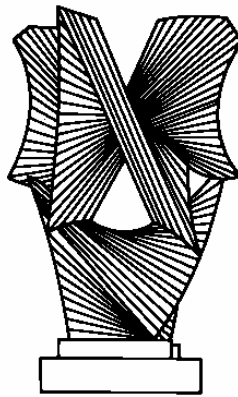


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Homeownership 2.0

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**THE LAW SCHOOL
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HOMEOWNERSHIP 2.0

*Lee Anne Fennell**

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INTRODUCTION

Current legal arrangements make homeowners high-stakes gamblers.¹ Homebuyers routinely take on crushing debt loads to put huge sums of money into risky, undiversified ventures that are utterly out of their personal control -- local housing markets.² That these markets typically post positive returns over time is of little comfort to those caught on the downside of housing market volatility. Moreover, because rights to these expected gains are priced into the home, many would-be buyers are priced out of the market. The shortcomings of the homeowner's investment package have not escaped notice, and for decades scholars and innovators have tried to devise better ways to manage the upside and downside risks of owning a home.³ Derivatives markets for such risk have recently begun to emerge, due in large part to the collaborative efforts of Karl Case, Robert Shiller, and Allan Weiss.⁴

As the technical capacity to slice, dice, and trade homeownership risk advances, this paper steps back to examine how a reduced-risk version of homeownership fits together with property theory, human cognition, and the social dynamics of neighborhoods and metropolitan areas. To explore these

¹ See Robert J. Shiller, *American Casino*, 295(2) ATLANTIC MONTHLY 33, 34 (March 2005) (discussing how consumers' exposure to market risk, including home price volatility, "threatens to transform the United States into a nation of gamblers").

² See, e.g., William A. Fischel, *Why Are There NIMBYs?* 77 LAND ECON 144, 146 (2001) (likening a home purchase to the use of nearly all one's assets to invest in "a single firm that produced one product in a single location"); Walter Updegrave, *The Right Size House*, CNN.money.com (July 16, 2004) ("[A] house is inherently an undiversified asset. You own a house in one city in one neighborhood on one block").

³ See, e.g., ANDREW CAPLIN ET AL., HOUSING PARTNERSHIPS: A NEW APPROACH TO A MARKET AT A CROSSROADS (1997); ROBERT J. SHILLER, MACRO MARKETS: CREATING INSTITUTIONS FOR MANAGING SOCIETY'S LARGEST ECONOMIC RISKS (1993); Matityahu Marcus & Michael K. Taussig, *A Proposal for Government Insurance of Home Values Against Locational Risks*, 46 LAND ECON. 404 (1970); Part I.C., *infra* (surveying some of the past and proposed models for rearranging risk). Recent examples include Home Value Protection, <http://www.syracusesni.org/equitysite/index.html> (pilot program in Syracuse, New York offering home equity insurance); Rex & Co., www.rexagreement.com (U.S. investment firm that has recently begun offering funds in exchange for a share of home equity); Rick Jacobus & Jeffrey Lubell, *Preservation of Affordable Homeownership: A Continuum of Strategies*, Center for Housing Policy, Policy Brief (April 2007) (surveying the range of home equity arrangements designed to deliver affordable homeownership); Ben Wilmot, *Radical Thinking to Shake up the Mortgage Market*, Australian Financial Review, Sept. 22, 2005, available at http://w4.stern.nyu.edu/news/news.cfm?doc_id=4889 (describing venture that would offer reduced monthly payments to borrowers "in return for an interest in a home's capital appreciation"); Marjorie Ramseyer Bardwell and James Geoffrey Durham, *Transfer Fee Rights: Is the Lure of Sharing in Future Appreciation a Flawed Concept?* 21(3) Probate & Property 24, (May/June 2007) (discussing transfer fee rights that use covenants to retain some of the home's future appreciation); Ian Ayres & Barry Nalebuff, *Why Not? Price-Protect Your Home*, Forbes.com, August 29, 2002.

⁴ In Spring 2006, futures and options based on housing indexes developed by Robert Shiller and Karl E. Case became tradable on the Chicago Mercantile Exchange (now CME Group). See *infra* Part I.C.4 (discussing these hedge instruments). These housing market derivatives grew out of many years of work by Shiller, Case, and Weiss. See, e.g., SHILLER, *supra* note 3, at 78-87; ROBERT J. SHILLER, THE NEW FINANCIAL ORDER 118-20 (2003); Robert J. Shiller & Allan N. Weiss, *Home Equity Insurance*, 19(1) J. REAL ESTATE FIN. AND ECON. 21 (1999); Karl E. Case, Jr., Robert J. Shiller, & Allan N. Weiss, *Index-Based Futures and Options in Real Estate*, 19(2) J. PORTFOLIO MANAGEMENT 83 (1993).

questions, I present a new tenure form -- Homeownership 2.0 or "H2.0" -- that seeks to optimally unbundle certain investment components from the core homeownership package. Central to my approach is a distinction between parcel-specific influences on home values, which the homeowner is in a good position to personally control or insure against ("onsite factors"), and influences on home values that emanate from beyond the four corners of the parcel, such as neighborhood changes and larger housing market trends ("offsite factors"). I argue that only those value changes relating to onsite factors are essential to the homeownership bundle as it exists today. Historical inertia in property forms has kept offsite impacts in the homeowner's standard package, but requiring homeowners to invest in these factors as a matter of course is no more sensible than forcing them to invest in some other random, localized venture with variable returns.⁵ H2.0 thus offers a reduced-risk alternative to traditional homeownership.⁶

The basic idea behind H2.0 is simple. At closing, a homebuyer is metaphorically presented with two dials that she may twist to adjust her ownership of upside and downside price volatility attributable to offsite factors. Under traditional homeownership arrangements, all of the downside risk and upside potential is assigned to the homeowner; in other words, both dials are stuck at 100% and do not adjust. Under H2.0, both dials are reset to 0% (or some other value) as a default matter with respect to offsite factors, and can be adjusted by the homebuyer as desired.⁷ In economic substance, the move from full risk-bearing to the H2.0 default position means that the homeowner compensates an investor to take on offsite downside risk, and an investor pays the homeowner for rights to offsite upside potential.⁸ Under the default arrangement, however, the homeowner would simply encounter an interface that repriced the home to take account of these changes. She could then twist either or both dials to selectively add back in as much upside and downside risk relating to offsite factors as she wished to accept.

The moving parts inside H2.0 -- market mechanisms for offloading homeownership risk -- are the ongoing work of others.⁹ My focus here is not on perfecting the technical elements of these underlying risk transfer

⁵ This is not to say that homeowners never have rational reasons for wanting to invest fully in their home's price trajectory. For example, such investment might be undertaken as a hedge against rising prices in the same housing market if the household plans to "trade up" within the same community in the future. See Lu Han, *The Effects of Price Uncertainty on Home Purchase Decisions Over the Life Cycle* (December 2005), available at http://www.rotman.utoronto.ca/lu.han/life_cycle.pdf.

⁶ H2.0 would not require the creation of a new possessory estate, because the risk-shifting arrangements could all be handled through a standardized contractual package. See *infra* Part II.D.

⁷ The optimal default value is an open question, and one that interacts with other design choices, such as the treatment of inflation. See *infra* notes 90-96 and accompanying text (discussing some of these issues). Assumptions about the likely future housing consumption plans of the household also bear on the default design. See *infra* Part V.A.

⁸ For a simple example of how this might work, see text accompanying notes 88-91 *infra*.

⁹ See notes 3-4, *supra*.

mechanisms, but rather on formulating a tenure package that is capable of delivering the benefits of these innovations to ordinary homeowners in a way that is compatible with property theory, human cognition, and the social goals of communities. Doing so, however, requires an understanding of how the underlying mechanisms would work and what their effects would be. Hence, H2.0 serves both as a prototype for how best to package homeownership risk transfers, and as a focal point for assessing the merits and demerits of the risk transfers themselves.

The many advantages and concerns associated with the H2.0 approach will be spelled out below. For now, two basic points suffice. First, allowing homebuyers to transfer offsite factor volatility to investors offers an untapped opportunity to produce Pareto improvements.¹⁰ For most U.S. households, non-labor wealth is dominated by a single, volatile asset -- the home.¹¹ Placing so many of the household's eggs in one basket not only runs counter to basic principles of portfolio diversification, but also motivates potentially costly basket-guarding behaviors.¹² Moreover, households that lack the financial wherewithal or risk tolerance to take on such a large investment simply cannot become homeowners.¹³ Facilitating transfers to investors, who can hold slices of housing risk within diversified portfolios, could produce substantial gains.

Second, it is possible to package the means for accomplishing these transfers not as stand-alone products for chipping away at traditional

¹⁰ See CAPLIN ET AL., *supra* note 3, at 89 ("Simple portfolio theory argues that there is scope for a Pareto improvement if the owner-occupant sells a proportion of their home's asset value to a large, well-diversified financial institution.").

¹¹ See, WILLIAM A. FISCHER, THE HOMEVOTER HYPOTHESIS 4 (2001); Brian K. Bucks, et al., *Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances*, Federal Reserve Bulletin A1, A22-23 (2006) available at <http://www.federalreserve.gov/pubs/oss/oss2/2004/bull0206.pdf> (noting that "housing wealth is typically the largest component of families' fungible wealth"); see also note 42, *infra* (discussing data from the 2004 Survey of Consumer Finances). Human capital, which generated 78.7% of personal income in 2005, typically represents a larger share of household wealth than the home does. See U.S. Census Bureau, 2007 Statistical Abstract, Personal Income and Its Disposition, Table 657, available at http://www.census.gov/compendia/statab/income_expenditures_wealth/ (showing 2005 total personal income of \$10,248.3 billion, with \$7,125.3 billion in employee compensation and \$938.7 billion in proprietor income); see also Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1353 (1993) (making the same point with 1989 data). Like home values, however, the market value of human capital is subject to significant volatility. See e.g., SHILLER, *supra* note 4, at 107-10 (discussing the risk of pursuing particular livelihoods); JACOB S. HACKER, THE GREAT RISK SHIFT 60-85 (2006) (discussing job insecurity). To the extent local housing prices are correlated with the performance of the local labor market, the exposure of working homeowners is amplified. See CAPLIN ET AL., *supra* note 3, at 73-75 & figs. 5.2 - 5.3 (discussing and illustrating correlation between changes in wages and those in house prices).

¹² See *infra* Part IV.A.

¹³ The potentially suboptimal lumpiness of the home investment has been well noted. See e.g., Stephen Day Cauley, et al., *Homeownership as a Constraint on Asset Allocation*, 34 J. REAL ESTATE FIN. AND ECON. 283, 309 (2007) (describing the home purchase as a "lumpy investment that places a constraint on the owner's asset allocation decisions" and that can lead to suboptimally large investments in the home); CAPLIN ET AL., *supra* note 3, at 85 (observing that there is a "major indivisibility" in the market for homes that "forces owners to tie their housing consumption decision to their asset accumulation and portfolio decisions"). To put it another way, homeowners must presently finance their homes only using debt financing, rather than a blend of debt and equity financing. See Andrew Caplin et al., *Shared Equity Mortgages, Housing Affordability, and Homeownership*, Fannie Mae Foundation Report 1 (2007), available at <http://ssrn.com/abstract=983100>.

homeownership, but rather as a new and theoretically well-grounded alternative form of tenure. H2.0 represents a broad-spectrum response to a growing tension between the popular, boundary-oriented understanding of ownership and the reality of homeownership as it exists on the ground. As increasingly large percentages of home values are determined by conditions and events lying outside of the owned parcel, the idea that one can protect the value of one's property by fortifying and defending its boundaries has become absurd. Homeowners have responded by trying to control as many offsite factors as possible through measures like exclusionary zoning and private covenants. Yet these efforts often entail heavy social costs and offer little or no protection against many sources of home price fluctuation. H2.0 offers an alternative way of restoring the balance between exposure and control. Rather than expand control to align with investment exposure, homeowners can use H2.0 to scale down investment exposure to match their sphere of effective control.

This is an ideal historical moment for such a proposal. Home values, after a run of increases, have shown themselves to be vulnerable to significant downward movement. At the same time, recent lending practices have injected price instability into the repayment schedules of millions of households.¹⁴ As these two factors converge to push significant numbers of U.S. homeowners into foreclosure,¹⁵ the wisdom of the national obsession with homeownership as an ideal is called into question. We need not ditch homeownership, I argue; we can instead reconfigure it so that it is more capable of delivering what it promises.

The paper proceeds in five parts. In Part I, I discuss the dual nature of homeownership as a source of consumption value and as an investment vehicle,¹⁶ and discuss past and ongoing attempts to remove some of the

¹⁴ See, e.g., EDWARD M. GRAMLICH, *SUBPRIME MORTGAGES: AMERICA'S LATEST BOOM AND BUST* 17-18 (2007) (explaining that subprime mortgages are typically adjustable rate mortgages that feature an initially low interest rate that is fixed for only two or three years; the mortgage then becomes adjustable and can reset to much higher interest rates); James R. Hagerty and Ken Gepfert, *Home Security: One Family's Journey Into a Subprime Trap*, WALL ST. J., Aug. 16, 2007, at A1 (discussing and depicting the "projected value of home mortgages due to 'reset' to higher interest rates" over the next few years). In recent years, subprime lending has expanded dramatically. See GRAMLICH, *supra*, at 6 (observing that subprime mortgage originations grew from \$35 million in 1994 to \$625 billion in 2005, representing a shift from less than five percent of all mortgage originations to twenty percent of all mortgage originations); Hagerty & Gepfert, *supra* (reporting that 20% of mortgages in 2006 were subprime loans).

¹⁵ See Hagerty & Gepfert, *supra* note 14 (reporting projections that foreclosures in 2007 and 2008 will total 760,000 and 935,000, respectively, compared with an average of 440,000 foreclosures per year from 2000 through 2006).

¹⁶ See, e.g., Jan K. Brueckner, *Consumption and Investment Motives and the Portfolio Choices of Homeowners*, 15 J. REAL ESTATE FIN. AND ECON. 159 (1997); Satyajit Chatterjee, *Taxes, Homeownership, and the Allocation of Residential Real Estate*, Business Review, Federal Reserve Bank of Philadelphia (Sept/Oct 1996) at <http://www.phil.frb.org/files/br/sobr96sc.html>, at 3 ("a home purchase really involves two distinct transactions bundled into one: the purchase of a house and the purchase of service benefits (comfort and shelter) that flow from the house"); J.V. Henderson & Y.M. Ioannides, *A Model of Housing Tenure Choice*, 73 AM. ECON. REV. 98, 102 (1983) ("Durables such as housing may serve dual purposes for many consumers -- as a consumption good and as an investment in a portfolio").

upside or downside investment volatility from the homeownership bundle. Part II explains how the new H2.0 package would unbundle the elements essential to homeownership from offsite investment risk factors, and outlines its key advantages. Part III explores the cognitive barriers to the acceptance of H2.0, as well as concerns that cognitive biases might lead consumers to misuse it. Part IV considers broader societal implications of a change in the content and meaning of homeownership, including impacts at the neighborhood, local government, and metropolitan scales. Part V suggests some directions for further research.

I. THE ELEMENTS OF HOMEOWNERSHIP

If we believed that homeowners were affirmatively choosing to bet a hefty chunk of their household wealth on the fortunes of their local housing markets, then homeownership's current configuration would be fully satisfactory. For some, such as those who plan to make future home purchases within the same housing market, such an investment may indeed be quite deliberate. In such instances, the household's current investment in the local housing market can serve as a hedge against future price increases in that same market; the original home's appreciation can help to fund the consumption of other housing that experiences closely correlated price changes.¹⁷ Other homeowners may purposefully invest as part of a diversified portfolio or simply because of their personal investing preferences. But it seems likely that many homeowners gamble on the future of their local housing markets only by accident, because existing institutional arrangements offer them no alternative.

Households desire homeownership for many reasons: it delivers a stable stream of housing consumption, a large degree of personal control over the residence, access to superior housing stock and public services, important tax advantages, and unparalleled social and status benefits.¹⁸ While the volatility of the home's value may be part of the appeal for some homeowners, for others it simply comes with the territory. As Andrew Caplin and his coauthors put it, "the current market does not allow a

¹⁷ See Han, *supra* note 5; see also James Banks et al., *House Price Volatility and Housing Ownership Over the Life Cycle* at 10, University College London Discussion Papers in Economics No. 04-09 (December 2004), available at http://www.econ.ucl.ac.uk/papers/working_paper_series/0409.pdf (discussing the "insurance" function of owner occupancy). I thank Michael Abramowicz for comments on this point. The statement in the text assumes that price movements are closely correlated within a given local housing market. See *id.* This might not be the case if there is significant heterogeneity within that market as to the ratio between the value of the land and the value of the improvements, given the potential for those two components to appreciate at different rates. See Raphael W. Bostic et al., *Land Leverage: Decomposing Home Price Dynamics*, 35 REAL ESTATE ECON. 183, 187 (2007) (positing that varying ratios of land value to total home value can produce "asymmetric appreciation" within a given local housing market as a result of "asymmetric exposure to common shocks to land values").

¹⁸ See, e.g., CAPLIN ET AL., *supra* note 3, at 24-28 (discussing many advantages of homeownership, including tax benefits, greater control over terms of tenure, better-maintained housing stock, and access to communities offering desirable amenities and public services); Part I.A., *infra*.

household to separate its housing investment decision from its housing consumption decision.”¹⁹ In subparts A and B, I examine homeownership's consumption and investment components, respectively. In subpart C, I briefly survey some past and ongoing programs designed to decouple these elements in various ways. This discussion will set the stage for the introduction in Part II of H2.0's version of homeownership.

A. Homeownership as Consumption

Households need not buy a home in order to consume housing; they can rent instead. The leasehold neatly separates consumption of housing from investment in housing -- the landlord invests, while her tenants consume. We might think, then, that homeowners must be willing investors, or they would not enter into homeownership at all. This logic breaks down, however, if we think that the consumption streams available to tenants tend to be systematically inferior to those available to homeowners.²⁰ It is therefore worth examining how the homeownership brand of housing consumption differs from the leasehold variety.

A much-cited advantage of owing a home is the element of price protection it provides. In housing markets without rent control, tenants face significant uncertainty about how much their current housing will cost in future periods.²¹ The rental amount is guaranteed to remain fixed only for the lease term, often a year or less, and may rise thereafter without warning. As advocates of rent control have noted, this uncertainty poses a threat to the plans of residents who wish to put down roots in a given area with an expectation of building an ongoing life there.²² In contrast, the price paid for a home is fixed at the time of purchase, and will not rise thereafter.²³

On closer examination, however, the homeowner's price protection advantage looks less impressive. The vast majority of homebuyers finance their purchases, and credit arrangements can introduce price instability. Homeowners' insurance, required by lenders, can spike upward in cost.²⁴

¹⁹ CAPLIN ET AL., *supra* note 3, at 80.

²⁰ In addition, as explored in Part I.B., *infra*, the fact that a homeowner desires to invest at some level in the housing that she consumes does not establish that she wishes to take on the full quantum of investment associated with both onsite and offsite risks.

²¹ See Todd Sinai & Nicholas S. Souleles, *Owner-Occupied Housing as a Hedge Against Rent Risk* University of Pennsylvania, Rodney L. White Center for Financial Research Working Paper No. 01-03, FRB Philadelphia Working Paper 05-10 (January 8, 2003), available at <http://ssrn.com/abstract=389404>.

²² See, e.g., Margaret Jane Radin, *Residential Rent Control*, 15 PHIL. & PUB. AFF. 350, 359-62, 368-70 (1986) (discussing the significance of continued residence from personhood and community perspectives); Greg Smithsimon, *Rent Regulation: The Right Tool for the Right Job*, Planetizen, May 14, 2007, available at <http://planetizen.com/node/24451> (suggesting rent regulation's purpose is to provide housing stability).

²³ See, e.g., Sinai & Souleles, *supra* note 21, at 1 (discussing the home purchase as including "a hedge against rent fluctuations").

²⁴ See, e.g., Jim Yardley, *Texas Home Insurance Crisis Roils Residents and Top Race*, N.Y. TIMES, Oct. 4, 2002 (discussing rising premiums and termination of homeowners' insurance coverage in Texas, in part due to the cost of mold-related claims); Joseph B. Treastor, *Home Insurers Embrace the Heartland*, N.Y. TIMES, May 20,

Property taxes can rise rapidly and unexpectedly.²⁵ Maintenance and repair costs can be large and unpredictable.²⁶ Finally, and perhaps most importantly, the homeowner may want or need to move. When she does, her ability to obtain housing elsewhere depends on the sales price of her current home, a value that is subject to great investment risk.²⁷

Nonetheless, tenants face additional uncertainty that is different in kind. At least in the absence of limitations imposed by law, a landlord can sell the property, convert the property to some other use, or decide to occupy it herself as a residence -- all events that would physically dispossess the tenant.²⁸ In contrast, all homeowners possess something very valuable -- the option to remain in their current house for as long as they wish, provided they make the necessary mortgage and tax payments.²⁹ This option is not absolute -- it can be overridden by the government through eminent domain or nullified by other factors that make continued habitation impossible, such as natural disasters -- but it is very robust. Indeed, the reaction to *Kelo v. City of New London*³⁰ can be understood as affirming the degree to which ordinary people value the option to stay put, and how strongly the notion of homeownership is associated with that option.

In addition, renters often face rather severe constraints on their autonomy with regard to matters such as pet keeping, decorating, and landscaping. They often face restrictions on adding occupants to the household or subleasing the property.³¹ While the autonomy of homeowners with respect to such matters has also become increasingly

2006 (reporting on premium increases and coverage refusals in coastal areas).

²⁵ Often, this is a function of changes in the property's underlying value that could, in theory, be tapped to meet the larger tax bill. However, accessing the equity to meet rising tax bills can be cumbersome and distasteful for homeowners.

²⁶ While long-term maintenance contracts can shift some of these risks, the residual risk remains on the homeowner. A landlord's tenants may also ultimately bear the costs of repairs and maintenance, but they are likely to do so as a group, so that the risk of particularly expensive repairs are pooled.

²⁷ If housing prices move in tandem in both the housing market from which a homeowner is departing and the one that she is entering, fluctuations pose a much smaller risk to the stream of housing consumption. But if the two housing markets experience different changes in housing prices, dips in the value of one's present home will prove more threatening. See Part V.A, *infra*.

²⁸ See, e.g., Cara Solomon, *Seniors Shoved Aside by Condo Conversions*, SEATTLE TIMES, Aug. 13, 2007 (discussing the hardships for displaced tenants of landlords' decisions to convert properties to condominiums).

²⁹ The fact that homeowners have this option does not mean that they always use it. However, moving rates are much lower among homeowners than among renters. Census data show that one-third of renter households changed residences between 2002 and 2003, compared with one in fourteen households living in owner-occupied housing at the time of the survey. Jason P. Schacter, *Geographic Mobility: 2002 to 2003*, U.S. Census Bureau, Current Population Reports 5 (March 2004), available at <http://www.census.gov/prod/2004pubs/p20-549.pdf>. Data for 2004 to 2005 reflect moves by 29% of renter households and 6.34% owner-occupant households. See U.S. Census Bureau, *Geographic Mobility: 2004 to 2005*, Detailed Tables, Table 17, General Mobility of Householders, by Tenure, Age, and Household Income in 2004: 2004 to 2005, available at <http://www.census.gov/population/socdemo/migration/cps2005/tab17-2.xls>; <http://www.census.gov/population/socdemo/migration/cps2005/tab17-3.xls>.

³⁰ 545 U.S. 469 (2005).

³¹ Law places some limits on these restrictions. For example, the federal Fair Housing Act protects families with children against discrimination, and thus would typically protect the right of parents to add their own children, or children who have been placed in their custody, to the household. See 42 U.S.C. §§ 802(k); 804.

limited as common interest communities featuring tight restrictions have gained market share,³² owners still generally enjoy greater latitude than renters in choosing how to use and modify the property. Perhaps more importantly, tenant households typically confront a constrained housing choice set relative to homebuyers. Most of the single-family housing stock in the country is owner occupied, and owners tend to sell their homes when they move rather than offer them for rent. Moreover, rental houses are likely to receive less care and attention, on average, from their owners and occupants, making it less likely that pristine homes will appear on the rental market.³³

At least in theory, many of the disadvantages of renting could be resolved contractually through different lease provisions. Residential leases could be extended to terms lasting several decades, for example, and could delegate to the tenant free choice on a wide array of matters that customarily have been left to the discretion of homeowners. While contractual provisions alone would not expand the spectrum of available rental housing, if leaseholds became increasingly attractive along the dimensions just suggested, tenants would be expected to bid up rents and eventually trigger an expansion in the supply of housing stock available for rent. But important moral hazard problems remain.³⁴ In addition, there are two important advantages to owning that improved leasehold terms cannot address.

First, homeowners enjoy significant federal income tax benefits that tenants do not receive. Homeowners pay no tax on imputed rent, yet can deduct their major expenses (mortgage interest and property taxes) if they

³² See, e.g., Paula A. Franzese, *Does It Take a Village? Privatization, Patterns of Restrictiveness and the Demise of Community*, 47 VILL. L. REV. 553, 555-56 (2002) (giving examples of restrictions placed on property owners in common interest communities governing matters such as landscaping, exterior aesthetic choices, and even some aspects of dress and conduct); Zach Rawling, *Reevaluating Leasing Restrictions in Common Interest Developments: Rejecting Reasonableness in Favor of Consent* (2007), available at http://works.bepress.com/zach_rawling/3 (discussing restrictions on leasing properties in common interest communities to tenants).

³³ The tenant might be expected to neglect the owner's long-term interests in the property, while the owner might be expected to neglect aspects of the tenant's consumption stream that do not affect the property's value over the long run. The result is a "double moral hazard problem" in which both parties exert less effort than optimal on the property. See Derek K.Y. Chau et al., *Leases with Purchase Options and Double Moral Hazard*, 33 J. BUS. FIN. & ACCT. 1390, 1391 (2006) (describing the "double moral hazard problem inherent in leases" and suggesting the ability of a purchase option to resolve it); see also Henderson and Ioannides, *supra* note 16 (describing and modeling the "rental externality"). A "lemons" dynamic may amplify this phenomenon. See George A. Akerlof, *The Market for "Lemons": Quality, Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 489 (1970). Tenants who cannot tell ex ante whether a given rental is high-quality or low-quality will only be willing to pay for an average-quality rental. Because tenant price resistance makes it unprofitable for landlords to offer high-quality rentals, the average quality of rentals will drop. Likewise, if tenants have unobservable characteristics that determine how much care they will take of the home, landlords will gravitate toward price-amenity combinations that will be profitable when average-care tenants move in. Because these price-amenity combinations are not as attractive to high-care tenants, high-care tenants will have an incentive to become homeowners. See Robert D. Dietz & Donald R. Haurin, *The Social and Micro-Level Consequences of Homeownership*, 54 J. URB. ECON. 401, 422 (2003) (citing Henderson and Ioannides, *supra* note 16).

³⁴ See *supra* note 33.

itemize.³⁵ In addition, homeowners can receive up to \$250,000 in tax-free gains on the sale of their home (\$500,000 for a married couple).³⁶ Their renting counterparts, in contrast, must pay rent with after-tax dollars to landlords who receive no analogous tax benefits.

It might seem at first that the tax implications of homeownership should play no role in thinking about whether to introduce a new tenure form, since tax policy can always be manipulated directly if doing so is deemed socially desirable. For example, eliminating the tax advantages of homeownership altogether might spur the development of the types of enhanced leasehold alternatives discussed above, closing the consumption gap between owning and leasing.³⁷ But the complete elimination of homeownership tax advantages probably lies outside the realm of current political possibility.³⁸ Absent such a sweeping reform, leaseholds are less likely to evolve in ways that will fill the consumption gap. Moreover, the introduction of a new tenure form -- a new category into which households could self-select -- could be essential in facilitating the more limited reform of extending tax advantages to a broader spectrum of the population.

Perhaps even more important to the dominance of homeownership is its tremendous psychological and cultural importance. At least outside of metropolitan areas like New York where renting is common among all social strata, ownership is the ideal to which most households in the U.S. aspire. Renting, in contrast, is widely viewed as a transitional state that is not consonant with long-run stability.³⁹ Here, too, we must ask what

³⁵ Chatterjee, *supra* note 16 (discussing the significance of the nontaxation of imputed rent); 26 U.S.C. §§ 163(h); 164 (deductibility of mortgage interest and property taxes). The fact that only those taxpayers who itemize can receive these deductions makes them quite regressive in their operation, and also calls into question their presumed positive effect on increasing the rate of homeownership. For a recent discussion, see William G. Gale et al., *Encouraging Homeownership Through the Tax Code*, 115 TAX NOTES 1171 (June 18, 2007).

³⁶ 26 U.S.C. §121. This tax advantage can only be claimed once every two years, and certain conditions must be met regarding the ownership and use of the home. *See id.* Losses on the primary residence are not deductible.

³⁷ *See* Chatterjee, *supra* note 16, at 3 (suggesting that, "[i]n the absence of a tax advantage to owner-occupants, the market would tend to 'unbundle' these distinct transactions," so that "[t]he household that most values the services of a house will rent it from those best able to bear the financial risks of homeownership").

³⁸ More limited reforms may well be imaginable, however. *See, e.g.,* Gale et al., *supra* note 35. Eliminating the mortgage interest deduction, a common policy target, might not produce all of the desired effects on its own, given the ability of some households (especially those with high incomes), to finance their home purchases through other means (say, by paying cash) while still enjoying the core tax advantage -- nontaxation of imputed rent. *See* James R. Follain & Lisa Sturman Melamed, *The False Messiah of Tax Policy: What Elimination of the Home Mortgage Interest Deduction Promises and a Careful Look at What it Delivers*, 9 J. HOUS. RES. 179 (1998). An example presented by Chatterjee makes the point clearly. Imagine a household has \$100,000 cash on hand that it can either use to buy a house or to buy stocks (the dividends from which will be used to pay rent). If the household buys the stocks, it will have to pay tax on the dividends the investment generates before those dividends can be converted into housing consumption through the payment of rent. If the household buys the house, however, it will not have to pay tax on the "dividends" produced by the asset (imputed rent), but can instead simply enjoy an untaxed housing consumption stream. *See* Chatterjee, *supra* note 16, at 2. The mortgage interest deduction puts the homebuyer who finances the purchase in the same position as the cash buyer by allowing her to service her housing debt with pre-tax dollars so that she too can enjoy an untaxed housing stream from the purchased asset. *See id.* at 2-3. As Chatterjee notes, the elimination of the mortgage interest deduction could be coupled with the nontaxation of income from capital to remove the distortion to tenure choice. *See id.* at 5.

³⁹ *See, e.g.,* CONSTANCE PERIN, EVERYTHING IN ITS PLACE: SOCIAL ORDER AND LAND USE IN AMERICA 53

underlies the impulse toward ownership. The desire for a stable option -- a place that is one's home for as long as one chooses to stay there -- is certainly part of the story. The other advantages noted above also likely play a role. But there seems to be something essential about claiming a place as one's own that cannot be reduced to these practical benefits. That essential element of ownership, I will argue, is bound up with the onsite investment facet of homeownership.⁴⁰

If a sense of ownership requires some level of investment, no leasehold can fully replicate the consumption experience of homeownership. Whether or not we ought to encourage people to develop and sustain a taste for ownership is, of course, a separate question. Longer and better leaseholds and reform of homeownership's tax advantages are worthy goals, and ones that might in the long run help to produce a society that is less enamored of ownership. But taking the world as we find it, with strong social and governmental pressures pushing households toward ownership, there is a large gap on the tenure spectrum that the leasehold cannot answer.

B. Homeownership as an Investment

Homebuyers do not just purchase a consumption stream, they also make an investment.⁴¹ This investment is typically the single largest in the household's portfolio,⁴² and it is often heavily leveraged.⁴³ Do homeowners seek out this level of investment exposure, or do they merely tolerate it? Because households cannot presently offload unwanted home price volatility, it is difficult to determine the relative proportions of eager and reluctant gamblers among American homeowners. However, economic analysis suggests that the linkage of housing consumption and housing investment produces a binding constraint on portfolio choice that yields

(1977) (describing renters as occupying a category that is "by definition one of transition in American axioms about the sequence of life."); Sheila Klebanow, *How Much is Enough? A Psychological Overview of Money and the Middle Class*, in MONEY AND MIND 3, 6-7 (Sheila Klebanow & Eugene L. Lowenkopf, eds., 1991) ("For many, homeownership connotes solidity, stability, self-esteem, putting down roots, and making a commitment to oneself, or to marriage and family.").

⁴⁰ See *infra* Part I.B.

⁴¹ See *supra* note 16.

⁴² See *supra* note 11. According to the 2004 Survey of Consumer Finances, the median net worth of a homeownership family in the U.S. was \$184,400, which only narrowly exceeded the value of the median primary residence, \$160,000. See Bucks et al., *supra* note 11, at A.23, tbl. 8B. The median amount of home equity for a homeownership family was \$86,000 in 2004, see *id.* at A28, n.36, making the ratio between median home equity and the median net worth of a homeownership family .467.

⁴³ For homeownership families with mortgages, the median amount of debt secured by the primary residence was \$95,000 in 2004. That same year, roughly 70% of the debt of all families was for purposes of purchasing a primary residence. See *id.* at A32, tbl. 12. This somewhat understates the significance of the home debt burden for homeownership families, because that figure includes families that do not own a home at all. On the other hand, the attribution of all of this debt to the "purpose" of buying a home does not account for the fact that many families use debt financing of the home to free up money elsewhere, and hence avoid other forms of debt. See *id.* at A31-32.

inefficient results.⁴⁴ In other words, homeowners would invest differently - and more efficiently -- if they had full freedom to allocate their investment dollars between housing and non-housing investments.

At the same time, the homeownership consumption stream is, by definition, one that allows the owner to view herself *as* an owner. I have suggested that some level of investment is necessary to enjoy in an authentic manner the consumption good of homeownership. But how much? Clearly, the personal shouldering of all risks cannot be a prerequisite to our understanding of ownership. Homeowners typically carry insurance against casualty losses that offload risks that they cannot efficiently bear, yet no one would suggest that an insured home is any less fully "owned." Similarly, most homeowners have a mortgage on the property that places some investment risk on the lender,⁴⁵ yet the title of "homeowner" is not called into question.

A better way of understanding the homeowner's relationship to risk is found in Yoram Barzel's notion of the property holder as the "residual claimant" -- a party who bears any property-related risks that have not been contractually (or legally) placed on others.⁴⁶ That formulation, however, does not tell anything about the kinds of risk (if any) to which a homeowner must remain exposed in order to be regarded as, and to view herself as, the property's owner. The problem can be approached from a different angle by considering Henry Smith's explanation of why owners are residual claimants in the first place.⁴⁷ Smith observes that a residual claim captures difficult-to-measure contributions.⁴⁸ Thus, the party whose inputs are "hardest to measure" will be treated as the residual claimant or owner -- the one who gets whatever outcomes remain after all the other, easier-to-measure claims have been sorted out.⁴⁹

⁴⁴ See, e.g., Cauley et al., *supra* note 13, at 309 (finding that, under reasonable assumptions, "homeowners would require a 6% increase in total net worth to achieve the same utility level as an individual not facing the asset allocation constraint," and suggesting that the figure could rise as high as 25% in some regions); Brueckner, *supra* note 16 (modeling the constraint of homeownership on the investment choices of homeowners and concluding that "when the constraint is binding, the optimal portfolio of the homeowner is inefficient in a mean-variance sense, reflecting overinvestment in housing"); Henderson & Ioannides, *supra* note 16, at 111 (examining the significance of the "dual role of housing as a consumption and investment good" in determining tenure choice, and the possibility that households will "'distort' their investment and consumption choices and owner-occupy rather than rent").

⁴⁵ In the event of default, lenders may not be able to sell the home for enough money to cover the outstanding mortgage debt, especially in a falling market. See, e.g., James R. Hagerty, *Mortgage Woes Force Banks to Take Hits to Sell Homes*, WALL ST. J. (online), May 14, 2007, page A2. While the lender can attempt to recover any shortfall from the homeowner (unless the loan is non-recourse), homeowners in such a position may declare bankruptcy. See Robert J. Shiller & Allan N. Weiss, *Moral Hazard in Home Equity Conversion*, 28 REAL ESTATE ECON. 1, 13-14 (2000).

⁴⁶ YORAM BARZEL, *ECONOMIC ANALYSIS OF PROPERTY RIGHTS* 78-79 (2d ed. 1997); see also Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. Rev. 1719, 1795-96 (2004) (applying and explaining the idea of a property owner as "the holder of the residual claim").

⁴⁷ See Smith, *supra* note 46, at 1795-97.

⁴⁸ *Id.* at 1796.

⁴⁹ See *id.* at 1796-97.

To translate these ideas to the homeownership context, it is helpful to distinguish between sources of property value movement that are within the household's control and sources of property value volatility that are out of the household's control.⁵⁰ The former relate to the household's own day-to-day inputs, which will typically be difficult for others to accurately measure. Indeed, this very difficulty in measurement would present moral hazard problems if responsibility for outcomes under the household's control were to be shifted to third parties.⁵¹ The idea that factors under the household's control produce the residual for which it bears responsibility fits well with the intuition that investment in the gains and losses that accompany the household's own choices lie at the core of homeownership.⁵²

In contrast, it seems evident that homeowners need not speculate on local, regional, or national movements in housing prices to enjoy a genuine sense of ownership, just as they need not gamble on fires or natural disasters in order to be true owners. If there were no cost-effective way to disaggregate the impacts of these factors from homeowner's own difficult-to-measure inputs, we might nonetheless be required to make these risks part of the owner's residual package. If local housing indexes and other mechanisms can accomplish disaggregation at reasonable cost, however, the offloading of those risks that lie out of the household's control would not seem to present any intrinsic threat to the notion of ownership.⁵³ To be sure, some homeowners will wish to take on the risk associated with home price movements outside their control, just as they might wish to engage in any other outside investment opportunity. But a household should not be required to purchase what amounts to a specific number of shares in a localized and undiversified index fund -- the local housing market -- simply because it desires a particular level of housing consumption.

Indeed, it would be mere happenstance if a household's optimal investment in local home price movements turned out to precisely correspond to the purchase price of the home that the household presently

⁵⁰ See, e.g., John Emmeus Davis, *Shared Equity Homeownership: The Changing Landscape of Resale-Restricted, Owner-Occupied Housing* 65 (2006) available at <http://www.nhi.org/policy/SharedEquity.html> (observing that "the bulk" of home appreciation "is usually caused by societal factors outside of the homeowner's control, including public investment in the city as a whole, private investment in the surrounding neighborhood, changes in the regional economy, and changes in the way that residential real estate is regulated, financed, and taxed").

⁵¹ See Shiller & Weiss, *supra* note 45, at 5-11 (discussing moral hazard with respect to multiple decisions about the home, including maintenance, improvement, and marketing and sale of the home); *infra* Part II.B.

⁵² Of course, homeowners can and do enter into contracts with maintenance companies, landscapers, interior designers, and the like with respect to onsite factors, and these contracts may shift enumerated risks in various ways (say, through warranties). See, e.g., BARZEL, *supra* note 46, at 115-17 (discussing the example of a refrigerator warranty). But the owner is responsible for orchestrating these arrangements (or delegating their orchestration) and bears the outcomes that remain after the contractual dust settles.

⁵³ Whether disaggregation can be made sufficiently accurate and cheap to be worthwhile is a separate question. Although the development of local indexes has made such disaggregation more feasible, difficulties remain. See *infra* Part II.B. The point of the textual statement is simply that homeownership itself would not require acceptance of these offsite risks if mechanisms existed to parcel them out to investors.

wishes to consume. That observation has implications that run in two directions. The analysis thus far has primarily emphasized that some households may wish to accept less risk associated with offsite factors than is required by the traditional homeownership package. But other households (including some who do not own their own homes) might wish to invest at a greater level in a given local housing market than would be feasible through the traditional homeownership model. Consider the possibility raised earlier that a home purchase within a given housing market might serve as a hedge against price increases within that same market. In a period of rapidly rising home prices, a household might feel pressured to buy earlier than they otherwise would and obtain a more expensive house than they otherwise would in order to "lock-in" their purchasing power.⁵⁴ Decoupling consumption and investment would relieve such pressures by permitting people to purchase housing market futures and options independent of the purchase of housing.

More generally, markets in housing market volatility would enable investors to invest in more owner-occupied housing than they wish to presently consume. Investors can already invest in more housing than they wish to consume, of course, but only by entering into a landlord-tenant relationship, with its attendant moral hazards.⁵⁵ Investment in owner-occupied housing, which presumes the presence of an owner-occupant who can be trusted to keep up the house to the investor's standards, can presently only be achieved if the investor occupies the property herself. Thus, just as current arrangements require homeowners to invest fully if they want to consume owner-occupied housing, investors must consume housing themselves if they want to invest in owner-occupied housing. A market that enables some homeowners to consume beyond their investments would also allow other homeowners (or non-homeowners) to invest in more owner-occupied housing than they wish to personally consume. The fact that our current system of homeownership tethers together consumption of housing with full investment in housing creates not one but two sources of potential suboptimality in homeownership.⁵⁶

C. Decoupling Initiatives, Past and Present

If decoupling some portion of investment risk from homeownership is such a good idea, one may well ask, why don't mechanisms already exist for

⁵⁴ See Banks et al., *supra* note 17, at 9-11.

⁵⁵ See, e.g., Chau et al., *supra* note 33, at 1391.

⁵⁶ Past treatments have suggested that the linkage of investment and consumption in housing produces an inefficiency only when consumption demand exceeds investment demand, and not in the opposite case. See, e.g., Henderson & Ioannides, *supra* note 16, at 104 & n.3 (describing the problem as the amounting to a "one-directional indivisibility").

accomplishing it?⁵⁷ There are two answers. First, quite a few such mechanisms *do* exist, albeit in limited form, and this section will survey some of them. Second, to the extent these mechanisms have failed (so far) to attract widespread adoption by homeowners and institutions, there are plausible explanations. For one thing, the profusion of varying designs and an accompanying fragmentation of analysis has kept these programs from finding a firm theoretical footing. In addition, the challenges that face attempts to alter homeownership are not insubstantial and are likely to require significant investments in design, development and experimentation -- all of which takes time and money. As Robert Shiller has observed, such financial innovations may represent public goods that the private market would be expected to undersupply.⁵⁸

Below, I briefly discuss four models for explicitly altering the investment component of homeownership -- a far from exhaustive survey, but one that is sufficient to offer a sense of the range of approaches.⁵⁹ All of these models modify the way in which changes in a home's market value translate into changes in homeowner payoffs. Under traditional homeownership, there is a one-to-one relationship between market value changes and changes in homeowner payoffs (setting aside bankruptcy protection, nonrecourse loans, and the like).⁶⁰ For each dollar that the home changes in value, the homeowner's payoff changes in the same direction by exactly one dollar.⁶¹ The devices discussed below reduce (sometimes to zero) the positive or negative impact of changes in market value on the homeowner's payoff, either across all possible values or within some range.⁶²

1. Equity Insurance Programs

In 1978, the Village of Oak Park, Illinois pioneered an "equity assurance program" in an effort to forestall "panic selling" in response to anticipated

⁵⁷ See, e.g., CAPLIN ET AL., *supra* note 3, at xiii ("If this is such a good idea, why has nobody done it already?"); William A. Fischel, *An Economic History of Zoning and a Cure for its Exclusionary Effects*, 41 URBAN STUDIES 317, 335 (2004) ("if home equity insurance is the answer, why have the creative people who do real estate development and finance not come up with it on their own?").

⁵⁸ See SHILLER, MACRO MARKETS, *supra* note 3, at 207-08.

⁵⁹ Some additional arrangements implicitly accomplish a degree of decoupling. For example, rent control and other tenant protections can be viewed as attempts to provide a consumption experience that is closer to that of a homeowner without the accompanying investment. In addition, a small amount of downside investment risk is effectively decoupled from homeownership through the existence of bankruptcy protection and other devices or practices (such as non-recourse loans or loan balance forgiveness upon foreclosure) that keep homeowners from bearing the full brunt of home value losses. See Shiller & Weiss, *supra* note 45, at 3. Reverse mortgages are typically non-recourse loans, and hence build in downside protection. *Id.*

⁶⁰ See *id.* at 13-14.

⁶¹ The relationship between home value and the owner's equity in the home can therefore be depicted as a straight line with a slope of one. See *id.* at 12-13 & fig. 1.

⁶² These changes can be graphically depicted as changes in the slope of the line that represents traditional homeownership. See *supra* note 61; Shiller & Weiss, *supra* note 45, at 13-15 & figs. 2-4.

racial changes in the neighborhood. The program promised to cover property value losses under specified circumstances.⁶³ The principle was identical to that behind FDIC insurance: by reassuring people that their investment is safe where it stands, cascades of fear-driven dislocations are precluded.⁶⁴ A Chicago voter referendum in 1987 introduced a similar program that communities could opt into, and a number of other cities have begun to explore this approach.⁶⁵

In recent years, William Fischel has advocated home equity insurance to reduce provincial homeowner behavior, again focusing on the potential impacts of highly localized factors on home values.⁶⁶ Robert Shiller and others have sought to extend the home equity insurance concept to cover a much broader spectrum of risks, including exposure to nationwide, regional, and metropolitan housing market fluctuations.⁶⁷ A pilot program in Syracuse, New York has sought to deliver such broad-spectrum protection to residents.⁶⁸

Shiller and Case have taken an important step toward making broader home equity insurance programs feasible by introducing local housing market indexes that could be used to settle insurance claims.⁶⁹ The Syracuse pilot program, for example, makes use of a zip-code based housing price index to determine payouts.⁷⁰ These indexes respond to moral hazard concerns that arise from insuring home values -- the worry that insured homeowners will be less concerned with taking care of their homes and less willing to expend effort to obtain a good resale price.⁷¹ While no real-world index can perfectly pick up all home price fluctuations that are not unique to the individual residence, an indexing system makes

⁶³ The Oak Park program would pay homeowners for 80% of any loss on resale after five years of enrollment in the plan, if the house sold below its appraised value and the drop in value was not attributable to metropolitan-area value changes, or to damage or loss to the individual property. See Maureen A. McNamara, *The Legacy and Efficacy of Homeowner's Equity Assurance: A Study of Oak Park, Illinois*, 78 NW. U. L. REV. 1463, 1468-69; Shiller & Weiss, *supra* note 4, at 32-33. Oak Park has not experienced a significant home price decline since the program was implemented, and no claim has been made under the program. See Shiller & Weiss, *supra* note 4, at 33. It is impossible to know what role, if any, the equity assurance program played in Oak Park's home price patterns, especially given that the equity assurance program was only one part of a multi-prong effort to preserve stability in Oak Park. See McNamara, *supra*, at 1481.

⁶⁴ See Marcus & Taussig, *supra* note 3, at 407 (observing that "the desired effect [of home equity insurance] is analogous to the success of FDIC in ending recurrent banking panics").

⁶⁵ See Shiller & Weiss, *supra* note 4, at 32-33.

⁶⁶ See, e.g., Fischel, *supra* note 57, at 318, 335-36 (citing Albert Breton, *Neighborhood Selection and Zoning* in ISSUES IN URBAN PUBLIC ECONOMICS 241 (H. Hochman, ed. 1973)).

⁶⁷ See *infra* Part I.C.4.

⁶⁸ For details on the program, see <http://www.syracusesni.org/equitysite/index.html>; see also Andrew Caplin, et al., *Home Equity Insurance: A Pilot Project*, Yale International Center for Finance, Working Paper No. 03-12 (May 3, 2003), available at http://ssrn.com/abstract_id=41014. Early reports indicated that program had attracted few participants. See Sarah Max, *Selling L.A., Buying Chicago*, CNNMoney.com, Aug. 9, 2004 (reporting that "since the [Syracuse] program was launched in August 2002 ... only 76 homeowners have signed up, according to its director Virginia Smith").

⁶⁹ See *infra* Part I.C.4.

⁷⁰ See <http://www.syracusesni.org/equitysite/faqs/faqs.html> (discussing how payments are tied to the zip-code index and explaining the incentive structure this provides).

⁷¹ See, e.g., SHILLER, *supra* note 3, at 82.

possible at least a rough decoupling of investment risk attributable to offsite factors.⁷²

2. Collectivized Equity

Efforts to provide affordable homeownership have spawned a variety of arrangements known by names such as "limited equity coops" and "resale-restricted housing."⁷³ While the details of these arrangements vary, all of them reconfigure the right to the home's upside potential to achieve social objectives. The basic idea is to provide a low-income household with a home at a below-market price and then place limits on that household's ability to "cash out" the home at its full market value through subsequent sales or leases.⁷⁴ The equity in the home does not fully belong to the household, at least at the outset, but rather is shared (in various ways) with some collective body, whether public or private.⁷⁵ When the home is sold, some part of the proceeds go to someone other than the household designated as its owner.

3. Shared Appreciation and Shared Equity Models

Commercial lenders and investment companies have experimented with shared appreciation mortgages (SAMs) and shared equity mortgages (SEMs). Notwithstanding some failed attempts in the U.S. during the late 1970s,⁷⁶ there has been a recent resurgence of interest in these possibilities. The Bank of Scotland offered shared appreciation mortgages in the U.K. during the mid-1990s,⁷⁷ an Australian venture began seeking investment funds for a form of "equity finance mortgages" in 2005.⁷⁸ and an American company has recently launched a similar program under the name of Rex Agreement.⁷⁹ Under these models, the lender compensates the homeowner

⁷² See *infra* Part II.B.

⁷³ See, e.g., Davis, *supra* note 50, at 2-3; J. Peter Byrne & Michael Diamond, *Affordable Housing, Land Tenure, and Urban Policy: The Matrix Revealed*, 34 *FORDHAM URB. L.J.* 527, 541-551(2007); Duncan Kennedy, *The Limited Equity Coop as a Vehicle for Affordable Housing in a Race and Class Divided Society*, 46 *HOW. L.J.* 85 (2002).

⁷⁴ See, e.g., Byrne & Diamond, *supra* note 73, at 545-48.

⁷⁵ See, e.g., *id.* at 546-47; Jacobus & Lubell, *supra* note 3, at 5-6. See, e.g., Davis, *supra* note 50, at 3 (describing as a "distinguishing feature" of the shared equity programs under discussion "the emphasis they place on what is shared between individual homeowners and a larger community").

⁷⁶ See Caplin et al., *supra* note 13, at 9-10; Wilmot, *supra* note 3 (reporting that Stephen Brown, a finance professor at NYU's Stern School, attributed banks' abandonment of "equity participation mortgages" in the U.S. to features of contract law).

⁷⁷ The product line has since been discontinued, apparently because it was not sufficiently attractive to investors. See Caplin et al., *supra* note 13, at 9-10 (discussing the Bank of Scotland mortgages and observing that "[t]he long and unpredictable nature of the payoff period appears to have been the chief reason that the Bank of Scotland withdrew its shared-equity mortgages from the market"). There have also been news reports of dissatisfaction among homeowners who used the product. See *infra* notes 155-156 and accompanying text.

⁷⁸ See Wilmot, *supra* note 3.

⁷⁹ See James R. Hagerty, *Product Taps Home Equity Without Taking Out Loan*, RealEstateJournal.com

for forgoing some of the equity in the home through a lower-priced mortgage or a home equity loan. For example, the Bank of Scotland's SAM provided households with interest-free home equity loans upon which no payments had to be made until the home was sold or transferred at death. In exchange, the bank received a right to 75% of the home's appreciation.⁸⁰

Andrew Caplin and his coauthors have urged adoption of a related model for sharing equity, known as "housing partnerships."⁸¹ This approach makes the homeowner a "managing partner" with full authority over the home, but grants certain rights to an "investing partner" who puts up half the cash for the property and receives half of the proceeds on resale.⁸²

4. Home Value Hedges

While the preceding models contemplate rather specific changes in risk bearing, new financial instruments tied to the housing indexes introduced earlier⁸³ permit more open-ended trading in housing risk.⁸⁴ In Spring 2006, the Chicago Mercantile Exchange (now CME Group) began offering S&P/Case-Shiller futures and options based on housing indexes.⁸⁵ CME Group currently offers index-based financial instruments are currently available for housing markets in ten major cities.⁸⁶ Because these futures and options offer a platform for buying and selling housing market risk, they open the door to gains from hedging.⁸⁷

A simple example illustrates how hedging based on a housing index would work. Agatha, a homeowner who lives in the town of Doldrums,

(from the Wall St. J. online), May 11, 2007; *see also* Rex & Co., www.rexagreement.com.

⁸⁰ *See* Caplin et al., *supra* note 13, at 9-10.

⁸¹ CAPLIN ET AL., *supra* note 3.

⁸² *See generally id.*

⁸³ *See* text accompanying notes 67-72, *supra*.

⁸⁴ *See, e.g.,* Noam Scheiber, *The Pork-Bellies Approach to Housing*, N.Y. TIMES (magazine) 92, Sept. 10, 2006.

⁸⁵ *See, e.g.,* Les Christie, *New Way to Bet on Real Estate*, CNN.money.com, March 22, 2006; Chicago Mercantile Exchange, *CME Housing Futures and Options: Frequently Asked Questions*, available at www.cme.com/files/housing_fa.pdf; CME Group, *S&P/Case-Shiller Home Price Indices Futures and Options: Introductory Guide*, available at http://www.cme.com/files/cmehousing_brochure.pdf [hereinafter "CME Introductory Guide"]; Macro Markets, http://www.macromarkets.com/csi_housing/sp_caseshiller.asp. Shiller and Weiss had previously designed and patented tradable instruments called "macro securities" to facilitate hedging. *See* SHILLER, *supra* note 4, at 126-127. These securities, issued and redeemed in pairs consisting of an "up macro" and a "down macro," represent offsetting bets on the movement of the index. *Id.* The "up macro" gains value (and the "down macro" loses value) as the index rises; the opposite occurs when the index falls. *Id.* at 127 (presenting an example using a GDP index); *see also* Michael Pereira, *Risk Management for the Age of Information*, 9 FORDHAM J. CORP. & FIN. L. 715, 729 (2004) (reviewing SHILLER, *supra* note 4) (discussing this example). Hedgestreet.com, a site which currently allows only mock trading with virtual funds, offers "binaries" that facilitate bets on various risks, including housing market movements. *See* <http://www.hedgestreet.com>.

⁸⁶ *See* CME Introductory Guide, *supra* note 85, at 3. The cities are Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington, D.C. Futures and options settled to a "weighted composite index of U.S. real estate prices" are also available. *Id.*

⁸⁷ *See* Peter Englund et al., *Hedging Housing Risk*, 24 J. REAL ESTATE FIN. & ECON. 167 (2002) (estimating the potential gains from hedging, using data on housing prices from Stockholm).

fears declining home values. Her house is currently appraised at \$200,000, and she would like to be able to get that amount back out of it in five years, when she plans to move. An investor, Blake, sells Agatha a put option that gives her the right to receive, five years hence, the percentage of \$200,000 that is proportionate to any general decline in housing values within Doldrums (as reflected in the local housing index).⁸⁸ If, five years later, Doldrums has experienced a 10% decline in home values, the option that Agatha purchased from Blake is worth \$20,000 (10% X \$200,000). Agatha's home should sell for \$180,000, assuming its value tracks that of the local housing index.⁸⁹ The \$180,000 sales price added to the \$20,000 payout from Blake amounts to the \$200,000 Agatha originally paid for the house; she has been able to perfectly hedge the risk of a market decline.⁹⁰

Agatha could also transact with respect to the local housing market's upside potential. For example, Agatha could sell Cody a call option that gives him the right to receive \$2,000 for each percentage point that the local housing market index rises by the end of the five-year period. If, at the end of five years, home prices in Doldrums have risen 10%, Agatha should receive \$20,000 when she sells her home, again assuming its value moves in concert with the Doldrums housing index. Agatha's gain of \$20,000 on the home sale will cover her required payout to Cody and leave her with her original investment of \$200,000. In the meantime, Agatha has been able to use the proceeds from the sale of the call option to pursue other investment opportunities or reduce her housing (or other) debt; she might even have used some of it to pay for the put option she purchased from Blake.⁹¹

Of course, most homeowners do not plan a move on a date certain in the future, but rather wish to be protected against price fluctuations over the entire (unknown) period that they will own the house, however long or short it turns out to be. Thus, short-term calls and puts must either be made available on a rolling basis or triggered by life events (such as sales of the home) that are unpredictable in the individual case but predictable in the aggregate.⁹² Creating workable financial instruments also requires attention

⁸⁸ See, e.g., SHILLER, *supra* note 3, at 82. I assume here that Agatha's actions cannot much affect the overall housing market in Doldrums. This simple example also assumes that Doldrums is a single housing market for indexing purposes, although indexing can instead break up a town into smaller units, such as zip codes.

⁸⁹ See *infra* Part II.B for a discussion of the risk that, for reasons out of a homeowner's control, the home's price will not track the local housing index.

⁹⁰ This simple example ignores the impact of inflation. For a discussion of the interaction between inflation and hedging, see, e.g., SHILLER, *supra* note 3, at 96-98; Shiller & Weiss, *supra* note 4, at 31-32.

⁹¹ Agatha might transact with the same investor (say, Blake) as to both the call and the put option. Such an arrangement would be identical to Blake buying futures in the local housing market from Agatha -- essentially, he would be obligated to buy, and Agatha would be obligated to sell, the portion of her equity tied to the local housing market to him for \$200,000 on a date five years hence. See Shiller & Weiss, *supra* note 4 (discussing the use of puts to protect against downside risk and contrasting them with futures that would involve transacting as to both the upside and the downside).

⁹² See Shiller & Weiss, *supra* note 4, at 38-44. Shiller & Weiss make detailed estimates of annual premiums for life-event triggered home equity insurance under a variety of assumptions, finding in some cases that a few hundred dollars annually would be sufficient to provide complete downside protection for a \$100,000 house

to many other design elements, such as the appropriate construction, updating, and use of indexes,⁹³ the treatment of inflation,⁹⁴ the permissible timing for exercising an option,⁹⁵ and the timing and form of payments and payouts.⁹⁶ Although these issues are complex and difficult, past and ongoing work to address them suggests that they are not beyond the technical capacity of financial innovators.

A more formidable challenge is achieving widespread acceptance of these new hedges. While it is possible that individual homeowners could trade in futures and options directly, most households' access to these housing risk markets would have to be mediated through a user-friendly interface provided by an insurer, lender, or other entity. For example, an insurance company could serve as a conduit in matching buyers and sellers of housing market risk, rather than having to price risk itself.⁹⁷ Alternatively, the offloading of risk might be built into the mortgage instrument.⁹⁸ Or, as I will suggest below, a separate entity could develop a user-friendly interface to seamlessly deliver home risk transactions to homebuyers.⁹⁹

Shiller anticipated that the use of new risk management tools like housing futures and options would develop in two distinct stages -- first adopted by sophisticated investors, and later adapted for use by ordinary consumers.¹⁰⁰ According to early reports, the trade volume for the new housing market securities has been relatively light.¹⁰¹ It is possible that advances in the instruments themselves, such as a recent extension in the

(assuming no indexing for inflation). See Shiller & Weiss, *supra* note 4, at 43-44 & tbls. 4&5. They also calculate the cost of fixed-term put options of one or two years, which are more costly. See *id.* at 36-37 & tbls. 1&2. In all cases, the price would depend on the extent of protection and on the past behavior of the local housing market.

⁹³ See *infra* Part II.B.

⁹⁴ See *supra* note 90.

⁹⁵ These timing decisions would include the minimum holding period before a homeowner could cash in on changes in the home's value, the length of the option period, and whether the homeowner could exercise the option independent of specified events, such as moving out or selling the home.

⁹⁶ The investor's initial payment to the homeowner for the purchase of upside potential could be made in a lump sum, paid out over time, or could constitute savings built into the mortgage itself. See *infra* Part I.C.3. Likewise, payment for coverage against downside loss might be made either in a lump sum for the duration of the homeowners' time in the home, or in the form of annual premia. Compare Shiller & Weiss, *supra* note 4, at 43-44 (focusing on annual premia in exploring the potential for home equity insurance) with Andrew Caplin, et al., *Home Equity Insurance: A Pilot Project*, Yale International Center for Finance, Working Paper No. 03-12 (May 3, 2003), available at http://ssrn.com/abstract_id=41014 (explaining the use of a one-time payment, such as a homeowner makes for title insurance, in the Syracuse pilot project). The one-time payment removes concerns about strategic policy cancellation, a topic discussed in Shiller & Weiss, *supra*.

⁹⁷ Shiller & Weiss, *supra* at 33-34 (discussing "pass-through futures and options").

⁹⁸ See Juerg Syz, Paolo Vanini, & Marco Salvi, *Property Derivatives and Index-Linked Mortgages* (August 31, 2006), available at <http://ssrn.com/abstract=927888>.

⁹⁹ See text accompanying notes 133-134, *infra*.

¹⁰⁰ SHILLER, *supra* note 3, at 201.

¹⁰¹ See Gail Liberman, *Hedging Real Estate: The Derivatives Are Here; Are They The Answer?* FINANCIAL ADVISOR MAGAZINE, Nov. 2006, available at http://www.financialadvisormagazine.com/past_issues.php?id_content=3&idArticle=1365&idPastIssue=115 (discussing reasons for low trade volume during the first several months that housing derivatives were available).

length of their terms, may help to make them more attractive to investors.¹⁰² But it is also possible that assumptions about the order of progression need to be revised: To spur interest among investors, it may first be necessary to produce widespread demand among homeowners through the development of a comprehensible and user-friendly risk management interface.¹⁰³

II. INTRODUCING H2.0

As the foregoing survey illustrates, efforts to decouple investment risk from housing consumption have taken diverse forms. While all of these innovations respond to the fact that the homeownership bundle encompasses investment components that may not well serve the needs of homeowners, these programs have been designed as adjuncts to traditional homeownership. None of the existing models returns to first principles to ask whether homeownership itself should be modified in a fundamental way. In developing H2.0, I hope to do just that.

I will start by outlining the contents of the H2.0 bundle, which contains only a subset of the investment component presently packaged with homeownership. Next, I discuss a central design issue in producing (or approximating) that newly configured bundle -- the disaggregation of onsite and offsite risks. Third, I discuss the advantages for homebuyers of access to such a reduced-risk bundle. Finally, I discuss the advantages of making that new bundle seamlessly available to homebuyers as an off-the-rack tenure form with its own default settings.

A. *Configuring H2.0*

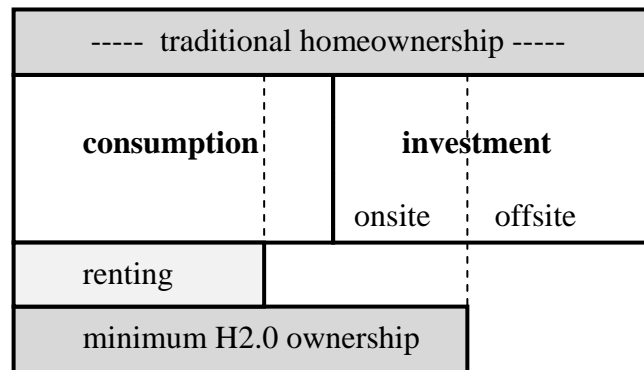
As the discussion in the previous Part suggested, there is a large gap between the constrained housing consumption opportunities available to renters and the full-blown package of investment and consumption that homeowners purchase as a matter of course. If we were to approach the problem of optimally designing homeownership for modern metropolitan conditions with fresh eyes, what would we include as standard elements in the bundle? Figure 1 sketches one answer to this question, drawing on a

¹⁰² See *id.* (quoting and summarizing views that the one-year term limit for hedges represented a significant drawback for investors); *CME Group Extends Offerings of S&P/Case-Shiller Housing Contracts* (Aug. 7, 2007) available at <http://cmegroup.mediaroom.com/index.php?s=43&item=603> (reporting on the extension of housing future and option terms to periods up to five years).

¹⁰³ Such a user-friendly interface could also help to create positive publicity for the development of the economic instruments, which might be viewed in isolation as speculative bets against local housing markets. See Pereira, *supra* note 85, at 733 (noting negative reactions to prediction markets introduced by the Pentagon's Defense Advance Research Programs Agency in 2003 and observing that "public relations could be as important as economics in selling macro markets to the investing public").

functional understanding of property as a container for collecting an owner's inputs and the resulting outcomes.

Figure 1: Components of Homeownership



As shown in Figure 1, traditional homeownership is made up of both consumption and investment components.¹⁰⁴ Although these two categories are presented as distinct, there is actually some overlap between them. Because the consumption stream extends over time, the as-yet-unused portion of that stream at any given point in time represents a form of savings.¹⁰⁵ The value of those savings -- that is, the enjoyment that the household will realize through future consumption of housing -- can fluctuate. In this sense, at least, even an intensely consumption-minded homeowner who plans to live in her home for the rest of her life is nevertheless an investor.¹⁰⁶

The dashed line cutting through the "consumption" box distinguishes between elements of consumption achievable through renting and those unique to homeownership. If leaseholds were changed in certain ways, this dashed line (and the right edge of the "renting" bar) would move further to the right. However, the distinction would not disappear entirely, at least to the extent that "ownership" continues to carry some consumption cachet by conferring higher status and other benefits. As noted above, enjoyment of ownership-related consumption benefits may require a certain degree of investment. In other words, there may be no conceptually coherent tenure form that would snap off cleanly at the right edge of the consumption box;

¹⁰⁴ See *supra* note 16.

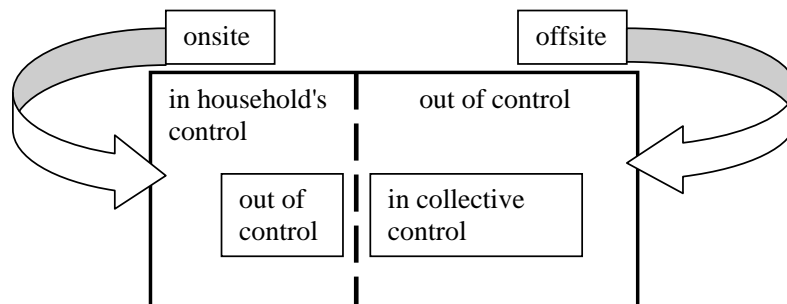
¹⁰⁵ Durable goods are commonly understood to contain such a savings component. See ALAN E.H. SPEIGHT, CONSUMPTION, RATIONAL EXPECTATIONS AND LIQUIDITY: THEORY AND EVIDENCE 37 (1989).

¹⁰⁶ The same might be said of a tenant during a given lease-term, though the tenant may be able to appeal to the landlord for corrections to any downward trend in consumption value.

to get all of those benefits, one must pick up more of the homeownership bundle.

The dashed line running through the "investment" box indicates that the investment portion of homeownership can be subdivided into volatility occasioned by onsite factors and that occasioned by offsite factors. As Figure 1 indicates, I propose that H2.0 ownership include, at a minimum, the investment component that corresponds to onsite factors. Defending this particular break point requires taking a closer look at the investment component, as shown in Figure 2.

Figure 2: Investment Factors



As the lefthand side of Figure 2 illustrates, most of the onsite factors lie under the individual household's control. Some onsite risks lie outside the household's control, however, such as fires not caused by negligent behavior on the part of the householders. Conceptually, homeownership requires that the household bear at least the gains and losses associated with controllable factors. Pragmatically, including these controllable factors in the homeownership bundle seems critical to attracting investment interest in other parts of the investment package. The argument for including all onsite factors in the H2.0 bundle, including those that are not within the household's control, is that the individual household is in the best position to procure insurance against such eventualities. Because the risk will play out (or not) on the individual owner's parcel, a simple transaction between the homeowner and the insurer suffices.

As the righthand side of Figure 2 indicates, offsite factors also exhibit some heterogeneity. While it is fair to say that none of these offsite influences lies within the control of individual households, homeowners as a group may have significant control over block level, neighborhood, and local conditions through the use of norms, politics, exit options, and direct participation in the collective production of local public goods. While

attempts to exercise this control can often be socially damaging, some homeowner efforts help to build social capital and improve neighborhood and local conditions. This raises the question of whether allowing homeowners to avoid investment exposure to the subset of offsite factors that are amenable to collective control would make them less effective citizens and neighbors. My answer to this question is a qualified no, but the question is a difficult one that I will take up in some depth in Part IV.

To sum up, the standard H2.0 package would include the usual consumption incidents of homeownership, as well as the investment exposure relating to onsite factors. It would not include, as a default matter, the investment risk relating to offsite factors -- although homebuyers would be free to add back in as much of that risk as they wished to assume.

B. Disaggregating Onsite and Offsite Influences

The theoretically clear distinction between onsite and offsite influences on home value changes featured in my conceptual sketch of H2.0 cannot, of course, be drawn with such precision in practice. Although housing market indexes represent one way to draw a line between onsite and offsite influences on home value changes, they are not the only way to approach the problem, and they come with some difficulties of their own. The basic concern to which housing market indexes respond has been discussed under the rubric of "moral hazard" in the literature -- the possibility that a homeowner, after insuring against a loss or granting the proceeds of a future gain, will work less hard to avoid the loss or produce the gain.¹⁰⁷ However, because some of the responses to moral hazard produce hazards that run in the opposite direction, the problem can be regarded more generically as one of disaggregation.

Three basic ways to go about disaggregating onsite and offsite influences on home values are summarized in Figure 3, along with some of their advantages and disadvantages. These strategies can be combined to produce additional alternatives.

¹⁰⁷ See, e.g., Shiller & Weiss, *supra* note 45, at 6-11. An adverse selection problem may also be implicated if the payoff structure tends to attract those who are especially likely to experience subpar market outcomes. See, e.g., Shiller & Weiss, *supra* note 4, at 25-26 (referencing this "selection-bias problem").

Figure 3: Disaggregating Onsite and Offsite Influences

	What	Advantages	Disadvantages
Indexing	local housing market index proxies for offsite influences	-facilitates investment -straightforward, unobtrusive	- basis risk - costly to develop index
Accounting	onsite influences are netted out of the total change in home value	-adds precision -preserves autonomy	-measurement difficulties -intrusive verification
Directing	certain onsite inputs are taken over, regulated, or priced	-reduces payoff uncertainty for the homeowner -directives may be educational -may be able to piggyback on HOAs, zoning	-costly monitoring and administration -reduced autonomy under some approaches

Indexing. The advantages of housing market indexes have already been noted. Indexes facilitate investment and trading, help to aggregate information, and avoid the moral hazard and adverse selection problems that might otherwise plague efforts to reassign housing value risk. Importantly for this paper's purposes, indexing also seems to fairly neatly (though not perfectly) distinguish between the onsite influences for which we want to leave homeowners responsible and the offsite influences that they might more efficiently leave to others. Also important is the index's ease of administration. Although costly to construct in the first instance, once in place it generates clear-cut answers about payoffs.

The construction of a workable local housing index implicates myriad technical factors that lie beyond the scope of this paper.¹⁰⁸ However, it is helpful to note one key tension: The thinner an index is sliced, the more capable it will be of drawing fine distinctions among homes, but the less well it will work as a basis for trading. The smaller the number of observations in a particular index and the fewer the market participants

¹⁰⁸ See, e.g., SHILLER, *supra* note 3, at 24-27 (discussing the potential for distortion of indexes through speculative trading); 116-200 (discussing a variety of issues relating to the construction, use, and updating of indexes).

trading on that index, the less liquid and accurate it will be.¹⁰⁹

The same design tension relates to the problem of successfully disaggregating onsite and offsite influences on value. An index that perfectly tracked one particular home would of course reintroduce the full consideration of onsite factors. At the other extreme, a nationwide housing index that aggregated all owner-occupied housing would do a poor job of capturing regional and local offsite influences. In between these extremes, there are questions about whether any given housing index will pick up too much of what owners are doing on their own parcels (such as a home improvement trend within a particular neighborhood)¹¹⁰ or too little of what is happening outside the parcel (such as highly localized undesirable land uses).¹¹¹

These concerns illustrate "basis risk," which Shiller and Weiss define "as the risk that fluctuations in the home price index will not match up well with fluctuations in the price of the home that are beyond the homeowners' control."¹¹² Basis risk is a real concern, because it could keep risk management products from working as advertised for homeowners. First, consider a household that purchases downside protection only. Assume the home's value falls for reasons that have nothing to do with parcel-specific actions or omissions on the part of the household. Ideally, the index would fall by the same amount. But if it did not, and if payouts were made based on the index alone, the difference between the loss (if any) shown by the index and the actual loss the household experienced on reselling their home would amount to a failure in the product's protection.

Basis risk takes on an even more worrisome cast when the household sells upside potential, either on its own or in combination with the purchase of downside protection. Consider a scenario in which the index reflects a larger gain than is experienced by the homeowner, and the difference between the resale price as actually experienced and as predicted by the index is an artifact of imprecision in the index rather than the result of any

¹⁰⁹ This issue affects the design of markets in many areas. See, e.g., Michael Abramowicz and M. Todd Henderson, *Prediction Markets for Corporate Governance*, 82 NOTRE DAME L. REV. 1343, 1352 (2007) (noting the concern that some prediction markets will have too few participants, "resulting in low liquidity and therefore lower reliability" and discussing how to address that concern); James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607, 645-48 (2000) (exploring the tradeoff between making tradable environmental currencies "fat and sloppy" and "thin and bland").

¹¹⁰ See SHILLER, *supra* note 3, at 166-68 (discussing the concern that home improvements could affect the housing index, but concluding that this factor would not be very significant given the dollar value of home improvements relative to home values generally). It is possible, however, that the shift to H2.0 ownership might itself influence household investments in improvements.

¹¹¹ See Christian A.L. Hilber, *Neighborhood Externality Risk and the Homeownership Status of Properties*, 57 J. URB. ECON. 213, 218 (2005) (suggesting, given the role of neighborhood externality risk, that a real estate price index of the sort advocated by Shiller and Weiss "ought to be neighborhood specific if it is to be successful").

¹¹² Shiller & Weiss, *supra* note 45, at 2. Basis risk might also work against the investor. A marked relaxation in maintenance norms in a given area, for example, might cause the index to drop, even though the individual households who lowered their maintenance standards would be responsible for the value change.

acts or omissions by the household. If settlements were determined by the index alone, the homeowner would have to pay out the share of gains reflected in the index even though she did not realize those gains. An even more catastrophic manifestation of basis risk would occur if the index showed a gain while the home itself actually sold at a loss. Not only would an index-based payout system fail to protect against downside loss, but it would add insult to injury by requiring someone in a loss position to make a payout for gains that were never experienced.

Accounting. Instead of relying on an index, disaggregation of onsite and offsite factors might be attempted on a property-specific basis. Before figuring the home's gain or loss for purposes of payments, additions or debits could be made based on documented acts or omissions of the homeowner.¹¹³ This approach avoids basis risk, but introduces costly measurement and verification problems. It also does not directly facilitate the development of derivatives markets for widespread investing and trading in housing market risk.

Directing. Instead of disaggregating onsite and offsite impacts by counting up impacts or applying an index -- strategies intended to leave the risk associated with onsite changes on the homeowner -- it would also be possible for a program to direct onsite inputs.¹¹⁴

A spectrum of approaches are possible. At one extreme, an arrangement could give direct control over certain onsite matters to the investor (or agent thereof) -- an approach that both erodes homeowner autonomy and requires costly interventions. Instead of taking over onsite functions directly, a program might instead regulate inputs by requiring and prohibiting certain actions. This alternative requires monitoring and some sort of enforcement for violations. In some settings, such a directing approach may be able to piggyback on an existing land use control regime, such as a homeowners' association or local zoning authority. If the HOA or zoning authority could be counted on to enforce certain kinds of violations, then it would essentially guarantee a certain set of inputs for investors without the need for any direct intervention or regulation. It must be borne in mind, of course, that these land use regimes can themselves cut deeply into homeowner autonomy and may have other negative societal effects as well.

At the other end of the spectrum, a program might simply provide a schedule of commonly recommended or permitted actions, with specific dollar values attached to each.¹¹⁵ A household that engaged in listed actions

¹¹³This seems to be the approach taken by Rex & Company in the Rex Agreement, *supra* note 3. See http://www.rexagreement.com/index.php/rex/who_we_serve_homeowners_faqs/ (explaining that homeowners would be credited for improvements, based on an appraisal, before calculating the company's share).

¹¹⁴ Equity sharing arrangements designed to provide affordable housing seem to have made use of this approach. See Davis, *supra* note 50, at 96-98.

¹¹⁵ Larger or more unique proposed improvements might be handled through a preapproval process.

in accordance with articulated standards would be credited in specified amounts, while a household that failed to undertake recommended maintenance efforts would be debited as specified. Autonomy would be preserved because the actions and omissions in question would be priced rather than required or prohibited. Moreover, if the schedule were accurately tied to impacts on resale values, it could be educational for less experienced homeowners or could help to counter the unrealistic predictions of overoptimistic would-be home improvers.

Aside from the high cost of administration, such a model would accomplish a very significant shifting of risk relating to onsite factors from the homeowner to the investor. Because risk mediates between specific inputs and market outcomes, the actual effect of any given act or omission might not line up to the amount credited or debited. On one hand, this might seem to erode the meaning of homeownership. However, some owners might highly value the greater payoff certainty that such ex ante specification would provide.

Hybrid Approaches. There are many ways that the approaches above might be combined. One approach would use local housing indexes to generate raw payoff figures that could then be adjusted as needed to address basis risk. An additional layer of insurance might be used to accomplish this, as Shiller and Weiss have suggested.¹¹⁶ Payouts on the "basis" insurance could either be based on verification of differential local conditions, or it might instead be based on an investigation that rules out the possibility that negative onsite factors -- such as neglect, destruction, an extraordinarily rapid sale, or a sale that was not conducted at arms length -- were responsible for the outcome.

Some elements of the "directing" approach might also be incorporated into such a hybrid approach. The insurer against basis risk in this story could develop schedules of recommended maintenance and acceptable sales practices, which the homeowner might be required to follow (and document) in order to later make out a basis risk claim. As an alternative method for dealing with moral hazard at the time of sale, recovery under the insurance policy could be made contingent on the homeowner extending the insurer a right of first refusal -- effectively, a call option -- to acquire the home at a price slightly higher than the proposed sales price during a temporally constrained window.¹¹⁷

¹¹⁶ Shiller & Weiss, *supra* note 4, at 26 (observing that "there could be complete insurance of the price change that is due to aggregate market conditions and coinsurance for the deviation of the home price from the price change inferred by the index").

¹¹⁷ See CAPLIN ET AL., *supra* note 3, at 137 (incorporating a right of first refusal with a premium and a time limit into the housing partnership model). The reason for the premium and the short time window is to minimize any detrimental impact on would-be buyers that might discourage them from writing a contract on an H2.0 home. *See id.*

C. Advantages for Homeowners

At this point, it is helpful to briefly summarize the benefits H2.0 could offer homeowners: reduced risk, affordability, and increased portfolio choice. These advantages have, of course, received considerable attention in the literature surrounding the programs and policies surveyed in Part I.C, although many of those models have focused on one or two of these advantages rather than the full set. I will reserve for Part IV a discussion of larger societal impacts, both positive and negative, that might accompany the widespread adoption of the H2.0 form of homeownership.

1. Reduced Risk

The advantage of protecting homeowners against the risk of downward housing market trends requires little elaboration. Not only does risk buffering protect current homeowners against negative outcomes, it also can be important in inducing potential homebuyers to enter into homeownership in the first place. In addition, the greater portfolio choice facilitated by H2.0, discussed below, carries a strong potential to reduce not only the risk of an actual loss on the home, but also the risk of substandard returns on the home investment. Finally, the fact that risk is reduced not only for the homeowner but also for the lender, as explained below,¹¹⁸ helps to increase the affordability of debt financing.

Some caveats are in order, however. The extent of risk reduction possible through H2.0 depends on the household's exposure under traditional homeownership. As already noted, households that can accurately predict that they will stay within a local housing market in which price movements are closely correlated can use the purchase of a home as a hedge against future price increases. Staying within the same local housing market can also help to protect households from falling home prices; if the prices of the current and future home move together, the loss in the current home's value will be compensated by a lower purchase price for the future home. Households' use of home purchases as risk hedges can be understood as a response to incomplete markets -- with fully developed housing risk markets, the purchase of risk hedges and homes could be made independently.¹¹⁹ But to the extent this hedging is successful and does not produce too many distortions in housing consumption (both of which are open questions), it reduces the advantages available from H2.0.¹²⁰

Second, the free trading of location-specific housing risk could enable

¹¹⁸ See text accompanying notes 124-127, *infra*.

¹¹⁹ See Han, *supra* note 5, at 5; Banks et al., *supra* note 17.

¹²⁰ See Han, *supra* note 5, at 5.

households not only to offload unwanted risk but also to take on additional risk within a particular location. My analysis has implicitly assumed that the investors taking on location-specific risk from homeowners would hold it in relatively diversified portfolios, but in the absence of regulatory constraints, households could use the instruments underlying H2.0 to become even more heavily invested in their neighborhoods than they are presently. Another possibility is that households who do reduce their exposure to offsite sources of home site volatility will compensate for the enhanced safety in that domain with increased risk-taking in other domains.¹²¹ For example, households that have purchased protection against the downside impacts of offsite factors might accept more risk on the stock market or job market than they otherwise would. Perhaps more likely, they might pour larger amounts of money into idiosyncratic onsite improvements with highly variable (or frankly unpromising) returns.

2. Affordability

A homebuyer who can sell off some of a home's potential gains will have a powerful new instrument for enhancing her buying power. In short, she can finance her home using equity as well as debt.¹²² The ability to get more house for the same money also means freer access to premium public services that are effectively rationed through the housing stock. Greater affordability will translate into different results for different consumers. For some, it will make the purchase of a home possible, for others it will result in lower mortgage (or other) indebtedness, and for others, it will free up funds to be invested elsewhere.

Because downside protection requires a payment from the homebuyer to the investor, it is not generally viewed as enhancing affordability. Indeed, it would erase some of the affordability gains of the sale of upside potential.¹²³ But purchasing protection against downward price movements may have an offsetting benefit: reducing mortgage costs.¹²⁴ Part of the risk that mortgage lenders presently accept is that the housing market will decline and leave them with assets that, in the event of borrower default, are insufficient to repay the loan.¹²⁵ Because declining market conditions also

¹²¹ I thank Amitai Aviram for drawing my attention to this possibility. Such compensatory risk-taking has been observed in other settings *See, e.g.*, JOHN ADAMS, RISK 59 (1995) ("Because people compensate for externally imposed safety measures, the risk regulators and safety engineers are chronically disappointed in the impact that they make on the accident toll."). For example, drivers required to wear seatbelts may drive more aggressively than they would if unbelted, erasing many of the gains that seatbelts could theoretically provide. *See id.* at 113-28.

¹²² *See* Caplin et al., *supra* note 13, at 1.

¹²³ If houses generally appreciate over time, however, the sale of the upside should exceed the premiums required to insure against the downside, producing net increases in affordability.

¹²⁴ *See* Syz et al., *supra* note 98.

¹²⁵ *See id.*

increase the probability of borrower default, this represents a major source of exposure for lenders. Lenders bank against that exposure in part through underwriting requirements but also through higher loan charges that help to cover the nonperforming loans.

If the risk of market decline can be removed from the equation for both borrowers and lenders, lenders are helped in two ways. First, borrower defaults become less likely, because borrowers can sell at a loss in a declining market and receive a payment that covers the proportion of the loss that is attributable to market decline. Second, if the borrower does default, the lender can collect that payment on the borrower's behalf, making default less costly for the lender.¹²⁶ These risk reductions would be expected to translate into lower-priced mortgages for homebuyers. This will have an additional, beneficial feedback effect: The less costly the mortgage, the less likely it is that the borrower will default.

Interestingly, the cost savings for the lender -- and hence for the borrower -- will be greatest for the highest risk borrowers.¹²⁷ These financially constrained borrowers are also more likely to elect to sell upside potential, which will generate additional cost savings and further reduce the chance of default. Thus, H2.0 offers the potential to make lower cost loans on less costly homes available to the riskiest classes of homebuyers. As a result, H2.0 offers at least a partial response to one of the largest fears associated with the prospect of increased regulation of subprime lending -- that it will make mortgage loans to the most credit-challenged homebuyers infeasible.¹²⁸ The extra security that H2.0 provides to lenders could help to keep the loan supply to credit-challenged homebuyers from drying up even if constraints are placed on the pricing and structuring of loans.¹²⁹

I do not mean to suggest that H2.0 will resolve all problems of subprime lending. On the contrary, new regulatory protections might be required to keep lenders from becoming too complacent about the possibility of

¹²⁶ See *id.*; see also Karl E. Case & Robert J. Shiller, *Mortgage Default Risk and Real Estate Prices: The Use of Index Based Futures and Options in Real Estate*, 7 J. HOUSING RESEARCH 243 (1996) (discussing potential for lenders themselves to purchase home equity insurance products).

¹²⁷ See Syz et al., *supra* note 98.

¹²⁸ See, e.g., James Surowiecki, *Subprime Homesick Blues*, THE NEW YORKER, April 9, 2007 ("We do need more regulatory vigilance, but banning subprime loans will protect the interests of some at the expense of limiting credit for subprime borrowers in general."); Damian Paletta, *Regulators Tighten Subprime-Lending Rules*, WALL ST. J., June 29, 2007 (discussing tension between consumer protection and limiting of consumer choices).

¹²⁹ I take no position here on the merits of increased regulation of subprime lending. In any case, steps in that direction are already underway. Recently, the federal financial regulatory agencies issued a "final statement on subprime mortgage lending" that provided new guidelines for federally-regulated institutions offering certain categories of subprime loan products, including those with adjustable rate features, low documentation of income, and prepayment penalties. See Department of the Treasury (Office of the Comptroller of the Currency), Federal Reserve System, Federal Deposit Insurance Corporation, Department of the Treasury (Office of Thrift Supervision, and National Credit Union Administration, *Statement on Subprime Mortgage Lending*, issued June 29, 2007, available at <http://www.federalreserve.gov/boarddocs/press/bcreg/2007/20070629.default.htm>. Among other things, the guidelines call for underwriting standards that include an assessment of the borrower's ability to pay not only the initial rate, but also the adjusted rate. See *id.* at 12.

borrower default in setting underwriting standards, given H2.0's capacity to lower their exposure in the event of market downturns. But because H2.0 leaves more money and less risk on the table, homebuyers stand to be made better off.

3. Increased Portfolio Choice.

H2.0's potential to give homeowners greater portfolio choice interacts with both affordability and risk reduction. Money that would otherwise have to be invested in a home in order to enjoy a given housing consumption stream will not have to be so invested, because it is provided by an outside investor who is purchasing some of the home's upside potential. These savings can be invested elsewhere, perhaps in more diversified holdings. Alternatively, the saved funds can go to reduce mortgage indebtedness on the home -- a move which does not increase diversification,¹³⁰ although it reduces the risk of default. A very real concern, discussed at more length below, is that many homebuyers will get neither of these benefits because they will still choose to purchase the most expensive house for which they can qualify for financing. They will then enjoy heightened consumption benefits (because they can qualify for a more expensive home if they sell off the upside potential), but will receive no portfolio diversification and no diminution in debt load.

Given these possibilities, it cannot be confidently claimed, at least absent design features that would constrain homebuyer choice, that portfolios will necessarily become less house-heavy, more diversified, or more prudent as a result of H2.0. Some homeowners may even expand their holdings in the undiversified local housing market by taking on some of the risk of their neighbors. Instead, it can only be said that consumers will have more *choice* in how they allocate dollars to different portions of their portfolios. At the same time, optimizing the portfolio arguably becomes less important if consumers avail themselves of the downside protection H2.0 will offer, which provides at least some of the risk buffering that portfolio diversification would be able to provide.

D. Off the Rack or Build from Scratch?

If shifting risk from homeowners to investors can produce important gains, the question remains how best to go about accomplishing those transfers. As discussed above, mechanisms for reallocating homeownership

¹³⁰ If a household with funds invested elsewhere uses some of those funds to pay down a mortgage, its holdings actually become less diversified. See Chatterjee, *supra* note 16, at 4-5. In the scenario in the text, the extra money put into the mortgage is coming not from otherwise invested funds but rather is raised by selling off some of the home's upside potential. The dollar amount invested in the home does not change.

risk have long been under development and, while some important design issues remain, the remaining technical problems do not seem insurmountable. Thus, with a few modifications, tools that already exist or that are in the works could be used to reach the target that property theory suggests is the right one -- a narrowing of mandatory homeowner investment risk to onsite factors, which are either under the homeowner's control or efficient for the homeowner to insure against personally. What, then, would be the point of introducing a new tenure form like H2.0? If we already have (or will soon have) the technical capacity to reshape home investment risk in endlessly flexible ways, why not let the market supply an assortment of products for modifying traditional homeownership, and let consumers choose exactly which ones they wish to use? In theory, the raw materials of risk transfer could be used to build from scratch something that resembles my idea of H2.0 as well as any number of alternatives.

In the next subsections, I will discuss the advantages of adopting a new, off-the-rack version of homeownership, and discuss the extent to which such a new tenure form would require legal changes.¹³¹

1. Advantages of the H2.0 Tenure Package

My case for the H2.0 package as a new starting point for homeownership is based on three considerations -- its compatibility with property theory, its ability to serve as a focal point for the further development of law, and its cognitive role in facilitating widespread acceptance of new risk allocation arrangements.

First, introducing H2.0 as a new starting point is theoretically more coherent than altering, piecemeal, a homeownership form that no longer serves the needs of most households. To see this point, consider a fictitious municipality, Stockville, where land buyers are required to purchase one share of stock in the county's largest enterprise (a sock factory, say) for each square foot of land they purchase. As long as the stock purchase adds little cost or risk to the real estate package, it might be tolerated. But if the company's stock begins to skyrocket and fluctuate wildly, we would expect bright minds to quickly seize on the idea of separating the investment in socks from the investment in Stockville real estate.

In this case, it is easy to see that scaling back the Stockville real estate bundle so that it no longer includes a stock purchase requirement would be

¹³¹ Property forms, which are limited in number, are often described as being standardized or "off the rack." See, e.g., Francesco Parisi, *Entropy in Property*, 50 AM. J. COMP. L. 595, 621-22 (2002); *infra* notes 136-137 and accompanying text. However, arrangements capable of reducing information or transaction costs may also be created through standardized contract language or statutes. See, e.g., Frank Easterbrook & Daniel Fischel, *Voting in Corporate Law*, 26 J. OF L. & ECON. 395, 401 (1983) (describing corporate law's "off-the-rack principles" as a kind of standard form contract); Henry E. Smith, *Modularity in Contracts: Boilerplate and Information Flow*, 104 MICH. L. REV. 1175 (2006).

a more coherent approach than leaving the bundle unchanged and inventing elaborate devices to alter it after the fact. Of course, unbundling offsite risks from homeownership is not as simple as suspending a senseless stock purchase requirement. But from a theoretical perspective, the goal should be the same -- a sensibly configured bundle delivered seamlessly to the purchaser, without extraneous risk attached. Risk transfer mechanisms should serve only as a means to accomplishing that end.

Here, we can see how H2.0 differs from the array of products that have previously been developed to selectively subtract subsets of upside or downside risk from homeownership. The category of risks that are offloaded by default through H2.0 are not limited to either downside or upside volatility, nor cabined by reference to particular social ills, nor constrained based on the identities of those who will take the other side of the transaction. Instead, the central organizing principle behind H2.0 is a distinction between onsite and offsite factors affecting home value that is based on the owner's scope of effective control. While homeowners may want to invest in offsite factors (just as residents of Stockville might wish to invest in their local sock factory), that investment should entail a separate, conscious transaction.

Second, a new tenure form solves a coordination problem by providing a focal point around which law and shared social and cultural understandings can evolve.¹³² Most immediately, the existence of such a focal point would facilitate debate about the merits of changing the risk allocation that accompanies homeownership. To date, the numerous existing and proposed models that change how homeownership risk is allocated are difficult to even converse about in an efficient way, because they all have different names and slightly different purposes. A theoretically coherent bundle with well-known default settings can offer a more unified springboard for public discourse.

Moving forward, a single focal point would facilitate the orderly evolution of law. Just as ownership forms such as condominiums, cooperatives, and common interest communities have become comprehensible legal categories around which law has developed, so too could a new version of homeownership serve as a centerpoint around which new legal understandings could develop. In addition, providing a unified label for a new tenure regime will have significant advantages in terms of consumer comprehension. Consistent with the development of H2.0 as its

¹³² I am grateful to Noah Zatz for discussions on this point. The idea that law itself can offer a focal point capable of solving private coordination problems has been explored in, e.g., Richard H. McAdams, *A Focal Point Theory of Expressive Law*, 86 VA. L. REV. 1649 (2000). My focus here is on the coordination games inherent in the development of the law and in the production of shared social understandings that a focal point (whether provided by the law itself or by third parties) might address. See *id.* at 1658-72 (discussing and comparing focal points provided by third parties and by the law).

own focal point, I would not recommend integrating it into the familiar vehicles of insurance policies or mortgages, at least initially.¹³³ Instead, a separate entity would market this tenure form to consumers and take care of executing the necessary option agreements to alienate upside and downside equity seamlessly (from the consumer's perspective).¹³⁴

Third, and most important, without a new paradigm for homeownership, the widespread adoption of mechanisms designed to alter home value risk seems unlikely. Having a comprehensive new mental template as a starting point will be crucial to effecting such a paradigm shift. As discussed in Part III, cognitive features relating to the processing of risks, gains, and losses pose significant obstacles to incremental do-it-yourself change in risk-bearing. Creating a new default package with pricing that already reflects the shedding of investment risk is likely to be essential in making an alternative to traditional homeownership cognitively viable.

2. Legal Implications of a New Tenure Form

I have used the phrase "new tenure form" throughout this paper without specifying what exactly that would mean in legal terms. One possibility would be the insertion of a new possessory estate into the existing ranks of freehold property forms. Indeed, this might seem to be an almost inevitable implication of the arguments I have been making. But, on closer examination, creating a new possessory estate is wholly unnecessary and would only serve to introduce new costs and complexities.

To see this, suppose that the H2.0 estate were created by legislative or judicial fiat tomorrow. A current owner of a fee simple, Owen, would now have the legal capacity to convey an H2.0 estate to a homebuyer, Henrietta, while separately conveying the offsite investment component to an investor, Ivor. So far so good. But notice what happens when Henrietta wants to sell her home to a new buyer, Blanche. If Blanche wants to purchase a fee simple estate (as many homebuyers presumably will continue to do, even after H2.0 becomes available), she must transact with both Henrietta and Ivor in order to regain the divided pieces of that estate. The need to transact with multiple parties is likely to raise transaction costs considerably.

It is no easier for Blanche to purchase the H2.0 estate in isolation. Assuming Blanche's willingness to pay for the home is based in part on offsite factors, the gain or loss that the sale generates for Henrietta directly

¹³³ Although I will not explore the details, it is also relevant that mortgage and insurance products are subject to complex regulatory regimes that have not been designed with the goals of this sort of risk-offloading in mind. See Caplin et al., *supra* note 96, at 24-28. A stand-alone product may quite properly be subject to state regulation, but regulators should address the product on its own terms rather than through regulations that were targeted at dissimilar products.

¹³⁴ Because H2.0 can reduce mortgage costs, the entity might also play a coordinating role in connecting consumers to lenders and negotiating discount packages.

implicates Ivor's interest in the property. Typically, each sale would be a trigger for an H2.0 investor's payoff for precisely this reason.¹³⁵ As a practical matter, then, it would be necessary to effectively reunite the property into a fee simple at each sales point, so that it can either be transferred in its entirety to a traditional homebuyer, or in its constituent parts to an H2.0 buyer and investor. But if the H2.0 estate cannot survive resale, there is no reason to formulate it *as* an estate, rather than as a standardized set of contractual arrangements between the owner of a fee simple and an investor. In addition, we might well resist adding another option to the limited slate of property forms for reasons that have been developed in the literature on *numerus clausus*.¹³⁶ The fact that property rights, unlike contract rights, bind those who are not parties to particular agreements, argues for taking special care with the degree of customization that is permitted.¹³⁷

A less radical alternative would retain the fee simple estate as the basic unit of analysis, and accomplish the transfer of risk contractually within that structure. Although it is a question of terminology whether this route "really" produces a new tenure form, it can easily produce the functional equivalent of one by establishing a standardized contractual interface that accomplishes the basic move from traditional homeownership to the default H2.0 package. Common interest communities provide a useful analogy. While members of these communities hold their individual parcels in fee simple and the community's common elements as tenants in common, their relationship with each other is altered in profound and fundamental ways from that which would usually obtain between neighbors by a set of reciprocal covenants routinely executed through the central figure of the developer upon each household's entry into the community.¹³⁸ As that example illustrates, it is possible to piggyback significant substantive changes on existing possessory estates without giving up the ease of administration that accompanies use of standardized property forms.

What I have in mind then, in casting H2.0 as a new tenure form is not a

¹³⁵ Blanche could, in theory, buy an H2.0 estate subject to Ivor's claims against Henrietta (or Henrietta's claims against Ivor). But if the interests can remain splintered as resales proceed, it is not clear when accounts will ever be settled. If numerous resales were to occur between settlement points between investors and H2.0 owners, the difficulties of disaggregating onsite and offsite impacts and determining who is to be paid what amount would presumably become increasingly intractable.

¹³⁶ See, e.g., Thomas W. Merrill & Henry E. Smith: *Optimal Standardization in the Law of Property: The Numerus Clauses Principle*, 110 YALE L.J. 1 (2000); Henry Hansmann & Reinier Kraakman, *Property, Contract, and Verification: The Numerus Clauses Problem and the Divisibility of Rights*, 31 J. LEGAL STUD. 373 (2002).

¹³⁷ See Merrill & Smith, *supra* note 136, at 26-35 (discussing how standardization of in rem rights reduces externalities from measurement costs); Hansmann & Kraakman, *supra* note 136, (arguing that the limited number of forms helps to provide adequate notice when property rights are divided).

¹³⁸ Because the covenants in common interest communities run with the land, the instruments employed are hybrids of property and contract. In contrast, because H2.0 investments would settle up at each sales point, pure contract instruments would be sufficient.

new possessory estate, but rather a set of off-the-rack contractual arrangements that will quickly become familiar to homebuyers as a conceptually coherent alternative to traditional homeownership. As I indicated at the outset, however, H2.0 will not lock homebuyers into one particular risk configuration. The tenure form will come not only with default settings, but also with dials for adjusting away from those initial settings. While the difference between this approach and simply supplying homeowners with a set of tools with which they can change their traditional homeownership bundle into something different may seem subtle, it is likely to be cognitively crucial. Having a familiar and standardized set of arrangements for reallocating homeownership risk is also likely to be important to policymakers in evaluating and responding to the societal effects of changes in risk-bearing among homeowners.

III. COGNITIVE IMPLICATIONS

One aspect of human psychology, loss aversion, suggests that H2.0's replacement of risky prospects with surer ones would be attractive.¹³⁹ But there are also some obstacles to H2.0's adoption that are cognitive in nature.¹⁴⁰ In addition, cognitive biases might lead people to misuse a new tenure form like H2.0. In other words, we might worry *both* that people would not adopt H2.0 when it would be in their best interests to do so, *and* that people would use it for the wrong reasons or in the wrong ways.¹⁴¹ I will address these concerns in turn.

A. *Barriers to Acceptance*

Two features of human cognition, overoptimism and regret avoidance, might keep homeowners from using H2.0 when it would be in their best interest to do so. Because framing is central to how the payoffs are viewed, the introduction of a new default point could help to address these concerns.

¹³⁹ People dislike experiencing a loss much more than a failure to achieve an equivalent gain. See, e.g., Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSP. 193 (1991). Of course, what constitutes a loss and a gain depends on the implicit baseline in use, which is a function of how the problem is framed. See, e.g., Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453 (1981); SHILLER, *supra* note 4, at 87. For a discussion of how loss aversion in the context of homeownership might interact with predatory lending, see Patricia McCoy, *A Behavioral Analysis of Predatory Lending*, 38 AKRON L. REV. 725, 727-33 (2005).

¹⁴⁰ Shiller has written at some length on psychological obstacles to the adoption of financial innovations, including protection against home value volatility. See, e.g., SHILLER, *supra* note 3, at 17-30; SHILLER, *supra* note 4, at 82-98.

¹⁴¹ My focus here is only on the perceptions of homeowners, and not of the investors who would be necessary to the successful operation of a program for reassigning homeownership risk. Although investors as a group may have more sophisticated views of money and risk and may be relatively less burdened by cognitive biases, it is possible that resistance to novel financial arrangements would not come exclusively from the consumer side.

1. Overoptimism

People tend to be more optimistic about many aspects of their lives and finances than is objectively justified.¹⁴² This overoptimism extends to investments generally and to home values specifically.¹⁴³ If people believe their homes will not lose value, then purchasing downside risk protection will seem unnecessary. Likewise, if people hold unrealistic beliefs about their home's upward value trajectory, then the price at which an investor would be willing to buy the upside potential will seem too low. Thus, a valid initial question is whether overoptimism would make H2.0 a non-starter.

There are a few reasons why this might not be the case. First, optimism and confidence among *homeowners* as to the predicted future value of their homes captures only part of the story. Homeowners are by definition those who chose to buy notwithstanding the cost and risks involved. Hence, a selection bias may be at work. While people are generally optimistic, not everyone is equally optimistic on every topic. Thus, in surveying the ranks of the homeowners, we would expect to see more of those who are optimistic about home values, and fewer of those who are less optimistic about home values. Moreover, one of the potential advantages of the H2.0 approach is as an affordability tool that facilitates home purchases. Optimism alone cannot turn those with too few resources into homebuyers.

In addition, some homeowners may espouse optimism and confidence as a defense against cognitive dissonance and buyer's remorse. Having made the purchase, it may be functional to assume that one has not made a horrible mistake. This does not necessarily mean that one would not have chosen differently at the time of purchase if a lower-risk alternative had been available. Some support for this thesis is found in the anecdotal

¹⁴² See, e.g., Neil D. Weinstein, *Unrealistic Optimism about Future Life Events*, 39 J. PERSONALITY & SOC. PSYCH. 806, 810 tbl.1 (1980); Christine Jolls, *Behavioral Economic Analysis of Redistributive Legal Rules*, 51 Vand. L. Rev. 1653, 1659-61 (1998); SHELLY E. TAYLOR, POSITIVE ILLUSIONS: CREATIVE SELF-DECEPTION AND THE HEALTHY MIND 32 (1989).

¹⁴³ A recent poll that reflected "widespread unease about the U.S. economy," nonetheless found that only 16 percent of respondents predicted a decline in the value of the household's home during the next six months, notwithstanding significant slowdowns in sales and mounting inventories. David Streitfeld, *Economic Fears Exclude Home Values*, CHICAGO TRIB., April 12, 2007, Sec. 3, p. 1 (reporting on the results of a Los Angeles Times/Bloomberg poll). In addition to optimistic projections about future price movements, homeowners may hold inaccurate perceptions of the home's current value. See Sumit Agarwal, *The Impact of Homeowners' Housing Wealth Misestimation on Consumption and Saving Decisions*, 35 REAL ESTATE ECON. 135 (2007) (finding, in an empirical analysis of 81,943 home value estimates by homeowners and their financial institutions, that homeowners overestimate the home's value by 3.1% on average). Homeowners may also experience "overconfidence" -- a distinct but related bias that involves an underestimation of the likelihood of error in one's assessment. See, e.g., David Dunning, et al., *The Overconfidence Effect in Social Prediction*, 58 J. PERSON. & SOC. PSYCH. 568, 569 (1990) (reviewing literature on "miscalibrated judgmental confidence"); Daniel Kahneman & Dan Lovallo, *Timid Choices and Bold Forecasts: A Cognitive Perspective on Risk Taking*, 39 MGMT SCI. 17, 26 (1993) ("There is massive evidence for the conclusion that people are generally overconfident in their assignments of probability to their beliefs").

evidence that homeowners tend to be very fretful participants in local government. If they truly believed that they had no chance of suffering a decline in home values and that fabulous returns awaited them on resale, then the fear-driven behavior would be difficult to explain.

Perhaps most importantly, H2.0 offers important outlets for optimism that may rival or exceed those offered by traditional homeownership. Significantly, H2.0 leaves the homeowner exposed to that subset of gains and losses that are squarely under her control -- that is, precisely where homeowners are most inclined to be optimistic.¹⁴⁴ To the extent that indexes are used to determine payouts, for example, homeowners can channel their optimism into their own home's outperformance of the index. While there might be some concerns about disappointment on this front (not every home can outperform the index, just as not everyone can be above average), the optimism is likely to be functional in producing socially valuable behaviors. In addition, H2.0 facilitates moving money into other investment enterprises about which homeowners may be equally or more optimistic.

2. Regret Avoidance

Another reason that consumers might steer clear of H2.0 is regret avoidance.¹⁴⁵ Attempts to avoid future regret, coupled with a cognitive apparatus that causes actions to be regretted more than omissions,¹⁴⁶ can lead people to favor the status quo.¹⁴⁷

People are more likely to anticipate regret when they know that, after

¹⁴⁴ This optimism translates into a greater willingness to take gambles that are viewed as under one's control. See SHILLER, *supra* note 3, at 24 ("Research on gambling behavior has stressed that most gamblers have preferences for activities that offer them some sense of control and mastery"). However, there is often an "illusion of control" regarding results that actually contain a large luck component. See, e.g., Kahneman & Lovallo, *supra* note 143, at 27.

¹⁴⁵ See e.g., Graham Loomes & Robert Sugden, *Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty*, 92 *ECON. J.* 805, 820 (1982) ("Regret theory rests on two fundamental assumptions: first, that many people experience the sensations we call regret and rejoicing; and second, that in making decisions under uncertainty, they try to anticipate and take account of those sensations:"); David E. Bell, *Regret in Decision Making Under Uncertainty*, 30 *OPERATIONS RESEARCH* 961 (1982).

¹⁴⁶ See Daniel Kahneman & Amos Tversky, *The Psychology of Preferences*, 246 *SCIENTIFIC AMERICAN* 160, 173 (1982) (presenting an example comparing the regret attributed to an actor (George) who sells stock in one company to purchase stock in another company and is worse off as a result, to that attributed to an actor (Paul) who is worse off by the same dollar amount because he stuck with the stock he owned and did not switch to a different company's stock). Kahneman & Tversky suggest that the action (switching stocks) is easier to imagine having been otherwise: "Apparently it is easier for George to imagine not taking an action (and therefore retaining the more advantageous stock) than it would be for Paul to imagine taking the action." *Id.*

¹⁴⁷ See, e.g., Robert E. Scott, *Error and Rationality in Individual Decisionmaking: An Essay on the Relationship Between Cognitive Illusions and the Management of Choices*, 59 *S. CAL. L. REV.* 329, 340 (1986) (suggesting because "individuals weight the anticipated cost of regret more heavily than the corresponding benefit of pride" they may be inclined not to make a given choice, if they are otherwise in equipoise about it); see also RICHARD H. THALER, *THE WINNER'S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE* 73 (1992) (noting an "asymmetry between omission and commission" in experiencing and anticipating regret over an unfavorable outcome); Daniel Kahneman, *Varieties of Counterfactual Thinking*, in *WHAT MIGHT HAVE BEEN: THE SOCIAL PSYCHOLOGY OF COUNTERFACTUAL THINKING* 375, 388-92 (Neal J. Roeser & James M. Olson eds., 1995).

making their choice, they will obtain full knowledge not only about the outcome chosen, but also about the outcome that was not chosen.¹⁴⁸ Because many "paths not taken" involve significant uncertainty, people are often protected from regret (and hence from its anticipation) by an inability to fully assess what would have happened in the counterfactual state.¹⁴⁹ In contrast, if one elects H2.0 over traditional homeownership, the counterfactual alternative remains continually in view of the homeowner as she follows housing trends in her neighborhood; it stands starkly at the center of her attention when the home is eventually sold. On average, houses will appreciate over time. Hence, it might seem that regret would not be a rare occurrence for H2.0 owners, but rather the typical state of affairs.

In assessing the significance of regret avoidance for the viability of H2.0, it is helpful to separate downside protection from the alienation of upside potential. People frequently buy insurance without anticipating or experiencing any regret if no covered event occurs; on the contrary, insurance may be purchased precisely to avoid the regret that would come with failing to insure against a low-probability but severe event.¹⁵⁰ Regret avoidance seems much more clearly implicated when people contemplate alienating the home's upside potential. Self-serving attribution bias might be expected to amplify this effect.¹⁵¹ People tend to attribute good outcomes that they experience to skill, and bad outcomes that they experience to bad luck.¹⁵² Homeowners are thus likely to attribute any gains that are realized on a home to their own personal ability and savvy. If the early adopters of an H2.0 program felt cheated whenever they had to give up money they viewed themselves as having earned -- or if potential adopters could foresee

¹⁴⁸ See, e.g., Ilana Ritov & Jonathan Baron, *Outcome Knowledge, Regret, and Omission Bias*, 65 *ORG. BEHAV. & HUM. DECISION PROCESSES* 119 (1995); Ilana Ritov, *Probability of Regret: Anticipation of Uncertainty Resolution in Choice*, 66 *ORG. BEHAV. & HUMAN DECISION PROCESSES* 228 (1996); Eric van Dijk & Marcel Zeelenberg, *On the Psychology of 'If Only': Regret and the Comparison Between Factual and Counterfactual Outcomes*, 97 *ORG. BEHAV. & HUMAN DECISION PROCESSES*, 152 (2005).

¹⁴⁹ See, e.g., van Dijk & Zeelenberg, *supra* note 148, at 156, 159. Even when it is possible to objectively determine the value of an unchosen alternative, such as a stock one did not buy, people have limited attention to devote to tracking the progress of every alternative that was not selected over an extended period of time. This observation is consistent with findings that unfavorable results from acts of commission tend to be "more available in memory," and hence their frequency may be overestimated. See Dale T. Miller & Brian R. Taylor, *Counterfactual Thought, Regret, and Superstition: How to Avoid Kicking Yourself*, in *WHAT MIGHT HAVE BEEN*, *supra* note 147, at 305, 307-14.

¹⁵⁰ As Shiller has discussed, the name "insurance" itself may carry positive connotations that produce a particular framing effect. See SHILLER, *supra* note 4, at 83-84.

¹⁵¹ See, e.g., Amy H. Mezulis et al., *Is There a Universal Positivity Bias in Attributions?: A Meta-Analytic Review of Individual, Developmental, and Cultural Differences in the Self-Serving Attributional bias*, 130 *PSYCH. BULL.* 711, [713-14] (2004) ("The self-serving attributional bias is defined as the tendency of individuals to make attributions for positive events that are more internal, stable, and global than their attributions for negative events.").

¹⁵² See, e.g., NASSIM NICHOLAS TALEB, *FOOLED BY RANDOMNESS: THE HIDDEN ROLE OF CHANCE IN LIFE AND IN THE MARKETS* 3 (2d ed. 2004) (contending that luck is often mistaken for skill, especially in "the world of markets"); Eric Van den Steen, *Skill or Luck? Biases of Rational Agents* 1 (MIT Sloan Sch. of Mgmt., Working Paper No. 4255-02, June 2002), available at http://www.ssrn.com/abstract_id=319972.

their own negative reactions on this score -- the program might not get off the ground, or might not stay off the ground for long.

There are some additional factors that might mediate anticipated regret, however, at least for some homeowners. The use to which the homeowner puts the benefits that she receives in exchange for the upside potential, as well as the other ways (if any) that the homeowner could obtain those same benefits, will be important. First, consider a homeowner who uses H2.0 to get into a more expensive home than she could otherwise qualify to finance. The appropriate point of comparison on resale is not what the homeowner's house would have netted her had she not alienated equity rights, because that particular house would have been out of reach for the homeowner. Rather, the appropriate comparison would be the gains on resale from the less expensive house that she could have afforded without altering equity arrangements, less the disutility from having to live in that house rather than in the one she actually occupied for the duration of her ownership. Typically, there will be a much greater degree of uncertainty about the returns that the homeowner would have received had she opted for a house in a different price range than there will be about the returns on the house that she actually purchased. Where an actor does not expect to have good information about the counterfactual outcome, anticipated regret is reduced.¹⁵³

Even if the returns on the cheaper alternative could be known with certainty (suppose the homeowner had previously identified a specific house in that less expensive price range, knew exactly the price at which she could have purchased it, and observed it being resold at precisely the same time as the house that she ended up buying), the counterfactual state of the world in which the owner bought the cheaper house is not directly comparable with the owner's actual outcome. The consumption streams from the two homes involve incommensurable experiential elements that cannot be easily reduced to a common metric like money. Studies have shown that when the counterfactual and actual outcomes are not directly comparable, regret (and the anticipation of regret) is diminished.¹⁵⁴ Moreover, the consequences of the counterfactual state of living in a different house will often be both uncertain and difficult to compare (would

¹⁵³ See *supra* note 148.

¹⁵⁴ See van Dijk & Zeelenberg, *supra* note 148, at 154 ("If comparability lies at the heart of regret, the (in) comparability of factual and counterfactual outcomes may be another feature explaining why we do not constantly go about kicking ourselves over forgone outcomes"). van Dijk & Zeelenberg studied this effect by asking subjects to imagine choosing between two "scratch cards" and finding, on the one they selected, either a \$15 coupon for liquor or (in a different condition) a \$15 coupon for books. *Id.* at 155. They were then told that unchosen scratch card would have yielded them a \$50 prize -- (in different conditions, either a \$50 book coupon or a \$50 liquor coupon). When the forgone \$50 card was for a different product category than the \$15 prize given to the subject (e.g., where the subject received a \$15 book certificate and the forgone prize was a \$50 liquor certificate) reported regret was lower than when the actual prize and the forgone prize were from the same product category. See *id.* & tbl. 2.

one's child have done as well in school? would one have been the victim of a crime?). Thus, regret avoidance may be muted or absent for people who anticipate using H2.0 to access better housing stock than they could otherwise qualify for.

Not everyone will want to use H2.0 in this way. People may use the benefits provided by H2.0 to pay down or avoid debt, or make other investments. Assuming this category of buyers occupies the same homes that they would have occupied under traditional homeownership, the relevant comparison is the H2.0 payoff plus or minus the gains or losses on the other investments (or debt reduction). Because all of these elements can be reduced to dollars, there is no lack of comparability. When viewed *ex ante*, however, the house might be either a better or worse investment than the alternatives, making regret imaginable either way. What may be most important, then, is which choice is viewed as the status quo arrangement and which is viewed as an active investment decision.

A particular danger of actual and anticipated regret may exist when H2.0 is used as an alternative mechanism for raising funds that could instead be borrowed through a conventional loan. The Bank of Scotland's experience with SAMs in the mid to late 1990s is instructive on this score. In exchange for giving up a share of their home's appreciation, customers were given interest-free loans that did not have to be repaid until the home was sold. Because of the "shared appreciation" feature, however, the homeowners had to pay back not just the initial principal borrowed, but also a share of the home's appreciation from the time that the loan was taken out. Some customers became outraged when the amount that they owed to the bank grew as home prices experienced rapid appreciation, even though the loan documents had explained that this could happen.¹⁵⁵ Rather than frame the transaction as one in which the right to some of the gains on resale were alienated in exchange for valuable benefits (interest-free access to money for as long as the homeowner wished to own the home), homeowners viewed the appreciation that had to be credited to the bank upon sale of the home as representing unconscionably high interest charges on the initial loan.¹⁵⁶

3. Framing and Defaults

As the above discussion suggests, the way in which consumers frame transactions is very important. Because people dislike losses much more than they resent failures to achieve gains, the implicit baseline from which

¹⁵⁵ See, e.g., Jeff Prestidge, *Trapped by 367% Interest Loan*, thisismoney.co.uk, Jan. 8, 2006 (reporting that due to "[r]ampant house price inflation" an elderly couple with a SAM found that "the amount now due to the bank has swollen grotesquely").

¹⁵⁶ See *id.*

changes are measured matters a great deal.¹⁵⁷ The baseline is also important to regret avoidance behaviors, because it determines which choices will be coded as commissions, and hence especially likely to trigger regret. Because traditional homeownership has long been the pervasive model in the U.S., it is inevitable that consumers will measure payoffs against that baseline, at least in part, for the foreseeable future. However, H2.0's new default package could eventually represent a new baseline against which action or inaction could be assessed.

Behavioral research shows that defaults can have quite a powerful influence on choices, drawing as they do on inertia, and perhaps also on the consumer's faith in those who have designed the institutional interface.¹⁵⁸ Because action would be required to move away from H2.0's defaults, the decision to take on offsite risk would be framed as a positive act. In other words, the homebuyer must consciously choose to add in risk over factors lying outside of her parcel and over which she has no control. If she adds in only the downside risk, she will save some money, but loss aversion is likely to steer her away from this move. If she adds in the right to upside potential, her net outlay for the home increases. She must ask herself whether she wants to invest in her local neighborhood housing market with that extra outlay, or whether she would rather invest in something else, like a stock index fund, or getting into a larger home, or paying down credit card debt.

Framed in this manner, the choice to stick with the default arrangement may seem unexceptional. It may also be less likely to induce regret, because one does not have to take any action to go with the default. Of course, H2.0 will not be the only game in town; rather, it will be the new kid on the block. Thus, it will not represent "the" default arrangement for homeownership, but rather only a competing paradigm for homeownership. The question is whether the new paradigm can be made attractive and familiar enough to gain the attention of consumers.

Home sellers and realtors, who have an intense interest in moving homes into the hands of buyers, might be the natural parties to launch such

¹⁵⁷ See, e.g., Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 *ECONOMETRICA* 263, 274, 278-79 (1979).

¹⁵⁸ See, e.g., James J. Choi et al., *Passive Decisions and Potent Defaults*, NBER Working Paper No. 9917 (2003), available at <http://www.nber.org/papers/w9917>. Some of the reasons that defaults make a difference in one of their most-studied contexts -- 401(k) plan choices -- would not be applicable to the present discussion. As Choi and his coauthors explain, there is an option value to waiting to change from the default if the costs of doing so are expected to vary over time. *Id.* at 3. In addition, people may procrastinate on making an intended change, so that they stick with the default longer than they mean to. *Id.* Both of these considerations apply only when consumers have an open-ended time window in which to alter the default settings. The H2.0 interface would presumably not have this feature, but rather would require making a decision of some kind at the time of home purchase. One of the key features of defaults, that movement away from requires action, could be somewhat significant here, however, as could the consumer's view of the default as providing "implicit advice." See *id.* at 3, 18-19. However, Choi et al.'s suggestion that "[e]mployees may treat a zero default as weaker implicit advice than a non-zero default" might also translate over to H2.0.

a publicity campaign.¹⁵⁹ H2.0's use of a single default setting would facilitate the easy communication of an "H2.0 price" along with the regular price. Multi-list software could be upgraded to permit homehunters to search within regular or H2.0 price ranges. If homes that previously seemed out of reach begin to show up on homeseekers' radar screens, we might expect significant consumer interest in this approach.

B. Potential for Misuse

The discussion above suggested biases that might keep those who should use H2.0 from doing so, as well as some strategies for counteracting those biases. But at least as worrisome is the possibility that cognitive biases might cause people to use H2.0 in ways that are ultimately self-defeating. The largest concern in this regard relates to time-inconsistent preferences. It is well established that many people behave myopically at times, heavily discounting the future.¹⁶⁰ Because the sale of upside potential under H2.0 would provide immediate consumption opportunities funded by a delayed payment (in the form of foregone appreciation on resale), it might seem poised to exploit myopic individuals. Currently, people aware of their own self-control problems may use their mortgages as a form of forced savings.¹⁶¹ If these payments are smaller and the wealth-building potential they represent is reduced, then people might end up saving even less than they do now.

There are several responses. First, not all decisions to consume now and pay later are irrational. The typical breadwinner's earning profile takes an inverted-U shape over the life cycle. Under the permanent income hypothesis and the related life cycle hypothesis, people would be expected to consume in each period based on lifetime income, rather than on income received during that period alone.¹⁶² That is, they would be expected to spread their lifetime earnings optimally across the life cycle. It is well documented that people do not, in fact, accomplish this idealized degree of consumption smoothing.¹⁶³ Part of the problem relates to capital market imperfections, which make it very difficult to tap future wage earnings.

¹⁵⁹ See Rex Agreement Co., http://www.rexagreement.com/index.php/rex/who_we_serve_realtors_why_rex/ (suggesting that realtors view the equity agreement as their "secret weapon").

¹⁶⁰ See, e.g., JONATHAN BARON, THINKING AND DECIDING 474, 479 (3d ed. 2000)

¹⁶¹ See David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q. J. ECON. 443, 444-45 (1997) (discussing purchases of illiquid assets, such as homes, as precommitment strategies). Laibson notes, however, that the ability to easily and quickly borrow against such assets undermines their capacity to serve as precommitment devices. See *id.* at 465-66.

¹⁶² See MILTON FRIEDMAN, A THEORY OF THE CONSUMPTION FUNCTION 26-31 (1957) (presenting the permanent income hypothesis); Franco Modigliani & Richard Brumberg, *Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data*, in POST-KEYNESIAN ECONOMICS 388 (Kenneth K. Kurihara ed., 1954) (presenting the life-cycle hypothesis).

¹⁶³ See, e.g., Lee Anne Fennell & Kirk J. Stark, *Taxation over Time*, 59 TAX L. REV. 1, 16-21 (2005)

Making it possible to tap future earnings from an asset -- the home -- would be a more feasible way of introducing liquidity into the early part of the life cycle.¹⁶⁴

Even apart from these liquidity issues, it is difficult to establish that any particular tradeoff between current and future consumption should be objectively regarded as a mistake.¹⁶⁵ What are easier to identify as mistakes are *inconsistent* time preferences, where an individual's earlier and later selves are in agreement that a given temporal tradeoff was suboptimal.¹⁶⁶ Where this is the case, it is helpful to have mechanisms in place that allow the earlier self to precommit to a more patient choice. Having H2.0 available only at the time of purchasing a home, with adequate periods for advice and reflection before choosing to enter into the agreement, should be helpful in this regard.¹⁶⁷

Perhaps most important to keep in mind, however, is the fact that innumerable opportunities already exist for myopic individuals to act in a manner that is counter to their own long-run interests. Adjustable rate mortgages that can escalate out of the borrower's affordability window represent just one example -- one that, unlike H2.0, can cause families to lose their homes. Similarly, home equity loans that allow the extraction of most of the value from homes during market peaks can set the stage for financial disaster if prices fall at a later time.¹⁶⁸ It would be inaccurate to predict that a program like H2.0 would never get in the way of wealth-building or cause any households to make choices that they will later view as ill-advised. But given the many ways in which people can already thwart their own long-run interests, H2.0 seems like a relatively innocuous instrument. Indeed, mild forms of myopia might actually act to counterbalance other cognitive biases that would cause people to forgo the benefits of H2.0 (although it would be mere happenstance if they did so perfectly).

We might also worry that a new form of homeownership would confuse consumers and make them more vulnerable to fraud and sharp practices. As many homeowners have fallen on hard times, "equity stripping" schemes in which the owner signs over the house deed in exchange for promises of

¹⁶⁴ See FRIEDMAN, *supra* note 162, at 16 ("It is in general far easier to borrow on the basis of a tangible physical asset, or a claim to one, than on the basis of future earning power.").

¹⁶⁵ The marginal utility of consumption might vary over time. In addition, considerations like the interest rate, uncertainty about future events, and differing degrees of connectedness to other selves might rationally influence one's temporal preferences. See, e.g., Baron, *supra* note 160, at 479-80 (noting these considerations and discussing Derek Parfit's work).

¹⁶⁶ See, e.g., *id.* at 475-78 (discussing dynamic inconsistency).

¹⁶⁷ See Shiller & Weiss, *supra* note 4, at 29 (suggesting limiting the purchase of hedging instruments to the time of home purchase, sale, or refinancing, noting that "[a]t these times, the homeowner has legal counsel and advice of others that would naturally be used to help make an informed decision about risk-management contracts as well").

¹⁶⁸ See, e.g., Louis Uchitelle, *A False Sense of Security? You Must Own a Home*, N.Y. TIMES, July 1, 2007 (reporting the increasing prevalence of homeowners removing equity from their homes via home equity loans).

freedom from mortgage payments have become increasingly prevalent.¹⁶⁹ Many homeowners have also accepted mortgages without understanding their most basic terms, such as the potential for mortgage payments to increase. Whether these misunderstandings were due to misrepresentation or consumer inattention, they have placed a significant number of households in financial peril. Would H2.0 make matters worse by introducing more complexity into the homebuyer's choice set?

Some precautions would be necessary. Perhaps most important among them is the characterization of H2.0 as a new tenure form, flagging that it is not just another product, but rather a different way of holding property. Required disclosures (including simulations showing various future states of the world), and standardized formats for key financial terms would assist both in consumer understanding and in comparison shopping. Finally, H2.0 must denote only those arrangements that comply with required disclosures and standards, so that consumers can readily distinguish it from other schemes. If these precautions were taken, H2.0 could actually reduce consumer vulnerability to sharp practices. Homeowners' current susceptibility is driven by desperation and the lack of viable alternatives; by adding a legitimate alternative for increasing affordability, resort to sketchy alternatives would presumably be reduced.

IV. SOCIETAL IMPACTS

Because nothing like H2.0 has ever been implemented on a broad scale, the larger societal effects of such a widespread change in the meaning of homeownership cannot be fully predicted. In this Part, I will trace some of the potential benefits and concerns associated with such a change.

A. *Changing Incentives for Collective Control*

H2.0, if it were implemented in a way that fully screened out the effects of offsite factors on the investment payoffs of homeownership, would dampen the incentives that presently drive homeowners' participation in collective control efforts at the local and sublocal levels.¹⁷⁰ One rationale

¹⁶⁹ Gretchen Morgenson & Vikas Bajaj, *New Scheme Preys on Desperate Homeowners*, N.Y. TIMES, July 3, 2007.

¹⁷⁰ There is strong theoretical and anecdotal support for homeowners' larger role in local governance, but questions remain about the strength of the empirical connection between homeownership and social and political behaviors. A recent view of the empirical literature concluded that "[a]s a whole, the existing literature suggests that homeownership has a modest impact on social and political behavior." Dietz & Haurin, *supra* note 33, at 430. Apart from higher voting rates for homeowners, which have been consistently established, empirical results are sufficiently mixed that "no strong conclusions can be drawn at this time." *Id.* The discussion in this section assumes a significant level of homeowner influence arising from the fact of homeownership; the weaker the connection between tenure form and political and social behaviors, the less a shift to H2.0 ownership would

for withdrawing offsite investment risk factors from the homeowner's bundle is that these factors lie outside of the household's individual control. But, as Figure 2 emphasized, some factors that lie outside of individual control are nonetheless amenable to the control of homeowners acting collectively. An important question, then, is whether removing part of the homeowners' stake in collective control -- and transferring that stake to investors -- is socially valuable or socially costly on balance. The question is a complex one that goes to the heart of local governance.

Collective control is presently used by homeowners both for good (resolving local collective action problems or building bonds among neighbors in ways that are socially valuable on net) and for ill (excluding outsiders or offloading externalities onto them in ways that are socially costly on net). Based on the net impacts, we can refer to these two categories of collective control as "value enhancing" and "value reducing," respectively. In the sections below, I will consider what H2.0's transfer of investment risk would do to each of these categories of conduct before turning briefly to the connections between property taxation, local governance, and the H2.0 form of ownership.

1. Value-Enhancing Collective Control

In *The Homevoter Hypothesis*, William Fischel observes that a desire to maximize home values underlies local political behavior, and suggests that homeowners' politics generally tend to inure to the benefit of the community, and to society at large.¹⁷¹ For example, Fischel observes that a homeowner without children (or any prospect of children) will nonetheless be concerned about the quality of the local public schools, given the expected impact of school quality on her home's resale value.¹⁷² More generally, we would expect homeowners with a financial stake in a given community to do more to advance the fortunes of that community -- perhaps by participating in neighborhood watches, or otherwise helping to police and enforce behavioral and aesthetic norms.

While these considerations are important ones, they do not support forcing homeowners to accept *investment* risks associated with local conditions. Significantly, H2.0 would leave the homeowner exposed to risks to the quality of the consumption stream itself, whether emanating from onsite or offsite factors. Safe, well-kept streets and fine amenities are

change matters.

¹⁷¹ See generally FISCHEL, *supra* note 11. However, Fischel has also argued that homeowners can be overzealous in defending their property values, and has suggested a form of home equity insurance as a countermeasure. See, e.g., *id.* at 268; Fischel, *supra* note 57.

¹⁷² FISCHEL, *supra* note 11, at 5, 149-51.

not just good investments, they are desirable consumption ends in themselves. Thus, we would expect H2.0 homeowners to continue to make localized investments in the community that will pay dividends in kind through the flow of housing services they consume. It is true that the exit option becomes less costly to the homeowner who becomes dissatisfied with her neighborhood, because she will not bear the full loss associated with a downward trend in prices. But the protection against downside loss on resale also makes staying less risky, and hence less costly.

It is also important to note that H2.0 would be expected to attract some households that would otherwise choose to rent, as well as some households that would otherwise opt for traditional homeownership.¹⁷³ If tenants are deemed to be less engaged neighbors and community members than owners (on average),¹⁷⁴ the move from tenancy to H2.0 would be an improvement. Even though H2.0 owners will not own all of the risk associated with their investment, they hold an option to stay in the community as long as they wish, and would therefore not be discouraged (as tenants presumably are) from making site-specific investments in the community.

Finally, granting households the capacity to transfer unwanted investment risk elsewhere does not eliminate all stakeholding in communities; rather, it may produce a more effective class of stakeholders.¹⁷⁵ In addition to those homeowners who continue to opt for the traditional model of ownership (with all upside and downside risk intact), outside investors would have an interest in ensuring that homes appreciate over time. This combination of local stakeholding and investor monitoring could generate more balanced and rational local political inputs than those produced by individuals who are forced to bear unwanted, undiversified risks.¹⁷⁶ Put another way, the losses to socially valuable local

¹⁷³ It is difficult to predict the relative extent to which H2.0 would substitute for leaseholds and traditional freeholds, respectively, but we might reasonably expect some substitution from each direction.

¹⁷⁴ A variety of positive social effects have been associated with homeownership in the theoretical and empirical literature. See, e.g., Denise DiPasquale & Edward L. Glaeser, *Incentives and Social Capital: Are Homeowners Better Citizens?* 45 J. OF URB. ECON. 354 (1999); Donald R. Haurin et al., *The Impact of Neighborhood Homeownership Rates: A Review of the Theoretical and Empirical Literature*, 13 J. HOUSING RESEARCH 119 (2003). Selection bias presents a difficulty in interpreting empirical results, however -- do people with good-neighbor characteristics just happen to become homeowners, or is there something about homeownership that improves their neighborliness? See, e.g., Gale et al., *supra* note 35, at 1177; Haurin et al., *supra*, at 132-33. Studies examining the effects of homeownership control for observable characteristics like age, marital status, and income, but it is still possible that unobservables influence both the tenure choice and the neighborly behavior. See Gale, *supra*, at 1177. Similar econometric challenges are implicated in attempts to determine the impacts of homeownership on a raft of other variables, including wealth, health, child outcomes, self-esteem, mobility, employment, and family composition. See Dietz & Haurin, *supra* note 33.

¹⁷⁵ For example, Michael Pereira has argued that a company insuring all of a community's residences against home equity declines would be able to overcome collective action problems that the residents themselves might face. Pereira, *supra* note 85, at 752-53 (giving an example in which the insurer could more effectively sue or bargain with a neighboring factory that was generating a nuisance). Depending on the structure of markets for home equity investments, a single entity might not have such a large stake in a single community. Nonetheless, the potential comparative advantages of different institutional actors in vindicating interests is worth noting.

¹⁷⁶ We might generally imagine that investors select into investments based on their risk tolerance -- the faint-hearted choose T-notes, while the daredevils choose junk bonds. If such sorting were perfect, investors

participation associated with a diminished investment stakes in local conditions may be more than outweighed by the gains from reducing the political inputs of those who, as a result of fear, might be especially likely to push for value-reducing moves.

2. Value-Reducing Collective Control

Reducing home investment risk not only directly benefits the risk averse consumer, but also protects society from socially damaging actions that a consumer driven by unchosen risk might undertake. This was precisely the impetus behind the earliest versions of home equity insurance, and it explains recent efforts to use such insurance to stem NIMBYism. Free of the fear accompanying undiversified home value risk, the argument runs, homeowners will no longer pursue socially costly local collective actions.¹⁷⁷ While this is extraordinarily important potential benefit, it is important not to overstate it.

First, the consumption interest that H2.0 homeowners would continue to have in their homes might still cause them to undertake socially costly collective actions. However, that interest comes with an important built-in check -- that objections to particular changes must be couched in terms of the homeowner's own preferences and beliefs. Currently, homeowners can justify positions on local issues that would otherwise appear indefensible on the grounds of "preserving property values." For example, a homeowner who maintains that she does not personally mind having a homeless shelter or low-income housing project in her neighborhood may nonetheless oppose the shelter or project on the grounds that the person to whom she plans to resell her home several years hence will be less enlightened.¹⁷⁸ A homeowner who is exposed only to consumption stream effects from such development, and not to the chance of resale value diminution, would have to forthrightly confront how much a given factor matters to her, rather than blame her actions on the supposed prejudices of others.

Second, H2.0 lets homeowners shift risk onto investors who are in a position to diversify that risk away, but it does not eliminate the investors' incentives to avoid taking losses on the investment. While diversification works well to even out the effects of risk (variance), it cannot transform a low expected value event into a high expected value event. If a given change in a local area would unambiguously reduce property values, an

would not typically suffer bouts of white-knuckled terror over normal market movements; their investments would be suited to their comfort level. However, because homeowners sort into homeownership for many reasons other than risk tolerance, we might expect many of them to be out of their comfort zone with regard to the home's investment risk.

¹⁷⁷ See, e.g., FISCHER, *supra* note 57.

¹⁷⁸ See, e.g., Fennell, *Homes Rule*, 112 YALE L.J. 617, 647-49 (2002) (book review of FISCHER, *supra* note

investor presumably would be no happier with the prospect of that change than would a homeowner. Thus, we might expect investors to demand some of the same sorts of covenants and zoning regulations that homeowners have long employed to guard against negative impacts on home values. While investors may not be able to vote locally, they can express their demands through price signals to homeowners who wish to purchase protection against downside risk or sell upside potential.¹⁷⁹

Nonetheless, there are at least three ways that having investors hold risk rather than homeowners would be expected to curtail value-reducing behavior. First, as Fischel has suggested, homeowners may oppose projects because of the high variance in outcomes, not because of low expected value.¹⁸⁰ Shifting risk to diversified investors works well when the real problem is risk aversion (rather than a desire to avoid a sure loss). Second, investors are at a physical and emotional remove from the local neighborhood and have chosen consciously to take on a certain level of risk. Hence, they would not be expected to be vulnerable to overblown fears or group hysteria about changes that are objectively unlikely to produce negative results. Third, and perhaps most importantly, investors are more likely than individual homeowners to hold offsetting interests in other properties or entities that would push them away from NIMBY behaviors. If the mark of NIMBYism is narrow self-interest that pushes externalities onto others, investors who hold positions in some of the offloaded-upon interests (other neighborhoods, localities, or entities) would be expected to eschew NIMBYism, at least where it is inefficient.¹⁸¹

The resulting potential for positive effects on society can perhaps best be understood through the lens of the semicommons. As Henry Smith has explained, medieval grazing and farming arrangements comprised a semicommons; the land was shared in common for purposes of grazing, but farming strips were individually owned.¹⁸² The farming strips held by a given owner were scattered throughout the grazing field.¹⁸³ The scattered arrangement has been attributed to various purposes, such as diversification

¹⁷⁹ These price signals could reintroduce the phenomenon of homeowners distancing themselves rhetorically from the positions that they take on local matters. Instead of referring to a risk to property values, H2.0 homeowners might refer to pricing risks in their dealings with investors. If, however, payment obligations were fixed at the time the home is purchased (or even handled in lump sums at that time, as in the Syracuse pilot project, *see supra* note 96), current H2.0 homeowners would not be exposed to such pricing risks. I thank Eduardo Peñalver for raising this point.

¹⁸⁰ *See* FISCHEL, *supra* note 11 at 9-11.

¹⁸¹ Logically, there must be some instances where a "different backyard" is a better location from an efficiency perspective.

¹⁸² *See* Henry E. Smith, *Semicommon Property Rights and Scattering in the Open Fields*, 29 J. LEGAL STUD. 131 (2000).

¹⁸³ *See* Robert C. Ellickson, *Property in Land*, 102 YALE L.J. 1315, 1389 (1993) (providing an illustration of an open field village, adapted from maps dated 1719 appearing in GEORGE C. HOMANS, *ENGLISH VILLAGERS OF THE THIRTEENTH CENTURY* 88-89 (1941)).

of risk, but Smith emphasizes its role in controlling strategic behavior.¹⁸⁴ Spatially interspersing the holdings of many different owners neutralizes each owner's temptation to use the commons in a way that would selectively offload costs onto the farmland of others or selectively direct benefits to his own land.¹⁸⁵

Neighborhoods, localities, and metropolitan areas can similarly be viewed as semicommons regimes. Individual households own parcels of land, but many elements of value are held in common by a larger group. But these semicommons regimes largely lack the protection against strategic behavior that marked medieval grazing and farming arrangements. The politically powerless and impoverished are likely to be spatially concentrated, enabling wealthier and more powerful citizens to selectively burden those areas. Concerns about such targeting have arisen in contexts involving the siting of locally undesirable land uses,¹⁸⁶ the provision of public goods and services,¹⁸⁷ and, of course, the exercise of eminent domain.¹⁸⁸

Slicing up interests in owner-occupied property and dispersing the slices among investors helps to sever the link between self-interest and geography. It is at least possible that the result will be a better-functioning political process in which a larger percentage of the population holds interdependent residential interests. I do not want to overstate this point. The interests of investors may diverge from those of homeowners in many ways. More generally, making interests more diffuse may dilute investors' incentives to become involved in any particular dispute. Yet, intertwining interests seem likely to ease the isolation and powerlessness of the most vulnerable communities.

It is possible, however, that investment patterns would take a very different form. Unless some restrictions were placed on an investor's ability to hold geographically concentrated interests, a large investor might decide to "capture" a particular municipality by buying stakes in all of its housing stock and then taking over the political mechanism to serve its own (highly

¹⁸⁴ Smith, *supra* note 182, at 146-54.

¹⁸⁵ *See id.*

¹⁸⁶ *See, e.g.*, Vicki Been, *What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses*, 78 CORNELL L. REV. 1001 (1993).

¹⁸⁷ An extensive literature has focused on disparities in the provision of public education. For a recent example, see Laurie Reynolds, *Skybox Schools: Public Education as Private Luxury*, 82 WASH. U.L.Q. 755 (2004). Disparities in the provision of other local services has also received some attention. *See, e.g.*, CHARLES H. HAAR & DANIEL W. FESSLER, *THE WRONG SIDE OF THE TRACKS: A REVOLUTIONARY REDISCOVERY OF THE COMMON LAW TRADITION OF FAIRNESS IN THE STRUGGLE AGAINST INEQUALITY* (1986); Clayton P. Gillette, *Equality and Variety in the Delivery of Municipal Services*, 100 HARV. L. REV. 946 (1987) (reviewing HAAR & FESSLER, *supra*).

¹⁸⁸ *See, e.g.*, Wendell E. Pritchett, *The "Public Menace" of Blight: Urban Renewal and the Private Uses of Eminent Domain*, 21 YALE L. & POL'Y REV. 1 (2003) (examining the use of "blight" rhetoric to justify urban renewal efforts that targeted low-income minority neighborhoods); *Kelo v. City of New London*, 545 U.S. at 521-22 (Thomas, J., dissenting) (contending that exercises of eminent domain for economic development purposes will disproportionately burden poor communities).

localized) interests.¹⁸⁹ The rents that could be enjoyed through this kind of capture behavior could overwhelm the disadvantage to the investor of taking on such an undiversified investment package. Concerns about such concentrated investments would be twofold. First is a process concern, that H2.0 would make local governance less democratic and more dominated by special interests. Second is the substantive concern that investor-dominated decisionmaking would be even more provincially self-serving, if large investors were able to more powerfully advance their interests than could homeowners acting collectively (a point open to empirical question).

In order to achieve the advantages claimed on behalf of a system like H2.0, it might well be necessary to place some bounds on geographic concentration of investments or to package investment instruments in ways that automatically bundle together geographically disparate holdings that represent substantively similar types and levels of housing risk. These design details cannot be worked out here, but stand as an important qualification to the enthusiasm that has accompanied the reallocation of housing risk.

3. Property Taxes, Home Values, and Local Participation

Property taxes are a key source of revenue for local governments, and are levied based on property values.¹⁹⁰ This system of funding can be most easily squared with a world in which homeowners control taxing and spending decisions through their political activities and suffer from or enjoy the net results of changes in local amenities, home values, and taxes. H2.0 presents challenges to this model in terms of both liquidity and politics. If property values are increasing, but an H2.0 homeowner has alienated the right to some or all of those gains, what property tax treatment is appropriate?¹⁹¹

Simply leaving the full property tax burden on the H2.0 homeowner is problematic. Rapid property tax increases can create severe liquidity problems, even apart from H2.0.¹⁹² But under traditional homeownership, rising property values create a pool of equity in the home that, at least in

¹⁸⁹ I am indebted to Lior Strahilevitz for raising this point, and for very helpful discussions about it.

¹⁹⁰ See, e.g., RICHARD BRIFFAULT & LAURIE REYNOLDS, CASES AND MATERIALS ON STATE AND LOCAL GOVERNMENT LAW 548-49 (6th ed. 2004) (noting that the property tax "provides about 30% of all local revenues, and nearly half of all locally provided or 'own-source' local revenues," making it "the key local government revenue source that is under local government control"); *id.* at 549 (explaining that "[t]he property tax obligation of a particular taxpayer is measured by the value of the property subject to tax").

¹⁹¹ See Davis, *supra* note 50, at 85-87 (discussing this issue).

¹⁹² Homestead exemptions and various forms of "circuit-breakers" offered by local governments can help to address the liquidity problem. See, e.g., LYNN A. BAKER & CLAYTON P. GILLETTE, LOCAL GOVERNMENT LAW 470-71 (3d ed. 2004) (discussing homestead exemptions as well as "refunds, credits, or exemptions to low-income, disabled, or elderly individuals, or to other groups of special need or desert").

theory, can be tapped to pay the higher taxes.¹⁹³ Under H2.0, rights to those gains would already have been sold, making tapping into them impossible. There is also a potential political difficulty. The voting patterns of H2.0 homeowners might be insufficiently protective of long-run property values, given that these homeowners will not bear the investment impacts.

One approach, often advocated in the context of limited equity programs for low-income people, is simply to adjust the tax assessment downward to account for the owner's limited interest in the home.¹⁹⁴ But this approach would quickly become unworkable and unfair as we move from a limited program available to a tiny percentage of the population to a broad-based program that is available to everyone. The property tax base would lag far behind gains in home values, requiring higher tax rates to meet budgetary demands, and these increases would be concentrated on traditional homeowners, distorting the choice between that form of homeownership and H2.0.

Another possibility would be for the property tax to follow the equity interest, so that investors would be responsible for the percentage of the increase in property taxes that corresponds to their share of the appreciation potential. This solves the liquidity problem but introduces another political difficulty -- the investors cannot vote in the local elections and therefore would be liable for tax burdens that they had no hand in creating. H2.0 homeowners might then vote for tax increases to fund amenities that they wish to consume, knowing that the bill for these increases would fall on others. It is possible, of course, that investors would come to have influence through non-voting mechanisms, just as any other special interest group might, but getting the political incentives properly aligned will be difficult.

Another alternative would be for the investor to front the money to pay for all property tax increases attributable to increased assessments, thus solving the liquidity problem. These advances could be treated as loans to be forgiven in whole or in part based on the ratio between the tax increases and the gains that the investor ultimately realizes on the property. Although his solution is not perfect and would require considerable fine-tuning, it would aim at the right target -- creating an incentive for the homeowner to act in the investor's long-run interests, while making the investor bear the costs associated with achieving those interests. In the longer run, if H2.0 became the dominant form of homeownership, the method of financing might be altered to better align with it.

¹⁹³ For example, home equity loans might be used to generate liquidity to pay the taxes.

¹⁹⁴ See *Prowitz v. Ridgefield Park Village*, 568 A.2d 114, 118-19 (N.J. App. Ct. 1989) (upholding a reduced tax assessment for a home that was subject to a resale cap as part of an affordable housing program, finding the resale restriction "analogous to value-depreciating government regulation"); Davis, *supra* note 50, at 86-87 (citing and discussing *Prowitz*).

B. Stability and Stickiness in Housing Markets

H2.0 would also have important effects on incentives to buy and sell in changing markets. Under traditional homeownership, downward-trending housing markets can suffer from inertia: Current owners refuse to accept prices that are any lower than the property could command at its most recent peak, while would-be buyers refuse to pay anywhere near that amount.¹⁹⁵ Sales volume plummets, inventory piles up, but prices do not respond accordingly, at least in the short run.¹⁹⁶ The result is diminished mobility among homeowners.¹⁹⁷ This stickiness may be driven in part by liquidity constraints (the need to pay off an existing mortgage or the desire to walk away with sufficient equity to make a downpayment on a new home), but loss aversion seems strongly implicated as well.¹⁹⁸

H2.0 might be expected to help in three ways. First, sellers who are protected against downward price trends might be less reluctant to sell. Second, buyers who can purchase protection against future price drops might be less reluctant to buy. Third, to the extent that equity financing (selling off upside potential) begins to take the place of debt financing, the liquidity problems that produce lock-in effects may become rarer. In combination, these three advantages would be expected to dampen the feedback effects of declining market conditions on mobility choices. Widespread risk buffering through H2.0 therefore benefits housing consumers in general, not just those who have opted for H2.0.¹⁹⁹ Because of its potentially favorable societal and macroeconomic effects, the risk buffering aspects of H2.0 have some of the characteristics of a public

¹⁹⁵ See, e.g., SHILLER, *supra* note 3, at 171.

¹⁹⁶ We seem to be presently in the midst of just such a phenomenon. See, e.g., Sundeep Reddy and Michael Corkery, *Housing Chill Grows Worse, Bites Consumers*, Wall St. J., Sept. 26, 2007 (reporting based on newly-released data that "home inventories by one measure soared to an 18-year high").

¹⁹⁷ Tammy Joyner, *Relocation Reluctance Hitting Job Market*, Chicago Trib., July 1, 2007, Sec. 14, p. 41. Some research has even explored a possible link between homeownership rates and longer bouts of unemployment, perhaps stemming from homeowners' limited mobility. See Steven F. Landsburg, *Everyday Economics: Buy a House, Lose Your Job?*, SLATE, Nov. 7, 1997 (discussing data indicating a correlation between homeownership rates and unemployment rates and the hypothesis for the relationship put forward by Andrew Oswald, as well as some alternative explanations for the data); Dietz & Haurin, *supra* note 33, at 419-21 (reviewing literature on this point).

¹⁹⁸ For example, an empirical study of condominium sales in Boston between 1990 and 1997 showed that sellers facing a loss from the benchmark of the nominal price paid for the home chose higher asking prices and took longer to sell their homes than other sellers -- a result consistent with loss aversion. See David Genesove & Christopher Mayer, *Loss Aversion and Seller Behavior: Evidence from the Housing Market*, 116 Q. J. ECON. 1233 (2001). Turning down offers below the purchase-price benchmark may be understood as risk-seeking behavior consistent with the "trying to break even" phenomenon. See Richard H. Thaler & Eric J. Johnson, *Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice*, 36 MGMT. SCI. 643, 657-58 (1990). It is not clear that holding out for a better price is always irrational, however. See Stephen Day Cauley & Andrey D. Pavlov, *Rational Delays*, 24 J. REAL ESTATE FIN. & ECON. 143 (2002) (suggesting that holding out during down markets can be rational, if the option value of doing so exceeds the carrying costs of the home).

¹⁹⁹ Caplin, *supra* note 96, at 28 (discussing the potential social benefits of Syracuse's home equity insurance pilot program for those not enrolled in it).

good.²⁰⁰

A concern might arise if we thought that such a program would increase mobility overall and thereby produce neighborhood instability. Indeed, it is sometimes suggested that homeowners' irrational reluctance to avoid taking losses on their homes encourages them to stay put and agitate for changes that will drive their home values back up. But downward price protection might give homeowners newfound confidence to stay in their neighborhoods when price downturns threaten.²⁰¹ Another way that H2.0 might deliver greater stability is simply by encouraging more homeownership.²⁰² Studies consistently show that homeowners are less mobile than renters.²⁰³ Such studies may be picking up on some of the stickiness that H2.0 would alleviate, but it is likely that much of the effect is attributable to transaction costs associated with buying and selling a home.²⁰⁴ While it cannot be said with certainty which of several mobility related effects will dominate, there is at least the potential for less stickiness in housing markets without any loss in stability.

C. Competitive Consumption

Another concern with widespread implementation of H2.0 is that it will alter the very housing markets that it was designed to assist consumers in navigating. H2.0 would have the immediate effect of multiplying the average homeowner's purchasing power. If too many dollars were chasing the same houses, there would be housing price increases, at least in the short run.²⁰⁵ Over time, however, we would expect housing supply to expand in response to these changes.²⁰⁶ Following these adjustments, would we expect to see consumers allocating a smaller share of their income and wealth to housing and diverting their extra purchasing power to other, more diversified uses, or would we instead see an increase in the total amount of housing consumed?

Robert Frank has suggested that people engage in competitive consumption in their efforts to attain relative standing.²⁰⁷ Homes are one of the primary vehicles through which such competition is carried out. It is

²⁰⁰ See *id.*; SHILLER, MACRO MARKETS, *supra* note 3, at 207-08 (discussing financial innovations as public goods).

²⁰¹ See Caplin et al., *supra* note 96, at 28 (suggesting that home equity protection programs might have "confidence-building effects" even if not many households purchase the protection).

²⁰² See Caplin et al., *supra* note 13, at 17-22 (presenting rough calculations that suggest shared equity mortgages could increase homeownership by more than one percent).

²⁰³ See Dietz & Haurin, *supra* note 33, at 416-18.

²⁰⁴ See *id.*

²⁰⁵ See CAPLIN ET AL., *supra* note 3, at 219-20 (predicting that housing partnerships would create short-run price increases, which could be "quite significant").

²⁰⁶ See *id.* at 219.

²⁰⁷ See ROBERT FRANK, LUXURY FEVER 159-60 (1999)

not just a matter of outdoing the Joneses with respect to square footage or fancy trim. Rather, people bid against each other for homes in particular neighborhoods and school districts because those neighborhoods and school districts are better, in relative terms, than other neighborhoods and school districts.²⁰⁸ With so much riding on the choice of a home, people often stretch themselves quite thin to get a foothold in a premier neighborhood, even when it means placing themselves at risk of foreclosure and bankruptcy. It is worth thinking about how H2.0 might affect incentives in this regard.

By using H2.0, many people could get into more expensive homes than they could otherwise afford.²⁰⁹ The initial effect would be to allow more people of modest means into neighborhoods that are a rung or two higher on the ladder than the neighborhoods they would have been able to occupy previously. But if everyone responded by employing H2.0 to purchase a bigger and better house, the existing pattern of relative housing quality would presumably be replicated -- but with everyone living in more expensive homes than before.²¹⁰ In other words, if people follow the heuristic of buying as much house as they can afford, a mechanism that shifts the affordability benchmark upward would simply result in increased consumption of housing.

Even if the houses people buy are objectively larger or nicer, adaptation effects and a focus on relative standing might leave people no happier -- and no more diversified -- than before. The risk associated with the lack of diversification would be lower, however, because variance in outcomes due to factors out of the household's control will have been reduced or eliminated. We might also say that "debt reduction" has been achieved, if we compare the situation to a baseline in which people were financing these same homes with debt alone. But because they could not have afforded to do so, that would be a false comparison.

One factor that could prove helpful in this regard is inertia. If most people continue to live in their current homes, at least in the short run, any upward shift in housing consumption would be gradual and perhaps concentrated toward the lower end of the housing stock continuum. Socioeconomic mixing that occurred during the early (inertial) stage of

²⁰⁸ See *id.* at 159.

²⁰⁹ Andrew Caplin and his coauthors suggest that the increased affordability associated with equity financing would not have uniform effects throughout the income distribution, because "at some point the borrower achieves an income level that makes it possible to pay regular mortgage interest on the most valuable house that their assets will permit them to purchase." Caplin, *supra* note 13, 15 & tbl. 6.

²¹⁰ A backlash against larger homes seems to be brewing, however, perhaps reflecting shifting norms about housing consumption. See, e.g., Nicholas Riccardi, *Leveling Restrictions on McMansions*, L.A. TIMES, July 23, 2007 (discussing proposed or implemented restrictions on oversized homes in several metropolitan areas); Kenneth R. Harney, *Tax Deduction Under Fire for "McMansions"*, WASH. POST, Aug. 25, 2007, at F01 (reporting on a "carbon tax" bill that would withdraw the federal income tax deduction for mortgage interest on homes that are over 3,000 square feet in size).

H2.0 could perform an educative function, reducing the perceived need to get into a more exclusive setting. If diminished concerns about resale values softened some of the exclusionary policies of local governments, this could also be helpful in reducing stratification and lowering the pressure to get into a particular neighborhood or school district. Ultimately, however, larger reforms aimed at altering the incentives toward socioeconomic stratification might be necessary to prevent competition in housing consumption from erasing many of the advantages of H2.0.

D. Autonomy and Conformity

Another concern is that investor pricing practices could interact with a competitive consumption dynamic to pressure H2.0 households to relinquish many of the prerogatives that have traditionally accompanied homeownership. I have observed already that notwithstanding their risk tolerance, investors want to avoid losses. They may therefore send price signals to homeowners about the kinds of land use restrictions that must be in place in order to receive top dollar for upside potential or the best deal on downside protection. In concept, this is no different than an insurer offering a discount for features like fire extinguishers and deadbolts, but the kinds of restrictions that would maximize investment returns might not necessarily optimize the homeowner's consumption experience.²¹¹ If getting one's child into the best school means buying in the most exclusive neighborhood, and if buying in the most exclusive neighborhood means granting investors nearly all of one's discretion over the minutiae of everyday life, then we might begin to see an overall reduction in the autonomy that homeowners enjoy.

The fact that any such effect would stem from individual households choosing to make bargains does not provide a full answer. If the ceding of autonomy represents a competitive strategy in trying to get into the best possible home, and if everyone undertakes that strategy, then everyone loses autonomy and gains nothing in relative position. Hence, autonomy must be conceded just to keep one's previous place in the neighborhood (and public school) hierarchy. Moreover, there may be society-wide externalities associated with many or most households giving up the personal autonomy that goes with homeownership.²¹² The sense of

²¹¹ Of course, we would expect the two to be related. The resale price should reflect what homeowners find valuable about the home, and if restrictions on autonomy are aversive, then the price homeowners are willing to pay should drop accordingly. This might not happen, however, if homeowners misgauge how much the lost autonomy would mean to them or if competitive pressures to attain the highest possible relative standing in the housing market overwhelm considerations relating to the day-to-day consumption experience.

²¹² Cf. Thomas W. Merrill, *Dolan v. City of Tigard: Constitutional Rights as Public Goods*, 72 U. DENV. L. REV. 859, 870-72 (1995) (observing that where constitutional rights produce positive externalities, the interests of more than just the rights-holder are implicated in bargains to cede them).

individual responsibility and self-direction that may currently go with homeownership could begin to atrophy, and society as a whole might become more conformist than anyone would prefer.

One response to these worries, albeit not an entirely satisfying one, is that these concerns are already implicated by the widespread use of restrictive covenants in common interest communities. What may be needed, then, is not a ban on innovation in homeownership, but a more global form of pushback against undue intrusions on personal liberty in housing. Nonetheless, the possibility that H2.0 could intensify what many already see as a very troubling trend toward reduced residential autonomy must be taken seriously.

V. AVENUES FOR FURTHER RESEARCH

This paper's introduction of H2.0 only scratches the surface in exploring the potential for, and implications of, a widespread shift in the meaning of homeownership. This part will briefly flag some additional areas of research that might prove instrumental in designing and implementing a new paradigm for owner-occupied housing.

A. *Tailored Risk Bearing: H3.0 and Beyond*

In this paper, I have conceptualized H2.0 as a new package that would shift the default arrangement from one in which offsite risk is customarily bundled with homeownership to one in which it is not. Homebuyers would then be free to dial back in the desired level of investment in offsite factors. My brief discussion of this interface has suggested that the dials would be purely quantitative in nature, allowing a homebuyer to take on, say, ten percent of offsite risk. But it would also be possible to construct dials or levers organized along qualitative lines, or keyed to other economic indicators. Two examples will help to illustrate how future versions of homeownership might evolve beyond H2.0's simple notion of adding in risk.

Many homebuyers correctly anticipate that the sale of their current home will be followed by the purchase of another home. Accordingly, they may not fear home value shifts that would affect the prices of their current and future homes in equal measure; their purchasing power will not be eroded by a drop in their current home's price that is matched by a drop in prices in their new market. Instead, they fear shifts in their current housing market that are uncorrelated with changes in other housing markets in which they expect to buy. Thus, we could imagine variations on the H2.0

concept that would provide homebuyers with protection against the special risks that come from transitioning to one housing market to another -- that one's local housing market will have suffered declines that are uncorrelated with declines in other areas, or that the gains in one's local housing market will have failed to keep pace with those in other areas.

Specialized products might therefore be developed that keyed payoffs not merely to changes in the homeowner's local housing market, but to relationships between those changes and changes occurring on other local housing markets. If we think that homebuyers can do a good job of predicting the markets in which they plan to buy and the time at which they hope to buy, they could, in theory, make the appropriate investments on their own. But a more viable product for widespread adoption would take into account shortfalls in predictions. Such a product might, for example, offer homebuyers a payoff stream that would effectively stabilize the inflation-adjusted purchasing power represented by their current home, regardless of which housing market within the country the homeowner later moved to, and regardless of whether she ended up choosing not to purchase another home at all.

A second example of tailored risk-bearing would involve drawing qualitative distinctions between different sources of housing market risks. Recall, for example, Figure 2's distinction between offsite risks that are completely out of homeowner control and those that are within the control of homeowners acting collectively. I have suggested some reasons that the offsite risk factors amenable to collective control need not be a mandatory component of homeownership. However, some homeowners might wish to bear risks associated with these highly localized changes occurring at the local or neighborhood level without taking on regional or national housing market risks -- or vice versa. Likewise, investors might wish to slice up the risks of home value changes along qualitative lines for resale in secondary risk markets. Even finer distinctions between sources of home value risk might be developed, and traded independently of each other.

B. Government's Role

Throughout the paper, I have assumed that H2.0 would be the product of private actors working through markets. But it would also be possible for a governmental agency to be directly involved in launching and fostering H2.0. Indeed, early discussions of home equity insurance posited a central role for a governmental agency.²¹³ Governmental involvement

²¹³ See Marcus & Taussig, *supra* note 3 (proposing the establishment of a government program, the Home Owners' Insurance Corporation, to insure single-family owner-occupied homes under a particular value against equity loss due to locational factors).

might be used to overcome inertia, resolve collective action problems, ensure that H2.0 develops along particular lines, or blend redistributive policies with the risk transfers undertaken under H2.0. On the last point, it is notable that upside and downside risks will vary across the country, and if actuarially priced, could yield significant differences in the cost of downside protection or the amount of equity financing available to purchase a home. A governmental agency could build in a subsidization program that would even out these differences.

Even if no governmental agency is directly involved in developing and implementing H2.0, some form of regulatory action would undoubtedly be required, given that H2.0 would be a novel and complex financial product marketed to the general public. We would expect a body of law to develop around this new tenure form to regulate the way in which it is offered to consumers and investors. I have already noted some concerns that such regulation might address, including the concentration of investment stakes within particular communities, as well as concerns about making H2.0 implications comprehensible to homebuyers. Certain kinds of pernicious investor activities, such as "redlining" particular neighborhoods, might be reached either through existing antidiscrimination laws or through new legislation tailored for H2.0. Regulation might also be used to narrow choice sets to prevent homebuyers from making certain kinds of predictable and costly mistakes, or to address some of the collateral concerns about competitive consumption that might be sharpened if H2.0 were to become widespread.

Tax policy decisions would also be necessary. The federal tax code incorporates a heavy subsidy for traditional homeownership.²¹⁴ Whether the subsidies granted to H2.0 homeowners should be equally heavy depends on the extent to which H2.0 ownership serves the social purposes that underlie the current tax expenditures. H2.0 delivers the secure option to stay put that is arguably the most important feature of homeownership. While the lack of an investment stake in the fortunes of the neighborhood might seem to cut against extending full tax benefits to the H2.0 homeowner, H2.0 homeowners are exposed to the consumption risks that attend neighborhood changes. Because they will not be involuntarily forced out of the neighborhood, they are free to make the kinds of site-specific investments in the community that can help to generate social capital and other positive externalities associated with homeownership.

If we assume for the sake of argument that H2.0 ownership is as worthy of subsidization as is traditional homeownership, then the tax code should treat these two kinds of ownership equally. This may be easier said than done, however. If H2.0 substitutes in part for mortgage financing and alters

²¹⁴ See notes 35-38 *supra* and accompanying text.

the amount of property taxes paid, H2.0 homeowners would receive less advantage from the tax code's mortgage interest and property tax deductions than their traditional homeowners counterparts. Equalizing the treatment of capital gains would be even more challenging, given that H2.0 would assign some or all of those gains to investors, who would not currently qualify for the tax code's capital gains exemption for owner-occupied housing.²¹⁵ More comprehensive reforms to the tax treatment of homeownership might be preferable, of course, and the introduction of H2.0 could offer a propitious moment to undertake them.

C. Beyond Housing

H2.0 would form only one part of a growing trend toward increasingly sophisticated risk management. While this paper has focused exclusively on homeownership, an area of undiversified risk that seems especially amenable to improvements through the appropriate use of financial instruments, the idea of reconfiguring risk has been extended to other areas. For example, Robert Shiller's work has addressed the possibility of insurance markets for occupations based on an indexing system similar to that used to measure changes in housing markets.²¹⁶ Predictions markets occupy a closely related field of research, in which trading on uncertain events generates information about those events that can yield more accurate pricing of risks.²¹⁷ For example, weather derivatives, such as those that pay off based on rainfall, can help to manage the risks of those engaged weather-sensitive enterprises.²¹⁸

H2.0 therefore offers not only a model for how homeownership might be reconceived, but also paradigm case for thinking carefully about the gains that might be achieved through the buying and selling of all manner of routine risks. Derivatives have gained tremendous ground over just the last few decades, and currently occupy a role in the economy that would have been unimaginable half a century ago.²¹⁹ We may well be standing on the

²¹⁵ It is perhaps significant that the tax code offers the same capital gains advantages granted to homeowners to "tenant-stockholders" living in housing cooperatives. See 26 U.S.C. § 121(d)(4). While the situation of these tenant-stockholders is not analogous to that of outside investors (they live in the home and hold shares in the cooperative corresponding to the value of their residence), the inclusion of this provision shows a willingness to look beyond the formal correspondence of ownership and occupancy in granting tax advantages. See also 26 U.S.C. § 163(c) (treating ground rent as mortgage indebtedness for purposes of the tax code).

²¹⁶ See SHILLER, *supra* note 4, at 110-13.

²¹⁷ For a recent overview of predictions markets, see Abramowicz & Henderson, *supra* note 109, at 1349-60. Twenty-five scholars recently drafted a statement urging that regulatory barriers to the development of such predictions markets be lowered. See Kenneth J. Arrow, et al., *Statement on Prediction Markets*, AEI-Brookings Joint Center for Regulatory Studies, Related Publication 07-11 (May 2007) available at <http://ssrn.com/abstract=984584>.

²¹⁸ See, e.g., *Come Rain or Come Shine*, THE ECONOMIST, Feb. 8, 2007; CME Weather Products, <http://www.cme.com/trading/prd/weather/>; see also Michael Lewis, *In Nature's Casino*, N.Y. TIMES (magazine), Aug. 26, 2007 (discussing "catastrophe bonds" used to hedge against natural disasters).

²¹⁹ For background on the history and regulation of derivatives, see, e.g., Roberta Romano, *A Thumbnail*

verge of even more momentous changes that will bring the financial tools of risk management to ordinary people in transformative ways. Such changes are not without costs and downsides, however. This paper has attempted to temper its enthusiasm for the potential of new forms of risk management with an exploration of some of the concerns that must be addressed if such innovations are to produce the hoped-for social gains.

CONCLUSION

Homeownership has moved out of alignment with economic and social reality. A new version of homeownership designed to bring the household's exposure into line with its effective scope of control offers tremendous potential. By allowing owners to alienate both upside and downside home equity risk, homeownership can be made more stable and less expensive, homeowners more secure and less fearful, and local governmental decisions less narrow and exclusive. Of course, H2.0 is no magic bullet; it cannot solve underlying problems of economic inequality and socioeconomic stratification.²²⁰ In addition, the cognitive and societal implications of changing the investment structure of homeownership require careful consideration. But homeownership is in crisis, and it is time to think creatively about what the institution does and does not require, and to put into place the necessary mechanisms to make changes in how it is conceptualized. My treatment here has been far from comprehensive, but I hope that it will spur further conversation and debate on this topic.

Sketch of Derivative Securities and Their Regulation, 55 MD. L. REV. 1 (1996).

²²⁰ See Caplin et al., *supra* note 13, at 5 (observing that shared equity mortgages "are not a panacea for problems of housing affordability and the associated wealth-building constraints").

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