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**Introduction**

With the new Consumer Finance Protection Bureau beginning to gear up, it is an appropriate time to consider what kinds of policies the Bureau should adopt. One obvious place to begin is mortgages.¹ Failures of the U.S. mortgage market have caused problems throughout the global economy. How can we do better? Can recent progress in the field of behavioral economics help?

The problems are well documented. Record numbers of U.S. homeowners have recently lost or are at risk of losing their homes. According to the Mortgage Banker’s Association, as of the end of June 2010, 4.6 percent of loans (about 2.2 million) were in foreclosure and another 4.8 percent (about 2.3 million loans) were 90 days or more past due.² Many recent borrowers took on levels of debt they could only afford if everything went right. A rise in interest rates, from historic lows, and a fall in housing prices, from historic highs, would predictably lead to foreclosures. Exotic mortgages that became popular during the credit boom made it even easier to take on more debt at a low cost in the short-term. These mortgages assume refinancing when the low rate period ends and are particularly prone to default when falling home prices prevent borrowers from refinancing. Borrowers were encouraged and oftentimes misled by brokers and lenders. Mortgage brokers and loan officers had incentives that were contrary not only to the interests of the borrowers, but also to those who invest in mortgages and those of society as well. Rising home prices masked these problems for a few years, but when inventory became large and home prices stopped rising, the flaws of the system became glaring.

Traditional policy responses to mitigate these problems fall short when considered through the lens of behavioral economics. Behavioral economics recognizes that borrowers may be prone to systematic and predictable errors in how they interpret the financial information in mortgage contracts, how they make choices among mortgage contract options, and how they implement their mortgage contract decisions. These insights can inform policies that help borrowers make better decisions. One such policy proposal is that borrowers should be encouraged to consider standard loan products that are relatively easy to understand and compare through standard opt-out policies.³ Borrowers in the mortgage market could also benefit from policy interventions of the sort seen in other kinds of commerce. The purpose of this paper is to lay out a set of possible interventions, to discuss the evidence pro and con, and to consider what other evidence would be useful to inform an appropriate policy.

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¹ Campbell, Jackson, Madrian and Tufano (forthcoming) discuss several rationales for re-visiting mortgage regulation, for example, the public interest in reducing lenders’ reliance on foreclosures, given the evidence that foreclosures have negative externalities on neighborhoods.

² Mortgage Banker’s Association

³ For more detailed discussion of these proposals, see Barr, Mullainathan, and Shafir (2008)
1.0 Background: Psychology and mortgages

Mortgage shopping without the help of a professional is daunting even for sophisticated consumers. While anecdotes of households being surprised by the terms of their mortgages abound in the popular press, systematic evidence on how well households understand their mortgages is limited.\(^4\) One recent study compared the distributions of borrower-reported and lender-reported data on mortgage terms. This study found that borrowers using fixed rate mortgages have reasonably accurate perceptions of the terms of their loan, but this is not the case for adjustable-rate borrowers. In particular, low-income, adjustable-rate borrowers often appear to misunderstand (or misremember) the terms of their mortgages.\(^5\) Another recent study looking at financial comprehension finds that in the 2004 and 2007 waves of the survey, take-up of ARMs increased among the more confused borrowers compared to the period 1989 through 2001.\(^6\) The problems created by misunderstanding the terms of loans are often compounded by the common tendency for people to be excessively optimistic about their future financial capacities.

Another strand of the mortgage choice literature assesses household mortgage decisions, such as the choice between fixed- and adjustable-rate mortgages, or the choice regarding if and when to refinance a fixed-rate mortgage. Theoretical papers in this tradition lay out the tradeoffs between alternative mortgage contracts, and describe optimal behavior under various conditions.\(^7\) Empirical papers describe the patterns of homeowner behavior, and generally find less-than-optimal decisions. For example, one recent study suggests that many households fail to refinance when they should.\(^8\) Another finds that the distribution of actual charges to homebuyers is far from what would be expected if borrowers were effectively shopping for their loans.\(^9\) Studies of loan-level data find that borrowers get better terms when they pay no upfront fees to the lender or broker, but instead roll all costs of the loan into the interest rate.\(^10\) This result suggests that if consumers can look at a single number to compare loans they make better choices. Campbell, Jackson, Madrian and Tufano (forthcoming) discuss the behavioral impediments to choosing between and managing the mortgage products available today. For example, the authors discuss evidence that borrowers often fail to refinance fixed-rate mortgages when rates fall, and even if they do, they may be tempted to extract home equity.

\(^4\) The FTC conducted qualitative and quantitative studies between September 2004 and February 2005 to assess current mortgage disclosures and design new ones. Both studies found that many borrowers did not generally understand key product terms such as the APR, amount financed, and discount fees. Many also did not understand the terms of the mortgage they themselves had recently obtained. The results were similar for prime and subprime borrowers. For a recent example of media coverage of this issue, see: Der Hovanesian, M. “Nightmare Mortgages.” BusinessWeek. 11 September 2006. Available at: http://www.businessweek.com/magazine/content/06_37/b4000001.htm
\(^6\) See Bergstresser and Beshears (2010)
\(^7\) For examples see Campbell and Cocco (2003), and Hemert, Jong, and Driessen (2007).
\(^8\) See Schwartz (2007).
\(^9\) Hall and Woodward (2010)
2.0 Background: Mortgage market structure

Why didn’t mortgage brokers and loan officers help consumers make better choices? The primary problem is one of incentives. In the old days, best portrayed in the movie “It’s a Wonderful Life,” a local banker made loans to the residents of the community (about whom there is good information) and then held those mortgages until they were repaid. With the growth of mortgage securitization, this model has broken down.

A brief description of the structure of the mortgage market and mortgage originators’ incentives may be instructive. In a typical case, a mortgage broker or small mortgage bank may have dealt with the borrower, but then the loan was sold to a larger mortgage lender. That lender, in turn, might have put that loan into a pool for the purpose of creating mortgage-backed securities. The loan may have been broken up into various pieces and incorporated in different securities with different risk characteristics. A variety of investors would have then purchased those securities. In 2005 and 2006, when many of the now troubled mortgages were originated, brokers and correspondents (small mortgage lenders that sell off their loans soon after origination) originated almost 60 percent of loans. Over half of the total mortgage dollar volume was securitized. The brokers and correspondents who dealt with the consumer sold their loans for up-front cash income with only indirect consequences even if many of their loans defaulted.

Institutions that sold securities did suffer losses in case of high defaults, but even they found ways to transfer that risk to others. Issuers of securities wind up with “residuals” and Mortgage Servicing Rights (MSRs) on their balance sheets as a result of securitizing mortgages. These assets are valued as the estimated net present value of all future proceeds from the loan. Higher-than-expected losses and prepayments reduce the value of all of these assets. In recent years, the industry innovated securities that re-bundled and sold off even these assets. Securitizations do have repurchase clauses that require the issuer to buy back any loans that are found to be underwritten improperly and subsequently default. Mortgage-backed securities issuers have not yet designed any way to sell off this repurchase risk, and many large originator-sellers such as New Century went out of business because of large repurchase requests. Still, their loan officers did not suffer any financial consequences beyond losing their jobs.

The point of this long story is that the people who advised the borrower were many steps removed from those who cared if the borrower was in a suitable loan. The brokers were paid on the basis of the volume of loans they initiated, not their quality or suitability, and suffered few consequences if the borrower later defaulted. In fact, the situation was even more troubling. Brokers also made more money if the loans were larger because they were typically paid a percentage of the loan amount, and received a higher commission if the terms were favorable to the lender.

11 See Fratantoni (2006)
12 Estimated using 2006 HMDA national aggregates report on loans sold by purchaser type
A good question to ask is why competition did not provide an alternative source of “honest” brokers. Some reflection reveals the reason. Brokers dealing in the low end of this market had little ability or reason to create a reputation for fair dealing since many sales were one-time events. Some of these mortgages were sold door to door like aluminum siding. In markets such as these, an honest seller cannot compete successfully. For one thing, there is no money to be made in advising a prospect that taking out a mortgage would be unwise, and it is costly to try to explain why the loan you are offering is actually a better deal than the complicated one that appears to be cheaper. In these kinds of markets, competition can amount to the survival of the sleaziest.

There is more money to be made in unwise loans. In particular in loans that are bigger than what the borrower should take on – the single most powerful number in explaining variation in broker fees is loan amount. It is also easier to convince the borrower to sign up if the payment is low, and hence easier to make, such as with an unwise ARM. And the loan “looks” cheaper if it does not have an escrow, because the monthly payment does not include amounts for property taxes and hazard insurance. The absence of escrows on the majority of subprime loans was a singularly unwise lapse.

3.0 Examples of Choice Interventions in Policy

Choice interventions, i.e. changing the context in which the consumer makes a decision, are a common policy tool. There are many examples in current consumer financial policy\textsuperscript{14} as well as in other domains. Not all of these are suitable or applicable for the mortgage industry, but certain elements of each could be used as models of interventions that could be considered in the mortgage market.

1. Restricted sales: Under SEC rules, (mandated by the 1933 and 1940 Acts) securities that are not registered with the SEC by entities reporting to the SEC (including hedge funds, venture capital, and private equity funds) cannot be sold to individuals unless they have a net worth of at least $1 million or similarly high standards for income ($200,000 for an individual, 300,000 for a couple). About six percent of U.S. households qualify. Related rules require that mutual funds sold to the general public be compensated only as a percent of net asset value. Funds with charges based not only on assets but also on a share of profits (aka, “carry”) fall into the unregistered category and must only be sold to rich people, not to the general public.

2. Suitability requirements: The SEC prohibits brokers from selling unsuitable securities to inappropriate individuals (so-called “widows and orphans”). If a broker does sell a risky security to a widow or orphan, and the investment turns out badly, the investor can sue on the grounds the security was unsuitable. The remedy is generally rescission of the investment.

\textsuperscript{14} See Wilson (2006) for a more detailed analysis of different types of consumer protection state regulations from North Carolina, Kentucky, Vermont, and Minnesota covering predatory lending by mortgage brokers.
3. Authorization Quizzes or Required Study: The SEC requires brokers to establish that investors understand complex securities such as puts and calls before the investor be allowed to trade these instruments.

4. Counseling: HUD requires all borrowers in its FHA-insured reverse mortgage program (HECM) to be counseled by a HUD-approved counselor. It became clear in the early years of the program that the counseling was desirable not only to assure borrowers that a reverse mortgage was a wise option (most of the borrowers are women in their 70s in less-than-perfect health), but also to protect the lender should the borrowers’ heirs sue the lender for deceptive lending practices.

There are examples from other domains that can also serve as possible policy models.

5. The Drug Model: The regulation of the sale of drugs has many levels of control. At the lowest level of control are over-the-counter drugs available to anyone of any age in any quantity, such as analgesics, antacids, anti-histamines, anti-fungals and more. Next, there are over-the-counter drugs kept behind the prescription drug counter, but sold without a prescription in small quantities to adults (with total quantities purchased monitored), notably pseudo-ephedrine sulphate (Sudafed), which was bought in large quantities and re-manufactured into more dangerous street drugs. Third is the ordinary prescription drug system, which requires a prescription from a physician for a very wide variety of drugs. Finally, there are controlled substances, which require not only a prescription but verifications of need and legitimacy. The basic principle of course is that the riskier the product, the more difficult it is to obtain. It should go without saying that there is much controversy about how drugs are placed into the appropriate categories.

6. Disclosure Models: The FTC requires that an appliance be labeled with a bright sticker indicating energy efficiency so that consumers can compare not only the price of the item but the ongoing cost of using it. The FDA requires labeling drugs, even prescription drugs, for contra-indications for use and for possible side effects and how to recognize them. The FDA also requires packages for processed food to display a “nutrition label,” in a standardized format that was thoroughly tested for legibility and comprehension, showing the calories, fat, protein, fiber, various vitamins, and more, present in the food package.

There are other disclosure requirements that primarily serve as examples of models to avoid. One is the HUD-1 Settlement Statement required for a mortgage closing. This document is not standardized and is so complex that it is doubtful that many borrowers can comprehend it or even read it. Even mortgage economists trying to parse it for study can be baffled.

4.0 A proposal: Two-Tier Mortgage Regulation

The specific proposal we advocate here builds on several of the models discussed in the previous section. Specifically, we propose a system of two-tier regulation. Under this
approach, mortgage products would be classified into two categories: standard and non-standard products. Access to and the marketing and sale of standard mortgages would be subject to minimal regulations, similar to how mortgages are currently regulated, including disclosure requirements, anti-fraud measures, and so on. Standard products would include those mortgage products that are less likely to be difficult for individuals to understand. For example, 30-year fixed-rate mortgages, with escrows for taxes and insurance, plus automatic refinancing, and with no upfront fees, nor any prepayment penalty. The number of types of standard mortgages would be small (say five or less) to make the choice problem easier for the consumer.

Access to and the marketing and sale of non-standard mortgages, on the other hand, would face additional regulatory scrutiny, and other burdens. Non-standard products would include remaining mortgage products which are more likely to be difficult for individuals to understand, and thus more likely to be the subject of unhealthy competition. For example, mortgages with exotic amortization schedules would be subject to higher scrutiny and burdens. Appropriate exemptions could be considered as well, for example loans to more affluent households.

In practice, the Consumer Financial Protection Bureau (CFPB) could implement this policy. That agency could both set the criteria by which mortgage products are assigned to either the standard or non-standard categories, as well as determine, implement, and enforce the regulatory restrictions on non-standard mortgage products. We describe these aspects of the regulatory challenge below:

4.1 Defining standard products

At the highest level, standard products should be easy to understand and “consumer proof.” This means the product design should avoid triggering consumer decision-making biases. Standard products should also be low risk for the consumer even in stress scenarios. Consumers’ understanding of product risks and terms could be tested in a lab by exposing them to disclosures and testing their understanding afterwards. Lab tests can be designed to investigate what elements of the disclosure consumers tend to focus on and which product terms seem confusing or trigger decision-making biases.

30-year fixed rate mortgages (FRMs) and some basic adjustable rate mortgages (ARMs) should qualify as standard products. Even better standard products could be designed. For example, a fixed-rate loan that refinances automatically could be more suitable if the cost of the refinancing feature is not too high. However, simply selecting the product type is not sufficient. Underwriting criteria and other product terms like maximum loan-to-value ratios and mortgage debt-to-income ratios, even total debt-to-income ratios, also need to be specified.

How would we decide what the right parameters are, whether the product is too risky and if the cost of lowering risks (e.g., interest rate risk) is reasonable? We would need to build a household financial model and simulate the risks under several stress scenarios. The model could be built using a number of data sources to inform the assumptions, for
example, data on non-housing consumption, and archival data on credit product usage from the credit bureaus. The model would incorporate assumptions and any available data on how people choose, for example, if you offer Option ARMs to people, what percentage will buy a house they can’t afford in the long run? The model would be used to run speculative stress scenarios for the future assuming that people will not always exercise their future options correctly. The analog to such an approach is crash testing cars or stress testing an aircraft wing in a wind tunnel.

We need to be careful how we set the standard for what is too risky. What level of risk is acceptable? Our perspective is that the standard should be the level of risk of products considered relatively standard today such as 30-year fixed-rate mortgages. Setting the standard this way prevents the problem where no products and few consumers would qualify for a standard product.

We also need to vary the risk standard by household type because people with large financial assets can sustain more risk, similar to the standards established in the 1933 Securities & Exchange act for the sale of unregistered securities. Another criterion could be financial literacy or sophistication measured via a qualification process of some sort. Consumers have to have a conversation with their broker and file an application to be able to trade options. They need to attest that they have read through informational materials on option trading. A similar process could be instituted for consumers who would like to “graduate” to a higher risk tolerance segment.

4.2 Standard product markets

The market for standard products should ideally offer financial access to most people, have constructive competition, and allow innovation. How should loans with risk-based pricing be treated? One solution may be to allow initial risk-based pricing with subsequent “good behavior” pricing rather than penalty pricing, similar to “good driver” discounts for automobile insurance. In other words, the rate goes down once the consumer makes a certain number of payments on time.\(^{15}\) Even if initial rates have to be set higher, they fall for consumers who use credit responsibly. Somewhat higher initial rates may have the added benefit of deterring over-borrowing.

Another challenge is creating constructive price competition in the standard product market. The easiest way to achieve this could be to publish typical rates to anchor consumer expectations before they begin shopping. Fannie Mae and Freddie Mac do publish their rates today, but most consumers probably don’t know where to look, and even if they do, the rate-point tradeoff is difficult. A plethora of websites and advertisements that quote different types of mortgage rates makes the search even more confusing for consumers. An easy to understand website that is quite clearly the official

\(^{15}\) Many subprime lenders had products like this in order to increase retention. Prepayment among subprime borrowers was driven much more by them curing into a higher credit grade and getting a lower rate rather than market rate fluctuations.
source of standard product rates is needed to help consumers find the benchmark rate they should be shopping against.

To allow easier comparison of cost across products, policy could restrict certain pricing features in the standard product market. Some of the most common pricing elements that make comparison difficult are listed below. All of these pricing elements have the same objective from the lender’s perspective—to lower the initial price the borrower pays in return for a higher cost later or if the borrower doesn’t behave within certain parameters.

- Introductory rates or other changes to price over time.
- Trade-offs between up-front fees and interest rate.
- Behavior-based pricing increases like higher APR for delinquency.
- Penalties for exercising options in exchange for lower rate (i.e. choosing not to pay for option), e.g. prepayment penalties.

To check whether consumers are able to distinguish the lowest cost products most suitable to their needs, lab experiments could be run where subjects are shown the terms for different types of mortgages and asked to choose among them. If some pricing feature makes people consistently choose badly, that feature can be restricted from use in standard products.

There is no guarantee that good products won’t go bad over time due to gradual changes to product terms. Regulators can monitor standard products by analyzing HUD-1 settlement statements, related credit scores, loan amounts, and first payment statements.

Finally, we want to ensure that innovation is not completely stifled in the market for standard products. Standard products should not be set in stone by regulation, but instead a process for approval should be set up. Financial firms could seek first choice status for products based on customer testing and pilot results similar to the FDA approval process for over-the-counter drugs. Candidate products can also be run through stress tests using the household simulation model described earlier.

### 4.3 Non-standard products

Non-standard products need to have some burdens placed on them. Such a difference, or “gate,” between standard and non-standard products is required to make standard products relatively more desirable for lenders to offer. Also, the gate could be used to nudge unsophisticated consumers towards standard products.

Two types of information matter in deciding whether a particular non-standard product is suitable for a particular borrower: information about the product, and information about the potential borrower. Some products will be especially problematic for many types of consumers and some populations are especially vulnerable depending on income, assets, and financial experience. The gate between standard and non-standard products could be built using some combination of the several elements listed below:
• A blanket warning on non-standard products.
• Requirement to call the provider to be cleared for the product: This is similar to the process for being able to trade options and should deter and screen the most unsophisticated borrowers.
• Qualification questionnaire to test financial experience and knowledge: The qualification process could require a course followed by a test. Having to get a driver’s license is an analogy except that in this case the harmful externality is systemic risk not injury to others or property damage.
• Qualification based on financial strength (financial assets, net worth, income, income stability etc.): This is similar to qualifying for hedge fund and private equity investing.
• Counseling requirement for certain products or certain types of households: Counselors can help assign borrowers to the right products based on their need while balancing against risk. Counseling could have an added benefit of being able to help consumers understand the terms of the products they are purchasing. Counseling could be targeted the households most vulnerable to risk, for example, those with a smaller financial buffer or lower credit score.

The regulator would continue to verify that customers in this space are cognizant of having chosen a non-standard product and the risks involved. The Banking Commissioner of North Carolina is planning to test a new rule that will require state licensed mortgage originators to have prospective borrowers sign a document that compares a standard product to the non-standard product being purchased. The document also includes a warning that the borrower is taking a non-standard product even though she qualifies for a standard product. Subsequent examinations can verify whether borrowers signed such a document and consequently received an adequate warning.

So far, we have suggested various burdens on non-standard products for consumers and lenders. We could also encourage lenders to offer standard products by giving them some benefits. For example, lenders could receive presumptive liability protection for customers who take standard products. Obviously, this is only a material incentive if there is normally a material risk and cost of consumer lawsuits. Lenders could also be given a risk guarantee or lower capital requirements for standard products. Or, this could be viewed as higher capital requirements for non-standard products.

4.4 Pros and cons of the proposal

There are a number of benefits to the proposal described in this section. Having two tiers of products creates stronger consumer protections for the most difficult products while giving firms who offer standard products clarity of regulation and protection from liability. Firms are free to innovate within the non-standard tier with the prospect of getting a product approved to be standard.

There are also potential risks to implementing the proposal. The industry has raised many of these concerns already. The cost of compliance with this rule may be too high and could cause credit prices to rise. Industry participants have complained that it is unfair to
penalize good actors with this burden because of the actions of a few bad actors. Concerns have also been raised about the burdens of qualifying consumers for non-standard products. Besides being costly and time-consuming, elements of the process such as filling out a financial sophistication questionnaire may be embarrassing for consumers.

Last, but not the least, there is a real concern that profitability will be reduced so much that too many credit suppliers will exit the market. For standard products, profitability could be eroded by commoditization driving down pricing (this is an intended consequence) and low approval rates. Lenders will have the ability to charge higher prices for non-standard products because of fewer restrictions on product terms. We have proposed many burdens of selling non-standard products that will raise the cost equally. As a result, profitability in the non-standard market may also be driven down to a point that too much supply exits.

5.0 Recommended research and data collection

There are many research questions that need answering and data constraints that need loosening to assist with public policy in lending regulation. The latter includes better access to existing data as well as creating new data sources. The Consumer Financial Protection Bureau will have the opportunity to improve consumer protection solutions by facilitating further research and data collection. In this section we lay out our perspectives on the key research questions that could be answered using lab experiments, surveys and other techniques.

It would be helpful to understand better how financial choice intermediaries work. In other words, what role do formal and informal advisors play in how consumers make financial decisions? At what stages are different intermediaries most influential? What are the most salient biases in financial decision-making? Measuring consumers’ understanding of financial products is a top priority. What is the extent of consumers’ understanding of their own products, even simple ones? How do we measure people’s level of understanding? There is little in the way of direct measures of what people understand. We also don’t have many opportunities to see correlations of understanding with other factors, for example, if people who are worse at understanding compounding get worse loan terms.

Much of this research could be done via surveys or testing people’s understanding in a lab setting after exposing them to different financial disclosures or product descriptions. In addition, research that links survey information with verifiable information from account providers, mortgage lenders, credit reports, etc. on the same individuals would be hugely valuable. For example, with such a data set we could cross-check people’s understanding of their mortgages with the objective characteristics of those mortgages, and see whether certain types of people have more trouble understanding their mortgages. The CFPB could collect consumer surveys from across the industry or conduct the type of research the FTC has done on a larger scale.
We know that counseling is effective for screening, but can it de-bias people? Will borrowers, after consulting a counselor, seek additional quotes? Do borrowers have a lower likelihood of default if they received pre-purchase counseling?

In addition to experimental and survey research, much has been learned and more can be learned from archival research. A combined set of data from HUD, SSA, credit bureaus and lenders can inform which types of mortgages got people into trouble. The CFPB can facilitate creating these types of datasets which are otherwise quite difficult to combine (often requiring litigation). The CFPB could also collect data on an ongoing basis as a way to look for problems. Broadening and deepening access to data on an ongoing basis should keep regulators and watchdogs ahead of another crisis.
References


