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Ellen E. Hanak

Public Policy Institute of Californ

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Building Behind Levees: Public Policy and Housing Prices in the Flood Zone

Ellen E. Hanak, Public Policy Institute of California, San Francisco, CA

ABSTRACT

In the wake of Hurricane Katrina, concern over flood protection has grown in many parts of the country. A central policy question is how the housing market values flood control investments. Price responses indicate the extent to which differences in flood risk are capitalized in home values. The capitalization margin can be measured against the cost of mitigation strategies, such as flood insurance or investments in flood protection. Using hedonic estimation techniques, various past studies have found evidence of flood zone discounting as a result of informational events (actual floods, floods in neighboring areas, and changes in disclosure laws). However, these studies have generally focused on areas lying within "special flood hazard areas" (with less than 100-year flood protection). Recent attention has begun to focus on areas that lie outside of this zone because of levee systems. (Thanks to levees, for instance, New Orleans had a rated level of protection for a 250-year flood). Concern over the reliability of the nation's levee systems has prompted FEMA to require communities to recertify levees (with extensive testing) when they update flood maps, a process which is likely to result in widespread "decertification," putting many homes back into the 100-year floodplain. This paper assesses the market value of protection afforded by levees, using data from two metropolitan areas within California's Central Valley where some levees have been subject to scrutiny since the late 1980s. It addresses the following questions: What are the effects on home values of changes in legal floodplain designations arising from improvements or downgrading in levels of flood protection? Do home prices respond to changes in information about the flood risk of areas behind levees when there is no change in the area's legal level of flood protection? What do these effects imply about the ability to finance flood management investments through local property tax assessments and developer fees? The analysis uses single-sale and repeat-sale hedonic estimation techniques, and includes controls that have been absent from many past studies (notably for distance to water, which can have positive attributes, thereby muffling the actual risk discount).

Author Contact Information:

Ellen Hanak

hanak@ppic.org