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Failure to refinance☆

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A B S T R A C T

Households that fail to refinance their mortgage when interest rates decline lose out on substantial savings. Using a random sample of outstanding US mortgages in December 2010, we estimate that approximately 20% of unconstrained households for whom refinancing was optimal had not done so. The median household would save $160/month over the remaining life of the loan, for a total present-discounted value of forgone savings of $11,500, a particularly large consumer financial mistake. To shed light on possible mechanisms, we also provide results from a mail campaign targeted at a sample of homeowners who could benefit from refinancing.

1. Introduction

Buying and financing a house is one of the most important financial decisions a household makes. Housing decisions can have substantial long-term consequences for household wealth accumulation in the US, where housing wealth makes up almost two-thirds of the median households total wealth (Iacoviello, 2011). Given the importance of housing wealth, public policies have been crafted to encourage home ownership and help households finance and refinance home mortgages. However, the effectiveness of these policies hinges on the ability of households to make wise housing decisions.

One housing decision in particular that can have large financial implications is the choice to refinance a home mortgage. Households that fail to refinance when interest rates decline can lose out on tens of thousands of dollars in savings. For example, a household with a 30-year fixed-rate mortgage (FRM) of $200,000 at an interest rate of 6.0% that refinances when rates fall to 4.5% (approximately the average rate decrease between 2008 and 2010 in the US) saves more than $60,000 in interest payments over the life

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of the loan, even after accounting for refinance transaction costs. Further, when mortgage rates reached all-time lows in late 2012, with rates of roughly 3.35% prevailing for three straight months (Federal Home Loan Mortgage Corporation Primary Mortgage Market Survey, Freddie Mac PMMS), this household with a contract rate of 6.5% would save roughly $130,000 over the life of the loan by refinancing.

Despite the large stakes, anecdotal evidence suggests that many households fail to refinance when they otherwise should. Failing to refinance is puzzling due to the large financial incentives involved. However, certain features of the refinance decision make failing to refinance consistent with recent work in behavioral economics. For example, calculating the financial benefit to refinancing is complex and households have very limited experience with transactions of this type. Furthermore, the benefits of refinancing are not immediate, but rather accrue over time. Finally, there are a number of up-front costs, both financial and nonfinancial, that households must pay to complete a refinance, including a reevaluation of their financial position and the value of their home. All of these features provide a psychological basis, in addition to the opportunity cost of time, for why some households could fail to take up large savings.

In this paper, we provide empirical evidence regarding how many households in the US appear to be suffering from a failure to refinance and approximate the magnitude of their mistakes. Our analysis utilizes a unique, nationally representative sample of approximately one million single-family residential mortgages that were active in December 2010. These data include information about the origination characteristics of each loan, the current balance, second liens, the payment history, and the interest rate being paid. Given these data, we can calculate how many households would save money over the life of the loan if they were to refinance their mortgages at the prevailing interest rate.

A household can very sensibly not refinance their house for many reasons, even when it apparently could save money by doing so. Perhaps the most obvious reason—and one that is especially important after the recent housing bust—is that it is unable to qualify for a new loan due to bad credit or because of decreasing housing values [leading to high loan-to-value (LTV) ratios]. Another reason is if a household plans to move in the near future. Further, some households might not have the cash-on-hand liquidity to pay the up-front refinancing fees. For these reasons, it would be naïve to argue that any household that appears as if it could save money by refinancing is acting suboptimally when it fails to do so.

The data set that we use contains information that allows us to reasonably distinguish homeowners who could be unable to refinance from those that suboptimally fail to do so. For example, we can restrict the sample to homeowners who have not missed any previous loan payments and whose current combined loan-to-value (CLTV) ratio is below a certain threshold (including information on second liens). In addition, we can take into account reasonable assumptions about the probability of moving and the present-discounted, tax-adjusted benefits of refinancing relative to up-front costs.

Based on a conservative set of assumptions, we estimate that approximately 20% of households in December 2010 had not refinanced their mortgage when it appeared profitable to do so given the interest rate environment at the time. That is, the monthly savings in reduced debt servicing costs would cover the up-front costs of refinancing sufficiently fast [as determined by the closed-form threshold of Agarwal, Driscoll, and Laibson (2013)]. We calculate that the median household that is holding on to a mortgage with too high an interest rate would have saved approximately $160 per month, or $45,000 (unadjusted) over the remaining life of the loan, by refinancing or approximately $11,500 when adjusting for the probability of moving, tax incentives, up-front costs, and discounting over time. When calculating the $11,500 number, the implied counterfactual is that a household that fails to refinance will never refinance for the remainder of the loan (with the exception of some households that move, which our estimate takes into consideration). This counterfactual is more realistic in some scenarios than others. For example, if interest rates immediately rise from the time of our calculation and remain high for the remainder of the loan period, our counterfactual is probably fairly accurate. However, in the scenario that interest rates decline further or remain low, the households that fail to refinance in our study window could eventually do so. In this case, our counterfactual of households never refinancing in the future is not as useful as simply thinking about the monthly savings that accrue until the household finally decides to refinance.

In addition, our data allow us to see whether these loans continue to be active in December 2012 when interest rates reached historic lows. We find that approximately 40% of the households that we identify as those that could have benefited from refinancing in December 2010 had not moved from their homes and still had not refinanced their mortgage, despite interest rates dropping even further between 2010 and 2012.

To be clear, refinancing behavior requires a lender willing to take on the risk of a new mortgage. Over the period 2010–2012, lenders were especially reluctant to lend to borrowers whose credit, income, or home values deteriorated substantially following the financial crisis. Although we use updated CLTV measures at the time of refinancing and restrict the sample to households that never missed a housing payment, we do not observe updated credit scores or income for mortgage-holding households in our data. In Section 3.3, using auxiliary data, we show that a pristine mortgage repayment record is in fact a strong predictor of subsequent creditworthiness. We also provide a series of heterogeneity analyses to explore whether factors such as becoming unemployed can be a primary driver of the failure to refinance that we show.

As a complement to our results using a nationally representative sample, we analyze microdata from a nonprofit lender in one major city. In an attempt to help households refinance, this nonprofit lender participated in several waves of mail offers to its clients that would allow