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Title: The Cost of a House versus the Cost of Housing: evaluating different approaches to measuring owned accommodation in the Canadian CPI

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Abstract

The Canadian CPI measures the change in the cost of a fixed basket of goods and services typically purchased by Canadians. These include shelter (housing services), an important element of consumer spending. Owned accommodation (OA) accounts for more than half of these expenditures.

When households think about the price of a house, they are likely thinking about how much it costs to buy a house and not how much it costs to own a house. The difference between the price of purchasing a house and the price of owning a home can be a source of confusion.

In this paper, we will review different approaches to estimate OA in the Canadian CPI. It can be implicitly accounted for by rental payments that owner-occupiers estimate (rental equivalency), or explicitly by total actual housing costs, using the payment approach. This could also be measured using the acquisition approach that accounts for the purchase cost of a home. Yet another option is to use the user cost approach, which covers conceived costs of home ownership. Applying each of these approaches to estimate OA, we will produce several analytical index series for the all-items CPI and conduct an evaluation of the methods and results in the context of the principal purpose of the CPI

We conclude that there is no best method. Each one has its own limits albeit those more aligned with cost of housing are more relevant for measuring CPI. This is because the approach chosen should align with the conceptual basis that best satisfies the principal purpose of the CPI.

More specifically, increased prevalence of house prices in CPI under the acquisition approach leads to higher inflation on average thus narrowing the gap with perceived inflation. However, that approach is not well aligned with the costs of housing. Rental equivalence and user cost approaches are more aligned with the costs of owning a house, but the all-item CPI generated with user cost approach is far more volatile than the official index, reflecting the inconsistent impact of expected capital gain price changes on the OA estimates.

The treatment of OA in the Canadian CPI, which is designed to detect the impact of price changes on homeowners' specific costs, represents an acceptable compromise in the current environment of relatively low and stable inflation.

REFERENCES

André, C., Gil-Alana, L. A., and Gupta, R., "Testing for Persistence in Housing Price-to-Income and Price-to-Rent Ratios in 16 OECD Countries", *Department of Economics Working Paper Series*, University of Pretoria, May 2013

Baldwin, A., Prud'Homme M., and Nakamura A. 2006. "An empirical analysis of the different concepts for owned accommodation in the Canadian CPI: the case of Ottawa, 1996-2005." Presented at the OECD-IMF workshop Real Estate Price Indexes, Paris 6-7 November.

Christensen, A., J. Dupont and P. Schreyer. 2005. "International Comparability of the Consumer Price Index: Owner-occupied housing." Presented at the OECD seminar Inflation Measures: Too High – Too Low – Internationally Comparable?, Paris, 21-22 June.

Crone, T.M., L.I. Nakamura and R. Voith. 2000. "Measuring housing services inflation." *Journal of Economic and Social Measurement* 26.

Crone, T.M., L.I. Nakamura and R. Voith. 2004. "Hedonic Estimates of the Cost of Housing Services: Rental and Owner-Occupied Units." Presented at International Conference on Index Number Theory and the Measurement of Prices and Productivity, Vancouver, June 20 – July 3.

Diewert, W.E. 2002. "Harmonized Indexes of Consumer Prices: Their Conceptual Foundations." *European Central Bank Working Paper No. 130*.

Diewert, W.E. 2003. "The Treatment of Owner-Occupied Housing and Other Durables in a Consumer Price Index." *University of British Columbia Discussion Paper No. 03-08*.

Diewert, W. E. and A.O. Nakamura. 2009. "Accounting for Housing in a CPI." *Price and Productivity Measurement, Volume 1: Housing, Chapter 2*.

Diewert, W.E., A.O. Nakamura and L.I. Nakamura. 2009. "One New and Many Old Ways of Accounting for Housing in Measures of Inflation." Paper presented at the 2009 Ottawa Productivity Workshop, May 6-7.

Diewert, W.E., Shimizu C., Nishimura K. G., and Watanabe T. 2012 "The Estimation of Owner Occupied Housing Indexes using the RPPI: The Case of Tokyo." Paper presented at the Meeting of the Group of Experts on Consumer Price Indices Geneva 2012.

Dion, R. and Sabourin, P. 2011. "Measures of Owner-Occupied Housing in the CPI: Properties and Limitations in the Canadian Context" working progress, Canadian Economic Analysis Department, Bank of Canada, Ottawa, Canada

Duguay, P. and Sabourin, P. 2015. "Measuring Durable Goods and Housing Prices in the CPI: An Empirical Assessment", *Bank of Canada Review*, Autumn.

Eurostat. 2008. *Technical Manual on Owner-Occupied Housing for Harmonized Index of Consumer Prices*. Draft (June).

Gallin, J. 2004. "The Long-Run Relationship between House Prices and Rents." *Federal Reserve Board, Finance and Economics Discussion Series 2004-50*.

Garner, T. and R. Verbrugge. 2007. "The Puzzling Divergence of U.S. Rents and User Costs, 1980-2004: Summary and Extensions." *U.S. Bureau of Labor Statistics Working Paper 409*.

Garner, T. and R. Verbrugge. 2009. "Reconciling User Costs and Rental Equivalence: Evidence from the U.S. Consumer Expenditure Survey." Paper presented at the 2009 Ottawa Productivity Workshop, May 6-7.

Heston, A. and A.O. Nakamura. 2009. "Reported Prices and Rents for Housing: Reflections of Costs, Amenities or Both?." Price and Productivity Measurement, Volume 1: Housing, Chapter 7.

Johnson, D.S. 2006. "The Rationale for How BLS Measures Shelter Services in the CPI." Business Economics (January).

Katz, A.J. 2009. "Estimating Dwelling Services in the Candidate Countries: Theoretical and Practical Considerations in Developing Methodologies Based on a User Cost of Capital Measure." Price and Productivity Measurement, Volume 1: Housing, Chapter 3.

Makaronidis, A. and K. Hayes. 2006. "Owner-occupied housing for the HICP." Presented at the OECD-IMF workshop Real Estate Price Indexes, Paris 6-7 November.

Poole, R., F. Ptacek and R. Verbrugge. 2005. "Treatment of Owner-Occupied Housing in the CPI." U.S. Bureau of Labor Statistics. Presented to the Federal Economic Statistics Advisory Committee on December 9, 2005.

Poole, R. and R. Verbrugge. 2007. "Explaining the Rent-OER Inflation Divergence, 1999-2006." U.S. Bureau of Labor Statistics Working Paper 410.

Prud'Homme, M. 1995. "Alternative Concepts of Home Ownership for the CPI: 1992 to 1994." The Consumer Price Index, October 1995, Statistics Canada Cat. No. 62-001.

Rober j. Hill et al 2020. "Owner Occupied Housing, Inflation and Monetary Policy." Graz Economics Papers

Schultz, B. 2000. "Treatment of Owner-Occupied Accommodation in the Consumer Price Index." Discussion Paper, Statistics Canada.

Statistics Canada. 1995. "The Consumer Price Index Reference Paper." Catalogue 62-553.

Tarkhani, F. 2014. "Analytical Consumer Price Indexes for Owned Accommodation" working progress, Consumer Prices Division, Statistics Canada, Ottawa, Canada.

Triplett, J.E. 2001. "Should the Cost-of-Living Index Provide the Conceptual Framework for a Consumer Price Index?." The Economic Journal (June).

Verbrugge, R. (2008), The Puzzling Divergence of Rents and User Costs, 1980-2004, *Review of Income and Wealth* 54 (4), 671-699.