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Personal Experiences and House Price Expectations: Evidence from the Canadian Survey of Consumer Expectations

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Abstract

In this work, we use novel Canadian survey data to study how expectations of future changes in house prices are influenced by personal experiences. We find that recently experienced changes in local house prices are routinely extrapolated into expectations of year-ahead changes in national house prices. In addition, individuals who have experienced higher volatility in house price changes in the recent past are more uncertain about their expectations of future house price changes. Our results are broadly consistent with those from related work using the Survey of Consumer Expectations conducted by the Federal Reserve Bank of New York (Kuchler and Zafar 2015).

Bank topics: Housing; Financial Stability

Résumé

Cette recherche utilise de nouvelles données de sondage canadiennes afin d'étudier l'influence des observations personnelles sur les anticipations d'évolution du prix des logements. Les anticipations à l'égard de la variation des prix des logements au niveau national et à l'horizon d'un an sont systématiquement influencées par les récents changements de prix des logements observés localement. De plus, les individus ayant récemment observé davantage de volatilité dans le prix des logements ont moins de certitudes quant à l'évolution future du prix des logements. Globalement, nos résultats s'inscrivent dans la lignée de ceux obtenus au moyen du sondage sur les attentes des consommateurs de la Réserve fédérale de New York (Kuchler et Zafar 2015).

Sujets : Logement; Stabilité financière

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Summary

Expectations of future changes in house prices have been found to play an important role in observed housing market cycles. This note presents a first step toward better understanding how Canadians form their expectations around house prices. More specifically, we use rich micro data to study how expectations of the future growth of house prices are influenced by personal experiences. We find the following:

- Recently experienced changes in local house prices are routinely extrapolated into expectations of year-ahead changes in national house prices.
- Individuals who have experienced more volatile changes in house prices in the recent past are more uncertain about their expectations of future house price changes.
- Our results are broadly consistent with those from related work using the Survey of Consumer Expectations conducted by the Federal Reserve Bank of New York (Kuchler and Zafar 2015).

Data

Our expectations data are derived from the Canadian Survey of Consumer Expectations (CSCE), which is a nationally representative survey that has been fielded on a quarterly basis on behalf of the Bank of Canada since the fourth quarter of 2014 (Gosselin and Khan 2015). Each quarter, the CSCE surveys 1,000 household heads, with individuals remaining in the survey for up to a year. For the purposes of this analysis, we retain data from the earliest quarter of the year in which an individual first enters the sample.[1]

Among other things, the CSCE elicits point forecasts of the year-ahead change in national house prices. This is followed by a question that allows respondents to assign probabilities to a range of possible house price changes.[2] Thus, we can use the standard deviation of each respondent's subjective distribution as a measure of uncertainty around their forecast.

An important advantage of our approach is that we use postal codes from the CSCE to combine the expectations data with a recently acquired set of micro data on observed house prices at the forward sortation area (FSA) level (the area identified by the first three digits of the postal code).[3] Thus, each CSCE respondent in each period is matched to the year-over-year house price changes in their local area. As a robustness check, we also conduct our analysis using more aggregated city- and province-level changes in house prices.

Our analysis covers the period from the fourth quarter of 2014 to the fourth quarter of 2017.

[1] In other words, because any effects are identified using the cross-sectional variability of the data, the same individual cannot appear multiple times in the same year. However, the same individual can appear in the data for different years.

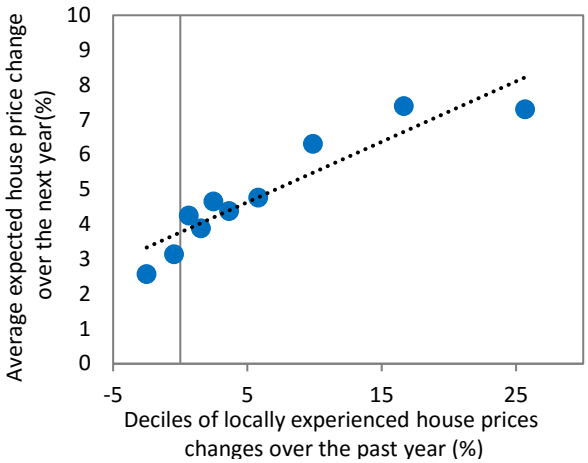
[2] As of the second quarter of 2016, the CSCE also elicits point forecasts of local house price expectations. Our results hold using local instead of national expectations, but we focus on the latter, given the much larger available sample. The exact wording of the questions is available in the appendix.

[3] This dataset comes from Teranet-National Bank and is available on a quarterly basis from 2000 on.

Key results

Chart 1 provides a visual representation of the relationship between expected and experienced house price changes. Since we have more than 7,000 observations, we sort experienced house price changes into deciles and plot this against the average expected change in house prices associated with each decile of experienced house price changes. We see that, on average, CSCE respondents residing in FSAs with higher house price growth over the previous 12 months have higher expectations for how much national house prices will grow over the following 12 months.

Chart 1. Relationship between expected and experienced house price changes



Next, we formalize this relationship by regressing expected house price growth on experienced house price growth, as well as on a set of control variables (including time fixed effects). The estimates reported in **Table 1** confirm a positive and statistically significant relationship between the two variables. We find that a 1 percentage point increase in experienced local house price growth over the past 12 months raises expected national house price growth over the following 12 months by roughly 0.2 percentage points. This is almost twice as large as the effect estimated by Kuchler and Zafar (2015) using US data. While using the FSA-level house prices is most appropriate for our analysis, the second and third columns of Table 1 show that our results are robust to using city or provincial house prices to proxy local house prices.

Table 1. Relationship between expected and experienced house price growth[4]

Dependent variable: 1-year ahead expected house price growth			
	FSA	**City**	**Province**
Experienced local house price growth	**0.18*** **	**0.19*** **	**0.18*** **
R-squared	0.06	0.06	0.05
Time fixed effects	Yes	Yes	Yes
Demographics	Yes	Yes	Yes
Number of observations	7,380	5,597	7,351

Finally, we use the distributional question (see question 2 in the appendix) in the CSCE to examine whether experienced volatility of local house price changes has an impact on how uncertain survey respondents are about their forecasts. As shown in **Table 2**, when we focus on the volatility of experienced house price changes over the past two years, we generally find a positive and significant

[4] *** p<0.01. Standard errors are clustered by province and year. Time fixed effects are included for each survey quarter. Demographic indicators include age, gender, marital status, education and home ownership.

relationship between uncertainty and experienced volatility. However, this relationship diminishes when we consider horizons longer than two years.[5]

Overall, the results in this section suggest that experienced volatility may be relevant when households form their expectations, but that more weight is placed on relatively recent experience.

Table 2. Relationship between uncertainty and experienced volatility of house price growth

Dependent variable: Standard deviation of expected house price growth			
	Forward sortation area	**City**	**Province**
Standard deviation of actual house prices changes:			
Past 2 years	**0.11*** **	**0.08**	**0.14*** **
R-squared	0.11	0.11	0.1
Time fixed effects	Yes	Yes	Yes
Demographics	Yes	Yes	Yes
Last year's house price growth (deciles)	Yes	Yes	Yes
Number of observations	7,268	5,509	7,182

Discussion and next steps

Our analysis reveals interesting facts about house price expectations, but what do they mean for our understanding of how expectations are formed and the dynamics of realized house prices? The observation that individuals systematically extrapolate from local experience is indeed consistent with multiple models of expectations formation, including fully rational ones. Using US data, Kuchler and Zafar (2015) show that the degree of extrapolation across individuals does not vary with how informative changes in local house prices are for the national total. In addition, extrapolation is found to be greater for individuals with lower numeracy. These observations appear to be inconsistent with models of rational expectations, and are something we will explore in future work.

A related issue is that we are using data on expectations for national house price changes, but it is expectations of local changes that ultimately influence housing market outcomes. Fortunately, questions on perceived and expected local house price changes were recently added to the CSCE. Although the available sample size is smaller than that used for our main analysis, we find that (i) perceptions of past local house price changes are highly correlated with actual house price changes; and (ii) the degree of extrapolation from local experiences to *local* house price expectations is somewhat greater than it is for national house price expectations. Therefore, our results suggest

[5] Results for longer horizons (3, 5 and 10 years) are available on request.

that individuals extrapolate recently experienced house price changes into their expectations of local house price changes, which in turn influence their expectations at the national level.

References

Gosselin, M.-A. and M. Khan. 2015. "A Survey of Consumer Expectations for Canada." *Bank of Canada Review* (Autumn): 14–23.

Kuchler, T. and B. Zafar. 2015. "Personal Experiences and Expectations about Aggregate Outcomes." Federal Reserve Bank of New York Staff Report No. 748.

Appendix

CSCE questions on households' house price expectations over the next 12 months:

1. *"By about what percent do you expect the average home price nationwide to [increase/decrease]?"*

   Over the next 12 months, I expect the average home price to [increase/decrease] by ___ %

2. *"In your view, what would you say is the percent chance that, over the next 12 months, the average home price nationwide will..."*

increase by 12% or more	_____
increase by 8% to 12%	_____
increase by 4% to 8%	_____
increase by 2% to 4%	_____
increase by 0% to 2%	_____
decrease by 0% to 2%	_____
decrease by 2% to 4%	_____
decrease by 4% to 8%	_____
decrease by 8% to 12%	_____
decrease by 12% or more	_____
Total	100%