DO PRODUCT BANS HELP CONSUMERS?  
QUESTIONING THE ECONOMIC FOUNDATIONS OF DODD-FRANK MORTGAGE REGULATION

Jason Scott Johnston*

TABLE OF CONTENTS

INTRODUCTION................................................................. 619

I. HOW AND WHY DODD-FRANK RESTRICTS MORTGAGE PRODUCT CHOICE........................................ 626
   C. Banning Bad Mortgages: The Impact of the Structure and Implementation of the Dodd-Frank Law........... 637
      1. Toward the Qualified Mortgage:
         a. Prohibition of "Unfair, Deceptive and Abusive" Practices................................................................. 638
         b. The "Reasonable Ability to Repay" Standard.............. 641
         c. Categorical Mortgage Regulation................................. 643
      2. Restricting and Regulating Particular Mortgage Terms.......................................................... 644
      3. High-Cost Mortgages.................................................. 644
         a. The "Qualified" Mortgage Safe Harbor.................... 647
         b. Dodd-Frank Strongly Incentivizes Lenders to Avoid Liability Under Its General Standards by Offering Qualified Mortgages Only............. 649

* Henry L. and Grace Doherty Charitable Foundation Professor, University of Virginia Law School, Email: jjohnston@virginia.edu. Ph.D., University of Michigan; J.D., University of Michigan Law School; A.B., Dartmouth College. I received helpful comments on this article from participants in workshops at George Mason University Law School, the Harvard Law and Economics Workshop, the University of Kansas Law School, the University of Virginia Law School, and the Rotterdam Institute for Law and Economics at Erasmus University. I also benefited from comments from Oren Bar-Gill, Richard Hynes and Louis Kaplow. Thanks to recent University of Virginia Law School graduates Ryan Baasch and Levi Swank for providing very useful research assistance.
II. THE ECONOMICS OF COMPLEX MORTGAGES

A. Complex Mortgages: Not Just "Suitable" but Optimal for Certain Types of Consumers
   1. Conventional Fixed Versus Adjustable Rate Mortgages
   2. Prepayment Penalties
   3. Backloading of Mortgages

B. Comparing Rational Actor Theory and Evidence on Complex Mortgages with the Behavioral Law and Economics Account of Such Contracts

III. EVALUATING THE POTENTIAL COSTS AND BENEFITS OF DODD-FRANK'S MORTGAGE CONTRACT RESTRICTIONS

A. How Restrictions on Mortgage Contract Terms May Harm Consumers
   1. Regulatory Restrictions on Contract Terms Encourage Credit Rationing and Limit Credit Availability: Neoclassical Economic Theory and Evidence from State Anti-Predatory Lending Laws
   3. Emerging Evidence on Dodd-Frank's Impact: Shrinking Subprime Mortgage Lending, Contributing to the Trend from Ownership to Renting, and the Explosion of Other Types of Subprime Lending
      a. The End of Subprime Mortgage Lending
      b. Increasing Equity and Decreasing Homeownership: The Movement from Home Ownership to Rental

B. Potential Benefits of Mortgage Contract Restrictions
   1. Protecting Unsophisticated Borrowers
   2. Preventing Sophisticated Consumers from Speculating
   3. Aggregation Effects and Foreclosure Externalities in Risky Mortgage Lending
      a. Subprime Foreclosures as Common Law Nuisance or Threshold Level Pollution: Evidence
      b. Do Spillovers from Foreclosures Justify Product Restrictions?
   4. Preventing Another Housing Boom and Bust: Bad Mortgages Versus Incorrect Expectations of Ever-Increasing House Prices

CONCLUSION: THE CASE FOR FREEDOM OF MORTGAGE CONTRACTING
INTRODUCTION

Passed in the aftermath of the Great Recession of 2008-2009, the Dodd-Frank Wall Street Reform and Consumer Protection Act1 ("Dodd-Frank") was based on a set of beliefs about the causes and consequences of the housing boom and collapse that preceded the recession.2 Dodd-Frank, through its structure and provisions in Title X, which regulates residential mortgages, reflects the belief that complex mortgages and high-pressure sales tactics were responsible for getting hundreds of thousands of Americans into bad, risky mortgages that they did not understand and could not repay. Dodd-Frank imposes a new obligation on lenders to ensure that mortgage terms are suitable for particular borrowers, and it imposes massive legal risks on any lender that dares to write mortgage contracts that differ substantially from statutory "qualified" mortgages.3 Because these qualified mortgages cannot contain terms that afflicted bad mortgages during the boom, Dodd-Frank effectively bans a wide variety of mortgage types. For the mortgages that are still permitted, Dodd-Frank restricts the way that these mortgages are sold, requires new and supposedly improved disclosures, and imposes a new set of fiduciary-like obligations on companies that service the monthly payments people make on mortgages.

Dodd-Frank is strong mortgage medicine. In the view of many, however, it was long overdue. Such people believe that the housing boom of the early 2000s was an unsustainable scam, generated by unscrupulous mortgage brokers who used seductive promises of paying little or nothing in the early years of complex mortgage contracts to trick poorly educated and unsophisticated borrowers into agreeing to contracts that hid very high future payments. Unable to make those high payments when they came due, millions of people defaulted on their mortgages, suffering foreclosure and the loss of their homes. On this view, the entire mess—the early twenty-first-century housing boom and collapse and the subsequent recession—was caused by too little and too lax regulation of the mortgage market.4

People holding this view of the early twenty-first-century housing boom and mortgage market, both in the Obama Administration and in Congress, passed the Dodd-Frank law because they wanted to stop such "abu-

2 See discussion infra Section I.B.
3 See discussion infra Section I.C.
4 For a comprehensive overview of this alleged regulatory failure, see KATHLEEN C. ENGEL & PATRICIA A. MCCOY, THE SUBPRIME VIRUS: RECKLESS CREDIT, REGULATORY FAILURE AND NEXT STEPS 151-226 (2011) (discussing at length alleged executive agency and Federal Reserve regulatory oversight failures).
sive" and "predatory" practices in writing subprime mortgages—relatively complex mortgages extended to borrowers with credit scores below a certain threshold number. Complex subprime mortgages typically had variable interest rates pegged to market rates, allowed the borrower to postpone paying principal and sometimes interest, and required the borrower to pay a penalty if she prepaid the mortgage. Especially toward the end of the early twenty-first-century housing boom, lenders allowed borrowers to take out loans in amounts that approached (and sometimes even exceeded) the appraised value of the home they were buying.

As discussed below, there is evidence that bankers and mortgage brokers did sometimes use high-pressure sales tactics up to and including fraud to sell complex mortgages to low creditworthiness borrowers. And there is evidence that many such borrowers did not fully understand the terms of these mortgages. These problems in the market for complex mortgages are a classic example of a general phenomenon that has been a central focus of work in behavioral law and economics: sellers who deliberately design complex product or service pricing schedules so as to induce unsophisticated consumers into paying more than they realize they are paying for such products or services. Because they are complex and involve postponed payment obligations, consumer credit products are especially susceptible to such manipulation. Because they are complex, cognitively limited consumers may not understand how much they are actually agreeing to pay, and because such products involve payment of interest and/or principal over a possibly long future period, myopic consumers may overly discount future payment obligations. Importantly, market competition does not necessarily drive out providers who use such contractual designs to exploit imperfect consumer decisionmaking. Instead, a stable market equilibrium can exist in which firms introduce product complexity simply in order to confuse some consumers into paying more than they otherwise would.

---

5 For a more detailed discussion of subprime mortgages, see infra notes 55-59 and accompanying text.

6 See infra notes 55-59 and accompanying text.


8 See infra notes 181-191 and accompanying text.


Along with credit cards, subprime mortgages are the consumer financial products that best exemplify the characteristics of complex products that have been focused upon in behavioral economics. According to one prominent behavioral law and economics scholar, Oren Bar-Gill, by deferring payments and possible penalties, complex subprime mortgages took advantage of the myopia and over-optimism of impatient consumers.\textsuperscript{11} By including so many complex terms—variable interest rates, prepayment penalties, and the like—complex subprime mortgages were a way for lenders to exploit the cognitive limitations of the typical mortgage borrower.\textsuperscript{12} By offering relatively low short-term interest rates while postponing or backloading interest rate increases and other charges, such mortgages exploited consumer impatience and lack of self-control.

Because market competition will not eliminate such exploitative behavior by firms, behavioral law and economics scholars have argued that there is a strong case for regulatory interventions that protect the least sophisticated consumers from such obfuscating and socially harmful complexity, while leaving the choices of more sophisticated consumers relatively unaffected.\textsuperscript{13} Such interventions constitute a policy that has been called "libertarian paternalism."\textsuperscript{14} To date, the preferred regulatory tools of behavioral-law-and-economics libertarian paternalists are either a better, more psychologically sophisticated disclosure of consumer contract terms,\textsuperscript{15} or a shifting of the default terms of such contracts (e.g., the default policy concerning overdrafts on a checking account).\textsuperscript{16}

Dodd-Frank mortgage regulation does call for some measures that are consistent with the libertarian paternalist policy approach advocated within behavioral law and economics. The Dodd-Frank law requires the Consumer Financial Protection Bureau ("CFPB") to promulgate regulations for new and simplified disclosures for use in the mortgage contracting process.\textsuperscript{17} As


\textsuperscript{12} Id. at 1102-06.

\textsuperscript{13} For perhaps the most systematic articulation of this argument set out in the legal literature, see Colin Camerer, Samuel Issacharoff, George Lowenstein, Ted O'Donoghue & Matthew Rabin, \textit{Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism"}, 151 U. Pa. L. Rev. 1211, 1219-24 (2003).


\textsuperscript{15} OREN BAR-GILL, SEDUCTION BY CONTRACT 32 (2012).

\textsuperscript{16} RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE (2d ed. 2009).

\textsuperscript{17} Dodd-Frank amended both the Truth in Lending Act ("TILA") and the Real Estate Settlement Procedures Act ("RESPA") by giving the CFPB exclusive authority to issue rules governing mortgage disclosures and requiring that the CFPB "publish a single, integrated disclosure for mortgage loan transactions" that includes all the terms required to be disclosed by both TILA and RESPA. Dodd-Frank Act, Pub. L. No. 111-203, sec. 1098(2)(A), § 4(a), 124 Stat. 1376, 2103 (2010) (codified at 12 U.S.C. §
I explain elsewhere, the CFPB has promulgated these new disclosures and has at least tried to base them on empirical evidence regarding how well people understand different types of disclosures. It is also true that Dodd-Frank’s mortgage regulation regime is often said to embody ideas from behavioral law and economics. Joshua Wright, for example, says that by embracing behavioral economics and rejecting neoclassical economics, Dodd-Frank and the creation of the CFPB marked a “revolutions” in consumer protection law. Daniel Ho adduces the CFPB’s effort to design a simplified mortgage disclosure form as an example of how the Obama Administration has “embraced targeted transparency and behavioral insights in its regulatory approach.”

However, disclosure itself is a very old regulatory instrument, one recommended by the neoclassical economic idea of simply providing imperfectly informed consumers with better information. If the only thing Dodd-Frank did was to mandate better mortgage disclosure, it would be entirely unremarkable, regardless of whether or not the proposal was attributed to behavioral economics. But Dodd-Frank mortgage regulation does much more than require new and improved disclosure. The system of residential mortgage regulation enacted in Dodd-Frank and now being implemented by the CFPB in fact bears very little similarity to the sort of choice-preserving regulatory intervention imagined by behavioral-economics scholars. Instead, Dodd-Frank mortgage regulation is a regime of vague protective standards and de facto penalties applied to particular contract terms and methods of marketing mortgages to consumers. Such product restrictions are generally not what behavioral-law-and-economics scholars advocate.Dodd-Frank reflects not primarily the thinking of behavioral economists, but of consumer activists, most prominently, those of then-professor and now United States Senator Elizabeth Warren.

21 This argument is developed at greater length in Johnston, Customizing Disclosure, supra note 18.
22 See THALER & SUNSTEIN, supra note 16, at 137 (“[W]e libertarian paternalists do not favor bans. Instead, we prefer an improvement in choice architecture that will help people make better choices and avoid loans that really are predatory.”)
23 For other defenses of a regulatory approach that bans certain types of contract terms in consumer credit contracts and mortgages in particular, see Kathleen C. Engel & Patricia A. McCoy, A Tale of Three Markets: The Law and Economics of Predatory Lending, 80 TEX. L. REV. 1255, 1311-14 (2004); Dee Pridgen, Putting Some Teeth in TILA: From Disclosure to Substantive Regulation in the Mortgage Reform and Anti-Predatory Lending Act of 2010, 24 LOY. CONSUMER L. REV. 615, 627-39 (2012); Alan
In Senator Warren’s view, the CFPB might well decide that with better disclosure, some mortgage terms would be permitted to survive. But, just as the Consumer Product Safety Commission that Senator Warren took as the CFPB’s model may ban dangerous products, so too does the CFPB have the power to ban dangerous and risky mortgages. In Senator Warren’s now famous analogy, a bad mortgage is like a bad, defectively designed toaster: just as the toaster will eventually explode in flames, so will a bad, complex mortgage eventually explode in default by the borrower. And just as no consumer loses when the bad toaster is banned entirely, so too does no consumer lose when the bad mortgage is simply banned from the marketplace.

Mortgages, however, are not toasters. Whether a toaster explodes despite only normal use depends entirely on the design and manufacture of the toaster. There is no benefit to any consumer from a poorly designed exploding toaster. This is not true of a complex mortgage that allows the consumer to decide how much to pay each month. While it is true that some borrowers may end up defaulting on such mortgages because they cannot meet future payment obligations, many borrowers will not default, and will instead benefit enormously from the availability of such a mortgage contract. When such mortgages are penalized, many consumers will suffer a loss of welfare. This is not the simple “win-win” world of behavioral economic nudges but a world of tradeoffs, where some consumers lose so that others may enjoy protections that are only arguably effective.

The existence and magnitude of this tradeoff seems to have gone completely unnoticed in the legal literature on mortgage regulation. The purpose of this Article is to demonstrate that this tradeoff is real, that Dodd-Frank mortgage regulation has imposed and will continue to impose substantial welfare losses on many potential borrowers—people who might have borrowed to acquire homes in a world without Dodd-Frank’s restrictions on mortgage contracts, but who may never own homes in the post-Dodd-Frank world. That some consumers have almost surely suffered welfare losses due to the de facto penalties that Dodd-Frank imposes on complex mortgages does not answer the question of whether such a regula-


25 Id.

26 Id.

27 Bubb and Pildes, supra note 9, at 1660-61, do acknowledge that when regulation directly limits consumer choice by banning certain types of contract terms, the costs of such bans, including the responses they induce by product providers—particularly those “undermin[ing] innovative and efficient contractual structures”—must be considered. However, they do so in passing, in arguing that behavioral economics would have to consider such costs were it to advocate such policies. Id.
tory regime is normatively desirable. One must also consider the potential benefits of contractual restrictions. There are two types of benefits: paternalistic benefits gained when borrowers are protected from choices that may harm them, and spillover (or externality) benefits when others in society are protected from such harmful choices. But like the costs of contractual restrictions, the existence of such benefits, and the desirability of achieving them through contractual restrictions, have not been rigorously questioned. Analysis of whether the contract restrictions imposed by Dodd-Frank are desirable is the second goal of this Article.

Dodd-Frank is an enormously complex statute in general, and its mortgage regulation provisions are no exception to this complexity. As noted above, Dodd-Frank instructs the CFPB to design new and improved mortgage disclosure forms. It also directly regulates the process by which mortgages are sold (or “originated” as it is called in the mortgage world) and then serviced. Elsewhere, I critically analyze these aspects of Dodd-Frank mortgage regulation. The present Article focuses on what may be called Dodd-Frank’s substantive mortgage contract regulation—its regulation of the terms contained in mortgages. I begin by describing the key elements of Dodd-Frank mortgage regulation and the beliefs that underlie them. Those beliefs amount to a story of bad mortgages and bad practices in which the villain singled out for special opprobrium is the complex mortgage. The complex mortgage departs from the traditional thirty-year, self-amortizing, fixed-rate American mortgage by allowing the interest rate, and often payments too, to vary over the lifetime of the loan. Additionally, the complex mortgage sometimes assesses a penalty when borrowers attempt to pay down their loans before term.

In a variety of ways, Dodd-Frank takes aim at complex mortgages. This Article briefly describes the key statutory and regulatory elements of Dodd-Frank’s approach and how those elements directly reflect views about the causes of the housing collapse held by both the White House and Congress. This Article then moves on to describe a vast body of both theoretical and empirical work in economics showing that for many consumers, complex mortgages of the type discouraged by Dodd-Frank are welfare-improving. These mortgages greatly increase the ability of especially younger and more liquidity-constrained consumers to buy a home. The payment flexibility they grant to borrowers enables borrowers to adjust payments to their income, thus lowering the probability of default and value-destroying foreclosure. These are more than merely theoretical attributes: a substantial body of empirical work strongly shows that most bor-

28 See supra notes 17-18 and accompanying text.
29 See discussion infra Subsection I.C.1.
rowers who took out complex mortgages were not confused about such products but in fact were making rational choices.31

A similar body of work in financial economics predicts and empirically confirms32 that lenders will respond to the kind of de facto mortgage contract restrictions imposed by Dodd-Frank by changing other mortgage terms, in particular by raising interest rates. Such changes, including increasing down-payment requirements and requiring much higher credit scores to qualify for any sort of mortgage, most seriously impact young and minority would-be homeowners, who have been excluded from the mortgage market. This is a clear cost of the approach taken by Dodd-Frank.

As behavioral-law-and-economics scholars have generally not advocated the kind of substantive contracting restrictions imposed by Dodd-Frank, it is perhaps unsurprising that they have as of yet failed to undertake analysis of the welfare costs of such restrictions. However, there is reason to think that even on a behavioral model, such restrictions do indeed impose welfare costs. For this reason, on either a neoclassical or behavioral model of consumer financial contracting, one must find and weigh the benefits of Dodd-Frank-style contract restrictions against their costs. There are potential benefits from restricting mortgage contract availability. One of these is the paternalistic benefit of protecting unsophisticated borrowers from agreeing to mortgages that they would not choose if they were more sophisticated. Another benefit may be realized if by preventing borrowers from taking on certain types of mortgages, mortgage contract restrictions also reduce the probability of subsequent foreclosures that generate harmful spillovers (e.g., lower house prices, increasing vacancies, and a variety of neighborhood ills—such as increased crime) that large numbers of vacant homes are believed to cause. Inasmuch as mortgage borrowers do not internalize such spillovers, their prevention has the neoclassical economic justification of curbing a market failure.

As mentioned above, the question is whether these benefits outweigh the costs of Dodd-Frank’s mortgage restrictions. Surprisingly, there is little empirical evidence supporting the magnitude of what is perhaps the primary behavioralist benefit of restricting mortgage contracting, the prevention of mismatches in which unsophisticated but wealth-constrained borrowers choose complex mortgage because they can afford them even though they cannot understand them. What evidence does exist shows that, while such mismatches do occur, unsophisticated borrowers with complex mortgages became relatively less frequent during the housing boom than before it.33

The accumulating evidence shows that the boom was driven by relatively sophisticated borrowers who took on complex, variable-rate mortgages

31 See discussion infra Section II.A.
32 Of course by “confirms” I mean more precisely “statistically rejects the null hypothesis that the predicted effect is not present in the data.”
33 See infra notes 237-249 and accompanying text.
because of a prolonged period of low short-term interest rates and because they expected—incorrectly as it turned out—that house prices would continue to rise. Thus a major tenant of the story about Dodd-Frank’s benefits may simply be wrong.

The final part of this Article questions whether Dodd-Frank-style mortgage contracting restrictions can be justified by the goal of reducing various kinds of harm attendant upon mortgage default. This Article argues that it is bad policy to try to avoid harm from post foreclosures by restricting ex ante freedom of contract. Rather than preventing default by eliminating freedom to contract in the first place, policy should be redirected toward lowering the costs of and speeding recovery from such default. Law and policy must refocus on making inevitable losses from private choice a temporary and transitional setback rather than viewing them as an excuse to permanently cut back on contractual freedom.

I. HOW AND WHY DODD-FRANK RESTRICTS MORTGAGE PRODUCT CHOICE

Dodd-Frank was passed in 2010, but the law’s mortgage regulation provisions reflect a set of beliefs about the mortgage market that were current for several years before its enactment. Dodd-Frank has no detailed findings as to whether any of those beliefs were borne out by actual evidence; indeed, according to at least one popular account, other than the sponsors (Representative Barney Frank and Senator Chris Dodd), only a handful of members of Congress had any understanding of any part of the Dodd-Frank law. Nonetheless, as Dodd-Frank’s mortgage regulation provisions directly map a set of widely held beliefs about the role of mortgage lending practices in the housing boom and subsequent meltdown that occurred between about 2002 and 2008, it is useful to begin by overviewing those beliefs.


Before discussing beliefs about the role of mortgage lending practices, however, it is important to clarify some basic information about mortgages and to describe briefly the evolution in the range of mortgage products that occurred between 1980 and 2007 in the United States.

A mortgage is an inherently complex contract. It is a loan secured by the collateral of specific real property that the borrower is obliged to pay

---

34 See infra notes 242-262 and accompanying text.
35 See generally ROBERT G. KAISER, ACT OF CONGRESS 384 (2013).
back according to a contractually agreed-upon payment schedule. A mortgage is a claim against property, and if the borrower falls into default on her payments, then the lender mortgagee can foreclose on the property. Foreclosure is generally not pursued until several months of non-payment by the borrower.\textsuperscript{36} What happens to a borrower who defaults depends upon whether the state is a judicial or non-judicial (or statutory) foreclosure state. In a statutory foreclosure state, a defaulting homeowner gets a notice of default and a notice of default is recorded.\textsuperscript{37} The borrower has a redemption right, meaning that she can cure the default by paying what she owes by a prescribed date;\textsuperscript{38} if she fails to cure, then a notice of sale is published and sent to the borrower. After the expiration of a statutory notice period, the property is sold at auction. The winning bidder becomes the owner and can have the borrower evicted. If the borrower believes that she was not in default, she can file a lawsuit to enjoin the sale. In a judicial foreclosure state, the lender files a complaint in court describing the debt, the borrower’s default, and requests the remedy of foreclosure for non-payment.\textsuperscript{39} The defendant borrower receives a copy of the complaint and may then answer the complaint, which she can do by disputing the facts or by raising various defenses or counterclaims. If necessary, the court will hold a trial on disputed factual or legal issues. If the court finds that there was a valid debt and that the debtor defaulted, then the court will instruct the sheriff to set a date for a public auction of the property.\textsuperscript{40} The buyer again has the right to evict the borrower/resident within days of recording the sale.\textsuperscript{41} The traditional American mortgage is for a long term (fifteen or thirty years), has a fixed interest rate with monthly interest as well as principal payments to ensure that the entire principal is paid off over the life of the loan (the loan is self-amortizing), and has no prepayment penalty. Since the borrower always has the option of defaulting on the loan, this traditional fixed-rate mortgage ("FRM") loan gives the borrower both a call option


\textsuperscript{38} See, e.g., id. (authorizing a foreclosure sale in the event of a borrower’s default); id. § 55-59.2 (requiring a two to four week period between public notice and sale).

\textsuperscript{39} See, e.g., Fla. Stat. § 702.01 (2015).

\textsuperscript{40} See, e.g., Fla. Stat. § 45.031 (2015) (outlining the judicial sale procedures in Florida, a judicial foreclosure sale state).

\textsuperscript{41} See, e.g., Hutchinson v. Chase Manhattan Bank, 922 So. 2d 311, 315-16 (Fla. Dist. Ct. App. 2006) (recognizing a foreclosing party’s right to evict a mortgagor in the judicial foreclosure state of Florida while reversing the eviction order at issue on due process grounds).
(the right to buy—or prepay—the loan at the existing balance) and a put option (the right to default and force the lender to take title to the home).\textsuperscript{42}

The FRM that is now considered conventional was actually an innovation brought on by the catastrophe of the Great Depression. As summarized by Matthew Chambers, Carlos Garriga, and Don E. Schlagenhauf, prior to the Depression, the standard mortgage contract had a maturity of less than ten years, a loan to value ratio of about 50 percent, repayment only of interest during the life of the loan, and a balloon payment of principal at the point of loan expiration.\textsuperscript{43} In the late 1930s, the Federal Housing Administration sponsored a new mortgage product with longer duration, a higher loan to value ratio (lower down payment), and self-amortization, with payments of both principal and interest over the life of the loan.\textsuperscript{44} This new product—what is today called the conventional, self-amortizing, fixed-rate loan—was enormously successful in increasing home ownership. After World War II, the U.S. homeownership rate rose from 48 to 64 percent by the mid-1960s, and economic simulations suggest that while part of the increase was due to changing demographics, most of the increase was due to the introduction of the conventional, self-amortizing, FRM loan.\textsuperscript{45}

While federal regulators had sponsored the Depression era innovation of the fixed-rate, self-amortizing mortgage, up until the 1970s, those same regulators resisted innovation in mortgage products, and mortgage borrowers in the United States were limited to the standard thirty-year, fixed and level-payment mortgage contracts.\textsuperscript{46} During the 1970s, however, expectations of high and rising future inflation generated nominal mortgage interest rates that translated into very high real interest rate payments for borrowers in the early years of the loan.\textsuperscript{47} Regulatory opposition to mortgage loans that allowed for flexible mortgage interest rates and began at relatively low levels finally relented. By 1980, lenders were allowed to offer graduated payment and adjustable rate mortgages ("ARMs").\textsuperscript{48} When inflation abated during the 1980s, the new mortgage products remained both available and popular among borrowers.\textsuperscript{49} Under a variable-rate mortgage or ARM, the borrower's interest rate varies over time, with the rate typically pegged to and above a short-term interest rate benchmark (such as the one year Treas-


\textsuperscript{43} Matthew Chambers et al, \textit{Accounting for Changes in the Homeownership Rate}, 50 \textit{INT'L ECON. REV.} 677, 681 (2009).

\textsuperscript{44} Id.

\textsuperscript{45} Id. at 681-82.

\textsuperscript{46} Kristopher S. Gerardi et al., \textit{The Impact of Deregulation and Financial Innovation on Consumers: The Case of the Mortgage Market}, 65 \textit{J. FIN.} 333, 337 (2010).

\textsuperscript{47} Id.

\textsuperscript{48} Id. at 338.

\textsuperscript{49} Id.
Do PRODUCT BANS HELP CONSUMERS?

Outside the United States, variable rate mortgages with terms typically lasting no more than fifteen years are the norm, and FRMs are rarely seen.

During the 1980s through the 1990s, a variety of types of ARMs evolved in the U.S. marketplace. All of these ARM’s were backloaded, meaning that they allowed the borrower to delay part of the payment that would be due in a conventional, self-amortizing loan (with fixed or variable interest payments). One such backloaded ARM is a variable interest rate mortgage with an interest rate that begins at a fixed low (a so-called teaser) rate and then (at the reset date) begins to float at a rate pegged to market rates, resetting at periodic intervals. Such a mortgage is known as a hybrid ARM, with a 2/28 hybrid, for example, having a fixed interest rate for the first two years and then floating for the final twenty-eight years. A more flexible, and complex ARM is called an “option” or “pay option” ARM. Such a mortgage typically is a thirty-year mortgage with an initial low interest rate for the first year and which gives the borrower the option to make a minimum payment, an interest-only payment, a fifteen-year fully amortizing payment, or a thirty-year fully amortizing payment. A borrower who makes only the minimum payment will accrue interest, thus increasing the balance owed on the mortgage, so that the mortgage has negative amortization. A final type of backloaded mortgage is a balloon mortgage. Such a mortgage may have either a variable or fixed interest rate. Its defining feature is that the term to maturity of the mortgage loan is shorter than the number of years over which the loan is amortized. Thus the monthly payments on a thirty-year balloon mortgage due in ten years would be equal to those of a fully amortizing thirty-year loan, but the principal balance would be due in ten years rather than thirty. Such a balloon mortgage is only partially amortizing, in that only ten years of principal payments have actually been made when the loan comes due.

There is no single, agreed-upon definition of what constitutes a subprime mortgage loan. As Yuliya Demyanyk and Otto Van Hemert explain,
The common element across definitions of a subprime loan is a high default risk.\(^{55}\)

On any definition, subprime mortgages typically were ARMs with fixed interest rates for the first two or three years.\(^{56}\) Often, subprime loans deferred the repayment of principal on the loan and sometimes also part of the interest as well. Subprime borrowers thus were able to make very low payments for the first years of their mortgage, but after three to ten years, the interest rate "reset" to a level determined by then-prevailing market interest rates. At this same point, in some types of subprime loans, the borrower was also required to begin making principal payments. Indeed, sometimes the borrower had to make a large "balloon" payment equal to past principal repayment, which was deferred.\(^{57}\) Thus, the subprime loan ultimately may call for the borrower to pay a much higher and variable interest rate, relative to the traditional FRM. This protects the lender against risk from rising rates. Such loans typically also carry prepayment penalties that effectively increase the cost to the borrower of exercising her call option.\(^{58}\) This term protects the lender from a fall in interest rates. Finally, as an additional protection against both the risk of default or prepayment by the borrower, upfront points are charged at closing.\(^{59}\)

---


\(^{56}\) See Geetesh Bhardwaj & Rajdeep Sengupta, Subprime Mortgage Design, 36 J. BANKING & FIN. 1503, 1509 tbl.3 (2012) (hereinafter Bhardwaj & Sengupta, Subprime Mortgage Design) (showing over 90 percent of subprime loans written between 1998 and 2007 had prepayment penalty terms that ended on or after the first interest rate reset date). That most subprime loans were hybrid ARMs is true also of the loans originated between 2001 and 2007. See id. at 1506.

\(^{57}\) See Christopher Mayer et al., The Rise in Mortgage Defaults, 23 J. ECON. PERSP., no. 1, Winter 2009, at 27, 30 (explaining that this type of subprime loan, known as a "short-term hybrid," made up over 75 percent of all subprime mortgages written between 2003 and 2007).

\(^{58}\) See Macey et al., supra note 42, at 801-02.

\(^{59}\) Id. at 802.
Subprime Mortgage Originations

In 2006, $600 billion of subprime loans were originated, most of which were securitized. That year, subprime lending accounted for 23.5% of all mortgage originations.

IN BILLIONS OF DOLLARS

![Graph showing the rise and decline of subprime mortgages from 1996 to 2008.](image)

NOTE: Percent securitized is defined as subprime securities issued divided by originations in a given year. In 2007, securities issued exceeded originations.

SOURCE: Inside Mortgage Finance

Figure 1. The Rise and Decline of Subprime Mortgages

As Figure 1 clearly shows, one of the undeniable facts about the U.S. mortgage market is that alternative, complex, subprime mortgages—with both terms being understood relative to the traditional long-term FRM—did indeed rise in importance during the 2003-2006 housing boom. According to the Mortgage Banker’s Association survey of mortgage originations, by early 2006, interest-only mortgages had risen to account for 20 percent of all mortgages written. From a different source comes the estimate that between 2004 and 2006, subprime loans had risen to account for 20 percent of all originations, up from less than 8 percent between 2000 and 2003. By 2005, the traditional FRM fell to only 50 percent of originations. By 2010, however, all this had changed; FRMs were back to 90 percent of the market, while subprime loans had fallen to less than 5 percent of all new mortgage issues.

---

60 FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT 70 fig.5.2 (2011).
61 Dean Corbae & Erwan Quintin, Mortgage Innovation and the Foreclosure Boom 5 n.2 (Feb. 8, 2011) (unpublished manuscript) (on file with University of Texas), http://casee.asu.edu/upload/Mortgage-Innovation-CORBAE.pdf.
62 Id.
63 Id.
As Figure 2 below shows, the rise and fall of subprime mortgages tends to correspond very closely with the rise and fall of U.S. homeownership rates. There are some differences too. Most importantly, perhaps, the homeownership rate rose from 1995 to 2001, a period when subprime mortgages were becoming, if anything, somewhat less frequent. On the other hand, as Figure 2 shows, while steep, the rise in homeownership during 2002-2005, the period of most rapid subprime expansion, was not unprecedented over the longer time period, suggesting that factors other than subprime expansion were important in increasing homeownership rates.

Figure 2. Secular Changes in American Homeownership Rates


Well before Dodd-Frank was even under Congressional consideration, members of Congress who were crucial to passage of the law began to form an opinion about the problems in the residential mortgage market. Those problems centered on consumers’ failure to understand the complex and supposedly new mortgage products that were being aggressively sold to them during the housing boom. This is evidenced in congressional testimony heard primarily in 2006 and 2007, after the crisis had just begun. That testimony (introduced again in a 2010 Senate Banking Committee hearing) argued, “[T]here appears to be little understanding by many borrowers about key features in today’s mortgages and how to compare or even understand the differences between these products.”65 A 2004 Consumer Federa-

tion of America survey was produced in support of the more specific propositions that “consumers cannot calculate the payment change for an adjustable rate mortgage. . . . [A]ll respondents underestimated the annual increase in the cost of monthly mortgage payments if the interest rate [increased] from 6 percent to 8 percent.”\textsuperscript{66} In a theme that was to become virtually a folk belief, studies were cited indicating that borrowers with ARMs “did not know the maximum amount their interest rate could increase at one time,” and that they were “surprised” and even “shock[ed]” to learn how much their payments could increase under such mortgages.\textsuperscript{67}

This theme—that consumers did not understand complex mortgages and were therefore surprised especially by increasing interest rate payments—recurs again and again in Dodd-Frank’s legislative history. The Report on the Mortgage Reform and Anti-Predatory Lending Act of 2009 by Representative Frank’s House Finance Committee\textsuperscript{68} directly linked consumers’ inability to make payments when interest rates on variable rate mortgages increased to the subsequent foreclosure crisis, arguing that “[m]any of these loans began to “reset” in 2007 from their two- and three-year teaser rates to significantly higher monthly payments for homeowners, pushing many borrowers into foreclosure.”\textsuperscript{69}

In addition to variable payments, Dodd-Frank’s sponsors were especially concerned about two other features of complex mortgages: negative amortization and prepayment penalties. Negative amortization refers to the fact that under some types of variable payment mortgages, the principal amount owed could actually increase if the borrower chose to make very low payments in the early years of the mortgage term.\textsuperscript{70} Senator Dodd’s

\textsuperscript{66} 
\textit{Id.} at 12 (quoting Fishbein’s testimony, \textit{ supra} note 65, at 275) (internal quotation marks omitted).

\textsuperscript{67} 
\textit{Id.} at 12-13 (citing Fishbein’s testimony, \textit{ supra} note 65, at 275-76).

\textsuperscript{68} 
The Reports by Senator Dodd’s Senate Banking Committee and Representative Frank’s House Committee on Financial Services are by far the most illuminating and relevant pieces of legislative history. Not only were the committees that wrote the reports the key gatekeeping committees, but they also consisted of the apparently very few members of Congress who actually substantially understood the legislation. \textit{See} \textit{KAISER, supra} note 35, at 384.

\textsuperscript{69} 
\textit{HOUSE COMM. ON FIN. SERVS., MORTGAGE REFORM AND ANTI-PREDATORY LENDING ACT, H.R. REP. NO. 111-94, at 52 (2009).}

\textsuperscript{70} 
Senate Banking Committee’s Report on *The Restoring American Financial Stability Act of 2010* cited testimony from the President of the Center for Responsible Lending to the effect that “[t]he great majority of the payment-option adjustable rate mortgages (option ARMs) resulted in significant negative amortization, so that many borrowers owed more on their mortgages after several years than when the mortgages were initially sold.” Representative Frank’s Committee Report viewed negative amortization and loans without documented income (“‘no doc’ loans”) as prime examples of “risky, exotic mortgages and practices.” As for prepayment penalties, while recognizing that (as shall be discussed later) a prepayment penalty will allow a consumer to pay a lower interest rate, Representative Frank’s Committee Report linked such terms to the housing crisis by arguing that “[m]any of these loans also had prepayment penalties that may extend beyond the low initial payment period. When these loans reset, consumers may face penalties for refinancing or have a very short time in which to refinance.”

Thus there were a number of features in complex mortgage products that Congressional supporters of Dodd-Frank did not like. They did not like the fact that these mortgages sometimes allowed balances to actually increase (negative amortization) and typically had interest rates that were variable and—in the case of products like hybrid ARMs—would reset to a higher level once an initial period of a lower, fixed introductory rate ended after a year or two. Many members commented on how consumers were surprised by such increases in interest rates, and how such upward resets, combined with house prices that stopped increasing, led to mortgage defaults. Dodd-Frank supporters disapproved of the sale of such complex mortgage products to consumers with weak credit histories, especially when such consumers might have qualified for a traditional fixed rate loan. And over and over again, they pointed out that consumers did not understand how these complex mortgage products worked. Thus Dodd-Frank supporters in Congress pointed to a systematic mismatch—risky, complex mortgages being sold to people for whom such products were not suitable—as a primary cause of the housing collapse.

As for the explanation of how such a systematic and ultimately dangerous mismatch could have arisen, Dodd-Frank supporters pointed to a number of culprits. One was a simple failure of understanding on the part of

---

71 S. REP. NO. 111-176, at 12.
72 H.R. REP. NO. 111-94, at 50.
73 *Id.* at 51.
75 Senator Dodd, the Senate sponsor, explained how “[o]ver the last year and a half, in fact, as the Banking Committee has held a long series of hearings on the root cause of the crisis, the pattern has been clear. Americans, as we now know painfully, were sold mortgages they never understood and could never have afforded.” 156 CONG. REC. 6931 (2010) (statement of Sen. Dodd).
consumers. More pointedly, however, legislators pointed to the way mortgage lenders targeted their sales of such mortgages to poor, relatively less educated consumers, and to how they steered better-qualified borrowers away from safer FRMs and into risky, variable-rate mortgages. And as to why lenders would write mortgages to people with a relatively high probability of eventually defaulting—a costly eventuality that lenders generally try to avoid—the typical answer provided by members of Congress was that due to securitization, mortgages were not retained by the entities that wrote them (whether a broker or an originating lender) but were instead sold to be packaged into mortgage-backed securities that were later sold. As the people originating the mortgages didn’t stay on the risk, they did not have the typical creditor’s concern with repayment probabilities and default risk.

A lead proponent of the bill, Senator Boxer, emphasized that consumers were duped by “exotic” mortgages, such as ARMs:

In this bill, that is over. You have to know the terms and conditions of the financial products you buy. This bill will bring protections to home buyers from the kinds of exotic mortgages that led to the current crisis.

Let me give you an example. People were offered mortgages at a teaser rate—a very low rate—and were not being told in clear terms that in a couple of years that teaser rate would go up and go up and go up.


Central to Senator Dodd’s explanation of the financial crisis was the story of the elderly Delores King, which he relayed on the Senate floor:

What happened to her happened, unfortunately, over and over again. A mortgage broker came and said: I know how to take care of that debt you have, Mrs. King. What we will do is rewrite your mortgage for you on your home. She was on a fixed income as a retiree in our country, trying to make ends meet. She had not a lot of retirement income. I think she may have worked in the postal department. She worked in the library. I thank my staff member here recalling from 3 years ago who was with me that day. She worked in a library in Chicago, obviously not making a lot of money as a librarian, or working in the library. So she was on a very fixed, narrow income as a retiree. That mortgage this guy sold to her ended up exploding on her in a matter of months to the point where it consumed 70 percent of her income and she lost the home.

... Delores King was given a mortgage knowing she could not pay, she was on a fixed income, they knew it would balloon to the point that it would consume 70 percent of her income—don’t tell me they did not know what that was. And expecting that 80-year-old woman to read and understand all she was going to be subjected to in the fine print of the mortgage contract is ridiculous. Yet that is how this daisy chain worked and why we ended up in the mess we did. This consumer bureau must be a part of our bill.


See, e.g., 156 CONG. REC. 7507 (2010) (statement of Sen. LeMieux). Senator LeMieux stated: [W]e know mortgages were given to people who should not have had mortgages—people who had no income and no jobs. They called them ninja loans—no income, no jobs. There were a lot of them in my State of Florida. Why were they written? Many of them were written because they were written by mortgage brokers and banks that did not have to retain any of those mortgages on their books. There were no underwriting standards.

Id.
The Congressional perception of the mortgage problem that is so directly reflected in Dodd-Frank is virtually identical to (indeed strongly shaped by) the perception of officials within the Obama Administration and the perception of leading academics working in the area of consumer financial protection. Large portions of Dodd-Frank were drafted by the Obama Administration, and the Administration’s white paper on the need for financial reform said that “[h]ouseholds saw significant increases in access to credit, but those gains were overshadowed by pervasive failures in consumer protection, leaving many Americans with obligations that they did not understand and could not afford.”

As for the harm caused by housing collapse, Dodd-Frank’s Congressional supporters, like many other people, pointed to the social costs of the foreclosures that resulted when borrowers defaulted on their complex mortgages. Representative Frank’s House Financial Services Committee concluded,

Foreclosures not only harm homeowners, who can lose their homes and the equity in them and suffer from tarnished credit records, but also can have negative effects on the broader community and the economy. Foreclosures can trigger domino effects that result in housing abandonment, declining property values in surrounding neighborhoods, and loss of property tax revenue to states and localities. Many observers also have cited the widespread apprehension over exposure to subprime mortgage-backed bonds as the root cause of the ongoing credit crisis.

Thus Dodd-Frank rests on a view that complex mortgages, sold to people who did not understand their terms and could not make the payments they required, led to mass defaults, which led to foreclosures and a whole range of social and economic problems that is now known as the “foreclosure crisis.”

80 See KAISER, supra note 35, at 37, 85-86, 376.
81 A description of the administration’s white paper on regulatory reform and the specific provisions that were included in the Dodd-Frank Act can be found in KAISER, supra note 35, at 85-94.
82 DEPT OF THE TREASURY, FINANCIAL REGULATORY REFORM, A NEW FOUNDATION: REBUILDING FINANCIAL SUPERVISION AND REGULATION 2 (2009), http://www.treasury.gov/initiatives/Documents/FinalReport_web.pdf. In explaining the crisis to the Senate Committee on Banking, Housing, and Urban Affairs, then-Treasury Assistant Secretary Michael Barr, one of the authors of the Administration’s white paper, stated:

Today’s consumer protection regime just experienced massive failure. It could not stem a plague of abusive and unaffordable mortgages and exploitative credit cards despite clear warning signs. It cost millions of responsible consumers their homes, their savings, and their dignity. And it contributed to the near-collapse of our financial system. We did not have just a financial crisis; we had a consumer crisis.

C. Banning Bad Mortgages: The Impact of the Structure and Implementation of the Dodd-Frank Law

At over 360,000 words in length, Dodd-Frank is one of the most complex financial laws in U.S. history. In its attempt to rid the consumer mortgage market of bad mortgages and bad practices, Title X of Dodd-Frank adopts what may be called a kitchen sink approach to the reformation of mortgage regulation by using a variety of regulatory tools. As I discuss elsewhere, the law retains, but attempts to improve upon, the existing regulatory approach of requiring disclosure of mortgage terms. As I also discuss elsewhere, Dodd-Frank also directly regulates the process by which mortgages are sold and serviced to consumers. This Article focuses on what may be called the core of Dodd-Frank mortgage regulation. This core consists of those sections of the law that target most directly the “bad mortgage” problem, the sale of mortgages with terms that were viewed by Congress (and others) as inconsistent with the best interest of either any borrower, or at least many of the borrowers who ended up agreeing to such mortgages.

In Dodd-Frank, Congress went about the task of ridding the market of such bad mortgages through a multi-pronged strategy. It adopted new general standards for mortgage lending by prohibiting “abusive” lending practices and requiring that lenders make a “good faith determination” of the borrower’s “reasonable ability to repay.” It declared that some practices and terms were per se abusive. At the same time, it created a safe harbor from potential liability under the new general standards by creating a new category of qualified mortgages. In defining what a qualified mortgage means under Dodd-Frank, it is important to understand the structure of Dodd-Frank—what the statute bans, what it allows, and how the statute is interpreted. This Section first explores general standards within Dodd-Frank. It then looks at Dodd-Frank’s prohibition against certain terms in mortgages. Lastly, this Section analyzes how Dodd-Frank incentivizes certain behavior among lenders. In describing these key provisions of the law, this Section argues that together they constitute a system in which some mortgages are severely penalized—amounting to a de facto restriction on the types of mortgage products offered to consumers.

---

84 Johnston, Customizing Disclosure, supra note 18.
87 See, e.g., Dodd-Frank Act, sec. 1414(a), § 129C(c), 124 Stat. at 2149 (codified at 15 U.S.C. § 1639c(c)) (amending TILA to prohibit certain prepayment penalties).
1. Toward the Qualified Mortgage: General Standards

Dodd-Frank incorporates several general standards. This Subsection first discusses the unfair, deceptive, and abusive standards set out in Dodd-Frank and the meaning of those terms as they are interpreted by the CFPB. Next, this Subsection discusses the "reasonable ability to repay" standard. Despite limited textual guidance on the meaning within the statute, historical context is useful in understanding the meaning behind this standard. This Subsection concludes by discussing categorical regulations of mortgages by Dodd-Frank.

a. Prohibition of "Unfair, Deceptive and Abusive" Practices

As discussed earlier, Title X of Dodd-Frank created the CFPB. According to the statute, the CFPB is to "implement and, where applicable, enforce Federal consumer financial law consistently for the purpose of ensuring that all consumers have access to markets for consumer financial products and services ... that ... are fair, transparent, and competitive." The CFPB has the authority under Dodd-Frank to promulgate regulations that prevent covered institutions from committing "unfair, deceptive or abusive" acts and practices in connection with consumer financial products or services.

The terms "unfair" and "deceptive" appear in Section 5 of the Federal Trade Commission ("FTC") Act and have been defined and refined by FTC decisions and (most importantly) its 1980 Policy Statement. The statutory language of Dodd-Frank tracks the existing FTC approach to defining "unfair" practices by directing that the CFPB classify a practice as "unfair" only if it has a reasonable basis to conclude that the "practice causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers; and ... [the] injury is not outweighed by countervailing benefits to consumers or to competition." In a July 10, 2013, bulletin summarizing how it would interpret "unfair, deceptive and abusive practices" concerning consumer debt collection, the CFPB indicated that it would follow existing FTC guidelines interpreting this test for
“unfair” practices. Although not actually incorporated as statutory text, according to this same bulletin, “the standard for ‘deceptive’ practices in the Dodd-Frank Act is informed by the standards for the same terms under Section 5 of the FTC Act,” and the CFPB has indicated that it will follow the FTC’s three-prong interpretation of when a practice is “deceptive.”

Unlike the “unfair” and “deceptive” standards, Dodd-Frank’s prohibition of “abusive” practices does not replicate what is already found in the FTC Act. The text of Dodd-Frank itself provides some guidance, directing that the CFPB is to find a practice “abusive” if it “materially interferes with the ability of a consumer to understand a term or condition” or “takes unreasonable advantage of” a consumer’s: (1) lack of understanding of the material risks, costs, or conditions of the product or service; (2) inability to protect his or her interests in selecting or using a consumer financial product or service; or (3) reasonable reliance on a covered person to act in his or her interests. Beyond this textual guidance, there is not much indication of what Congress meant by “abusive” practices. Further, Dodd-Frank’s legislative history does not provide much guidance. Although the Senate-introduced term “abusive” was apparently meant to be more liberal than the House-passed version, there was little discussion in Congressional hearings or floor statements regarding what was meant by the term, and although Senator Dodd said that the term “‘abusive’ does need to be defined, and we are either talking about striking that word or defining it better,” it was not defined in the text of Dodd-Frank. While some members expressed strong opinions that option ARMs and prepayment penalties would constitute “abusive” terms in mortgages, perhaps the most significant legisla-

94 CONSUMER FIN. PROT. BUREAU, CFPB BULL. NO. 2013-07, PROHIBITION OF UNFAIR, DECEPTIVE, OR ABUSIVE ACTS OR PRACTICES IN THE COLLECTION OF CONSUMER DEBTS 1 (2013). As the Bulletin explains:

An injury is not reasonably avoidable by consumers when an act or practice interferes with or hinders a consumer’s ability to make informed decisions or take action to avoid that injury. Injury caused by transactions that occur without a consumer’s knowledge or consent is not reasonably avoidable. Injuries that can only be avoided by spending large amounts of money or other significant resources also may not be reasonably avoidable.

Id. at 3 (footnotes omitted).

95 Id. at 3 n.16.

96 Under this approach, a practice is “deceptive” when: (1) it is “likely to mislead the consumer; (2) [t]he consumer’s interpretation is reasonable under the circumstances; and (3) [t]he misleading act or practice is material.” Id. at 3.


98 Dodd-Frank Act § 1031(d), 124 Stat. at 2006 (codified at 12 U.S.C. § 5531(d)).

99 See Schonberg, supra note 97, at 1420-21.


102 One Senate report directed its ire at option ARMs allowing negative amortization:
The CFPB has not, however, attempted to refine the prohibition of “abusive” practices standard through ex ante regulation. Instead, it has relied on ex post enforcement actions. As of early 2015, CFPB enforcement actions under the “abusive” practice prohibition (both of which ended in settlements) have targeted a debt relief firm for charging customers who the firm knew could not obtain any benefits from its programs and a payday lender for generating fees by pressuring delinquent borrowers to continually take out new loans to cover the amounts owed on previous loans.

These enforcement actions seem to be consistent with the examples of “abusive” practices given by CFPB Director Richard Cordray in testimony before both the House Financial Services Committee and a Subcommittee of the House Oversight and Government Reform Committee. In the first example, Cordray said that a refinancing loan made to an elderly consumer about to pay off her mortgage might be considered abusive, even though the

[S]ubprime and nontraditional mortgages were characterized by relatively low initial interest rates that allowed borrowers to obtain loans for which they might not otherwise qualify. However, after 2 or 3 years, the rates would jump up significantly—by as much as 30 to 40 percent or more, according to the testimony of Michael Calhoun, President of the Center for Responsible Lending (CRL). The great majority of the payment-option adjustable rate mortgages (option ARMs) resulted in significant negative amortization, so that many borrowers owed more on their mortgages after several years than when the mortgages were initially sold.

For a discussion about the legislative history of the CFPB’s “abusive” standard, see Frank Salinger, The Short Legislative History of “Abusive” Acts or Practices (or Why Are We Here, Anyway?) (George Mason AGEP Public Policy Institute on Financial Services Regulation, Reading Materials, June 5, 2012), http://www.masonlec.org/site/files/2012/05/GMUAGEPfms52412.pdf.


same loan would not be abusive if made to a more sophisticated consumer, suggesting that the determination will be fact-specific.\textsuperscript{106} In his second example, he said that a mortgage servicer working with clients who did not have any choice among servicers would act abusively if it took “unreasonable advantage” of the consumer’s powerlessness.\textsuperscript{107} Cordray conceded that “unreasonable advantage” is a vague and relatively undefined term,\textsuperscript{108} but argued that a business could avoid taking “unreasonable advantage” of its consumers simply by “stay[ing] away from pretty outrageous practices.”\textsuperscript{109}

The examples given by Director Cordray and CFPB enforcement actions to date do not preclude enforcement of the “abusiv\textsuperscript{e}” practices standard against a mortgage lender. After all, one of Cordray’s examples involved an “abusiv\textsuperscript{e}” mortgage refinance. However, Dodd-Frank has so many provisions specifically directed at discouraging firms from offering certain types of mortgage products that the “abusiv\textsuperscript{e}” standard may well prove to be of lesser significance as a regulatory tool in the mortgage area.

b. The “Reasonable Ability to Repay” Standard

Dodd-Frank requires that a mortgage lender “make a reasonable and good faith determination based on verified and documented information . . . that the consumer has a reasonable ability to repay the loan.”\textsuperscript{110} That determination is required to include consideration of financial resources other than the consumer’s equity in the property used to secure repayment. Creditors must make this determination using either IRS transcripts of tax returns or a third party method subject to rules prescribed by the CFPB.\textsuperscript{111} As with the “abusiv\textsuperscript{e}” standard, beyond this quite limited textual guidance, there is not much indication of what Congress meant by “reasonable ability to repay.” Legislative history is scant, suggesting only that members understood this as meaning that mortgage loans should not be made to people who would end up in foreclosure.\textsuperscript{112}


\textsuperscript{108} Id. at 70-71.

\textsuperscript{109} Id. at 70-71.


\textsuperscript{111} Id. sec. 1411(a)(2), § 129C(a)(4), 124 Stat. at 2143 (codified at 15 U.S.C. § 1639c(a)(4)).

\textsuperscript{112} See, e.g., H.R. 1728, The Mortgage Reform and Anti-Predatory Lending Act of 2009: Hearing Before the H. Comm. on Fin. Servs., 111th Cong. 100 (2009) (statement of Rep. Meeks) (“Additionally, the legislation prohibits lenders from underwriting loans that consumers do not have a reasonable ability to repay and prohibits practices that increase the risk of foreclosure for consumers. . . . Had we had this
A broader historical lens is useful in understanding the impetus behind the “reasonable ability to repay” standard. A precursor to Dodd-Frank, the Borrower’s Protection Act of 2007, attempted to extend to home mortgage loans a related standard, the securities law concept of suitability.\(^{13}\) The imposition of a suitability standard for residential mortgages was in fact suggested many years before the financial collapse of 2007-2008.\(^{14}\) As succinctly described by Macey and colleagues, “the suitability doctrine requires broker-dealers to tailor the securities sold to a customer with that customer’s specific needs and objectives, and forbids agents from simply pushing those products that offer the greatest profit margins for the seller.”\(^{15}\) This rule has been interpreted, for example, to restrict brokers from investing customers’ funds in margin accounts.\(^{16}\) Importantly, moreover, the rule prevents brokers from recommending unsuitable securities to a customer even if all the risks of the security are disclosed and the customer specifically says she wants to make the investment.\(^{17}\) The standard form of compensation for securities brokers—a commission on each trade that they execute for a customer—creates an incentive for brokers to make a large numbers of trades simply to generate fees. The suitability standard in securities law also clearly prohibits brokers from “churning,” which is defined as making a recklessly or fraudulently excessive number of trades, given the customer’s objectives.\(^{18}\)

---

\(^{13}\) Representative Frank’s media statements suggest that he believed a departure from a more flexible, ability-to-repay standard, like suitability, might actually encourage loans: “‘We felt a suitability standard was too vague. We don’t want to give people an obligation that is too vague and obscure because you can scare people away from doing anything. We think these are less subjective than suitability.’” Binyamin Appelbaum, Frank’s Bill Seeks Rules for Lenders, BOSTON GLOBE (Oct. 23, 2007), http://www.boston.com/business/personalfinance/articles/2007/10/23/franks_bill_seeks_rules_for_lenders/ (citation omitted) (discussing “suitability” in relation to the ability-to-repay provision enacted in Dodd-Frank).

\(^{14}\) Daniel S. Ehrenberg, If the Loan Doesn’t Fit, Don’t Take It: Applying the Suitability Doctrine to the Mortgage Industry to Eliminate Predatory Lending, 10 J. AFFORDABLE HOUSING & COMMUNITY DEV. L. 117, 130 (2001).

\(^{15}\) Macey et al., supra note 42, at 815. As this statement indicates, there are two parts to the securities law suitability obligation of brokers and dealers. The first obligation is to ensure that investments are suitable for clients. See id. at 816-19. In practice, this has meant rules have been promulgated by the Financial Institution Regulatory Authority and the New York Stock Exchange and have been emerging from litigation under Rule 10b-5 that prevent brokers from marketing speculative products or, more generally, stocks and other investments, that are too risky given the investor’s profile and objectives. The rule has been interpreted, for example, to restrict brokers from investing customers’ funds in margin accounts. Id. at 824-26; see also Donald C. Langevoort, Brokers as Fiduciaries, 71 U. PIT. L. REV. 439, 444 (2010).

\(^{16}\) Macey et al., supra note 42, at 824-29.

\(^{17}\) Id. at 821.

\(^{18}\) Id. at 828; see also Langevoort, supra note 115, at 444.
Beyond this prohibition on churning, however, the suitability standard does very little to regulate the costs of investing with a broker. A broker has no obligation to offer the “best available” securities, or to choose the package of securities with a given risk-and-return profile that minimizes the cost incurred by customer.119 Brokers can invest their customers into mutual funds that charge up-front loads even when there are comparable funds without such loads, funds who have paid them fees to be featured (so-called “shelf space” arrangements), and proprietary funds sponsored by the broker’s firm.120

Of course the suitability standard was not explicitly adopted by Dodd-Frank as the standard for mortgage loans. This is ironic, for the protective suitability standard in securities law arguably allows far more flexibility in broker stock recommendations than the Dodd-Frank standard of a “reasonable ability to repay” does with respect to mortgages. In its regulations regarding “reasonable ability to repay,” the CFPB has enumerated a list of acceptable means of income verification outside of IRS documents.121 More specific regulatory guidance has come with respect to mortgage loans with flexible interest rates, balloon payments, loans which allow negative amortization, and interest-only loans. For these loan terms (disfavored under Dodd-Frank), CFPB regulations require that “reasonable ability to repay” be determined by using extremely conservative assumptions.122 For example, for a variable interest rate loan, monthly payments must be determined by using the highest interest rate that can be charged while providing for fully amortizing payments that are equal across the life of the loan.123 For negative amortization loans, the calculation must be made using the greater of the fully indexed rate or the introductory rate and substantially equal monthly payments of principal and interest that will repay the maximum loan amount over the term of the loan remaining as of the date the loan is reset.124

c. Categorical Mortgage Regulation

While Dodd-Frank’s general standards apply to all residential mortgages, if a mortgage falls into the category of a “high cost” mortgage under the law, then its substantive terms are directly regulated, and limited, by the law.125 Conversely, if a mortgage loan falls into the category of “qualified”

119 Langevoort, supra note 115, at 445.
120 Id. at 445-48.
121 12 C.F.R. § 1026.43(c)(4) (2015).
122 See id. § 1026.43(c).
123 Id. § 1026.43(c)(5)(B).
124 Id. § 1026.43(c)(5)(B)(ii).
mortgages under Dodd-Frank, then a lender is insulated from potential liability under the law. Finally, Dodd-Frank simply bans certain types of mortgage terms.

2. Restricting and Regulating Particular Mortgage Terms

Dodd-Frank enacted general prohibitions against certain kinds of terms, essentially saying that such terms are per se abusive in any mortgage. For instance, Dodd-Frank enacted a general prohibition against prepayment penalties on residential mortgage loans that are not considered to be qualified mortgages. As explained further below, only qualified mortgages with fixed interest rates are exempt from this prohibition. Dodd-Frank also generally regulates mortgages with negative amortization, imposes a ban on single premium credit insurance regardless of which category the mortgage is classified in, and prohibits agreements in a residential mortgage that require arbitration or other non-judicial resolution methods where a controversy arises out of the transaction.

3. High-Cost Mortgages

Dodd-Frank was not the first federal law to impose direct limitations on the terms of high-cost mortgages. Passed in 1994, the Home Ownership and Equity Protection Act ("HOEPA"), was explicitly intended to combat "reverse-redlining," or the practice of targeting residents in poor communities for offers of credit on unfair terms. HOEPA amended the Truth in Lending Act ("TILA") and required increased disclosure, but it also im-

126 12 C.F.R. § 1026.43(e).
128 12 C.F.R. § 1026.43(g)(1).
129 Where permissible, mortgages with negative amortization require that the creditor disclose to the consumer that the transaction will, or may, result in negative amortization, explain what negative amortization is, and explain that negative amortization reduces the consumer's equity in the property. Dodd-Frank Act, sec. 1414(a), § 129C(f), 124 Stat. at 2151 (codified at 15 U.S.C. § 1639c(f)). Additionally, where the mortgage may negatively amortize and where it is also not a qualified mortgage, a first-time buyer must also obtain homeownership counseling from HUD-certified organizations or counselors, a parallel to the blanket requirement of homeownership counseling where there is a high-cost mortgage. Id. sec. 1414(a), § 129C(f)(2), 124 Stat. at 2151-52 (codified at 15 U.S.C. § 1639c(f)(2)).
130 Id. sec. 1414(a), § 129C(d), 124 Stat. at 2150-51 (codified at 15 U.S.C. § 1639c(d)).
131 Id. sec. 1414(a), § 129C(e), 124 Stat. at 2151 (codified at 15 U.S.C. § 1639c(e)).
133 140 CONG. REC. 19,191 (1994) (explaining the purpose of HOEPA).
posed limits on the substantive terms contained in “high cost” mortgages,\textsuperscript{134} closed-end loans that had interest rates or fees above a certain threshold.\textsuperscript{135} Dodd-Frank amended TILA substantially—replacing much of the HOEPA language—both in terms of the types of high-cost loans covered and the substantive limits imposed upon such mortgages. Dodd-Frank expanded the category of high-cost loans by including residential mortgage loans for purchase and construction as well as home-equity lines of credit and open-ended lines of credit.\textsuperscript{136} Dodd-Frank also treats as high cost any mortgage loan permitting the lender to charge a prepayment fee or penalty more than thirty-six months after consummation or where such fees exceed by more than 2 percent the amount pre-paid; high-cost mortgage regulations are triggered in these circumstances.\textsuperscript{137} Left intact by Dodd-Frank were HOEPA bans on increases in interest rates after default,\textsuperscript{138} negative amortization,\textsuperscript{139} and balloon payments whereby a scheduled payment was more than twice as large as earlier scheduled payments.\textsuperscript{140} Consistent with Dodd-Frank’s general hostility to prepayment penalties, the law repealed an exemption in HOEPA that originally permitted prepayment penalties in high-cost mortgages where the consumer’s monthly debt payments were less than 50 percent of their income and the income and expenses of the consumer were verified.\textsuperscript{141} Instead, Dodd-Frank effectuated a complete ban on prepayment penalties.\textsuperscript{142}

\textsuperscript{134} HOEPA, sec. 152, §§ 103(aa), 129(a)-(g), 108 Stat. at 2190-93 (codified at 15 U.S.C. §§ 1602(aa), 1639(a)-(g)).

\textsuperscript{135} Id.


\textsuperscript{138} HOEPA, sec. 152(d), § 129(d), 108 Stat. at 2193 (codified at 15 U.S.C. § 1639(d) (2012)).

\textsuperscript{139} Id. sec. 152(d), § 129(f), 108 Stat. at 2193 (codified at 15 U.S.C. § 1639(f)).

\textsuperscript{140} Id. sec. 152(d), § 129(e), 108 Stat. at 2193 (codified at 15 U.S.C. § 1639(e) (2006)). Dodd-Frank modified this provision only to allow for balloon payments where they are due to seasonal or irregular income of the borrower. Dodd-Frank Act, sec. 1432(b), § 129(e), 124 Stat. at 2160 (codified at 15 U.S.C. § 1639(e) (2012)).

\textsuperscript{141} Compare HOEPA, sec. 152(d), § 129(c)(2), 108 Stat. at 2192-93 (adding the TILA § 129(c)(2) exception), with Dodd-Frank Act § 1432(a), 124 Stat. at 2160 (repealing TILA § 129(c)(2)).

\textsuperscript{142} Dodd-Frank Act § 1432(a), 124 Stat. at 2160 (codified at 15 U.S.C. § 1639(c)(2)). Dodd-Frank also added further term bans for high cost loans. Under Dodd-Frank, lenders are prohibited: from recommending default on existing loans in connection with the closing or planned closing of a high-cost mortgage that refinances all or any portion of such debt, from charging any late payment fees in excess of 4 percent of the amount past due (or imposing such fees more than once on any single late payment), accelerating debt (except in cases involving of default due to a material violation of the loan documents unrelated to the payment schedule, or a due-on-sale provision), from financing points and fees in refi-
In an aggregate sense, Dodd-Frank's apparently stringent set of bans on terms in high-cost mortgages is likely to be among its least important provisions. Dodd-Frank does expand upon the types of mortgages that can be considered high cost under HOEPA. But under the pre-Dodd-Frank version of HOEPA (when only mortgages taken out for home improvement or refinancing were regulated as high cost mortgages), the market for such mortgages virtually disappeared. Since 2004, mortgages that are categorized as "high cost" mortgages under HOEPA have been a tiny fraction of all home refinancing and home improvement mortgages. That fraction peaked in 2005 at 0.44 percent, for a total of 36,000 loans, before falling more or less continuously until 2011, when the share of high-cost HOEPA mortgages was 0.05 percent, or, nationwide, only 2,387 home refinancing or improvement loans secured by the borrower's primary dwelling. As the CFPB has conjectured in a recent rulemaking, this may be because HOEPA eliminated holder-in-due-course protections for assignees and acquirers of HOEPA loans, thus destroying the secondary market for such mortgages. The CFPB also conjectured that it may be because of the compliance burdens imposed on lenders who write HOEPA loans, or because of

nancing transactions, and from financing of any prepayment fee or penalty payable by the consumer in a refinancing transaction where the creditor (or an affiliate) is the noteholder of the note being refinanced. *Id.* sec. 1433(a)(2), § 129(j)-(m), 124 Stat. at 2160-61 (codified at 15 U.S.C. § 1639(j)-(m)). Somewhat in contrast to the more restrictive nature of Dodd-Frank's post-HOEpA, TILA amendments, the new laws also provide that lenders can escape liability when they fail to comply with the statutory requirements, so long as the failures were made in good faith and the lender then fulfills some remedial requirements. *Id.* sec. 1433(f), § 129(v), 124 Stat. at 2163 (codified at 15 U.S.C. § 1639(v)). Those remedial requirements, though, essentially impose upon the lender the burden of making the loan conform to the high-cost mortgage standards, to make any restitution necessary, and to do so before the consumer institutes any legal action.

---


144 The first year that lenders were required to identify HOEPA high-cost loans under the Home Mortgage Disclosure Act was 2004. High-Cost Mortgage and Homeownership Counseling Amendments to the Truth in Lending Act (Regulation Z) and Homeownership Counseling Amendments to the Real Estate Settlement Procedures Act (Regulation X), 77 Fed. Reg. 49,090, 49,092 (proposed Aug. 15, 2012) (to be codified at 12 C.F.R. pts. 1024, 1026).

145 Robert B. Avery et al., *The Mortgage Market in 2011: Highlights from the Data Reported Under the Home Mortgage Disclosure Act*, FED. RES. BULL., Dec. 2012, at 1, 23. Note that although Dodd-Frank expanded HOEPA's coverage to include any closed end credit transaction secured by the consumer's dwelling, not just those taken out for home improvement or refinancing, the CFPB has by regulation restored the exemption from HOEPA's high-cost mortgage regime extended to mortgages taken out for the acquisition or initial construction of homes. See 12 C.F.R. § 1026.32(a)(2)(i) (2015).

146 High-Cost Mortgage and Homeownership Counseling Amendments to the Truth in Lending Act (Regulation Z) and Homeownership Counseling Amendments to the Real Estate Settlement Procedures Act (Regulation X), 77 Fed. Reg. at 49,092.
the "stigma" attached to writing such a loan. Another possibility, not explicitly discussed by the CFPB, is that HOEPA high-cost loans have always been rare because HOEPA thresholds have always been sufficiently high as to ensure that there are very few HOEPA high-cost loans. Whatever factor is most important in explaining the shriveling of the high-cost mortgage market, as a group they seem just as likely to apply to the new, expanded category of high-cost mortgages, so that this market is even less likely to recover after Dodd-Frank.

a. The "Qualified" Mortgage Safe Harbor

Dodd-Frank creates a presumption that its "reasonable ability to repay" standard is met by "qualified mortgage loans." The statute contains related and somewhat more general guidance for the CFPB in developing regulations defining "reasonable ability to repay," specifying factors (e.g., the borrower's debt to income ratio and total financial resources) that such regulations might include. Dodd-Frank empowers the CFPB to expand upon the category of "qualified" mortgages—as in allowing balloon payments if certain criteria are met—but only in very limited situations. Unsurprisingly, the CFPB has done so only very sparingly.

147 Id. Dodd-Frank also lowered the points and fees thresholds that cause a mortgage to be categorized as high cost. Dodd-Frank Act, sec. 1431(a), § 103(aa)(1)(A), 124 Stat. at 2157 (codified at 15 U.S.C. § 1602(aa)(1)(A)).

148 To be "qualified" under Dodd-Frank, a mortgage loan must have a term of less than or equal to thirty years, be fully documented in terms of borrower income and debts, be fully (including taxes and insurance) self-amortizing, not allow the consumer to defer payments, and have no balloon payments. Finally, to be "qualified" under Dodd-Frank, the mortgage loan's fees and points must be less than 3 percent of the loan amount, and in compliance with any regulations that the CFPB shall promulgate regarding ability to repay. Dodd-Frank Act, sec. 1412, § 129C(b)(2)(A), 124 Stat. at 2145-46 (codified at 15 U.S.C. § 1639c(b)(2)(A)).

149 Dodd-Frank dictates that "reasonable ability to repay" factors shall include "consideration of the 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." Id. sec. 1411(a)(2), § 129C(a)(3), 124 Stat. at 2142-43 (codified at 15 U.S.C. § 1639c(a)(3)). For instance, the CFPB has specified that a mortgage can be qualified only if the borrower's total monthly debt to income ratio is less than 43 percent including the mortgage. 12 C.F.R. § 1026.43(e)(2)(vi) (2015). Pending regulations by the relevant entities, the CFPB will also deem as "qualified" any mortgage eligible for purchase or guarantee by Fannie Mae or Freddie Mac, or to be insured or guaranteed by HUD. Id. § 1026.43(e)(4)(ii)(A)-(B).

150 Dodd-Frank Act, sec. 1412, § 129C(b)(2)(E), 124 Stat. at 2147-48 (codified at 15 U.S.C. § 1639c(b)(2)(E)). The creditor must determine that the consumer can make all required payments, excluding the balloon payments, and must do so by considering their debt to income ratio. Id. Additionally, the loan must provide for scheduled payments which are substantially equal, calculated using an amortization period that doesn't exceed thirty years; the interest rate must not increase over the term of the loan; and the loan must be greater than five years in length. Id. sec. 1412, § 129C(b)(2)(A), (E), 124
The qualified mortgage safe harbor is very valuable to lenders. Provided that the qualified loan is not a higher-priced loan, a lender writing a qualified mortgage enjoys a safe harbor not subject to rebuttal from potential liability under TILA. As for the extent of that liability outside the safe-harbor provision, a consumer who establishes that a lender has violated the "ability to repay" requirements may be able to recover special statutory damages equal to all finance charges and fees paid by the borrower (unless the creditor demonstrates that the failure to comply is immaterial). In addition to these special statutory damages, a successful plaintiff is entitled to the recovery already provided for under TILA. This recovery is twice the amount of the finance charges, with a statutory minimum damage of $200 and a maximum of $2000, plus court cost and attorneys' fees. As discussed further below, very large, class-action suits with thousands of plaintiffs seeking such statutory damages are typical under TILA. Perhaps of equal significance, when a loan is qualified, a violation of the "reasona-
ble ability to repay" standard cannot be raised (under TILA as amended by Dodd-Frank) as a defense or as a setoff in a foreclosure action.\textsuperscript{156}

Another, although highly conditional, statutory benefit of writing a mortgage that qualifies under Dodd-Frank is that the law allows prepayment penalties in qualified mortgages with fixed (but not adjustable) rates.\textsuperscript{157} Additionally, for a qualified mortgage to contain prepayment penalties, the APR must not be higher than that of a higher-priced mortgage transaction.\textsuperscript{158} Even where a qualified mortgage may contain a provision for prepayment penalties, Dodd-Frank heavily regulates the content of such penalties.\textsuperscript{159} At the end of the third year of the mortgage, prepayment penalties are completely prohibited, and Dodd-Frank also mandates that a creditor offering a qualified mortgage with a prepayment penalty also offer an alternative residential mortgage loan to the consumer that does not contain a prepayment penalty.\textsuperscript{160} The CFPB's regulations have comprehensively defined the contours of what such an alternative offer loan must look like.\textsuperscript{161} The CFPB also provides additional regulations for situations where a mortgage broker is making the alternative offer\textsuperscript{162} and where the creditor is also operating as a loan originator.\textsuperscript{163}

b. \textit{Dodd-Frank Strongly Incentivizes Lenders to Avoid Liability Under Its General Standards by Offering Qualified Mortgages Only}

The two general Dodd-Frank standards—that a lender refrain from abusive practices and be sure to exercise good faith in determining that the borrower has a reasonable ability to repay the loan—are necessarily related. Whether a term is abusive depends upon whether consumer has a reasonable chance of paying back the mortgage; whether the consumer has a reasonable chance of paying back the mortgage depends in part on the terms of the mortgage. Together, these standards introduce a new source of potential

\textsuperscript{156} 15 U.S.C. § 1639c(b).
\textsuperscript{157} 12 C.F.R. § 1026.43(g)(3)(i).
\textsuperscript{158} \textit{Id.} § 1026.43(g).
\textsuperscript{159} A qualified mortgage may not contain prepayment penalties exceeding 3 percent of the outstanding balance within the first year, 2 percent of the outstanding balance in the second year, and 1 percent of the outstanding balance in the third year. 15 U.S.C. § 1639c(e)(3). Interestingly, the Bureau's regulations do away with the 3 percent marker for the first year and impose a 2 percent cap on both the first and second year while leaving the 1 percent cap on the third year intact. 12 C.F.R. § 1026.43(g)(2).
\textsuperscript{161} The alternative offer loan must, like the primary offer with the prepayment penalty, not have an adjustable rate. Additionally, the type of interest rate—either fixed or step-rate—must be identical, and the loan term must be the same as well. 12 C.F.R. § 1026.43(g)(3).
\textsuperscript{162} \textit{Id.} § 1026.43(g)(4).
\textsuperscript{163} \textit{Id.} § 1026.43(g)(5).
TILA class-action liability for mortgage lenders and a defense in foreclosure actions that such lenders may bring.

Potential liability under Dodd-Frank's two general standards marked a sea change in federal mortgage law. Prior to Dodd-Frank, courts viewed the relationship between a consumer-borrower and a residential mortgage lender as an arms-length transaction in which each side was free to advance its own interests, subject of course to common law contract defenses such as fraud. Judges had refused to impose a duty on lenders to refrain from making a big mortgage loan to a consumer even when the lender should have known that the consumer could not repay the loan. Likewise, lenders had no duty to ensure the accuracy of home value appraisals, or to make or pay for a property inspection, and no general duty of care in making the mortgage. Without facts indicating a special and unusual relationship of trust and confidence between a particular lender and borrower (as where the lender acted as the borrower's financial advisor), lenders had no duty to explain the particular terms of a mortgage loan to a borrower.

Dodd Frank's "reasonable ability to repay" standard and abusive lending prohibition are meant to alter the previously arm's-length relationship between a residential mortgage lender and borrower. The only precedent in federal law for Dodd-Frank's "reasonable ability to repay" requirement was the requirement of HOEPA that lenders with a "pattern or practice" of asset-based (versus income-based) lending verify ability to repay before making a "high cost" loan. While there was some regulatory guidance suggesting that the "ability to repay" lender duty be broadened, Dodd-Frank is the first federal law to impose such a general duty on mortgage lenders. Given the indeterminacy of the general, "reasonable ability to repay" and abusive standards in Dodd-Frank, the law's safe harbor for qualified mortgages is extremely important. It is indeed that safe harbor that effectively penalizes certain mortgage terms by causing their presence to destroy eligibility for safe harbor status. As described above, Dodd-Frank itself sets out some requirements for a mortgage to be qualified. Notably, the mortgage must be fully documented in terms of borrower income and debts, be fully (including taxes and insurance) self-amortizing, may not allow the consumer to defer payments, and may not require any future balloon

165 John Pottow, Ability to Pay, 8 BERKELEY BUS. L.J. 175, 177 (2011).
166 Hirsch, supra note 164, at 23.
167 Id. at 23-24.
168 Pottow, supra note 165, at 180-81.
169 Id. at 182-84.
payments. In addition, loans with points and fees exceeding 3 percent of the total loan amount cannot be qualified loans under the statute.

The CFPB has added important clarity and an additional distinction to the world of qualified mortgages through its rulemaking. By way of clarification, the CFPB’s final rule states that for a mortgage to be qualified, the borrower’s monthly payments, which are calculated for a variable interest rate on the highest payment that will apply in the first five years of the mortgage, must be less than or equal to 43 percent of the borrower’s income. And there is an important distinction drawn in the rule between prime and subprime borrowers. For prime qualified mortgages, there is a “conclusive” presumption that the lender made a good faith determination of the borrower’s reasonable ability to repay the loan. For a qualified mortgage written to a subprime borrower, if the borrower can show that at the time the loan was written, her income and debt obligations left insufficient residual income (that is, after subtracting mortgage payment) or assets to meet living expenses, then she may succeed in overcoming the “reasonable ability to repay” presumption and establish that the lender failed to make a good faith determination that the borrower had a reasonable ability to repay.

By conclusively presuming that a qualified mortgage to a prime borrower meets its general standards, while failing to extend the conclusive presumption to a qualified mortgage written to a subprime borrower, Dodd-Frank creates a very strong incentive for lenders to favor writing qualified mortgages to prime borrowers. The effect of the qualified mortgage safe harbor created by Dodd-Frank is, however, even greater than this. In January 2014, Fannie Mae and Freddie Mac limited their purchases of mortgages to only those that are “qualified” under Dodd-Frank as implemented by the CFPB. Any mortgage that is not fully amortizing, is interest-only, has a prepayment penalty, or carries points and fees that are more than 3 percent of the total loan amount cannot be sold to Fannie Mae or Freddie Mac. This means that such loans must be kept on the books of the lending

171 Id. sec. 1414(a), § 129C(c)(3), 124 Stat. at 2150 (codified at 15 U.S.C. § 1639c(c)(3)).
172 The rule does allow a “temporary” category of qualified mortgages that do not meet the 43 percent rule but which meet the underwriting standards and so are eligible for purchase by Fannie Mae, Freddie Mac, or HUD. 12 C.F.R. § 1026.43(e)(2)(vi), (c)(4) (2015).
173 Id. § 1026.43(c)(1)(i).
174 Id. § 1026.43(c)(1)(ii)(A)-(B).
175 See FANNIE MAE, LENDER LETTER LL-2013-05, QUALIFIED MORTGAGES (2013); FANNIE MAE, SELLING GUIDE ANNOUNCEMENT SEL-2013-06, SELLING GUIDE UPDATES TO ABILITY TO REPAY AND QUALIFIED MORTGAGES (2013); FREDDIE MAC, BULL. NO. 2013-16, UPDATES IN RESPONSE TO THE CFPB FINAL RULE ON ABILITY TO REPAY (2013).
176 See FANNIE MAE, LENDER LETTER, supra note 175; see also FANNIE MAE, SELLING GUIDE, supra note 175.
institutions that write them. Especially for smaller lending institutions, this reinforces the already strong incentive created by Dodd-Frank to restrict mortgage lending to those it deems as qualified loans.

From the point of view of a potential lender, saying that Dodd-Frank creates an incentive to write only qualified mortgages is tantamount to saying that other, more complex mortgage contracts are effectively penalized. It is for this reason that one may accurately say that Dodd-Frank penalizes complex mortgages and attempts to restrict mortgage terms. By calling such a regulatory approach a regime of "sticky opt-outs," some behavioral-law-and-economics scholars have actually tried to say that this regime is somehow consistent with the libertarian-paternalist, choice-preserving approach. But a regime that penalizes firms for offering certain types of contracts cannot plausibly be described as one that attempts to influence consumers by altering the defaults that obtain if consumers do not explicitly choose otherwise; it is, simply, an approach that aims at restricting consumer choice by ridding the market of certain types of contracts.

II. THE ECONOMICS OF COMPLEX MORTGAGES

As noted earlier, the subprime mortgage market in the United States effectively no longer exists. Its disappearance was rapid and preceded the passage of Dodd-Frank. In the aftermath of the near collapse of the largest U.S. financial institutions in the fall of 2008, it is hardly surprising that lenders eschewed high-risk mortgages that had been targeted as a prime factor in causing the near collapse. A number of economic and regulatory factors undoubtedly explain the collapse of subprime lending. It is possible that the anticipation of Dodd-Frank's approach to subprime mortgage lending may have been one of those factors, as banks refrained from getting back into a business that they knew would soon be subject to a new regulatory regime that would surely lessen, if not eliminate entirely, its profitability.

This Article's purpose, however, is not to attempt to isolate the causal significance (if any) of Dodd-Frank in ending subprime mortgage lending.

177 See Bubb & Pildes, supra note 9, at 1646-47 (citing Michael S. Barr et al., Behaviorally Informed Regulation, in THE BEHAVIORAL FOUNDATIONS OF PUBLIC POLICY 440, 449-53 (Eldar Shafir ed., 2013)).
178 See supra note 64 and accompanying figure.
179 As I argue below, most subprime lending was driven by shared expectations of ever-rising housing prices. When those expectations proved to be massively wrong, subprime lending virtually disappeared. Indeed, even six years after the housing collapse, in 2014, subprime originations made up only 0.4 percent of all mortgage originations. See Alan Zibel & Annamaria Andriotis, Lenders Step Up Financing to Subprime Borrowers, WALL ST. J., (Feb. 18, 2015), http://www.wsj.com/articles/lenders-step-up-financing-to-subprime-borrowers-1424296649 (describing decline of mortgage lending to subprime borrowers and rise of auto lending to such borrowers).
It is instead to clarify and analyze the desirability of the Dodd-Frank approach to bad mortgages by considering in some detail precisely what financial economists have had to say about the supposedly bad mortgage terms.

A. Complex Mortgages: Not Just "Suitable" but Optimal for Certain Types of Consumers

It is important to begin with a clarification concerning complex mortgages. There are both sound theoretical models that predict, and rigorous empirical evidence confirming, that it is possible for a lender to have an incentive to sell a complex mortgage to a borrower for whom such a product is not a sound choice ex ante.\(^\text{180}\) There are economic models of how a lender can persuade borrowers into taking out harmful loans.\(^\text{181}\) There is evidence that in their desire to leverage and speculate on rising housing prices during the early twenty-first-century housing boom, a large number of buyers, assisted oftentimes by independent mortgage brokers,\(^\text{182}\) deliberately misstated their income.\(^\text{183}\) There is also economic evidence that certain

---

\(^{180}\) See discussion infra Section III.B.

\(^{181}\) See, e.g., DONALD P. MORGAN, FED. RESERVE BANK OF NEW YORK, DEFINING AND DETECTING PREDATORY LENDING, STAFF REPORT NO. 273 (2007) (discussing fraud); Philip Bond et al., Predatory Mortgage Lending, 94 J. FIN. ECON. 412 (2009) (discussing the use of asymmetric information to persuade).

\(^{182}\) For anecdotal evidence of how brokers assisted with such falsification and obfuscation, see Edmund L. Andrews, My Personal Credit Crisis, N.Y. TIMES (May 17, 2009), http://www.nytimes.com/2009/05/17/magazine/17foreclosure-t.html?_r-0.

\(^{183}\) Wei Jiang et al., Liar's Loan? Effects of Origination Channel and Information Falsification on Mortgage Delinquency, 96 REV. ECON. & STAT. 1, 12-15 (2014) [hereinafter Jiang et al., Liar's Loan?—2014]. Their dataset consisted of over 700,000 mortgage loans of a variety of types (prime and subprime, full-documentation and low-documentation, loans kept by banks and loans sold to securitizers) written by one of the top ten mortgage lenders (as of 2006) between 2004 and 2008. Id. at 1-3. This particular lender studied by Jiang and coauthors epitomized the practices distinguishing bank lending during the peak of the housing boom. Ninety percent of its loans were broker originated (with 72 percent originated by non-exclusive brokers). Id. at 5. Eighty-five percent of its loans were securitized and a full 70 percent were low-documentation loans (versus just 20 percent of the mortgage loans in the most comprehensive database of commercial mortgage loans). Id. Notably, however, only 14 to 15 percent of the sample loans were subprime (versus 18 to 21 percent originated nationally between 2004 and 2006). Id. Among other results, they found that broker-originated loans had a much higher delinquency rate, and that characteristics associated with lower financial sophistication, experience, and credit quality (youth, short employment tenure, first-time home buyer, and self-employment) as well as certain racial and gender characteristics (nonwhite and female borrowers) predict use of a mortgage broker. Id. at 7. They also were able to observe whether the loan was no or low documentation. Id. at 7-12. They originally summarized their findings in an earlier, unpublished work with the following examples: "Suppose Borrower A has a high credit score and high income but has major withholding from his income (such as alimony); Borrower B has high income that is difficult to verify (because he is self-employed) or is unwilling to reveal his true income (because of tax reasons); and Borrower C has a low
lenders targeted poor, uneducated and/or minority borrowers for advertisements of such loans, and that the higher cost lenders, those with higher reset rates on adjustable rate loans, were the biggest advertisers. Similarly, Sumit Agarwal and Brent Ambrose found evidence that people who were targeted by and responded to a direct mail campaign that advertised home equity loans were much more likely to choose a variable interest rate loan than were people who simply walked in to a lender. There is also evidence that during the housing boom, minority subprime borrowers were charged higher fees or rates than whites with similar credit scores. Finally, a natural experiment that took place in Chicago between 2005 and 2007 provides evidence that many subprime borrowers did not understand even
basic terms of their mortgage loans. The natural experiment was an Illinois law that implemented a pilot program mandating credit counseling for high-risk borrowers in certain areas of the city before such borrowers took out mortgage loans. The credit counselors discussed and explained the terms of specific mortgage loan offers. One of the most remarkable things found by the counselors during the pilot program was that an "overwhelming majority" of borrowers with ARMs who were counseled did not understand that their mortgage rates were not fixed.

These studies tend to confirm widely held beliefs thought to justify Dodd-Frank's hostility to complex mortgages and particular mortgage terms such as those that allow negative amortization. But there is a vast body of theoretical work in economics that explains how such mortgages and mortgage terms may in fact be optimal for certain types of borrowers. A similarly extensive body of empirical work exists showing that many people make precisely the mortgage choices that economic theory predicts they should. It is to these literatures that this Section turns.

1. Conventional Fixed Versus Adjustable Rate Mortgages

Although ARMs are not the most disfavored mortgage type by Dodd-Frank (the most disfavored are mortgages that allow backloaded or postponed payments), the mortgages that Dodd-Frank does penalize are all variants of the basic ARM. It is useful therefore to begin with the basic economic story of why a borrower would rationally prefer an ARM to a conventional FRM.

Because it is cheap when inflation is unexpectedly high and expensive when inflation is stable, a FRM entails substantial wealth risk to consumers. As its real, inflation-discounted value does not fluctuate much with inflation, an ARM does not impose such wealth risk. This type of mortgage, however, subjects borrowers to another source of risk—variation in monthly payments due solely to changes in nominal interest rates. As observed by John Campbell and João Cocco, this variation in monthly payments would not be a problem if people could borrow or obtain insurance based on future income. But given that such borrowing is not possible due to moral hazard, unless mortgage borrowers still have substantial equity in their homes (or financial assets), upward adjustments in interest rates force borrowers to

189 Sumit Agarwal et al., Predatory Lending and the Subprime Crisis, 113 J. FIN. ECON. 29, 31-32 (2014)
190 Id.
191 Id. at 32.
cut consumption or else default. In addition, an ARM puts the risk of changes in real interest rates squarely on mortgage borrowers. On the other hand, the interest rate on an ARM is less than that of a FRM. This occurs when short-term interest rates are not too high relative to long-term rates, as FRMs incorporate both a term risk premium and also a charge for the prepayment option. As a result, borrowers who know they have a high probability of relocating and selling the home should be attracted to the ARM’s lower interest rate.\textsuperscript{193}

In a model where both a mortgage borrower’s labor income and the market interest rate are uncertain and variable, Campbell and Cocco find that, aside from the lowest part of the income distribution (for which the cash-flow risk of the ARM is too great), an ARM generates higher lifetime utility than a FRM.\textsuperscript{194} In their model, defaults under ARMs occur when interest rates and mortgage payments are too high, as mortgage borrowers wish to avoid paying down the principal on the mortgage when interest rates are high (and the present value of the mortgage low).\textsuperscript{195}

A rational preference for ARMs among younger, liquidity-constrained individuals emerges even more clearly in a model in which individuals choose among investing in owning a home, bonds, and stocks. In such a world, for most of their lives (but especially in early working decades), investors maximize utility by saving the bond risk premium associated with a FRM and by instead taking on an ARM and using leverage to maximize their expected return from investing in equities.\textsuperscript{196} Even for a risk-averse investor, it is only in later decades of the individual’s life that the FRM (along with some investment in short-term bonds) becomes optimal.\textsuperscript{197}

\begin{footnotesize}
\begin{enumerate}
\item Id. at 1453.
\item Id. at 1490-91.
\item Id. at 1477-82.
\end{enumerate}
\end{footnotesize}
There are also models in which borrowers have private information regarding their default or mobility probability. In these models, different borrower types may prefer different types of mortgages, with the general result being that borrowers who perceive a higher probability of moving and prepaying or defaulting or who expect their future income to increase will prefer the ARM.

These cross sectional predictions—predictions, that is, about which sorts of borrowers will choose ARMs versus FRMs at a particular point in time—have generally been confirmed by empirical work. Jan Brueckner and James Follain, for example, found that more mobile households were more likely to choose an ARM, as theory would predict. J. Sa-Aadu and C.F. Sirmans replicated this finding on mobility and also found that while income had no statistical significance in explaining the choice of an ARM over a FRM, positive expected increases in future income was significant in holding do not decrease late in life among higher net-worth investors: housing ownership late in life reduces the dependence of consumption on the return on portfolio liquid assets. See João F. Cocco, Portfolio Choice in the Presence of Housing, 18 REV. FIN. STUD. 535, 552 (2005).

See generally Jan K. Brueckner, Borrower Mobility, Self-Selection, and the Relative Prices of Fixed- and Adjustable-Rate Mortgages, 2 J. FIN. INTERMEDIATION 401 (1992); Jan Brueckner & James R. Follain, The Rise and Fall of the ARM: An Econometric Analysis of Mortgage Choice, 70 REV. ECON. & STAT. 93 (1988); Jan K. Brueckner, The Pricing of Interest Rate Caps and Consumer Choice in the Market for Adjustable-Rate Mortgages, 5 HOUS. FIN. REV. 119 (1986). Brueckner explored the choice between ARM's and FRM's by different borrower types. As one would expect, borrowers with a higher probability or moving (or more generally prepaying their mortgages) would prefer an ARM, as the initial interest rates on ARM's are lower than on FRM's, and this means that for a borrower who expects to be in the loan for a relatively short period, the ARM dominates. Jan K. Brueckner, Why Do We Have ARMs?, 21 J. AM. REAL ESTATE & URBAN ECON. ASS'N 333, 333-43 (1993). Similarly, if interest rates are expected to increase, then borrowers with relatively high discount rates who expect future income to increase will prefer ARMs. Id. Somewhat more complex results emerge in a model in which the borrower has better information than the lender about her probability of default. In such a model, we find that when default cost is sufficiently high, there is a separating equilibrium with risk-averse borrowers in which high-default-risk borrowers prefer ARM's and lower-risk borrowers prefer FRMs. See generally Lisa L. Posey & Abdullah Yavas, Adjustable and Fixed Rate Mortgages as a Screening Mechanism for Default Risk, 49 J. URBAN ECON. 54 (2001). The explanation for this result is that relative to a FRM, the ARM brings the additional risky cost when interest rates are high despite high income, but also the additional benefit of being able to avoid default in low income states when interest rates turn out to be low. Since high-risk borrowers are more likely to enjoy the benefit of avoiding default in the low income state due to low interest rates, the ARM is relatively more attractive to them.

Even in market equilibria in which higher risk borrowers choose ARM's, theoretical models of borrower choice between FRMs and ARMs generally do not yield an unambiguous prediction as to the relative default probabilities on ARMs versus FRMs. For example, in the model of Posey and Yavas, risk borrowers choose ARMs because the chances of a low interest rate are sufficiently high that they offset the chance of a low income state. Id. at 64. When in fact periods of low interest rates correspond to periods of relatively stable income, default rates on ARM would, on that model, be predicted to be low.

See generally Lisa L. Posey & Abdullah Yavas, Adjustable and Fixed Rate Mortgages as a Screening Mechanism for Default Risk, 49 J. URBAN ECON. 54 (2001). The explanation for this result is that relative to a FRM, the ARM brings the additional risky cost when interest rates are high despite high income, but also the additional benefit of being able to avoid default in low income states when interest rates turn out to be low. Since high-risk borrowers are more likely to enjoy the benefit of avoiding default in the low income state due to low interest rates, the ARM is relatively more attractive to them. Even in market equilibria in which higher risk borrowers choose ARM's, theoretical models of borrower choice between FRMs and ARMs generally do not yield an unambiguous prediction as to the relative default probabilities on ARMs versus FRMs. For example, in the model of Posey and Yavas, risk borrowers choose ARMs because the chances of a low interest rate are sufficiently high that they offset the chance of a low income state. Id. at 64. When in fact periods of low interest rates correspond to periods of relatively stable income, default rates on ARM would, on that model, be predicted to be low.

See generally Lisa L. Posey & Abdullah Yavas, Adjustable and Fixed Rate Mortgages as a Screening Mechanism for Default Risk, 49 J. URBAN ECON. 54 (2001). The explanation for this result is that relative to a FRM, the ARM brings the additional risky cost when interest rates are high despite high income, but also the additional benefit of being able to avoid default in low income states when interest rates turn out to be low. Since high-risk borrowers are more likely to enjoy the benefit of avoiding default in the low income state due to low interest rates, the ARM is relatively more attractive to them. Even in market equilibria in which higher risk borrowers choose ARM's, theoretical models of borrower choice between FRMs and ARMs generally do not yield an unambiguous prediction as to the relative default probabilities on ARMs versus FRMs. For example, in the model of Posey and Yavas, risk borrowers choose ARMs because the chances of a low interest rate are sufficiently high that they offset the chance of a low income state. Id. at 64. When in fact periods of low interest rates correspond to periods of relatively stable income, default rates on ARM would, on that model, be predicted to be low.
all equations in increasing the probability that a borrower would choose the ARM.\(^{200}\)

Of course, these models also predict that there may be higher default rates among ARM borrowers, and that default will be concentrated among liquidity-constrained borrowers. As Campbell and Cocco recount, ARM defaults tend to occur much earlier in the life of the loan than do defaults on FRMs, and ARM defaulters have lower levels of negative equity but much larger mortgage payments relative to household income than do defaulters on FRMs.\(^{201}\) In other words, ARM defaulters are liquidity constrained—with low savings and very costly or non-existent alternatives to mortgage borrowing—and they default on their mortgages because their choice is between default and large decreases in consumption.\(^{202}\)

As for predicting the choice between ARMs and FRMs in different market conditions, as an ARM carries real interest rate risk for borrowers while a FRM puts inflation risk on the borrower, a very basic prediction of these models is that a rational but risk averse consumer should find the ARM more attractive when real interest rates are relatively stable, but inflation rates are uncertain and expected to potentially increase, so that the long-term bond risk premium are high.\(^{203}\) If such rational but risk averse individuals have adaptive expectations, and base their forecast of future short-term rates (and hence ARM payments) on an average of recent short-term rates, then the individual’s choice between an ARM and a FRM should be based on the difference between the prevailing long-term interest rate and the average of recent short-term rates. That is, if the average recent short-term rate is low relative to long-term rates, then the rational-but-risk-averse individual should expect the future ARM rate to also be low relative to future long-term rates; the person would therefore choose an ARM. This adaptive-expectations framework may be thought of as one way that people estimate the long-term bond risk premium. Testing such a model against a dataset of over 900,000 mortgage loans issued between 1994 and 2007, Ralph Koijen, Otto Van Hemert, and Stijn Van Nieuwerburgh find that it explains over 70 percent of the variation in ARM share.\(^{204}\) Importantly, the share of all types of ARMs (including the backloaded ARMs to be discussed below), rose dramatically only after several years of low interest rates—something that occurred both in the 1991-1993 and 2002-2004 peri-


\(^{202}\) Id. at 1519; see also Ronel Elul et al., What “Triggers” Mortgage Defaults?, 100 AM. ECON. REV.: PAPERS & PROC. 490, 490-91 (2010).


\(^{204}\) Koijen and coauthors find that, as in previous work, (see, e.g., Campbell & Cocco, Household Risk Management, supra note 192), the yield spread, the difference between the current short-term and long-term bond yields, does not explain ARM share. See Koijen et al., supra note 203, at 293.
ods as a direct and intended result of the Federal Reserve’s low interest rate policies.

2. Prepayment Penalties

In popular perception and the actual text of Dodd-Frank, prepayment penalties are high on the list of bad mortgage terms. However, the economic logic of prepayment penalties, and their ability to benefit both lenders and borrowers, has been demonstrated in a variety of contexts.

Economists analyzing prepayments in the mid-1980s were working in a world in which the most recent mortgage market catastrophe was the collapse of the savings and loan industry in the high and rising interest rate environment of the late 1970s and early 1980s. In that environment, as interest rates increased, savings and loans institutions had to pay more to attract deposits. Yet the market value of their primary assets—long-term FRMs—declined, leaving the institutions with negative net worth. An additional problem for the savings and loans was that increased interest rates caused people to hold on to their existing mortgages, which cut cash flow from prepayments. For part of this period, due-on-sale clauses, which eliminated a borrower’s right to sell an in-the-money mortgage (one with a below market interest rate) by disallowing the mortgage to be assumed, were legally unenforceable. Giving borrowers the right to sell mortgages exacerbated the problems of savings and loans by causing some borrowers who would have prepaid (with mortgage assumption prohibited) when selling their homes to instead sell their relatively low interest rate mortgages. In effect, due-on-sale clauses imposed a prepayment penalty on mortgagors by taking away their right to the capital gain from selling in-the-money mortgages along with their homes. Eliminating this penalty may have increased housing turnover but it also kept low interest rate mortgages on the books of savings and loans.

Kenneth Dunn and Chester Spatt produced the first rigorous theoretical treatment of prepayment penalties in the aftermath of the high and rising interest rate environment of the late 1970s and early 1980s. Dunn and Spatt viewed the due-on-sale clause as imposing a penalty for prepayment

207 Id. at 43.
on borrowers (equal to the entire difference between the market value of an existing high interest rate mortgage and its remaining principal balance). Their analysis focused on the role played by prepayment penalties in reallocating risk between mortgage lenders and borrowers. Assuming away renegotiation at the point at which a borrower contemplates a sale, a prepayment penalty increases the borrower’s payment to the bank when the borrower sells the house, but in exchange the borrower can expect lower payments in the state of the world when she does not sell the house. Such a contract—depicted for a two period world in the footnote below—effectively transfers some of the gain from a house sale (regardless of the source of the gain) to the bank, but it also reduces borrower payments in the no-sale state of the world. Dunn and Spatt show that even though a prepayment penalty may eliminate some beneficial home sales, if borrowers are risk averse (diminishing marginal utility of wealth), then what they lose from potentially high gains from sale may be more than offset by what they gain in the form of reduced payments over the periods when there is no opportunity for a beneficial sale.

A more recent analysis of the welfare consequences of mortgage prepayment penalties by Chris Mayer, Tomasz Piskorski, and Alexei Tchistyi presumes, as did the earlier Dunn and Spatt model, that mortgage lenders may condition mortgage terms on the observable level of initial borrower wealth but cannot observe whether the borrower would gain so much by moving that it is worth her while to sell the house and prepay the mortgage.

Define the following terms: let $y$ be the payment on a loan with no prepayment penalty, $y - b$ denote the payment on a loan with a prepayment penalty equal to $x$. Assume both loans have the same principal balance, $B$. The payment schedule for the two loans is depicted below:

<table>
<thead>
<tr>
<th>Time</th>
<th>No prepayment penalty</th>
<th>Prepayment Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-B</td>
<td>-B</td>
</tr>
<tr>
<td>1</td>
<td>$y + y/(1+r)$</td>
<td>$y - b + x + (y - b)/(1 + r)$</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>$y - b$</td>
</tr>
</tbody>
</table>

Note that the difference in the present value payments on loans with a prepayment penalty and those without is given by: $(y - b) + (y - b)/(1 + r) = -b - b/(1 + r)$ — a net gain due to the lower interest rate—while the difference when a sale does occur, triggering the prepayment penalty, is given by: $y - b + (y - b)/(1 + r) + x - y - y/(1 + r) = -b - b/(1 + r) + x$.

209 Dunn & Spatt, Analysis of Mortgage Contracting, supra note 208, at 293.
210 See id.
211 In fact, banks can renegotiate with a borrower-seller for a lower prepayment penalty. Still, the contractual prepayment penalty is an important determinant of how much the borrower pays at the renegotiation stage, and generally, the higher the contractual prepayment penalty, the higher the renegotiated prepayment penalty.
212 This depiction of the difference between a two period mortgage with and without a prepayment penalty is taken from Dunn & Spatt, Analysis of Mortgage Contracting, supra note 208, at 302 n.9. Define the following terms: let $y$ be the payment on a loan with no prepayment penalty, $y - b$ denote the payment on a loan with a prepayment penalty equal to $x$. Assume both loans have the same principal balance, $B$. The payment schedule for the two loans is depicted below:

Note that the difference in the present value payments on loans with a prepayment penalty and those without is given by: $(y - b) + (y - b)/(1 + r) = -b - b/(1 + r)$ — a net gain due to the lower interest rate—while the difference when a sale does occur, triggering the prepayment penalty, is given by: $y - b + (y - b)/(1 + r) + x - y - y/(1 + r) = -b - b/(1 + r) + x$.
213 Id. at 294.
As higher borrower wealth lowers the probability of default, mortgage rates fall with borrower wealth. Mayer and his coauthors then consider the possibility that a borrower may wish to prepay because her wealth and creditworthiness have increased, allowing her to obtain a new mortgage at a lower interest rate.

In the Mayer model, the problem with a mortgage contract that allows such prepayment is that only those borrowers whose creditworthiness increases will prepay, causing the average creditworthiness of the remaining pool of initial borrowers to decline. Anticipating this, a mortgage lender would charge a higher interest rate on mortgages that allow prepayment. Crucially, the borrowers who are left in the original pool—those whose creditworthiness has gotten worse or at least not improved—are not only those who are the most likely to default but also those whose default probability is most sensitive to the interest rate. This means that prepayment rights generate an indirect increase in the interest rate charged due to the higher probability of default triggered for remaining borrowers when the lender anticipates that the luckiest borrowers will prepay. When interest rates increase as a consequence of allowing prepayment, some risky borrowers will be unable to obtain credit. Their lost utility from homeownership, plus the avoided social cost of refinancing, means that banning prepayment—even in FRM contracts—can increase social welfare.

Mayer and colleagues test their predictions regarding the impact of prepayment penalties on interest rates by studying a sample of securitized mortgages written in 2003. Their sample consisted of two types of mortgages: (1) 9,600 prime FRMs—defined as loans to borrowers with relatively low loan-to-value ratios and very strong credit scores—none of which had prepayment penalties, and (2) 9,000 subprime FRMs, loans where the borrower’s FICO credit score was less than 620. Of these 9,000 subprime FRMs, about 2,500 had no prepayment penalty.

Using logit regressions,

---


215 Another recent model, developed by Jevgenijs Steinbuks and Gregory Elliehausen, likewise presumes that the source of the buyer’s asymmetric information about her prepayment probability is her superior knowledge about the probability of improved creditworthiness. They obtain a qualitatively similar result regarding market equilibrium without regulatory restrictions: borrowers who perceive a relatively high probability of prepayment choose the high interest rate mortgage with no prepayment penalty, while borrowers with a low probability of prepayment choose a lower interest rate contract with a prepayment penalty. Jevgenijs Steinbuks & Gregory Elliehausen, The Economic Effects of Legal Restrictions on High-Cost Mortgages, 49 J. REAL ESTATE FIN. ECON. 47, 54 (2014).

216 First introduced in 1989, the Fair, Isaac and Company (“FICO”) credit score is a measure of an individual borrower’s risk of default. The measure is based mostly on an individual’s payment history and debt burden, and ranges (for the basic score) from 300 (the worst) to 850. There are other, newer credit scores, but the FICO remains the most widely used. See Mayer, Piskorski & Tchistyi, supra note 214, at 706-08.

217 Note that the fact that not all subprime borrowers had prepayment penalties is, as Mayer and colleagues note, consistent with a world in which borrowers have private information about their proba-
they found that the probability of mortgage prepayment was higher in locations with large increases in house prices, and, even more importantly, that the effect of house price appreciation on prepayment was much greater for riskier subprime borrowers than for prime borrowers.218 Looking at a sample of 12,000 subprime loans originated in 2005 without prepayment penalties for which they were able to identify not only changes in house prices but yearly changes in Equifax borrower Vantage credit scores, they found that an increase in credit score unrelated to changes in house prices increased the probability of prepayment.219 Finally, as their analysis would predict, the majority of subprime borrowers with non-agency FRMs between 2003 and 2006 chose mortgages with prepayment penalties.220 Most importantly, controlling for a variety of observable risk characteristics, they found that for subprime borrowers, choosing a prepayment penalty lowered the interest rate by 0.195 percent on the margin.221 Thus even though the average prepayment penalty period for subprime loans taken out in 2003 was only three years,222 borrowers who agreed to such a penalty got a substantial interest rate discount.223

3. Backloading of Mortgages

Backloading or delaying payments required by a mortgage means that payments increase systematically over time.224 This may be accomplished via a variable interest rate mortgage with an interest rate that begins at a fixed low (a so-called teaser) rate and then (at the reset date) begins to float at a rate pegged to market rate. Backloading payments can also be accomplished by allowing borrowers to first delay interest and/or principal payments for some initial period during which the loan balance actually grows, and then catching up postponed interest and principal payment with balloon payments. As discussed earlier, backloaded mortgages are precisely the
types of mortgage contracts that Dodd-Frank effectively bans. There is, however, a substantial body of both theoretical and empirical work showing that for certain borrower types, backloaded mortgages are the best, welfare-maximizing choice.

All backloaded mortgages allow borrowers to delay payments, either of principal, interest, or both. How other mortgage terms respond to backloading reflects the economic motives for backloading. From one point of view, when a borrower becomes more optimistic about future house prices, she will perceive that it is less likely that she will default in the future, as it is more likely that the house value minus her outstanding balance is either positive or at least smaller than her cost of defaulting. For this reason, borrowers will have an incentive to make larger future (relative to present day) mortgage payments. Still, as house price expectations may turn out to be wrong, the choice of backloaded mortgages should lead to a higher equilibrium probability of default. In a study of over sixteen million mortgages originated over the 2004-2007 period, Brueckner and colleagues found that both of these predictions are confirmed: as proxied by past price increases, counties with higher expected house price-appreciation had a great share of backloaded mortgages, with the 2004-2007 backloaded mortgages having a significantly higher probability of default (as of March, 2012) than did conventional mortgages. Backloaded mortgages with very short one to three year initial teaser rate periods had the highest default rate.

Backloaded mortgages also typically link the payments required of the borrower to the market interest rate. Rather than describing mortgages such as option ARMs as backloaded, one can just as accurately describe them as long-term contracts that give borrowers the flexibility to vary their payments of interest and principal as the market interest rate and their own circumstances change over time. In a world where both market interest rates and borrower income vary stochastically over time, Piskorski and Tchistyri demonstrate formally that the key features of option ARMs are consistent with the features of an optimal mortgage contract. In their model, the twin goals in designing a mortgage contract are to avoid triggering costly default caused by random but temporary swings upward in interest rates or downward in the borrower's monetary situation (in the sense of lower income or higher necessary spending on things such as medical conditions) while sim-

---

225 Bubb & Pildes, supra note 9, at 1641–44.
227 Brueckner et al., supra note 224, at 14.
228 Id. at 16.
229 Id. at 13.
ultimately giving the borrower an incentive to truthfully report her income. The mutual gain from a mortgage contract, in their model, lies in the fact that a relatively impatient borrower can take advantage of the fact that lenders discount the future at market interest rates.

A mortgage contract which ties the borrower's payments to the current market interest rate but gives the borrower an option to make smaller payments allows the borrower to build up the mortgage balance by paying less than the variable payment when interest rates are high. This helps the borrower avoid costly default when the mortgage contract has low present value to the lender relative to its value to the borrower. When market rates are low and the mortgage has high present value to the lender, the borrower not only pays interest but also may pay down principal, in effect transferring some of her gain from trade (because of her higher discount rate, the mortgage generates high gains to the borrower in low market interest rate states of the world) to the lender. In equilibrium, the borrower defaults only if a number of adverse events (e.g., income shortfalls, necessary spending increases) occur, the borrower has built up a balance close to the limit of the mortgage line or credit, and interest rates increase.

Compared with a simpler FRM, the optimal mortgage not only varies borrower payments with the lender's market interest rate, but also has a higher borrower credit limit. Moreover, the utility gain from the optimal, flexible mortgage contract is highest for borrowers with the highest income variability or those who make the lowest down payments relative to house price; it is precisely the riskiest borrowers who benefit the most from the optimal, flexible mortgage contract.

The Piskorski and Tchistyi model in which mortgages possessing the features of option ARMs is not one in which house prices are allowed to vary. In subsequent work, however, Piskorski and Tchistyi extend (while somewhat modifying) the model to a world where not only the borrower's income but also house prices vary stochastically, and mortgage loans can be renegotiated. One goal of the parties in writing the mortgage contract is again to avoid the costs of default and liquidation. While there is the constraint that borrowers be given the correct incentives to truthfully report income, with house price changes, there is the additional goal of maximizing the value of the option to sell the home in the future at a higher price. Piskorski and Tchistyi find that under the optimal mortgage contract, the amount of the loan and interest rate paid by the borrower increases during periods of good times, when house prices appreciate, except that the least

231 Id. at 3113.
232 Id. at 3100.
234 Id. at 1407.
creditworthy borrowers are given an interest rate reduction during such boom times. This interest rate reduction anticipates the possibility of future income growth for the least creditworthy individuals and increases the probability that such a borrower will continue in the mortgage until her income increases and she can sell the home and pay off the mortgage. Such a mortgage, which is essentially a hybrid ARM with an initial low teaser fixed rate, is optimal for the least creditworthy because it avoids costly default (with the low initial rate). The increase in rates on such a mortgage is a response to information that borrower income is likely to increase, which is revealed by the borrower’s history of making payments. The higher interest rate charged to more creditworthy borrowers during periods of high house prices compensates the lender for the expected costs it incurs during house price (and borrower income) downturns. Finally, their model implies that borrowers with little debt and a low risk of default do not receive mortgage modifications even in housing price downturns (precisely because they are at little risk of default), while borrowers with bigger amounts of debt at higher risk of default do receive modifications. But borrowers with the greatest debt do not receive modifications because they would create a disincentive for borrowers to pay back their loans rather than build debt.

As an empirical matter, the first thing to know about backloaded mortgages is that they first arose in the high inflation environment of the 1980s, not in the housing boom of 2002-2006. Nominal mortgage interest rates were extremely high in the 1980s, reflecting high, expected future inflation. High nominal rates meant high payments on conventional fixed rate loans, and such high payments priced many households out of the housing market. Most seriously, households who had high expected future income relative to present income were effectively prevented from borrowing and matching their home purchase to their lifetime expected income. ARMs such as option ARMs that allow the postponement of the full interest due on the mortgage were a way for consumers to lower the near-term real interest rates on their mortgages. These mortgages allowed households facing borrowing constraints—typically younger and/or poorer households—a way to finance home purchases that they otherwise could not make in an environment with very high expectations of future inflation. As

235 Id. at 1408-09.
236 Precisely the same justification for hybrid ARM’s to the least creditworthy borrowers was derived by Igor Makarov and Guillaume Plantin. See Igor Makarov & Guillaume Plantin, Equilibrium Subprime Lending, 68 J. FIN. 849, 850 (2013).
238 Id.
239 See Gerardi et al., supra note 46, at 346.
Pisksorski and Tchistyi predict, alternative mortgages thus allow households to smooth their housing consumption over their lifetimes, better matching housing consumption to lifetime income.\footnote{241}

Backloaded mortgages remained popular in the non-inflationary environment that existed in the United States from 1990-2005. This was a period of declining inflation but rapid increases in both house prices and real income. On the Pisksorski and Tchistyi model,\footnote{242} during such a period, one would expect to see mutually beneficial complex alternative mortgages, typically with negative amortization, being sold to both sophisticated and high-risk borrowers. This is precisely what the evidence shows. The option ARM played a central role in the California housing market, not after 2000, but during the 1990’s. By 1996, one third of all mortgages being written in California were option ARMs, and for Golden West, the lender specializing in option ARMs, the average mortgage was for less than $400,000.\footnote{243} During the 2000s, with rapid housing price appreciation, option ARMs were especially important in markets with increasing income and increasing house prices.\footnote{244} The increase in the U.S. homeownership rate over the period 2000-2005 was driven not by mass borrowing by subprime, poorly educated borrowers but by an increase in the homeownership rate among college-educated households.\footnote{245} As it is within this group that the expectation of rising future income is most prevalent, on theoretical grounds, one would expect precisely what was observed: an increase in the demand for those mortgages that allowed either low or no payment of principal in the early years of the loan.\footnote{246}
Other studies confirm this picture of what may be called rational sub-prime borrowing. In a study of over 10 million mortgage loan contracts originating between 2003 and 2007, Amromin and colleagues found that even within particular geographic areas (and controlling for other state-specific effects), it is households with higher income and higher credit ratings that chose complex, subprime-type mortgages. Moreover, it was precisely such relatively well-off and well-educated households that tended to prefer loans with little or no required documentation. As Amromin and colleagues conclude, "there is little evidence that a typical complex mortgage is taken out by poor and naive households that are more prone to predatory lending." In related work, Cocco studied two decades of panel data from the United Kingdom where virtually all mortgages have adjustable rates, thus isolating alternative, subprime-type mortgages as those ARMs that allow deferred payment of principal (primarily interest-only loans). Summarizing, he says:

[Alternative mortgage products ("AMP")] were used by households to lower initial mortgage payments and/or to borrow larger amounts relative to their labor income (higher loan-to-income (LTI) ratios), compared to principal-repayment mortgages. The results also show that borrowers who expected higher and safer future income were more likely to take out an AMP. The estimation of household labor income profiles shows higher income growth subsequent to mortgage origination for households with AMPs, but also for those that take out mortgages with high LTI ratios. This is further evidence of the role played by mortgage loans in life-cycle consumption smoothing.

Interestingly, Cocco found that during the period 1991-2000, when alternative mortgages in the United Kingdom were originated by independent brokers paid a percentage of the loan amount by lenders, there were high loan-
to-value ratios, and borrowers were more likely to have relatively low education levels; in the period between 2000-2008, alternative-mortgage-product borrowers were better educated and more likely to have higher future incomes.

To be sure, not all subprime borrowing during the early-twentieth-century housing boom was by better-educated and more-affluent households, and not all such borrowing by those households was an optimal effort to smooth life-cycle consumption, as Cocco’s U.K. data might be taken to suggest. A study by Gadi Barlevy and Jonas Fisher presents evidence that “backloaded” mortgages were much more prevalent in housing markets where house price appreciation was very rapid during the boom and where the collapse in prices was large and sudden. Moreover, Barlevy and Fisher report cross-sectional evidence that the use of interest-only mortgages was not a response to lack of affordability in some markets. And time series evidence in the study shows that in the housing markets with the greatest penetration of such loans, their use preceded, rather than followed, rapid rates of house price appreciation. They also report higher prepayment rates on interest-only versus more traditional loans during the period of price increases and higher default rates on such loans during periods of price decreases. Also consistent with the use of backloaded mortgages for speculation is that, as Amromin and colleagues’ study found, it was especially in markets with rising house prices that high-income and well-educated people were taking on backloaded mortgages to buy houses that were very expensive relative to their income.

Indeed, the existing evidence does not support the view that as the housing boom went on, lenders suddenly discovered that they could sell complex subprime mortgages to unsophisticated borrowers who could not understand their terms and soon defaulted as the actual payments they had promised to make became due. When they compared subprime mortgage lending over the period 2000-2002 to 2004-2006, the peak of the boom, Geetesh Bhardwaj and Rajdeep Sengupta found that credit quality was on average actually higher during the latter period, and that defaults would have actually been lower among this later subprime borrowing cohort had housing prices not begun their rapid decline.

The loan to value ratio is the ratio of the mortgage loan amount to the appraised value of the house being mortgaged.

Cocco, Evidence on Benefits, supra note 250, at 1665-66.


Id. at 3, 22, 30-31.

Id. at 25-29.

Id. at 30.

Amromin et al., supra note 244, at 17-19.

Geetesh Bhardwaj & Rajdeep Sengupta, Subprime Cohorts and Loan Performance, 41 J. BANKING & FIN. 236, 239 (2014). For a consistent result with this finding, see Christopher Palmer, Why
Thus although some backloaded mortgages were sold to borrowers with bad credit during the housing boom, it is a myth that subprime loans went only to borrowers with bad credit. Moreover, contrary to popular belief, while the initial, so-called teaser rates on subprime mortgages were lower than subprime borrowers would have gotten on a fixed rate loan, they were by no means low in absolute terms. Over the period 2001-2007, the average teaser rate on a hybrid subprime ARM was between 7.3 and 9.7 percent (compared to prime hybrid rates of between 2 and 3 percent). Moreover, the initial teaser rate on a subprime hybrid ARM was typically equal to the minimum interest rate that could be charged over the entire life of the loan. For many subprime borrowers, refinancing as prices rose involved not just getting a new loan for the same amount at a lower interest rate, but the extraction of some or all of the increase in equity due to house price appreciation (viz, refinancing a new loan for a higher amount than originally borrowed). The purpose of about 55 percent of the subprime mortgage loans in Demyanyk and Van Hemert’s data was to extract cash by refinancing an existing mortgage loan into a larger, new mortgage loan. Few of the refinancing loans in their data involved no cash extraction. However, as Demyanyk points out, for mortgages originated in 2006 and 2007, the years of highest default rates, cash-out refinancing mortgages actually had a lower default rate (17 and 20 percent respectively for 2006 and 2007 originations) than mortgages used to buy a home (23 and 27 percent respectively). Perhaps most importantly, despite the unprecedented housing collapse and Great Recession, the evidence shows that the vast majority of subprime loans made from 2000 to 2005 were win-win deals for both lender and borrower. After two years, more than 80 percent of loans

---

261 There is evidence that these loans to less creditworthy borrowers were concentrated in locations with higher expected house price appreciation. See Atif Mian & Amir Sufi, The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis, 124 Q.J. ECON. 1449, 1449-50 (2009). Additionally, 75 percent of the mortgages originated over the 2003-2007 period among the least creditworthy borrowers had initial low teaser rates, while only 10 percent of loans written to more creditworthy borrowers had such low teaser rates. See Mayer et al., supra note 57, at 30.


263 Id.

264 See Bhardwaj & Sengupta, Subprime Mortgage Design, supra note 56, at 1508 tbl.2.

265 See Demyanyk & Van Hemert, supra note 55, at 1855.

266 Demyanyk, supra note 262.
made before 2006 to the highest risk borrowers—those with credit scores below 620 and who often had histories of “serious debt repayment problems”—had either been repaid or at least avoided serious delinquency.267

B. Comparing Rational Actor Theory and Evidence On Complex Mortgages with the Behavioral Law and Economics Account of Such Contracts

All of the literature discussed in the immediately previous Section posits that consumer-borrowers are rational actors, perhaps acting with limited and incomplete information, but nonetheless rational in the sense that they are deliberately choosing among alternative types of mortgage contracts with knowledge of the terms of the contracts. To briefly recap the earlier discussion, that literature shows that perhaps most borrowers—certainly those that are younger and more liquidity constrained—will generally maximize their discounted lifetime utility by choosing ARMs, although such mortgages will also have a tendency to attract borrowers who believe it is more likely that they will move and therefore wish to prepay the mortgage. If rational borrowers gradually adapt their expectations about future short-term interest rates that ARM rates are based upon to recent short-term rates, then they will choose ARMs when short-term rates have, for some period of years, been low relative to the long-term rates that determine FRM rates.

As reviewed earlier, there is substantial empirical evidence confirming these basic predictions of the rational borrower model of mortgage choice about what kinds of borrowers took out ARMs and when they chose those ARMs over FRMs. That evidence shows that for large numbers of borrowers, the choice to take out an ARM made perfect economic sense and was a win-win deal for certain borrowers and their lenders.268 The rational actor approach goes further, both theoretically and empirically, in explaining the terms of complex mortgages. Prepayment penalties have been shown theoretically as a way for lenders to lower initial interest rates by excluding the possibility that the best borrowers will prepay as their credit rating and/or income goes up, thus leaving only higher risk borrowers with the original mortgage. Empirically, prepayment penalties have been shown to have precisely the predicted effect of lowering initial interest payments.269 As for backloaded mortgages—variants of ARMs that allow borrowers to delay payments over time, sometimes paying more, sometimes less, and sometimes building up the principal balance rather than paying it down—while those mortgages theoretically can be, and empirically during the housing boom were, used to speculate on rising home prices, they have been around

267 Foote et al., supra note 243, at 8.
268 See discussion supra Section II.A.
269 See Mayer, Piskorski & Tchisty, supra note 214, at 695.
for decades. As theory predicts, primarily better-educated borrowers who expect higher and safer future income finance by using backloaded mortgages. Further, such mortgages are taken on in order to lower the risk of default by allowing payments to temporarily decline when interest rates increase or the borrower’s situation deteriorates when unexpected and yet temporary misfortune occurs. At the same time, theory predicts that such mortgage types will also be offered to higher risk borrowers, with interest payments increasing as a history of borrower payments signals higher borrower creditworthiness.

This theory predicting and evidence confirming the rationality and mutual optimality of complex mortgages for many consumers show that the behavioral-law-and-economics account of such products depicts only part of the story. As set out most lucidly and prominently by Bar-Gill, the behavioral-law-and-economics story explains mortgage complexity as an attempt to extract higher prices from consumers who are too unsophisticated to realize and too impatient to fully value what they have actually agreed to pay for a mortgage loan. He argues that the behavioral account is supported both by evidence showing that many people did not understand the terms of their complex mortgages and also by evidence of a high probability of default on complex mortgage within the first year after origination. As we have seen, however, a relatively high propensity for early default is one of the predictions of the rational choice theory of complex mortgage demand. Moreover, as discussed above, the evidence is that the vast majority of subprime loans written during the housing boom did not default, and that cohorts with high default rates were those that encountered unexpectedly large drops in home prices, not those that did not understand the terms of their mortgages.

III. EVALUATING THE POTENTIAL COSTS AND BENEFITS OF DODD-FRANK’S MORTGAGE CONTRACT RESTRICTIONS

To evaluate the sort of contracting restrictions imposed by Dodd-Frank, one needs first to develop hypotheses regarding how potential lenders will respond to such restrictions. Responses could take a variety of forms and include both changing price terms in mortgage contracts and non-price credit rationing. Given such hypotheses, the next question is whether the evidence is consistent with the hypothesized behavior. Even if the evidence shows that the impact of contracting restrictions is likely to be

270 See, e.g., Foote et al., supra note 243, at 9.
271 Amromin et al., supra note 244, at 17-19.
272 See Bar-Gill, supra note 11, at 1118-29.
273 Id. at 1125-26.
274 See discussion supra Section II.A.
on net harmful, that does not end the normative analysis, for one must ask whether there is a better legal policy than restricting contract terms. This Part undertakes this series of normative inquiries.

A. How Restrictions on Mortgage Contract Terms May Harm Consumers

This Section discusses the negative impact of regulatory restrictions on contract terms that results in a decline of beneficial contracts. Such an impact is predicted by neoclassical economic theory. This Section then discusses the limitations of behavioral-law-and-economics analysis, which fails to fully consider different consumer types when analyzing mortgage contract restrictions.

1. Regulatory Restrictions on Contract Terms Encourage Credit Rationing and Limit Credit Availability: Neoclassical Economic Theory and Evidence from State Anti-Predatory Lending Laws

The economic analysis in the previous Part revealed a fundamental flaw in Dodd-Frank’s effective penalization of certain types of complex mortgages. Many, perhaps most, of the mortgage contract types that Dodd-Frank penalizes—those that fall into the “non-qualified” category—are mutually beneficial for lenders and for some types of borrowers. Those contracts are, relatively speaking, complex, and so it is also possible that some consumers might fail to understand such contracts and might mistakenly agree to them, agreeing to pay more for their mortgages than they would if they were better-informed and warier shoppers. Dodd-Frank’s basic structure therefore poses a tradeoff: banning some kinds of mortgage contract terms so as to benefit consumers who are confused—and would agree to contracts with such terms even though it makes them worse off relative to their no-mortgage status quo—necessarily lowers the welfare of other types of consumers. These other consumers are perhaps more sophisticated and would have been better off with the more complex mortgages.

In practice, matters are likely to be worse. For a lender considering whether to write a mortgage that is non-qualified under Dodd-Frank, the choices are more limited than prior to the passage of that law. In particular, interest-only loans and loans with prepayment penalties are unmarketable, uninsurable, and trigger potentially massive liability. But as discussed previously, there is solid economic theory and evidence indicating that deferred payment loans such as interest-only or option ARM mortgages are attractive to borrowers who are liquidity constrained but who expect rising future income. These transactions make borrowers and lenders better off

275 See discussion supra Section II.A.
by reducing the probability of mutually destructive default and foreclosure. Similarly, theory and evidence suggest that prepayment penalties may be important in keeping interest rates relatively low by effectively lowering the lender’s perceived expected default rate.\footnote{276} By making flexible, backloaded mortgages and prepayment penalties too costly for lenders to write, Dodd-Frank has not changed the economic reality of mortgage contracting under incomplete information. Lenders still confront the basic adverse selection problem of trying to write affordable mortgages without attracting the higher-default-probability (or prepayment), most costly borrowers.

When backloaded payments and prepayment penalties are removed from the mix of contracting options, lenders have remaining only the most basic contract terms, the interest rate and the initial down payment, as ways to screen borrower risk types and to lower default risk. One of the basics of credit-based investment is that the higher the amount of borrower equity, the bigger the required decline in the value of the asset to make it optimal for the borrower to default.\footnote{277} Hence other things equal, increasing borrower down payment requirements will lower the lender’s risk of default. The downside of increasing down-payment requirements is that such increases screen out of the market many borrowers who have good future prospects and low probability of default but who are currently liquidity constrained, while allowing in the market those borrowers who have current liquidity but who may very well have a high perceived probability of prepayment (or even default)—borrowers who are costly to the lender.

Even worse, increasing the base interest rate does nothing to screen out the high risk of default borrowers but instead may encourage such borrowers to stay in the mortgage pool. Because of this effect, the interest rate increases incentivized by Dodd-Frank’s restrictions on other mortgage contract terms themselves may generate an incentive for welfare-reducing credit rationing which did not exist in the world of unrestricted mortgage contracts. In one of the most famous papers ever published on markets with incomplete information, Joseph Stiglitz and Andrew Weiss showed that beyond a point, increasing interest rates attract only the riskiest borrowers, and argued that for this reason banks will have an incentive to ration credit at lower interest rates.\footnote{278} While more recent research has shown that the Stiglitz and Weiss result was not quite correct,\footnote{279} the important point for
present purposes is that the full range of contractual terms observed prior to Dodd-Frank effectively allowed lenders to screen and price for different borrower risk profiles. If anything, this type of screening expanded the availability of credit. It is true, at least in theory, that private contract menus which deal with the adverse selection problem by effectively prohibiting cross subsidies—as where low risk borrowers choose terms (such as prepayment penalties for lower interest rates) that are not attractive to higher risk borrowers—can sometimes be improved upon by other contracts that may not be offered in competitive equilibrium. But the optimal policy responses to this problem are directed at helping lower risk borrowers get around credit rationing and involve things like government loan guarantees and/or public investment subsidies. They generally all involve a cross subsidy of high-risk borrowers by lower risk borrowers. Regardless, these policies have the opposite effect of Dodd-Frank’s contractual restrictions that, if anything, tend to force a high-interest-rate, credit-rationing environment that the market itself did not generate.

As observed previously, state anti-predatory lending laws passed after 1999 imposed bans on particular mortgage terms, such as prepayment penalties, for covered mortgages (high-cost mortgages in all states, a broader category of mortgages in some). As those laws imposed bans on particular mortgage terms, their passage can illuminate the impact of such bans on the supply of covered mortgages. North Carolina passed the first anti-predatory lending law (in 1999), and like HOEPA, for high-cost loans, it prohibits a long list of contract terms (including prepayment penalties, neg-

Weiss Model, 99 AM. ECON. REV. 2012, 2012-16 (2009). However, expected lender revenue generally obtains its global maximum at the maximum interest rate, beyond which demand for credit vanishes. Id. Thus even theoretically, the case for the rationing interest rate is not nearly as strong as suggested by Stiglitz and Weiss.


282 See Jeffrey M. Lacker, Does Adverse Selection Justify Government Intervention in Loan Markets?, 80 FED. RES. BANK RICHMOND ECON. Q. 61, 62-63 (1994) (noting that under a different concept of market equilibrium, there may be no government intervention that makes both low- and high-risk borrowers better off than under the equilibrium).

ative amortization, and financing of fees). Studies of North Carolina's law that use lending in nearby states as a control generally found that North Carolina's law reduced the volume of subprime lending. Studies of the impact of such laws in different states found that the toughest anti-predatory lending laws generated a reduction in subprime loans, while more moderate laws had little effect. But these studies suffer from their reliance on subjective indices of the severity of state laws. Taking an alternative, event-study approach under which they compare predicted versus actual subprime volumes after the passage of an anti-predatory lending law, Jevgenijs Steinbuks and Gregory Elliehausen find that for high-cost loans (the category covered by all such state laws), there were very large declines (as high as 94 percent, in New Mexico) in subprime loan originations, especially for the states that had been coded in previous work as having very tough anti-predatory lending laws.

More pointedly, state predatory lending laws that ban prepayment penalties seem to have precisely the predicted effect of causing an increase in interest rates. In a relatively long-term study covering 1999-2006, Raphael Bostic and colleagues found that interstate variation in the frequency with which subprime loans had prepayment penalties was "caused by state anti-predatory lending laws that restrict those penalties, not economic fundamentals such as mobility and affordability." And Bostic and colleagues also found a shift toward mortgages with higher initial (and therefore potential future) interest rates on ARMs. Neoclassical economic theory of mortgage lending under imperfect information precisely predicts this outcome. Thus it seems fair to see that the existing evidence on the impact of mortgage term bans found in state anti-predatory lending laws is at the very least consistent with the informal predictions set out above: that other things equal, Dodd-Frank's mortgage contract restrictions will reduce the

---

287 Steinbuks & Elliehausen, supra note 215, at 70.
volume of subprime lending and cause a change in the mortgage terms offered to such markets.


As contract restrictions are not one of the standard remedies for exploitative contracting recommended by behavioral-law-and-economics scholars, they have not spent much time analyzing the welfare implications of such bans. Interestingly, however, in the area of mortgage contract regulation, Lauren Willis has in fact proposed such behavioralist-inspired contract term bans. Before Dodd-Frank was passed, Willis advocated something very similar to what Dodd-Frank has actually done: bans on balloon payments, negative amortization loans, and prepayment penalties. According to Willis, the objective of such bans is to make mortgages simpler so that consumer shopping costs fall, increasing competition and lowering mortgage prices. Willis thus presumes that the problem caused by complex mortgages is higher prices. However, this is not quite what behavioral economics actually predicts. According to behavioral economic theory, in equilibrium sellers generally charge a low up-front price with costly add-on prices. With mortgage contracts, such pricing structure would involve low initial interest rates—viewed as the base price—with future rate increases and prepayment penalties then viewed as the add-ons that extract value from consumers who fail to recognize that these are elements of the price and/or overly discount such later prices. Ryan Bubb and Richard Pildes argue that for the unsophisticated and/or impatient consumers targeted, such a pricing structure leads to underestimation of the actual full price and thus too much borrowing, while at the same time making it so hard for such consumers to understand the actual cost of a mortgage that they may be unable to effectively comparison shop, tending to increase prices and thus inefficiently reduce consumer borrowing. This of course is also not quite correct. If, as by hypothesis, the only price understood and considered by the unsophisticated mortgage borrower is the up-front price,

For many complex consumer financial contracts, such as mortgages, there seems little realistic prospect that either disclosure or defaults can really be effective in protecting consumers from bad choices, putting product bans back on the table as a possible remedial policy. See Bubb & Pildes, supra note 9, at 1638.

See generally Willis, Decisionmaking, supra note 23.

See id. at 823.

Id. at 826.

Id. at 711.

See, e.g., Bubb & Pildes, supra note 9, at 1643.

Bubb & Pildes, supra note 9, at 1641.
then additional aspects of the price that add complexity cannot affect consumer incentives to shop.

The problem with such behavioral-law-and-economics analysis of complex consumer financial contracts is that it fails to distinguish carefully enough between consumer types. Formal (that is, mathematical) behavioral economics models rest on the assumption that there are two types of consumers: unsophisticated (or impatient) consumers who accurately perceive only the simple or up-front price—the initial fixed rate on a hybrid ARM—and sophisticated consumers who accurately perceive the full price—the initial rate, plus possible future rate increases, plus any prepayment penalties and the like. The real efficiency loss from complex pricing in such behavioral economics models is in the efforts that sophisticated consumers incur to bypass the add-on (or as they are called in the literature "shrouded") price features. Moreover, in such models, there is a welfare gain from complexity. Complexity induces a lower base price, encouraging contracts with some consumers who would not buy at a higher but simpler price, but who do value the loan contract above its actual expected cost. It has been shown that under certain conditions of market demand, banning complex pricing add-ons can actually increase the upfront, simple price by more than the price of the add-ons, so that such bans end up harming consumers.

Such a result has thus far been demonstrated only in the simple context where there is a single period price. As of now, there has been little formal behavioral economic analysis of how contracting restrictions might alter the equilibrium in markets where firms use contractual complexity to exploit unsophisticated consumers into paying higher prices than they appreciate. Still, it would be going much too far to say that work in behavioral economics supports the economic case for the kind of mortgage contract restrictions imposed by Dodd-Frank.

3. Emerging Evidence on Dodd-Frank’s Impact: Shrinking Subprime Mortgage Lending, Contributing to the Trend from Ownership to Renting, and the Explosion of Other types of Subprime Lending

While there are certainly other factors contributing to some recent trends in the housing market, Dodd-Frank has likely decreased subprime mortgage lending, increased renting, and has lead to an increase in other types of lending.

---

297 See discussion supra Introduction.
298 David de Meza & Diane Reyniers, *Every Shroud Has a Silver Lining: The Visible Benefits of Hidden Surcharges*, 116 ECON. LETTERS 151 (2012). It should be noted that in this model, whether or not bans on price add-ons harm or help consumer welfare depends upon the magnitude of the stated price increase that follows when the complex add-on or shrouded prices are restricted.
a. The End of Subprime Mortgage Lending

Emerging data, while not systematic, nonetheless tends to confirm that Dodd-Frank has contributed to a shrinking supply and rationing of home mortgage credit. The data discussed earlier shows the virtual disappearance of complex subprime mortgages from the American mortgage market over the period 2008 to 2014 and severe credit rationing in the extension even of conventional American fixed-interest-rate, thirty-year, self-amortizing loans. That data is consistent with the analysis in this Article. Of course, there are other factors explaining why subprime mortgages disappeared over the period 2008-2014. Such factors would include the desire of lenders to cut back on all forms of risky investments so as to survive the heightened regulatory scrutiny brought on by the Great Recession. Moreover, as short-term rates have remained extremely low (with bruited hikes in short-term rates still not a reality as of late 2015), while Basel capital requirements remain lax to say the least, banks have been able to earn fabulous returns on equity even with very low-yielding, safe investments. On the demand side, continuing high unemployment and a large overhang of non-mortgage debt, including student loans, have surely had an impact in reducing mortgage demand. Thus Dodd-Frank is only one of several factors all driving a decrease in the supply of mortgage credit generally and, in particular, of complex mortgages.

Still, Dodd-Frank has contributed to a sea change in the American mortgage market, a change that has meant the virtual elimination of mortgage borrowing by poorer and higher risk borrowers. According to one report, as of the summer of 2014, approximately 12.5 million potential borrowers, disproportionately black and Hispanic, who might have qualified for a mortgage prior to 2009, have been deemed unqualified since that time. The confluence of Dodd-Frank’s rigid “reasonable ability to repay” guidelines with high foreclosure rates, home prices that have yet to recover, and high unemployment rates has meant that for residents of poorer, working-class communities, mortgages are unobtainable. Indeed, the Federal Reserve reports that the “vast majority” of banks now no longer make home

---

299 See Fin. Crisis Inquiry Comm’n, supra note 60, at 69-70 & fig.5.2.
302 Shaila Dewan, In Home Loans, Subprime Fades as a Dirty Word, N.Y. Times (June 28, 2014), http://nyti.ms/TG5u3Y.
purchase loans to subprime borrowers. Consumers with lower credit scores are still taking out loans, but these loans are not to make a long-term investment in a home, but for automobiles, credit cards, and personal borrowing. Indeed, according to data compiled by the credit-reporting firm Equifax, during the first eleven months of 2014, 50 million consumer loans (and credit cards) totaling more than $189 billion went to subprime borrowers. The social desirability of policies that have diverted subprime borrowing away from homes and toward borrowing for automobiles and other types of consumption is at the very least questionable.

On the supply side, Dodd-Frank restrictions on mortgage contracting may have a ratchet effect, permanently changing the terms and reducing the supply of higher risk mortgage contracts. Zillow mortgage data shows that only by the fourth quarter of 2013 did the number of lenders responding to inquiries from subprime borrowers begin to approach the number of lenders responding to prime borrower inquiries. In southern California, a high home price market and one of the centers of subprime lending during the housing boom of the early years of the twenty-first century, by mid-2014, at least one lender was writing loans to borrowers with lower credit scores or sparser credit history. However, the prices for such loans—interest rates from 8 to 13 percent and down payment requirements as high as 35 percent—are far higher than during the boom period. When mortgage contracts must be simple, both interest rates and down-payment requirements may be much higher.

b. Increasing Equity and Decreasing Homeownership: The Movement from Home Ownership to Rental

In the aftermath of the housing collapse, lenders quickly moved to increase down payment or equity requirements for mortgage borrowers. Whereas down payment requirements had fallen during the housing boom so that zero down payment loans were one of the products offered, in the aftermath of the housing collapse, lenders quickly raised down payment

---

306 Id.
307 Dewan, supra note 302.
308 Id.
309 Id.
requirements to 20 percent or more. These high down-payment requirements have been criticized as pricing certain groups, especially the young and minorities, out of homeownership while doing little to actually reduce the risk of default by screening out higher risk borrowers. In 2014, Fannie Mae and Freddie Mac responded to such criticism by lowering the down payment required for loans to be eligible for purchase by them from 5 to 3 percent. While this move has itself been criticized on the ground that recent evidence shows that higher down payments really do reduce default risk, the important point for present purposes is that increasing the down payment is a predictable response of lenders designing mortgage contracts under the constraints imposed by Dodd-Frank. When flexible interest rate and payment structures with prepayment penalties are taken off the table, the down payment or equity requirement is one of the few mortgage contract terms left to use to lessen default risk. It is not a precise instrument and it excludes some low risk but liquidity-constrained borrowers, but it is precisely one of the instruments one would expect to be used in a world of limited contractual choice.

With so many people priced out of the mortgage market since 2008, it is unsurprising that since the collapse of the early twenty-first-century housing boom and the passage of Dodd-Frank, the American housing market has moved decidedly away from residential homeownership and toward a world where more and more people rent their homes. By the final quarter of 2015, the homeownership rate in the United States had fallen below 64 percent, the lowest level in decades, while the increase in the number of households renting that occurred just between 2010 and 2014 was almost double the increase in renters for any decade since the 1950's. Most significantly, as depicted by Figure 3, the drop in the national homeownership rate has been sharpest among people younger than 45 years of age—

313 A 10 percent down payment requirement would have reduced the default rate on a sample of loans written between 2000 and 2008 from 5.8 to 4.7 percent. See id. (citing ROBERTO G. QUERCIA ET AL., BALANCING RISK AND ACCESS: UNDERWRITING STANDARDS AND QUALIFIED RESIDENTIAL MORTGAGES 18-19 (2012), http://ccc.sites.unc.edu/files/2013/02/QRM_Underwriting.pdf).
precisely the age groups likely to be more liquidity constrained and more likely to be affected by lending standards that have relaxed only for the most creditworthy borrowers with long credit histories.\footnote{See Neil Shah, \textit{Loan Standards Ease for Safest Borrowers}, \textit{WALL ST. J.}, May 7, 2013, at A7. It should be noted that the evidence does not show that the decline in homeownership for younger cohorts is due to such potential owners being squeezed out of first time homeownership. Interpreting the evidence is complicated, because an older first time homebuyer is likely to differ in many respects from a younger first time homebuyer, respects that are not captured by credit scores, but the evidence shows that dramatic declines in first time home buying have been concentrated in states (like California and Texas, and Ohio and Michigan) where the housing boom and collapse was worst. See Elora Raymand & Jessica Dill, \textit{Are Millennials Responsible for the Decline in First-Time Home Purchases? Part 2}, FED. RES. BANK ATLANTA (July 1, 2015), http://realestateresearch.frbatlanta.org/rer/2015/07/are-millenials-responsible-for-the-decline-in-first-time-home-purchases-part-2.html.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure7.png}
\caption{Annual Homeownership Rates for the United States by Age Group: 1982-2015}
\end{figure}

Figure 3. Annual Homeownership Rate by Age Group\footnote{Annual and Quarterly Charts of Rental and Homeowner Vacancy Rates and Homeownership Rates, U.S. CENSUS BUREAU, http://www.census.gov/housing/hvs/data/charts.html (last visited Mar. 25, 2016) (showing figure from link entitled “Annual Homeownership Rates for the United States by Age Group: 1982 to Present”).}

As more people rent, single-family homes are increasingly not owned but rented. According to one survey, the number of single-family homes rented from 2006 to 2012 increased by 3.2 million, increasing the single-family share of all rentals from 30 percent in 2006 to 34 percent in 2012.\footnote{Patient Money Enters Single-Family Rental Market, NAT’L REAL ESTATE INVESTOR (Dec. 3, 2014), http://nreionline.com/single-family-housing/patient-money-enters-single-family-rental-market.}

According to the National Association of Realtors, investors accounted for almost a fifth (19 percent) of home sales from 2010 to 2013, rising to 32
percent of all home sales in the U.S. during March 2013. Large private equity firms are competing across the country to buy up and rent homes. Some firms such as Blackstone Group, which has invested $4 billion to buy 24,000 properties, or Colony Capital, whose rental division owns 9,500 properties, are investing directly in purchasing and then renting homes. Other firms, such as Cerberus Capital Management, appear to be following a different strategy, lending billions of dollars to smaller home investors. Whatever the particular strategy pursued, such institutional investors are believed to have bought more than 200,000 single-family homes from 2012 through early 2014. It seems that the American housing markets most troubled by strategic defaults and foreclosures have been changing most rapidly. In Orange County, California, for example, investor purchases accounted for 22 percent of home sales in 2012, double the 11 percent of sales made up by such purchases in 2007.

From a broader perspective, however, it is far from clear that high home-equity requirements of 20, 30, or even 40 percent are normatively desirable. As observed earlier, Dodd-Frank’s restrictions on mortgage contract terms are hardly the only, and not necessarily the most, important factor in explaining the decline in mortgage credit availability and homeownership. On the margin, however, the law has surely played some role in cementing the quite remarkable movement away from home ownership as part of the American dream.

B. Potential Benefits of Mortgage Contract Restrictions

Mortgage contract restrictions do benefit some consumers by preventing speculation on house prices and preventing some negative externalities that may result from foreclosures in neighborhoods. Despite these effects, an important question remains as to whether these spillovers justify restrictions on contracting. This Article argues that they do not because Dodd-Frank’s approach ignores an entire range of alternative policies that could reduce externalities but still preserve contractual freedom and opportunity.

319 Id.
320 Id.
324 See discussion supra Part II.
1. Protecting Unsophisticated Borrowers

As explained above, perhaps the primary justification for mortgage contract restrictions emerging from behavioral law and economics is that such restrictions are necessary to prevent unsophisticated consumers from taking on mortgages that are not in their ex ante interest and which they would not agree to were they more sophisticated. As noted earlier in this Part, there is empirical evidence that some subprime lenders did intentionally create such mismatches by persuading unsophisticated subprime borrowers to take on complex mortgages that were not suitable for them. To the extent that Dodd-Frank’s mortgage contracting penalties lower the frequency of such mismatches, those penalties generate a benefit.

The key question, however, goes to the size of this benefit. Surprisingly, there is dearth of empirical work that even attempts to measure the extent to which complex mortgages are being taken on by financially constrained and perhaps unsophisticated borrowers versus borrowers who are making a more cool-headed choice. There appear to be only two studies that have tried to control for borrower financial sophistication as a variable explaining the choice between an ARM and a FRM.\(^\text{32}\) Both studies looked also at the ARM-FRM interest rate spread as a variable explaining the choice.\(^\text{32}\) While borrower sophistication cannot be directly observed, using proxy measures for such sophistication,\(^\text{32}\) these studies did find that less sophisticated and more financially constrained households were more likely to choose ARM’s and less likely to be influenced by the ARM-FRM interest rate spread in making that choice.\(^\text{32}\) Conversely, the choice between an ARM and FRM among more sophisticated households was very sensitive to the ARM-FRM spread.\(^\text{32}\)

These finding are consistent with the existence of a mismatch in which unsophisticated borrowers mistakenly take on complex mortgages, but the studies also provide evidence showing that the extent of the mismatch actually declined during the housing boom. As Smith and colleagues report,\(^\text{33}\) the basic Survey of Consumer Finances (“SCF”) data used in these studies


\(^{32}\) Coulibaly & Li, supra note 325, at 661; Smith et al., supra note 325, at 5.

\(^{32}\) In the case of Coulibaly and Li, education and stock ownership proxied for financial sophistication, while Smith and colleagues used stock ownership and level of education plus shopping behavior and understanding of the SCF questions. See Coulibaly & Li, supra note 325, at 670; Smith et al., supra note 325, at 6.

\(^{32}\) Coulibaly & Li, supra note 325, at 661; Smith et al., supra note 325, at 5.

\(^{32}\) Smith et al., supra note 325, at 11.

\(^{32}\) Id. at 11 & fig.3.
shows that share of ARM borrowers made up by the least sophisticated quintile declined from 30 percent in the pre-boom year of 2001 to 20 percent in 2004, rising only to 24 percent by 2007, the final year of the boom.\footnote{Id.} In stark contrast and in confirmation of the importance of interest rate differentials to sophisticated borrowers, the ARM share in the most sophisticated quintile rose strikingly from 17 percent in 2001 to 29 percent in 2004 (before falling back to 18 percent by 2007).\footnote{Id.} The picture that emerges from this evidence is that there have always been some unsophisticated borrowers who choose an ARM because they can afford it even though they cannot understand it. The frequency of this problem, however, did not increase during the housing boom. Thus although Dodd-Frank may have generated a benefit by precluding unsophisticated borrowers from taking on more complex mortgage loans that they do not understand, this benefit likely has nothing to do with the larger goal of preventing another housing boom and collapse.

2. Preventing Sophisticated Consumers from Speculating

One cannot deny that even if complex mortgages are welfare improving for large categories of borrowers, they were also used to speculate on rising home prices during the latter stages of the early twenty-first-century housing boom.\footnote{See discussion supra Section I.A.} However, even granting that there is evidence that backloaded mortgages were used for such speculation, it does not directly follow that such mortgages are so potentially harmful as to be penalized. As Barlevy and Fisher caution, the policy implication of such speculation is not that backloaded mortgages are normatively undesirable and should be penalized. As Barlevy and Fisher caution, the policy implication of such speculation is not that backloaded mortgages are normatively undesirable and should be used as a signal that monetary authorities should intervene in housing markets:

\begin{quote}
...we should emphasize that our findings do not imply that backloaded mortgages caused a bubble in housing, nor do they imply that regulators should have disallowed these contracts. In fact, our model predicts a speculative bubble would occur even if lenders could only offer traditional mortgages, and that backloaded mortgages actually keep overvaluation in check by encouraging speculators to unload the houses they bought. Our analysis also ignores positive aspects of backloaded mortgages such as their benefits for liquidity-constrained households, and these must be taken into account in formulating policy. Finally, a potential argument for allowing backloaded contracts is that they may be the "canary in the coal mine" for anticipating price movements. That said, there is nothing in our analysis that tells us the exact form of backloaded contract one should look for, and once policymakers condition their actions on the choice of contracts, this may affect the incentives for lenders and borrowers to choose these contracts in the first place. \footnote{Barlevy & Fisher, supra note 255, at 31.}...
\end{quote}
If anything, this cautionary statement is too qualified because the role of mortgage contract design in house price speculation is likely minor. The evidence is very strong that the main determinant—as standard price theory would predict—of why some housing markets are subject to rapid rates of house price appreciation while others are not is the elasticity of the supply of housing. Markets where the share of undevelopable land is high, and the supply of housing inelastic have the highest rates of house price appreciation.\textsuperscript{335} As for the great nationwide American housing boom of the early twenty-first century, that boom corresponded to a period when the Federal Reserve kept short-term interest rates at historically low levels for a very long time.\textsuperscript{336} To the extent that complex and especially backloaded mortgages were associated with the housing boom and subsequent collapse, the evidence supports the story that such products proliferated as instruments of speculation toward the end of the boom, but the boom itself had a wide variety of causes, many of which were more fundamental than mortgage contract design.

3. Aggregation Effects and Foreclosure Externalities in Risky Mortgage Lending

In the aftermath of the Great Recession, a very broad justification for government intervention in all kinds of financial markets is that private contracts in these markets generate both pecuniary and non-pecuniary externalities—costs and benefits to people who are not parties to the contract and that are not accounted for by the contracting parties. This justification has been applied to markets for consumer mortgages, where it has been argued that the unparalleled extension of credit to subprime borrowers that occurred between 2002 and 2007 generated risks for entire neighborhoods and regional economies; risks that were not internalized by parties to subprime mortgage contracts.\textsuperscript{337} On this story, when credit was extended to a subprime borrower, not only was there a risk of default, a risk that might (or might not) be correctly priced into the contract, but also an increased risk of mass foreclosures causing declines in neighborhood property values, safety, and quality when a large number of subprime borrowers defaulted.

\textsuperscript{335} Edward L. Glaeser et al., *Housing Supply and Housing Bubbles*, 64 J. URBAN ECON. 198, 199 (2008); Joseph Gyourko et al., *A New Measure of the Local Regulatory Environment for Housing Markets*, 45 URBAN STUD. 711, 714 (2008).


\textsuperscript{337} See discussion supra Section 1.B.
a. Subprime Foreclosures as Common Law Nuisance or Threshold Level Pollution: Evidence

Upon closer inspection, this argument relies upon two distinct market failures in the mortgage market. The first market failure is that even a single mortgage can generate externalities that the borrower does not internalize because foreclosure on even a single mortgage causes harm in the form of lowered prices and physical deterioration to other properties. This market failure analogizes risky, subprime mortgage contracts to a common law nuisance. The second market failure maintains these bad consequences from mortgage foreclosure indeed may happen, but only if the total number of foreclosures in a particular location exceeds some threshold. This second argument hinges not so much on externalities from a particular mortgage contract as on the failure of contracting parties to internalize the aggregate risks imposed—on the national or state economy, or on local neighborhoods—when the level of mortgage credit to high-risk borrowers within the relevant geographic unit exceeded some threshold. This argument is not so much that individual subprime mortgage contracts generated external effects, but that the overall level of subprime borrowing generated such effects once it exceeded some aggregate level. Lastly, this argument, which may be called “subprime as pollution,” analogizes high-risk mortgage contracts to a kind of industrial effluent: okay and perhaps even beneficial in small doses, but harmful when a threshold is exceeded.

The idea that mortgage foreclosure may generate harmful externalities is not without empirical support. As for what this Article calls subprime foreclosure as common law nuisance, while the mechanism remains unclear, empirical studies on the impact of mortgage foreclosure do show that the foreclosure of even a single property can indeed generate harm to nearby properties. Early empirical studies by economists on the effects of foreclosures found that properties that sell near foreclosures do sell at a discount relative to identical properties without foreclosures nearby, but failed to distinguish between the pure increased supply effect and direct negative physical externalities. Some more recent work suggests that the main negative impact of foreclosures comes in the form of highly localized negative physical externalities. John Campbell, Stefano Giglio, and Parag Pathak find that while the prices of foreclosed homes do indeed fall, there is little impact of foreclosure on prices of other homes in the same zip code. However, at the level of the neighborhood—within a mile or a tenth of a mile of the foreclosed property—there are significant and persistent nega-

tive spillover effects on home prices. Campbell, Giglio, and Pathak speculate that highly localized negative spillovers are due to the vandalism of vacant, foreclosed homes.

Working with some twenty-five years of data on condominium prices in Boston, with information on both the size and location of condo associations, Lynn Fisher, Lauren Lambie-Hanson, and Paul Willen find that foreclosure of a condominium generates a statistically significant price reduction of 2.5 percent for condos in the same condo association and located at the same address. This finding is consistent with the findings of Campbell, Giglio, and Pathak, who also studied Boston foreclosures of condos, single-family homes and small apartments, and found evidence of foreclosure externalities only for condominiums. Perhaps most informatively, Fisher, Lambie-Hanson, and Willen find that the statistically significant negative impact of foreclosure sales on condos at the same location is especially big for small condo associations. They believe that what is occurring is that nearby condos are negatively affected when condos are vacant or failing to be properly maintained after default and foreclosure.

An even more recent and equally careful study by David Munroe and Laurence Wilse-Samson finds that a completed foreclosure increases by 10 percent per year the probability of a new foreclosure filing within one tenth of a mile. Further, the study finds that a completed foreclosure (versus a dismissed foreclosure) causes a 40 percent drop in the average sales price of neighboring houses, but that most of this price decline occurs because sales of lower quality homes in a neighborhood tend to occur after a foreclosure. As the additional foreclosures tend to be among borrowers who are not underwater on their mortgages, Munroe and Wilse-Samson are skeptical

340 Id. at 2130.
341 Id. at 2110.
342 Lynn M. Fisher et al., The Role of Proximity in Foreclosure Externalities: Evidence from Condominiums, 7 AM. ECON. J.: ECON. POL’Y 119, 131 (2015). It should be noted that foreclosures on condos were a large fraction of foreclosures in Boston during both the 1991-1994 foreclosure wave there, when 52 percent of completed foreclosures involved condos, and during the 2007-2011 wave, when 42 percent of foreclosures were condos. Id. at 126.
343 Campbell et al., supra note 339, at 2129.
344 Fisher et al., supra note 342, at 131.
345 David J. Munroe & Laurence Wilse-Samson, Foreclosure Contagion: Measurement and Mechanisms 2 (Dec., 14 2013) (unpublished manuscript) (on file with Columbia Univ.), http://www.columbia.edu/~lhw2110/dm_lw_foreclosure_contagion.pdf. Careful, in that like the other work cited in the text, Munroe and Wilse-Samson use a strategy (in their case, using the random assignment of foreclosure cases across judges as an instrument) to deal with the endogeneity problem in the relationship between foreclosure and prices of nearby houses: foreclosure of one property may lower the prices of nearby houses, but when prices in a neighborhood fall, so too does the probability that a homeowner in the neighborhood will default—because she is underwater on her mortgage—and ultimately suffer foreclosure.
346 Id. at 3.
that contagious foreclosures are driven by falling house prices.\textsuperscript{347} They believe that the main spillover from foreclosures is informational, as nearby homeowners take a foreclosure as bad news about the neighborhood and then decide to default on their own loans.\textsuperscript{348}

It is difficult to pin down empirically the magnitude of potentially harmful spillovers from large numbers of foreclosures. The reason is that increases in the level of the harmful supposed externalities—most directly, declines in house prices and therefore household wealth, more indirectly, increases in neighborhood crime—may not only be a result, but also a cause, of mass foreclosures. Although borrowers do not default immediately when their house price declines, when the decline becomes so severe as to reduce the value of the home below the outstanding mortgage loan balance, default rates do increase.\textsuperscript{349} Thus regional house price declines, which are caused by things such as increases in unemployment, may increase defaults and foreclosures. Conversely, a large number of foreclosures in an area will increase the supply of homes for sale there, which other things equal should lead to price declines. Given that both foreclosures and unemployment rose rapidly during 2007 in particular, it has proven to be difficult to statistically identify the role of widespread foreclosures in actually causing house price declines. Still, the most careful study to date does find that by increasing the supply of homes in the market (at the zip code level), increases in foreclosures have a significant impact in depressing home prices.\textsuperscript{350}

b. \textit{Do Spillovers from Foreclosures Justify Product Restrictions?}

It is important to see that neither the subprime as nuisance or subprime as pollution argument depend at all on whether consumers failed to understand the terms of their subprime mortgage contracts or on the terms being

\textsuperscript{347} Id. at 17.
\textsuperscript{348} Id. at 27.
\textsuperscript{350} Atif Mian, Amir Sufi & Francesco Trebbi, Foreclosures, House Prices, and the Real Economy, (Kreisman Working Paper Series in Housing Law and Policy, No. 5, 2014), http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1001&context=housing_law_and_poli cy. There are some difficulties with this study, however. Perhaps the biggest is that the instrument used to identify the impact of foreclosures on house prices—whether a state is a judicial foreclosure state or non-judicial—is itself correlated with the accuracy of recent sales as a measure of house prices. The reason for this problem is that it is well known that foreclosure takes much longer in judicial compared to non-judicial states, which means that in judicial states, the prices of homes for sale may be higher than the prices of the much larger actual stock of homes at various stages in the foreclosure process. For an outline of the difference between judicial and non-judicial foreclosure, see supra notes 37-41 and accompanying text. The difference in prices between non-judicial and judicial states— with the latter being lower—would thus be driven in part by overestimate of the prices in judicial states.
non-optimal for the parties for some other reasons. On the subprime as nuisance, even a single mortgage contract could be said to generate the risk of external harm to neighbors in the event of foreclosure. On the subprime as pollution argument, every subprime mortgage contract could be fully optimal for both parties. Yet large scale subprime lending, such as occurred between 2002 and 2006, could be bad for the economy of the nation and affected states, as well as for property values, health, and safety in neighborhoods where it was concentrated.

In terms of its regulatory implications, since every mortgage contract generates some risk of foreclosure, the subprime as nuisance argument would potentially justify any regulatory intervention designed to prevent or lessen the social harm from mortgage contracting. After all, as at least some part of the harm from foreclosure is not borne by either the lender or the borrower, neither contractual party can be expected to take sufficient care to prevent foreclosure from occurring. If, as argued above, Dodd-Frank really does significantly reduce the availability of mortgage credit to borrowers who are at higher risk of default and foreclosure, then Dodd-Frank would find normative justification in its impact in reducing the probability of socially harmful foreclosures. But many other forms of regulatory intervention would also be justified by the subprime as nuisance argument. Regulations requiring, for example, a 50 percent borrower down payment and borrower credit scores above 800 would also reduce the risk of costly foreclosure. So too would a promise by the government to pay off 50 percent of the balance of any homeowner in default for more than sixty days.

The subprime as pollution argument, by contrast, would not necessarily justify the regulatory approach taken by Dodd-Frank. If the subprime as pollution argument were valid, then it would justify measures to keep the overall, location-specific level of risky mortgage lending below some threshold level. One such measure is the imposition of a cap or quota on high risk mortgage lending, where caps or quotas would vary perhaps with the characteristics of particular local or regional housing markets, but where there would also be a national quota.\textsuperscript{351}

Whether viewed as a nuisance—harmful even if limited to a single transaction—or as pollution that must be controlled in the aggregate, the argument that the contractual opportunity to borrow to buy a home or the contractual right of the lender to pursue foreclosure must be limited because foreclosure may do bad things to a neighborhood neglects an entire range of alternative policies that preserve contractual freedom and opportunity. Many of the supposed externalities from foreclosures are indeed externalities from the point of view of parties to a particular mortgage contract, but they are actually local public "bads," and the prevention of such bads is the point of local government and local private associations. A high quality

\textsuperscript{351} This measure has been recently proposed in academic literature. See Ian Ayres & Joshua Mitts, \textit{Three Proposals for Regulating the Distribution of Home Equity}, 31 \textit{Yale J. on Reg.} 77, 122 (2014).
condominium association will set aside funds so that common areas can be maintained even when there are temporary shortfalls in association dues because of vacancies. Neighborhood associations form to demand public policing and to provide for additional private security and other maintenance services so that vacant properties do not become neighborhood blights. Many of the harms from foreclosure seem to be less a problem of harmful externalities from mortgage contracts than a failure to properly incentivize enough contracting for the provision of local public goods.

It is true that if there were fewer mortgages written and no housing boom, then there would have been fewer new houses in the affected neighborhoods, and hence fewer vacant homes after the end of the boom. But this would be true also of any economic boom that increased the demand for and supply of housing in an area, but which then ends, leaving an increase in total housing supply but also temporary vacancies, lack of maintenance, and vandalism. If one really is prepared to say that a lender generates an “externality” when it extends credit to a risky borrower that may lose her job, leaving a vacant house that may be vandalized, then one must also seemingly be prepared to say that businesspeople who leave vacant properties when the economy turns down also generate negative externalities, as have the banks who lent to them, the Federal Reserve if its loose money policies fueled the boom, and the federal government through lax fiscal policy. Do the possible localized negative externalities from business failure justify a quota on the number of businesses that be allowed to set up operations in a particular neighborhood? Or, do such externalities justify somehow forcing or, alternatively, subsidizing businesses to continue in operation at a particular location, even if unprofitable? As for mortgages, should we impose a tax on homebuyers who take out mortgages equal to the expected negative externality that will result if and when they lose their job and vacate their homes? And if we tax, or impose local or regional quotas on homebuyers who borrow, then why not also impose quotas on businesses that borrow to set up operations in particular locations?

These questions are not purely rhetorical. There are countries in the world, such as France, in which the supposed harm to local communities from economic failure has become a powerful rationale for government intervention both ex ante, to determine how many risky contracts may be made and by whom, and ex post, in forbidding termination or subsidizing the continuance of failed economic relationships. But the alternative policy, traditionally pursued in the United States, is to allow people to take risks but then do everything possible to lower the transaction costs of putting new businesses and homeowners into the properties vacated when risk takers fail. Rather than preventing people from taking risks in the first place

by restricting homeownership, we should lower the cost of getting foreclosed, abandoned homes into the hands of new owners who will fix up and maintain their homes and revitalize neighborhoods.

4. Preventing Another Housing Boom and Bust: Bad Mortgages Versus Incorrect Expectations of Ever-Increasing House Prices

Another possible justification for the mortgage contract restrictions imposed by Dodd-Frank is a macroeconomic story. On this story, subprime, risky lending fueled the housing boom but it also put millions of people right on the edge of being able to pay both their mortgages and their everyday costs of living, so that when gas prices and interest rates rose, millions of subprime borrowers had little choice but to default on their mortgages. Such subprime lending was characterized, on this view, by lenders extending too much credit to mortgage borrowers and ignoring the “reasonable ability to repay” principle and debt-to-income guidelines that Dodd-Frank now requires to be followed for mortgages to be categorized as qualified.

Perhaps the most influential empirical evidence for this view is that provided by Atif Mian and Amir Sufi, who found that at the zip code level, the growth in total mortgage lending became negatively correlated with per capita income growth during the latter years of the housing boom. When this debt became unsustainable, the wave of mortgage defaults followed and then triggered the ensuing financial crisis. On the basis of this statistical finding primarily, they argue that the expansion in mortgage credit to neighborhoods with large numbers of subprime borrowers was central to explaining the subsequent wave of defaults.

Subsequent work by Manuel Adelino, Antoinette Schoar, and Felipe Severino has cast serious doubt regarding the validity of the story told by

---


355 Mian & Sufi, supra note 353, at 79.

356 For an explanation of this mechanism in detail, see Mian & Sufi, supra note 353.


358 Manuel Adelino, Antoinette Schoar & Felipe Serverino, Loan Originations and Defaults in the Mortgage Crisis: The Role of the Middle Class (Nat’l Bureau of Econ. Research, Working Paper No. 20848, Jan. 2015), http://www.nber.org/papers/w20848. It should be noted that Mian and Sufi have responded in two separate papers to the findings of Adelino and colleagues. In one paper, Mian and Sufi argue that the individual level income data used by Adelino is contaminated by overstatements, which were known to have occurred during the housing boom. See Atif Mian & Amir Sufi, Fraudulent Income Overstatement on Mortgage Applications During the Credit Expansion of 2002 to 2005 (Nat’l Bureau of Econ. Research, Working Paper No. 20947, Feb. 2015), http://www.nber.org/papers/w20947. In both
Mian and Sufi. Working with data on individual mortgage loans, rather than aggregate zip code level data analyzed by Mian and Sufi, they found that while the flow of mortgage originations did increase in some low income zip codes between 2002 and 2006, the share of originations to low income borrowers remained roughly stable. They found that the share of mortgage delinquencies accounted for by low income borrowers who borrowed at the peak of the boom in 2006 was actually lower than the share accounted for by high income 2006 borrowers. Indeed, the delinquency rates of low income versus high-income borrowers who borrowed in 2006, 11 percent versus 23 percent, is almost precisely the opposite of 2003 borrowers. Adelino and colleagues also found no increase in the leverage taken on by households in the lower 75 percent of zip codes by income; only in the highest income zip codes did the total dollar volume of mortgages written actually have a negative correlation with income growth. Perhaps most significantly, they reported that in areas with high house price growth rates, there was a significant increase in the flipping (buying followed by rapid resale) of houses, leading to a larger number of households with new and bigger mortgages. The increase in defaults by middle and upper income borrowers was concentrated predominantly in zip codes with such rapid increases in house prices (and transaction volume).

The evidence adduced by Adelino and coauthors suggests that it was not negligent or risky lending to poor or high-risk borrowers that led to the housing boom and subsequent default-driven collapse. Lending to much more affluent borrowers driven by the shared expectation among both borrowers and lenders that house prices would continue to increase was likely a more important factor driving both the boom and the collapse.

Two other longer-term historical facts further support the view that risky lending to the poor, facilitated by bad contract terms, had little to do with the early twenty-first-century housing crisis. The first historical fact is
that subprime lending was not something that suddenly arose around the year 2002, just in time to fuel the boom. Subprime lending, which as above is defined as lending to borrowers with relatively poor credit histories, emerged in the mid-1990s, when standardized credit scoring systems became available.\footnote{Gerardi et al., supra note 46, at 338.} Subprime lending grew (from $65 billion in originations in 1995 to $332 billion in 2003), but from the very beginning, risky subprime loans carried higher interest rates.\footnote{Id.}

The second historical fact pertaining specifically to mortgage contract type is that relatively complex mortgages—those with features such as variable interest rates and the possibility of deferring payment of principal and/or interest—also arose long before the housing boom years. Consider, for example, the option ARM that allows a borrower to postpone payment not only of principal but also of interest. Dodd-Frank supporters viewed such a contract as among the riskiest and most extreme form of nonconventional, negative-amortization mortgage.\footnote{See Dimitris Karapiperis, Financing Home Ownership: Origins and Evolution of Mortgage Securitization (Ctr. for Insurance Pol’y & Research Study Series 2012-01, 2012), http://www.naic.org/documents/cipr_120812_white_paper_financing_home_ownership.pdf.} However, as Foote, Gerardi and Willen explain, the option ARM was approved for use by federal regulators in 1981, and by the mid-1990s it was a very important type of mortgage contract in markets such as California, where in 1996 one-third of all mortgage originations were option ARMs.\footnote{Foote et al., supra note 243, at 9.} Similarly, the reduced-documentation loan, also severely condemned by Dodd-Frank, was around long before the early twenty-first-century housing boom; in 1990 alone, 30 to 35 percent of the loans insured by Fannie Mae were low- or no-documentation loans.\footnote{Id.}

This evidence is adduced not to deny that risky and speculative lending and borrowing became more frequent as the early twenty-first-century housing boom entered its final stages, or that such lending and borrowing did increase the number of defaults when house prices stopped rising and began to fall. But this evidence does seriously call into question Dodd-Frank’s focus on borrowers’ debt-to-income ratio in determining both a borrower’s reasonable ability to repay and whether a mortgage gets safe harbor treatment as qualified. The focus on borrower debt-to-income presumes that too much lending to relatively poor and high credit risk borrowers was a fundamental cause of the housing collapse. But if the evidence adduced by Adelino and coauthors along with this longer historical evidence is any guide, it was the widespread belief by both lenders and borrowers in continuing house price increases that encouraged increases in household leverage during the early twenty-first-century boom, not risky

\footnote{Id.}
lending practices that can be curbed by Dodd-Frank’s contractual requirements.

**CONCLUSION: THE CASE FOR FREEDOM OF MORTGAGE CONTRACTING**

Even if one is persuaded that restricting mortgage contract terms, which is Dodd-Frank’s approach to the problems related to complex mortgages, is too costly in terms of lost consumer welfare, one might well ask whether there is a better approach. After all, some of the defaults and foreclosures that have occurred in the United States since the collapse of the early twenty-first-century housing boom were at least partially attributable to contractual mismatches involving complex mortgages—that is, some lenders surely did use complex mortgages to exploit the lack of sophistication and impatience of some consumers. It would seem that such exploitation requires some sort of regulatory intervention discouraging such individually and socially harmful transactions.

For consumer advocates, the problem is that once one rejects the crude intervention of contract term restrictions employed by Dodd-Frank, the remaining less-interventionist policies promise only marginal reductions in harmful contracting. For complex financial products, improved forms of disclosure, advocated by Bar-Gill and former OIRA Director Cass Sunstein and Richard Thaler\(^\text{369}\) cannot alter the fact that the products are complex and probably cannot be explained in language that all consumers will understand.\(^\text{370}\) Moreover, even if people understand all the terms of a complex financial product, such understanding may do little to prevent poor consumer decisions motivated by impatience.\(^\text{371}\) Finally, not only is disclosure a traditional regulatory tool but it is ubiquitous, required by scores of federal and state consumer protection statutes. So many, in fact, that for mortgage transactions in particular, the consumer is inundated by so many disclosure forms that even ideal disclosures would cause overload and confusion.\(^\text{372}\)

To the extent that disclosure fails because consumers lack the background cognitive ability and knowledge to understand what is being disclosed, a natural policy alternative is to require financial literacy training or counseling about such products before consumers are allowed to make certain product choices. Dodd-Frank in fact requires that such counseling be offered in some circumstances.\(^\text{373}\) The evidence on the effectiveness of such

\(^{369}\) See Bar-Gill, *supra* note 15, at 33-40; Thaler & Sunstein, *supra* note 16 at 143-44.

\(^{370}\) For some detailed explanation of this problem, see Omri Ben-Shahar & Carl E. Schneider, *More Than You Wanted To Know: The Failure Of Mandated Disclosure* 79-84 (2014).

\(^{371}\) For a similar critique, see Bubb & Pildes, *supra* note 9, at 1648-50.

\(^{372}\) For a persuasive form of this argument, see Ben-Shahar & Schneider, *supra* note 370, at 94-106.

financial literacy efforts, however, is not promising. As Willis has argued,\textsuperscript{374} given the "abysmal" state of many consumers' base level of financial understanding, mandatory and intensive financial literacy education would be necessary, and even that might not allow consumers to keep up with increasing product complexity. Even sharper evidence about the relative ineffectiveness of credit counseling comes from an Illinois program that required credit counseling for consumers considering subprime mortgages in certain poor and minority zip codes with high mortgage default rates. As Agarawl and colleagues summarize the results of their study, the effects of the program "on default rates are virtually nonexistent."\textsuperscript{375} A statistically significant improvement in default rates only occurred for subprime borrowers, for whom the default rate fell between 5 and 7 percent from a base default rate of 27 percent. A default rate of 20 percent following intensive, mandatory credit counseling is further evidence of the ineffectiveness of such programs.

As for altering contract defaults—the originally preferred regulatory alternative of behavioral-law-and-economics scholars—as Willis has argued, if providers of complex consumer financial products see the potential for increasing profits by persuading consumers to opt-out of consumer protective defaults, then they will invest resources to so persuade them.\textsuperscript{376} In the face of such efforts to persuade consumers to alter the default, Bubb and Pildes argue, "choice is often a façade," and one that behavioral-law-and-economics scholars use to "avoid directly analyzing the costs and benefits of such direct mandates."\textsuperscript{377} On this argument, behavioral law and economics cannot avoid considering the costs and benefits of contract restrictions.

From a broader point of view, the problem with all these proposals to "fix" the bad mortgage problem—whether ostensibly choice-preserving disclosure, default manipulation or financial education, or choice-supplanting contract term restrictions—is that they all presume that virtually every mortgage default represents a failure, a private and social bad that must be prevented. But as argued earlier, the vast majority of complex mortgage contracts did not end in default.\textsuperscript{378} Rather, they allowed millions of people to own homes who might otherwise never have owned a home. Some mortgages failed because some borrowers failed to really understand what they were getting into or were too impatient or too greedy in speculating on rising home prices. But lack of sophistication, impatience, and greed are precisely the reasons that many businesses and ordinary commercial

\textsuperscript{375} Agarwal et al., supra note 189, at 45-48.
\textsuperscript{376} Lauren E. Willis, When Nudges Fail: Slippery Defaults, 80 U. CHI. L. REV. 1155, 1186-91 (2013).
\textsuperscript{377} Bubb & Pildes, supra note 9, at 1658.
\textsuperscript{378} See discussion supra Subsection II.A.3.
contracts fail. The genius of American policy toward contractual and business failure is that it is a policy that does not prevent or counsel against such private risk-taking, but which instead encourages it by facilitating speedy and low cost recovery from failure. Unfortunately, in responding to the wave of mortgage foreclosures attendant upon the collapse of the early twenty-first-century housing boom, American policy, epitomized by Dodd-Frank, has been precisely the opposite: to greatly prolong and magnify the private and social costs of recovery, while attempting to stifle future risk-taking.