediate inputs from other industries. Indirect impact is cumulative, meaning it includes transactions going all the way back to the beginning of the supply chain. The induced impact reflects the attributable economic activity that arises as a result of industry workers, involved in either the direct or indirect activity, spending part of their wages and salaries on other goods and services.

CIERA™ makes adjustments to the indirect and induced multipliers that are published by Statistics Canada as follows:

- Indirect multipliers: These multipliers are adjusted downward to remove “own-indirect” activity, that is, purchases from suppliers in the same industry. Because this supplier activity is already captured as direct activity, leaving it in the indirect multipliers would double-count it. CIERA™ uses linkage data from Statistics Canada’s Symmetric Input-Output Tables (SIOTs) to determine multiplier adjustment factors for each industry.
- Induced multipliers: These multipliers are similarly adjusted downward to account for own-indirect activity. Induced impacts arise from the spending of wages and salaries, so the adjustment removes the wages and salaries tied to own-industry supplier purchases. The SIOTs are used to estimate the share of each supplier industry’s output that goes to wages and salaries, and the induced multipliers are reduced by the portion of total wages and salaries (direct and supplier) resulting from own-indirect activity.

CIERA™ generates two sets of indirect and induced results, based on Statistics Canada’s two sets of provincial multipliers: “within-B.C.”, which captures only activity occurring in B.C., and “all-provinces”, which also captures activity in other provinces generated by B.C.’s creative industries. Within-B.C. multipliers exclude spending on imports from other provinces and other countries, while all-province multipliers exclude spending on imports from other countries only. 2016 data from the SUT, SIOT, and BR are used in CIERA™ to apportion the PTCI and adjust the multipliers. In other words, output-per-employee benchmarks and multiplier adjustment factors are derived using a baseline data set and then used for all years in CIERA™.

To allow total economic activity (that is, the sum of direct, indirect, and induced activity) across each creative industry to be summed without double-counting, CIERA™ also produces “de-linked” multipliers that account for inter-industry linkages. Inter-industry linkages occur when one creative industry purchases from another. For example, the Motion Picture industry’s purchases of goods and services from the Music and Sound Recording industry are counted as indirect impacts attributable to the Motion Picture industry, but also as direct impacts for the Music and Sound Recording industry. De-linked multipliers are constructed by omitting such inter-industry purchases and can therefore be used to generate estimates of the creative industries’ de-linked total aggregate impacts that exclude any double counting that would otherwise occur when summing individual industry totals.

To produce estimates for 2025, CIERA™ utilizes historical datasets for GDP and jobs by industry, in combination with historical trends observed from CIERA™ results. This year, jobs data for 2025 was estimated using 2-digit NAICS code employment information and GDP growth figures due to lack of data availability from Statistics Canada[1]. Motion Picture is estimated separately, as described below.

ESTIMATING THE MOTION PICTURE INDUSTRY (2022 ONWARD)

The effects of COVID-19 (2020-2022) and the 2023 writer’s and actor’s strike on B.C.’s Motion Picture industry are not fully reflected in the Statistics Canada data that underlie the PTCI. CIERA™ therefore employs an industry indictors based alternative estimation approach replacing PTCI-based Motion Picture results from 2022 onward.

Starting from 2021 PTCI-based results, Motion Picture results are rolled forward each year using the weighted average annual change in five industry indicators: WorkSafeBC Annual Assessable Payroll for Motion Picture, Commercial, or Television Production (classification unit 763025); LENS annual gross earnings; tax-credit-eligible production volume; production volume for B.C. from the CMPA Profile, and ProdPro live-action scripted production in BC. Direct output, total GDP and jobs are grown at this rate, with indirect and induced impacts derived from the ratios observed in PTCI-based results. This produces revised estimates for 2022 onwards.

Further detail on the indicators, their weights and the calculation is provided in the separate Motion Picture methodology document.

VALIDATING 2024 ESTIMATES AGAINST ACTUALS

The most recent version of the PTCI, released on June 2, 2026, includes results for 2010 through 2024. An analysis was undertaken to compare previous CIERA™ estimates for 2024 to the results derived from published 2024 figures in the latest PTCI (referred to as actuals). It was found that the previously estimated total direct GDP across all creative industries for 2024 was around 3.5% lower in CIERA™ than the corresponding actual PTCI-based results, with variance of up to +/- 15% across individual industries. This difference is primarily due to the retroactive adjustments made by Statistics Canada to previously published PTCI figures for 2022 and 2023 across several in-scope subdomains. Prior correspondence with Statistics Canada indicates that new PTCI publications regularly include retroactive adjustments to the figures for the two most recent years of the previous publication (e.g., 2022 and 2023 were adjusted in the latest PTCI).

REGIONAL ESTIMATES

CIERA™ regional results allocate provincial direct output, GDP, and jobs for each Creative BC industry to B.C., economic regions using Statistics Canada’s Business Register dataset. A region’s share of an industry is its share of estimated employees in that industry’s in-scope 6-digit NAICS codes, and the same share is applied to output, GDP and jobs. Assumed total GDP for each region is calculated by multiplying the region’s direct GDP by the province-wide ratio of total to direct GDP for that industry (or, for the creative sector overall, the de-linked total). The same ratio is applied to every region, so these estimates do not reflect differences in local supply chains between regions. Because the Business Register records where a business is registered, some activity, such as on-location film production, may be attributed to the region of the head office.

LIMITATIONS AND KEY CONSIDERATIONS

The following are limitations and/or key considerations with respect to the methodology:

1. Information from Statistics Canada’s Business Register (BR) is used to derive estimates of employment for in-scope 6-digit NAICS codes. Per above, Business Register data is used to adjust PTCI data to produce results that

align to the required industry scope by estimating employment based on business counts, which presumes that the midpoint of each employment range represents the average number of employees for all businesses within that group.

2. Total economic impacts (i.e., the sum of direct, indirect and induced impacts) should not be summed across Creative BC industries to attempt to represent aggregate impacts because of double-counting across industries. For example, some direct activity in Music and Sound Recording would also be captured as indirect (supplier) activity attributable to Motion Picture. Instead, “de-linked” aggregate totals calculated with CIERA™ should be referenced.
3. A variety of Statistics Canada datasets are used in the methodology, the release schedules of which vary. Every attempt has been made to match the datasets by reported year.
4. CIERA™ results should not be viewed as time series. Statistics Canada periodically refines its measurement methods and consistently revises published data about prior years. This year, Statistics Canada retroactively adjusted PTCI figures previously published for 2022 and 2023, which CIERA™ incorporates despite creating some drift from previous results.
5. A limitation in applying the multipliers pertains to how well the IOIC codes align to the in-scope NAICS codes and culture subdomains. The better the alignment, the more dependable are the results generated by the multipliers. This alignment varies across the Creative BC industries.
6. Jobs as a measure is not ideal for gig work, as it provides limited insight into the number of individuals working in an industry. “Jobs” reflects the average annual number of full- and part-time jobs in an industry.
7. Figures for the most recent year need to be estimated. The following datasets are used to produce these estimates:
    a. Culture and sport indicators by domain and sub-domain, by province and territory, industry perspective (PTCI)(Table: 36-10-0453-01)
    b. Gross domestic product (GDP) at basic prices, by industry, provinces and territories (Table: 36-10-0711-01)
    c. Labour productivity and related measures, by province, territory, and industry (Table: 36-10-0713-01)
    d. For Motion Picture:
        i. the industry indicators listed above (WorkSafeBC, LENS, tax-credit-eligible production volume, CMPA Profile and ProdPro), used to produce revised 2022 to 2024 estimates and a 2025 estimate for Motion Picture output, GDP and jobs.
8. CIERA™ was updated in 2026 to deliver 2025 insights using the most recently available data, including: 2024 results from the PTCI, and 2025 Jobs and GDP data where available. SUT and SIOT data from 2016 continue to be used as modelling benchmarks.
9. CIERA™ uses 2016 BR for 2010 to 2016 data and 2017 BR for 2017+ data to match to corresponding NAICS versions. Due to changes in IOIC codes in the latest dataset, 2021 IOIC multipliers were used to maintain consistency in estimating indirect and induced impacts for 2021 to 2024.

Statistics Canada definitions: The domains and subdomains are intended to be measurable, distinct and recognizable to data users. At their highest level, domains consist of an aggregation of activities, artistic disciplines, industries, products and occupations that are related and provide a useful level of analysis. In most cases, these higher-level domains may be comparable at the international level, while a subdomain may support analysis at a more discrete or detailed level. Core culture subdomains produce goods and services that are the result of creative artistic activity and whose main purpose is the transmission of an intellectual or cultural concept. Read more online:* ***https://www150.statcan.gc.ca/n1/pub/87-542-x/2011002/s02-eng.htm*

***Subsidies are netted out because they reduce the cost of certain inputs such as labour, while taxes on factors of production (e.g., property taxes) are added in because they are costs paid by the producer and are included in the final value of the product.*

****Statistics Canada makes retroactive adjustments to Real GDP and Jobs estimates for recent years as more information is received – similar to how the PTCI is retroactively adjusted each year. As such, 2024 Motion Picture data reported by Statistics Canada may be revised in the future to better reflect industry observations.*

DISCLAIMER

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