

## FAQs on Indexing Expenditures

### What is "indexing"?

"Indexing" is the application of a formula that increases (usually) an expenditure or allowance to account for rising prices.

$$E_t = E_{t-1} * I_t / I_{t-1},$$

where E is the expenditure, and I is the indexing factor

### Why should indexing be done?

Indexing is usually applied where there is uncertainty about future price changes and one or both parties want to make some provision for the possibility of rising prices in the future. Regular expenditures or payments over an extended period of time are a likely circumstance for indexing to be considered. Otherwise, a fixed price or a pre-defined set of prices over time may advantage one party or the other, depending on the evolution of prices in the future.

Indexing is a substitute for frequent re-negotiation of prices or revision of price schedules. Negotiation of the indexing formula is usually done at the beginning of the "contract" and applied over its term.

Indexing is likely to be of interest when:

- There are periodic payments that are supposed to produce the same real benefit in each period.
- Future inflation rates are uncertain.
- Revision of payments without a formula can be cumbersome or delayed due to administrative processes.

Indexing is less useful when:

- Contracts are re-negotiated frequently.
- Payments vary because of changing circumstances other than inflation.
- There is no necessary reason for maintaining "real" payments over time.

**What indicator should be used as the index?**

The "consumer price index" as published by Statistics Canada on a monthly basis is a desirable indexing factor to use for most contracts or periodic payments. It has a number of advantages, including:

- Longevity of institution and index
- Third party rule
- Widely used for indexing of social payments, tax system, COLA clauses in labour contracts, etc.
- Broadly-based basket of goods and services
- Updated basket periodically, with provision of historical series
- Seasonal adjustment
- No revision to past monthly values
- Includes federal and provincial indirect tax effects
- Timely publication, with last month's price index published around the 20<sup>th</sup> of the month

**How should new "official" price indexes be handled?**

If the formula used applies the ratio of the same index at two points in time, then there should be no difficulty when the CPI is revised to include a new base year or to update the basket. Such changes are always made with historical extensions of the data, allowing the calculation of indexing factors. The key point is to make sure that any statement about the indexing factor provides for these periodic revisions to the data.

A good guide would be to use language similar to that contained in the OAS/GIS or CPP legislation. (See Appendix.)

**Should one use a national or provincial indicator?**

In addition to the national CPI, provincial CPIs are published at the same time. If the payments are being made to people or businesses operating in a given province, then the provincial CPIs can be used. Their advantage is that they reflect inflation in the province, and are not influenced by price changes in other provinces.

For example, if a provincial tax rate is increased in one province, then the national index will change somewhat, the province with the revised tax rate will show a

sharper increase, and other provinces will show no change as a result of the tax increase. If the national rate is used, everyone will be compensated for the tax increase, but those in the province applying the rate increase will be under-compensated, while those in other provinces will be compensated without facing any tax increase.

Over the last eight years, the national CPI has increased by 16.0%, with some provinces rising only 13.2% (British Columbia) while others rose by 22.3% (Alberta). Payments indexed to the national CPI would have resulted in less real income for Alberta, Saskatchewan, Newfoundland, PEI and Nova Scotia, while providing a level of payment greater than the real price change in the other provinces.

Consumer Price Index 2002=100		
Province	April 2010	Provincial - National
Newfoundland and Labrador	117.0	+1.0
PEI	119.1	+3.1
Nova Scotia	117.9	+1.9
New Brunswick	115.8	-0.2
Quebec	114.8	-1.2
Ontario	115.7	-0.3
Manitoba	114.8	-1.2
Saskatchewan	118.5	+2.5
Alberta	122.3	+6.3
British Columbia	113.2	-2.8
Canada	116.0	-

Not too much should be made of these provincial differences. A total variation of 4 percentage points over 8 years is about 0.5 percentage points per year. Over a longer period some of these differences may converge.

Also if one considers various groups within a province (e.g., older people, large families, rural versus urban) variations are also both possible and likely of at least the magnitude between national and provincial. Indexing is "rough justice" under most realistic circumstances.

### **Should "full indexing" or something less be applied?**

When payments are made to people as part of income support, full indexing is usually applied. There is some justification for reducing the CPI by 0.5% per year, to reflect a positive bias in its calculation. This arises from the use of a fixed basket without substitution, the slow introduction of new goods, the restricted nature of quality adjustment, etc. But improvements are being introduced into the CPI that reduce these biases.

In the case of businesses that may have more control over their expenditures, technology, and productivity, indexing can be used – but with an incentive for productivity improvements included. For example, a payment to the business might be indexed to CPI less 2%, allowing the business to benefit from indexing only if productivity improvements are at least 2%.

### **Should total expenditures or something else be the base?**

If the payment to be indexed is an income transfer, then the full amount is likely to be indexed.

If the payment is a mixture of fixed costs and variable costs, then indexing might be applied only to the variable cost component. Assume the total cost of providing space in a residential care facility is made up of a capital cost of 30% and operating costs of 70% in the base year. Then the indexing formula might apply to only 70% of the amount, with the balance added in after indexing.

### **How often should the indexing factor be calculated and applied?**

Since the CPI is calculated monthly it is possible to index each month. But this can be an administrative problem, requiring frequent revisions to computer programs, brochures, etc.

The Canada Pension Plan and OAS/GIS are adjusted quarterly. The tax system is adjusted annually. So long as expected inflation rates remain low, it would seem adequate to adjust annually.

**What should be done if prices drop in a given month or for a year?**

The usual practice is to keep the level unchanged until such time as the price level restores itself to its previous high. In theory, this over-compensates a person receiving a payment during the deflationary period.

If we are considering the application of indexing to fees charged, it probably makes political sense to lower the fees when inflation is negative.

**What group should be indexed?**

One application under consideration is the indexing of fees for residential care facilities. If income received by residents is also indexed, then there should be little difficulty resulting from indexing the charges. While most public pensions are indexed, the same is not necessarily true for private pensions.

One option is to index the "entry rate" to the CPI, but to then "freeze" the payment after entry. With this rule, anyone on a fixed pension would be unaffected as regards the subsequent indexing of the fees.

Another option is to index both the fees and the system parameters that affect the qualification for subsidies.

**What all should be indexed?**

In the application to home care and to facilities care, it is desirable to index the payments as well as the lower and upper bound of the income testing rules. If someone has fixed income below the upper bound, then they should pay a lower portion of a higher fee, resulting in little change in their nominal fee. A person within the range with an income increase in line with inflation should pay a slightly higher fee, but one which only maintains the real value of the fee.

## Appendix: Examples of Indexing Language in Legislation

### CPP Legislation

#### *Pension Index*

**75.** (1) For the purposes of subsection 43(2) of the Act, the Pension Index for each year shall be calculated as the quotient obtained by dividing the aggregate of the Consumer Price Index for each month in the 12-month period ending October 31 in the preceding year by 12, adjusted to one digit after the decimal point in accordance with subsection (2).

(2) Where the quotient obtained pursuant to subsection (1) contains a fraction that is less than one, that fraction shall be expressed as a decimal fraction of two digits after the decimal point and

(a) the second digit after the decimal point shall be dropped if that digit is less than five; or

(b) the first digit after the decimal point shall be increased by one and the second digit dropped if the second digit is five or greater than five.

SOR/90-829, s. 31; SOR/96-522, s. 17.

### OAS Legislation

#### *Determination of Average Consumer Price Index for Period of Months*

**9.** (1) The average of the Consumer Price Index for Canada for a period of months shall be determined by dividing the aggregate of the Consumer Price Index for Canada, as published by Statistics Canada under the authority of the *Statistics Act*, for each month in that period by the number of months in that period.

(2) Where the quotient obtained pursuant to subsection (1) contains a fraction that is less than 1, such fraction shall be expressed as a decimal fraction of two digits after the decimal point and

(a) the second digit after the decimal point shall be dropped if that digit is less than 5; or

(b) the first digit after the decimal point shall be increased by one and the second digit shall be dropped if the second digit is 5 or greater than 5.