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Abstract

This paper explores the shift of residential mortgage lending from a system where credit was rationed to prime quality borrowers to a system where subprime borrowers are offered credit using risk-based pricing options. The emergence of risk assessment tools, particularly regarding an applicant's willingness to pay, in theory can help overcome inefficiencies due to imperfect information available to lenders. This has the potential to complete an otherwise truncated market, add to allocative efficiency, and potentially increase the positive externalities of homeownership. Each of these gains, however, is conditional on how the subprime industry matures and on prevailing consumer and lender practices. Mis-pricing, principal agent distortions and asymmetric information are all potential threats.

While the new system may be more efficient overall, equity issues are also created by the emergence of risk-based subprime lending. First some borrowers lose cross-subsidization at the margin of the prime market, even if subprime loans are being correctly priced for risk. Second, high-risk loan categories will by definition experience high default rates, and are likely to be concentrated in low-income/minority neighborhoods. Thus, individuals in these communities are more likely to be subjected to potential ill effects of foreclosed properties. Third, since most subprime loans are for mortgage refinance and many include cash-out provisions, as liquidity and credit constrained borrowers convert equity into current consumption, it is possible wealth inequities for low-income/minority households could expand.

Whether the rise of the subprime market and risk based pricing in general enhances market efficiency is conditional upon industry and consumer practices. Regulators and industry innovators need to further develop mechanisms to increase the transparency and oversight of originations, pricing and expand efforts to mitigate the negative public externalities of defaults.

Introduction

Over the last ten years, subprime mortgage lending has evolved from a small niche in home equity lending to a market valued at over $200 billion annually, or roughly ten percent of the overall single-family residential mortgage market (Crews Cutts, Van Order and Zorn, 2002). The term subprime covers a wide-ranging set of mortgage products and practices, and is also called nonprime. In simplest terms, it is mortgage lending where the cost of credit is higher than that offered by prime and FHA lending specialists. In most cases, the higher cost reflects the lower credit quality of approved applicants as measured by their credit scores. This paper presents a stylized overview of the economic benefits which could be derived from the emergence of risk-based pricing in mortgage lending. It explores outcomes which are conditional on retail and wholesale practices in the marketplace as the mortgage industry matures, as well as policy and business implications of this shift.

Overview of the Shift to Risk-based Subprime Lending

Lenders evaluating loan applicants attempt to predict the default risks associated with a given loan. Loss of income, divorce and severe illness are comparatively random events which could fall upon any class of borrowers to create a loan default. Other events are systematically related to the borrower and property characteristics and can be predicted based on the loan applicant's past behavior. Lenders have developed more refined tools to predict systematic risks in the last decade, allowing risk-based pricing to achieve increasing degrees of granularity.

A decade ago, lenders manually examined payment ratios, loan-to-value ratios, employment histories, assessments of the value of the collateral, and credit histories of loan applicants to evaluate if a loan should be approved. Each was compared to relatively rigid standards established by decades of past industry practice. Stigltz and Weiss (1981) argued that rationing by qualification standards in this way is the result of imperfect information about the uncertainty surrounding the systematic credit risks of a loan application. Since originators can not observe the credit risk profiles of borrowers with certainty, they resort to rigid rationing systems. Chinloy and Macdonald (2002) build on this a model of credit allocation, adding a secondary step of lenders sorting approved loans by loan-to-value (LTV) ratio and then pricing into two general categories based on collateral risk. Loans above 75, then 80 (and later higher) LTV ratios require the added cost of mortgage insurance, either at the loan closing in the form of

an upfront premium or an increase in monthly debt service payments to cover premiums. These models ration credit to prime quality borrowers with a simple pricing structure. While these models prevailed, subprime borrowers were denied access to credit at any price.

Chinloy and Macdonald suggest the advent of subprime lending has expanded credit allocation by a new dimension, credit quality. The lender now can accept most loan applications, but pricing becomes more complex, effectively expanding from two price levels into hundreds of risk- priced categories. True risk-based pricing would imply each borrower's unique observable systematic credit risk characteristics would be assessed and priced along a continuum of mortgage prices. In practice, most lenders continue to censor the riskiest corner of the credit pricing grid—sorting out the most risky applicants and rationing them out of the market. Lenders also use other mechanisms to govern the risk and revenue related to loans. For example, riskier loans have more restrictive terms than prime loans, including prepayment penalties, origination fees and other features.

In practice, subprime loans are priced based on past loan payment behavior and credit scoring metrics. Temkin et al (2002) suggest that prime borrowers (or 'A' borrowers) generally have FICO (Fair Issacs Company) scores above 660, have never missed a mortgage payment, and missed only one revolving debt payment in the last 24 months. 'A-minus' borrowers have scores above 620, and have missed no more than 1 mortgage payment or 2 credit card payments. 'B' quality borrowers have missed several payments, one of which was at least 60 days late. 'C' borrowers have had a serious delinquency in the last 2 years, that is a payment over 90 days delinquent (technically in default for a mortgage loan). 'D'-quality borrowers are typically emerging from bankruptcy. Finally, related to these categories are 'Alt-A' borrowers, who generally have prime quality credit scores, but whose loans have reduced documentation regarding income or assets, or have unusual collateral characteristics.

A review of a rate sheet provided by a major subprime lender is helpful in understanding the industry's pricing structure. As of October 2003, an 80 percent LTV loan for a borrower with an 560 FICO, is priced at a premium of 270 basis points over a borrower with an 680 FICO score (Option One Mortgage, October 1, 2003). The pricing sheet also demonstrates how lenders tradeoff credit risk for collateral risk—at the lowest FICO scores, lenders will not make loans with LTV ratios over 90 percent. Also, lowered standards for income verification and documentation require an interest rate premium of 75 basis points over full documentation loans

regardless of other charges associated with FICO score or loan-to-value ratios. Debt-to-income ratios are allowable up to 55 percent of income, and even up to 60 percent if the loan-to-value ratio is low. Borrowers can pay a 1.5 to 3.0 point premium on the loan at origination to waive prepayment penalties for refinancing within the first three years. Because low-balance loans cost relatively more to administer and incur high loss severity in the case of a foreclosure, loans below $130,000 require a premium of 50 basis points, and loans below $30,000 as much as 100 basis points. While not a widespread practice, the price sheet shows the same borrower characteristics might require a pricing premium if the state in which the property is located in represents added collateral risks due to fluctuations in regional home values.

Potential Benefits of Risk-Based Subprime Lending

Risk-based pricing could, under the right circumstances, produce a more efficient allocation of resources. But whether risk-based pricing achieves greater efficiency is an empirical question and is conditional on business practices, consumer behavior, and if the structure and analysis of information accurately captures underlying risk. Efficiency gains are only realized if the industry is able to measure, predict, and price for systematic credit risks.

Innovations in information technology for measuring risk have already had significant repercussions on the operation of the mortgage market. In the prime market, the development of automated underwriting systems and the extensive use of credit scores have expanded the pool of applicants approved for home mortgage loans. Although not all automated systems and credit scores have proven equally as reliable in predicting loss rates and severities, the systems used on Wall Street and by the government sponsored agencies have so far predicted risks well. However, this has occurred during an unusually favorable period of home price appreciation that reduces collateral risk and the likelihood that loan defaults will culminate in foreclosures.

Meanwhile, the subprime market has developed rapidly as a result of capital market appetite for the equivalent of corporate junk bonds that are secured by real estate instead of claims against a company' cash flows. As in the prime market, information technology is being used to model and price credit risk. However, success in the use of these new technologies has been uneven. Some subprime lenders have incurred higher than expected losses while others may have earned economic rents by being able to charge borrowers more than it takes to earn a competitive rate of return.

Clearly, the move from the old rationing regime to the new subprime credit pricing system is still a work in progress. During this transitional stage, it is not clear whether efficiency gains are being realized. The following discusses the benefits that could flow from the emergence of risk-based pricing as it is evolving in the subprime lending market, as well as how practices in reality may diminish these benefits. Three primary benefits could result a move into subprime lending: (1) completion of a truncated market, (2) increased allocative efficiency and (3) increased positive externalities. Of these three, the only that had been clearly realized in the completion of a truncated market. Simply put, a market for loans to credit impaired borrowers has been established were one did not exist in any meaningful way before the 1990s. However, this new market is itself subject to failures that can cause allocative inefficiencies and negative externalities within the new market.

Completing the Mortgage Capital Market

The flow of capital to subprime credits has created a market where one previously did not exist. The nonexistence of markets for goods and services that consumers demand and suppliers can satisfy while earning a competitive return constitutes an important market failure. In fact the relatively rapid emergence of the subprime market can be seen as a response to the failure of the rule-based credit rationing regime to serve borrowers with blemished credit or no credit history (Chinloy and Macdonald, 2002).

This new credit marketplace could result in additional efficiencies. First, subprime mortgage lending allows consumers to substitute lower cost, long-term mortgage loans for higher interest rate credit card and other consumer debt. Debt-consolidation loans existed in the pre-subprime regime as well, but borrowers could not secure these loans with their properties if they had blemished credit and liquidity constraints. Second, the cost of mortgage capital is often lower than the cost of comparable credit that is unsecured by a primary residence. There are three reasons for this—interest on mortgages is deductible from income taxes, mortgage loans are secured by an asset that may be worth nearly as much or more than the debt, and people require shelter and are therefore more apt to default on other loans rather than risk losing their homes. Not only is capital often cheaper, but tapping home equity to finance consumption may be the only option for otherwise liquidity constrained borrowers with especially low credit scores. The consumer sector's assets and overall cost of debt service may decrease as the

mortgages market is completed, permitting that savings to be more efficiently invested or consumed than through other mechanisms.

Before the advent of risk-based pricing in the subprime market, mortgage credit was rationed based on imperfect information. This system resulted in adverse selection—riskier borrowers pushed out less risky ones (also known as the 'lemons problem' as described by Akerlof, 1971). Because lenders were previously unable to observe loan applicant's systematic credit risk accurately, some truly high-risk borrowers were able take out loans. These borrowers increased losses in loan pools and, as a result, lenders charged higher rates for all borrowers in the market. Because high-risk loans are under-priced in this system and low-risk loans are over-priced, high-risk borrowers are encouraged to enter the mortgage market and low-risk borrowers are discouraged from entry. This adverse selection effect results in increased average costs of credit in the mortgage market. Under the new subprime pricing system, the market has moved from rationing credit to large heterogeneous classes of borrowers with good credit, to providing expanded approval for mortgages to more homogenous categories of borrowers, each with a loan rate more closely related to the relative risk involved. Adverse selection, which drove out better credits in the former system, is reduced due to improved (less imperfect) information and the market performs more efficiently overall.

Increased Positive Externalities:

Renters still building credit ratings and financial assets may find they can become homeowners sooner due to the existence of subprime loans. Goodman and Nichols (1997) suggest FHA plays such a role—accelerating homeownership for first-time buyers. Recent research suggests there are significant private benefits to homeownership, the most notable of which is asset accumulation and better educational outcomes for children (Deitz, 2003).

However, at least three-quarters of subprime loans are used to refinance of an existing loan, as opposed to for home purchase (Temkin, et al 2002). In fact, the entire subprime industry evolved as part of the home equity second mortgage lending industry in the 1990s, not from the purchase mortgage industry.[1] Yet even as capital for refinancing, subprime loans may prolong homeownership for existing owners. Some may use a subprime refinance loan to avoid having to

[1] Even today, subprime loans are referred to as home equities among Wall Street investment bankers and issuers.

sell their home in a financial crisis, while others may use loan proceeds to make critical repairs to their homes, making continuing ownership in a property viable.

For the last 25 years, the focus of community reinvestment regulations have focused on the negative externalities associated with denying credit to certain communities and categories of borrowers. The subprime lending system inevitably results in more credit flowing to predominantly minority and low-income communities than in prior credit rationing system. Analysis of Home Mortgage Disclosure Act (HMDA) data shows a much larger market share for minority and low-income borrowers in the subprime than prime market (Joint Center, 2003). Constrictions on credit flows to particular neighborhoods in the past meant that potential buyers of housing could not be converted into effective demand, constraining residential property transactions and values. Opening these markets to mortgage approvals may overcome the negative externalities of credit rationing.

Several studies suggest homeownership is associated with positive externalities for communities (Dietz, 2003; Haurin, Dietz and Weinberg, 2002). The new subprime regime may result in gains for distressed neighborhoods and local jurisdictions if expanded or prolonged owner-occupied properties have such positive impacts.

Potential Market Failures in the Completed Market

As the truncated market broadens out, market completion carries risks of other market failures. While less dramatic than the absence of market where willing buyers would purchase credit if it had been made available to them a mutually acceptable price, the new market can fall victim to other market failures that are nevertheless material. In the context of the rapidly evolving subprime market place, four market failures are of special concern. These are underestimating risk (mispricing and misallocation of risk due to incorrect measurement of systematic risk), principal-agent problems (misalignment of incentives and asymmetric information between principals in a transaction and the agents acting on their behalf), asymmetric information (unequal bargaining power due to information advantages of one party over another), and negative externalities (costs not internalized by the entities that create them).

Underestimating Risk at the Macro level

The extent of the benefits associated with completing the market depends importantly on the quality and accuracy of the risk measures and pricing mechanisms in use. If lenders and investors have misjudged credit risk, collateral risks and loss severity, the market will face a correction. Indeed, just such a correction occurred in 1997 and 1998 because several lenders suffered such significant loss and many declared bankruptcy in the following years. The collapse of the manufactured housing lending industry in the late 1990s is also illustrative. Lax underwriting resulted in heavier than expected loss severities and many lenders exited the market.

Indeed, when default rates and losses are greater than anticipated, investors and lenders face significant losses. Households in foreclosure are forced to pay high transaction costs, have their credit ratings ruined, and lose homeownership as a tenure choice for at least several years. Some borrowers, depending on their ownership period and default status, may be worse off than they would have been if they had been denied credit. Higher than anticipated losses reduce the rate of return to capital and result in misallocation of resources in the economy.

Whether the rise of the subprime market and risk based pricing in general enhances market efficiency and fairness depends upon whether lenders in fact are better able to evaluate risk on a loan by loan basis or, at minimum, are better able to evaluate risk by finer and finer categories. Those who argue for moving ahead to a fuller risk based pricing model believe that analytical advances in the form of better default and loss models and the availability of better data, such as widespread credit scoring, have indeed enhanced our ability to measure risks. Critics, however, caution that most credit and default models are estimated with data from the last 12 years which include the longest and strongest expansion in U.S. history (1991-2001) and an incredibly robust housing market that has kept the American economy out of a double dip recession since 2001. Since real losses occur primarily when collateral values fall, the small standard errors estimated in recent default and loss models may reflect the strong housing market and not a better ability to fragment risk. Subprime lending has never been tested by a severe downturn in house prices and the economic cycle. This lack of testing under stressed conditions presents an empirical question beyond the scope of this paper, but because the potential social welfare losses are significant, this issue deserves further inquiry.

Principal Agent Issues

A number of principal-agent problems exist in the mortgage market and they may be exacerbated by the expansion of the subprime market. Most subprime loans are sold into the secondary market by originators who pass the risk of default on to the ultimate holder of the mortgage. Clearly, originators have an incentive to keep origination volumes as high as possible which involves taking as much risk as the secondary market will absorb. While in cases of fraud, losses can be put back onto the originator, the originator has the incentive to make the application look as good as possible.

Similarly, the largest holders of mortgage debt, the GSE's, have an incentive to accept risks that they would otherwise decline because of the existence of private mortgage insurance which covers a substantial portion of default risk for loans with greater than 80% LTV's. Because of competitive pressure, the mortgage insurers have tended to accept GSE underwriting standards as a result of the widespread and convenient use of Desktop Underwriter and Loan Prospector, the GSE's automated underwriting systems. The underwriting standards built into those systems assume that the insurers stand in front of the GSE's in case of default.

In both cases, the decision maker does not bear the full cost of a default, and decisions are likely to lead to more risk than would otherwise be efficient.

Asymmetric Information

In order for markets to be efficient, buyers and sellers must have complete information on both product quality and available pricing. As products become more complex, the asymmetry of information between well informed and buyers and sellers and less well informed buyers and sellers increases, and the potential for unfair, discriminatory, and inefficient transactions grows.

Clearly, the rise of the subprime market has led to very complex pricing structures which are difficult for even the most financially literate borrowers to fully understand and evaluate. Most sub-prime borrowers are ill equipped for the rigors of financial analysis. Brokers and other originators know these pricing algorithms well, and the potential for abuse is high. Even in the absence of abuse, borrowers who end up with loans that are more expensive than the minimum they could qualify for are allocated credit inefficiently. Of course, these are not new issues. The Real Estate Settlement Procedures Act, Truth In Lending Act, and Home Owners Equity Protection Act were all in part a response to the issue.

Negative Externalities

Loan defaults that lead to foreclosures can lead to negative externalities that have welfare implications for both lenders and neighbors of foreclosed properties. While subprime loans as a pool experience higher serious delinquencies, subprime loans were only about 10 percent of the overall market in 2002-2003. Since the market is still relatively small, the absolute number of foreclosures that started off as subprime loans is dwarfed compared to foreclosures from prime and government-backed loans nationally.

However, subprime lending is spatially concentrated in low-income and especially low-income minority communities. Using HMDA data, merged with a designation of lenders that specialize in subprime lending, researchers have documented patterns of loan origination by lender type (Scheessele, 2002; Calem et al, 2002). These studies consistently find subprime loans tend to be disproportionately located in low-income and minority census tracts, as well as with low-income and minority borrowers. Pennington Cross (2000) finds race, even controlling for other factors, explains much of the variation in what type of a loan a borrower receives. African American borrowers in particular are more likely to take out subprime instead of prime loans.

If risks are concentrated in a spatial area, potentially a contagion effect of foreclosures might result if property values deteriorate. Foreclosures might also bring on other negative externalities to local real estate markets, such as vacant properties, abandonment, underinvestment and crime. Anecdotal evidence suggests concentrations of homes in foreclosure are associated with neighborhoods with high concentrations of subprime loans (Collins, 2003). Both lenders to other properties in neighborhoods and neighbors experience welfare losses if foreclosures are concentrated enough to reduce surrounding property values in a community. Hence the lenders who made the foreclosed subprime loans and borrowers who accepted them create costs for others.

Equity Effects of Risk-Based Subprime Lending

Improved information and a movement from rationed credit to subprime pricing may result in improvements in efficiency in the mortgage marketplace. Whether lenders are in fact better able to evaluate risk on a loan by loan basis is clearly an important question, but equity issues remain thorny and will remain so regardless of the quality of risk modeling and pricing.

Eliminated Cross Subsidies

Due to the finer granularity and reduced adverse selection in the new risk-based subprime lending regime, the system is more efficient overall. However, some borrowers are penalized relative to the old system as they move into the new system. Under the old regime, each borrower pays the average price for the class based on the average risk in the class. Borrowers with poorer credit relative to others in the approved category benefit from being included in the class, while the rest of the class pays more than their average risk. The discontinuous nature of more finely-grained risk segments with very similar borrowers in each category allows lenders to better price risk than two broad heterogeneous categories. The more the number of risk grades, the smaller the likely variance around the means. Some consumers with marginally more risk would have been approved for credit under the previous regime, but now face increased credit prices. From the perspective of individual consumers who benefited from the coarser grading of credit, the transition to risk-based pricing and their subsequent downgrading represents a welfare loss. The reduction of cross-subsidies is more efficient, however, from a market-wide perspective. Whether the equity of credit pricing within these groups is a matter of importance for society is questionable. However, it is important to recognize how this shift will negatively impact borrowers with marginally prime credit.

Increased Defaults

Households gaining access to mortgage credit also assume risk. Some will be made better off by assuming the risk (their assets will appreciate in value or they will build equity over time through forced savings). Others will be made worse off (their assets will depreciate, or they will be unable to repay their loan and lose their home, or they will move too quickly to cover the steep costs of buying and selling a home). But to the extent most subprime borrowers successfully use debt to buy or remain in their home, and can repay their loans, it potentially benefits a great many households more than it harms. Some subset, though, are placed at greater risk as a result of subprime transaction.[2]

[2] Edward Gramlich, Federal Reserve governor, spoke in October 2003 about the double-edged sword of subprime lending. It has helped to expand housing opportunities, but brings riskier borrowers into system, increasing foreclosures. The problem is exacerbated if unscrupulous tactics are used to attract the borrower and originate the loan. http://www.federalreserve.gov/BoardDocs/Speeches/2003/20031009/default.htm

Subprime loans are much more likely to become seriously delinquent, that is more than 90 days past due, than prime loans (Crews Cutts et al, 2002; Temkin, 2002; Chinloy and Macdonald, 2002). Table 1 shows serious delinquencies for each risk category of subprime borrower, including the share of each type in the overall subprime market. Not all subprime loans are of the highest risk for delinquency, but under the subprime regime borrowers with very spotty credit records, at the 'B' and 'C' level, are given an opportunity to borrow. At this level, one-third to half of borrowers may struggle to keep up with their mortgage payments. Lenders and investors can, assuming accurate information, price for this level of default, and with precision model the severity of losses. But, as many as 1 out of 2 of these loans is likely to run into trouble. An expansion of subprime lending equates to an increase in defaulted loans. Even if gains of access to credit benefit nine out of ten borrowers, the harm to the one who defaults may be significant.

Table 1

Borrower Credit Segment	Share of Subprime Market	Serious Delinquency Rate
A	6%	8%
Alt A	41%	17%
A-	24%	23%
B	11%	33%
C	8%	40%
CC	11%	44%

Source: Crews Cutts, et al Table 1

In the extreme, lenders could make very high-cost loans to borrowers with very little probability of repaying their loan. It is unlikely regulators and public option would permit such lending however. At some point the risk of foreclosures will become too much for lenders, borrowers or society to absorb. Regulators have intervened in other types of product markets when the risk level of a particular good or service became perceived as too risky for the public's own good. Loan products are not considered in this way currently, but if concentrated defaults occur, the consumer safety approach could become applicable in the mortgage market.

Exacerbated Inequality of Wealth

The advent of risk-based subprime lending may adversely impact those consumers most at risk of spending their assets in the present and leaving little for the future. As many as half of minority households in low-income neighborhoods may use subprime refinance loans, ten times the share of white refinance borrowers in upper income areas (Joint Center 2003). Given the important role of home equity as a wealth building device, this may have negative implications for individuals as well as the social systems supporting low-income seniors. Prepayment penalties, in the best cases affirmatively selected by consumers in exchange for a lower interest rate, in the worst included in loan contracts without the borrower's understanding, also might limit equity accumulation. Even if subprime refinance loan products are efficiently priced and useful for borrowers, the imposition of loan terms which could reduce the wealth building capacity of subprime borrowers relative to prime borrowers may introduce inequities.

Hurst and Stafford (2003) suggest some consumers may be better off if high transaction costs prevent them from refinancing consumer debt into a home equity loan. Borrowers may however, have inter-temporal discount rates which favor such borrowing, including unobserved expectations about future income, assets or endowments. Inter-temporal discount rates which cause borrowers to convert assets to consumption are not well understood.

Implications for Policy and Regulation

There are four primary failures in the subprime market which policy makers and regulators can address, in addition to equity concerns. First, are problems of inaccurate pricing models untested under stressed market conditions. Regulators might want to expand oversight over riskier lending pools, enhancing safety and soundness parameters and ensuring investors fully understand credit and collateral risks of expanded mortgage approvals. While the safety and soundness of the mortgage market overall is not at risk as long as subprime lending is a small segment, the concentration of foreclosures and any contagion effects are important to monitor.

Second are issues related to information asymmetry. This suggests an expanded public sector role to increase financial literacy, increase disclosure and reporting requirements, and other means of helping consumers understand their options. Because loan pricing is not transparent and the market displays more heterogeneity, it is more confusing. Policymakers might also consider requiring lenders to offer borrowers the lowest priced product for which they

qualify. If unclear systems and boundaries create an opportunity for lenders, borrowers and brokers to game the system, then regulators might work to increase standardization in this market. One example cited by many lenders is simply requiring all borrowers within a certain threshold to establish escrows for taxes and insurance, a common practice in prime markets but rare in subprime.

Third are principal agent problems. While in-house retail loan officers are not immune from borrower or lender deception, third-party originators are often accused of the worst practices. The effective out-sourcing of loan applicant recruitment, loan document preparation and underwriting to brokers is not a temporary phenomenon. Regulators might therefore want to have their oversight extend to the affiliates supporting a financial institution. Lawmakers may want to more closely regulate or even license third-party mortgage brokers. Increased disclosures might help obviate principal agent problems, including efforts by lenders to push loan products on consumers (so called "sold not sought" loans). Regulators might also want to consider additional ways of increasing accountability for managing the quality of the origination process, rather than simply pricing in for flaws in practice. Best practices in the industry in loan auditing might become required procedures.

Finally, while it requires difficult value judgments, policymakers should carefully consider the impacts on social equity related to the rise of subprime lending. The lowest quality subprime loans will have default rates 6 to 8 times the rate of prime loans. The use of subprime loans as a temporary tool to smooth income shocks or provide emergency funds needs more study. It could be that subprime lending is an important tool, but if its use becomes the only source of credit for low-income and minority households, social welfare could be diminished. More analysis is also needed to assess impacts of the special terms under which expanded access to credit is occurring, including prepayment penalties and other terms which may alter behavior or limit consumer welfare. Policymakers also should explore how to measure and price for the negative public externalities created by practices in mortgage markets. Foreclosures due to stochastic risks are inevitable, no matter how much the credit screen is refined. It is important borrowers have adequate information and training, as well as access to financial counseling and a higher standard of care when a falling behind on their financial obligations.

Conclusion

The potential for efficiency gains from subprime lending and risk based pricing are real. If risk can be more accurately measured, the benefits to low income and low credit score households and to society as a whole are great. Consumer choice is enhanced, risk is more efficiently priced, capital is increasingly allocated to highest and best use, while numerous households that would have been denied credit, find access to the ownership market. A major source of asymmetric information and adverse selection may be reduced as we gather increasingly accurate and reliable predictors of default. Other households are given the incentive to generate positive neighborhood externalities.

On the other hand, if the risks of subprime lending are underestimated, the result may be very costly and inefficient. Spatial concentration of foreclosures can also generate negative externalities and potentially lead to neighborhood decline. More borrowers will default, creating significant future credit and social problems for individual households. Because subprime loans make it possible for credit/liquidity constrained borrowers to convert equity into current consumption, already low-wealth households could have lower levels of savings in the form of home equity in the future.

Overall, the emergence of risk-based subprime lending should produce positive social welfare effects. However, the industry is still growing. Policymakers and regulators need to closely watch this field, while lenders should work to overcome failures in current practices.

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