

# Three Proposals for Regulating the Distribution of Home Equity

Ian Ayres\*

and

Joshua Mitts\*\*

Abstract: The CFPB's recently released "qualified mortgage" rules effectively discourage predatory lending but miss an equally important source of systemic risk: low-equity clustering. Specific "volatility inducing" mortgage terms when present in a substantial cluster of mortgage contracts exacerbate macroeconomic risk by increasing the chance that the housing and lending markets will have to absorb a wave of simultaneous defaults after a downturn in housing prices. We show that these terms became prevalent in a substantial proportion of residential mortgages in the years leading up to the home mortgage crisis. In contrast, during the earlier "amortization era" (when mortgagors were more likely to borrow at different times, with more substantial down payments, and more continual rates of amortization, without a need to refinance), an equally sized negative shock to housing prices would likely produce less negative equity, to a smaller set of borrowers. Instead of prohibiting the volatility-inducing terms, we propose three policies to better assure a greater diversification in the distribution of equity: (a) a modified home-mortgage interest deduction; (b) a modified "qualified residential mortgages" standard; and most importantly, (c) direct macroprudential regulation through a "cap-and-trade" system of leverage licenses and instituting varying degrees of "conforming mortgages" for Fannie Mae and Freddie Mac. Limiting the simultaneous clustering of negative equity mortgages can reproduce the structural advantages that were a natural byproduct of the amortization era where inevitable downturns, which disparately impacted homeowners with different levels of equity, could more easily be absorbed by the market.

\*ian.ayres@yale.edu William K. Townsend Professor & Anne Urowsky Professorial Fellow in Law, Yale Law School.

\*\*joshua.mitts@yale.edu J.D. Candidate, 2013, Yale Law School.

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## INTRODUCTION

One lesson from the Great Recession is abundantly clear: the terms of other people's mortgages can affect our financial security. When other people finance their housing purchases with little or no down payment, it increases systemic risk in the housing market. But the legislative response to the crisis has largely focused on trying to correct consumer error,<sup>1</sup> and left unaddressed the external impacts of individual lending decisions.

The Dodd-Frank Act instituted two regulatory regimes to discourage the risky mortgage lending that led to the housing crisis: "qualified mortgages" (QM) and "qualified residential mortgages" (QRM). One of these regulatory responses to the crisis even found its way into the 2012 presidential elections. In the first presidential debate, Governor Romney claimed:

Dodd Frank correctly says we need to have qualified mortgages and if you give a mortgage that's not qualified, there are big penalties. Except they didn't ever go on and define what a qualified mortgage was. It's been two years. We don't know what a qualified mortgage is yet. So banks are reluctant to make loans, mortgages.<sup>2</sup>

Two of these claims are incorrect. There are not "big penalties" for originating non-QM loans. The CFPB's newly released rules on January 10, 2013 give lenders a safe harbor of compliance with statutory mandate to verify a borrower's ability-to-repay.<sup>3</sup> But lenders can still offer non-qualified mortgages by performing the requisite verification.<sup>4</sup> And the delay in promulgating the QM rules could not have kept banks from lending because the ability-to-pay mandate was suspended until the QM rules were promulgated.<sup>5</sup>

On the other hand, Dodd-Frank's "qualified residential mortgages" (QRM) rules do impose a penalty for non-compliance. Under a proposal by six federal agencies in April 2011, mortgage securitizers must retain 5% of the credit risk of any mortgage with a downpayment lower than 20%.<sup>6</sup> While this and other requirements for a QRM loan—e.g., fully amortizing payments with no deferring principal or balloons, no negative amortization, and no debt-to-income ratio greater than 28%<sup>7</sup>—effectively reduce

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<sup>1</sup> See discussion *infra* Section I.A.

<sup>2</sup> Suzy Khimm, How A Moderate Mitt Romney Says He'd Regulate Wall Street, Washington Post WonkBlog (Oct. 4, 2012), <http://www.washingtonpost.com/blogs/wonkblog/wp/2012/10/04/how-a-moderate-mitt-romney-would-regulate-wall-street/>.

<sup>3</sup> Ability-to-Repay and Qualified Mortgage Standards under the Truth in Lending Act, 12 C.F.R. § 1026.43(e)(1)(i) (2013), available at [http://files.consumerfinance.gov/f/201301\\_cfpb\\_final-rule\\_ability-to-repay.pdf](http://files.consumerfinance.gov/f/201301_cfpb_final-rule_ability-to-repay.pdf).

<sup>4</sup> See 15 U.S.C. § 1639c(b)(1) ("Any creditor with respect to any residential mortgage loan, and any assignee of such loan subject to liability under this subchapter, *may presume* that the loan has met the requirements of subsection (a), if the loan is a qualified mortgage.") (emphasis added).

<sup>5</sup> See 15 U.S.C. § 1639c(a)(1) ("*In accordance with regulations prescribed by the Bureau*, no creditor may make a residential mortgage loan unless the creditor makes a reasonable and good faith determination based on verified and documented information that, at the time the loan is consummated, the consumer has a reasonable ability to repay the loan . . .") (emphasis added).

<sup>6</sup> See Credit Risk Retention Proposed Rules, 76 Fed. Reg. 24090, 24121 (Apr. 29, 2011).

<sup>7</sup> See *id.* For an in-depth discussion of the QRM standard, see *infra* Section III.C.

predatory lending, a 20% minimum downpayment imposes a harsh burden on borrowers who are creditworthy but lack the wealth to put such a large amount of cash up-front.

More fundamentally, the proposed QRM rules do not effectively address the *systemic* consequences of mortgage terms which in *aggregate* can exacerbate market volatility. There is nothing individually irrational about a borrower and lender agreeing that the borrower will borrow with a small downpayment or opting for a large repayment balloon in the future. But when millions of borrowers make the same kind of bet, *too many* of these highly leveraged loans make our housing markets less stable. QM and QRM thus under- and over-reach: they largely fail to address the negative externality that high-risk lending can have on the remainder of the economy, and when they try to do so—i.e., by requiring a 20% downpayment—they strike with a heavy hand not narrowly tailored to the goal of reducing systemic risk.

A more effective regulatory solution begins by identifying the phenomenon of “low-equity clustering.” In the not-so-distant past, borrowers were more likely to take out amortizing loans which miraculously pay back principal and interest with relatively constant monthly payments. During this amortization era (which lasted roughly from the end of World War II until roughly the beginning of President Clinton’s term), at any point in time, different homeowners would have varying degrees of equity built up in their houses. Older homeowners would tend to own a larger proportion of their homes. Younger families not as much. This diversity in the degree of accrued equity reduced market volatility because economic shocks causing housing prices to drop would drive underwater only a relatively small proportion of the most recent mortgages.

In contrast, the Great Recession shows the macroeconomic dangers of uniformly high leverage. When a substantial proportion of the population has less than 5% equity in their homes, a 15% drop in housing prices is likely to cause a massive wave of defaults – further depressing housing prices and prompting even more defaults. From the perspective of market stability, low down payment mortgages with deferred or even negative amortization of principal robbed our nation of the diverse equity cushion that we enjoyed in the past.

In this Article we focus on four different types of mortgage terms that, when simultaneously in place in a substantial number of loans, make the housing and banking markets more vulnerable to negative impacts from downturns in housing prices. The four mortgage terms are (1) high loan to value ratios; (2) low or delayed rates of amortization (including, for example, interest only loans); (3) substantial balloon payment obligations; (4) artificial interest rate increases (for example, when interest rates rise at the end of a teaser rate period).

The first two of these terms directly reduce the size of the equity cushion that will exist at any point in time during the mortgage repayment – either because the initial down payment is a lower percentage of the purchase price or because the subsequent monthly payments are structured to more slowly pay back the outstanding principal. Even homeowners who initially borrow with more traditional mortgages (larger down payments and amortizing over 15-to-30 years) are dynamically susceptible to “equity stripping” where the homeowner takes out subsequent loans that extract value that is built up via the amortized repayment of the loan principal or through capital appreciation of the underlying home. In the extreme case, repeated equity stripping can dynamically transform amortizing mortgages into what in effect are interest-only loans that even

ratchet the outstanding principal toward any capital appreciation in the home value. The combined impact of lower down payments, lower amortization and increased equity stripping when adopted by a substantial group of homeowners leads to a phenomenon that we call “low-equity clustering.” Low-equity clustering can exacerbate the impact of normal housing price fluctuations by unleashing a simultaneous wave of defaults (that would not have occurred under more traditional amortization distributions) as a larger segment of homeowners walk away from underwater mortgages.

The second two types of terms (balloons and artificial resets) artificially increase the risk of default as refinancing markets dry up after an initial fall in housing prices. Traditional amortizing mortgages did not require homeowners to return to the lending market to refinance the original principal. But mortgages with balloon payments or payment resets (which outstrip the wherewithal of homeowners) force just this kind of refinancing. After an initial negative shock to housing prices, prudent lenders may be unwilling to refinance the outstanding principal of a mortgage where there is negative equity in a home at the time of the necessary refinancing.

Taken together, the four volatility-inducing loan terms (individually or in combination) can exacerbate defaults either by inducing borrowers to walk away from underwater mortgages or by undermining lenders’ willingness to refinance underwater mortgages. A central claim of this Article is that when substantial segments of mortgagors include such terms in their mortgages, the housing and lending markets are exposed to more systemic risk, because normal downturns in housing prices will be magnified by the secondary wave of foreclosure-based supply offered to the market. To absorb this term-induced foreclosure supply, the market price will fall further (which can in turn cause subsequent term-induced defaults) than would occur in a world with more traditional mortgage terms.

Surprisingly, the regulatory response to the housing crisis has done little to nothing to address the macroeconomic externalities of homeowners bunching at very low rates of equity. The Dodd-Frank Act has attempted to address this concern through the proposed exemption to risk retention rules for qualified residential mortgages,<sup>8</sup> but there is still no federal law prohibiting interest-only mortgages with zero percent down. It is as if regulators are resigned to the idea that the amortization era is gone and there is nothing we can do about it or that the primary role for regulation is paternalistic – to protect individual home lenders from making ill-advised borrowing decisions.

We support the consumer protection agenda. But there are also feasible interventions to reduce the negative externalities of these particular loan terms. In this Article, we propose that the government auction a limited number of “leverage licenses” that lenders would need to obtain before originating loans with particular kinds of terms. The licenses would directly limit the degree of low-equity bunching. Instead of prohibiting low-equity loans, the leverage licensing scheme would limit the number of high-leverage loans so as to produce the kind of equity distribution that will be more robust to the unavoidable fluctuations in housing prices. Our licensing approach has distinct advantages over a more traditional prohibitory model. First, from a libertarian perspective, licensing grants more contractual liberty. From the perspective of macroeconomic stability, there is nothing wrong with a handful of contractors including low-equity terms (or balloons or resets) in their mortgages. The housing market can easily

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<sup>8</sup> . See discussion *infra* p. 33.

absorb the low-equity induced defaults of a few highly leveraged loans. The systemic problem arises only when substantial segments of borrowers include such terms.

The impulse to simply prohibit contractors from including the offending terms derives from a kind of reverse aggregation fallacy. The traditional aggregation fallacy stems from failing to consider whether the individual benefits of a behavior would persist if everyone adopted the behavior. Thus, for example, the individual benefits gained in standing at a football game are eliminated if everyone stands.<sup>9</sup> But we commit the reverse aggregation fallacy when we fail to consider the comparatively small negative externalities that would accrue if only a few people adopt the behavior. The social ills stemming from mass clustering of low-equity loans do not imply that unclustered low-equity lending produces net harms. In the mortgage setting the football analogy does not hold. Unlike the first football fans who stand and block the others, the first few borrowers with low-equity or low-amortization terms produce at most only imperceptible negative effects on others in the market. A system of limited licensing more narrowly tailors the restrictions of contractual freedom to the specific externality concerns. With traded licenses, the right to include the license terms will naturally flow to the contractors who value them most highly.

Indeed, traditional prohibitory regulation may perversely induce just the kinds of clustering that the stability regulation should strive to eliminate. For example, regulation that simply prohibited originations with loan-to-value ratios of more than 95% may induce a large segment of borrowers to cluster just next to the 5% down payment requirement – leaving the system particularly vulnerable to downturns in housing prices of, say, 6 to 10 percent. Traditional prohibitions may be particularly ill-suited to the regulatory goal of inducing the optimal macro-economic distributions in contracting equilibria. Or put in terms of traditional contract theory, mandatory rules are better suited to inducing pooling equilibria, but can be less well suited when the regulatory goal is to produce non-pooling equilibria in which different contractors opt for different contract terms.

In this Article, we propose three complementary reforms that could be used individually or together to reduce the problems of low-equity clustering. First, we suggest that the home-equity deduction be limited to loans that are more likely to amortize over time and avoid the refinancing risk of balloon payments and artificial interest rate resets. Analogously, we suggest reforms to the proposed QRM risk-retention rules to give originating lenders better incentives to offer loans that would produce better distributions of risk. And lastly we propose direct macroprudential regulation of the distribution of home equity through a system of tradable leverage licenses to allow a limited number of loans at different equity ranges and, as a more implementable alternative, a new paradigm of varying degrees of “conforming mortgages” for Fannie Mae and Freddie Mac.

Part I of this Article demonstrates that the legal response to the recent housing crisis fails to address low-equity clustering. Part II presents empiricism to establish (1) the rising prevalence of particular mortgage terms and (2) the link between low-equity clustering and the downturn in housing prices during the recent crisis. Part III critiques

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<sup>9</sup> See generally D.G. Steel & D. Holt, *Analysing and Adjusting Aggregation Effects: The Ecological Fallacy Revisited*, 64 INTERNATIONAL STAT. REV. 39 (1996) (giving a general overview of the aggregation fallacy).

existing policies that encourage low-equity clustering and suggests two reforms to promote a greater diversification in the distribution of equity. Part IV proposes direct macroprudential regulation of the distribution of home equity through a system of tradable leverage licenses and reforms to the “conforming mortgage” system for Fannie Mae and Freddie Mac to increase stability in the housing market.

## **I. THE LIMITED LEGAL RESPONSE TO LOW-EQUITY CLUSTERING**

### **A. Consumer Protection, Predatory Lending, and Qualified Mortgages Under the Dodd-Frank Act**

The Dodd-Frank Act and the related regulatory responses to the housing and financial crisis of 2007-09 fail to address a fundamentally important source of systemic risk to housing markets: the *aggregate* effect of the *distribution* of certain types of risky individual mortgage terms. In its report on the financial crisis, the Financial Crisis Inquiry Commission (FCIC) described the growth of high-risk mortgage terms in the mid-2000s that would later have a devastating effect on society:

Direct-mail solicitations flooded people’s mailboxes. Dancing figures, depicting happy homeowners, boogied on computer monitors. Telephones began ringing off the hook with calls from loan officers offering the latest loan products: One percent loan! (But only for the first year.) No money down! (Leaving no equity if home prices fell.) No income documentation needed! (Mortgages soon dubbed “liar loans” by the industry itself.) Borrowers answered the call, many believing that with ever-rising prices, housing was the investment that couldn’t lose.<sup>10</sup>

There is widespread consensus that mortgage terms such as these—e.g., “one percent for the first year” or “no money down”—played a substantial role in the causal chain leading to the meltdown in housing markets beginning in 2007.<sup>11</sup>

However, the regulatory response to the explosive growth of these terms has focused almost exclusively on consumer protection. The FCIC emphasized that borrowers “were misled by salespeople who came to their homes and persuaded them to sign loan documents on their kitchen tables. Some borrowers naively trusted mortgage brokers who earned more money placing them in risky loans than in safe ones.”<sup>12</sup> When characterizing the growth of option ARM loans—which featured interest rate resets and negative amortization payment options—the FCIC quotes a testimony that borrowers were “steered or defrauded into entering option ARMs with teaser rates or pick-a-pay loans forcing them to [pay] loans that they could never pay off.”<sup>13</sup> When the FCIC

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<sup>10</sup> FINANCIAL CRISIS INQUIRY COMMISSION, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 9 (2011).

<sup>11</sup> *See, e.g., id.* at 105.

<sup>12</sup> *Id.* at 7.

<sup>13</sup> *Id.* at 109 (quoting Mona Tawatao, testimony before the FCIC, Sacramento Hearing on the Impact of the Financial Crisis—San Francisco, day 1, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, transcript, p. 228.). “Pick-a-pay” loans, also

discusses the role these mortgage terms played in leading to the housing crisis, the clear implication is that consumers did not realize the risk these loans entailed.<sup>14</sup>

It is no surprise, then, that the Dodd-Frank Act and rules promulgated under the Act have focused on protecting consumers from predatory lending. Dodd-Frank established a new section 129C of the Truth-in-Lending Act, which provides that “no creditor may make a residential mortgage loan unless the creditor makes a reasonable and good faith determination based on verified and documented information that, at the time the loan is consummated, the consumer has a reasonable ability to repay the loan . . . .”<sup>15</sup> The statute expressly mandates that the creditor consider:

[T]he consumer's credit history, current income, expected income the consumer is reasonably assured of receiving, current obligations, debt-to-income ratio or the residual income the consumer will have after paying non-mortgage debt and mortgage-related obligations, employment status, and other financial resources other than the consumer's equity in the dwelling or real property that secures repayment of the loan. A creditor shall determine the ability of the consumer to repay using a payment schedule that fully amortizes the loan over the term of the loan.<sup>16</sup>

The statute also requires that creditors verify a borrower’s income to prevent fraud<sup>17</sup> and take into account nonstandard terms when determining ability to repay.<sup>18</sup> For example, creditors must “take into consideration any balance increase that may accrue from any negative amortization provision”<sup>19</sup> and “use the payment amount required to amortize the loan by its final maturity” for interest-only loans.<sup>20</sup> Section 129C also encourages creditors to refinance borrowers into higher quality loans, e.g., with a lower interest rate, fully amortizing payment schedule, and no balloon payment, by exempting such refinancing loans from income verification.<sup>21</sup>

But the most important provision in section 129C is the presumption of compliance with the ability-to-repay requirement for “qualified mortgages.”<sup>22</sup> Under the statute, a mortgage must contain the following elements to be a “qualified mortgage”: (i) fully amortizing with no deferring principal repayment,<sup>23</sup> (ii) no balloon payment,<sup>24</sup> (iii)

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known as option adjustable-rate mortgages, permit making “a partial-interest payment that adds the unpaid interest to the loan's balance.” Marshall Eckbald, *Pick-a-Pay Loans: Worse Than Subprime*, WALL ST. J. (Jul. 14, 2009), <http://online.wsj.com/article/SB124744382165530247.html>.

<sup>14</sup> See *id.* at 6-7 (“Soon there were a multitude of different kinds of mortgages available on the market, confounding consumers who didn’t examine the fine print, baffling conscientious borrowers who tried to puzzle out their implications, and opening the door for those who wanted in on the action.”).

<sup>15</sup> 15 U.S.C. § 1639c(a)(1).

<sup>16</sup> *Id.* § 1639c(a)(3).

<sup>17</sup> *Id.* § 1639c(a)(4).

<sup>18</sup> *Id.* § 1639c(a)(6).

<sup>19</sup> *Id.* § 1639c(a)(6)(C).

<sup>20</sup> *Id.* § 1639c(a)(6)(B).

<sup>21</sup> *Id.* § 1639c(a)(5).

<sup>22</sup> *Id.* § 1639c(b)(1) (“Any creditor with respect to any residential mortgage loan, and any assignee of such loan subject to liability under this subchapter, may presume that the loan has met the requirements of subsection (a), if the loan is a qualified mortgage.”).

<sup>23</sup> *Id.* § 1639c(b)(2)(A)(i).

<sup>24</sup> *Id.* § 1639c(b)(2)(A)(ii).



verification of the borrower's income,<sup>25</sup> (iv) for fixed-rate loans, underwriting based on a fully amortizing payment schedule including all taxes, insurance, and assessments,<sup>26</sup> (v) for ARM loans, underwriting based on the maximum interest rate over the first 5 years with the same payment schedule requirements for fixed-rate loans,<sup>27</sup> (vi) compliance with any maximum debt-to-income ratios set by the Consumer Financial Protection Bureau (CFPB), which has rulemaking authority for qualified mortgages,<sup>28</sup> (vii) with no more than 3% in points and fees,<sup>29</sup> and (viii) with a maximum length of 30 years.<sup>30</sup>

On January 10, 2013, the CFPB promulgated final rules implementing the ability-to-repay standard and qualified mortgage exemption.<sup>31</sup> These rules clarified several ambiguities in the statutory definition. Specifically, the CFPB provided for a safe harbor—a presumption of compliance with the ability-to-repay standard—for qualified mortgages that are not “higher-priced” as defined by the Federal Reserve Board’s 2008 truth-in-lending rule.<sup>32</sup> The bureau also utilized its authority under the statute to define a maximum total debt-to-income ratio of 43% for qualified mortgages.<sup>33</sup> Finally, the CFPB provided for a second, temporary category of qualified mortgages that enjoy the benefit of the safe harbor based on somewhat looser criteria if they comply with the underwriting criteria of the GSEs while they remain under federal conservatorship or the Department of Housing and Urban Development, Department of Veterans Affairs, or Department of Agriculture or Rural Housing Service.<sup>34</sup>

The qualified mortgage standard as a safe-harbor proxy for a borrower’s ability to repay is dominantly driven by a regulatory consumer protection concern. We support this type of soft paternalism.<sup>35</sup> It is reasonable to protect borrowers from making ill-advised loans.

But inadequate consumer protection should not be the government’s only concern. Macro-prudential considerations militate toward regulating terms of mortgage contracts that produce negative externalities – in the form of exacerbated systemic market risk. Individual lending decision can have negative externalities when those terms increase the risk of synchronized default. A vast body of economic research has found a strong connection between negative equity—so-called “underwater” borrowers—and default. Theoretically, it is not in a rational homeowner’s interest to make payments on a mortgage with a principal balance greater than the value of the house.<sup>36</sup> In a world of

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<sup>25</sup> *Id.* § 1639c(b)(2)(A)(iii).

<sup>26</sup> *Id.* § 1639c(b)(2)(A)(iv).

<sup>27</sup> *Id.* § 1639c(b)(2)(A)(v).

<sup>28</sup> *Id.* § 1639c(b)(2)(A)(vi).

<sup>29</sup> *Id.* § 1639c(b)(2)(A)(vii).

<sup>30</sup> *Id.* § 1639c(b)(2)(A)(viii). There is also a provision for reverse mortgages, *see id.* § 1639c(b)(2)(A)(ix).

<sup>31</sup> Ability-to-Repay and Qualified Mortgage Standards under the Truth in Lending Act, 12 C.F.R. § 1026 (2013), available at [http://files.consumerfinance.gov/f/201301\\_cfpb\\_final-rule\\_ability-to-repay.pdf](http://files.consumerfinance.gov/f/201301_cfpb_final-rule_ability-to-repay.pdf).

<sup>32</sup> *Id.* § 1026.43(e)(1)(i).

<sup>33</sup> *Id.* § 1026.43(e)(2)(vi).

<sup>34</sup> *Id.* § 1026.43(e)(4).

<sup>35</sup> Indeed, one of us recently advocated requiring lenders “who use non-default terms to undertake consumer surveys to establish that typical borrowers in real-world contexts understand the non-default terms of the mortgage.” Ian Ayres, *Regulating Opt-Out: An Economic Theory of Altering Rules*, 121 YALE L.J. 2032, 2012 (2012).

<sup>36</sup> This is known as the “put option” theory of mortgage default, which was first articulated in Chester Foster & Robert Van Order, *An Option-Based Model of Mortgage Default*, 3 HOUSING FIN. REV. 351

zero transaction costs, he or she should simply default on the loan and obtain a lower mortgage on an equivalent substitute house that now costs less.<sup>37</sup> Of course, the real world is not free of transaction costs,<sup>38</sup> and subsequent empirical studies proved that “liquidity shocks” such as losing a job, divorce, or unplanned medical expenses are necessary for negative equity to lead to default.<sup>39</sup> But more recent empirical studies have shown that negative equity remains a primary determinant of default.<sup>40</sup>

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(1984). The model was later developed through literature described and evaluated in Kerry D. Vandell, *How Ruthless is Mortgage Default? A Review and Synthesis of the Evidence*, 6 J. HOUSING RESEARCH 245 (1995) and Roberto G. Quercia & Michael A. Stegman, *Residential Mortgage Default: A Review of the Literature*, 3 J. HOUSING RESEARCH 341 (1992). See also Anthony Pennington-Cross & Giang Ho, *The Termination of Subprime Hybrid and Fixed-Rate Mortgages*, 3 REAL ESTATE ECON. 399 (2010) (applying option theory to the subprime mortgage termination); Yongheng Deng et al., *Mortgage Terminations, Heterogeneity and the Exercise of Mortgage Options*, 68 ECONOMETRIA 275 (2000) (synthesizing the put option literature and concluding that the model “in its most straightforward version, does a good job of explaining default and prepayment, but it is not enough by itself”).

<sup>37</sup> Theoretically, at least, a true “substitute” house should cost the same as the borrower’s current house, which has now dropped in value.

<sup>38</sup> See James B. Kau et al., *Default Probabilities for Mortgages*, 35 J. URBAN ECON. 278 (1994). Kau et al. argued that it is essential to take into account the loss of the possibility of future prepayment of the mortgage when the termination option is exercised. See *id.* at 282. In their view, transaction costs had no effect on the exercise of the termination option. But see John M. Quigley & Robert Van Order, *Explicit Tests of Contingent Capital Claims Models of Mortgage Default*, 11 J. REAL ESTATE FIN. & ECON. 99, 112 (1995) (“empirical analysis suggests that a zero transaction cost model is not consistent with the data.”).

<sup>39</sup> See Wayne R. Archer et al., *The Effect of Income and Collateral Constraints on Residential Mortgage Terminations*, 26 REGIONAL SCI. & URBAN ECON. 235 (1996) (finding that “the termination behavior of households that are income or collateral constrained differs markedly from unconstrained households”); Christopher L. Foote et al., *Negative Equity and Foreclosure: Theory and Evidence*, 64 J. URBAN ECON. 234 (2008) (“The default decision involves weighing the payments on the mortgage against the income, imputed or actual, that accrues from retaining ownership of the house.”).

<sup>40</sup> See Robert Elul et al., *What “Triggers” Mortgage Default?*, 100 AM. ECON. REV. 490 (2010) (finding support for both the negative equity and illiquidity theories of default); Laurie S. Goodman et al., *Negative Equity Trumps Unemployment in Predicting Defaults*, 19 J. FIXED INCOME 67 (2010) (concluding that while negative equity is a stronger predictor of default than unemployment, unemployment can function as a trigger of default when there is high negative equity); Thomas Schelkle, *Mortgage Default during the U.S. Mortgage Crisis* (Job Market Paper, Nov. 22 2011) (concluding that the double-trigger model is better supported by empirical data), available at <http://personal.lse.ac.uk/schelklt/papers/MD.pdf>; Patrick Bajari et al., *An Empirical Model of Subprime Mortgage Default from 2000 to 2007* (Nat’l Bureau of Econ. Research, Working Paper No. 14625, 2010), available at <http://www.econ.umn.edu/~bajari/research/subprime.pdf> (concluding that negative equity is an important determinant of default but insufficient on its own); Julapa Jagtiani & William W. Lang, *Strategic Default on First and Second Lien Mortgages During the Financial Crisis* (Fed. Reserve Bank of Phila. Working Paper No. 11-3, 2010), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1724947](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1724947) (finding empirical support for the put option theory but noting that many homeowners did not default on second liens, particularly home equity lines of credit); Kristopher Gerardi et al., *Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosures* 1 (Fed. Reserve Bank of Boston Working Paper No. 07-15, 2007), available at <http://www.bos.frb.org/economic/wp/wp2007/wp0715.pdf> (conducting an empirical study of subprime mortgage borrowers and finding indirect support for the put option theory because “homeowners who have suffered a 20 percent or greater fall in house prices are about fourteen times more likely to default on a mortgage as compared to homeowners who have enjoyed a 20 percent increase”); see also Andra C. Ghent & Marianna Kudlyak, *Recourse and Residential Mortgage Default: Evidence from US States*, 24 REV. FIN. STUD. 3139 (2011) (finding that differences in state recourse laws have a significant effect on mortgage default among negative equity borrowers); Neil Bhutta

The consumer protection approach reflected in the ability-to-repay mandate and the qualified mortgage safe harbor does not address the contribution that low-equity loans make to systemic risk as a result of these economic incentives. An individual borrower with a 3% downpayment is more likely to default than a borrower with a 20% downpayment if home prices fall 15%. Since foreclosure typically leads to a fire sale at a depressed price, one borrower's default and foreclosure can lead to a cascading cycle of falling prices and default by additional low-equity homeowners. The systemic implications of a high number of borrowers having low levels of home equity are simply not addressed by the ability-to-repay or qualified mortgage standards.

## **B. Qualified Residential Mortgages and Minimum Downpayments**

The Dodd-Frank Act established a second regulatory framework for mortgage lending, which contains an admirable—but somewhat misguided—attempt to address the danger posed by low-equity borrowing. Somewhat confusingly termed “qualified residential mortgages,” this standard has only the slightest connection to the “qualified mortgage” framework discussed previously: the statute specifies that regulators’ definition of “qualified residential mortgage” shall be “no broader” than the definition of “qualified mortgage.”<sup>41</sup> Indeed, under rules proposed in April 2011 by six federal agencies, the definition of a “qualified residential mortgage” (QRM) is identical to a “qualified mortgage” (QM), but contains additional restrictions.<sup>42</sup> We discuss these additional restrictions in detail in Section III.C below, where we critique and propose reforms to the QRM definition. But there are two fundamental differences between the two regimes that demonstrate the shortcomings of the current regulatory approach with respect to low-equity clustering.

The QRM definition arises in the very different context of credit risk retention by mortgage *securitizers*. The Dodd-Frank Act added section 15G to the Securities Exchange Act of 1934, which directs federal agencies to promulgate regulations requiring “any securitizer to retain an economic interest in a portion of the credit risk for any residential mortgage asset that the securitizer, through the issuance of an asset-backed security, transfers, sells, or conveys to a third party.”<sup>43</sup> Specifically, the statute mandates that the regulations “require a securitizer to retain not less than 5 percent of the credit risk for any asset that is not a qualified residential mortgage that is transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer.”<sup>44</sup> The securitizer must retain 5% of the credit risk “if 1 or more of the assets that collateralize the asset-backed security are not qualified residential mortgages,” even if the remainder of the collateral consists of QRM loans.<sup>45</sup>

The consequences of originating a non-QRM loan thus differ from originating a non-QM loan. Under section 129C of the Truth-in-Lending Act, a lender may freely

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et al., *The Depth of Negative Equity and Mortgage Default Decisions* (Fed. Reserve Board Working Paper No. 2010-35, 2010), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1895493](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1895493).

<sup>41</sup> 15 U.S.C. § 78o-11(e)(4)(C).

<sup>42</sup> For a comprehensive discussion, see Section III.C *infra*.

<sup>43</sup> 15 U.S.C. § 78o-119(b)(2).

<sup>44</sup> 15 U.S.C. § 78o-119(c)(B)(i)(I).

<sup>45</sup> 15 U.S.C. § 78o-119(c)(B)(i)(II).

originate non-QM loans as long as the ability-to-repay requirement is met.<sup>46</sup> This means that if a lender chooses to originate a non-QM loan, it need only be able to demonstrate that it considered the borrower’s credit history, income, employment status, etc.<sup>47</sup> and performed the requisite income verification.<sup>48</sup> On the other hand, originating a non-QRM loan forces a securitizer to retain 5% of that credit risk of that loan. As the securitization market drives the demand for mortgage origination, this direct financial penalty will render non-QRM loans more expensive and less prevalent.

The stronger incentive provided by the QRM standard reinforces the importance of its primary substantive difference from the QM definition. Under the proposed rules, a QRM must have a minimum downpayment of 20% and maximum loan-to-value ratio of 80%.<sup>49</sup> Giving lenders a financial incentive to offer 20% downpayment loans would certainly reduce the prevalence of low-equity loans, as long as appraisals are not wildly inflated. But as we discuss below,<sup>50</sup> a high minimum downpayment would impose a heavy burden on creditworthy borrowers who lack the financial resources to come up with such a large cash payment. More fundamentally, imposing a minimum downpayment reflects an inadequate approach to addressing the systemic risk posed by low-equity clustering. The proportion of homeowners subject with negative equity when home prices fall is not only a function of the *average* downpayments size, which is what the QRM proposal incentivizes. As we explain in the next section, the *distribution* of private contracting terms likely to induce low levels of equity is equally important.

QRM’s strong incentive for lenders not to offer mortgages with less than a 20% downpayment reflects a detrimentally narrow focus on reducing risky contracting. But there is always a risk-reward tradeoff: greater risk often implies greater reward, and the QRM proposal makes no mention of the beneficial effects of *limited* amounts of speculation in the housing market. When the economy is mired in a recession or even a temporary slowdown, erecting artificial barriers to credit—such as a 20% minimum downpayment requirement—can needlessly reduce liquidity and cripple demand. The overbroad downpayment requirement in the proposed QRM standard is simply not narrowly tailored to the goal of reducing systemic risk.

Indeed, a regulatory paradigm that focuses on the distribution of privately contracted terms permits incentivizing the precise level of risky terms that would be socially optimal, i.e., the point at which the benefit of that quantity most exceeds its

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<sup>46</sup> See 15 U.S.C. § 1639c(b)(1) (“Any creditor with respect to any residential mortgage loan, and any assignee of such loan subject to liability under this subchapter, *may presume* that the loan has met the requirements of subsection (a), if the loan is a qualified mortgage.”) (emphasis added). This indicates that the qualified mortgage standard is merely a presumption of compliance with the ability-to-repay standard.

<sup>47</sup> See *id.* § 1639c(a)(3).

<sup>48</sup> See *id.* § 1639c(a)(4). However, some lenders have pointed out that QM may end up defining the contours of most mortgage products offered because lenders will wish to avoid any potential legal liability. See HousingWire, *CFPB Considers Protecting Lenders Under Qualified Mortgage Rule* (Oct. 16, 2012), <http://www.housingwire.com/content/cfpb-reportedly-considering-lighter-more-measured-qm-rule> (citing Compass Point research note concluding that “the QM rulemaking will largely define the contours of mortgage lending”).

<sup>49</sup> Credit Risk Retention Proposed Rules, 76 Fed. Reg. 24090, 24124 (Apr. 29, 2011). For a detailed discussion of the 20% downpayment requirement, see Section III.C *infra*.

<sup>50</sup> See discussion *infra* Section III.C.

cost.<sup>51</sup> For example, through a system such as the leverage licensing regime we propose below,<sup>52</sup> regulators could permit 2% of new mortgages to have a very low downpayment, which would bring society the benefit of a low quantity of risky contracting without the costs of too much. And of course, regulating the distribution of contract terms permits raising the mean (or median) level as well. Regulators could simply license 51% of new mortgages at a 20% downpayment level and thereby ensure that on average new mortgages would remain low-risk from an initial equity standpoint.

In short, QM and QRM both reflect an overly narrow regulatory paradigm of prohibiting risky contract terms rather considering the distribution of those terms in the borrower population. In particular, the regulatory response to the crisis has not adequately considered the aggregate effect of low-equity clustering among the borrower population when home prices drop and liquidity dries up. The next section will show that the housing crisis beginning in 2007 was preceded by high concentration of low levels of equity with balloon or interest rate resets, which amplified the harm caused by falling home prices by pushing a larger cohort of borrowers into negative equity than would otherwise be there. As this leads to higher levels of default and foreclosures, reducing home prices even further, low-equity clustering contributes directly to systemic risk in the housing market.

## II. THE ECONOMIC EFFECT OF LOW-EQUITY CLUSTERING

One factor affecting the overall stability of the housing market is the system-wide distribution of home equity. Average equity levels are undoubtedly important: a population with greater home equity on average would have fewer homeowners below the zero-percent level when housing prices fall. Yet the distribution of equity levels is crucial: as more homeowners are tightly clustered together at a low level of equity, a drop in housing prices beyond this level would push proportionately more homeowners into negative equity than if they were spread evenly across the equity spectrum. As increased default can lead to a cycle of falling housing prices through foreclosures and short sales, low-equity clustering represents a form of systemic risk to the housing market.

Mechanisms that prevent low-equity clustering can be likened to flood levies that provide multiple layers of protection in the event of a disaster. Each additional level of home equity provides an additional safeguard at the systemic level because comparatively fewer homeowners would be exposed to a lower equity limit. For example, if all of the homeowners in a given population are clustered around the 5% equity level, a drop in home values of 10% pushes *every* homeowner in the population into negative equity. However, if half of the population held 15% equity loans (and the remainder held 5% equity), that half would remain in positive equity even if home values drop by 10%. Similarly, if 1/3 of the population were at the 5% equity level, 1/3 at the 12% level, and 1/3 at the 15% level, even fewer homeowners would be facing negative equity in the scenario where home prices drop by 10%. This simple example illustrates that increased distribution of home equity reduces the danger from low-equity clustering. Indeed, since the exact drop in home prices is unknown in advance, it might seem

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<sup>51</sup> Put differently, where the marginal benefit of a certain quantity of risky terms is equal to its marginal cost.

<sup>52</sup> See discussion *infra* Section III.D.

prudent to encourage an even and smooth distribution of equity so as to minimize the number of homeowners that would be pushed into negative equity with any decrease in home prices. In terms of flood levies, one might argue that more levies are better because they provide redundant protection.

However, such an approach carries its own risks. In particular, equity that is spaced too smoothly can lead to a “domino effect” where one small drop in prices triggers a cascading cycle of default and decreasing prices. For example, a drop in prices of 2% would push homeowners at the 1% equity level into negative equity and subsequent default. Even if the resulting foreclosure or distressed sale only further depressed prices by 1%, that would push homeowners at the 2% equity level into negative equity and subsequent default. This cascading cycle of dropping prices and default would expose the housing market to a much higher level of systemic risk than the scenario in which homeowners were clustered at the 10% level. Indeed, in this example, *no* homeowner would be pushed into negative equity in the clustering scenario, whereas a smooth distribution of equity could expose *every* homeowner located along the cascading chain of falling prices to negative equity and subsequent default.

Admittedly, this scenario of cascading default might seem unrealistic in light of the economic research that shows that homeowners do not necessarily default upon very minor levels of negative equity. Moreover, the requisite liquidity shocks might not be present in cases where exogenous factors lead to only a minor drop in home prices. As substantial decreases in home values often result from asset bubbles whose popping leads to increased credit constraints, the more typical scenario would seem to be drops in home values on the order of 10-15% rather than 1%. Nonetheless, the concern of a domino effect is present even at higher levels of home equity: a drop in prices by 10% might trigger a cascading cycle of falling prices at the 9% equity level, followed by 10%, 11%, etc. Thus, when considering mechanisms to reduce low-equity clustering, it might be beneficial to consider “circuit breakers,” empty ranges of equity levels that can absorb small decreases in prices by keeping homeowners above the range in positive equity. For example, in the case where home prices fall by 10%, a gap in equity between 10-12% would ensure that any subsequent drops in home values from 9% to 10% would not lead to a further drop from 10% to 11%. Indeed, the regulatory regime proposed in this Article includes a monitoring component that enables maintaining these “circuit breakers” alongside a non-clustered distribution of mortgage leverage.<sup>53</sup>

To demonstrate the importance of regulating the distribution of home equity, this Part presents empirical studies of the impact of equity clustering on home prices and default over the past decade.<sup>54</sup> One recent study by Bostic et al. shows that the prevalence of the offending terms rose dramatically during the housing bubble, as indicated in the below excerpt containing a breakdown of home mortgages in a sample from 1999, 2003, and 2006.<sup>55</sup>

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<sup>53</sup> See discussion *infra* Section III.D.3.

<sup>54</sup> We define equity as the difference between the purchase price of the home and the mortgage principal balance, which typically includes closing costs as well.

<sup>55</sup> Raphael W. Bostic et al., *Mortgage Product Substitution and State Anti-Predatory Lending Laws: Better Loans and Better Borrowers?* (U. Penn Inst. Law & Econ. Research Paper No. 09-29, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1460871](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1460871). The following tables, maps, and headings are directly excerpted from this research paper.

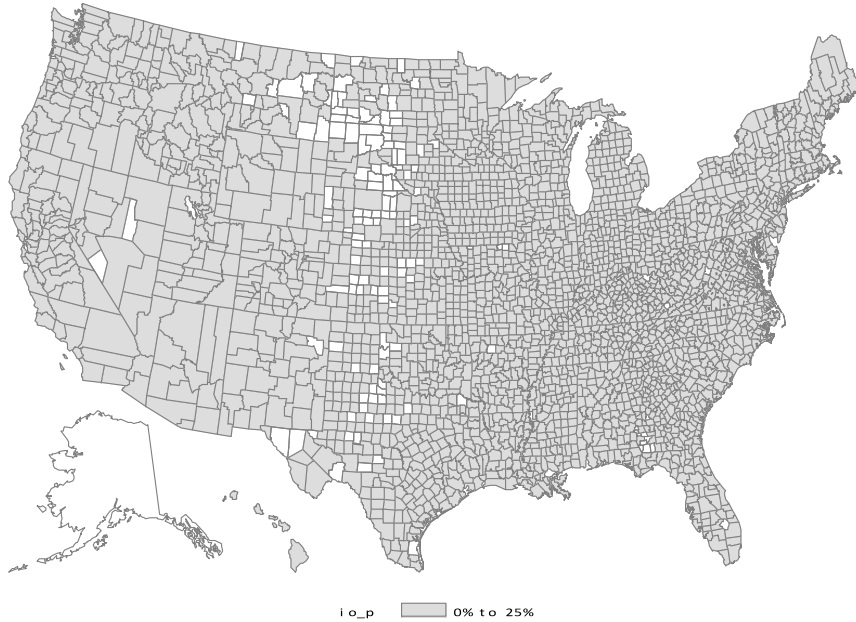
**Table 1: Selected Sample Statistics, 1999, 2003, and 2006<sup>56</sup>**

	<b>1999</b>	<b>All Loans 2003</b>	<b>2006</b>
<b><u>All loans</u></b>			
Number of Loans (All Loans)	596,710	1,840,040	3,251,355
Interest Only Loans	0.20%	5.21%	22.31%
Balloon Loans	11.56%	5.07%	25.01%
Balloon ARM Loans	0.20%	0.00%	11.41%
ARM Teaser Loans	28.92%	19.66%	50.43%
Average Loan Amount (\$s)	\$ 96,092	\$ 165,755	\$ 200,990
Loans With Prepayment Penalty	51.47%	58.43%	54.26%

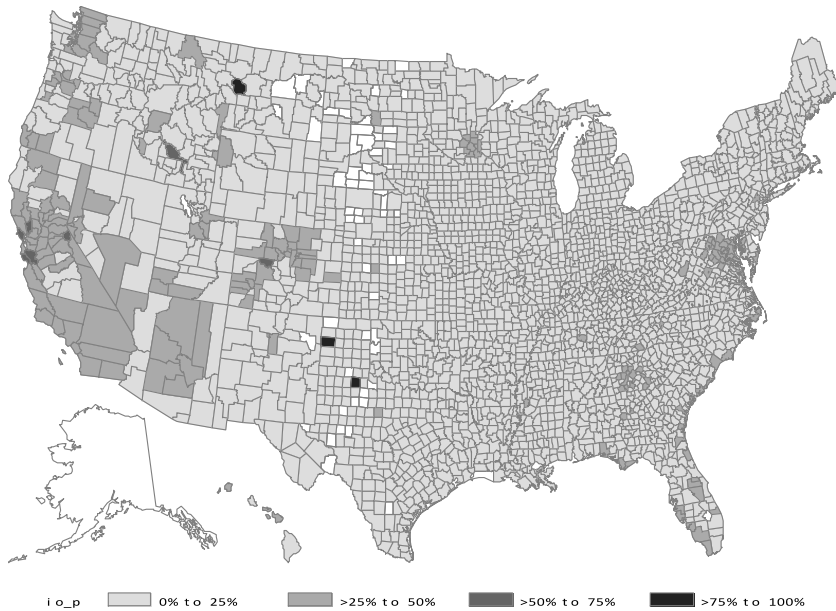
The dramatic rise in interest-only loans, balloon loans, and ARM teaser loans directly contributed to low-equity clustering. This may also be seen in the following maps excerpted from the same study:

<sup>56</sup> *Id.* at 29. The loan quantities have been transformed into percentages.

**Figure 1: 1999 - Percent of All Loans – Interest Only<sup>57</sup>**



**Figure 2: 2006 - Percent of All Loans – Interest Only<sup>58</sup>**



In these maps from 1999 and 2006 showing the proportion of interest only loan originations, one can quickly see the concentration of the terms in California and a few other counties where more than 25% of originations and at times more than 50% of originations were made on an interest only basis.

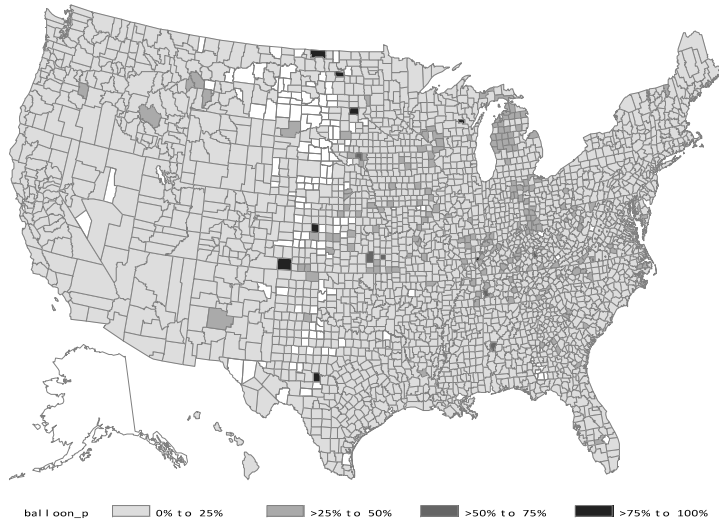
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<sup>57</sup> *Id.* at 40.

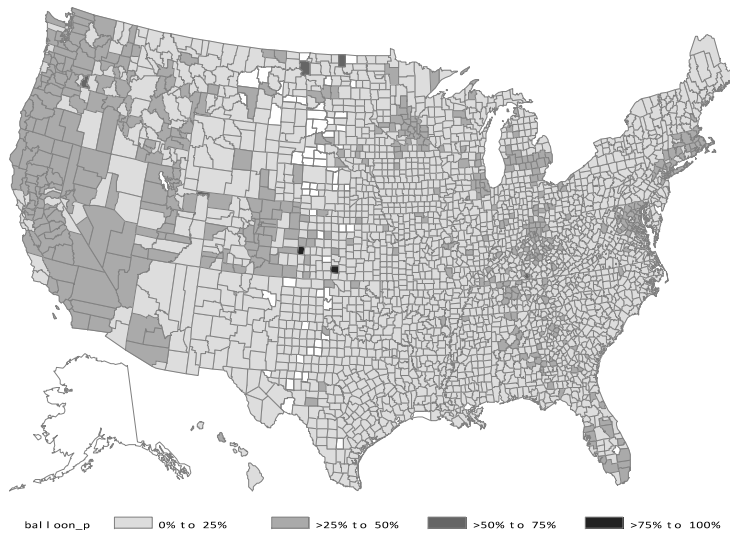
<sup>58</sup> *Id.*



**Figure 3: 1999 - Percent of All Loans – Balloon<sup>59</sup>**



**Figure 4: 2006 - Percent of All Loans – Balloon<sup>60</sup>**



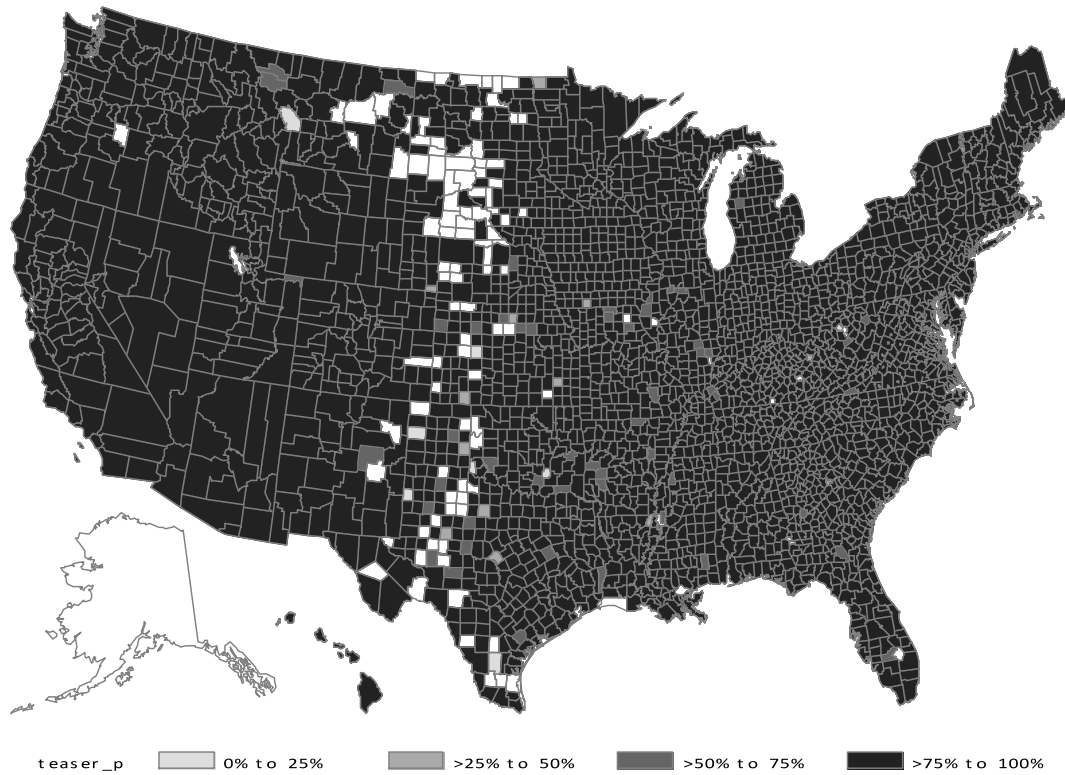
An analogous pattern can be seen in this pair of maps showing the increased prevalence and concentration of mortgage originations with balloon payment conditions. Finally, the following table taken from the study shows the nearly universal dominance of teaser rates in the 2006 market – as more than 75% of the originations in virtually all counties were with mortgages that began with less than risk-adjusted payment terms.

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<sup>59</sup> *Id.* at 41.

<sup>60</sup> *Id.*

**Figure 5: 2006 – Percent of Adjustable Rate Loans with a Teaser<sup>61</sup>**



Other studies have directly examined the role of equity stripping in the housing bubble of the mid-2000s. The following estimates by former Federal Reserve Chairman Alan Greenspan and James Kennedy (2008) demonstrate the dramatic rise of equity extraction:

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<sup>61</sup> *Id.* at 42.

**Figure 6: Sources of Free Cash Generated by Equity Extraction<sup>62</sup>**

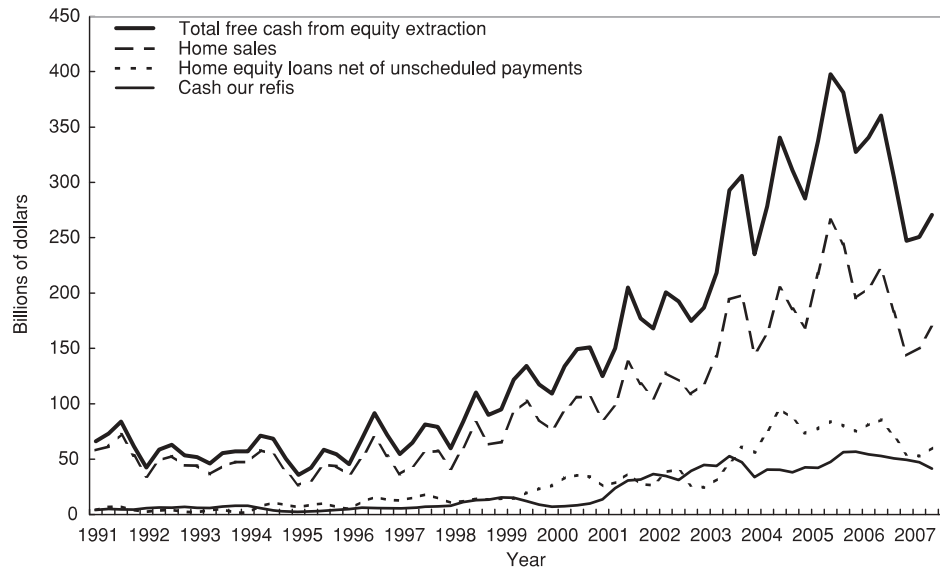


Figure 6 shows that equity extractions rose dramatically over the prior decade, rarely topping \$100 billion in the years 1991-2000 yet skyrocketing to approximately \$400 billion in 2005.<sup>63</sup> Surveys of cashout refinance borrowers suggest that a substantial proportion of funds converted to cash were used for personal consumption expenditure (including vacations).<sup>64</sup> These findings are consistent with evidence that homeowners utilized home equity loans to finance discretionary spending.<sup>65</sup>

In a study which strongly supports this paper’s thesis, Amir E. Khandani, Andrew W. Lo and Robert C. Merton estimated the extent to which “equity extractions” in the years leading up to the housing crisis led to an “unintentional synchronization of leverage” that increased the correlation of mortgage default among homeowners.<sup>66</sup> Following Greenspan and Kennedy, an equity extraction occurs when a homeowner obtains a “cash-out” refinancing loan, home equity loan, or sells his or her home and obtains a new mortgage with a higher loan-to-value ratio, retaining the proceeds from the

<sup>62</sup> This figure and the following graph and heading are excerpted from Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**, at 125.

<sup>63</sup> Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**, at 125.

<sup>64</sup> *Id.* at 126.

<sup>65</sup> E.g., Atif Mian & Amir Sufi, *House Prices, Home Equity-Based Borrowing, and the US Household Leverage Crisis*, 101 AM. ECON. REV. 2132, 2152 (2011) (finding that “a large fraction of home equity–based borrowing is used for consumption or home improvement”). For an example found in a news story at the height of the bubble, see Michael Rubinkam, *Home Equity Used to Finance Super Bowl Trips*, HOUSING CHRONICLE (Feb 2, 2005), <http://www.chron.com/business/article/Home-equity-used-to-finance-Super-Bowl-trips-1660034.php>.

<sup>66</sup> Amir E. Khandani et al., *Systemic Risk and the Refinancing Ratchet Effect* \*3 (Nat’l Bureau of Econ. Research Working Paper No. 15362, 2009); see also Alan Greenspan & James Kennedy, *Sources and Uses of Equity Extracted from Homes*, 24 OXFORD REV. ECON. POL’Y 120 (2008) (estimating equity extractions from 1991-2007).

sale as cash.<sup>67</sup> Khandani et al. explain the “self-synchronizing ratchet effect” which renders low-equity clustering such a potent source of systemic risk:

[R]efinancing-related increases in leverage cannot be symmetrically reduced when property values decline because homes are indivisible. . . . Once property values decline, a wave of defaults becomes unavoidable because mortgage lenders have no mechanism such as a margin call to compel homeowners to add more equity to maintain their leverage ratio, nor can homeowners reduce their leverage in incremental steps by selling a portion of their homes and using the proceeds to reduce their debt. This self-synchronizing “ratchet effect” of the refinancing market can create significant systemic risk in an otherwise geographically and temporally diverse pool of mortgages, steadily increasing the aggregate leverage of the housing market until it reaches a systemically critical threshold.<sup>68</sup>

Indeed, this is what fundamentally distinguishes mortgage leverage synchronization from that of liquid securities: unlike stocks or bonds in an investment portfolio, a homeowner cannot sell a portion of his or her physical home to reduce leverage.<sup>69</sup> Greater leverage synchronization thus increases systemic risk because a drop in home prices leads to highly correlated default among homeowners clustered at low levels of equity.<sup>70</sup>

Khandani et al. provide empirical support for the ratchet effect by utilizing data regarding accumulated equity in mid-2006, once housing prices began to fall, to simulate the expected level of negative equity at the end of 2008.<sup>71</sup> In their simulation, “approximately 18% of all mortgage loans exhibit negative equity as of December 2008, which is nearly identical to the actual figure reported by industry sources.”<sup>72</sup> The simulated negative equity for that period without equity extractions is 3%, indicating that the refinancing ratchet effect is responsible for 15% of mortgages having negative equity.<sup>73</sup> Accordingly, low-equity clustering through cash-out refinancing made a substantial contribution to systemic risk in the housing market by placing more owners at a risk of falling into negative equity than would otherwise have been there.

Finally, as an additional examination of the contribution of low-equity clustering, we conducted an empirical study that examined home equity levels of over 20,000 homeowners. The findings, methodology, and data utilized for the study are available in an online appendix to this Article.<sup>74</sup> Our study found that higher levels of low-equity clustering correlate with increased mortgage delinquency even after controlling for macroeconomic liquidity shocks such as rising unemployment.

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<sup>67</sup> See Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**, at 122; Alan Greenspan & James Kennedy, *Estimates of Home Mortgage Originations, Repayments, and Debt on One-to-Four-Family Residences* 5-6 (Fed. Reserve Bd. Fin. & Econ. Discussion Series No. 2005-41, 2005).

<sup>68</sup> Khandani et al., *supra* note 66, at \*2.

<sup>69</sup> *See id.* at \*2.

<sup>70</sup> *See id.* at \*3.

<sup>71</sup> *See id.* at \*4.

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> Ian Ayres & Joshua Mitts, *Online Appendix to Three Proposals for Regulating the Distribution of Home Equity*, available at <http://islandia.law.yale.edu/ayres/onlineappendix.pdf>.

### III. REFORMS TO PROMOTE GREATER DIVERSITY IN THE DISTRIBUTION OF HOME EQUITY

As suggested by theory and the above empirical results, low-equity clustering increases systemic risk in the housing market. Surprisingly, current policies such as the mortgage interest tax deduction and Federal Housing Authority (FHA) loans actually encourage low-equity clustering. This Part critiques these policies and suggests reforms promote greater diversity in the distribution of home equity that would improve the stability of the housing market.

#### A. Current Policies Increase Low-Equity Clustering

##### 1. *The Mortgage Interest Tax Deduction*

Much academic commentary has called for the repeal of the mortgage interest tax deduction.<sup>75</sup> Commentary has focused on the deduction's fundamental failure to promote homeownership,<sup>76</sup> its regressive nature and non-utilization by taxpayers who could truly benefit from it,<sup>77</sup> as well as its tendency to artificially inflate housing prices.<sup>78</sup> More recent scholarship has emphasized that the law may produce negative macro-economic effects by incentivizing higher loan to value ratios.<sup>79</sup> Through this lens, we can see the synchronized clustering of homeowners in homes with low equity percentages is not merely the by-product of independent action but is at least in part a predictable result of tax policy.

Under 26 U.S.C. § 163(h), taxpayers may deduct interest paid on a mortgage utilized to acquire a home or secure a home equity loan.<sup>80</sup> While the deduction is subject

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<sup>75</sup> E.g., William G. Gale et al., *Encouraging Homeownership Through the Tax Code*, TAX NOTES 1171, 1171 (Jun. 18, 2007) (advocating a “tax credit and a subsidized saving vehicle for first-time home buyers, financed by the elimination of the MID”); Roberta F. Mann, *The (Not So) Little House on the Praire: The Hidden Costs of the Home Mortgage Interest Deduction*, 32 ARIZ. ST. L.J. 1347 (2000) (calling for repeal of the mortgage interest deduction because of its tendency to encourage urban sprawl and deleterious effects on urban cities); Rebecca N. Morrow, *Billions of Tax Dollars Spent Inflating the Housing Bubble: How and Why the Mortgage Interest Deduction Failed* (Working Paper Oct. 1, 2011) (on file with authors) (calling for the repeal of the mortgage interest deduction as ineffective and contributing to overpriced housing as well as systemic instability); see also Dennis J. Ventry, Jr., *The Accidental Deduction: A History and Critique of the Tax Subsidy for Mortgage Interest*, 73 LAW & CONTEMP. PROBS. 233 (2010) (showing that the mortgage interest deduction lacked an intentional policy purpose); Edward L. Glaeser & Jesse M. Shapiro, *The Benefits of the Home Mortgage Interest Deduction*, in TAX POLICY AND THE ECONOMY 37, 81 (Vol. 17, James M. Poterba ed.) (2003) (finding that “the mortgage interest deduction’s impact on the homeownership rate appears to be minimal”).

<sup>76</sup> See Glaeser & Shapiro, *supra* note 75, at 37.

<sup>77</sup> See Morrow, *supra* note 75, at 8; GEORGE MCCARTHY ET AL., THE ECONOMIC BENEFITS AND COSTS OF HOMEOWNERSHIP: A CRITICAL ASSESSMENT OF THE RESEARCH 3 (2001) (summarizing the literature and concluding that “[t]ax reforms beginning in 1986, however, raised the standard deduction and . . . negated the tax advantages of ownership for most lower- and moderate-income households”).

<sup>78</sup> See Morrow, *supra* note 75, at 16-18.

<sup>79</sup> See MCCARTHY ET AL., *supra* note 77, at 38-39 (describing how the mortgage interest deduction encourages high homeowners to maintain high loan-to-value ratios); Morrow, *supra* note 75, at 19-21.

<sup>80</sup> 26 U.S.C. § 163(h)(2)(D); 26 U.S.C. § 163(h)(3). Refinancing debt not exceeding the original principal balance is expressly included within the scope of the deduction. 26 U.S.C. § 163(h)(3)(B)(i)(II).

to a limit of a total mortgage balance of \$1,000,000 on acquisition debt and \$100,000 on home equity debt, there is no cap on the deduction nor is the taxpayer limited to claiming it for only one home. Up to two residences may be included, making the mortgage interest deduction a particularly poignant incentive to acquire housing with debt. The mortgage interest deduction is skewed to favor higher-income taxpayers both because deductions are allowed on up two residences,<sup>81</sup> and because the amount of the deduction is higher for higher-income taxpayers who fall into higher tax brackets.<sup>82</sup>

Several features of the deduction encourage low-equity clustering. The value of the deduction increases with the amount of home mortgage interest paid in a given year. This creates an incentive for borrowers to maximize loan-to-value ratios in order to realize the benefit from the deduction. More precisely, it is rational for borrowers to substitute any other debt for home mortgage debt as long as the difference between the interest cost of the other debt and that of the home mortgage debt is less than the net benefit from the deduction.<sup>83</sup> As secured debt, home mortgages generally have lower interest rates than unsecured debt, suggesting that it will generally be in the borrower's interest to substitute home mortgage debt for all other debt.<sup>84</sup>

Indeed, the potential for the mortgage interest deduction to increase low-equity clustering is supported by the studies on equity extraction during the recent housing bubble.<sup>85</sup> All three methods of extracting equity—cash-out refinancing, home equity loans, purchasing a substitute home with a higher loan-to-value ratio<sup>86</sup>—could lead to additional deductible interest. In light of the widespread equity extraction that occurred across the United States in the run-up to the financial crisis, it is entirely reasonable to conclude that the mortgage interest deduction played a contributing role in encouraging homeowners to take on additional mortgage debt and thereby “ratchet up” their leverage to the highest possible level.<sup>87</sup>

One might object to this argument on the grounds that it is overly myopic: over the long term, homeowners will eventually pay off their mortgages and thereby reduce the amount of deductible interest. Nonetheless, as currently constituted, the home mortgage perversely gives larger subsidies to taxpayers who borrow not only with lower initial equity but with lower or no amortization in the future. In contrast to traditional amortizing loans, mortgagors receive larger deductions if they take out interest-only loans or if they repeatedly cash-out equity in ways that preserve large interest deductions. As

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<sup>81</sup> This can lead to portfolio misallocation. Cf. Majorie Flavin & Takashi Yamashita, *Owner-Occupied Housing and the Composition of the Household Portfolio*, 92 AM. ECON. REV. 345 (2002) (arguing that homeowners overinvest in housing).

<sup>82</sup> See Morrow, *supra* note 75, at 8.

<sup>83</sup> Such substitution can also amplify homeowners' natural tendency to overinvest in housing. Cf. Flavin & Yamashita, *supra* note 81, at 345.

<sup>84</sup> Indeed, while the mortgage interest deduction is limited to refinances equal to or less than the prior mortgage balance, a borrower may continue to enjoy the benefit of the deduction through home equity loans or obtaining a new acquisition loan (by buying a substitute home) which would be fully deductible up to the \$1,000,000 principal limit.

<sup>85</sup> Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**; Khandani et al., *supra* note **Error! Bookmark not defined.**

<sup>86</sup> See Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**, at 122; Greenspan & Kennedy, *supra* note **Error! Bookmark not defined.**, at 5-6.

<sup>87</sup> See Khandani et al., *supra* note **Error! Bookmark not defined.**, at 3.

currently structured, the home mortgage interest deduction gives homeowners an incentive on the margin to take out terms that increase systemic risk.

## 2. *Government-Insured Mortgages*

Another existing policy that fosters low-equity clustering is government-insured mortgages such as Federal Housing Authority (FHA) loans. FHA loans are offered pursuant to section 203 of the National Housing Act,<sup>88</sup> which empowers the Secretary of Housing and Urban Development to insure mortgages conforming to a set of statutory criteria including principal limits and amortization requirements.<sup>89</sup> Most importantly, the statute expressly provides for a minimum down payment of 3.5%.<sup>90</sup> Moreover, when marketing FHA loans, the Department of Housing and Urban Development has emphasized that “most of your closing costs and fees can be included in the loan,”<sup>91</sup> suggesting that the purchaser’s initial equity level may actually be lower than 3.5%.

While the FHA loan program is well-known, it is not the only form of government mortgage insurance that permits extremely low down payments. Similar programs exist for specific groups of customers and offer even more generous down payment terms. For example, the U.S. Department of Veterans Affairs is authorized by federal statute to guarantee loans for veterans up to 100% of the purchase price.<sup>92</sup> The U.S. Department of Agriculture offers loan guarantees for purchasing rural housing with no down payment required.<sup>93</sup> Finally, Fannie Mae and Freddie Mac offer programs that

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<sup>88</sup> 12 U.S.C. § 1709.

<sup>89</sup> See 12 U.S.C. § 1709(b) (establishing eight criteria for eligibility as an insured FHA loan: (1) lender is approved by the Secretary; (2) loan principal does not exceed certain limitations, generally 115% of median price of single-family home price in the area and no more than 100% of the property being purchased; (3) maximum maturity within 30-35 years depending on whether insurance was procured; (4) satisfactory amortization provisions; (5) accrues interest; (6) amortizing payments applied to both principal and interest; (7) contains other terms conforming to the Secretary’s guidelines; (8) a minimum down payment of 3.5%).

<sup>90</sup> 12 U.S.C. § 1709(b)(9)(A) (“A mortgage insured under this section shall be executed by a mortgagor who shall have paid, in cash or its equivalent, on account of the property an amount equal to not less than 3.5 percent of the appraised value of the property or such larger amount as the Secretary may determine.”).

<sup>91</sup> *Let FHA Loans Help You*, U.S. DEP’T OF HOUSING & URBAN DEVELOPMENT, <http://www.hud.gov/buying/loans.cfm> (last visited Mar. 13, 2012).

<sup>92</sup> See 38 U.S.C. § 3710 (not providing for any loan-to-value limits); U.S. DEP’T OF VETERANS AFFAIRS, *LENDERS HANDBOOK – VA PAMPHLET 26-7*, at ch. 3, § 3, available at [http://www.benefits.va.gov/warms/pam26\\_7.asp](http://www.benefits.va.gov/warms/pam26_7.asp) (last visited July 23, 2012) (“Unlike other home loan programs, there are no maximum dollar amounts prescribed for VA-guaranteed loans. . . . VA limits the amount of the loan to the reasonable value of the property shown on the NOV plus the cost of energy efficiency improvements up to \$6,000 plus the VA funding fee, with the following exceptions.”). The guarantee provided for VA loans, however, is subject to a relatively tight cap. See 38 U.S.C. § 3703(a)(1)(A)(IV) (limiting loans above \$144,000 to a guarantee of 25% of the loan); *2012 VA County Loan Limits*, U.S. DEP’T OF VETERANS AFFAIRS, [http://www.benefits.va.gov/HOMELOANS/docs/Loan\\_Limits\\_2012\\_Dec\\_2011.pdf](http://www.benefits.va.gov/HOMELOANS/docs/Loan_Limits_2012_Dec_2011.pdf) (last visited Mar. 13, 2012) (“For all counties other than those listed below, the 2012 [Loan] Limit is \$417,000.”).

<sup>93</sup> These so-called “section 502 loans” are authorized by 42 U.S.C. § 1472. Pursuant to the Department of Agriculture’s regulations, loans guaranteed under the program may be “may be made for up to 100 percent of the appraised value or the cost of acquisition and any necessary development including those purposes in § 1980.310, whichever is less.” 7 C.F.R. § 1980.311(b)(1) & (2) (for new and existing construction, respectively).

encourage private lenders to make low-down payment mortgage loans.<sup>94</sup> Under the MyCommunityMortgage program, Fannie Mae purchases single-family mortgages up to a 97% loan-to-value ratio with no minimum borrower contribution.<sup>95</sup> Similarly, through the Affordable Gold program, Freddie Mac offers a product with 95% loan-to-value ratio and only 3% of the purchase price is required from borrowers.<sup>96</sup> We return to the topic of beneficial reforms to Fannie Mae and Freddie Mac below.

Lax lending standards have led to serious solvency concerns for all of the above entities. Of course, Fannie Mae and Freddie Mac were large purchasers of the subprime mortgages that led to the recent financial crisis, which necessitated their seizure by the Treasury and subsequent government capitalization.<sup>97</sup> Yet serious concerns have also been raised regarding the solvency of the FHA as a 2012 audit valued its insurance fund at a negative \$13.48 billion.<sup>98</sup> A recent analysis places the blame squarely on low-down payment requirements and the prospect of falling home prices pushing more owners into negative equity:

The FHA has burned through its reserves over the past three years as defaults mount on loans it guaranteed as housing markets deteriorated. FHA-backed mortgages are an attractive option for borrowers because they can make down payments as low as 3.5%. But as home prices continue to fall, many of those borrowers have fallen underwater, where

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<sup>94</sup> Despite having been created and authorized by statute, Fannie Mae and Freddie Mac are private companies. See, e.g., 12 U.S.C. § 1455(h) (providing that Freddie Mac “shall insert appropriate language in all of [its] obligations and securities. . . clearly indicating that such obligations and securities . . . are not guaranteed by the United States and do not constitute a debt or obligation of the United States or any agency or instrumentality thereof other than the Corporation.”). However, scholars have repeatedly argued that they carry an implied government guarantee because of their fundamental role in the secondary mortgage markets. See, e.g., David Reiss, *The Federal Government’s Implied Guarantee of Fannie Mae and Freddie Mac’s Obligations: Uncle Sam Will Pick Up the Tab*, 42 GA. L. REV. 1019 (2008); W. Scott Frame & Lawrence J. White, *Fussing and Fuming over Fannie and Freddie: How Much Smoke, How Much Fire?*, 19 J. ECON. PERSPECTIVES 159, 164 (2005). These arguments were vindicated when the Department of the Treasury seized Fannie Mae and Freddie Mac in September 2008 and announced its willingness to provide up to \$200 billion in capital to ensure stability in the mortgage markets. See James R. Hagerty et al., *U.S. Seizes Mortgage Giants*, WALL ST. J. (Sep. 8, 2008), <http://online.wsj.com/article/SB122079276849707821.html>.

More importantly, Fannie Mae and Freddie Mac purchased mortgages at the behest of the U.S. government to further public policy goals. See Frame & White, *supra*, at 171-73 (discussing the ways in which Fannie Mae and Freddie Mac further government policy goals of encouraging the consumption of housing). Their low down-payment programs thus reflect government policy, because Congress could direct Fannie Mae and Freddie Mac to cease offering these programs either directly via statute or as a condition for receiving government funding.

<sup>95</sup> *MyCommunityMortgage: Affordable Financing to Serve Low- to Moderate-Income Borrowers*, FANNIE MAE, available at <https://www.efanniemae.com/sf/mortgageproducts/pdf/mcmproductmatrix.pdf> (last visited Mar. 13, 2012).

<sup>96</sup> *AffordableGold 3/2*, FREDDIE MAC, available at <http://www.freddiemac.com/sell/factsheets/pdf/gold32.pdf> (last visited Mar. 13, 2012).

<sup>97</sup> See FINANCIAL CRISIS INQUIRY COMMISSION, *supra* note **Error! Bookmark not defined.**, at 122-25 (2011) (discussing the numerous purchases by Fannie Mae and Freddie Mac of subprime and alt-A mortgages from 2000-2008 and concluding that “the results would be disastrous for the companies, their shareholders, and American taxpayers”).

<sup>98</sup> Gretchen Morgenson, *In an F.H.A. Checkup, a Startling Number*, N.Y. TIMES (Dec. 1, 2012), <http://www.nytimes.com/2012/12/02/business/in-an-fha-checkup-a-startling-number.html>.



they owe more than their homes are worth and are at greater risk of default if they experience income shocks.<sup>99</sup>

Indeed, a congressional subcommittee recently passed the FHA Emergency Fiscal Solvency Act designed to strengthen the FHA's cash reserves.<sup>100</sup> But the possibility of insolvency at the FHA is just an example of the broader system-wide risk posed by low-equity clustering. FHA loans facilitate low-equity clustering by making loans to any qualifying borrower at a fixed down payment of 3.5%. Other government programs offer mortgage loans with *no* down payment. These programs directly undermine systemic stability in the housing market by contributing to low-equity clustering. Some rightfully object that ending these programs would “choke off credit and send home prices lower.”<sup>101</sup> Yet the advantage of the licensing approach, which we will discuss in detail below, is that it is unnecessary to eliminate low-down payment loans entirely. Indeed, recent efforts to raise minimum down payment levels to 20% cause more harm than good.

## **B. Reforming the Home Mortgage Interest Deduction**

In this and the following section, we address reforms to reduce low-equity clustering. This Section describes the possibility of modifying the home mortgage deduction itself. Instead of incentivizing low, continuing loan-to-value ratios, the tax code can be revised to encourage amortizing loans. To qualify for the deduction under our first proposal,<sup>102</sup> the mortgage at the time of origination must satisfy three conditions:

- (a) 5% Down Payment Condition: The mortgage must have a combined loan-to-value ratio of no more than 95%;
- (b) 30% DTI Condition: The mortgage must have no potential periodic payment that would exceed a debt to income (DTI) ratio of 30%;<sup>103</sup> and,
- (c) 30-year Repayment Condition: The mortgage schedule of payments must repay the principal and accrued interest within 30 years or before the borrower reaches 65 whichever is sooner.

Herman Cain might refer to this tax proposal as a 5/30/30 plan.

The first condition's requirement of minimal equity would be troubling if it were imposed by itself. Establishing a floor of 5% might perversely induce more clustering than would occur in a world without a legal minimum. Housing and mortgage markets may be exposed to more risk of simultaneous defaults if homeowners concentrate at 5% equity than if some put 1% down, others put 5% down (and still others put 9% down). But the combination of the three conditions is minimally sufficient to start borrowers on

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<sup>99</sup> Nick Timiraos, *Housing Agency's Reserves at Risk*, WALL ST. J. (Feb. 13, 2012), <http://online.wsj.com/article/SB10001424052970204795304577221222265037002.html>.

<sup>100</sup> See Subcommittee Approves Bills Improving Fiscal Health of FHA, Affordable Housing Programs, HOUSE COMMITTEE ON FINANCIAL SERVICES (Feb. 7, 2012), available at <http://financialservices.house.gov/News/DocumentSingle.aspx?DocumentID=278489>.

<sup>101</sup> Timiraos, *supra* note 98.

<sup>102</sup> Joe Bankman and Ian Ayres have separately recommended limiting the deduction to a new kind of qualifying mortgage. Ian Ayres & Joe Bankman, Stop Subsidizing Risky Mortgages (working paper, 2012).

<sup>103</sup> As discussed *infra* with regard to the Dodd-Frank QRM proposal, the mortgage must not have any potential periodic payment that would exceed the 30% DTI cap based on the current schedule of payments.

an amortization path of increasing equity. As in the amortization era, the diachronic borrowing of successive cohorts of homeowners will be sufficient to induce the beneficial diversity in home equity as less recent borrowers will be more likely to have paid back part of their outstanding balance. These temporally staggered repayment schedules lean against the concern that the minimum equity will induce equity bunching at the minimum.

The second (DTI) condition would operate to exclude wildly uneven gyrations in payments that would threaten to outstrip the borrower's ability to pay. Under this second condition, the maximum of any prospective required periodic payment under the mortgage terms could not be more than 30% of the borrower's periodic income at the time of the loan origination. This "life-of-the loan" DTI condition would effectively prohibit balloon mortgages, because the required balloon at the end of the mortgage would be more than 30% of what the borrower's monthly income was at the time of origination. The DTI condition would also disqualify mortgages with initial teaser rates that ultimately reset to higher rates with associated payments that violate the 30% DTI cap. The DTI condition would not disqualify all adjustable-rate mortgages, but to qualify, the adjustable-rate mortgages would need to include interest rate caps that assure that the monthly mortgage payments do not exceed 30% of what the borrower's monthly income was at the time of origination. The DTI condition does not guarantee that mortgagors will be able to make their monthly payments. There is, for example, still the risk that borrowers will be laid off in an economic downturn. But making sure that the maximum required mortgage payments fall below 30% of the borrower's income at time of origination helps assure that the borrower will not need to refinance solely because the mortgage terms allow for an unsustainable rise in mortgage payments. Qualifying mortgages do not eliminate systemic risk, but they help assure that risk is not exacerbated by artificially forcing borrowers to refinance during times of economic turmoil.

More broadly, to satisfy both the DTI condition and the 30-year repayment condition, mortgage repayment schedules will need to amortize repayments on a fairly continuous basis. Traditional 30-year fixed mortgages that satisfy the DTI condition with regard to the first monthly payment will a fortiori satisfy the condition with regard to all subsequent fixed payments. Loans would not, however, need to rigidly adhere to constant amortization. The possibility of temporary negative amortization, for example, as contemplated by once a year mortgage holiday provisions would not be disqualifying so long as the remaining payments cleaved to the 30% DTI requirement.

The idea behind the age limit in the third condition is to be more consistent with the life-of-the-loan DTI goal. A 60-year old who borrows on a 30-year basis isn't likely to have the same income after reaching 70 or 80. For couples, the rule might ask is the DTI test satisfied if we assume that income goes to zero when the older spouse hits 65. Macroprudentially, there might be higher risk with many 70-year old borrowers with loans that they can't repay (and can't refinance, if we have another credit freeze . . . the beauty of a life-of-the-loan DTI test is that borrower never needs to go back to the refinancing market). The requirement that loans are paid off before retirement also is consonant with thinking of the mortgage deduction as a retirement account. And for those who wish to curtail the tax expenditure, it would also have the advantage of cutting off the deduction for more elderly borrowers.

An important limitation of the three foregoing conditions, however is that they do not respond to the untoward effects of equity stripping that can occur after years after a mortgage has issued. To respond to this problem, a fourth prerequisite that might be added for homeowners to qualify for the deduction might be:

- (d) Taxpayers who claim a home-mortgage interest deduction with regard to a particular property must agree not to undertake any subsequent cashing out of amortized principal unless they have reached the age or established the kind of hardship that would analogously allow withdraw without penalty from a 401(k) account.

This condition would subject any non-qualifying cashing out of accrued equity to a 20% penalty. Borrowers would be able to cash out excessive down payments (which exceeded the initial 5% requirement) and borrowers would be able to cash out appreciation in the value of the underlying house, but borrowers would be penalized for cashing out any amortized repayment of principal (unless the borrowers satisfied the age or hardship requirements for 401(k) distributions).<sup>104</sup> Thus, for example, imagine an initial home that was purchased for \$100,000 with the borrower placing \$10,000 down and borrowing \$90,000 with a 30-year fixed interest loan. After a number of years, imagine that \$20,000 of the principal had been repaid (so that a \$70,000 principal was outstanding) and imagine that the house had increased in value to \$130,000. Under the fourth condition, the homeowner would be able to cash out without penalty \$35,000 (the \$30,000 of home appreciation plus the \$5,000 of excessive initial down payment). However, the homeowner would incur a 20% tax if it went further and cashed out the \$20,000 of amortized interest (unless the homeowner could meet the statutory age or hardship requirements for 401(k) distributions).<sup>105</sup> This 20% cash out penalty is analogous to the 20% 401(k) early distribution penalty. Psychologically, the goal is to have homeowners start thinking of their home-equity as a retirement asset. Under this modified tax rule, the quid pro quo for the interest deduction is that taxpayers accepts 401(k) limits on their equity saving.

The central purpose of the fourth condition is not, however, to promote retirement savings. It is instead to dampen the untoward macroeconomic impact of equity stripping. Homeowners could still accomplish equity stripping by selling their homes and cashing out their accumulated equity (and then buying a subsequent house with a 95% loan to value ratio),<sup>106</sup> but the many homeowners who wish to stay put in their current houses would not be able to cash out their accumulated repayments of principal until they reached the required age (or unless they could establish legitimate hardship). The goal is

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<sup>104</sup> See generally *401(k) Resource Guide - Plan Participants - General Distribution Rules*, INTERNAL REVENUE SERVICE, <http://www.irs.gov/retirement/participant/article/0,,id=151787,00.html> (last visited July 14, 2012).

<sup>105</sup> To implement the regulation, subsequent lenders would be prohibited from taking a security interest in borrower's interest in the amortized principal. This would mean that subsequent lenders claim would be subordinated to an unchanging original principal amount of \$90,000 even the original principal had in fact been paid down.

<sup>106</sup> It would be possible to go further and require that accrued equity (\$20,000 in previous example) would need to be rolled in to any subsequent house as an additional pre-requisite of taking an interest deduction.

to dampen the prevalence of homeowners who before retirement cash out equity to finance discretionary spending.<sup>107</sup>

This proposal for tax reform is not a command-and-control mandate. Homeowners would not be required to borrow using qualified mortgages. They simply would not be able to deduct interest if their mortgages were non-qualifying. Limiting the deduction to qualifying loans would help assure that government eliminates subsidies for the kinds of mortgages terms that exacerbate systemic risk. Even without the tax subsidy, some homeowners might deleteriously choose to cluster in low-down payment, interest-only loans. And notwithstanding the penalty, taxpayers who have taken an interest deduction may deleteriously choose to engage in equity stripping. But the hope is that these financial nudges may be sufficient to induce homeowners to make borrowing decisions that in aggregate reduce systemic risk.

### C. Reforming the Dodd-Frank Risk-Retention Proposal

Dodd-Frank’s risk-retention mechanism can also be seen as an attempt to nudge the mortgage market away from low-equity clustering, but it does so by giving lenders incentives to originate loans which in aggregate will produce less systemic risk. Under 15 U.S.C. § 78o-11, the “federal banking agencies”<sup>108</sup> are directed to issue regulations requiring the issuers of asset-backed securities to retain 5% of the credit risk of assets that are “transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer.”<sup>109</sup> The Senate Committee Report on the Dodd-Frank Act noted that the purpose of the credit risk retention requirements was to “align [securitizer’s] economic interests with those of investors in asset-backed securities.”<sup>110</sup> Indeed, credit risk retention requirements have the positive effect of giving securitizers “a strong incentive to monitor the quality of the assets they purchase from originators, package into securities, and sell.”<sup>111</sup>

However, the statute expressly exempts “qualified residential mortgages” (“QRMs”) from credit risk retention requirements.<sup>112</sup> Requiring originators to retain merely 5% of their non-QRM originations at first blush does not seem like a very strong incentive. But for originators who had been using the securitization market to relend the

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<sup>107</sup> While Ayres & Bankman consider the fourth proposal, they ultimately reject it because of the potential difficulty of implementation. The first three conditions can be assessed at the moment of origination. The fourth needs to be evaluated at the moment of any non-acquisition secured lending that contemplates cash-out to a borrower who has previously been taking deductions on the property. A more stringent condition would subject to a 20% tax penalty all cash-out refinances that did not meet the age or hardship requirements – thus prohibiting mortgagors from cashing out excessive down payments or capital appreciation.

<sup>108</sup> This term is defined as the “Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, and the Federal Deposit Insurance Corporation.” 15 U.S.C. § 78o-11(a)(1).

<sup>109</sup> *E.g.*, 15 U.S.C. § 78o-11(c)(1)(B)(i)(I). This phrase also appears in 15 U.S.C. § 78o-11(c)(1)(B)(i)(II) and 15 U.S.C. § 78o-11(c)(1)(B)(ii).

<sup>110</sup> S. REP. NO. 111-176, at 129 (2010).

<sup>111</sup> *Id.*

<sup>112</sup> *E.g.*, 15 U.S.C. § 78o-11(c)(1)(B)(i)(I) (“The regulations prescribed under subsection (b) shall require a securitizer to retain not less than 5 percent of the credit risk for any asset that is not a qualified residential mortgage that is transferred, sold, or conveyed through the issuance of an asset-backed security by the securitizer . . .”).

same capital hundreds of times,<sup>113</sup> the inability to reuse 5% of non-QRM originations might constrain the prevalence of disfavored terms. Under Dodd-Frank, there can only be \$20 of non-QRM loans for every \$1 of originator capital.

The statute does not define a QRM but directs regulators to define the term while taking into account:

[U]nderwriting and product features that historical loan performance data indicate result in a lower risk of default, such as . . . standards with respect to the residual income of the mortgagor after all monthly obligations; the ratio of the housing payments of the mortgagor to the monthly income of the mortgagor; the ratio of total monthly installment payments of the mortgagor to the income of the mortgagor . . . .<sup>114</sup>

On April 11, 2011, six financial regulators authorized by Dodd-Frank proposed a rule containing a multi-factored QRM definition which restricts both loan-terms and borrower credit-history characteristics.<sup>115</sup> To qualify under the proposed rule, the terms of a residential mortgage must:

- a) Be a first lien loan with scheduled repayment of principal and interest within 30 years;
- b) Not have less than 20% down payment.
- c) Not allow negative amortization or deferred payment of interest or principal;
- d) Not allow a scheduled payment that is more than twice as large as any earlier payment;
- e) Not allow an increase in interest of more 2% in any year and more than 6% over the life of the loan;
- f) Not allow points and fees of more than 3% of the total loan amount; and,
- g) For the first five years, not allow a debt-to-income ratio of more than 28% and a total debt-to-income ratio of more than 36%.<sup>116</sup>

These multi-factored tests are an admirable attempt to make progress on the twin problem of consumer and financial stability protection. This risk-retention nudge indirectly incentivizes lenders to require larger down payments and more consistent amortization.

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<sup>113</sup> See Kathleen C. Engel & Patricia A. McCoy, *Turning a Blind Eye: Wall Street Finance of Predatory Lending*, 75 *FORDHAM L. REV.* 102 (2007).

<sup>114</sup> 15 U.S.C. § 78o-11(e)(4)(B).

<sup>115</sup> See Credit Risk Retention Proposed Rules, 76 *Fed. Reg.* 24090, 24121 (Apr. 29, 2011) (proposed by the Office of the Comptroller of the Currency, Federal Reserve Board, FDIC, SEC, FHFA, and HUD). The proposed rules define a series of “derogatory factors” which would disqualify a borrower from obtaining a qualified residential mortgage, including: (a) not currently 30 or more days past due on any obligation, (b) never 60 or more days past due on any prior obligation within the past 24 months, (c) not have “been a debtor in a bankruptcy proceeding, had property repossessed or foreclosed upon, engaged in a short sale or deed-in-lieu of foreclosure, or been subject to a Federal or State judgment for collection of any unpaid debt” within the past 36 months. *Id.* For a detailed analysis of the proposed rules governing the new credit risk retention requirements under the Dodd-Frank Act, see SIMPSON THACHER, SECURITIZATION AFTER DODD-FRANK: A LOOK AT THE PROPOSED RETENTION RULES, available at <http://www.stblaw.com/content/Publications/pub1185.pdf>.

<sup>116</sup> *Id.*

The “twice as large” limitation effectively disqualifies all balloon loans and the interest adjustment caps at least limits the impact of teaser rates to artificially induce refinancing at the loan reset time. Still we find that the proposed rule is needlessly harsh on some of its requirements – especially the 20% down payment requirement – while perversely lax with regard to other requirements – especially the 5-year DTI limitation. This Subsection will suggest ways to modify the proposed rule to correct for these errors.

We begin by looking more closely at the down payment mandate. Even though down payment prerequisites were not mentioned in the statute, the proposed rule requires a minimum down payment of 20% of the market value or purchase price of the property, whichever is lower.<sup>117</sup> The proposed qualified residential mortgage exemption responds to the problem of low-equity clustering discussed above.<sup>118</sup> A 20% minimum might cause a clustering at 20%, but that level of initial equity is sufficiently high that the concern that normal fluctuations in housing prices would cause a synchronized waive of defaults is remote. The 20% buy-in requirement is akin to a 99-year flood levy, which will only rarely fail.

The problem, however, is that like an overly protective flood levy, such a large down payment requirement can impose a substantial burden on borrowers who are creditworthy but unable to accumulate sufficient funds. Indeed, the proposed rules prompted an outcry among consumer advocates and trade associations, who emphasized the immense harm that such a high standard would cause to creditworthy borrowers who have historically benefited from lower down-payment requirements. For example, the National Association of Realtors presented a study showing that “it would take more than a decade for the median American family to save enough for a 20% down payment on even a modest home.”<sup>119</sup> Moreover, an analysis by the Coalition for Sensible Housing Policy found that imposing a fixed minimum down payment requirement of 20% would “knock[] 15 to 20 percent of borrowers out of QRM eligibility, with only small improvement in default performance of about eight-tenths of one percent on average.”<sup>120</sup> While there might be a greater benefit to higher equity levels than the Coalition is willing to concede, there is little reason to doubt its contention that a high fixed down-payment requirement would impose a very real cost.

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<sup>117</sup> See *id.* at 24124. The regulators also expressly rejected financing closing costs to circumvent these down payment requirements, citing a study that linked increase default to low equity levels. Austin Kelly, *Skin in the Game: Zero Down Payment Mortgage Default*, 17 J. OF HOUSING RES. 75 (2008).

<sup>118</sup> Interestingly, FHA- and other government-insured mortgages are excluded from the credit risk retention requirements. See 15 U.S.C. § 78o–11(e)(3)(B). In light of the low down-payment requirements for the loans, it appears that the rules are actually creating an incentive to shift the credit risk for low down-payment mortgages onto the government’s balance sheet rather than the private sector. This has its own potentially negative implications, for it is far from clear that the government is better at managing low-equity credit risk than private lenders. Cf. Timiraos, *supra* note 98 (describing serious concerns over the solvency of the FHA). The licensing regime proposed *infra* Section III.D would permit licenses to be traded, thus facilitating ownership of low-equity loans by the party best able to manage this credit risk.

<sup>119</sup> COALITION FOR SENSIBLE HOUSING POLICY, PROPOSED QUALIFIED RESIDENTIAL MORTGAGE DEFINITION HARMS CREDITWORTHY BORROWERS WHILE FRUSTRATING HOUSING RECOVERY 12 (2011), available at [http://www.realtor.org/wps/wcm/connect/b4ff208047d10e558b1acb93a9f011da/Coalition\\_For\\_SHP\\_White\\_Paper\\_August-1-2011.pdf?MOD=AJPERES&CACHEID=b4ff208047d10e558b1acb93a9f011da](http://www.realtor.org/wps/wcm/connect/b4ff208047d10e558b1acb93a9f011da/Coalition_For_SHP_White_Paper_August-1-2011.pdf?MOD=AJPERES&CACHEID=b4ff208047d10e558b1acb93a9f011da) (presenting study by the National Association of Realtors).

<sup>120</sup> *Id.* at 6.

These conclusions are supported by academic studies as well, which have found that higher LTV requirements decrease homeownership rates.<sup>121</sup> Indeed, a recent study under the auspices of the University of North Carolina Center for Responsible Lending and the nonprofit Center for Responsible Lending concludes that the harm caused by such a high fixed down-payment requirement far outweighs its benefits.<sup>122</sup> Interestingly, the study found that the burden imposed by the qualified residential mortgage rule would fall disproportionately on minority and low-income borrowers.<sup>123</sup> Utilizing loan-level data from two proprietary databases, these researchers concluded that at the proposed fixed down payment level of 20%, “the vast majority of creditworthy borrowers—approximately 85 percent—would not have qualified for a QRM mortgage, with the impacts greatest for creditworthy African Americans (93 percent) and Latinos (91 percent).”<sup>124</sup> Indeed, research has shown that these traditionally disadvantaged groups have already suffered disproportionately from the financial crisis.<sup>125</sup> Denying creditworthy minorities and low-income borrowers the opportunity to own a home would increase inequality<sup>126</sup> and deprive society of the positive externalities resulting from increased homeownership.<sup>127</sup> Moreover, the reduced demand resulting from such a rule

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<sup>121</sup> See, e.g., Peter Linneman et al., *Do Borrowing Constraints Change U.S. Homeownership Rates?*, 6 J. HOUSING ECON. 318, 330 (1997) (describing the effect of increasing LTV ratios on changes in homeownership rates).

<sup>122</sup> ROBERTO G. QUERCIA ET AL., *BALANCING RISK AND ACCESS: UNDERWRITING STANDARDS FOR QUALIFIED RESIDENTIAL MORTGAGES* (2012), available at <http://www.ccc.unc.edu/QRMunderwriting>.

<sup>123</sup> *Id.* at 33-34.

<sup>124</sup> *Id.* at 34.

<sup>125</sup> E.g., Katrin B. Anacker & James H. Carr, *Analyzing Determinants of Foreclosure Among High-Income African American and Hispanic Borrowers in the Washington, DC Metropolitan Area*, 11 INT. J. HOUSING POL’Y 195 (2011) (showing that “high-income African-American borrowers are 36 per cent and Hispanic borrowers 79 per cent more likely to go into foreclosure”); DEBBIE G. BOCIAN ET AL., *LOST GROUND, 2011: DISPARITIES IN MORTGAGE LENDING AND FORECLOSURES* (2011), available at <http://www.responsiblelending.org/mortgage-lending/research-analysis/Lost-Ground-2011.pdf> (examining 27 million mortgages and finding that “borrowers of color are more than twice as likely to lose their home as white households”); DEBBIE G. BOCIAN ET AL., *FORECLOSURES BY RACE AND ETHNICITY: THE DEMOGRAPHICS OF A CRISIS* (2010), available at <http://www.responsiblelending.org/mortgage-lending/research-analysis/foreclosures-by-race-and-ethnicity.pdf> (arguing that African-American and Latino borrowers disproportionately suffered from foreclosure from 2007-2009).

<sup>126</sup> The gap between whites and persons of color has grown substantially since the onset of the financial crisis. See, e.g., PEW RESEARCH CENTER, *TWENTY-TO-ONE: WEALTH GAPS RISE TO RECORD HIGHS BETWEEN WHITES, BLACKS AND HISPANICS* (2011), available at [http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report\\_7-26-11\\_FINAL.pdf](http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf). While home prices have fallen since the onset of the crisis, homeownership has historically led to greater wealth among low-income households compared to renting over the long-term. See, e.g., Stegman et al., *The Wealth-Creating Potential of Homeownership: A Preliminary Assessment of Price Appreciation Among Low-income Home Buyers*, in *CHASING THE AMERICAN DREAM: NEW PERSPECTIVES ON AFFORDABLE HOMEOWNERSHIP* (William M. Rohe & Harry L. Watson, eds.) (2007), available at <http://www.ccc.unc.edu/documents/WealthCreating.Poten.HO.2007.pdf>.

<sup>127</sup> There is a vast body of scholarship examining the social benefits of homeownership. A seminal study on the topic is Denise DiPasquale & Edward L. Glaeser, *Incentives and Social Capital: Are Homeowners Better Citizens?*, 45 J. URBAN ECON. 354 (1999), which found that homeownership leads to higher levels of citizenship and social capital as a result of decreased mobility compared to renting. However, there are potential endogeneity problems with this approach, and a recent study of low-income homeowners utilizing a field experiment called into question some of these conclusions. Engelhardt et al., *What are the Social Benefits of Homeownership? Experimental Evidence for Low-Income Households*, 67 J. URBAN ECON. 249

might well depress housing prices even further, destroying wealth for millions of white homeowners (and possibly cause additional defaults) as well.

While we view the 20% down payment requirement to be too severe, it at least furthers the regulatory project of reducing systemic risk. More bizarre to us is the regulation's 5-year limitation to its DTI requirement. Like our proposed modification to the home mortgage interest deduction, the Dodd-Frank risk-retention proposal disqualifies any mortgage where the allowable payment pursuant to the mortgage provisions exceeds 28% of the borrowers' historic income at the time of the loan origination. As discussed earlier, a DTI requirement (combined with the 30-year repayment requirement) goes a remarkably long way in inducing fairly continuous amortization of the outstanding principal – and perforce eliminates balloon and interest resets that create payment obligations beyond the borrowers' means. But without explanation, the proposed regulations limit the DTI requirement to only the first five years of mortgage payments. Under the proposed regulation, there is nothing to stop a mortgage from having a 5-year reset that doubles the payment to an unsustainable DTI of 56%.<sup>128</sup> Thus, the proposed QRM definition allows the very kind of payment resets that can force borrowers to refinance. Recent experience teaches that when a substantial number of borrowers have to simultaneously refinance because of these resets, housing and mortgage markets can be exposed to increased volatility.

The center of our proposal is to suggest that the DTI requirements be applied to all of the loan payments. The proposal is straightforward to implement and indeed can be accomplished by merely deleting 18 words from the proposed regulation.<sup>129</sup> Unlike the down payment requirement, applying the DTI requirement to all scheduled payments would not preclude credit-worthy borrowers from obtaining financing. As with our home-mortgage interest deduction proposal, it would only move borrowers toward mortgages that capped the maximum interest rate at an amount that was within the borrowers' means.<sup>130</sup>

A second modification that mirrors our home-mortgage interest deduction would be to disqualify cash-out refinancing transactions. The current QRM excludes second-lien mortgages and thus already impedes one loan type that has been used to facilitate equity stripping. But the current QRM does not disqualify non-acquisition transactions in which a borrower replaces initial acquisition loans with a higher-balance first lien loan and in so doing cashes out the difference in principle. As discussed above, equity stripping by large segments of mortgagors almost certainly exacerbated the housing crisis. Adding a no-cash-out requirement to the QRM definition will not have the

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(2010). Nonetheless, this study arrived at no conclusive findings regarding most of the benefits of homeownership. *See id.* at 254 (“Our clearest set of results is for the impact of homeownership on political involvement. . . . For most of the other outcomes, the results are not conclusive.”). It was also limited in duration to four years, leading its authors to emphasize that “the results provide estimates of the short-term effects of homeownership on social capital and local amenities, but not long-term effects.” *Id.* at 256.

<sup>128</sup> The “twice as large” requirement operates independent of the DTI requirement and is not limited to the first five years of payments.

<sup>129</sup> *See* Credit Risk Retention Proposed Rules, *supra* note 115, at (iii)(A)(1) (“during the first five years after the date on which the first regular periodic payment will be due”).

<sup>130</sup> Alternatively, the DTI requirement might only be suspended after the later of 5 years or when the borrower had acquired at least 20% equity in house. If the downpayment requirement is reduced to 10%, a borrower with a 30-year fixed mortgage with 7% APR would only reach 20% equity after 8.33 years (and at a 10% APR, a borrower would only achieve 20% equity position after 11.33 years).



exclusionary effect on home acquisition of the 20% down payment requirement, but will help reduce systemic risk by increasing the likelihood that different cohorts of mortgagors will have different amounts of accrued equity.

If the 5-year limitation to the DTI requirement is removed and a no-cash-out requirement is added, it should be possible to lower the down payment requirement to a less exclusionary 5 or 10% level. Indeed, a thorough going DTI requirement (combined with the 30 year repayment requirement) would allow the QRM definition to be substantially simplified. For example, the no negative amortization requirement is not necessary in a world where the DTI requirement is applied to all potentially required payments. From the standpoint of systemic volatility, we need not prohibit temporary negative amortization – so long as it is not sufficient to drive the DTI beyond the point of sustainability. Similarly, the requirement that no scheduled payment be more than twice as large as any earlier payment is not necessary in the shadow of an enhanced DTI requirement. Initial teaser rates at less than half of the long-term rate are not a problem from the standpoint of systemic risk – so long as the long-term rate is within the borrower’s wherewithal.<sup>131</sup> Overall, a modified version of the QRM definition with reduced down payments, with a DTI requirement that applied for the life of the loan, and with a prohibition of cash out transactions, would have a much smaller exclusionary impact on low-income borrowers, while giving strong lender incentives to put borrowers on a path toward amortizing equity.

## **D. DIRECT MACROPRUDENTIAL REGULATION OF THE DISTRIBUTION OF EQUITY**

This Part takes up a third, more direct approach at regulating the distribution of home equity at the macroprudential level. We delineate two proposals: (1) a system of tradable leverage licenses that would apply to mortgage origination nationwide; and (2) reforming the definition of “conforming mortgage” utilized by the government-sponsored enterprises (“GSEs”) commonly known as Fannie Mae and Freddie Mac. The former is a thought experiment that would directly shape the distribution of equity but requires substantial legislative action. The latter is a more implementable solution that does not require extensive statutory reform but operates by affecting the economic incentives of private mortgage lenders.

### **1. A System of Tradable Leverage Licenses**

To demonstrate how substantial legislative reform could permit direct regulation of the distribution of home equity, in this Section we propose a system of tradable leverage licenses. In contrast to the foregoing borrower and lender incentives, a system of tradable leverage licenses would cap the number of high leverage loans to the quantities pre-specified by regulators. By requiring that lenders obtain a license to originate mortgage loans, regulators can directly influence the distribution of equity at both the national level and in specific jurisdictions. Under our proposal, licenses would be contingent on three variables: year, place and leverage. As a precondition to

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<sup>131</sup> Some of the QRM requirements – such as the 3% cap on points and fees – might be retained, however, to paternalistically protect borrowers from being taken advantage of by loan originators.

originating a high-leverage mortgage, a lender would need to obtain licenses for the jurisdiction (from the government or the tradable secondary-market) for the years and the minimum levels of equity contemplated by the loan repayment schedule. For concreteness, imagine a system which required licenses for four equity ranges:

**Table 6: Example Distribution of Leverage Licenses**

Equity Range	Quantity of Licenses*
Less than 5%	1%
Less than 10%	5%
Less than 20%	20%
Less than 30%	30%

\*Quantity expressed as a percentage of residential homes in jurisdiction.

A lender who wanted to originate a zero-down payment, 30-year fixed 8% rate mortgage would need to obtain jurisdiction-specific licenses at the time of origination for the future years in which the mortgage would fall into specified equity ranges. In this specific example, the lender would need to obtain “Less than 5%” licenses for the first 5 years, and “Less than 10%” licenses for years 6-9, “Less than 20%” licenses for years 10-14, and “Less than 30%” licenses for years 15-18.<sup>132</sup>

By requiring the lender to obtain a series of year-specific and jurisdiction-specific licenses, regulators could help assure that at any moment of time, there are no more than a certain percentage of high-leverage loans in a particular housing market. Year-specific licenses also allow market participants more flexibility in offering different repayment schedules. Mortgages with larger down payments or shorter amortization periods would require licenses for fewer years. On the other hand, interest-only mortgages or adjustable rate mortgages with the possibility of large increases in mortgage payments would tend to require more licenses as the loan potentially lingers at higher levels of equity for more years.<sup>133</sup> In a world with a limited quantity of year-specific leverage licenses, regulators need not prohibit 0% down payment interest-only loans in order to manage systemic risk. They only need limit the number of such high default-risk loans to an amount that the specific housing market can be expected to absorb.

Our licensing proposal only regulates the expected level of leverage that would obtain if the underlying home security remains at the level it is at the time of origination. Negative shocks to housing prices can produce increased leverage notwithstanding lender compliance with ex ante licensing. For example, a mortgage which originated with a 5% down payment would not need “less than 5%” licenses for any repayment year. But after the mortgage issued, a decrease in housing prices could cause the homeowner to have in fact less than 5% equity in her house. Like our earlier proposed regulations of DTI (which assumed constant debtor income), the leverage licenses regulations assume

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<sup>132</sup> In contrast, if the borrower made a 10% down payment and borrowed the remainder with a 30-year fixed 8% mortgage, the lender would need to obtain no “Less than 5%” or “Less than 10%” licenses, and instead would need to obtain “Less than 20%” licenses for years 1-10, and “Less than 30%” licenses for years 11-15.

<sup>133</sup> For example, a 30-year adjustable rate mortgage that allowed the interest to increase to a 12 % APR would require “Less than 5%” licenses for the first 9 years of the loan.

constant home values. Our licensing proposal accordingly does eliminate system risk in the housing market, but it is sufficient to assure that homeowners have a more resilient distribution of equity going into a housing price downturn.

Going beyond the nudges of the last two Sections and directly regulating the maximum number of high leverage loans allows regulators to streamline other aspects of the regulation. Our previous buyer and lender incentive proposals regulated aspects of the transactions that might force borrowers in mid-stream to return to the lending market to refinance their mortgages – because of a balloon or possibility of payments being reset to unsustainable DTIs. As argued above, clusters of mortgages with these balloons and resets provisions exacerbated the impact of normal fluctuations in housing prices, because lenders are unlikely to refinance loans that have less home values less than the outstanding principal. We limited our qualifying mortgage definitions in both our tax-deduction and risk-retention proposals to eliminate this underwater-refinancing risk. But this refinancing risk is less of a concern in a world of leverage licensing because there would be a limited number of underwater mortgages. To take an extreme example, imagine that 100% of homes have a substantial balloon payment that is due December 31, 2020 and that homeowners are maximally leveraged going in 2019 taking full advantage of allowable licenses.<sup>134</sup> And imagine that during the course of 2019 that housing prices fell by 8% over the course of the year. When the balloon payments become due, the lending market would be unlikely to lend to borrowers who had less than 8% equity at the beginning of 2019 – but there will only be 6% of homeowners who will fall into this category. Instead of eliminating terms that might require refinancing, the leverage licensing works by limiting the number of underwater refinancers.<sup>135</sup> The underwater mortgagors who could not refinance would (as in the recent crisis) be forced to default on their original loans. But the scope of defaults by design would be limited to a number that could more likely be absorbed by the market without inducing a further deterioration in the housing price.

As these licenses are tradable, a secondary market would permit their acquisition by the bidders who value them most. Because licenses would be separately obtained by lenders, the licensing requirement would not complicate borrowers' decision making. Regulators would monitor the distribution of home equity through a reporting system and could issue additional licenses or buy back licenses in the open market to provide needed liquidity or to prevent low-equity clustering. Licenses can also further social policy goals, such as directing low-equity loans to minorities or needy communities. Finally, limited exemptions from the licensing requirement should be considered, along with methods of enforcement and the best way to transition existing mortgages into the new regime.

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<sup>134</sup> Thus, 1% of homeowners would have no equity in their homes. 5% of homeowners would have 5% equity in their homes. 20% of homeowners would have 10% equity in their homes and 30% would have 20% equity in their homes.

<sup>135</sup> Even homeowners with positive equity may – after an 8% drop in housing prices – have to refinance with more leverage which would require more additional licenses. In the foregoing example, 20% of homeowners might have had 10% equity (see previous note) before the 8% drop in housing prices, implying that they would need to refinance with just 2% down. The percentage of high leverage refinancers might outstrip the number of available licenses. This example suggests circumstances where regulators in the midst of a downturn would need to make expand the number of licenses available (or create refinance licensing exceptions) to allow such refinancing to occur.

## 1. *Why Licensing? The Advantages of Tradable Permits*

The starting point for this analysis is the recognition that from an economic perspective, low-equity clustering constitutes a negative externality because its social costs are not borne by the parties responsible for generating them.<sup>136</sup> Lenders who originate loans at low down-payment levels enjoy the benefits of increased output but do not bear the consequences of the systemic instability imposed on society as a whole. While no literature has directly addressed the social cost of low-equity clustering from an economic policy perspective,<sup>137</sup> much has been written on a highly analogous problem: regulating carbon emissions and other environmental hazards. There are many similarities between the two fields, but the essential commonality is that both activities serve a valuable social purpose at certain limited quantities.<sup>138</sup> Indeed, as discussed *supra*, systemic stability in the housing market would be improved by maintaining certain proportions of loans at differing levels of low equity while preserving sufficient “circuit breakers” to prevent a domino effect of cascading falling prices.<sup>139</sup> Similarly, emissions are essential to industrial production and thus socially valuable at limited quantities. The regulatory challenge posed by both emissions and low-equity lending is to ensure that the market produces a reasonable *quantity* of output, not to ban the activity entirely. 100,000 zero-equity mortgages scattered throughout the United States would not substantially exacerbate systemic risk. The problem of the last crisis is that millions of these loans were concentrated in a few geographical markets.<sup>140</sup>

There have been several regulatory approaches to controlling environmentally harmful pollutants and emissions over the past century, which can shed light on the best method to regulate low-equity lending. The traditional regulatory model, often termed “command-and-control,” sought to place the regulator in the role of directly instructing private actors as to acceptable and unacceptable activity.<sup>141</sup> In the words of one advocate of this model in the context of environmental pollution, command-and-control means that “the government ‘commands’ pollution reductions (e.g., by setting emissions standards) and ‘controls’ how these reductions are achieved (e.g., through the installation of specific pollution-control technologies).”<sup>142</sup> In the context of low-equity clustering, a command-

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<sup>136</sup> For a seminal discussion of externalities in the economic literature, see Ronald H. Coase, *The Problem of Social Cost*, 3 J. LAW & ECON. 1 (1960).

<sup>137</sup> Some literature has addressed the danger of systemic risk posed by having so many borrowers with underwater mortgages by calling for principal modification programs. *E.g.*, Manuel S. Santos, *How Home Loan Modification Through the 60/40 Plan Can Save the Housing Sector*, 94 FED. RESERVE BANK OF ST. LOUIS. REV. 103 (2012); Gregory S. Crespi, *The Trillion Dollar Problem of Underwater Homeowners: Avoiding a New Surge of Foreclosures by Encouraging Principal-Reducing Loan Modifications*, 51 SANTA CLARA L. REV. 153 (2011); Eric A. Posner & Luigi Zingales, *A Loan Modification Approach to the Housing Crisis*, 11 AM. L. & ECON. REV. 575 (2009).

<sup>138</sup> Prohibiting low-equity loans below a certain fixed down payment level would have devastating social consequences. *See* discussion *supra* Section IV.C (criticizing the Dodd-Frank qualified residential mortgage standard for attempting to encourage fixed 20% down payment mortgage loans).

<sup>139</sup> *See* discussion *supra* Section I.B.

<sup>140</sup> *See, e.g.*, table *infra* at 47.

<sup>141</sup> For a defense of command-and-control systems as worth considering in environmental regulation despite their unpopularity, see Daniel H. Cole & Peter Z. Grossman, *When Is Command-and-Control Efficient? Institutions, Technology, and the Comparative Efficiency of Alternative Regulatory Regimes for Environmental Protection*, 1999 WIS. L. REV. 887.

<sup>142</sup> *Id.* at 887.

and-control approach might involve setting lender-specific permissible equity levels and attempting to ensure that lenders comply with these standards, perhaps by requiring approval before individual loans are made or mandating reports of loan and equity levels on a per-lender basis. As discussed above,<sup>143</sup> some mandates might exacerbate the clustering problem by inducing a substantial segment of borrowers to pool at a minimum-required down payment percentage. There are numerous problems with a command-and-control approach, and it came under withering criticism throughout the second half of the 20<sup>th</sup> century.<sup>144</sup>

In response to the inefficiency of the command-and-control model, economists advocated the adoption of so-called “market” systems which achieved environmental regulatory goals by instituting economic incentives for private actors.<sup>145</sup> Today, these approaches are widely accepted by economists as superior to the command-and-control model because these private incentives ensure that goods flow to their highest-valued use. For example, in the context of low-equity lending, a market-based system would permit lenders to pay a price to lend at certain equity levels, thus permitting those lenders who are particularly suited at providing low equity to serve customers at the lowest cost and most efficient output.

Nonetheless, there has been considerable debate over which of the two primary forms of market-based regulation of negative externalities is desirable: Pigovian taxes or tradable permits.<sup>146</sup> A Pigovian tax is a tax imposed on the production of the good responsible for the negative social externality so as to induce the producer to reduce

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<sup>143</sup> See discussion *supra* p. 31.

<sup>144</sup> See, e.g., Richard B. Stewart, *United States Environmental Regulation: A Failing Paradigm*, 15 J. L. & COM. 585, 586 (1995); Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1334 (1985).

<sup>145</sup> Volumes have been written on the economic approach to environmental regulation. An influential survey of the initial empirical literature is found in T.H. Tietenberg, *Economic Instruments for Environmental Regulation*, 6 OXFORD REV. ECON. POL'Y 17 (1990) (“By changing the incentives an individual agent faces, the best private choice can be made to coincide with the best social choice. Rather than relying on the regulatory authority to identify the best course of action, the individual agent can use his or her typically superior information to select the best means of meeting an assigned emission reduction responsibility.”).

<sup>146</sup> For a brief overview of the leading views on this debate from an economic policy perspective, see Robert W. Hahn, *Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor's Orders*, 3 J. ECON PERSPECTIVES 95 (1989). Economic literature traditionally favored Pigovian taxes as the remedy of choice for negative externalities, particularly in the context of environmental regulation. See, e.g., ARTHUR PIGOU, *THE ECONOMICS OF WELFARE* (1932); William J. Baumol & Wallace E. Oates, *The Use of Standards and Prices for Protection of the Environment*, 73 SWEDISH J. ECON 42 (1971). Later scholars, however, emphasized the possibility of employing tradable permits, or quantity limitations that may be exchanged on a secondary market between producers. E.g., J. H. DALES, *POLLUTION, PROPERTY AND PRICES* (1968) (suggesting the notion of tradable “pollution rights”). A highly influential piece arguing in favor of the equality of tradable permits, if not outright superiority in certain circumstances, is Martin L. Weitzman, *Prices vs. Quantities*, 41 REV. ECON. STUD. 477 (1974). See also Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523 (1984) (discussing the economic conception of law as a “set of official prices”). But see Robert N. Stavins, *Transaction Costs and Tradeable Permits*, 29 J. ENVIRON. ECON. & MGMT. 133 (1995) (arguing that the potential transaction costs of a tradable permit system are non-trivial and that it is essential to take these into consideration when comparing tradable permit models to more conventional approaches).

output to the socially optimal quantity.<sup>147</sup> A tradable permit, on the other hand, directly regulates the overall industry-wide output of the good, but permits producers to allocate the desired quantity levels among themselves by trading on a secondary market.<sup>148</sup> In a highly influential article, Marty Weitzman famously showed that there is no *inherent* advantage to either price or quantity controls because “in principle exactly the same information is needed to correctly specify either.”<sup>149</sup> However, he emphasized, there might be practical limitations that make tradable permits better than taxes in a given context: “[I]f . . . it is difficult or expensive to monitor output on a continuous scale but relatively cheap to perform a pass-fail litmus type test on whether a given output level has been attained or not, the price mode may be greatly disadvantaged from the start.”<sup>150</sup>

This is precisely the case with regulating low-equity lending. It is very difficult to continuously monitor new loan originations, but much easier to examine whether the desired level of lending at various equity levels has been attained. Indeed, the entire notion of regulating the *proportion* of homeowners at various levels of equity is based on the notion that *quantity* is what fundamentally matters, as well as what is most easily measured. In contrast, Pigouvian taxes expose regulators to the risk that the quantity of takers will be unexpectedly high. If regulators set the Pigouvian price of borrowing with no-equity at say \$2000, there would be some risk that millions of borrowers would pay the price, and the economy would again be exposed to the needless systemic risk caused by low-equity bunching.<sup>151</sup>

While a licensing regime does impose the administrative cost of monitoring the distribution of home equity and adjusting the issuance of new licenses to achieve desired system-wide equity goals, a tax-based system would require this entire apparatus in addition to a sophisticated calculation as to the proper taxation amount that would bring about the desired quantity level. Even if such a tax could be computed accurately, a licensing approach is much more direct and saves considerable expense. Indeed, tradable permits have been proposed in a variety of similar contexts.<sup>152</sup> Licenses are the best mechanism to regulate the distribution of home equity and combat low-equity clustering.

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<sup>147</sup> See generally PIGOU, *supra* note 146. Pigouvian taxes are named after Pigou who was the first to suggest these taxes as a means to reduce output to the desired level.

<sup>148</sup> See generally J. H. DALES, *POLLUTION, PROPERTY AND PRICES* (1968).

<sup>149</sup> Weitzman, *supra* note 146, at 478. But see Robert Cooter, *Prices and Sanctions*, 84 COLUM. L. REV. 1523, 1531 (1984) (arguing that “behavior is more elastic with respect to prices than sanctions.”).

<sup>150</sup> *Id.* at 479 n.3. But see Louis Kaplow & Steven Shavell, *On the Superiority of Corrective Taxes to Quantity Regulation*, 4 AM. L. & ECON. REV. 1 (2002) (arguing that taxes are superior to tradable permits). Kaplow & Shavell, however, emphasize that nonlinear corrective taxes are particularly suited for “the case of externalities generated by a single firm.” *Id.* at 14. Yet mortgage lending is conducted by numerous loan originators, suggesting that Kaplow & Shavell’s argument is less convincing in this context.

<sup>151</sup> An intermediate form of regulation with attributes of both price and quantity regulation would be to have pigouvian taxes that increase with quantity. See generally Ian Ayres, *Narrow Tailoring*, 43 UCLA L. REV. 1781 (1996).

<sup>152</sup> E.g., Ian Ayres & Gideon Parchomovsky, *Tradable Patent Rights*, 60 STANFORD L. REV. 863 (2007); Kenneth M. Chomitz, *Transferable Development Rights and Forest Protection: An Exploratory Analysis*, 27 INT’L REGIONAL SCI. REV. 348 (2004); Douglas MacMillan, *Tradeable Hunting Obligations—A New Approach to Regulating Red Deer Numbers in the Scottish Highlands?*, 71 J. ENVTL. MGMT. 261 (2004); David Berry, *The Market for Tradable Renewable Energy Credits*, 42 ECOLOGICAL ECON. 369 (2002); Alan Randall & Michael A. Taylor, *Incentive-Based Solutions to Agricultural Environmental Problems: Recent Developments in Theory and Practice*, 32 J. AGRICULTURE & APPLIED ECON. 221 (2000); Ricardo

Under our “cap and trade” regime, regulators would cap the maximum amount and distribution of leverage in the system and then trade in the license market would determine the price of purchasing leverage. An advantage of the marketized system is not only that the low-equity loans flow to the highest valuers, but the cost of acquiring the licenses (which ultimately will be borne by borrowers) gives borrowers better incentives to borrow with repayment terms that promote systemic stability. Leverage licensing give borrowers better micro-contracting incentives because borrowing with larger down payments or faster amortization would avoid purchasing the most quantity-constrained licenses.

## 2. *Toward a New Regulatory Regime*

The regulatory regime proposed in this Article begins with subjecting the origination of residential mortgages,<sup>153</sup> whether for an initial purchase or refinancing transaction, to a mandatory licensing requirement. Similar to existing Truth-in-Lending disclosure laws,<sup>154</sup> this obligation would apply to mortgage originators, i.e. the counterparty signing the loan documents with the borrower. The legal mechanism for instituting the licensing requirement would be to enact a law mandating that for any mortgage or deed of trust securing a loan agreement for residential use a lender must obtain in advance of origination leverage-specific and jurisdiction-specific licenses for the years in which the scheduled minimum amortization would produce equity percentages that fall within one of the four prescribed ranges: less than 5%; less than 10% (and greater than or equal to 5%); less than 20% (and greater than or equal to 10%); and, less than 30% (and greater than or equal to 20%). Lenders’ ownership of licenses would be registered in public database and a non-public part of that database would also indicate whether the license was in use by identifying the address of the residence for which the license was used.<sup>155</sup> Ideally, the mortgage deed would also contain the reference number of the requisite licenses in order to notify regulators and other third parties that the loan agreement is authorized. This deed disclosure would be particularly beneficial if contractual non-enforceability was utilized to ensure compliance with the licensing

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Bayon, *A Bull Market in...Woodpeckers?*, MILKEN INST. REV., Mar. 2002, at 30, available at [http://www.milkeninstitute.org/publications/review/2002\\_3/30\\_39.pdf](http://www.milkeninstitute.org/publications/review/2002_3/30_39.pdf).

<sup>153</sup> It is possible to apply the licensing regime to commercial loans as well. There is nothing in this framework that uniquely applies to residential mortgages. However, commercial buyers tend to be more sophisticated, and down payment requirements are usually much higher as a matter of course. See, e.g., BUYERZONE, *Commercial Mortgages Buyers’ Guide*, YAHOO! SMALL BUSINESS ADVISOR, <http://smallbusiness.yahoo.com/advisor/commercial-mortgages-buyers-guide-171255334.html> (“Commercial lenders generally require 20% to 30% down payments.”). Accordingly, it is less clear that the benefits from applying the licensing framework to commercial loans would outweigh the costs.

<sup>154</sup> 15 U.S.C. § 1604 (mandating certain disclosures for mortgage loan transactions); see also 15 C.F.R. pt. 226.5 (implementing the disclosure requirements of the Truth-in-Lending Act).

<sup>155</sup> The identity of license holders and the number of licenses in use would be public, but the identity of specific housing transactions using the license would be non-public to preserve homeowner privacy about the specifics of their finances.

regime<sup>156</sup> because third parties could rely on the absence of an authenticated licensing number in mortgage deed as evidence of its non-enforceability.<sup>157</sup>

While we favor a national regulatory system enacted by Congress,<sup>158</sup> such an approach raises a question of whether the licensing regime restraining the ability of actors to engage in ordinary contracting oversteps the reach of congressional power under the Commerce Clause. In many cases, no constitutional problem would arise with a federal approach because many loans are originated across state lines. However, restricting the applicability of the licensing regime to interstate lending might have the unintended consequence of encouraging purely intrastate mortgage transactions that would remain outside the scope of such a law.

The Commerce Clause, even after *Lopez* and its progeny,<sup>159</sup> is unlikely however to prevent a federal licensing requirement. Even though the fundamental legal instrument in question—secured liens—is a product of state law, even purely intrastate mortgage transactions may affect the intrastate housing market. Indeed, federal truth-in-lending law and HMDA regulations have routinely been upheld as appropriate use of federal power, and the ongoing financial crisis vividly demonstrates that housing instability in individual states can produce nationwide impacts.<sup>160</sup>

The notion of requiring licenses at the point of mortgage origination could lead to another objection, namely that licensing would be far more effective if imposed at the point of securitization. Since securitization in the secondary market drives the demand for mortgage origination, it might be possible to impose the licensing requirement upon securitizers. Indeed, as noted *supra*, since securitization generally occurs across state lines, there might be far fewer constitutional questions implicated by such an approach. Nonetheless, there are several practical problems with imposing the licensing requirement at the securitization level. It is the actual act of initiating—originating—the

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<sup>156</sup> See discussion *infra* p. 49.

<sup>157</sup> Of course, this raises issues with the transition period. Third parties would presumably be aware that the licensing requirement applies only to loans issued after a certain date, such that the absence of a valid license number on a deed prior to that date would not have any legal implications.

<sup>158</sup> The Financial Stability Oversight Council (FSOC) may recommend the licensing scheme to the existing banking and financial regulators under its power to “identify gaps in regulation that could pose risks to the financial stability of the United States”, 12 U.S.C. § 5322(a)(2)(G), but it lacks the power to directly impose a licensing requirement for mortgage origination. Similarly, the Consumer Financial Protection Bureau lacks authority to institute this system because 12 U.S.C. § 5511 specifically enumerates its powers, which do not include imposing a licensing requirement on mortgage lending.

<sup>159</sup> *United States v. Lopez*, 14 U.S. 549 (1995). In the recent decision in *Nat'l Fed. of Indep. Bus. v. Sebelius*, slip op. (Jun. 28, 2012), available at <http://www.supremecourt.gov/opinions/11pdf/11-393c3a2.pdf>, the Court reaffirmed the continued applicability of *Lopez* as well as *Wickard v. Filburn*, 317 U.S. 111 (1942), which held that Congress’s power under the Commerce Clause extends to activities which affect interstate commerce in the aggregate. The Court’s rejection of the Commerce Clause’s ability to compel individuals to engage in commerce, see *Sebelius*, slip op. at \*27, has no bearing on the constitutionality of regulating mortgage transactions initiated by private actors.

<sup>160</sup> Alternatively, compliance with the licensing regime might be implemented as a condition for receiving federal benefits of some kind such as registration as a federal bank or even participation in an interstate market. For example, Congress could mandate that mortgage securities may not be sold across state lines unless the underlying mortgages were licensed as required by the licensing regime. If all else fails, Congress might institute a penalty for holding a non-compliant mortgage, akin to the Affordable Care Act’s individual responsibility penalty recently upheld by the Court under the Taxing Power. See *Sebelius*, slip op. at \*39.



mortgage loan that shapes the distribution of equity in a given region or nationwide. Imposing a requirement that securitizers obtain a license before purchasing a loan from an originator would simply raise the cost of securitization and thus merely encourage originators to hold rather than securitize such loans. This would not substantially affect systemic stability because non-securitized loans could still be offered at any equity level. Moreover, it would be much more difficult to evaluate whether a given loan was properly licensed because the derivative securities created from a given mortgage may be repackaged and widely dispersed among investors, making it hard for regulators to identify whether the initial purchase was licensed. More generally, regulating the *resale* of a mortgage is far more difficult than restricting the original transaction which initiated the loan.

### 3. *Setting the Size of the Caps and Defining the Jurisdictions*

To implement a licensing system, it is necessary to tailor several dimensions of the licenses. The foregoing example imagined specific leverage ranges and arbitrarily set the number of licenses as a proportion of the number of residential homes. However, there is nothing magical about either the specific leverage ranges or the cap sizes laid out above in Table 2. Regulators would ideally set the number of licenses that qualified for particular leverage ranges by considering the risk of particular price downturns, the likelihood that a price downturn would induce mortgage defaults, and the ability of the market to absorb defaults if affected homes in a particular equity range were unleashed by foreclosure sales on the market. In setting the number of licenses for different levels of leverage, regulators should trade off the macro-economic benefits of fewer licenses with the micro-economic costs on affected homeowners. The foregoing caps imagined a monotonically increasing number of licenses for higher levels of equity, but regulators might also consider a “circuit breaker” approach that issued fewer licenses for intermediate levels of leverage.<sup>161</sup>

The number of outstanding licenses can also be updated by ongoing regulatory interventions in the licensing market. Regulators issue additional licenses when they see untoward shortages that unduly impede transactions that would not undermine market stability. Or regulators who fear that the housing market is becoming overheated might usefully limit high-leverage speculation by buying back certain licenses in open market transactions. Robert Shiller has analogously suggested that the leverage requirements for buying stock on margin be increased when P/E ratios suggest increased risk of a stock bubble.<sup>162</sup> Regulators who see the price/rental ratio increasing might similarly intervene to reduce the number of leverage licenses.

The licensing framework should thus include an equity monitoring component that would require mortgage servicers to report both the outstanding principal balance remaining as well as the estimated current value of the home -- using Zillow-like automated appraisal technology based on comparable sales. Once implemented, regulators could quickly obtain a workable estimate about the distribution of

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<sup>161</sup> For example, an equilibrium with relatively few mortgages with equity between, say 3% and 6% might provide a circuit breaker to impede a 5% downturn in pricing from inducing a cascade of successive defaults and price downturns, unraveling with fewer affected mortgages.

<sup>162</sup> Robert Shiller, *Margin Calls: Should the Fed Step In?*, WALL ST. JOURNAL (Apr. 10, 2000), available at [http://cowles.econ.yale.edu/news/shiller/rjs\\_00-04-10\\_wsj\\_margin.htm](http://cowles.econ.yale.edu/news/shiller/rjs_00-04-10_wsj_margin.htm) (last visited July 14, 2012).

homeowner’s equity – based not just on the licenses outstanding but on-the-ground equity which can be impacted by prepayments and changes in pricing values. Aggregate information on the distribution of equity can importantly inform regulators decisions on whether and how to intervene in the licensing market.

A license system would also need to define the geographic area over which particular licenses could be used. Again an important goal would be to define the areas with an eye toward the amounts of probable default that particular markets could tolerate. Presumptively, tailoring the license coverage to broad areas in which houses broadly compete on price and other factors would capture the impact of foreclosure-induced selling on housing prices. Defining the geographic market too broadly (say, at the national level) would allow a cluster of highly leveraged homes in a particular local market that might unnecessarily set up that market for economic dislocation. And the recent crisis has shown that dislocation in specific states might result in untoward national impacts. Accordingly, we think that licenses should at least be limited to particular states and might even be limited to “Metropolitan Statistical Areas.”<sup>163</sup>

Examining the distribution of equity at the local, state, or regional level might enable regulators to better respond to cultural, demographic, and other socioeconomic differences between borrowers in different regions. Some regions, for example, might view negative equity-induced default as morally wrong, thus suggesting that low-equity clustering might be less of a concern. Ongoing adjustment of the license quantities would also allow regulators to respond to mal-distributions of equity in particular areas. For example, in the first quarter of 2011, among the eleven states analyzed above exhibited the following distribution of equity in their residential homes.<sup>164</sup>

**Table 7: Distribution of Equity in 2011q1**

State	<0%	0%-3%	3%-6%	6%-9%	9%-12%	12%-15%	15%-20%	20%-50%	50%-100%
AZ	36%	0%	0%	0%	2%	0%	8%	25%	29%
CA	13%	3%	1%	2%	2%	3%	2%	20%	54%
FL	18%	1%	2%	2%	1%	4%	2%	24%	45%
IL	15%	4%	2%	4%	4%	1%	2%	25%	44%
MI	26%	3%	6%	5%	3%	5%	6%	14%	31%
NJ	7%	1%	0%	0%	4%	4%	5%	16%	64%
NV	57%	0%	0%	0%	4%	0%	4%	7%	29%
NY	9%	0%	1%	3%	1%	0%	4%	24%	58%
OH	15%	2%	3%	5%	3%	0%	0%	28%	44%
PA	7%	0%	1%	1%	5%	2%	7%	35%	42%
TX	10%	5%	4%	6%	4%	4%	4%	28%	35%

<sup>163</sup> Metropolitan Statistical Areas are “geographic entities defined by the Office of Management and Budget (OMB) for use by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics.” *Metropolitan and Micropolitan Statistical Areas Main*, U.S. CENSUS BUREAU, <http://www.census.gov/population/metro/> (last visited July 14, 2012).

<sup>164</sup> The source of this data is described in our online appendix to this Article. Ian Ayres & Joshua Mitts, *Online Appendix to Three Proposals for Regulating the Distribution of Home Equity*, available at <http://islandia.law.yale.edu/ayres/onlineappendix.pdf>.

Note the wide disparities in the proportion of houses with negative equity. More than half of Nevada homes (and more than a third of Arizona homes) were financially underwater, whereas only 7% of New Jersey and Pennsylvania homes were in this kind of distress. Regulators might respond by issuing fewer leverage licenses in distressed areas (or possibly by allowing temporary licensing exemptions for transactions that replaced negative equity mortgages with modified mortgages which were less likely to default).

Moreover, the cascading effect of default and falling prices might be much more pronounced at a neighborhood level, suggesting that regulating the distribution of equity at even the sub-MSA level might be most effective when anticipating the potential consequences of low-equity clustering. More localized licenses might also allow regulators to respond to the impact of licensing on minorities and lower-income borrowers. For example, regulators might create a still limited, but expanded number of licenses for houses located the existing list of communities identified as in need of assistance under the Community Reinvestment Act (CRA).<sup>165</sup> The primary purpose of the CRA is to ensure that depository institutions meet the needs of their local communities, and criteria have been identified by the federal agencies implementing the CRA to determine urban areas that are considered underserved.<sup>166</sup> For nonmetropolitan areas, the agencies may analogously establish licenses for a individual regions that are distressed or underserved.<sup>167</sup> For example, the category of distressed regions includes those affected by poverty, unemployment, or substantial population loss.<sup>168</sup> The category of underserved regions includes those in remote rural locations.<sup>169</sup> The agencies also track whether a region was designated as distressed or underserved in the prior year.<sup>170</sup> These categories could serve as useful criteria for establishing the number of area-specific licenses to balance the tension between enhancing macroeconomic stability and making the dream of homeownership available to creditworthy minorities and lower-income borrowers who may lack the wealth to produce a large initial down payment.

#### 4. *Transition and Enforcement*

In steady state, one can easily imagine a system in which the license regulator would periodically auction licenses for the specific geographic areas, specific equity

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<sup>165</sup> See generally 12 U.S.C. § 2901; Federal Financial Institutions Examination Council, *Background & Purpose*, COMMUNITY REINVESTMENT ACT, <http://www.ffiec.gov/cra/history.htm> (last visited 3/16/2012) (“The Community Reinvestment Act is intended to encourage depository institutions to help meet the credit needs of the communities in which they operate, including low- and moderate-income neighborhoods, consistent with safe and sound banking operations.”).

<sup>166</sup> See, e.g., Federal Financial Institutions Examination Council, *FFIEC Census Reports*, <http://www.ffiec.gov/census/censusInfo.aspx> (last visited 3/16/2012) (describing the census criteria employed by regulators when implementing depository institutions’ obligations under the CRA).

<sup>167</sup> E.g., FEDERAL FINANCIAL INSTITUTIONS EXAMINATION COUNCIL, 2011 LIST OF MIDDLE-INCOME NONMETROPOLITAN DISTRESSED OR UNDERSERVED GEOGRAPHIES (2011), available at <http://www.ffiec.gov/cra/pdf/2011distressedorunderservedtracts.pdf> (last visited Mar. 16, 2012).

<sup>168</sup> For a detailed description of the methodology employed to calculate these categories, see FEDERAL FINANCIAL INSTITUTIONS EXAMINATION COUNCIL, 2011 DISTRESSED OR UNDERSERVED NONMETROPOLITAN MIDDLE-INCOME GEOGRAPHIES SOURCE INFORMATION AND METHODOLOGY (2011), available at <http://www.ffiec.gov/cra/pdf/sourcelist2011.pdf> (last visited Mar. 16, 2012).

<sup>169</sup> See *id.*

<sup>170</sup> See FEDERAL FINANCIAL INSTITUTIONS EXAMINATION COUNCIL, *supra* note 133.

percentages and specific years. As a practical matter lenders would not need licenses for more than 30 years in advance (and for amortizing loans originators wouldn't need to secure licenses for more than 15 years in advance). Any investor might purchase a license in contemplation of reselling in the future to an originator at reasonable degrees of amortization. But difficult questions arise about how to transition to this regime in a world where a large stock of homeowners will exist at the time of adoption who previously financed their homes without leverage licenses. One transition approach would issue free-of-charge licenses for all existing mortgages for current and future years according to the individual homeowner's current amount of equity and scheduled repayments. An advantage of such a one-time distribution is that it would give existing homeowners with high-leverage an economic incentive to increase their leverage. This is because a homeowner with a high-leverage mortgage could resell licenses granted for future years by refinancing the loan on less leveraged terms. For states like Arizona where the existing stock of negative equity mortgages radically exceed the prudent level, agency offers to buy backs licenses that were distributed to existing homeowners would provide an additional mechanism to incentivize homeowners to modify and refinance their homes in ways that reduced systemic market risk.

The question of how to enforce the licensing regime is particularly tricky. The most traditional approach would simply impose penalties and sanctions for non-compliance. Such a system might render the licensing system effective with respect to large banks and institutional lenders who would likely comply, but could have the unintended consequence of driving lending activity "underground" and further out of regulatory oversight. This would require a policing apparatus which might be considerably expensive because of the localized nature of mortgage lending. Moreover, it is unclear who would be subject to such top-down enforcement. As mortgage documents are typically presented to consumers by mortgage brokers, they would be a natural target for compliance with the licensing requirement. However, there are hundreds of thousands of mortgage brokers, possibly making the cost of enforcement prohibitively high.<sup>171</sup> Enforcing the licensing regime among loan originators might be much cheaper, but could lead to customers signing unlicensed mortgage documents and brokers merely relying on compliance at the point of loan origination.

An alternative approach that might be more cost-effective is to utilize a system of private enforcement by rendering the mortgage lien unenforceable and the associated loan agreement voidable. This would provide lenders with a strong incentive for compliance with the licensing regime, and shift the burden of policing compliance to borrowers. There are two primary drawbacks to this approach, however. The first is that the prospect of unenforceability might lead to a dramatic increase in litigation as borrowers facing foreclosure attempt to show that the mortgage was unlicensed. These higher litigation costs would likely be passed on to borrowers in the form of higher interest rates or reduced lending. Second, there might be substantial legal hurdles to rendering unlicensed mortgages unenforceable. Contractual obligations and property rights are governed by state law, and it is unclear that a federal law seeking to improve systemic stability by abrogating state contractual and property rights would be

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<sup>171</sup> See John Gittelsohn, *U.S. Mortgage Brokers Get Criminal Check, Tests Under New Rules*, BLOOMBERG NEWS (July 21, 2010) (listing the total number of mortgage brokers nationwide as 246,900 as of May 2010).

constitutional, especially if both counterparties reside within the same state.<sup>172</sup> Moreover, enacting the unenforceability provisions at the state level might be extremely difficult to accomplish as a practical matter. Any nonconforming states would quickly become a haven for lenders seeking to escape the licensing burden, possibly rendering it impotent as a mechanism to regulate the market as a whole.<sup>173</sup>

## 2. Varying Conforming Mortgages for Fannie Mae and Freddie Mac

In this Section, we propose an alternative approach to regulating the distribution of home equity that does not require the type of sweeping statutory reform that would be necessary to implement the licensing scheme. The government-sponsored enterprises (“GSEs”)—the Federal National Mortgage Association (“Fannie Mae”) and the Federal Home Loan Mortgage Corporation (“Freddie Mac”)—perform a central role in the U.S. mortgage market. Instituting a new paradigm of variation into the definition of “conforming mortgage” utilized by the GSEs would permit regulating the distribution of home equity without directly restricting private contracting. This proposal would give the GSEs an important role in preserving macroprudential financial stability while only requiring minimal statutory reform.

### 1. *The Role of the GSEs in the U.S. Mortgage Market*

Fannie Mae and Freddie Mac fulfill an important role in the mortgage market by purchasing and guaranteeing mortgages that are *not* insured or guaranteed directly by the U.S. government. While government-insured loans such as the FHA mortgages discussed in Subsection III.A.2 are attractive to borrowers because their availability does not depend on macroeconomic credit conditions, this explicit government guarantee comes at a price: the Department of Housing and Urban Development imposes a surcharge on FHA loans in the form of an up-front and annual mortgage insurance premium of 1.75% and 1.2-1.5% of the base loan amount, respectively.<sup>174</sup> In the absence of extraordinary market conditions, this surcharge renders government-backed loans more expensive for borrowers than mortgages obtained in the private market.

Even though private mortgages lack this surcharge for borrowers, private lenders are likely to impose more stringent underwriting criteria or higher interest rates than the FHA in the absence of any additional government support because they lack an incentive to internalize the social benefit of widespread homeownership. Accordingly, if the mortgage market consisted solely of private lenders and government-insured loans, many creditworthy borrowers who fail to qualify at reasonable rates under stringent self-interested private lending criteria would be forced to obtain a mortgage through the government-insured programs with the high fixed surcharges that are unnecessary in light of these borrowers’ relatively low credit risk. The GSEs step into this gap by purchasing, guaranteeing, and repackaging private loans into mortgage-backed securities that are resold on the secondary market to investors. This provides crucial liquidity and

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<sup>172</sup> See discussion *supra* Subsection III.D.2

<sup>173</sup> On the other hand, a regional approach might still work within those states which are willing to comply.

<sup>174</sup> U.S. DEP’T OF HOUSING & URBAN DEV., SINGLE FAMILY MORTGAGE INSURANCE: ANNUAL AND UP-FRONT MORTGAGE INSURANCE PREMIUM – CHANGES (Mar. 6, 2012), *available at* <http://portal.hud.gov/hudportal/documents/huddoc?id=12-04ml.pdf>.

effectively functions as a partial subsidy for originating mortgages to the vast majority of borrowers whose credit profile would justify reasonable interest rates without the surcharge accompanying explicit government-insured loans.

Fannie Mae and Freddie Mac offer to buy a variety of specific “products”—i.e., collections of acceptable terms for mortgages that they are willing to purchase from lenders— that reflect market conditions and borrower demand.<sup>175</sup> But the GSEs are governed by a statutory framework that permits only the acquisition of so-called “conforming mortgages.”<sup>176</sup> The notion of a conforming mortgage is defined in each GSE’s enabling statute as a “conventional mortgage”—i.e., not guaranteed by the federal government—that meets a series of requirements, including maximum principal limits and a prohibition on “the outstanding principal balance of the mortgage at the time of purchase exceed[ing] 80 per centum of the value of the property securing the mortgage.”<sup>177</sup> However, the statute provides an exception to the latter requirement: the GSEs may acquire loans with an excess of 80% LTV if “that portion of the unpaid principal balance of the mortgage which is in excess of such 80 per centum is guaranteed or insured by a qualified insurer as determined by the” applicable GSE.<sup>178</sup> The requirement to purchase private mortgage insurance thus somewhat offsets the benefit of GSE involvement in the mortgage markets for loans with an LTV greater than 80%.<sup>179</sup>

The vast majority of mortgage lenders follow the GSE guidelines because mortgage-backed securities packaged and resold by Fannie Mae and Freddie Mac virtually dominate the secondary markets along with Ginnie Mae, which resells government-insured loans.<sup>180</sup> This is likely a result of the government guarantee that the GSEs enjoy after being subjected to FHFA conservatorship in 2008,<sup>181</sup> which renders private competition largely futile. Accordingly, the statutory guidelines for lending limits and LTV ratios for the GSEs largely determine the contours of the conventional mortgage market similar to FHA’s requirements for government-insured loans.

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<sup>175</sup> See, e.g., *Single-Family: Mortgage Products*, FANNIE MAE, <https://www.fanniemae.com/singlefamily/mortgage-products> (last visited Nov. 30, 2012); *Doing Business With Freddie Mac*, FREDDIE MAC, [http://www.freddiemac.com/corporate/doing\\_business.html?intcmp=DB](http://www.freddiemac.com/corporate/doing_business.html?intcmp=DB) (last visited Nov. 30, 2012).

<sup>176</sup> 12 U.S.C. § 4502(26) (defining a “conforming mortgage” as a “a conventional mortgage having an original principal obligation that does not exceed the dollar amount limitation in effect at the time of such origination and applicable to such mortgage” under the GSEs’ enabling statutes). The term “conforming mortgage” was added by the Housing and Economic Recovery Act of 2008, and is not utilized in the GSE statutes, but it simply reflects the substantive requirements for GSE acquisition of loans as found in those statutes.

<sup>177</sup> 12 U.S.C. § 1717(b)(2) (imposing this limitation on Fannie Mae); 12 U.S.C. § 1454(a)(2) (imposing identical limitation on Freddie Mac).

<sup>178</sup> *Id.*

<sup>179</sup> Indeed, with high LTV ratios, private mortgage insurance may be so expensive that an FHA loan is cheaper for borrowers.

<sup>180</sup> See *MBS Live: MBS Dashboard*, MORTGAGE NEWS DAILY, <http://www.mortgagenewsdaily.com/mbs/> (last visited Nov. 30, 2012); *Mortgage-Backed Securities ETF: Portfolio*, VANGUARD, <https://institutional.vanguard.com/VGApp/iip/site/institutional/investments/portfoliodetails?fundId=3148&state=90> (last visited Nov. 30, 2012) (mortgage-backed securities exchange-traded fund consisting entirely of Fannie Mae, Freddie Mac, or Ginnie Mae mortgage-backed securities).

<sup>181</sup> See Glenn Somerville, *U.S. Seizes Fannie, Freddie, Aims To Calm Markets*, REUTERS (Sep. 7, 2008), <http://www.reuters.com/article/2008/09/07/us-fannie-freddie-idUSN0527106320080907>.

The key point in light of the analysis in this Article is that the regulatory paradigm reflected in both the GSEs' and FHA's approach to minimum downpayments/LTV ratios consists of a binary, on/off approach to encouraging or discouraging risky loans without considering the negative social externality of an excessive concentration of mortgages at low levels of equity. As discussed previously in Subsection III.A.2, the FHA's 3.5% minimum downpayment requirement directly facilitates low-equity clustering. But the GSE guidelines, which determine the vast majority of the mortgage market, also fail to take into account the systemic implications of a binary, conforming/nonconforming approach to mortgage origination. The GSE statute imposes increasing costs for lower downpayments solely by requiring private mortgage insurance. But private insurers do not necessarily internalize the social cost of excessive low-equity clustering. High LTV loans might be marginally more expensive than those with a greater downpayment—whether because of the FHA surcharge or the private mortgage insurance for a conventional loan—but that does not ensure that equity levels among borrowers are distributed in a manner that reduces the systemic risk from simultaneous exposure to negative equity and cascading foreclosures.

For example, if the cost of private insurance for a 7% downpayment loan were sufficiently low, the vast majority of borrowers might cluster at that level even if it is slight more expensive than a 20% downpayment. And if both private mortgage insurance and the FHA surcharge were so expensive as to render any loan with an LTV greater than 80% extraordinarily expensive, the distributional concerns we raised regarding the Dodd-Frank QRM proposal would apply with equal force. The problem is the paradigm: permitting or prohibiting specific mortgage terms in a binary manner—e.g., with a conforming/nonconforming distinction or flat minimum downpayment of 3.5% (FHA loans) or 20% (QRM proposal)—can lead to excessive clustering that imposes greater systemic risk. Accordingly, as an alternative way to regulate the distribution of home equity that is more implementable than the licensing proposal, we suggest that Congress adopt a system of varying conformity for mortgages purchased or guaranteed by the GSEs as described in the next Subsection.

## 2. *A New Paradigm of Variation in Conforming Mortgages*

As a starting point for this proposal, we suggest that the legislative reform necessary to bring the GSEs out of conservatorship should consider not merely how to prevent their failure but also what roles these institutions can play in reducing systemic risk in the mortgage market. Fannie Mae and Freddie Mac are uniquely positioned to induce beneficial diversity in the distribution of home equity because they dictate the terms under which mortgages are resold, packaged, and distributed in mortgage-backed securities. Indeed, their implicit government guarantee practically guarantees a monopoly on the MBS secondary markets, suggesting that they would be well suited to influence the entirety of national mortgage originations.

We propose redefining the “conforming mortgages” restriction on the GSEs' activity to incorporate *varying degrees* of conformity. The GSEs should have discretion to offer different prices for different levels of conformity, under the guiding principle of reducing systemic risk by inducing an appropriate distribution of equity. This would empower the GSEs to incentivize beneficially varying conformity by simply setting the price they are willing to offer for mortgage products at each level. Interestingly, a

varying conformity approach would permit more fine-tuned control than our licensing scheme: in addition to regulating the equity level of each loan, the GSEs could set separate prices for different characteristics—such as adjustable-rate v. fixed-rate or fully amortizing v. balloon payment loans—to obtain more granular control over the distribution of terms that affect homeowners’ accumulation of equity.

The “price” for each level of conformity should be a premium on the base discount rate offered by the GSEs to lenders. The benchmark rate for acquisitions of mortgages by the GSEs, known as the “commitment rate,” is typically set by Fannie Mae for different delivery durations. The most common rate is the 30-year fixed rate for delivery within 60 days,<sup>182</sup> which ranged from 2.79%-2.96% in November 2012.<sup>183</sup> While this rate would vary for individual products according to Fannie Mae and Freddie Mac’s “live pricing,”<sup>184</sup> we propose adding a non-conformity premium to the base rate that individual product-specific prices are constructed from. This non-conformity premium could adjust over time to ensure that the social cost of excessive clustering at certain levels of conformity would be internalized by lenders and borrowers regardless of the specific pricing for each product.

To account for differing regional distributions of equity the GSEs could vary the premium by the geographic area where the home is physically located. And as noted previously, these non-conformity premia might also be conditioned on other volatility-inducing mortgage terms discussed above (such as balloons and interest resets) to cap their prevalence in the market. The GSEs could even extend this pricing system to incorporate borrowers’ credit scores. For example, the GSEs could discount a small number of high-equity loans made to low-scoring borrowers alongside low-equity loans to high-scoring borrowers, but impose a high premium on low-equity loans to low-scoring borrowers.

A key difference between the licensing system and this varying conformity proposal is that licenses would apply annually, thus automatically updating in “real-time” in response to changing equity levels and eliminating the need to forecast the impact of a given set of mortgage terms on equity accumulation over the life of the loan. However, Fannie Mae and Freddie Mac purchase loans from originators at a single point in time, so there is no practical way for this price to vary with the actual accumulation of equity over time. Accordingly, the premium set by the GSEs should reflect a forecast of the propensity for each loan to contribute to equity accumulation, akin to how the NBA salary cap takes into account the impact of players’ salaries on future revenues.<sup>185</sup>

While such a forecast would necessarily be imperfect, the GSEs could utilize a “probability” of equity accumulation based on the presence or absence of specific terms in the loan. For example, a fully amortizing 30-year fixed-rate mortgage could serve as the benchmark with a probability of equity accumulation equal to 1.00, and other terms—such as adjustable rates or balloon payments—would decrease this probability. A

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<sup>182</sup> See *FNMA 30 Yr Mtg Com Del 60 Days*, BANKRATE.COM, <http://www.bankrate.com/rates/interest-rates/fannie-mae-30-year-mtg-com-del-60-days.aspx> (last visited Nov. 30, 2012).

<sup>183</sup> *Mandatory Delivery Commitment – 30-Year Fixed Rate A/A*, FANNIEMAE (Nov. 2012), [https://www.fanniemae.com/content/datagrid/hist\\_net\\_yields/nov30.html](https://www.fanniemae.com/content/datagrid/hist_net_yields/nov30.html).

<sup>184</sup> See, e.g., FANNIE MAE, *SELLING WHOLE LOANS TO FANNIE MAE 30* (2009), available at [https://www.fanniemae.com/content/job\\_aid/selling-whole-loans.pdf](https://www.fanniemae.com/content/job_aid/selling-whole-loans.pdf).

<sup>185</sup> See Larry Coon, *2011 Collective Bargaining Agreement*, LARRY COON’S NBA SALARY CAP FAQ, <http://www.cbafaq.com/salarycap.htm> (last visited Nov. 30, 2012).



probability less than 1.00 would increase the premium for that specific type of mortgage product. This is precisely where the granularity of the varying conformity approach is beneficial: the GSEs could vary the premium for each combination of downpayments and terms based on the loan's forecasted propensity to contribute to low-equity clustering.

Of course, as with the licensing scheme, the GSEs will require a continual stream of data reporting to monitor the distribution of equity in each geographic region and adjust the premium pricing accordingly. Another implementation advantage of this varying conformity approach is that GSEs are contractual counterparties to mortgage originators and thus could require, as a condition of purchasing the loan, that any mortgage servicer transmit periodic reports of principal balances to the GSEs. They could use this data, along with Zillow-like property appraisal technology, to compute and monitor an approximate equity level for each loan purchased and repackaged in mortgage-backed securities. The GSEs already maintain loan-level data to service payments to MBS holders, so this should not be particularly difficult to implement.

Finally, unlike the licensing system, the varying conformity approach would require minimal statutory reform. Congress would simply (1) broaden the GSEs' statutory responsibilities to include monitoring the distribution of regional equity levels among the mortgages they hold and (2) modify the "conforming mortgage" definition to compel the GSEs to apply a downpayment and term-specific premium to the commitment rate that would discourage excessive clustering at low levels of equity. Unlike the licensing scheme, this approach would not impose conditions on private contracting. In light of the minimal statutory changes that would be required, we recommend that Congress adopt this proposal when it considers reforming the GSEs as they emerge from conservatorship.

## CONCLUSION

The traditional story about what caused the Great Recession is simply that the housing bubble popped. Robert Schiller was right to point out that the post-millennial upward spike in housing prices witnessed in city after city could not be sustained.<sup>186</sup> When the bubble popped, many homeowners, who found themselves with mortgage obligations substantially larger than the cratering equity values in their homes, chose or were forced to default. These defaults in turn wreaked havoc on financial institutions that held securitized pools of these mortgages or derivative bets on these pools.

The bubble story continues to be compelling. But this Article argues that the impact of popping bubble was likely exacerbated by the contractual terms included in hundreds of thousands of mortgages. In sharp contrast to what we have called the amortization era, when successive cohorts of homeowners would start with larger down payments and more smoothly add to their equity over time, our nation entered the housing crisis with a stock of mortgage terms that left our housing and mortgage markets more sensitive to price fluctuations and susceptible to default. A central claim of this Article is that the microeconomics of contracting can have macroeconomic impacts. Specifically, we have tried to show that systemic risk was artificially inflated by the increased prevalence of four particular mortgage terms which increased the chance either

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<sup>186</sup> See, e.g., David Leonhardt, *Be Warned: Mr. Bubble's Worried Again*, N.Y. TIMES (Aug. 21, 2005), <http://www.nytimes.com/2005/08/21/business/yourmoney/21real.html>.

that borrowers would default or that borrowers would be unable to refinance a mortgage that they could no longer pay. When combined with the dramatic increase in cash-out refinancing, the independent borrowing decisions of millions of Americans left us with a distribution of housing equity that was more likely to induce a destabilizing cascade of defaults which in all likelihood further depressed housing prices.

We have proposed three different ways that regulators might move us back toward the beneficial equity dispersion that was a natural byproduct of the amortization era. Our modified home mortgage interest deduction incentives homeowners to opt for repayment terms that are more likely to accrue equity over time (and less likely to require interim refinancing). Our modified risk retention rules incentivize lenders to make analogous amortizing loans and discourages the equity-stripping of cash out refinancing. Finally, our leverage licensing proposal is a “cap and trade” intervention which directly regulates the distribution of equity by limiting the maximum amount of various levels of equity, and our suggestion to introduce varying conforming mortgages for Fannie Mae and Freddie Mac is a more implementable alternative that requires minimal statutory change and does not implicate constitutional concerns.

These proposals might be adopted individually or in combination. But our larger normative claim is that regulators should care about the distribution of homeowner equity. Regulators should care not just about the average equity in the system, but in how the equity is dispersed. The recent crisis shows that large clusters of homeowners with low equity can be dangerous. Housing and mortgage markets would be safer if different homeowners had different amounts of equity – so that housing price fluctuations would be less likely to induce mass waves of default.

While this Article has focused on the distribution of leverage in mortgages, our analysis also suggests that the law look to induce leverage non-uniformity in other financial settings. In particular, our analysis suggests that an economy might be less exposed to systemic risk if banks (and other financial intermediaries) had different leverage levels. If all banks in an economy are clustered at low levels of equity, then a uniform drop in the value of their assets might analogously cause a synchronized set of bank default that might be more disruptive than would occur with less clustered leverage levels. Thus, while market competition might induce individual actors to pool toward similar, socially deleterious levels of leverage, regulators might look to policies that instead seek to induce separating leverage equilibria. Instead of clinging to a norm of equal treatment under the law, our analysis suggests circumstances where regulatory variances and licenses might be used to induce beneficial diversity.<sup>187</sup>

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<sup>187</sup> See Ian Ayres & John Braithwaite, *Partial Industry Regulation: A Monopsony Standard for Consumer Protection*, 80 CAL. L. REV. 13, 15-16 (1992) (discussing notion of beneficial diversity in regulatory context).