New NSP Score Methodology

HUD updated the neighborhood/tract-level NSP Risk Scores for NSP grantees adding new NSP projects. These updated risk scores were constructed using data on pre-foreclosure actions and REO sales from the firm Realtytrac™, and vacancy information derived from the USPS. In developing new scores, HUD aimed to identify neighborhoods with large concentrations of vacant-distressed properties and recent foreclosure activities that may become vacant in the near future. HUD assembled a measure of distressed housing from a historical address-level foreclosure database provided by RealtyTrac™ – containing four foreclosure actions: lis pendens, notice of default, notice of foreclosure sale, notice of trustee sale since 2005. Additionally Realtytrac™ provided data on REO Sales at the address-level since 2007. Both datasets were current as of October 2012 at the time of analysis. Where available, HUD totaled properties with pre-foreclosure actions since 3rd quarter 2011 (lis pendens and notice of default) to measure the stock that is likely to become vacant ("Preforecl"). If a county had no lis pendens or notice of default recordings, HUD used the number of properties with a notice of foreclosure sale and trustee sale during the same time period. Similarly, HUD used properties with an REO sale since 3rd quarter 2011 to capture additional distressed properties ("REO"). Finally, HUD geocoded any addresses with foreclosure actions since 2005 or REO sale since 2007 to link the records to a proprietary vacancy flag from the USPS denoting whether the properties is vacant at the time of geocoding (October 2012).[1] HUD then summed these vacant properties ("Vacforecl", "VacREO") along with properties with a recent pre-foreclosure or REO transaction to create a total of distressed properties:

$$DistressProp = Preforecl + REO + Vacforecl + VacREO$$

This distress property total was then taken as a percentage of the tract's housing units from the ACS ("Hunits") to create a percentage of total housing that is troubled or distressed ("PctDistressPop"):

$$PctDistressProp = DistressProp/Hunits$$

Because Realtytrac™ does not cover some small-population counties, HUD imputed values for the percentage of total housing that is distressed ("PctDistressPop") in counties that had zero total distressed properties. HUD imputed these values by regressing the percentage distressed housing on the estimated seriously delinquent loan rate (SDR) from the last round of NSP-risk scoring, the number of residential addresses, vacant addresses, and no-stat addresses from the USPS, the number of HMDA loans in the tract, and a dummy variable indicating the state:

$$PctDistressProp_i = \beta_0 + \beta_1 SDR_i + \beta_2 ResVac_i + \beta_3 ResNS_i + \beta_4 ResAddr_i + \beta_5 HMDA_i + \beta_6 State_s$$

After estimating the equation above, missing values were replaced with the recovered, predicted percentage of distressed housing ($\widehat{PctDistressProp_i}$).

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[1] The USPS marks a property vacant if it has not been receiving mail for at least 90 days

As with the previous NSP scoring, the estimated distress percentage was placed in 20 quantiles (20-equally sized 5-percentile buckets), such that the top 5% of tracts with the highest percentage of their housing stock as distressed received an NSP score of 20. State minimum NSP scores were again derived from taking the 80th percentile within each state of the NSP risk score.