CUPE
On the front line

Consumer Price Index

Statistics Canada

Research Branch

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Explaining the CPI

The Consumer Price Index, or CPI, is calculated by Statistics Canada each month. StatsCan records the prices of items in a basket of goods and services commonly purchased by Canadians. The CPI records the change in these prices over time.

The CPI is used as a measure of how the purchasing power of money changes in Canada. In other words, it measures the changes in prices, as they affect Canadian consumers buying consumer goods and services. There are other indexes that measure prices as they affect manufacturers and farmers, for example.

The CPI is a very common measure of inflation (or deflation). Although the kinds of items in the basket are revised from time to time, the basket is generally unchanging. As a result, we can see how prices have changed by comparing the CPI across time.[1]

There are three common ways to measure the CPI:

Month-to-Month Price Change

The first is the **Month-to-Month Price Change**. This calculation tells us what happened to prices between a given month and the preceding month. For example:

- From January 2003 to February 2003, the CPI increased by 0.7 %.

Twelve Month Percentage Change

The second is the **Twelve Month Percentage Change**. This compares the prices in the basket on one month, as compared with the same month in the previous year. It will tell us, for example, the difference in prices in February of this year as compared to February of last year.

- From February 2002 to February 2003, the CPI increased by 4.6%

With this method, we can see the change in prices at two points in time, but it doesn't tell us what happened in between these two points. These numbers don't give us a picture of what happened at other times during the past year, or over the year as a whole. For example:

- From May 2001 to May 2002, the CPI increased 1.0%
- From November 2001 to November 2002, the CPI increased 4.3%
- From December 2001 to December 2002, the CPI increased 3.9%
- From January 2002 to January 2003, the CPI increased 4.5%.

These recent figures are much higher than in May of 2002.

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[1] Statistics Canada, *Your Guide to the Consumer Price Index*, Ottawa, December 1996

Sometimes the increase in the CPI tells us more about what happened last year, than what is happening now to inflation. The increase between the two months can appear large if the month serving as the base of comparison changed dramatically, as happened after September 11, 2001. Prices rose very slowly in the last quarter of 2001. As expected, this particular 'base effect' faded away by March of 2003.

Sometimes what happens in one province has an effect on the national average. Notice the dip in the CPI in December 2002, compared with the months immediately before and after.   This occurred because the Ontario government gave electricity consumers a $75.00 rebate. In January, the CPI rebounded, because consumers went back to paying full-cost for electricity.[2]

Annual Average

The third way to measure the CPI is to look at the **Annual Average**. This gives us a better idea of how prices changed over the year. For example:

- The Annual Average Consumer Price Index for Canada in 2002 was 2.2% higher than in 2001.

This figure is arrived at by taking 1992 as the base year. All price changes since then are compared to this starting point. They are not figured out in percentages, but as an index (indices). 1992 = 100. So, each year the annual average prices are compared to 100.

- In 2001, the average annual index was 116.4
- In 2002, the average annual index was 119.0.

To figure out what this means in percentage terms we have to do the following calculation:

$$\left(\frac{\text{most-recent index} - \text{older index}}{\text{older index}} \right) \times 100 \quad = \text{percentage change}$$

$$\left(\frac{119.0 - 116.4}{116.4} \right) \times 100 \quad = 2.2\%$$

Statistics Canada produces many different tables that look at different elements of consumer prices but the information most useful for CUPE members is based on the "All-items" index (not seasonally adjusted), with a base year of 1992.

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[2] Statistics Canada, "Consumer Price Index, January 2003" *The Daily*, February 27, 2003

Using CPI for COLA clauses

Some collective agreements have cost-of-living adjustment clauses, also known as "COLA clauses" or "escalation clauses".   These clauses allow for wage increases in relation to the increase in the CPI.

This is CUPE's Standard Agreement COLA clause:

25:20 Cost of Living Adjustments

    In order to protect the living standards of the members of the bargaining unit, the Employer agrees to increase the wage schedule in the Agreement monthly by 1 percent, for each 1 per cent or fraction of 1 per cent, increase in the all items Consumer Price Index for Canada for the commencement date of the Agreement. (1)

    Footnote (1): To establish a formula relating CPI points to cents per hour, divide the current point value of the Index by the current average hourly wage in the bargaining unit. For example, assuming the CPI is 125.0 and the average wage is $10.00 per hour – 125.0 divided by $10.00 gives the formula 1 cent for each 0.125 point change, or put another way, each full point will result in an increase of 8 cents per hour.

If the collective agreement indicates that the COLA increase is to become effective at the beginning of May, for example, then care must be taken in calculating the increase.

Statistics Canada will publish April data around the 20th of May. So, any increase effective at the beginning of May, will rely on March data. In other words, be prepared for a two-month lag.

If the collective agreement sets out an increase based on CPI for March 2003, then we have to average out the indexes of the past twelve months. This means that April 2002 to March 2003 indexes must be added up and divided by 12.

But, we need a base of comparison from the previous year. So then what we do is figure out the average index for the twelve months beginning April 2001-March 2002. Again, we add up the indexes and divide by twelve.

Then we apply the formula:

(<u>Most-recent index – Old index</u>) x 100 = x %
           Old index

Et voilà! The CPI rate which can be used to calculate the increase in wages.