4.4 Understanding Indices

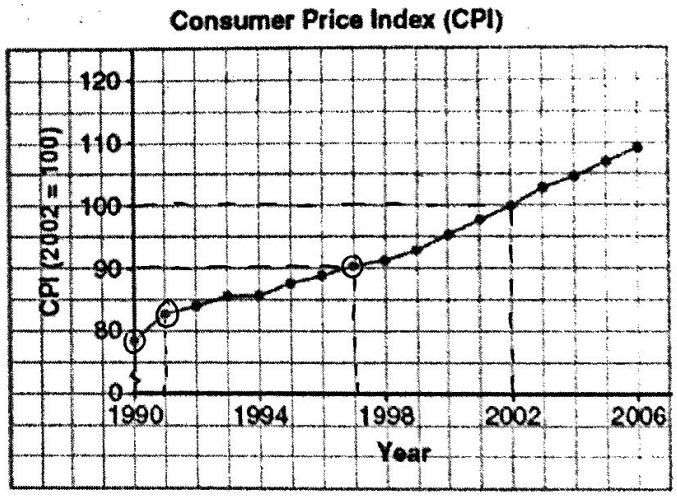
Price Indices help citizens, businesses and industries follow and Predict trends in prices.

A **price index** describes the price of an item compared to a base value (100%) measured at a particular time or in a particular place.

Statistics Canada tracks price changes using several different indices. The most important is the **CPI,** known as the Consumer Price Index.

To determine the CPI, Statistics Canada collects thousands of price quotations from across the country for a basket of about 600 popular consumer goods and services, from French fries and bus fares to tuition and Internet services.

Example 1: Use the CPI graph on the right to answer the following questions.



a) What is the base year for the CPI?

2002
(where CPI = 100)

b) In what year was the cost of the basket of goods about 90% of the base cost?

1997
(where CPI = 90)

c) What was the CPI in 1990? What does this mean?

~ 78%.
This means that prices in 1990 were 78% of the prices in 2002.

d) Describe the change in the CPI from 1990 to 1991. What do you notice about the line segment representing this period?

1990 ~ 78%
1991 ~ 83%
} 5% increase

This is the steepest segment. It is the greatest increase from 1990 - 2006

e) Describe the overall trend in the CPI and its significance.

The CPI increases year to year. This means Canadians are spending more money on the same goods and products.

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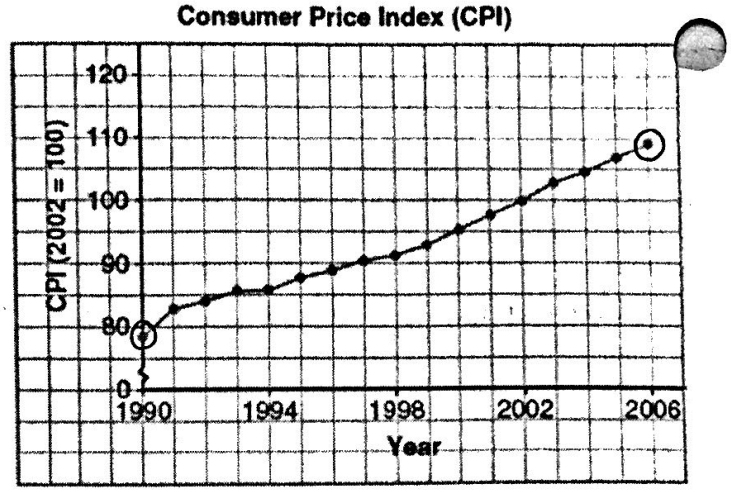
Example 2: Use the same graph as example 1.



a) Calculate the average annual rate of inflation from 1990 to 2006.

How much the cost of goods has increased by (as a %.)

1990 ~ 78%.
2006 ~ 109%.

$$\text{Average} = \frac{109-78}{16} = \frac{31}{16}$$

$$= 0.019$$

$$= 1.9\%$$

b) Use your answer from part a) to predict the CPI for 2010. Justify your prediction.

on average there is a 1.9% increase/year.

2006 → 2010 ⇒ 4 years

1.9% × 4 years = 7.6%

2006 ~ 109%.

2010 ~ 109% + 7.6%.

= 116.6%.

Example 3: The 2006 UBS Prices and Earning report includes a comparison of clothing prices in 71 cities. The base price is the price in New York.

City	Clothing Price Index (New York = 100)
Zurich	115.6
Oslo	114.4
Dublin	97.5
New York	100.0
Toronto	73.8
Tokyo	148.1
Rome	87.5
Hong Kong	75.0
Delhi	43.8

a) Which cities in this table have index values less than 100? What does this tell you?

Dublin, Toronto, Rome, Hong Kong, Delhi

This means clothing in these cities costs less than clothing in New York.

b) How do clothing prices in Zurich and Toronto compare to clothing prices in New York?

Zurich (115.6%) ⇒ clothing costs 15.6% more than NY on average.

Toronto (73.8%) ⇒ clothing costs 26.2% less than NY on average.

Homework: p.237 #1-5, 9, 10, 12