RECOURSE AND NON-RECOURSE MORTGAGES:

FORECLOSURE, BANKRUPTCY, POLICY

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The recent mortgage crisis calls attention to an exceptional feature of American residential mortgages: they are non-recourse. Ten to fifteen American states, including two of the four leading foreclosure states, California and Arizona, are considered non-recourse states.[2] Some scholars even allege that all US residential mortgages are, in practice, non-recourse because of the US bankruptcy regime.[3] This feature of the mortgage limits the ability of lenders to collect upon default. They are confined to the secured asset. They can foreclose, repossess the house, sell and collect the proceeds, but have no recourse, due to legal limitations that will be discussed below, to the personal assets of the borrower or to her future income.

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[2] see websites with lists of non-recourse states in the US: http://www.mortgagerelieffformula.com/recourse/; http://www.loansafe.org/forum/foreclosure-laws/4130-recourse-v-non-recourse-states.html; http://wiki.answers.com/Q/Which_states_are_non-recourse_states_for_mortgage_debt; http://www.helocbasics.com/list-of-non-recourse-mortgage-states-and-anti-deficiency-statutes/.

[3] Ankoor Jain and Cally Jordan, *Diversity and Resilience: Lessons From the Financial Crisis*, 32 U.N.S.W.L.J. 416, 423 (2009).

The recourse - non-recourse feature is fundamental in any loan as it deals most directly with the lender's ability to collect at delinquency and default. More scholars now realize that this feature plays an important role in the unfolding of the subprime crisis. It allows the large number of borrowers who are now in the negative equity zone to strategically foreclose even when they can maintain mortgage payments, because the deficiency cannot be collected by the lenders out of their personal assets and income. It seems that the prevalence of non-recourse mortgages leads to more foreclosures, a slump in home prices, losses to lenders and holders of mortgage-backed-securities (MBS), and has spurred the economic crisis. Yet the non-recourse feature has not received much attention in the literature on residential home mortgages and its desirability has not been systematically examined.

This paper aims to analyze this feature in the context of primary purchase home mortgages.[4] The first part will deal with the current law and its effects. It will first explain its adverse effects on the crisis in order to create motivation for the rest of the paper. It will then explain how the prohibition on recourse mortgages was legally created in some states by procedural law and bankruptcy law and not by the explicit regulation of mortgage contracts. I will note the fact that this restriction on recourse is uniquely American; in much of the rest of the world, only recourse loans are used.

The second part will deal with policy. Its first section will put forward a few conceptual distinctions and theoretical frameworks. The second and third sections will then examine the problems of each regime. The main problems created by

[4] The paper deals with purchase mortgages and not with refinance loans, and with primary residence homes and not with houses for investment. But this analysis can be adjusted and extended to such mortgages. It does not deal with commercial real estate that requires a different analytical framework. In the commercial real estate market, both recourse and non-recourse loans are commonly offered at different prices or to different borrowers.

recourse are the externality of the borrower's subsistence to the state and the mistaken selection of recourse mortgages by biased borrowers. The main problem of non-recourse is that such a loan is complicated to handle in primary residence mortgages because the secured asset itself does not yield revenues and other sources of income are used for repayment of the loan. This discussion concludes that these problems do not justify the prohibition of either recourse or non-recourse. The fourth section of the policy part analyzes the benefits and pitfalls of a dual regime, such as price discrimination, selection and screening devices. It concludes that even though in some circumstances and with respect to some subsets of borrowers, a pooling equilibrium will be created, this does not justify a prohibition of either in order to prevent this equilibrium.. The last section of the article addresses questions relating to why we don't observe a dual regime in the real world. It first discusses the question of why some jurisdictions prohibit it by law. Then it explains why in jurisdictions that permit both recourse and non-recourse mortgages, often only one type of mortgage, usually recourse, is in fact offered on the market.

Current Law and it Effects

Non-Recourse and the Subprime Mortgage Crisis

The non-recourse feature became salient (though it was not always described using this term) during the sub-prime mortgage crisis. It became crucial due to the collapse of housing prices. Borrowers who took high loan to value (LTV) loans in recent years went into the negative equity zone as soon as housing prices sufficiently declined. As of June 2009, they had already dropped to 68% of their pre-crisis level. As lending picked up before the crisis, LTV ratios were high, rates of amortization in the initial period were low, the percentage of houses in the negative equity zone

became astonishingly high.[5] In June 2009, more than 32% of all mortgaged properties in the US were underwater. This percentage is expected to increase to 48% by the first quarter of 2011 due to a further forecasted drop in home prices. The regional variations are considerable. For example, at that time, 66% of mortgage borrowers were already underwater in Nevada, 51% were underwater in Arizona, 49% were underwater in Florida. When examining metropolitan rather than statewide data, in Merced and El Centro CA, 85% were underwater; in Las Vegas NV, 81%; in Orlando FL, 71%; Phoenix AZ, 68%. Of the 15 metropolitan areas with 70% and above underwater mortgages, 10 are in California.[6]

When their negative equity was substantial enough, some of them decided to exercise the put option embedded in the mortgage loan and walk away, returning their houses to the lender at par value (or simply leave them), rather than at market value, and in this way, discharged the loans.[7]

The empirical question of how many borrowers walked away from their houses on their own initiative and how many did so because of negative equity rather

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[5] The S&P/Case-Shiller Price Seasonally Adjusted Home Price Values Top 20 Metropolitan Areas Index shows a price decline from a peak of 206.17 in June 2006 to 140.26 in June 2009. This represents a drop to a level of just 68% of the peak price. Hypothetical houses that were bought at the peak, financed with 68% or more LTV, and had no significant amortization since, now have negative equity. http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices/en/us/?indexId=spusa-cashpidff--p-us----.

[6] Brent T. White, *Underwater and Not Walking Away: Shame, Fear and the Social Management of the Housing Crisis*, 09-35 ARIZONA LEGAL STUDIES DISCUSSION PAPER 3-4 (2009).

[7] Some borrowers in negative equity were simply unable to keep the loan current by making regular payments. They had a cash flow problem. A subset of these had no substantial personal assets or income. The non-recourse feature made no difference for their lenders. They simply had nothing to collect from. Yet another subset of these borrowers, possibly hat who bought more expensive houses with larger mortgages, had more substantial personal assets or income that the non-recourse feature shielded from creditors.

than negative cash flow, is debated.[8] A recent study conducted jointly by Experian, a national credit bureau, and Wyman, a consulting company, based on 24 million individual credit files, found that in 2008, there were 588,000 strategic defaults, representing 18% of all delinquencies. Strategic defaults are the equivalent of what I term negative equity defaults, as distinct from cash flow defaults. Strategic negative equity defaults were found in that study to have some intriguing characteristics. Defaulters often went straight from a perfect payment history to no payment at all. Whereas cash flow defaulters showed a distressful pattern, negative equity defaulters often had very high credit scores and a large mortgage balance. They understood the consequences of the default. Two thirds of them had only one mortgage, which means that they strategically walked away from their primary homes. Between 2005 and 2008, the number of strategic defaults increased 68 times in California.[9]

The option and its exercise became more viable and beneficial because of the non-recourse feature of their loans. It was beneficial to more people in California, where so much of the action – boom, bust, and foreclosure – took place; in highly affected Arizona, and in other non-recourse states. California and Arizona had the

[8] Luigi Zingales, Paola Sapienza & Luigi Guiso, *Moral and Social Constraints to Strategic Defaults on Mortgages*, 15145 NBER WORKING PAPER (July 2009), estimated strategic default rates. Lacking access to actual credit and foreclosure files, their estimate was based on a survey in which they asked a random sample of households whether they know strategic defaulters. In addition, they regressed foreclosures against house prices that represent strategic default, and unemployment rate, that represents cash flow default. They concluded that 26% of the defaults according to the first methodology and 20% according to the second were strategic defaulters. Eric A. Posner & Luigi Zingales, *A Loan Modification Approach to the Housing Crisis,* AMERICAN LAW AND ECONOMICS REVIEW (Forthcoming 2009), attribute much of the crisis to negative equity and accordingly believe that means to reduce the loan balance in order to reduce negative equity are the proper remedy.

[9] See a study reported in the *Los Angeles Times*: Kenneth R. Harney, *Homeowners who 'strategically default' on loans a growing problem*, LOS ANGELES TIMES, September 20, 2009, available at http://www.latimes.com/classified/realestate/news/la-fi-harney20-2009sep20,0,2560658.story. I have not yet obtained the study itself and cannot evaluate its methodology for defining and distinguishing strategic defaults.

highest number of foreclosures of all 50 states in January to June 2009.[10] For borrowers in recourse states, foreclosure is not the end of the story. Insofar as they had substantial, unsecured, nonexempt assets and future income, these could be followed through deficiency judgments. Such borrowers were less likely to give back their home even when it was deep in the negative equity zone. A recent empirical study suggests that the probability of default is 20% higher in non-recourse states than in recourse states. The probability gap is wider for high value homes, reaching 100% for homes appraised at $500,000-750,000 and 66% for homes appraised at $750,000-1,000,000.[11]

The non-recourse feature accelerated the mortgage crisis by increasing borrower walk away and borrower initiated strategic foreclosure, putting more houses on the market; further lowering market prices, taking more borrowers underwater and triggering more foreclosures. This snowball effect had major, yet hard to quantify, global economic consequences.

Positive Law

Scholars make confusing statements with respect to the state of positive law. Some argue that several US states are non-recourse states, yet there is no consensus regarding the number and identity of the states on the list.[12] Some view the entire US

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[10] In 2008, they were number 1 and 3. In October, California was a far first and Arizona sixth. In terms of one foreclosure per how many houses, California was second in the nation with 110 after Nevada, and Arizona fourth with 203 after Florida. See: http://www.realtytrac.com/contentmanagement/pressrelease.aspx?channelid=9&accnt=0&itemid=7856

[11] Andra C. Ghent & Marianna Kudlyak, *Recourse and Residential Mortgage Default: Theory and Evidence From U.S States*, 09-10 FEDERAL RESERVE BANK OF RICHMOND WORKING PAPER (2009). The gap is significant only for homes appraised at more than $200,000. It is not clear whether recourse has a similar effect on loans held by GSEs. Default is more likely to be through lender-friendly methods such as deed in lieu of foreclosure or short sale in recourse states.

[12] Id. at 41-56.

as non-recourse.[13] The reasons for this is that, as we shall see in this section, the feature may be determined by several legal realms, may be defined in weaker or in stronger forms, and is apprehended differently within and outside of the US.

The non-recourse feature is not as easily defined as one may think. The definition involves partitioning of the assets of individuals into two pools, the secured home and the personal assets. The first pool is accessible to the secured lender (mortgage originator, later assignee or securitization servicer) and the second pool is accessible to unsecured creditors. In a non-recourse regime, the second pool is not accessible to the secured lender while in a recourse regime, it is. The borderline between the two pools may be a bit fuzzy with respect to home improvements, refurbishing, furniture and the like. Borrowers would want to detach these from the real estate and distance them from the secured lender.

Even when assets are clearly allocated to the two pools, liabilities may not be separated. In non-recourse loans, borrowers are meant not to be liable because of the default as such. But they are meant to be personally liable when they intentionally damage the secured asset – their house of residence. Carve-outs to the non-recourse feature may also impose liability when damage occurs recklessly or negligently.[14]

Non-recourse can be implemented on various legal levels. It can be fixed directly and expressly in the mortgage agreement. It can be dictated by consumer and mortgage regulation that is intended to protect the borrowers. It can result from the procedural rules of debt collection. It can be the outcome of bankruptcy law.

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[13] Jain and Cally Jordan, *supra* note 3, at 423.

[14] Richard B. Levin, *Almost all you Ever Wanted to Know About Carve Out*, 76 AM. BANKR. L.J. 445 (2002).

Most of the states that allow only non-recourse loans do so through procedural rules.[15] The most important procedural rules that can create de-facto non-recourse are those that govern the issuing of deficiency judgments. Deficiency judgments are judgments for the balance between the value of the house and the remaining loan balance.[16] Most state anti-deficiency laws fall into one or more of the following categories: "(1) laws that prohibit the recovery of any deficiency following a non-judicial foreclosure by power of sale; (2) laws that prohibit any deficiency under a loan secured by residential real estate; (3) laws that prohibit any deficiency when the mortgage or deed of trust is 'purchase money'; and (4) laws that limit the deficiency to the difference between the loan balance owing and the greater of the foreclosure sale price or the fair market value of the property."[17] The second realm of procedural rules that provide an element of non-recourse is the one-action rule. In states that legislated the one-action rule, a lender must select one action to take against the borrower if the borrower defaults. If the lender forecloses out of court, the lender has chosen one action and may not bring a lawsuit to recover a deficiency, which would be a second action. The one-action rule appears in stronger and weaker form in different states. In the strongest, the lender initially has to choose whether to foreclose or to sue the lender personally, while in weaker forms, he has to exhaust the security

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[15] The 10 states are Alaska, Arizona, California, Iowa, Minnesota, Montana, North Carolina (purchase mortgages), North Dakota, Oregon, Washington, and Wisconsin. In this classification, I follow Ghent & Kudlyaky, *supra* note 11.

[16] In Arizona, deficiency judgments are not permitted for residential one-family or two-family dwellings on lots of 2.5 acres or less.

[17] MICHAEL T. MADISON, JEFFRY R. DWYER & STEVEN W. BENDER, THE LAW of REAL ESTATE FINANCING (3d ed.2004). Database updated November 2009, § 12:69.

before collecting from other assets or he can do both only if he chose judicial foreclosure.[18]

Let us now examine the top foreclosure states that are considered non-recourse states. In Arizona, lenders are prohibited from obtaining deficiency judgments following foreclosure, where the land size is 2.5 acres or less and where the property was used as a single one-family or two-family dwelling. Deficiency judgment must be brought within 90 days of foreclosure.[19] In California, deficiency judgments are prohibited on purchase mortgages. On other mortgages, they are allowed only when the lender chose the longer, costlier and less certain track of judicial foreclosure. They are prohibited if the lender chose the faster and simpler track of non-judicial foreclosure.[20] Nevada, another state with very high foreclosure rates, presents a remarkable case. It was considered by most classifiers as a recourse state because its procedural rules on deficiency judgments included only minor impediments: the action had to be filed within 90 days of foreclosure and the judgment applied only to the balance between debt and fair market value when the latter was higher than the foreclosure sale price. But following the mortgage crisis, the State Legislature amended its rule. Loans made after October 1, 2009 by financial institutions to

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[18] In California, deficiency judgments are not allowed on purchase mortgages. On other residential mortgages, they are allowed only if the lender gives up the shorter and less expensive non-judicial foreclosure and settles for the longer and costlier judicial foreclosure. George W. Kuney, *What your lender and mortgage broker didn't tell you: a call for disclosure of loss of the section 580b anti deficiency protection upon refinancing*, 4 HASTINGS BUS. L.J. 209 (2008).

[19] ARIZ. REV. STAT. ANN. § 33-701- § 33-821(year).

[20] CAL. CIV. PROC. CODE § 580b (West 2007); CAL. CIV. PROC. CODE § 726 (West 2007).

borrowers who continuously occupied the property as a primary residence are non-recourse.[21]

It is sometimes argued that the non-recourse feature is also a result of law-in-action rather than just law-in-the-books. This happens in several contexts. It is argued that in practice, lenders settle in many cases for the foreclosure and do not seek deficiency judgments. Settlement between the debtor and the creditor before the foreclosure in the form of a short sale or a deed in lieu of foreclosure is common. In other cases, lenders do not seek a deficiency judgment even in the absence of settlement because they do not believe that they can collect sums that are higher than the collection costs. Some public lenders, government agencies such as VA and HUD, and government-sponsored enterprises such as Fannie Mae, Freddie Mac and Ginnie Mae, made it an official or an informal policy not to seek deficiency judgments in general or subject to some guidelines.[22]

Bankruptcy law serves as another method for affecting non-recourse. As the bankruptcy code is federal, it applies to all states and makes the entire US legal system more non-recourse than other legal systems. Bankruptcy is an option for debtors both before and after foreclosure. Pre-foreclosure bankruptcy is often used as a means for saving the home. It may be used to discharge unsecured debts and channel more of the income toward keeping payments current on the mortgage. It may be used for delaying foreclosure. It may be used as a bargaining chip in renegotiating the mortgage terms.

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[21] Nevada AB 149 introduced Feb. 9, 2009, which amended NRS 40.430 and 40.455. For other recent amendments of state foreclosure laws, see *2009 State Residential Mortgage Foreclosure Laws*, NGA CENTER for BEST PRACTICES, available at: *www.nga.org/Files/pdf/1001FORECLOSURELAWS2009.PDF*

[22] Reference- יש את המאמר של דמון על DEREGULATION

Post-foreclosure bankruptcy can be used to discharge the remaining unsecured balance of the mortgage loan, which is subject to deficiency judgment. This course of action is particularly attractive to borrowers with sufficiently substantial negative equity that are not cash-flow insolvent. They can decide to walk away from their home and then resort to bankruptcy in the face of a deficiency judgment. They can get full discharge of the balance between their equity stake and the loan balance. They have to select either Chapter 7, the liquidation chapter, or Chapter 13, the repayment plan chapter, of the Bankruptcy Code. In Chapter 7, they will have to give up all of their non-exempt assets and in return will be able to discharge all of their dischargeable debts including the deficiency judgment. In Chapter 13, bankruptcy, they will get to keep their unsecured assets but in return, will have to propose a repayment plan and repay part of their unsecured debts over a period of 3-5 years, including part of the deficiency judgment, out of their future income. So borrowers with negative equity who foreclose and turn to bankruptcy to discharge their deficiency judgment generally prefer Chapter 7, as it provides them with de-facto non-recourse. They will select Chapter 13 only if their non-exempt assets are higher than the net present value of their repayment plan. But since 2005, there has been a new entry barrier to Chapter 7. Borrowers can select Chapter 7 only if their current monthly income is below the state median or if they otherwise meet the means test. But if their income is above the state median income and they do not meet the means test, they are forced to take Chapter 13 bankruptcy. There they will have to repay a portion of the deficiency judgment as part of the repayment plan, before being entitled to discharge.[23]

[23] Note that chapter 13 reorganization does not allow reduction of loan balance for those borrowers who keep their houses. Adam J. Levitin & Joshua Goodman, *Mortgage Market Sensitivity to*

A comparative perspective provides a striking observation. In most other countries, in Europe, Japan, Canada, Israel, and Australia, recourse loans are allowed, are the common practice, and collection on personal assets and future income is widespread.[24] Recourse is available in these legal systems due to both the lack of anti-deficiency judgment rules and the unavailability of rapid and sweeping discharge of the deficiency in bankruptcy, as is available in Chapter 7 of the US Bankruptcy Code.[25] It is true that these economies did not experience as severe a residential housing market price drop as the US. But one could speculate that even if they had, the legal dissimilarity could make a difference, reduce the strategic negative equity default, the foreclosure rate and the unfolding of the mortgage and financial crisis as a whole.

To sum up, non-recourse can be achieved by several legal means. It can be a bright-line rule or involve complexities and uncertainties. It can be set ex ante or be based on circumstances that are determined only ex-post the default. It can be based on formal law or informal practices of lax enforcement of the recourse. The vaguer, more complex, ex post, and informal the non-recourse feature is, the harder it is for

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Bankruptcy Modification, 3rd Annual Conference on Empirical Legal Studies (15/4/2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1121054##. I also ignore here the difference in tax consequences between writing off debts outside bankruptcy and discharging them in bankruptcy.

[24] Jain and Cally Jordan, *supra* note 3, at 440; Eiichi Sekine, Kei Kodachi & Tetsuya Kamiyama, *The Development and Future of Securitization in Asia* (Prepared for Fourth Annual Brookings-Tokyo Club Conference 2008); *Lending Issues in Japan,* http://www.aes-intl.com (last visited march. 27, 2010) ; Arjen van Dijkhuizen, *Dutch housing finance market***,** The Nederlandsche Bank, Amsterdam (2006); Cynthia Holmes & Michael LaCour- Little, *Multifamily Mortgage Lending: A Comparison of the U.S. and Canada*, 10 International Real Estate Rev. 151 (2007) *available at* http://www.ebrd.com/new/pressrel/1992/79oct19.htm; Fareed Zakaria, *Worthwhile Canadian Initiative: Canadian Banks are typically leveraged at 18 to 1--compared with U.S. banks at 26 to 1*, 153 Newsweek 07 (16/2/2009); on one province in Canada that is non-recourse: Todd J. Zywicki & Joseph D. Adamson, *The Law and Economics of Subprime Lending*, 80 UNI OF COLO. L. REV. 1 (2009).

[25] Jacob Ziegel, *Facts on the Ground and Reconciliation of Divergent Consumer Insolvency Philosophies*, 7 THEORETICAL. INQ. L. 299 (2006).

the borrowers to understand it and the meaning of the difference between it and its alter ego, the recourse loan. The lesser differential is the pricing of the two types of loans. Even before turning to policy analysis, I can state that I cannot see the advantages of having vague de facto prohibition on recourse over explicit and clear prohibition.

Policy Considerations

The conceptual setting and Theoretical Framework

I suggest a distinction between two basic reasons for mortgage default and foreclosure: cash flow and negative equity. A borrower has to maintain cash flow in at least three realms: subsistence (food, medical expenses, and other essential expenses), paying unsecured debts (credit cards, bills) and paying the secured debt (home mortgage).[26] Cash flow default can conceptually occur, and indeed occurs according to empirical studies, due to either income side shock or expense side calamity, or often to a combination of both.[27] In the recent crisis, many of the early cash flow defaults occurred due to a sharp rise in monthly payments on mortgages.[28] Rise in unemployment due to the recession that followed created a systemic income-side shock. Ordinary negative life events such illness, accidents, divorce, leading to a drop

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[26] Other secured debts such as car lease finance will be ignored in this analysis for the sake of simplicity.

[27] T. A. SULLIVAN, E. WARREN & J. L. WESTBROOK, THE FRAGILE MIDDLE CLASS: AMERICANS IN DEBT (Yale University Press, 2001); T. A. SULLIVAN, E. WARREN & J. L. WESTBROOK, AS WE FORGIVE OUR DEBTORS (Oxford University Press, 1989).

[28] An estimated one-third of ARMs originating between 2004 and 2006 had "teaser" rates below 4%, which increased significantly after some initial period, as much as doubling the monthly payment. Other borrowers hit their the regular interest reset date and were affected by the raise in interest by the Federal Reserve from 1% to over 5%, making ARM interest rate resets more expensive. Veena Trehan, *The Mortgage Market: What Happened?Apr.26, 2007,* http://www.npr.org/templates/story/story.php?storyId=12561184.

in income, a rise in expenses, or both, led to a cash flow default. All these factors are expected to cause cash-flow default in the future as well.

Negative equity is created when the market value of the house goes down to beyond the remaining balance on the mortgage loan. The higher the original LTV on the loan and the more severe the drop in the market prices of houses, the more likely is negative equity to occur. A negative equity default does not occur as soon as equity becomes negative by a single dollar.[29] A more realistic view of the calculations that lead to a borrower's decision to default due to negative equity also includes components such as foreclosure transaction costs imposed on the borrower, relocation costs (including indirect costs such as moving the children to a new school with new friends, new neighbors, and in some cases, the need to switch to a new job), and the increase in the cost of new credit due to damage to the credit score. Thus, default due to negative equity as such, as far as the primary residence is concerned, may occur only when the borrower's house is deep underwater. How deep? An empirical survey suggests that no borrower would walk away due to a negative equity of less than 10%, but 17% would walk away, even when they can afford to pay, with 50% negative equity.[30] Other studies, including actual borrower walk away studies, may better define the negative equity buffer zone.[31]

The difference between recourse and non-recourse loans plays differently in cash flow default and negative equity default. When equity is positive, the lender

[29] Christopher L. Foote, Kristopher Gerardi, & Paul S. Willen, *Negative Equity and Foreclosure: Theory and Evidence*, (Federal Reserve Bank of Boston, public policy discassion papers No. 08-3, 5/6/2008),*available at* http://www.bos.frb.org/economic/ppdp/2008/ppdp0803.htm.

[30] Zingales, Sapienza & Guiso, *supra* note 8, at 5.

[31] The report on strategically defaulting, made by Oliver Wyman did not refer to this aspect. See Harney, *supra* note 9.

forecloses, repossesses and sells the house. The debt is written off and the difference between non-recourse and recourse regimes (or contracts) becomes irrelevant.[32] When equity is negative, the analysis is more complicated and the crucial question is has the borrower become debtor judgment proof or not? Judgment proof can be a factual state or a legal state. Factually, a debtor with no additional assets and no income is judgment proof. A typical scenario in which a debtor, who suffered income loss or finds it hard to meet increased monthly mortgage payments and does her best to keep her house, leads her to consume her savings, to increase her credit card debt, to sell or pawn her personal assets. When forced to foreclose at that stage, in debt and lacking savings, income and personal assets, she will be judgment proof. So, cash flow defaulters will often be judgment proof in foreclosure.

Legally, a debtor may be judgment proof because she owns only exempt assets or earns only exempt income,[33] because the law does not permit deficiency judgment and recourse, or when she is able to fully discharge the debt in bankruptcy. The desirability of legal judgment proof will be examined in the policy section below.[34] Only when equity is negative and the debtor is not judgment proof so that recourse to the borrowers' private assets or income can yield some benefit to the lender, does the regime make a difference. In such circumstances, a recourse regime works better for the lender while a non-recourse regime works better for the borrower.

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[32] Some balance may even remain to be divided among unsecured debtors or return to the borrower herself.

[33] Berkowitz, J. & R. Hynes, *Bankruptcy Exemptions and the Market for Mortgage Loans*, 42(2) JOURNAL OF LAW AND ECONOMICS 809 (1999),

[34] The ability to discharge the deficiency debt in bankruptcy does not have to be taken as given. It can also be examined as part of the policy discussion on the extent of recourse.

The recourse-non-recourse feature of mortgage loans can be analyzed through several theoretical frameworks. One framework, already briefly mentioned, is that of **options**. Non-recourse can be viewed as a put option issued by the lender and purchased by the borrower.[35] Non-recourse mortgage contracts include two options for the borrower, the second being the call option to repay the loan and fully own the home. Recourse mortgage contracts can be viewed as including only the second option, but not the first. In practice, the second option is usually used to refinance when market interest is lower than mortgage interest. The first option can be used when the home price goes sufficiently down into the negative equity zone. The interest rate on the mortgage thus reflects not only the time use of money but also the price of the options. It is expected to be higher for the non-recourse mortgage, as this includes two options.

Asset partitioning is another way of analyzing this feature. This framework was originally developed by Hansmann and Kraakman to denote the relationship between the pool of assets of a firm and the personal pools of assets of its owners, be they shareholders or partners.[36] Partitioning can subject different assets to different creditors. Asset partitioning has two aspects: blocking creditors of the firm from reaching the assets of the individuals – limited liability, and protecting the firm from creditors of the individuals, recently termed entity shielding. By analogy, the same

[35] Andrey Pavlov and Susan M.Wachter, *The Inevitability of Market-Wide Underpricing of Mortgage Default Risk*, 34(4) REAL ESTATE ECONOMICS, 479 (Forthcoming 2006).

[36] Henry Hansmann & Reinier Kraakman, *The Essential Role of Organizational Law*, 110 THE YALE LAW JOURNAL, 387 (2000); Henry Hansmann, Reinier Kraakman & Richard Squire, *Law and the Rise of the Firm*, 119 HARVARD LAW REVIEW 1333 (2006).

framework can apply to individuals. Here, partitioning can be achieved between the personal creditors and the secured creditor. The residential home could be offered as a security to the mortgagor who would have no recourse to personal assets, while the personal assets (or other real estate assets) and future income would be offered (typically, without formal legal security) to providers of personal credit such as credit card companies. Some of the normative benefits attributed to asset partitioning in the context of business organization, particularly lowering of monitoring costs, specialization and reduction of bankruptcy costs, can apply here as well.

The two types of loans can be viewed as different credit products that cater to borrowers with different preferences. Some of the borrowers might prefer the non-recourse product that bundles **credit default insurance** with the loan. It is worthwhile noting that the bundling ties the duration of the insurance to the duration of the loan. Though one might think that the bundling offers no advantage, I will show in the final section that it might be cost effective and more readily available than separate default insurance.

The two loans can be viewed as a **screening device**. One of the major problems of any credit market is that of asymmetric information. Some information, available to the borrower, cannot be observed by the lender. I will pursue this framework below when relating to the advantages of a dual regime and ask whether a dual regime can serve as a screening device.

The Downside of Recourse Loans

Before examining the advantages of a dual regime, let us first examine the possible disadvantages of each of the separate regimes to ascertain whether any of them should be prohibited. Regarding recourse, the main general justification for the

prohibition of recourse loans is consumer protection. The prohibition is presented as part of the general policy of encouraging home ownership. Homeownership among the poor, underprivileged and minorities is viewed as a means for reducing inequality and promoting active citizenship.[37] It is encouraged by tax deductions, federally sponsored and insured securitization and even subsidized mortgages.[38] But it is not clear why the prohibition of recourse mortgages should be a tool for promoting this end. As stated above, the prohibition itself can be found in the minute details of foreclosure, deficiency judgment and bankruptcy rules, and varies among jurisdictions. It is not sufficiently salient or comprehensible to give rise to well developed justifications in policy statements or in the scholarly literature.

One possible specific justification for prohibiting recourse loans is externalities. Borrowers defaulting on their recourse loans may lose all of their personal assets and income and become welfare dependant. This can be viewed as an externality imposed by lenders and borrowers; the recourse loan falls on society at large. But this justification is not convincing. It is better to use the tool of asset exemption to protect some of the personal assets and income of the borrowers to ensure minimum subsistence and reduce externalities to the welfare system. Prohibition of recourse loans benefits defaulting borrowers even if they have many assets and significant income. Such a prohibition allows well-to-do borrowers to strategically default due to negative equity. Asset exemption on a moderate level

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[37] But see A. Mechele Dickerson, *The Myth of Home Ownership and Why Home Ownership Is Not Always a Good Thing*, 84 IND. L.J. 189 (2009); Avital Margalit, *The Value of Home Ownership*, 7 THEORETICAL. INQ. L. 467 (2006).

[38] For one example, see *Revisiting the CRA: Perspectives on the Future of the Community Reinvestment Act,* Ed. Prabal Chakrabarti, David Erickson, Ren S. Essene, Ian Galloway, & John Olson, A Joint Publication of the Federal Reserve Banks of Boston and San Francisco (February 2009).

protects poorer debtors and does not cater to borrowers with higher means. It creates a desirable distinction that prohibition on recourse loans cannot achieve.

Asset exemptions cannot solve the fundamental problems of borrowers who have no or low earnings. But insisting on non-recourse loans will not solve this problem either; it will only slightly postpone it. Non-recourse loans admittedly involve externalities from the parties to society, or they may place the borrower in a state of moral hazard. Minimum existence may have to be addressed by the standard social safety nets, debt discharge and a fresh start policy of bankruptcy laws or transfer payments, in-kind housing solutions or vouchers provided by the welfare state. These are in a sense externalities caused by the initial mortgage transaction, when the borrower entered into it with subsistence abilities and lost them as a result of the transaction. But the problem is not unique to the recourse dimension of the mortgage transaction or to mortgage lending in general. The problem has to be addressed, at least partly, ex-ante the transaction.[39]

Let us examine an analogy to the prohibition of recourse loans: the prohibition of taking a loan secured by the home. The latter prohibits making one pool of assets, namely the residential home, available to lenders; the former prohibits making another set of assets, personal assets and future income, available to lenders. No one seriously considers prohibiting offering the residential house as security to the lender. On the other hand, no one seriously considers allowing the offering of one's body as security in the form of enslavement or indebted labor. The home – yes; the body – no. Personal assets? In most states, yes, but in non-recourse states, no. The justification

[39] Ron Harris & Einat Albin, *Bankruptcy Policy in Light of Manipulation in Credit Advertising*, 7 THEORETICAL.INQ. L. 433, 434 – 46 (2006).

for prohibition of enslavement and servitude comes primarily from human rights and human dignity discourse. Prohibition of recourse loans cannot be justified on the same grounds any more than can prohibition of offering the residential home as security.

Another possible specific justification for the prohibition of recourse loans is borrowers' behavioral biases. The concern is that biased borrowers would prefer recourse to non-recourse loans for the wrong reasons. The state should prevent this by offering only one choice – non-recourse. The plausible argument is that many borrowers are shortsighted. In behavioral terms, they may have optimism bias, an illusion of control, or other biases.[40] As a result of their cognitive biases, such borrowers would prefer more expensive loans with significant deferred payments over cheaper loans with lower deferred payments.[41] They would attribute less value to the deficiency judgment in the distant future associated with recourse loans than to the higher monthly payments associated with non-recourse loans from the start. In addition, because of their biases, they would underestimate the probability of default due to negative life events and over-estimate their ability to repay the loan based on the expectation of positive life events. Thus, they will underestimate the likelihood that recourse to their personal assets and future income would ever materialize. Offering recourse loans lures the biased into taking them, instead of non-recourse loans that fully rational borrowers with high default risk should select. This is a meaningful concern for those who believe that the rationality of consumers is

[40] These should be distinguished from a rational preference to defer costs to better meet expected life-cycle related cash flow. Borrowers may realistically predict that they will earn more in the future due to a successful career. They should also be distinguished from hyperbolic discounting, which may represent a genuine preference that attributes different discount rates for the distant future than for the near future.

[41] Oren Bar-Gill, *The Law, Economics and Psychology of Subprime Mortgage Contracts*, 94 Cornell Law Rev.1073 (2009), *available at* SSRN: http://ssrn.com/abstract=1304744.

bounded and that borrowers deserve protection vis-à-vis more sophisticated and less biased lenders.

One response to this concern is that borrowers' biases apply not only to the probability of default and to the weight attributed to future payment in default but also to the probability that borrowers will be judgment proof in default. Underestimation of default and underestimation of judgment proof may, at least partly, offset each other, making the final choice of the borrower between recourse and not recourse less irrational. But if the offset is only partial, then the need for intervention remains.

Another response is that there are other less drastic means of intervention for protecting consumers against the pitfalls of their behavioral biases and shortcoming. Rather than totally prohibiting recourse loans, the state could intervene in a softer and more selective way, which would not prevent the unbiased or de-biased consumers from choosing recourse loans. This could require appropriate disclosure by lenders, who, to the offer of recourse loans at lower interest, would attach information regarding the probabilities and costs of default; warnings regarding the possible biases associated with decision making; mandatory consultation; or similar more selective types of intervention that would not prevent borrowers from taking recourse loans after rational and fully informed decision making.[42]

Insofar as the concern is behavioral; namely, that the law should protect borrowers because of their myopia and biases, it is not clear why recourse should be a primary concern. I have elsewhere expressed my view that myopia and biases are

[42] On the advantages of such interventions as remedies to behavioral failures, see Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STANFORD LAW REV.1471(1998).

often exploited by sophisticated and repeat lenders that trigger these by designing credit products, marketing and advertising them.[43] But such justified concerns should be directed primarily at other dimensions of the mortgage transaction. For example, initial grace periods and low interest periods, adjustable interest rate mortgages [ARM], negative amortization mortgages and other mortgages that lure borrowers by low initial repayment, at times with a significant level of uncertainty with respect to payments and conditions in the distant future, present a more substantial concern. Those, like me, who justify intervention because of borrowers' bounded rationality, should start with these dimensions of the mortgage transaction.[44]

The Downside of Non-Recourse Loans

The main argument that can be raised against permitting non-recourse mortgages is that they are too complicated to evaluate and manage by primary residential housing borrowers, and may mislead them. Non-recourse loans typically finance large commercial real estate projects that require large amounts of capital. For example, they are used for project financing in the mining, transportation, telecommunication and public utility industries.[45] They are also used on a smaller scale for the purchase of commercial assets and of residential property for investment and rental. Non-recourse loans are secured by the project assets and paid entirely out of project's future cash flow, rather than out of the general pool of assets and the various sources of future income of the borrower. Thus, they rely less on the general

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[43] Harris & Albin, *supra* note 39.

[44] See Federal Reserve warnings in consumer guides and disclosure forms, published after the onset of the subprime crisis: http://www.federalreserve.gov/pubs/arms/arms_english.htm#caution; http://www.federalreserve.gov/pubs/mortgage_interestonly/default.htm

[45] On non-recourse commercial loans and project finance, see Paul D. Childs, Steven H. Ott & Timothy J. Riddiough, *The value of recourse and cross-default clauses in commercial mortgage contracting*, 20 JOURNAL OF BANKING & FINANCE 511 (1996).

creditworthiness of the borrower. The decision to grant a loan and the pricing of the interest are based on the business plan and the expected future cash flow, together with the expected value of the secured asset. Such loans are tailored for income generating assets rather than homes that serve as the borrower's primary residence.

Another reason for the fact that business and commercial contexts are the paradigmatic contexts of non-recourse loans is the availability in these contexts of organizational law. Non-recourse borrowing is equivalent to borrowing by a legal entity, say a limited liability corporation or an LLC, whose only asset is the secured asset and whose sole source of revenue is the rent of that asset. The non-recourse feature of the loan agreement is a substitute for the entity-shielding feature of organizational law in achieving asset partitioning.[46] Unless granted additional securities and guaranties, and without grounds for veil piercing, the lenders of a corporation have no recourse to other corporations or to its shareholders.

This paradigm does not hold with respect to residential mortgages used for purchasing a primary residence. The secured asset is used by the borrower as the primary family residence. Its rent is consumed in kind by the borrower. The asset does not generate revenues and does not produce a cash flow. Repayment of the loan is based on the future salary of the borrower and family members. This might be supplemented by income from other tangible or non-tangible assets. One could argue that the good reasons for using non-recourse in income-generating assets, the reliance on income and the possibility of achieving the same asset partitioning through organizational law, do not apply to individual purchasers of primary residential homes.

[46] Hansmann & Kraakman, *supra* note 36.

From the lender's perspective, the lending decision in primary residential loans has to rely on evaluation of the general creditworthiness of the borrower. This is why credit scoring is so central, even in non-recourse states, and why other information about the borrower's employment, education and personal assets might be collected and used for screening by lender, or offered as a signal by the borrower, and may prove to be relevant for rationing and pricing non-recourse home loans. The expected value of the asset, compared to the balance of the loan, the LTV, is obviously also important, as the house serves as security. The lender has to be prepared for a scenario in which the borrower exercises her put option, either due to negative equity or to cash flow default. Lenders cannot rely solely on the value of the security because their business is based on repayment of loans and not on repossession and resale of houses. Even though they price the option, they aim to create a balanced portfolio in which most borrowers will not exercise the option. To achieve this, they have to analyze creditworthiness.

From the borrower's perspective, the management of a non-recourse primary residence loan is not much simpler than the management of a recourse loan for the same purpose, and is not as simple as the management of a non-recourse loan for the purchase of income generating assets. The borrower cannot assume that she will repay out of revenue generated from the asset. She has to estimate, ex ante the borrowing decision, her future employment income. She has to take into account complex life-cycle effects, such as career patterns, child-rearing expenses, other dependants, saving for retirement, etc. She has to take into account the probability of negative and positive life events. She has to make predictions about the fluctuation of interest rates that would affect repayment, because the mortgage interest rate is partly or fully

adjustable, or because of refinancing options. In short, when considering a non-recourse mortgage, a borrower has to make complicated decisions not fundamentally different from the decision-making needed when considering a recourse loan. The concern is that a borrower may not fully understand the complexity and will choose a non-recourse loan as the easy way out of the evident complexities of the recourse loan, without considering its advantages.

Managing the non-recourse loan does not get any easier ex-post. The borrower, stressed, in the "sweat box," on the verge of default and failure, cannot simply rely on the non-recourse nature of the mortgage loan and stop paying it. The decision tree is very complicated. The borrower has to respond to questions on several levels: Is her equity in the house positive or negative? Can she meet the mortgage payments? Does she have other non-exempt assets? Does she have other debts? Can she meet the payments after paying for food and essential subsistence utilities, goods and services? Is she entitled to Chapter 7 or only to Chapter 13 bankruptcy and can she benefit from bankruptcy?[47] The non-recourse nature of the mortgage loan does not allow her to ignore other assets and expenses altogether. Until the bankruptcy reform of 2005, she could deal with the payment of unsecured debts such as credit card and medical debts by applying for Chapter 7 bankruptcy discharge.[48] Since the reform, employed debtors with earnings might be barred from applying for Chapter 7 bankruptcy, because they meet the means test. As a result, in order to keep their house, they will have to keep paying their unsecured debts, as reorganized in Chapter

[47] For a site that suggests that homeowners walk away when they have negative equity, see http://www.youwalkaway.com/.

[48] See Sullivan, Warren & Westbrook, *supra* note 27.

13, while paying the non-recourse mortgage debt, and paying for basic consumption.[49] Borrowers who selected a non-recourse mortgage will still have to manage a complicated, and in the midst of the sweat box, even impossible, cash flow.

To sum up, the downside of non-recourse loans is considerable. Such loans are better tailored to the purchase of income generating assets. The decision making of both the lender and the borrower in such loans is complicated and not really dissimilar from that in recourse loans. While I do not suggest that the use of non-recourse home mortgages should be prohibited, I do not believe that their benefits are so overwhelming that they should receive exclusivity.

The advantages of having two regimes

After examining the desirability of each of the regimes, I would like to examine the desirability of a dual regime. If one was convinced that there are no good reasons for prohibiting either of the regimes, this section may seem superfluous. But if one finds only moderate justifications for prohibiting one regime, the advantages of having a dual regime as a counterweight might justify allowing both. Yet, if a dual regime creates a market failure, it might be justified to prohibit the more objectionable of the two regimes in order to prevent the failure.

A dual regime has the advantage of allowing the matching of different borrowers to different types of loans. Lenders can offer borrowers with high default

[49] Michelle White points to the fact that the initial prediction was that homeowners would not be able to use bankruptcy discharge of unsecured debts in order to keep their homes after the 2005 reform to the same extent that they used it before the reform. But recent empirical findings suggest that Chapter 13 bankruptcy is still significantly used for this purpose . See Michelle J. White, *Bankruptcy: Past Puzzles, Recent Reforms, and the Mortgage Crisis* (AMERICAN LAW AND ECONOMICS REVIEW, NBER Working Paper No. 14549, Spring 2009); Michelle J. White & Ning Zhu, *Saving Your Home in Chapter 13 Bankruptcy* (JOURNAL OF LEGAL STUDIES, NBER Working Paper No.14179, Forthcoming January 2010); Wenli Li & Michelle J. White, *Mortgage Default, Foreclosures and Bankruptcy*, (Working Paper Nov. 2009).

liability only recourse loans. They can offer borrowers with lower default liability non-recourse loans or both types of loans. The price differential between recourse and non-recourse loans on offer can be wider for borrowers with higher default probability than for borrowers with lower default probability. Differences in offers or in pricing can be based on the compound default probability, but can also be more finely tuned according to the type of default.

The relevant information for matching different types of mortgage loans (and in fact also for different pricing) to different borrowers should be separated into two clusters: information regarding the current and future value of the secured asset, and information regarding the current and future cash flow of the borrower. The first cluster includes information about the value of the house that serves as security and about trends in the real estate market generally. Most of this information seems to be available the lender, as a repeat and specializing player, at least to the same extent as it is to the borrower. Lenders accumulate information through transactions they are involved in, through analysis of the current housing market, and by following macroeconomic predictions.[50] The second cluster of information – about the borrower's cash flow – is more elusive. Borrowers know better than lenders whether they are likely to invest in their human capital in the future, to be highly motivated at work or to shirk. Borrowers, better than lenders, can estimate but not credibly convey

[50] Some components of the probability of negative equity default, generally less weighty than the above; for example, the level of future maintenance of and investment in the house, and with respect to idiosyncratic houses, also market prices, are possessed by the borrower. The borrower may also know the cost of moving to another house. In other words, she knows how deep under water she has to be in order to decide to default due to negative equity. These components of the default probability are possessed by the borrower and lenders cannot take them into account when deciding whether to offer a non-recourse loan or how to price the difference between recourse and non-recourse. They have to deal with them through other means.

the probability of encountering personal negative life events such as divorce, illness or layoff that will create income reducing and expense increasing shocks.[51]

The probability of cash-flow default might be less relevant than negative equity default liability for the lender's offering and pricing decision. This is because as long as the equity of the house is positive (cells 2 and 4 in the table below), the secured asset is a sufficient source of full repayment of the loan. The difference between recourse and non-recourse in this case is not relevant. It is relevant only for cases in which the negative equity probability materializes. In such cases and when the borrower-debtor is also cash-flow insolvent (cell 3), and in most cases also judgment proof, the recourse will be to no avail, and only in cases in which the debtor is not cash-flow insolvent (cell 1) is the difference between recourse and non-recourse relevant.

Lender's Expectations	Negative Equity	Positive equity
Cash flow Solvency	1) Relevant	2) Irrelevant
Cash flow Insolvency	3) Irrelevant	4) Irrelevant

So far, we have assumed that lenders make the first move by offering loans of different types and at different prices. They act based on the information they possess. Lenders initially possess information on macro-economic predictions, real estate

[51] Lenders may be able to better analyze, take into account and price background data such as illness statistics of the general population and unemployment trends. Lenders can ask borrowers to purchase life, loss of earning or even mortgage default insurance, in order to deal with information asymmetry. The problem with this suggestion is that much of the information that lenders cannot observe and verify, insurers cannot either. The history of Private Mortgage Insurance (PMI) is instructive. PMI developed simultaneously with the rise of LTV above 80% and the resulting increased risk of negative equity default. Insurers, unable to distinguish between borrowers based on their default probability, which was based significantly on private non-conveyable information, had to demand high premiums. Soon competitive lenders offered second mortgages and higher LTV mortgages without requesting PMI. See David Bernstein, *Seconds First: The Role of Second Liens in the Mortgage Crisis and Rescue* (2008), *available at* http://ssrn.com/abstract.

market analysis, demographic trends, and default statistics on groups and classes of borrowers. They can narrow the information asymmetry by asking loan applicants to provide personal information. Such information may include credit scoring, employment and earnings, education and human capital, etc. The less documented the loan application is, the more likely it is to be priced higher.

Next, borrowers may signal their creditworthiness to lenders. Education and credit scores are in a sense also signaling devices used by borrowers. But it is likely that the information asymmetry, though alleviated, will not be annulled altogether. Borrowers will still possess some private information that they will not be able to credibly convey to the lender in a verifiable way. Examples of such information are their motivation to work hard for many years or their intention to maintain their new home well.

Screening may be used to further reduce the information asymmetry. The dual regime, recourse and non-recourse, may serve as a screening device. The lender responds to the asymmetry in information about default probability, to the fact that some private and unverifiable information about default probability is held by the borrower, by offering the borrower two different types of contracts.[52] In the insurance market, the famous example used by Rothschild and Stiglitz, pioneers of the theory,

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[52] For an early application of the screening framework to mortgage loans, see Danny Ben Shahar & David Feldman, *Signaling screening equilibrium in the mortgage market,* 26 THE JOURNAL OF REAL ESTATE FINANCE AND ECONOMICS 157-178 (2003). This study views credit scoring as a signaling device and different risk premiums and maturity periods of mortgage loans as selection devices. It adds that these are only simplifying examples; other dimensions of the contract can also serve for screening. In a later article, additional dimensions were included: constant over graduated payments, constant over price-level adjusted payments, adjustable over fixed rates, low over high loan-to-value ratio, as well as short over long maturity. Danny Ben-Shahar, *Screening mortgage default risk: A unified theoretical framework*, 28(3) JOURNAL OF REAL ESTATE RESEARCH 215 (2006).

deductibles serve for screening.[53] Consumers who estimate, based on their private information, that their probability of encountering an insurable event is high, would prefer policies without, or with lower, deductibles. Consumers with lower probabilities would prefer policies with higher deductibles when these are offered at a sufficiently low price. Recourse seems to serve a similar screening function, and means of extracting private information, as do deductibles. Rather than matching each borrower with one type of loan based on the information the lender possessed or obtained, the lender can offer, to at least a subset of the borrowers about whom the lender does not possess sufficient information, loans of both types. The choice by the borrower of one of the types over the other would be based on her private information. This private and unverifiable information could thus be put to work, just as with insurance policies, for matching more optimal contracts to each borrower.

The analogy does not fully hold. Borrowers may fake a signal of low probability for default by selecting recourse because this signal is costless for them. More concretely, borrowers may choose recourse because they estimate that at default, they will be judgment proof. They intend to enjoy the lower interest of the recourse loan without subjecting themselves to its downside. The difference between insurance and credit is that in insurance transactions, the more informed party, the insured, is on the receiving end, while in credit transactions, the more informed party, the borrower, is on the paying side. When choosing between two types of insurance policies, a person cannot fake low probability when he is high probability. In such transactions, he actually decreases the expected value of the policy by agreeing to higher deductibles; namely, agreeing to receive less than full compensation if the

[53] Michael Rothschild & Joseph Stiglitz, *Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information*, 90 Q.J.E. 629-649 (1976).

insured event occurs. But a borrower can fake low probability in a mortgage transaction by offering an additional pool of assets to which the lender could recourse (personal assets and future income) when she predicts that this pool of assets will be empty at the relevant time, but the lender does not know this.

A borrower who estimates her likelihood of being judgment proof when defaulting as high may prefer a recourse loan. By selecting that type of loan, she will benefit from the upside, the lower interest, while not subjecting herself to the down side, the risk of losing personal assets and income. It seems that for a borrower with such probabilities, the dual regime will not serve as an effective screening device. Both types of borrowers – low probability of default and high probability of default coupled with high probability of judgment proof – will select recourse. Rather than achieving a separating equilibrium, as with insurance deductibles, the dual regime seems to result in a pooling equilibrium.

Should this be a reason for prohibiting one of the contractual regimes? Not necessarily. A real problem will occur only if lenders offer recourse as well as non-recourse loans to the wrong types of borrowers. Lenders can decide to offer to some subsets of borrowers only one type of mortgage, even though they are not prohibited from offering the other.

Will a separating equilibrium apply to any subset of borrowers? For simplification, let us analyze only the effect of the expected probability of cash-flow insolvency and of negative equity on the borrower's decision to select a recourse or non-recourse mortgage. The assumption is that the lender offered both types of mortgages to the same borrower, based on credible and verifiable information that the

borrower conveyed to him and on credible signals made by the borrower.[54] Now the borrower has to make the choice based on private information she possess. The table below represents her preferences:

Borrower's Expectations	Negative Equity	Positive equity
Cash flow Solvency	1) Non-Recourse	2) Recourse
Cash flow Insolvency	3) Recourse	4) Recourse

She would select non-recourse only when she expects to be in a state of negative equity and cash flow solvency (1). In that state, she would prefer to foreclose and walk away but would not be able to do this were she to select recourse, because following the deficiency judgment, the lender will be able to collect on her assets and income. She could not initially select a recourse mortgage in order to benefit from a lower interest rate. A separating equilibrium applies to this subset of borrowers. It separates them from borrowers who expect to be in negative equity and cash-flow insolvency (3) and from borrowers who expect to be in cash-flow solvency and positive equity (2). The lender would recognize her type once she made the selection.

Admittedly, when a borrower selects recourse, the lender is unable to know her type. She could be (2), (3) or even (4). But the question at hand is not whether the existence of both types of mortgages creates a separating equilibrium for all

[54] For simplification, it is assumed at this stage that "cash flow insolvency" equals "judgment proof." In other words, by the time the borrower is not able to maintain payments on the mortgage and forecloses, she has exhausted her private assets and free income, and become judgment proof. It is also assumed that borrowers' risk preferences are irrelevant. One way of presenting this assumption is that primary residence borrowers all have the same risk preference; most likely, they are risk averse. Another way of presenting the assumption is that their risk preference is factored into their expectations on top of the raw probability of insolvency or negative equity. To put it differently, the break point between expected solvency and expected insolvency will be higher (higher compounded probability) for a risk-averse borrower than for a risk-seeking borrower. Lastly, it is assumed that borrowers have similar cognitive biases, such as optimism bias, or that their optimism biases are factored into the break point in a similar way to that in which risk preference is.

borrowers. Suffice it to show that it does not create a pooling equilibrium for all borrowers. The existence of a subset of borrowers for which a separating equilibrium applies should be sufficient for allowing both types of mortgages, in the absence of contrary justifications for prohibiting either of them.

The effect of a legal regime that permits only one type of mortgage is detrimental. In recourse states, borrowers of type (1) are willing to pay higher interest in order to get a non-recourse loan but are prevented from doing so by law. In non-recourse states, borrowers of types (2), (3) and (4) are willing to accept an offer to take a recourse mortgage for lower interest but are prevented from doing so by law. The law, in both recourse and non-recourse states, prevents the selection of the most efficient mortgage contracts for some subsets of the borrowers. The legal regime also entails distributive consequences. In recourse states, borrowers of types (2), (3) and (4) subsidize type (1). In non-recourse states, borrowers of type (1) subsidize the rest.

The analysis above is preliminary and partial. The current literature offers only preliminary predictions as to under which circumstances and for which subset of borrowers offering both recourse and non-recourse loans will serve as an effective selection device that results in a separating equilibrium, and under which the equilibrium will be pooling.[55] The response depends on the probability of default for each cause, prevailing interest rates, the information available to lenders with respect to each type of default probability and its costs, bankruptcy rules in force, and more. The assumption I used with respect to risk preference can be relaxed. The linkage between cash-flow insolvency and judgment proof should be examined. A more fine

[55]The first attempt I am aware of for modeling the recourse-non-recourse dimension of the mortgage contract as a selection device is Danny Ben-Shahar, Eyal Sulganik, & Efrat Tolkowsky, *Recourse and non-recourse loans: A theoretical analysis under asymmetric information* (Work in progress, 2007).

tuned analysis of the nature of private and unverifiable information possessed by borrowers as opposed to verifiable information and information possessed by lenders should be conducted.[56] It is unnecessary in this article to formulate a precise algorithm for mortgage lenders. Private sector lenders and real estate finance scholars will have sufficient incentives and expertise to develop such algorithms.

For the purposes of this article, it is sufficient to establish to policymakers that such equilibrium for a yet not fully identified subset of borrowers exists. Based on the current state of research, it seems that in some circumstances and with respect to some subsets of the borrowers, lenders will be able to make informed decisions on whether to offer recourse or non-recourse in specific markets, at specific points in time and to specific groups of borrowers. In other circumstances and with respect to other sub-sets of borrowers, the dual regime will serve as an effective screening device that compels borrowers to reveal their private default probability information by choosing one type of loan rather than the other. In some scenarios, borrowers will be able to fake and the result will be a pooling equilibrium. As there is an advantage to allowing a dual regime with respect to the first and second circumstances, and as the state cannot identify ex-ante circumstances and sub-sets of borrowers where a pooling equilibrium will result, there is no good reason for preventing a dual regime by law.

The social costs of legal intervention that prohibits a dual regime are well exemplified in California of the subprime crisis. In California, due to the legal proscription, all borrowers were offered only non-recourse mortgage loans. In a counterfactual world in which recourse loans could also be offered, it might have been

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[56] Even if it turns out that the information about negative equity probability is possessed in full by the lenders, the recourse – non-recourse screening will separate lenders who expect their cash-flow insolvency probability to be high from those who believe it to be low.

wiser for lenders to offer borrowers with observed high negative equity default risk and low cash flow default risk only recourse loans. Significant price differentiation between recourse and non-recourse would have been an additional step in the selection process with respect to borrowers whose default probabilities were unobservable to lenders. Some of these borrowers would have been rationed out, or would have declined, the pricier (the lower expected value) offers altogether. This would have led to not borrowing, not buying houses and avoiding ex-ante entry into inefficient transactions. Only borrowers who expected to be cash flow solvent and in negative equity (1) would have selected the more expensive non-recourse loan. Ex-post, all the borrowers who were offered only recourse or enabled to choose recourse, even when deep under water, as they are these days, would have been more reluctant to default, walk away from their homes, and foreclose. The social costs associated with the drop in home values due to foreclosure, the spillover to the owners and residents of un-foreclosed homes in the same neighborhoods, transaction costs associated with large number of foreclosures, could all have been considerably reduced.

Why don't we already have a dual regime?

If a dual regime is indeed beneficial, why doesn't it exist today? This question can be asked with respect to the law and again with respect to the market. Why do some US states prohibit recourse loans? As the prohibition is scattered in a variety of rules, it is not clear that it was drafted and legislated following a systematic and well-informed academic and public discussion.[57] It may have emerged from a general pro-borrower sentiment, together with the intuition that recourse is good for lenders and

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[57] Explaining the exceptionality of the US fresh start policy in bankruptcy is beyond the scope of the present article. For this, see Ziegel, *supra* note 25.

bad for borrowers. In some cases; for example, the recent Nevada anti-deficiency judgment amendment, the legislation was an ex-post attempt to remedy a crisis that possibly did not take into account the full ex-ante implications. Another possible explanation is that the non-recourse regime is good for credit card companies and other unsecured lenders, as it places the personal pool of assets of the borrowers at their disposal and out of the reach of mortgage lenders.

The common wisdom, often not supported by empirical studies, is that in dual regimes where both types of loans are permitted, only recourse loans are on offer. This is arguably the case in major US states such as Florida and Texas, in Europe and elsewhere around the globe. Though this common wisdom is well grounded, it does not seem to fit the theoretical analysis offered above. One of the existing firms, or a new entrant, could have been expected to offer non-recourse loans at the right price to a subset of borrowers after analyzing their cash-flow insolvency probability and negative equity default probability. Alternately, the lender could offer another set of borrowers both recourse and non-recourse loans in order to screen and separate them, based on borrowers' private and unverifiable information.

One possible explanation for the dominance of recourse loans in dual regimes is specialization. It is sometimes argued that lenders specialize in lending and not in collecting and because of this, they do not pursue their debtors personally through deficiency judgments. This explanation is not convincing because mortgage originators usually outsource the entire administration of the mortgage to a servicing company at securitization, and that company deals with collection or further outsources it to more specialized companies.

It is further conjectured that lenders do not know how to price non-recourse loans and set the proper price difference between the two types of loans. But why? The pricing of non-recourse loans seems to require understanding in real estate and only to a lesser extent, understanding in personal assets and future incomes. Lenders of unsecured debt, such as credit card companies, have to specialize in evaluating individual creditworthiness based on income and personal assets. On a continuum, with specialization in real estate on one pole and specialization in future income and personal assets on the other, the pricing of non-recourse loans is closer to the real estate pole, that of credit card loans to the income and personal assets pole, and recourse loans are closer to the middle of the continuum. Insofar as this observation is correct, mortgage lenders are in a better position to price non-recourse loans, and should offer these or both.

A third variant of the specialization hypothesis is that mortgage lenders specialize in lending and not in insurance. But lending and offering default insurance are tightly connected. In fact, lenders actively competed with default insurers that introduced PMI, and were able to do so successfully, because they had access to borrowers' default probability information at mortgage origination and could save on transaction costs when doing everything within a single transaction. Default insurers are one step removed from the insured transaction; they have to gather and analyze information anew.

Is it possible that the non-default type is not offered because borrowers prefer to buy default insurance separately from insurers, rather than buying it in tandem with credit from lenders in an all-inclusive non-recourse? In fact, most borrowers do not

buy separate insurance, and the share market of PMI has shrunk.[58] This might be explained by the informational inferiority of insurers compared to lenders, mentioned above.

Can securitization explain the prevalence of recourse loans? The argument that the ultimate bearers of the loans, who are passive investors and not mortgage originators, do not want to bother collecting from individuals, was disproved by the fact that this role is performed anyway by servicers and can be further outsourced. The argument that securitization requires uniformity of mortgage contracts so that they will be easily packed together by issuers is not convincing either. Other dimensions of the mortgage contract, say, interest rate, maturity period, amortization scheme and adjustability of interest, are far from uniform. Heterogeneity along these dimensions has only increased over time, yet such diverse contracts were securitized and securitization flourished.

Competition over contractual terms does not always take place. In some circumstances, suppliers, such as mortgage lenders, can benefit from having a non-competitive market for contractual terms.[59] Lenders may prefer the recourse feature of the mortgage contract to remain non-salient. As long as borrowers do not understand the harsh meanings of recourse loans, they will not respond to these meanings by declining to borrow, by bargaining for lower interest, or by strategically making themselves judgment proof. Lenders can maintain this non-saliency by declining to

[58] It is puzzling that mortgage lenders were willing to compete for business with default insurers over the last decade by offering second mortgages (piggyback mortgages), thereby eliminating the need for private mortgage insurance (PMI). See Bernstein, *supra* note 51.

[59] David Gilo and Ariel Porat, *Viewing Unconscionability through a Market Lens* (CHICAGO LAW & ECONOMICS Working Paper No.489, 2009) *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1493303.

offer non-recourse loans, which would call borrowers' attention to the dangers of recourse loans. But why didn't any of the lenders, or a new entrant, decide to compete by making this dimension more salient and offering non-recourse loans to some of the borrowers?

Conclusion

This paper calls attention to an exceptional feature of the American mortgage market, the prevalence of non-recourse as created by procedural and bankruptcy law. A comparative perspective turned my attention to this distinctiveness compared to the rest of the world. A comparative view within the United States calls attention to the difference in foreclosure regimes between states that prohibit or curtail deficiency judgment, and are in fact non-recourse states, and states that allow deficiency judgments and are in fact recourse states. As it turns out, some of the leading foreclosure states are also anti-deficiency judgment states. This suggests that the non-recourse feature had a fundamental effect on the unfolding of the subprime crisis in the US.

After analyzing the desirability of a recourse regime, a non-recourse regime and a dual regime, I recommend that jurisdictions that prohibit recourse loans lift this prohibition. This recommendation may seem counterintuitive or unpopular in the aftermath of the mortgage crisis. But my recommendation is also that appropriate regulation would compel lenders to provide borrowers with information about the implications of recourse and of non-recourse and possibly warn them of adverse implications and call their attention to possible biases they as borrowers may have in making the choice. Further, my recommendation does not apply to loans made before the subprime crisis and does not preclude loan modification or homeowner assistance.

It refers only to the post-crisis and post-recovery long-term design of the mortgage market. Lenders in dual regime jurisdictions should study the potential positive effects of offering non-recourse loans or both loans to some subsets of borrowers. Generally, the paper concludes that both recourse and non-recourse should be on the table, on the levels of regulation policy and lending practices.