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Is CPI an appropriate metric to determine post-retirement indexing?

By Minaz Lalani, BSc, FCIA, FSA, CERA

Many plan sponsors of defined benefit (DB) plans either have plan provisions for automatic post-retirement increases (indexing), or ad-hoc indexing at the discretion of the plan sponsor, or driven by indexing policy (Refer to Chart A). Typically, the indexing formulas to determine these post-retirement increases are linked to the Consumer Price Index (CPI).

CPI Revisited

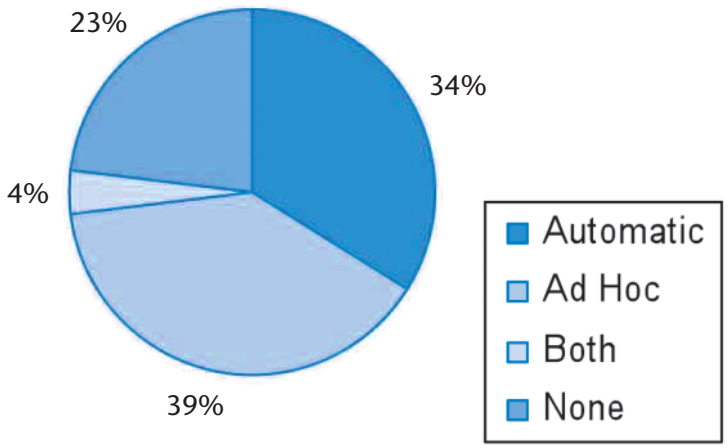
The CPI is an indicator of the changes in consumer prices experienced by a target population. The CPI measures price change by comparing, through time, the cost of a fixed basket of commodities. The basket is updated periodically to take into account the changes in the consumer expenditure pattern and is based on expenditure of the target population in a certain reference period. The CPI is not a cost-of-living (COL) index; the COL index measures changes in expenditures to maintain a constant standard of living. The regularly published CPI is based on the fixed basket concept rather than the COL concept.

Consumption Patterns

Since post-retirement increases are typically paid to retirees (seniors), the question is whether the fixed basket of commodities applicable for the overall population is equally applicable for retirees who may have a different consumption pattern. Table 1 summarizes the fixed basket of commodities used for CPI and the data available for seniors.

The reader should note that there are many components in each of the

Chart A — Nature of Post-Retirement Adjustments



Source: Towers Perrin, Benefits Data Bank, Update on Benefit Trends. March 2008.

Table 1 — Fixed Basket of Commodities

Category	Senior Basket % of Consumption	CPI Basket % of Consumption
Food	18.30	16.85
Shelter	26.10	25.71
Household Operation	6.60	7.14
Furnishings and equipment	3.80	4.27
Clothing	5.00	5.58
Transportation	20.70	19.60
Health Care	5.70	2.48
Personal Care	2.10	2.36
Recreation	7.50	9.66
Reading and Printed Material	0.80	3.28
Tobacco and Alcohol	3.40	3.07

Source: Adapted from Statistics Canada Data — Shifts in spending patterns of older Canadians (2005) by Raj Chawla for age groups 65 to 74

categories and the categories in Table 1 have been grouped for consistency and comparability between the senior basket and the CPI basket. Based on any categorization, it is clear that the consumption pattern for the senior population (age 65 to 74) and the general population is different; however, the differences are not significant.

Comparing CPI and Retirement Increase Index

Using the senior basket data in Table 1, the Retirement Increase Index (RII) was constructed for years 1994 to 2007 assuming the same price movements in the basket of commodities. Chart B compares the RII and CPI.

Chart B — Comparison of CPI and Retirement Increase Index (RII)

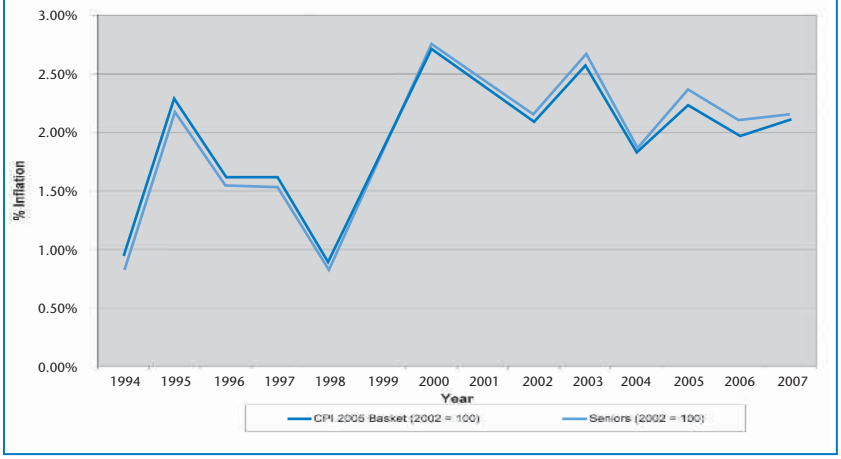


Table 2 — Averages of CPI vs. RII

Years	CPI	RII
1994 – 2000	1.69%	1.63%
2001 – 2007	2.17%	2.26%
1994 – 2007	1.93%	1.94%

Chart B illustrates that the year-over-year increase of RII was lower than the CPI increases for years 1994 to 2000. From 2001, the RII increases were higher than the CPI. The difference in the increases was close to 0.10% rounded. Table 2 shows the compounded increases over the period 1994 to 2007.

It is important to realize that the analysis assumes the same price movements for the same basket of commodities; it is possible for seniors to experience a different price movement for the same commodity (for example, seniors may purchase household items at cheaper outlets compared to the general population).

Conclusion

Based on the above analysis, it appears that CPI is an acceptable metric to determine post-retirement increase as the RII increases derived from senior spending patterns are not material. This conclusion may change in future years based on shifting of senior spending patterns, and significant increases in CPI for specific categories that may make up the senior basket. Actuaries should update and review this analysis when considering future post-retirement increases from the DB plans.

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