RESEARCH HIGHLIGHTS

November 2000 Socio-economic Series Issue 51

LONG-TERM OUTLOOK ON THE DEMAND FOR MORTGAGES IN CANADA

Introduction

Due to slower demographic growth, new housing construction will decline over the next two decades. In addition, because the baby boomer generation is aging, this demographic growth will be concentrated in the older segments of the population. The demand for mortgages will therefore undergo the combined effects of a decrease in the household formation rate and, since the older population is generally wealthier, a better capacity to finance home purchases with equity. This research is aimed at establishing the effects of these demographic changes on the demand for mortgages in Canada. The first part presents a review of the principal known theoretical and empirical results on the demand for mortgages. Then, the determinants of the number of mortgages, their average value and the total outstanding of these loans are studied using an econometric model. Finally, this model is applied to a series of projections to determine the future trends that will affect the Canadian residential mortgage market.

Results

Review of theoretical and empirical studies

In theory, the decisions to take out a mortgage and to buy a home cannot be dissociated. In order to reduce their costs, households tend to use all their equity before they borrow when, as is the case in Canada, mortgage interest is not tax deductible while interest income is taxable. This means that mortgage debt is minimised to the extent possible.

However, financial institutions establish a maximum mortgage loan amount on the basis of the equity and repayment capacity of potential borrowers. The theory indicates that it is then optimal for households who have reached the limits set by these institutions to buy the most costly residence that they can afford by borrowing this maximum amount. As such, the average value of new mortgages tends to follow very closely the average value of home prices according to a relation that depends on borrowing restrictions. These restrictions depend on the wealth and current income of households. Since the established standards change little over time, the loan-to-value (LTV) ratio at the time of purchase should therefore be relatively stable.

What happens to the LTV ratio after the purchase is rather complex as several factors come into play. Soon after the first purchase, households will tend to use the progressive increase in their wealth to borrow more and acquire a more costly home than the first one they

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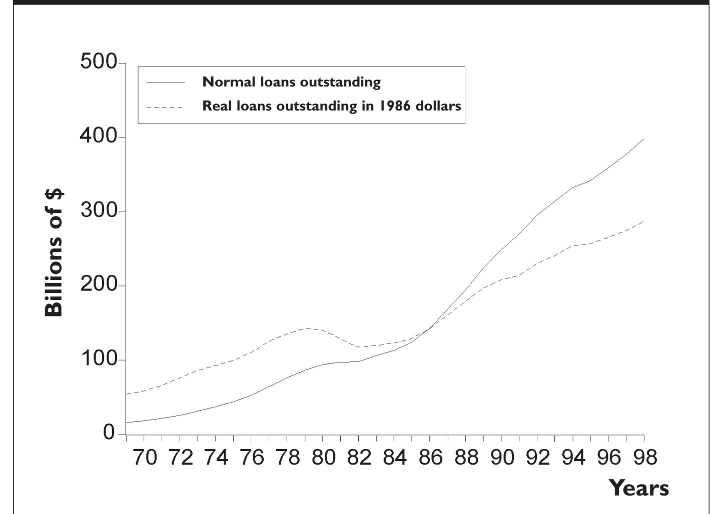
bought. When the home that they own finally matches their financial capacity that they perceive to be permanent, households progressively repay their mortgage. This repayment may be slowed down, though, if the net rate of return that households hope to be able to obtain on their investments is more attractive than the interest rate on their mortgage. This arbitrage is particularly relevant for households with unused Registered Retirement Savings Plan (RRSP) contribution room, as this room allows them to save and defer the taxes on the contributions and the yields until the funds are withdrawn from the plan, usually upon retirement.

The empirical studies have mainly sought to explain the LTV ratio variations among different households. A review of the results obtained shows that they offer little in the way of explanation , as most of the differences in debt observed are difficult to explain. None of the studies reviewed have attempted to examine the overall mortgage market. As well, a review of the financial advice offered to households for their mortgage decisions reveals a good deal of confusion. The key question that this advice attempts to answer consists in clarifying whether it is financially preferable to use available savings to repay the mortgage or to contribute to an RRSP. The advice is far from unanimous and its relevance is often based on calculations where the assumptions are not very explicit. Still, we have observed attempts to integrate considerations linked to the effect of RRSPs on owner-occupied housing costs. In addition, some are studying the impact of the Home Buyers' Plan, that is, the possibility for first-time home buyers to withdraw up to $20,000 from their RRSP, without paying any tax, in order to increase their down payment (to avoid paying the tax, though, buyers must put back into their RRSP the full amount withdrawn, in equal annual payments over a maximum period of 15 years). These two aspects have not been covered in theoretical studies.

Past and future residential mortgage market trends

Since the late 1960s, the residential mortgage market has been characterized by an abundant supply and the absence of any effective ceiling on interest rates. At the same time, the number of homes and the demand for mortgages have grown significantly (see Figure 1). This growth was interrupted only at the time of the upsurge in interest rates in 1981-1982 and the major recession that came with this rise.

Figure 1: Residential Mortgage Loans Outstanding in Canada

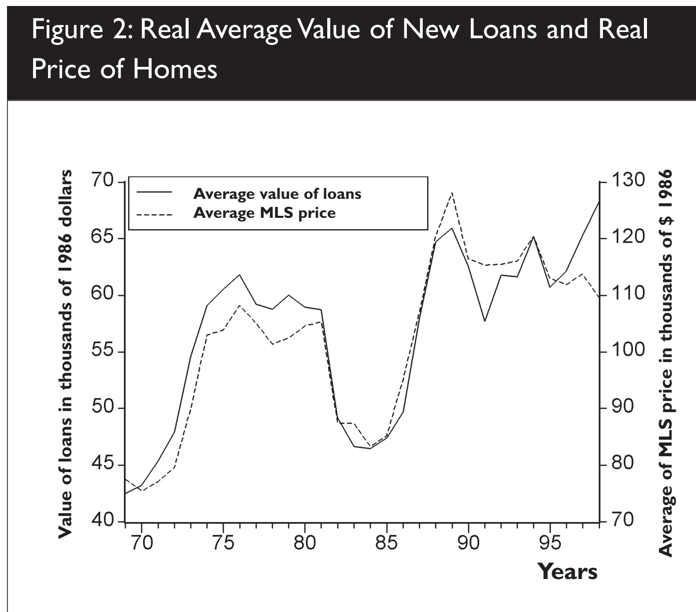


The econometric analysis explains the trend in the number of new loans authorized, the average value in constant dollars of these new loans, the real value of total loans outstanding and, finally, the value of loan repayments. These variables depend on a small number of determinants: the real income per adult, two measurements of the population, the nominal interest rate for a five-year mortgage, the inflation rate and the real price of homes. Using this limited set of variables, 73% of the annual percentage change in the average value of new loans, 85% of that in the number of new loans and 92% of that in total loans outstanding can be explained.

Among the most interesting results, is that, in Canada, in accordance with the theoretical expectation, the value of new loans very closely follows the value of homes (see Figure 2). The only exception to this rule occurred after 1994 when a significant increase was observed in the LTV ratio. We believe that this rise could be a consequence of the low interest rates, as such an environment reduces the proportion of households restricted by their income. The study also found a stable relationship whereby the number of new loans reacts very strongly to interest rate variations. In fact, a rise of one percentage point in interest rates reduces the number of new mortgage loans by nearly 15% in the first

year. The fact that this shock decreases the average value of loans while repayments increase brings about a rapid reduction in loans outstanding. In addition, the number of people in the 25-34 age group has a very marked influence on the number of new loans. For example, between 1990 and 1998, the annual growth rate of the population aged 25 to 34 went from 2% to -2%, bringing down the number of new loans by 17%. As the study by Fortin and Leclerc (1999) found a link between the population aged 25 to 54 and home prices, this suggests that the population aged 35 years or older has a greater self-financing capacity.

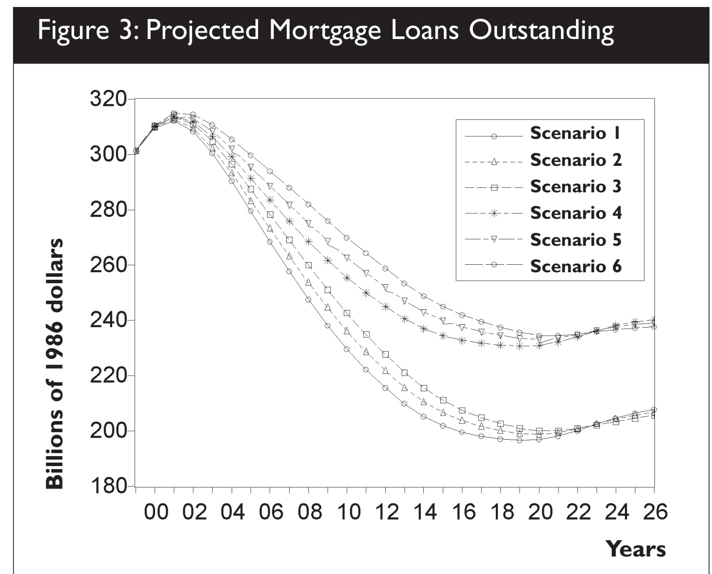
Figure 2: Real Average Value of New Loans and Real Price of Homes



As well, the study found that certain market yield measurements had no significant impact on total mortgage debt outstanding. This suggests that households engage in little arbitrage between their mortgage debt and portfolio investments. Finally, in the long term, it is the trend in real income that has the greatest influence on the value of mortgages. This occurs as a result of an indirect transmission, as income is the principal determinant of the value of homes which, in turn, affects the value of mortgages.

Lastly, we applied these empirical results to some plausible scenarios to obtain six different projections for the mortgage market to 2026. These six projections combine three demographic growth scenarios by Statistics Canada with two different assumptions concerning the average growth rate of real household income. The key finding from these projections is that the rapid growth phase of the market is expected to end in 2002. Even if the average value of new loans continues to grow at a similar pace to the value of homes, all the scenarios considered point to a substantial decline in the number of new loans and in total mortgage loans outstanding in constant dollars. The projections suggest that the decrease in the number of new loans will be in the order of about 33% over the next 20 years and then accelerate from 2020 onward. The growth in the average value of loans will contribute to mitigating the decline in the total mortgage loans outstanding, which should range from 20% to 30% over the next 20 years before going back up slightly beyond 2020 (see Figure 3). The decrease will be less marked if favourable economic conditions are combined with a more rapid demographic growth in the 25-34 age group.

Figure 3: Projected Mortgage Loans Outstanding



Conclusion

The slowdown in demographic growth, especially among the 25-34 age group should bring about a significant reduction in total mortgage loans outstanding between 2000 and 2020. There would have to be a major rise in the average price of homes, the only factor capable of driving up the average value of mortgages, to lessen the impact of the major reduction in the number of new loans.

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Research Report: *Long-Term Outlook on the Demand for Mortgages in Canada*

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