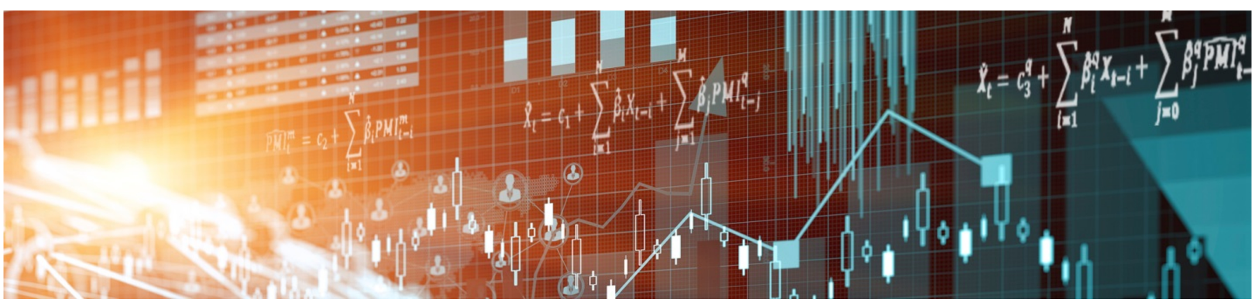
BANK OF CANADA
BANQUE DU CANADA

Staff Analytical Note/Note analytique du personnel 2018-18

Interest Rate and Renewal Risk for Mortgages



by Olga Bilyk, Cameron MacDonald and Brian Peterson

Financial Stability Department
Bank of Canada
Ottawa, Ontario, Canada K1A 0G9
obilyk@bankofcanada.ca; cameronmacdonald@bankofcanada.ca; bpeterson@bankofcanada.ca

Abstract

In this note, we explore two types of risk faced by holders of mortgages and home equity lines of credit (HELOCs) in the context of rising interest rates: interest rate risk and renewal risk. We estimate that roughly 53 per cent of outstanding mortgages and HELOCs will face interest rate risk in 2018. However, only about 26 per cent of outstanding mortgages will be renewed in 2018.

Bank topics: Credit and credit aggregates; Financial institutions; Interest rates; Recent economic and financial developments

JEL codes: D1, E4, E5, G21, G28

Résumé

Dans cette note, nous explorons deux types de risques qui pèsent sur les personnes ayant contracté un prêt hypothécaire ou une ligne de crédit garantie par l'avoir propre foncier dans le contexte actuel marqué par la hausse des taux d'intérêt : le risque de taux d'intérêt et le risque de renouvellement. Nous estimons qu'environ 53 % de l'encours des prêts hypothécaires et des lignes de crédit garanties par l'avoir propre foncier sera exposé au risque de taux d'intérêt en 2018. Cependant, seulement quelque 26 % des prêts hypothécaires seront renouvelés en 2018.

Sujets : Crédit et agrégats du crédit; Institutions financières; Taux d'intérêt; Évolution économique et financière récente

Codes JEL : D1, E4, E5, G21, G28

Key takeaways

- In this note, we explore two types of risk faced by holders of mortgages and home equity lines of credit (HELOCs) in the context of rising interest rates: interest rate risk and renewal risk.
- We estimate that roughly 53 per cent of outstanding mortgages and HELOCs will face the possibility of higher interest rates in 2018.
    - The share of mortgages and HELOCs facing ***interest rate risk*** has been roughly flat since January 2013, the earliest date for which data are available.
- However, only about 26 per cent of outstanding mortgages are being renewed in 2018.
    - The share of mortgages facing ***renewal risk*** has been roughly flat since January 2016, the earliest date for which data are available.

Interest rate risk

A mortgage or HELOC holder will face *interest rate risk* under three different circumstances:

- The borrower holds a variable-rate mortgage. Variable-rate mortgage holders are continually exposed to the possibility of higher or lower interest rates since their mortgage rate is tied to the lender's prime rate. This prime rate is, in turn, based on prevailing market interest rates.
- The borrower holds a fixed-rate mortgage that is coming up for renewal.
- The borrower holds a HELOC. Similar to variable-rate mortgages, HELOC interest rates are tied to a lender's prime rate.

The share of mortgage and HELOC balances facing interest rate risk in 2018 is 53 per cent (**Table 1**).[1] This proportion has been fairly stable since 2013. In addition, the composition of the borrowers facing interest rate risk has shifted, with a larger share represented by households renewing fixed-rate mortgages rather than by those with variable-rate mortgages and HELOCs. This shift has been driven by a movement in recent years away from variable-rate mortgages toward short-term, primarily two-year, fixed-rate mortgages.

Table 1: Proportion of mortgages and HELOCs facing interest rate risk in the next 12 months (%)

	Jan 2013	Jan 2014	Jan 2015	Jan 2016	Jan 2017	Jan 2018
Overall interest rate risk	54	51	53	53	51	53
Due to variable-rate mortgages	26	22	22	24	19	19
Due to renewals of fixed-rate mortgages	13	15	17	16	19	21
Due to home equity lines of credit	15	14	14	13	13	13

Source: Regulatory filings of Canadian banks (I3 returns) and Bank of Canada calculations

Renewal risk

In addition to potentially facing a higher interest rate at renewal, a borrower also faces a *renewal risk*, which is the risk related to renegotiating the mortgage contract. At the end of a mortgage term, a borrower's ability to requalify for the current mortgage could change due to a reduction in income, an increase in mortgage rates or changes to lenders' underwriting policies. If borrowers cannot requalify for their current mortgage, their options may be limited to renewing with their existing lender.[2] In these cases, borrowers have less bargaining power when negotiating their mortgage rate and may pay more than if they had alternative options.

We estimate that the share of outstanding mortgages that will renew in 2018 is about 26 per cent, a proportion that has also been roughly stable since 2016, when reliable data were first available (**Table 2**).[3] A similar shift in composition, from variable- to fixed-rate mortgages, has taken place.

Table 2: Proportion of mortgages facing renewal risk in the next 12 months (%)

	Jan 2016	Jan 2017	Jan 2018
Overall renewal risk	27	24	26
Due to variable-rate mortgages	9	3	2
Due to renewals of fixed-rate mortgages	18	21	24

Source: Regulatory filings of Canadian banks (I3 and A4[4] returns) and Bank of Canada calculations

The share of mortgages facing renewal risk is substantially smaller than the share facing interest rate risk because not all variable-rate mortgages will face renewal risk: more than 80 per cent of variable-rate mortgages have a mortgage term of five years and thus face renewal risk only once every five years.

The changes to the Office of the Superintendent of Financial Institutions' Guideline B-20, which extend the mortgage rate stress test to five-year fixed-rate mortgages, could leave renewing borrowers unable to requalify for their current mortgage. These borrowers will likely need to renew with their existing lender and could face higher mortgage rates than they would otherwise because of their reduced bargaining power.

Mitigating factors to interest rate and renewal risks

The increase in mortgage rates faced by fixed-rate borrowers at renewal will depend on the length of their previous term. For example, borrowers with a two-year fixed-rate mortgage originated in 2016 will face an increase of between 45 to 160 basis points when they renew in 2018, depending on whether they choose a variable-rate or longer fixed-rate mortgage. In contrast, borrowers with a five-year fixed-rate mortgage originated in 2013 will face either a decrease of 60 basis points if they

[1] The November 2017 *Financial System Review* estimated that 47 per cent of outstanding mortgages faced interest rate risk as of July 2017. This estimate did not include HELOCs.

[2] For insured mortgages, the lender is required by the mortgage insurer to renew existing clients. However, this is not the case for uninsured mortgages. Although rare, a lender could refuse to renew a mortgage of an existing client, forcing the borrower to find financing elsewhere, sell the home or face foreclosure.

[3] Since HELOCs do not always have a clear term, we exclude them from the renewal analysis.

[4] Select data from the A4 returns are available at the Bank of Canada website.

choose a variable-rate mortgage or an increase of 30 basis points if they choose another five-year fixed-rate term.

A few mitigants reduce the financial stress that borrowers may experience from higher mortgage rates and the new qualification rules:

- A large proportion of variable-rate mortgages facing interest rate risk have a fixed mortgage payment. For these borrowers, the principal component of their payment decreases when interest rates rise, but the total payment remains the same. As a result, the mortgage principal is paid down more slowly but interest rate risk is mitigated until renewal.
- Existing borrowers with fixed-rate mortgages with terms less than five years or variable-rate mortgages were already required under the previous version of Guideline B-20 to qualify using the Bank of Canada benchmark rate. Therefore, these borrowers should have a sufficient income buffer to handle an increase in interest rates. This alleviates both interest rate and renewal risk.
- Renewing borrowers will have likely experienced an increase in nominal income, especially over a longer mortgage term. Higher nominal income can help offset an increase in mortgage payments due to higher interest rates, mitigating both types of risks.
- Finally, at renewal, borrowers can lower the principal component of their mortgage payment by refinancing their mortgage and extending their amortization period. Again, this would mitigate both interest rate and renewal risks. Importantly, this option is only available for borrowers who have at least 20 per cent equity in their home. However, we estimate that, aided by recent gains in house prices, about three-quarters of borrowers renewing high-ratio mortgages and all those holding low-ratio mortgages originated in 2013 will have sufficient equity for refinancing.