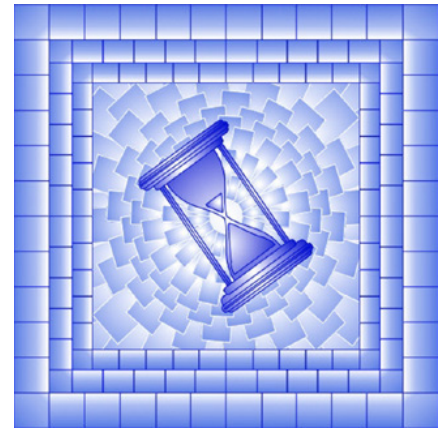


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Price Adjustment Guide for Contract Escalation

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Price Adjustment Guide for Contract Escalation

Introduction

Contract escalation involves adjusting sales and purchase contracts and agreements to take into account changes in the cost of satisfying such a contract. This might include changes in the price of goods or services that are used as inputs by the contracted party in order to satisfy the terms of the contract. Price adjustment clauses are most often incorporated into long term contracts, wherein the price of inputs, labour, or otherwise is expected to change over the length of the contract.

Price indexes published by Statistics Canada provide an impartial and reliable measure of the change in price across a number of industry and commodity groups. Producer Price Indexes (PPIs) measure the change in price received or paid by producers for a variety of products and industries and are often used in price escalation clauses for contracts related to construction or industrial products. The Consumer Price Index (CPI) measures the change in prices faced by consumers for a variety of products and is most frequently used for indexing payments for consumers (wages in collective bargaining contracts, pensions, payments for social assistance programs, etc.).

Statistics Canada does not encourage or discourage the use of price adjustment measures in contract escalation clauses. Statistics Canada does not directly assist in writing contracts, nor does it provide advice regarding disputes arising from contract interpretation. The aim of this guide is to provide information for the development of escalation clauses using price indexes produced by Statistics Canada in an effort to minimize ambiguities in the interpretation of our data as it is used in such products. The guide will provide a summary of important information to consider when developing such clauses with a particular focus on the correct interpretation, utilization and reference of Statistics Canada PPIs and CPI.

This guide is separated into five sections, beginning with this introduction. The second section will include an outline of important concepts, practices and definitions, and the third will include a series of examples of price adjustment calculations in practice, each followed by a summary of important takeaways. The fourth section includes guidelines and important things to consider when using Statistics Canada price indexes for price adjustment. The final section includes reference material, and directs the reader to supplemental information.

Concepts and Definitions

The following section provides a brief outline of important concepts, practices, and definitions that are related to or might affect escalation. The section begins with a summary of important terminology, followed by an outline of relevant practices.

Aggregation

The process of combining, or adding, different sets of transactions to obtain larger sets of transactions. The larger set is described as having a higher level of aggregation than the sets from which it is composed. In the context of price indexes, it generally refers to the process by which lower-level aggregates are averaged, or otherwise combined, to obtain price indexes for higher-level aggregates.¹ For example, “Refined petroleum energy products (including liquid biofuels)”, North American Product Classification System (NAPCS) 261 from table 18-10-0266-01², is an aggregate of 6 components at the 5-digit NAPCS level, “coke and other coke oven products [26111]”, “motor gasoline (including blending components and ethanol fuel) [26121]”, “diesel and biodiesel fuels [26122]”, “aviation fuel [26131]”, “light fuel oils [26132]”, and “heavy fuel oils [26133]”. Some of these components are themselves aggregated from subcomponents.

1. Producer Price Index Manual: Theory and Practice. International Monetary Fund, Statistics Department (2004).
2. Statistics Canada. (2022). Table [18-10-0266-01](#) Industrial product price index, by product, monthly [Data table].

Price Relative

The ratio of the price of an individual product in one period to the price of that same product in some other period.³

Base Period

The base period is the period with which prices in other periods are compared and whose values provide the weights for a price index. However, there are three different concepts of “base period” that can be distinguished:

1. the **price reference period**, that is, the period whose prices appear in the denominators of the price relatives used to calculate the index
2. the **weight reference period**, that is, the period, usually a year, whose values serve as weights for the index
3. the **index reference period**, that is, the period for which the index is set equal to 100.

The three reference periods may coincide but frequently do not.⁴

For the purposes of this guide, the term “reference period” will be used to refer to a given period for which an index is calculated, reflecting the general usage of that term on Statistics Canada’s website and publications. The term “base period” will be used to refer to the index reference period. The reader may reference the Producer Price Index Manual Glossary, for more detailed information.

Basket

The basket refers to the list of goods and/or services for which a sample of prices is collected to produce the price index. The basket is compiled to be representative of products and items in the industry for which we are trying to measure the price change. Categories of items in the basket are typically weighted and weights are often constructed using revenue/expenditure shares. Baskets are updated over time to keep the sample of items representative. Continuing with the example provided in “Aggregation”, the Industrial Product Price Index (IPPI) basket consists of a variety of goods, including foods, clothing, chemicals, etc. This basket also includes “Energy and petroleum products”, which includes “Refined petroleum energy products (including liquid biofuels)”, NAPCS 261, among other products. We could consider the basket of items representing NAPCS 261 as those listed earlier: “coke and other coke oven products [26111]”, “motor gasoline (including blending components and ethanol fuel) [26121]”, “diesel and biodiesel fuels [26122]”, “aviation fuel [26131]”, “light fuel oils [26132]”, and “heavy fuel oils [26133]”.

As an alternative example, the “Couriers and Messengers Services Price Index [492]”, table 18-10-0072-01⁵, is composed of two industrial groupings: “Couriers [4921]”, and “Local messengers and local delivery [4922]”. The basket for the Couriers and Messengers Services Price Index consists of the above 2 service groups, and their associated weights in the index.

Rebasing

For the purposes of this guide, the term “rebasing” is used to refer to changing the index reference period of an index, or in other words, changing the period in which the price index will be set to 100. A rebase may occur simultaneously with a basket update, which might facilitate moving the reference base year to one that might be more convenient or useful to reference as a base. A rebase can easily be done by dividing the index values of all periods by the value in the period which will become the base period, and multiplying by 100.

3. Producer Price Index Manual: Theory and Practice. International Monetary Fund, Statistics Department (2004).

4. Producer Price Index Manual: Theory and Practice. International Monetary Fund, Statistics Department (2004).

5. Statistics Canada. (2022). Table [18-10-0072-01](#) Couriers and messengers services price index, monthly [Data table].

Implications of revisions and basket updates

Revisions

With the notable exceptions of the Consumer Price Index and the New Housing Price Index, many price indexes produced by Statistics Canada are regularly revised over a certain historical period with each subsequent release of the index. For example, if an index has a 6-month revision period, the latest six months of published data will remain subject to revisions. Revisions occur primarily because Statistics Canada has received updated, revised, or late data submissions from survey respondents. This process is designed to ensure that the published index reflects the most accurate and up-to-date price data that Statistics Canada has access to.

Index revisions or corrections that are made outside of the revision period are rare. Revisions of this nature are generally announced in *The Daily* and noted as corrections or footnotes in Statistics Canada's data tables.

In the context of the price escalation process revisions play an important role. This is because when contract parties decide to use a revisable index series to escalate a contract price, they should consider the potential impact that the revisions might have on this price series, as well as how to best operationalize these revisions. Revised estimates are necessary for economic analysis and policy development because revised estimates provide the most recent and accurate measurement of an economic phenomenon – for example, a revised GDP shows a more accurate view of the growth in the economy. However, index revision poses a significant problem for price escalation: how can the parties in a contract handle the various outcomes that arise from working with revised numbers? Should the price escalation clauses include revised estimates and, if so, how can this be implemented; should revisions be ignored, or should price escalators be calculated only after final revisions have been published? No matter how revisions are treated, it is essential that contractual parties agree and that the contract clearly specifies what will be done.

Basket Updates

Price indexes periodically undergo basket updates to ensure the price index reflects changes in the structure of the economy. Basket updates typically update the aggregation weights and the list of goods or services categories (i.e. the classification structure) measured by the index. They may also be used as an opportunity to update the sample, improve methodologies and rebase the index to a more recent period. The frequency of basket updates varies by index and through time: two to five years is typical, and in recent years Statistics Canada has endeavoured to undertake basket updates on a more frequent basis to maximize the relevance of our indexes to the public.

With the exception of the Consumer Price Index (CPI), basket updates may be applied back several years. When this is done, there will be an overlapping period for which Statistics Canada has produced estimates of price change for both baskets. To avoid re-escalating multiple years of payments, users will want to specify a limited number of historical periods that will be used for escalation or if historical periods should be used for escalation at all.

Example Calculations and Considerations

The following section provides some basic examples of escalation calculations that might be representative of those performed by users of this guide. A summary of relevant concepts will follow each example.

1. The most straightforward method of price adjustment adjusts the base period price by the same percentage as the selected price index. Suppose that a price adjustment clause called for using the Construction Union Wage Rate price index (CUWRI) at the total Canada geography level, released semi-annually with monthly data, in order to price adjust a base price of \$1,000 with a quarterly frequency. This index is published by Statistics Canada as Table 18-10-0139-01, with the following Digital Object Identifier (DOI): <https://doi.org/10.25318/1810013901-eng>⁶. Suppose that the base period for price adjustment is 2019 Q1. The arithmetic average of the monthly index values for the top level for the CUWRI index in this quarter is 105.6. According to this contract, the first price adjustment will take place in 2019 Q2. The average of the monthly price index values for this period is 106.4. The index movement between 2019 Q1 and 2019 Q2 represents a 0.76% increase in the index for construction union wage rates. When applied to the base price, this corresponds to a \$7.60 increase, to a value of \$1,007.60 for 2019 Q2. The calculation is further illustrated below:

Average index at time of calculation, 2019 Q2:	106.4
Divided by average index at time base price was set, 2019 Q1:	105.6
Equals:	1.0076
Base price:	\$1,000
Multiplied by:	1.0076
Equals adjusted price:	\$1,007.60

In the above example, the following should be considered:

- The user is first responsible for identifying the price index that will be used for escalation, as well as the base quantity and value that will be adjusted. It is important to consider the aggregation level, such as the product and geography, that will be used for the calculation.
- A source for the price index selected for the escalation is then clearly cited, in this case including a table number and DOI.
- The base period and frequency of price escalation should then be identified, in this case 2019 Q1, and quarterly. The base period should correspond to the beginning of the period that will be adjusted. The price escalation should take place on a regular interval, such as monthly, quarterly, or annually, and the frequency and time of the adjustment should be clearly specified to avoid ambiguity in which data should be used following revisions.
- The method of price adjustment should be specified, including how the change in the price index will be used to escalate the base price. Since the user has chosen to perform the escalation with a lower frequency than the released data, they have specified in the contract that an arithmetic average of the monthly releases for each quarter should be used. This ensures that an anomalous price movement in one month is not used to represent the entire contract period.

2. The following example will demonstrate a partial price adjustment using a simple percentage change. We will further assume that a basket update has taken place during the intermediate months.

Consider a contract that uses the IPPI Chemicals and chemical products [P31], table 18-10-0030-01⁷ (DOI, <https://doi.org/10.25318/1810003001-eng>) series on a 2010 = 100 basis. The contract stipulates that the base period is April 2019 and that price adjustment should occur monthly. The contract further stipulates that in the event the series is terminated (such as in a basket update), the contract will preferably move to a successor series from the January preceding the termination.

6. Statistics Canada. (2022). Table [18-10-0139-01](#) Construction union wage rates, monthly [Data table].

7. Statistics Canada. (2020). Table [18-10-0030-01](#) Industrial product price index, by product, monthly, inactive [Data table].

Effective with the release of November 2020 data, the IPPI implemented a basket update, replacing this series with another that has a 2016 weight reference period and a 202001=100 base period.

Per the contract terms, the user would like to link the new series to the old series such that movements are derived from the 2010=100 index until December 2019, and from the 202001=100 index from January 2020 onwards.

Table 1
IPPI Chemicals and chemical products [P31], 2010=100 and 202001=100

	Base (Apr-2019)	Nov-19	Dec-19	Jan-20	Feb-20
Index, 2010=100	111.2	108.8	109.9	109.9	..
Index, 202001=100	..	99.5	100.5	100.0	99.7

.. not available for a specific reference period

We will assume that the contract stipulates that link factors should be calculated to 7 decimal places. If we calculate the link factor in Dec-19, we calculate the link factor to be $109.9 / 100.5 = 1.0935323$.

For all periods following the link period, we then calculate the linked series as the index values in the 202001 = 100 series multiplied by the link factor:

Table 2
Link factor calculation for IPPI Chemicals and chemical products [P31]

	Dec-19	Jan-20	Feb-20
Index, 202001=100	100.5	100.0	99.7
X Link factor	1.0935323	1.0935323	1.0935323
= Linked series, 2010=100	109.9	109.4	109.0

With the new series linked to the old basket, the contracting parties can now perform the price adjustment using the newly linked series.

As in the previous example, assume that the base contract price for adjustment is \$1,000. However, in this example we will assume that only 80% of the base price is subject to adjustment. It is not uncommon for contracting parties to hold a portion of the contract price fixed.

The movement between the contract base period index and the linked series in February 2020 represents a 1.98% decrease in the IPPI index for chemicals and chemical products. When applied to the portion of the base price subject to adjustment, this corresponds to a \$15.83 decrease, to a value of \$784.17. When added to the fixed portion of the base price, we have a value of \$984.17 in February 2020. The calculation is further illustrated below:

Base price:	\$1,000
Index at time base price was set, 2010=100 basket, April 2019:	111.2
Index at time of calculation, 202001=100 basket, Feb 2020:	99.7
Link factor:	$109.9 / 100.5 = 1.0935$
Index at time of calculation, Linked 2010=100 series, Feb 2020:	109.0
Equals percent change for Feb 2020:	-1.98
Price adjustment:	$-0.0198 \times \$800 = -\15.83
Equals adjusted price: \$1,000.00 (base price) - \$15.83 (adjustment) = \$984.17 (adjusted price)	

The second example introduces some additional complexities compared to the first:

- As well as the considerations outlined for the first example, here it has been noted that a recent basket update has been performed for the price escalator. There are two series available with differing weight reference periods and base periods:
 - ▶ Table 18-10-0030-01 presents data using a 2010 weight reference period and a 2010=100 base period. Data is available up to reference period October 2020.
 - ▶ Table 18-10-0266-01 presents data using a 2016 weight reference period and a 202001=100 base period. Data is available beyond October 2020.
- It is important that the basket update is considered, since the contract will need to provide flexibility for the base period to be updated in the event of a basket update or rebase to the selected series.
- The contract should also specify how the change in the series should be treated. It should be specified how the contract will succeed to a new table in the event of a basket update or other change in reference. For example, the price adjustment clause might state that link factors should be calculated to link series following a basket update. It may state that in the event of the termination of a referenced table, the contract will automatically transition to using a successor index of identical description, and if such an index does not exist, they will move up the index aggregation to find a successor. The contract may also indicate which reference period should be used to calculate the link factor to transition from one series to its successor. There can be an overlapping period for which the two baskets are available and may yield different movements, with the new series reflecting updated weights, data sources and methods. Specifying a clear procedure in the contract can reduce the potential for ambiguity or conflict.
- Lastly, the user should outline how the price adjustment will be performed mechanically. In this case it has been identified that they would only like to adjust a part of the base price, rather than the entire quantity. This might be desired if the contracting parties want to treat part of the price as fixed, and part as variable.

3. A user may also wish to price-adjust using a combination of price indexes in order to best reflect their contract. Suppose that we are interested in price adjusting a contract for the design and construction of a residential housing development, but not its sale, and that this contract includes work by an architectural and engineering company, as well as a contractor who will complete the construction.

Suppose that this contract calls for a quarterly adjustment using the “architectural and landscape architectural services” sub-aggregate of the Architectural, Engineering and Related Services Price Index (AESPI), table 18-10-0164-01⁸, to adjust 30% of the price outlined in the contract, and the Residential Building Construction Price Index (RBCPI) belonging to the Building Construction Price Indexes (BCPI) group, table 18-10-0135-01 (DOI, <https://doi.org/10.25318/1810013501-eng>)⁹, to adjust the remaining 70% of the price outlined in the contract. Both of these indexes are released with a quarterly frequency and for multiple geographic areas, and we suppose that the contract calls for the use of the total Canada level index. We will also assume that the contract specifies that final release data will be used for both price indexes. Lastly, we assume that the reference base period stipulated in the contract is 2021 Q1, and that the adjustment will take place for 2021 Q2.

The 2021 Q1 index value for the sub-aggregate of AESPI that we are interested in is 106.4, and the 2021 Q2 value is 106.3. The 2021 Q1 index value for the residential component of the BCPI is 123.3, and the 2021 Q2 value is 132.7. Suppose that the base price for adjustment is \$1000. The change in the AESPI component represents a 0.094% decrease in the index, while the change in the BCPI component represents a 7.62% increase in the index. The price adjustment calculation is outlined below:

Part 1: AESPI

Index at time of calculation, 2021 Q2:	106.3
Divided by index at time base price was set, 2021 Q1:	106.4
Equals:	0.99906

8. Statistics Canada. (2022). Table [18-10-0164-01](#) Architectural, engineering and related services price index, quarterly [Data table].
 9. Statistics Canada. (2022). Table [18-10-0135-01](#) Building construction price indexes, by type of building [Data table].

Part 2: BCPI

Index at time of calculation, 2021 Q2:	132.7
Divided by index at time base price was set, 2021 Q1:	123.3
Equals:	1.07624

Take a weighted average of the price changes based on the weights set out in the contract:

$$0.3*(0.99906) + 0.7*(1.07624) = 1.05309$$

Base price:	\$1,000
Multiplied by:	1.05309
Equals adjusted price:	\$1,053.09

Alternatively, this price adjustment can be illustrated as below:

Base price:	\$1,000
Component adjusted by AESPI:	\$300
Multiplied by:	0.99906

Equals adjusted price:	\$299.72
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Component adjusted by BCPI:	\$700
Multiplied by:	1.07624
Equals adjusted price:	\$753.37
Total adjusted price:	\$1,053.09

In addition to the components of the price adjustment process that have been specified in the first two examples, the third example adds some additional considerations:

- It is important that the mechanics of price adjustment are clearly outlined, and that any additional complexities arising from the chosen method are addressed. In this case the user has chosen to escalate using a combination of price indexes. This may be desired if the contract pertains to a basket of goods or a multi-faceted job to be completed, with more than one input.
- The contract should specify which release data should be used for the price adjustment calculation, or that the price adjustment calculation should use the latest available data as of the adjustment date specified in the price adjustment clause. This is important to avoid ambiguity in which data should be used for adjustment, since price indexes are published on different release schedules, and are revised for a number of months after initial release. Either the exact date of adjustment should be specified, or parties should agree on whether first release or final data is to be used for adjustment. This is particularly important if multiple price indexes are used for escalation. The price escalation in this example was performed after final data was released for both indexes, but that will not always be the case.
- If multiple indexes are used, the user must consider the portion of the base price that should be attributed to each component. This could be determined by considering the cost of inputs for a sample period.
- Either the base price should be separated into values for each component and the price escalation calculated on each independently, or a weighted average of the price changes should be applied to the base price.
- When incorporating multiple price indexes into the price escalation calculation, the user should consider the implications of revisions, rebases and basket updates for each series.

4. Suppose that a contract asserts that CORP A will sell widgets to CORP B on an ongoing basis. CORP A charges a transportation fee per widget based on the For-hire motor carrier services price index (FHM CPI), table 18-10-0043-01 (DOI, <https://doi.org/10.25318/1810004301-eng>)¹⁰. FHM CPI is a monthly index, released on a quarterly basis.

The transportation fee is \$1 per widget multiplied by an adjustment, in addition to the cost of the widgets. The adjustment is the index value in the transaction month, compared to the index value in January 2019.

This specific index has a 1 quarter (3 month) revision period, so when a value is published, that value and the previous two months are subject to revision with future releases.

Table 3
Index as published in December 2021. (p)=preliminary, (r)=revised

Reference Month	Index Value
January 2019	111.2
...	...
June 2021	114.6(r)
July 2021	115.8 (p)
August 2021	116.8 (p)
September 2021	116.9 (p)

... not applicable

Note: Only reference months that are relevant to the calculation have been included in the table.

CORP A sells 500 widgets at \$25 per widget to CORP B in January 2022. The fee is calculated using the percentage change in index value from January 2019 (111.2) to September 2021 (116.9), since this is the most recent index published at this time. The calculation is outlined below:

Total widget price equals:	$500 * \$25 = \$12,500$
Base price for adjustment:	\$1/unit
Index at time base price was set, Jan 2019:	111.2
Index at time of calculation, Sept 2021:	116.9
Percent change for Sept 2021:	$100 * (116.9 / 111.2 - 1) = 5.1\%$
Adjusted fee:	$500 * (\$1 * (116.9 / 111.2)) = \525.50
Total widget price + adjustment equals:	$\$525.50 + \$12,500 = \$13,025.50$

This amount is invoiced to CORP B for the January widget sale.

What happens if the index value for September is revised after the price adjustment has been completed and the payment has been made?

Table 4
Index as published in March 2022. (p)=preliminary, (r)=revised

Reference Month	Index Value
January 2019	111.2
...	...
September 2021	116.6 (r)
October 2021	119.2 (p)
November 2021	121.3 (p)
December 2021	122.1 (p)

... not applicable

Note: Only reference months that are relevant to the calculation have been included in the table

10. Statistics Canada. (2022). Table [18-10-0043-01](#) For-hire motor carrier freight services price index, monthly [Data table].

Here we see that September 2021 is revised to 116.6 from 116.9. The fee for the April transaction (\$525.50) can now be recalculated.

Adjusted fee:	$500 * (\$1 * (116.6 / 111.2))$
Adjusted fee:	$\$500 * 1.049 = \524.50
Difference from original fee equals:	\$1

Assuming the price escalation contract allows for this, CORP A can now issue a debit note of \$1 to CORP B.

The fourth example outlines what might be done in the event of a price index revision by Statistics Canada:

- The contract should specify whether preliminary or final (revised) data should be used for the price adjustment calculation, or that the price adjustment calculation should use the latest available data as of the adjustment date specified in the price adjustment clause. This is important to avoid ambiguity in which data should be used for adjustment, since price indexes are published on different release schedules, and are revised for a number of months after initial release. Either the exact date of adjustment should be specified, or parties should agree on whether first release or final data is to be used for adjustment. If parties agree to use the latest or final data, they should also agree whether to incorporate revisions that occur outside the normal revision period.
- Preliminary estimates can also be used initially, to calculate a transaction. If the index value is later revised, the revised value can be used to calculate a debit or credit to adjust the original transaction.
- If the user decides to use a method like that described above, the contract should specify how many periods should be revised and adjusted.

Additional things to consider

Now that the user has been introduced to some examples of price escalation as well as some of the important things to consider with increasingly complex situations, the following section provides a summary of related details and additional considerations that may assist users in developing price escalation clauses that are clear, consistent, and resilient to data revisions by Statistics Canada. It is divided into three overarching ideas: WHAT is the user trying to price escalate and what is the price index they want to use for the escalation, WHEN is the time period over which they want to escalate, and HOW should the escalation be performed.

What is being escalated?

Identify the product or quantity that will be the target of the price adjustment and select the price index or indexes that will be used. Users should select the price index or indexes that they feel best represent the costs outlined in the contract for which they are performing the price adjustment. For example, one should consider whether they are adjusting the cost of inputs, wages or some combination of the two, and whether their contract is best represented by the top point of an index or a more specific product or geography sub-aggregate. For example, a user who is interested in price adjusting a contract for the construction, but not the sale, of residential buildings, may want to consider using the Building Construction Price Indexes (BCPI). However, BCPI includes two separate price indexes, one for residential building construction, and another for non-residential building construction. These indices are further classified by type of building and by census metropolitan area (CMA). Relevance for a specific contract may be based on the subsequent inclusions within each index. Information can be found through the Reference [section](#) of Statistics Canada's website, but follow-up questions can be posed for greater context.

It is important to note that more detailed series will naturally suffer from lower data quality due to smaller sampling sizes at lower levels of aggregation, so users may wish to use the highest level index that they think best represents the contract pricing.

When will the escalation take place?

It is important to consider the publishing frequency of the index used, to avoid ambiguity in which value should be used for price adjustment. For example, if an index is released monthly (mid-month), and the price is to be adjusted quarterly, stating that the price adjustment should occur in March, June, September, and December would leave it ambiguous as to which set of published index values should be used for adjustment. Some programs, such as the CPI, may release a rounded annual average index. In these cases, if a contract calls for using an average of an index over a particular period, it may specify whether a rounded or unrounded average should be used.

Relying upon an historical index reference base period is inadvisable, since published data will not be available moving forward. Statistics Canada recommends performing calculations using indexes expressed on the index reference base period in use when the price adjustment is applied. Users of indexes which do not revise (e.g. CPI, NHPI) may prefer to reference the new table and use a corresponding series of identical description for all periods back to the contract base period. Price index values should not be referenced directly, since that would make it impossible to update the base period. For example, do not explicitly state that “the price should be multiplied by the index value for the current period divided by 103” (where 103 is the base period value at the time the contract escalation clause was written). If a rebase or a revision is done, the base period index value may change.

How should the escalation be performed?

It is possible that a successor index will have different movement from the predecessor, including outside of the revision period. A contract may specify a rule for which reference period will be used to calculate link factors, or to transition to the successor index. Statistics Canada does not currently seasonally adjust its Producer Price Indexes; however, seasonal adjustment may be relevant if CPI data is used. The user is responsible for determining whether an adjusted or unadjusted series is more suitable for their needs.

Clarify what should be done in the event of missing or discontinued data. Although Statistics Canada attempts to maintain continuity in price index series, on occasion a series may be unavailable for a particular period or discontinued altogether. This discontinuation may occur during industry resampling or changes to the classification structure of the index, if a product declines in importance, or the data quality does not meet Statistics Canada’s minimum data quality standards for publication. Users should consider what they would like to do if the price series they have selected were to become unavailable, and how to make the price escalation clause of their contract immune to such an issue. A user might consider specifying a replacement price series or defining a rule for when the contract will be renegotiated. If a price index is discontinued and replaced with a new index, there may be historical reference periods for which both price indexes are available. A contract should state whether or not previous reference periods should be recalculated retroactively, and whether debits or credits should be issued by the contracting parties. If recalculation will occur, the contract should state how many periods will be recalculated.

Identify and define the method of price adjustment that should be used in the contract:

- a. The most basic method involves adjusting the price by the percentage change illustrated by dividing the current index value by the value representing the base selling price outlined in the contract. This was outlined in example 1.
- b. Another method is to adjust only a portion of the price. This might be done if the contract parties have decided that a portion of the price should remain unchanged. This practice can be seen in example 2.
- c. A composite index can also be constructed if the parties wish to more accurately reflect a specific basket. This is similar to the procedure outlined in example 3. (This is not always recommended, since it introduces additional complexity that must be managed through time.)
- d. A contract may specify a particular rule for how to treat revised price index values, such as agreeing to not revise transactions, or to issue a debit or credit between contracting parties.
- e. Some limits on the adjustment may also be defined, such as a price ceiling, floor or both.
- f. Contracts may define a threshold value of price change, similar to the ceiling outlined in (d), above which an alternative measure is used.

Other Resources

For more information about the Consumer Price Index (CPI), including updates and releases, please see the [CPI Portal](#).

For more information regarding the conceptual, structural and methodological basis of the CPI, including more information about basket updates, weight and classification changes, please see the following [Canadian Consumer Price Index Reference Paper](#).

For more information about the Producer Price Indices, including updates and releases, please see the [Producer Price Index \(PPI\) Portal](#).

For a more detailed guide to the use of link factors, a link factor guide may be provided upon request.