TD Bank Financial Group

TD Economics

Special Report

July 12, 2006

SAY IT AIN'T SO: CANADIANS DON'T BELIEVE INFLATION NUMBERS

Ask a Canadian about inflation and they'll tell you that the cost of living is rising rapidly. They'll cite higher gasoline prices, insurance premiums, and home prices as proof. But the official statistics say otherwise. Inflation as measured by the consumer price index (CPI) has remained low – rising by a modest 2.2 per cent in 2005 and averaging 2.3 per cent over the last five years. So why do the facts not match what people think? Is there something wrong with the measure or with public perception? An economist will insist on the latter, while a consumer will tell you the former.

The CPI represents the inflation experience of Canadians

The CPI measures the percentage change of prices in a fixed basket of goods and services. It is designed to reflect the inflation rate of the average consumer. The basket includes more than 600 items. Within the basket, goods and services are weighted according to how much the average household spends on those purchases – as determined by Statistics Canada's Survey of Household Spending. So, components such as rent or food will get a larger weighting than toiletries or alcohol and tobacco.

However, it's pretty safe to say that there is no such thing as an "average" consumer. In general, a family with children spends more on clothing than a couple without children. A non-smoker spends nothing on tobacco products, whereas most smokers spend far more than indicated by the CPI weight. Since everyone's basket is a little different, people find it hard to believe that a broad-based measure like the CPI can truly represent their own inflation experience.

So is the CPI an accurate reflection of the rise in prices the Canadian consumer sees? Or do some important segments of the population see prices rising faster or slower than the index reports? To answer that question, we created representative baskets for a number of major groups in the population – low-income, middle-income, high-income, seniors, and single-mother households[1]. We then assessed whether their inflation rates differed from the CPI.

FASTEST TO SLOWEST PRICE INCREASES BY CPI COMPONENT

	1995-2000	2000-2005
Annual Average All-items CPI	**1.75**	**2.25**
Alcohol & Tobacco Products	2.33	7.16
Education	6.56	4.23
Tuition	8.30	4.80
Textbooks	2.39	2.88
Transportation	3.29	3.25
Private Transportation	3.08	3.25
Public Transportation	5.63	3.23
Shelter	1.12	2.90
Utilities	2.84	5.87
Owned Accomodation	0.59	2.68
Rented Accommodation	1.19	1.34
Food	1.63	2.42
Health & Personal Care	1.30	1.55
Household Operations & Furnishishing	1.41	1.01
Recreation	1.62	0.11
Clothing And Footwear	0.48	-0.40

Source: Statistics Canada

Statistics Canada data show that there are some patterns in the way households allocate their spending. Low-income households tend to spend proportionally more on food, shelter and health care. Conversely, high-income households tend to spend more on clothing, transportation, and recreation. Given that food and shelter products are two of the largest components in the CPI and have seen a relatively fast rise in prices over the last five years, one might assume that low-income households would have seen inflation rising substantially faster than high-income households. However, as shown in the accompanying table (see figure below), we found that not to be the case. When the prices of some products rise, people generally substitute less expensive products to meet their budget constraints. As an example, with home prices rising rapidly, some groups have made the choice to rent, as rental prices haven't risen to the same degree. This substitution happens across all the CPI components and in each income group. As a result, inflation rates of the different groups tend to track each other and the CPI.

This demonstrates that the CPI accurately reflects the inflation experienced by the average Canadian consumer, even across different income and household types. Studies done by Statistics Canada reached the same conclusion. But none of us is average – even within these subgroups there will be variations in how consumers spend. So are there people who experience a significantly higher rate of inflation than reported by the CPI?

If there are, than we should see the largest effect at the extremes. This is where spending patterns significantly diverge from those of the average consumer. We looked at the experiences of two hypothetical consumers. Hugh is a sizeable meat-eater, homeowner, car-owner, pack-a-day smoker, and part-time student. Linda is a vegetarian, renter, public-transit user, non-drinker and non-smoker. Even though the goods that are heavily consumed by Hugh have seen the fastest rise in prices over the last five years, his average annual inflation rate was only 3.1 per cent – 0.8 percentage points higher than the CPI. Meanwhile, Linda whose consumption basket has seen the lowest increase in prices, has an inflation rate of just 1.4 per cent – 0.9 percentage points lower than the CPI. Clearly then, even in the "extreme" case scenarios, the CPI is still a reasonably accurate measure of inflation and the claims of rampant inflation are more likely perception than fact.

So why do Canadians believe that prices they face are rising much faster than reported by the CPI? It is possible that this belief stems from some common misconceptions about prices and inflation.

INFLATION BY HOUSEHOLD INCOME/COMPOSITION

	All-Items CPI	Low-income	Medium-income	High-income	Couple Over 65	Single Parent (Mother)
Average Annual Rate Of Inflation*	2.3	2.4	2.4	2.3	2.4	2.4
Average Price Increases (Weights)**						
Food	2.4 *(16.8)*	2.3 *(18.5)*	2.4 *(16.2)*	2.4 *(13.2)*	2.4 *(18.2)*	2.4 *(16.5)*
Shelter	2.9 *(26.3)*	2.4 *(34.0)*	2.9 *(27.9)*	3.0 *(24.9)*	3.3 *(25.6)*	2.7 *(28.1)*
Clothing & Footwear	-0.4 *(6.0)*	-0.1 *(3.9)*	-0.4 *(5.1)*	-0.1 *(6.3)*	0.0 *(4.3)*	-0.1 *(5.9)*
Household Operations	1.0 *(11.1)*	1.1 *(9.9)*	1.0 *(10.2)*	0.9 *(11.0)*	0.9 *(9.9)*	1.1 *(10.7)*
Transportation	3.2 *(19.0)*	3.2 *(12.4)*	3.2 *(18.4)*	3.2 *(20.6)*	3.2 *(19.8)*	3.2 *(16.7)*
Health & Personal Care	1.5 *(4.6)*	1.8 *(6.5)*	1.8 *(5.9)*	1.7 *(5.1)*	1.9 *(8.6)*	1.7 *(5.4)*
Recreation	0.1 *(9.5)*	0.1 *(5.9)*	0.1 *(7.9)*	0.1 *(10.2)*	0.1 *(7.9)*	0.1 *(7.0)*
Education & Reading	3.9 *(3.0)*	4.1 *(3.4)*	3.8 *(2.3)*	3.9 *(3.7)*	3.2 *(1.0)*	3.9 *(3.8)*
Alcohol & Tobacco	7.2 *(3.3)*	8.8 *(3.8)*	7.5 *(3.9)*	6.0 *(2.7)*	5.7 *(2.3)*	8.0 *(2.7)*

*Over the period of 2000-2005; **weights may not sum to zero due to rounding and classification of misc. category;

Source: Statistics Canada, TD Economics

INFLATION RATES OF SELECTED CONSUMERS		
	HUGH	LINDA
Average Annual Rate of Inflation*	3.1	1.4
Avg. Price Increases (Weights)		
Food	2.8 (16.0)	1.6 (18.0)
Shelter	3.2 (24.0)	2.1 (30.0)
Clothing & Footwear	-0.3 (4.9)	-0.4 (8.0)
Household Operations	1.0 (11.1)	1.0 (11.1)
Transportation	3.2 (19.4)	3.2 (8.3)
Health & Personal Care	1.5 (4.6)	1.5 (4.6)
Recreation	0.1 (1.5)	0.1 (19.0)
Education & Reading	4.2 (13.5)	2.9 (1.0)
Alcohol & Tobacco	10.7 (5.0)	0.0 (.0)

*Over the period of 2000-2005; Source: Statistics Canada, TD Economics

Misconception #1: if gas prices are up, everything else must be up too

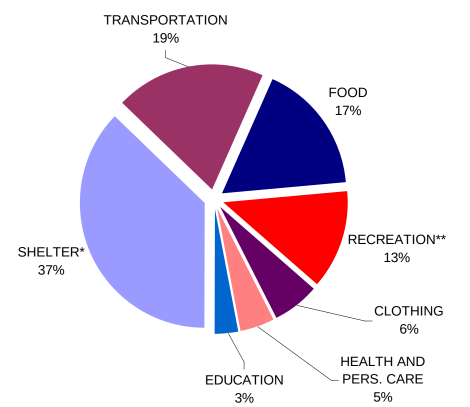
We tend to notice the prices that are rising the fastest. As a result, it is easy to assume price increases in one or two items are representative of the overall inflation index – if gasoline prices are soaring, than the CPI must also be soaring. This would be true if gasoline was all you consumed, but gas only makes up about 5 per cent of total spending. We forget about other items in the spending basket which aren't so visible or that we don't buy on a frequent basis. An example would be shelter costs which make up the single biggest item in most budgets. Flat or declining prices in these components could offset price increases in other areas and even cause the overall CPI to fall. In fact, prices of five of the nine major categories within the CPI basket – clothing and footwear, recreation, food, household operations, and health and personal care, have all risen at or below 2 per cent in the last couple of years. Clothing, footwear and recreation prices have actually fallen. On balance, these items offset large pickups in alcohol and tobacco products, education, transportation and shelter.

Misconception #2: Inflation means high prices

A common erroneous view is that inflation measures how high or low prices are. This is the "I remember when" or "sticker-shock" effect. It occurs when a consumer looks at the price of a good and remembers how much cheaper it was many years ago. The cumulative price increase over many years can often be large – e.g. the food index has gone up 25 per cent over the last 10 years. However, the CPI shows how prices have changed on a year-over-year or month-to-month basis. Looked at from that perspective, food prices have only increased at a modest 2 per cent per year since 1995. So when Statistics Canada reports that inflation has notched up or down a few tenths of a percentage point (the monthly numbers are generally very small increments) people have a hard time relating that to their own experience, which is based on the cumulative change.

There is more to consider than just price. While the CPI is a good gauge of how prices have changed from year to year, it does not always reflect other factors that are important to consumers. Most importantly, when we look at price increases we tend to not take into account that often the quality of the goods has also improved. Twenty years ago when you bought a car, the sticker price didn't include air-conditioning, driver and passenger airbags, a radio and many other features that have since become standard equipment. Technology has also changed much of what's under the hood. Statistics Canada tries to ensure an apples to apples comparison of prices across time by pricing an item's component parts, then adding up the relevant parts to make the comparison as equal as pos-

CPI BASKET WEIGHTS



* Includes: Household Operations & Furnishings; **: Includes: Alcohol & Tobacco Products
Source: Statistics Canada

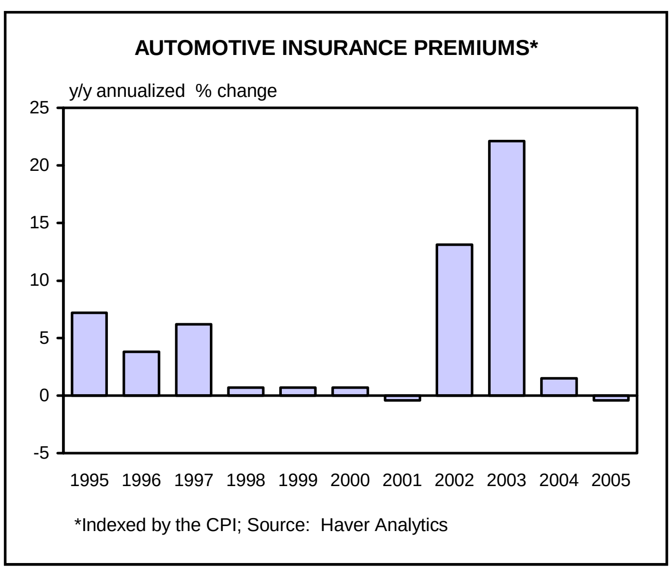
sible. However, this is an imperfect science, particularly for electronic goods, where rapid technology changes can mean that items sold at the start of the year may not even be produced by year-end. In these instances, the CPI will certainly not give an accurate representation of what consumers are really paying for. Camcorders and video recorders are a good example. Not only have they become cheaper over the years, their quality has increased dramatically. A 1990's-quality camcorder would be much cheaper today than when it was introduced.

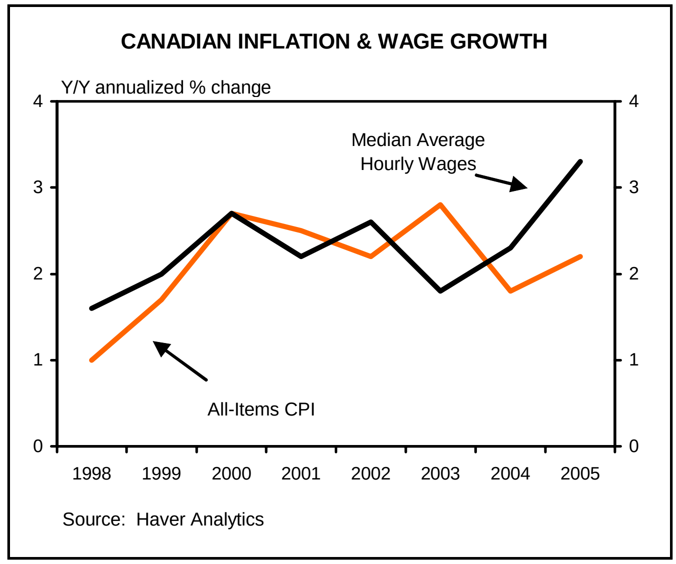
Misconception #3: If something went up significantly a few years ago it has kept going up

Memories are long and we remember bad news better than good news. Price shocks are memorable events. They leave people with the impression that prices are rising rapidly even when they may have stabilized or fallen. From 2001 to 2003, Canadians felt the impact of double-digit hikes in their automotive insurance premiums, as insurers tried to cope with losses associated with the September 11th terrorist attacks, escalating repair costs and rampant insurance claims. Many consumers still cite rising insurance premiums as a source of high inflation despite the fact that there have been negligible increases since 2003.

Misconception #4: Inflation must mean consumers are worse off

Often people directly relate inflation with what it costs them to live. They think that if the price of meat is on the rise, then they will either have to buy less meat or cut back somewhere else so they can consume the same amount.

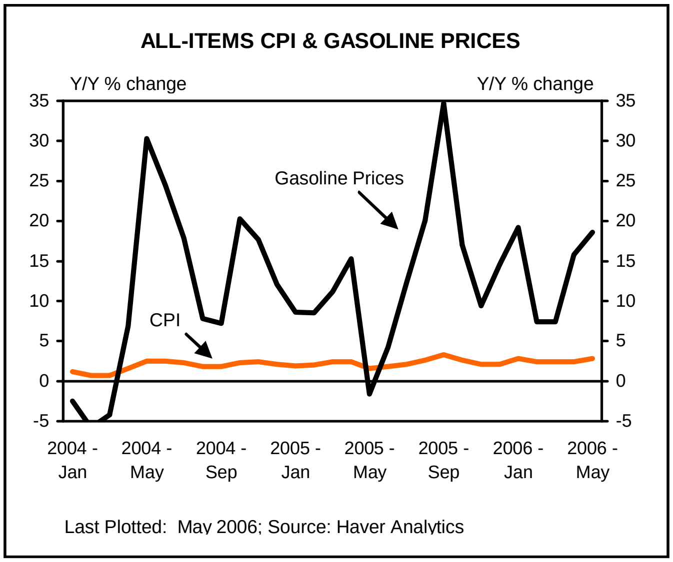


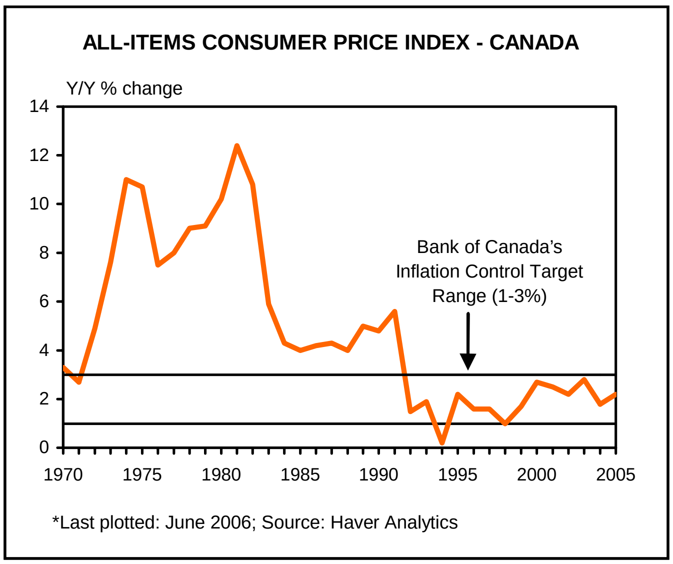


This might be true if incomes did not change. What really matters is real wage growth – the difference between wage gains and inflation. If wages rise faster than prices then real wages are higher. This has been true from 2004 to 2005. Median hourly wage growth in 2004 and 2005 averaged 2.3 and 3.3 per cent a year, outpacing inflation growth of 1.8 and 2.2 per cent, respectively. It means, in general, that consumers are relatively better off and can actually purchase more goods than before. Let's say you earn an annual income of $40,000 and you spend $40,000 on goods and services in the same period. If in the next year, your income rises 3 per cent while inflation only rises by 2 per cent you will earn an extra $1200 but spend only $800 more. As a result you actually have an extra $400, which you can save or spend. In this case, you're better off even though inflation is positive.

Separating reality from myth in the latest data

So do perception and reality coincide in current inflation data? Despite soaring gas prices that may have contributed to concerns of high inflation, inflation remains subdued. CPI advanced by just 2.8 per cent on a year-over-year basis in May. Does this mean the CPI is seriously understating the impact gasoline prices have on consumer spending power? Not at all. While gasoline is arguably the most visible consumer good, in practice, it only makes up a small percentage of people's overall budget. Gains in gasoline prices have been balanced by fairly small price increases in other important goods. Food increased by just 1.7 per cent, health and personal care by 1.6 per





cent, household operations (e.g. telephone services, child care costs, cleaning supplies) and furnishings by 0.8 per cent, and recreation, education and reading by 0.6 per cent.

The bottom line

So what does this all add up to? Despite being a broad-based measure, we can feel confident that the CPI does reflect the inflation experience of Canadian consumers. The perception that inflation is rising faster than reported by the CPI is just that – a perception, not a fact. In truth inflation has been low over the past ten years with little volatility. This is largely a result of the Bank of Canada's policy of targeting inflation that it introduced in 1991. Inflation commonly advanced at high single-digit and low-double digit rates in the 1970's and 1980's. It is possibly the memory of these significant increases that contributes to the perception that the cost of living is rising more rapidly today that it in fact is. Since the early 1990's the Bank of Canada has kept overall inflation largely within the 1-3 per cent target band and this will likely remain the case going forward. As a result, even in extreme cases (recall Hugh and Linda), individual Canadians will continue to face relatively low inflation in the 0-4 per cent range. For most, their cost of living will be rising less than they perceive it to be.

Steve Chan, Economist
416-982-6420

Endnotes

[1] By aggregating what average households (by income/composition type) spend on various items - as estimated by the 2004 Survey of Household Spending (SHS) - weights were created for the major areas of spending activity. These components mirror those in the CPI basket. However, the weights do not add up to 100, because there is a miscellaneous expenditures category in the SHS that we excluded.