Sea-Level Rise and Suburbia in Reverse

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The ever-proliferating single-family house has long been a germ of sprawl. While always a financial asset, the house became an even more explicit banking product in the United States in 1934: the precipitant of the Federal Housing Administration (FHA) long-term low-interest mortgage, invented to stimulate banking, generate construction jobs, and provide housing in the hopes of easing the Great Depression. The government insured the banks against borrower default and tried to encourage bankable houses by assessing and approving each loan. The guidelines tended to make neighborhoods as uniform or as much like currency as possible. In the post–World War II era, this mortgage process became a runaway multiplier when so-called merchant builders got blanket approvals for thousands of similar homes at once. More recently the same single-family house—again considered as a financial abstraction, with its mortgage, whether prime or subprime, commonly bundled with others to create mortgage-backed securities—became the impetus for a global financial crisis.

But might there be a way to reverse engineer the mortgage formula to encourage retreat from floodplains rather than encroaching sprawl? Just as the house became a contagion, maybe a countercontagion can leverage decreased environmental risks, more predictable budgets for families and government agencies, and even new opportunities for employment?

Location-efficient mortgages are an interesting precedent. They operate on the principle that properties near transit benefit from lower monthly transportation costs and allow a borrower to qualify for a bigger loan or a larger debt-to-income ratio. These mortgages are scored for an urban characteristic that incentivizes densification rather than sprawl. But while these promising tools have had the backing of Fannie Mae, they were prematurely discontinued in 2008 since any product placing more financial responsibility on potentially ill-equipped borrowers was considered too risky.

But consider a scoring tool that makes one deceptively simple change: it allows mortgage transactions to be considered

in groups. Here the grouping is not about mass uniformity, and the criteria are not solely financial. Instead the tool combines data from a number of existing indexes related to sea-level rise and storm surge to help identify, between properties, complementary and counterbalancing benefits related to flood risks. Higher scores and incentives are given to groups of transactions that result in a move to higher ground or a reduction in collective risk for all. The groupings compound benefits and help stabilize properties that are literally and financially under water. And as these transactions multiply, settlement patterns shift.

While the Federal Emergency Management Agency (FEMA) can supply a great deal of data, the tool also requires the intelligence of architects, urbanists, and environmentalists who can read urban contours. Some of these factors may be much simpler or more practical than obscure or extremely complex financial formulas, and they may offer more tangible risks and rewards.

In one scenario the owners of house A are in a FEMA flood zone facing increased insurance risks, and they want to sell their house. Their move to house B, on higher ground, is scored high for its benefits to coastal resilience and its risk reduction. House A is bought by a family that wants to use it as a vacation home. And if the buyers can afford to elevate it to reduce insurance costs, they also receive a high score. Both mortgages, along with those of neighboring properties that change hands during the same period, can be considered together to improve the group score.

While decreased insurance costs might already incentivize each individual move, added incentives might be awarded for grouping and thus amplifying the reduced risk. Even if one assumes that reduced monthly costs don't guarantee increased buying power or justify lower down payments, other incentives are possible. Might the insurance rate be reduced even further for groups? If pairs or groups bring transactions to the same bank, the bank might provide any number of incentives in exchange for the increased volume of business. Banks might be required to waive origination points or other closing costs for mortgage groups with environmental benefits. Or FEMA might provide a one-time payment to the bank for points to reduce the interest rate. (A point is a fee equal to 1 percent of the loan amount and typically has the capacity to lower interest rates by .25 percent.)

Currently FEMA incentivizes moving away from flood-prone areas by charging higher insurance rates, and the agency's only other mode for organizing relocation is simply to pay for it. FEMA's first relocation of climate refugees, the community of Isle de Jean Charles, Louisiana, is laudable, but at a cost of $48 million, it may be difficult to repeat, especially as more and more powerful storms, whipped up by global warming, hit the US coastal areas. And in the true spirit of reverse engineering, a relatively modest contribution to mortgage principal that reduces interest rates is compounded over the life of the mortgage.

Continue to play the game considering financial and environmental assets together. The neighbors of House A—Houses C, D, and E—face the same increased insurance rate. They have to sell, and because the properties are not appropriate for elevated vacation homes, they would do so at a great loss. But if they form a group, and if the shoreline municipality buys the properties for the purpose of clearing and creating protective revetments, suddenly they are more viable, and the group's collective score goes up. Municipalities might even be given enhanced scores so that both the community and the seller are motivated to make a deal. House A, in the meantime, potentially has an increased value not only because of the plans for revetments but also because of its future unobstructed view of the ocean. The collateral staked against risk for house A makes the deal less risky for the bank.

Other points of leverage might come into play as the game accelerates. But if a move away from risk becomes popular because of its affordability, federal money may be freed to address climate-change investment rather than bailouts. The economy has traditionally relied primarily on housing starts, which are not necessarily positive environmental indicators in the long run, to support construction jobs, but the deconstruction and relocation of houses offer another kind of skilled work.

In the current political climate, market deregulation is used as the rationale for overturning the most fundamental environmental protections. But maybe using that very market to generate profits based on different values has some political Teflon. With the same speed that thousands of new suburban homes transformed the US landscape, these reverse-engineered multipliers can, in sufficient volume, transform the shape of flood zones and other places where it might be wise to put the development machine into reverse. ≈