

Roots and Recourse Mortgages: Handing back the keys

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Rootedness, defined as the integration and attachment of citizens in a society, has been identified to reduce the gaps between native- and foreign-born residents in host countries in terms of financial vulnerability, labor conditions, education level, economic stability and credit scores (Clark and Blue, 2004; Osili and Xie, 2009). Although these factors are very likely to be related to default risk and mortgage pricing, rootedness has been ignored in previous studies identifying differences in the mortgage conditions faced by immigrants among other minorities (Cheng et al., 2015; Bayer et al., 2016, 2018). This leads some authors to interpret any difference in mortgage terms between foreign- and native-born borrowers as discrimination (Bartlett et al., 2019; Diaz-Serrano and Raya, 2014).

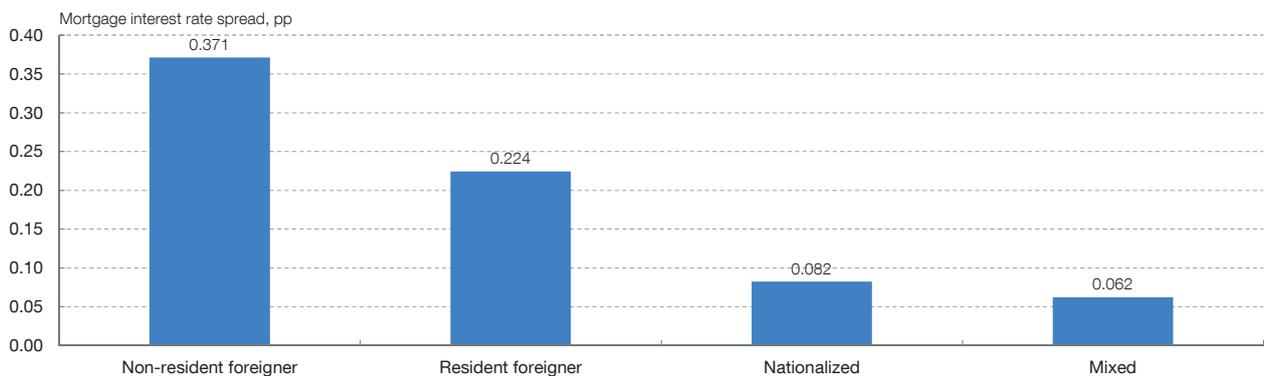
Against this background, we identify that mortgage pricing and default propensity are not the same among groups of

foreign debtors that are only different in terms of their roots to the host country. To investigate how rootedness affects mortgage pricing, we use loan-level data from the Spanish Credit Register (CIR) covering a complete financial cycle between 2004 and 2019. The CIR contains information on the nationality of borrowers, their residence status, and whether or not a foreign-born borrower has been granted with the citizenship or have co-signed a mortgage with a national citizen. These aspects allow us to differentiate the strength of borrowers' roots and to identify how it affects mortgage conditions. In order to explore the effect of roots on the incentives to go into default we use data from a large repository of securitized mortgages (the European DataWarehouse –EDW–). This is because the CIR lacks of information on the loan-to-value at origination for mortgages originated before 2016, which is key to study defaults and incentives related to negative equity situations (i.e. when the value of the house drops below the mortgage balance).

Our results suggest that roots are a key determinant of the differences in mortgage pricing between foreign- and native-born borrowers, and more importantly, that the strength of roots is a key factor that explain these differences among immigrants. In particular, using CIR, we find that well-settled

Figure 1

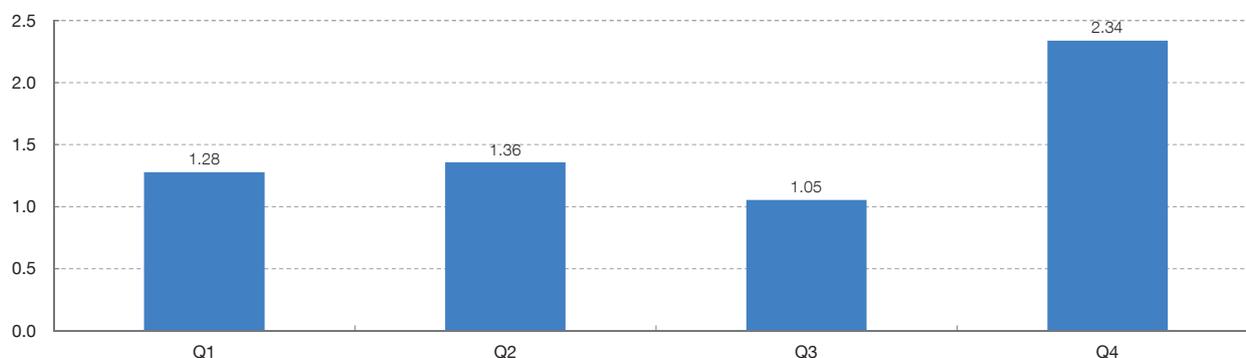
INTEREST RATE SPREAD BETWEEN FOREIGN-BORN AND DOMESTIC BORROWERS AT LOAN ORIGINATION, BY THE STRENGTH OF BORROWERS' ROOTS



NOTE: The bars represent the estimated coefficients for the binary variables capturing the strength of borrowers' roots: non-resident foreigner, resident foreigner, nationalized (foreign-born borrower granted with the Spanish citizenship), mixed (foreigner co-signing a mortgage with a Spanish citizen). All coefficients are statistically significant at 5% level.

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Figure 2

RATIO OF THE PROBABILITY OF DEFAULT BETWEEN FOREIGNERS WITH NEGATIVE EQUITY AND POSITIVE EQUITY, BY INCOME QUARTILE

NOTE: The bars represent the ratio between the probability of default (PD) of foreigners that undergo negative equity and the PD of foreigners with positive equity, by income quartile (Q1-Q4). A ratio above 1 means that the PD is higher when there is negative equity. The only ratio statistically different from 1 is that computed for the highest income borrowers (Q4).

foreign borrowers pay lower rates at origination than similar debtors with feebler roots to the country. In Figure 1 we show that mortgages of non-resident foreigners, who are less attached to the country than resident foreigners, are charged with the highest spread with respect to natives. Moreover, foreign-born borrowers granted with the citizenship or that have co-signed a mortgage with a national citizen, which are clear signs of deeper roots, are charged with the lowest spread against natives. We obtain these results after controlling for a rich set of mortgage and borrower characteristics including their country of birth, which embeds unobservable information that can be associated to discrimination such as ethnicity, race and language skills.

We also present evidence that roots affect default rates using the EDW. Although this dataset does not contain information on the specific groups defined in Figure 1, we can still distinguish foreign borrowers, who have, on average, weaker roots than nationals. In particular, we find that foreigners are more prone to default than nationals, and more interestingly, that negative equity is a key trigger for defaults in high-income foreign borrowers (see Figure 2). Certainly, this specific group of borrowers may share socioeconomic characteristics typically associated with strategic defaults, such as lower mobility costs, lower utility

from home ownership, and less concerns about social stigma and about losing access to bank credit in the future (Ghent and Kudlyak, 2011; Bhutta et al., 2017). We also document that defaults in high-income foreigners are only triggered when negative equity reaches certain levels, which is consistent with findings in previous studies (see Foote et al., 2008). Finally, defaults for this group of borrowers are higher in provinces where the share of non-resident foreigners is larger, which fits in well with the idea that roots play a role in strategic defaults. On the other hand, we show that borrowers may internalize the degree of effectiveness of banks' recourse, and that they adjust their default decisions accordingly. On the lenders side, this result may also explain the higher costs of mortgages charged to foreigners, even to those wealthier.

Overall, our findings have relevant implications for policy and financial stability. First, enhancing immigrants' rootedness could reduce credit risk in this segment of borrowers. This would help to close the gap with respect to natives in terms of mortgage conditions and to increase their accessibility to credit, while improving the stability of the financial system. Second, we find evidence suggesting that weak roots may lead to strategic default behavior even in a recourse mortgage regime, where usually the incidence of this type of defaults is much lower (Moody's, 2013). This

could have implications for the effectiveness of macroprudential policy, especially for borrower-based tools such as loan-to-value limits, which may work differently for distinct types of borrowers on the basis of their roots. Relatedly, our results shed light on the implications of moving away from recourse regimes and adopting features of non-recourse frameworks. Since we find that wealthy borrowers with feeble roots are more prone to default strategically, the adoption of a non-recourse regime may extend this behavior to other debtors by lowering default costs. This in turn may lead to higher rates at mortgage origination, should this behavior be internalized by lenders, a conclusion aligned with some previous studies (Ghent and Kudlyak, 2011; Li and Oswald, 2019). Finally, our paper warns on the risk of misinterpreting the informational content of the spread of foreigners against nationals, which cannot be mechanically associated just with discrimination.

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