Minimizing predatory lending: Designing a long-term compensation structure to minimize the actions of opportunistic mortgage brokers

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ABSTRACT

This paper addresses the inadequacies in the current compensation structure for mortgage brokers, and asserts that the resulting opportunistic behavior by brokers played a major role in the 2008 collapse of the mortgage market. We utilize agency theory as an underpinning to suggest that increased regulation will have only a limited impact on self-serving behavior due to the complex information asymmetries possessed by brokers. We posit that a restructured long-term compensation package would be effective in aligning the interests of borrowers and brokers, ultimately reducing the level of mortgage defaults and foreclosures.

Keywords: Mortgage Brokers, Compensation, Agency theory, Information asymmetry, Predatory lending, Banking

1. INTRODUCTION

Research examining the mortgage loan characteristics and default rates has been exhaustive over the years (Quercia 1992, Sherlund 2008, etc). Interest in the topic peaked during the mortgage crisis of 2008 as defaults and foreclosures hit an all-time high. Variables that have been identified in the research as correlating to mortgage default rates of loans include high loan to value (CLTV) (Gerardi 2009; Quercia 1992), lack of documentation (Gerardi 2009; Quercia 1992), over-extension of borrower income (Sherlund 2008), and high complexity of the mortgage product (Scanlon 2008).

During the housing boom, lenders developed a wide array of new and increasingly complex mortgage products to appeal to a wider consumer market, including those that were unable to qualify for prime mortgages, resulting in an expansion of the subprime mortgage market. While it has been noted that the wide diversity of options provides the flexibility needed to cater to the needs of each individual borrower (Bar-gill 2008), these loans may also significantly increase the risks and costs to the borrower (Scanlon 2008).Market research indicated that borrowers, in large part due to their myopic tendencies, were not likely to be aware of the positive relationship between risk and complexity in mortgage products (Scanlon 2008, Bar-gill 2008). “The profusion of mortgage types also makes increased demands on consumers’ financial acumen” (Scanlon 2008).Given their lack of technical expertise, the majority of borrowers (particularly subprime borrowers) are “incapable of …an accurate assessment” of mortgage costs and are “unable to calculate costs that are not directly specified.”

(Bar-gill 2008) In fact, the typical borrower "deals with complexity by ignoring it" (Bar-gill 2008). This should come as no great surprise to players in the residential mortgage market; borrower inability to access and process information of this nature is arguably the primary reason that drives them to seek the aid of a competent broker in the first place.

The creation of these new and highly complex mortgage products baffled subprime borrowers, and created significant information asymmetries between savvy brokers and ignorant borrowers(Pappalardo, 2008; Bar-gill 2008; etc). When combined with the increased pressure to issue and the illusory perception of security coming from higher level market forces, this information asymmetry had the effect of rendering fair exchanges in the market nearly impossible and created a significant moral hazard for brokers.

Borrowers, assuming that "what's good for the borrower is good for the lender," trusted that lenders would make every effort to ensure that default did not occur (Gerardi, 2009). With lenders nationwide increasingly relying on housing values rather than borrower payments to recoup their loans, brokers became borrowers' last line of defense against predatory loans. The data available on lending practices conclusively indicate that brokers utterly failed to honor their fiduciary responsibility to their clients (i.e. Gerardi, 2009). Opportunistic brokers pushed predatory loans, offering the highest commission at closing, without regard to the ability of the borrower to pay back the loan. It was not uncommon for brokers to suggest a subprime loan with less favorable terms to borrowers that could have qualified for a prime loan, because commissions were larger.

While much of the current research in this area suggests that increased Federal regulation is needed to minimize the opportunistic behavior of brokers, much of the agency theory literature indicates that monitoring professional behavior is difficult when professional agents have access to complex information that the borrower does not have or understand (Sharma, 1997). In this paper we assert that aligning the interests of the broker and the borrower through a redesigned long-term compensation model would be effective in minimizing the devastating effects of self-interest seeking mortgage brokers.

In this paper we discuss the mortgage industry and the existing compensation structure. We then utilize agency theory to propose that opportunistic behavior by brokers resulted in an increase in mortgage defaults and foreclosures. We then suggest a model of long-term compensation and posit that it would result in an alignment of interests and, thus, decrease the rate of mortgage defaults and foreclosures. Finally limitations of the model and future research directions are discussed.

2. LITERATURE REVIEW AND INDUSTRY BACKGROUND

2.1 Industry shift and the introduction of CDOs

Prior to 2004, bond insurers and subordinate investors took the lead in assessing and pricing credit risk in the subprime mortgage markets. Their primary objective was to accurately assess the risk of a security and to price it accordingly. They sought to minimize the risk to themselves because they were directly liable for losses on the mortgage deal. Thus, the bond insurers were greatly concerned about balancing the riskiness of their portfolios against their insurance revenues (Adelson, 2008).

However, in 2004, the collateralized debt obligation (CDO) investors came into dominance in this field and drove the bond insurers out of the market (Adelson, 2008). The CDO's had very different risk appetites and objectives than the bond insurers and subordinate mortgage backed security (MBS) investors before them. A CDO manager's primary concern is the maximization of investment returns.

For a portfolio manager, riskiness is considered only in reference to the returns realized. Thus, while housing prices were on a strong, consistent rise, the perceived risk of loss to the investor on a default seemed minimal and risky loans appeared to offer tantalizing risk-adjusted returns.

The difference in objectives and perspectives between the bond insurers and the CDO investors created a major shift, in terms of risk, within the lending industry. As profits from asset backed securities started rolling in, the CDO managers' appetites for these securities became voracious and undiscriminating and CDO investors continued to display a significantly higher willingness to accept risky loans than had the bond insurers before them. This investor-driven appetite for mortgages caused lenders to begin extending loans to borrowers whose credit worthiness labeled them as "subprime" (Adelson, 2008).

2.2 Legitimate subprime vs. predatory lending

There is a distinct differentiation between legitimate subprime loans and predatory lending practices. As discussed above, subprime lending serves the market of borrowers who would likely not qualify for a conventional prime loan due to factors like poor credit histories. These loans are generally issued by non-bank institutions and as such, are not subject to oversight by federal bank regulatory agencies (Engel & McCoy 2002). Subprime mortgages demand a legitimate higher rate of return to compensate the lender for an increased level of risk.

Predatory loans, on the other hand, are defined as loans that are "characterized by a mismatch between the borrower's financial circumstances, needs, and objectives and the loan" that the professional broker offers (Ehrenberg 2001). These are loans that the borrower should refuse and are often associated with high collateral, inefficient refinancing plans, interest rates in excess of the additional risk the lender incurs, balloons, prepayment penalties, and lending without regard to the borrower's ability to repay (Bond, Musto, & Yilmaz 2009).

2.3 Changes in Lending Practices

As mentioned above, the strong rise in housing prices allowed CDO managers to feel that the risk in their MBS portfolios was being mitigated and thus the managers pushed for riskier securities with higher returns. Traditionally, the lending industry held to the norm that "no mortgage shall be made to anyone who, on the face of the loan application, cannot afford the monthly payments." (Engel& McCoy 2002, pg 8). The strong trend in housing prices led lenders to begin engaging in "asset based lending", using the borrower's home as their source of repayment instead of the borrower's income. Lender's felt protected from default by the appreciation of the home, CDO managers felt protected because their personal fortune was not as risk, and CDO investors were either ignorant of the risks their portfolio managers were taking (Adelson, 2008) or accepted the risk in favor of the potential returns offered.

Borrowers, assuming that "what's good for the borrower is good for the lender," trusted that lenders would make every effort to ensure that default did not occur (Gerardi, 2009). Thus, it can be seen that borrowers trusted brokers to protect their financial well-being and to help them get into a home they could afford. Unfortunately, this was certainly not the case.

As one example of predatory lending, Fannie Mae estimates that nearly 50% of subprime loans were issued to borrowers who actually would have qualified for a prime loan (Lehe 2010). Subprime mortgages were especially attractive to mortgage brokers because they often would receive higher levels of compensation for these loans at closing. Why would prime borrowers ever borrow at subprime rates? The simplest answer is that they were simply ignorant of their true creditworthiness. This deception is clearly a direct violation of the implicit trust between the principal and the agent.

Because of the high degree of information asymmetry extant between borrower and broker, the borrower must rely heavily on the integrity of their broker-agent. Thus, when a broker tells an applicant that they only qualify for a subprime mortgage, the applicant is very likely to believe the broker and fail to explore other funding options.

A 2008 Federal Trade Commission study highlights the degree to which borrowers are reliant on their brokers to interpret their mortgage products for them. Study participants (all of whom had recently taken out a mortgage) were given loan documents to study at their leisure and then were given quizzes to test their understanding of the costs and risks of the mortgage being presented. Janis Pappalardo (2008) summarized the results as follows: About a fifth of the respondents viewing the current disclosure forms could not correctly identify the APR of the loan, the amount of cash due at closing, or the monthly payment (including whether it included escrow for taxes and insurance). Nearly a quarter of the participants could not identify the amount of settlement charges, one third could not identify the interest rate or which of two loans was less expensive, and a third did not recognize that the loan included a large balloon payment or that the loan amount included money borrowed to pay for settlement charges. Half could not correctly identify the loan amount. Two-thirds did not recognize that they would be charged a prepayment penalty if in two years they refinanced with another lender (and a third did not even recognize that they "may" be charged such a penalty). Three-quarters did not recognize that substantial charges for optional credit insurance were included in the loan, and almost four-fifths did not know why the interest rate and APR of a loan sometimes differ.

Another form of lender deception takes place when the true cost of the loan is hidden from the borrower. This often occurs when the borrower is offered a mortgage that is designed to look significantly less expensive than it actually is. Examples of such products include interest-only, negative amortization, balloon, and rapidly resetting variable rate mortgages (Choplin, 2010). These types of mortgages can be extraordinarily complex and difficult for borrowers to understand. Since most borrowers lack the savvy needed to understand such instruments, they rely heavily on their broker to help them select a product that best suits their needs (CESifo, 2008). These types of mortgages are intentionallydesigned to mask their true lack of affordability. More often than not, these types of mortgages experience very significant cost increases sometime within the first two to three of years of issuance (Choplin 2010). Since the lender has already extracted much of the borrower's income to service the loan, this almost inevitably leads the borrower to either default on the loan or to try to refinance.

One of the clearest and most dangerous shifts in lending practices that occurred between 2005 to 2007 was the general increase in loan-to-value levels (LTV) on mortgage issuances (Gerardi, 2009). While there have always been some loans issued at higher than 90% LTV, these types of loans were generally FHA backed loans, or had backing from some other source. Lenders have long known that high LTV mortgages have a higher probability of default than lower LTV loans do. In fact, according to the Mason and Rosner (2007), "when loan-to-value (LTV) ratios are raised from 90 to 97 percent, default rates for new homes increase(s) sevenfold." (pg 5) This represents a substantial increase in risk. And yet, the data clearly shows that between 2003 and 2007, the percentage of loans issued at LTV's higher than 90% increased from 5% to over 20% of new issuances (Gerardi, 2009).

The situation looks even worse when you consider loans that had very high combined loan-to-value ratios (CLTV). The CLTV is simply the ratio of the total amount owed on a home from all sources over the value of the home. A high CLTV can be the result of either piggy back loans issued with the full knowledge of the lender (Sherlund, 2008), or an oversight in the documentation process of the lender. In many instances, when a borrower took out a home equity line of credit (HELOC) or a more traditional second mortgage, their lender failed to report its lien through the proper channels. Since

there is no national system for reporting such liens, lenders could easily offer loans that would take a property above 100% CLTV if either lender or broker failed to invest the appropriate amount of time needed to ensure the safety of the loan (Gerardi, 2009).

There were a number of schemes designed to strip homeowners of their equity. Popular among lenders of the day was a process known as loan flipping (Engel, 2002). Loan flipping occurs when predatory lenders and brokers provide borrowers with mortgages whose payments the borrower truly cannot afford. This then forces borrowers to refinance their existing mortgage at a rapid rate (sometimes as often as four times per year) to keep up with changes in their mortgage payment (Engel, 2002). These refinances were performed despite the fact that the cost of such a refinance is almost guaranteed to outweigh any benefit such a refinance could provide (Sherlund, 2008). When these refinances occur, the borrower often does not have the means to pay the new closing costs, so these costs are rolled in to the total principal of the new loan and the LTV of the new loan is higher than the LTV of the original loan (Choplin, 2010). Thus, the borrower's home equity is stripped away in increments and siphoned to the lenders, brokers /(in the form of service fees) and CDO investors in the form of closing costs.

3. AGENCY THEORY

The arguments within this paper utilize the tenets of agency as its theoretical foundation. The assumption underlying agency theory is that agents are opportunistic by nature and therefore, will exploit principals for their own gain whenever possible. The information asymmetries that exist between knowledgeable agents and distant principals provide the opportunities for agents to act in their own best interest unless they are effectively controlled or incentivized not to do so.
(Fama & Jensen 1983; Jensen & Meckling1976).

Mortgage brokers act as professional agents for the borrower. They are middle-men of sorts, as their job largely centers around the processing information received from borrowers and then disseminating that information to potential lenders. Information gathered includes income and debt ratios, employment history, and credit reports. After the application is complete, the mortgage broker "shops" for the best mortgage lender. Presumably, the "best" lender for the borrower is the one that offers the most appealing terms in regards to loan acceptance, interest rate, points, and closing costs. Mortgage brokers often have correspondent relationships with as many as 20 lenders.

3.1 Information Asymmetry

Although the borrower is not obligated to use the institution suggested by the broker, they almost invariably do (Jackson & Berry, 2002). This is largely due to the existence of information asymmetry whereby the broker has access to more information and knowledge regarding loan opportunities than do the borrowers. This is especially true with marginal borrowers who are likely will consider a predatory loan with an attached higher rate of interest to compensate the lender for the higher level of risk associated with the loan. Loans with the most onerous terms are often offered to the most precarious and least sophisticated borrowers (Green 2009). A study by Bond, Musto, and Yilmaz (2009)found that predatory lending was most often associated with poorly informed borrowers.

Borrowers often engage the services of a broker because the borrower does not have information or the level of understanding to evaluate their mortgage options independently. Mortgage brokers act as professional agents in that they use a specialized, complex and abstract body of knowledge to process information and assess lending opportunities for the borrower (Freidson, 1983). Because the borrower does not possess the same level of information or knowledge, it is difficult for them to

assess whether the loan that the broker is suggesting is the best opportunity for them, often times resulting in the borrower agreeing to the loan suggested by the broker.

3.2 Broker Compensation

The broker may be compensated for his/her services in several different ways. They may charge an origination fee, typically 1% of the loan amount. In addition, "brokers sometimes supplement their income with various other fees, such as document preparation fees, application fees, and processing fees. All of these fees would typically be paid directly by the borrower at or before closing." (Jackson & Berry, 2002, p.3).

Agency theory suggests that when information asymmetry exists in an agent-principal relationship, the agent will act opportunistically to his/her own advantage. (Eisenhardt 1989; John 1984). Active opportunism is the deliberate misrepresentation of facts, while passive opportunism means withholding critical information, (Wathne & Heide, 2000). Agents may be unwilling to share all information with principals because they may keep some of it private for furthering their self-interest (Williamson, 1975). This appears to be the case with the mortgage industry and predatory lending practices.

4. PROPOSITIONS

4.1 Current Compensations Model

As the mortgage crisis unfolded in 2008, it came to light that high levels of predatory lending were resulting in record numbers of mortgage defaults and foreclosures (Lehe 2010). Brokers were implementing predatory lending practices by taking advantage of unwitting borrowers to close loans that were not in the best interest of the borrower in order to obtain higher compensation. Homeowners were defaulting on their mortgages and losing their homes in record numbers because the terms of the loans, such as rapidly increasing interest rates, made it impossible for these borrowers to remain current on their debt. Studies have indicated that in many of these cases borrowers would have qualified for more favorable terms, but these opportunities were never shared with them by their broker because the broker often received more compensation from subprime loans (Lehe 2010). Fannie Mae, for example, estimated that up to 50 percent of subprime refinanced loans could have been financed with prime loans, which would have saved borrowers thousands of dollars in interest and fees, and suggests that many subprime loans were significantly more expensive than the additional risk they imposed on the lender (Lehe 2010). Agency theory suggests the following proposition:
P1: Opportunistic behavior by mortgage brokers led to increased predatory mortgage lending and increased levels of defaults and foreclosures

4.2 Proposed Compensation Model

Agency theory dictates that unscrupulous agents must be constrained through contracts and monitoring (Eisenhardt 1989; Roth & O'Donnell 1996). As such, we have seen a flurry of research suggesting increased regulations and monitoring of mortgage brokers (e.g. Lehe 2010). For example, a study by Hertzberg, Liberti, & Paravisini (2010) found that the systematic rotation of loan officers alleviated opportunistic behavior by loan officers, and that reports are more accurate regarding a borrower's repayment prospects. The threat of rotation improves communication because self-reporting bad news has a smaller negative effect on an officer's career prospects than bad news exposed by a successor. However, monitoring agents with access to asymmetric information is

difficult and expensive (Williamson 1975). It becomes more difficult when agents are professionals that operate outside of the firm. Despite the safeguards of contracts, researchers remain concerned about agent opportunism resulting from information asymmetry, particularly in situations when agents are professionals with superior knowledge and understanding of complex information. (Dawson, Watson, & Boudreau, 2010; Sharma, 1997).

While there has been an abundance of literature discussing the causes of the mortgage crisis and the ills of predatory lending, there is far less research addressing the solutions. Previous discussions have focused on increasing regulations as one vehicle that can be used to minimize the problem. We contend in this paper that the existing compensation structure for brokers is highly problematic and a redesign that aligns the interests of the borrower and the broker, would likely be a more effective deterrent to predatory pricing. Compensation has been identified as one cause of the problem. One study found that that ineffective executive remuneration could contribute significantly to business failure in the banking industry (Chen, Zhang, Xiao, &Li,2011) but solutions have been far less forthcoming.

We suggest that because information asymmetries between brokers and borrowers arelikely to continue, it is far more efficient to incentivize brokers to correct the imbalances themselves. Such incentives would likely have to come from the broker's compensation structure. Current broker compensation systems tend to utilize the yield spread premium (YSP) as its basis (Pappalardo 2004). The YSP represents the value gained by the lender due to the interest rate charged on the loan. A higher interest rate means a higher YSP and thus greater compensation for the broker. This system places the broker's interests in direct conflict with borrower interests. This, then, creates a moral hazard for the broker and a financial hazard for the borrower who is relying on the broker to represent their interests. In this paper we propose a unique change to the broker compensation system in such a way as to motivate the broker to support the long-term welfare of their client and reduce foreclosure rates.

Our model seeks to align the interest of the broker and the borrower, reducing opportunistic behavior (Williamson, 1975). This model has two basic components. Unlike the current compensation, where the broker is paid in full at closing, a smaller, immediate payment to the broker upon closing of the deal would be followed by a stream of residual payments to the broker over an extended period of time, as long as the borrower continues to pay the mortgage.

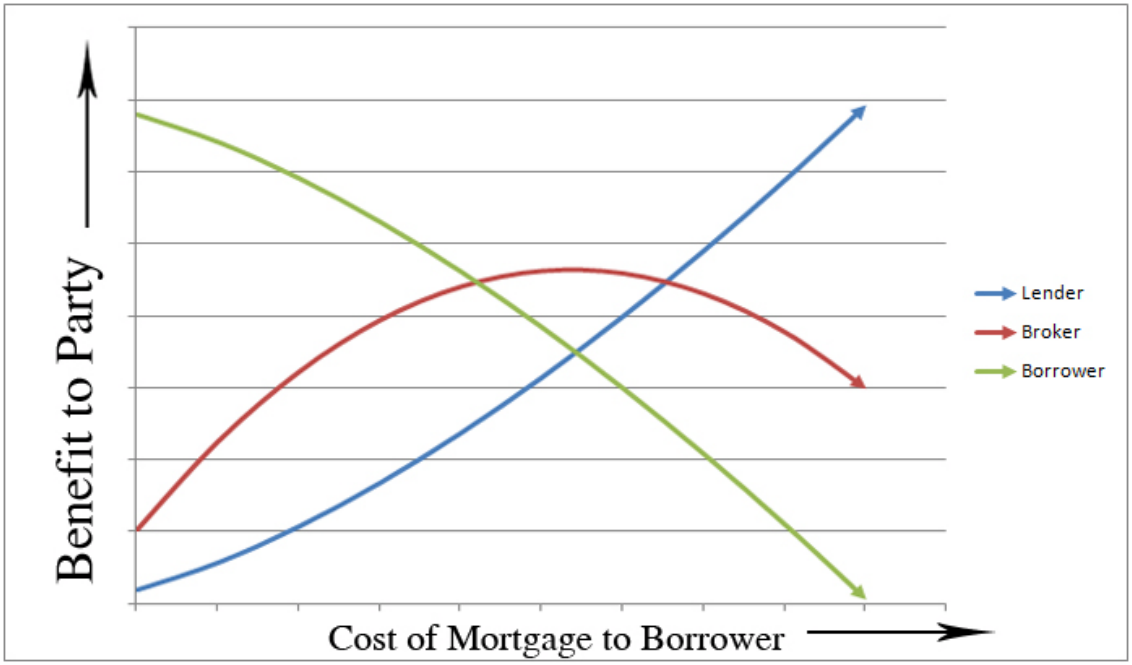
The initial payment to the broker is intended to help provide immediate incentive for the broker to attend to client needs in a timely manner, close loans for the lender, and provide the broker with a source of immediate income.

The remaining balance of the compensation package would be spread out across a long time frame. The residual income stream would be paid to the broker by the lender from the proceeds of the monthly mortgage payment. This would tie the broker's compensation to the profitability of the loan to the lender. If a borrower defaults the stream of income to the broker would also cease. If the loan is refinanced or otherwise paid in full compensation to the broker would likewise cease. This, then, motivates the broker to arrange a mortgage product which has long-term affordability and appeal for the consumer because the broker only gets paid if the borrower continues to pay the mortgage.

Figure 1 (displayed below) is illustrative of the effect this type of a package would have on the relative benefits obtained by each party in the transaction. As the cost of the mortgage decreases, it becomes less favorable to the lender and more favorable to the borrower. The converse is likewise true. Therefore, in the effort to maximize the value of the compensation package, the broker must find a product that is sufficiently profitable to the lender while still being affordable to the borrower. If the mortgage is too expensive, the borrower is likely to default or refinance the loan early, thus

terminating the broker's residual income stream and decreasing his/her total compensation on the deal. If the mortgage is too affordable, the lender will not obtain any income from the deal from which to pay the broker, thus reducing the total value of the broker's compensation.

Figure 1 Restructured Compensation Model Cost/Bene



The above discussion of a long-term compensation model for mortgage brokers suggests the following proposition:
P2: A long-term, structured compensation model for mortgage brokers will result in lower levels of home defaults and foreclosures.

5. DISCUSSION

As discussed above, brokers currently receive their compensation as a one-time upfront payment of fees and premiums from both the borrower and the lender. This compensation model is inherently problematic for borrowers because it disconnects their interests with the interests of the broker. In fact, the singular nature of the compensation package actually encourages the type of predatory lending practices discussed previously because the broker can increase his/her income simply by brokering more loans. Thus practices such as loan flipping and equity stripping become highly lucrative for brokers, and creates a very strong moral hazard.

The study by 2008 Janis Pappalardo (as previously describe) demonstrates quite clearly that, no matter how much information is disclosed to any particular borrower, there is a very low probability that the borrower will be able to analyze the information correctly. Perhaps even more damning to the increased disclosure argument are the results of a 2004 study conducted by the FTC. This study aimed to measure whether proposed changes to the disclosure regulations for brokers would improve borrower's ability to identify the loan option with the lowest true cost. "The findings of this study indicate that broker compensation disclosures are likely to harm rather than help consumers and competition in the mortgage market." (Pappalardo 2004). The study participants showed a significant bias against broker-issued loans when the broker's compensation was part of their disclosure, even when the broker loan was the cheaper option.

This demonstrated tendency for borrowers to focus on specific pricing factors, regardless of their salience, leads us to investigate a significant weakness inherent in disclosures: cost manipulation. In the case of mandatory regulatory disclosure, lenders can manipulate their pricing and fee structure, thus causing the price factors that are disclosed to borrowers to be rendered non-salient, thus successfully hiding the true cost of the loan from borrowers (Bar-gill 2008).

The research examining the loan characteristics and lending practices that are correlated to high default rates has been very exhaustive over the years (Quercia 1992, Sherlund 2008, etc). Factors that have been identified in the research as corresponding to high default rates of loans include high LTV or CLTV (Gerardi 2009; Quercia 1992), lack of documentation (Gerardi 2009; Quercia 1992), over-extension of borrower income (Sherlund 2008), and high complexity of the mortgage product (Scanlon 2008).

While regulation of product development may be able to hinder lenders ability to manipulate their products in such ways, there are certainly drawbacks to such prohibitive regulations. Primary among these drawbacks is the risk of increased costs for consumers. The deregulation movement visible in the last 20 years sought to increase competition and open up markets so thatcosts to consumers would be driven down. "This aim has largely been met – fees to borrowers have fallen." (Scanlon 2008) "Simply put…transacting parties cannot afford enough police and regulators to induce honest behavior among ordinary people." (Yandle, 2010)

One viable alternative to increased regulation is a compensation structure that aligns the interests of the broker and the borrower.Although there is no evidence that a structure, such as the one we are suggesting, has been utilized in the mortgage industry, it has been utilized in the insurance industry for many years. When an insurance agent sells a policy, they receive compensation as consumers pay to keep the policy in force. If a consumer cancels the policy the agent no longer receives payments so it is in the best interest of the agent if the insured continues to pay the policy. This is one example of how alignment of interests can work to minimize opportunistic behavior when professional agents have access to superior information.

6. LIMITATIONS AND FUTURE RESEARCH

There are, of course, drawbacks to this model. Primary among them is the increased risk for the broker. Prepayment and default activities in the mortgage market are strongly tied to market rates and housing prices (Sherlund 2008). Therefore, interest rate risk and housing price risk would both come to bear directly on the broker's source of income. This feature of the model, however, can be seen to also be somewhat beneficial to the borrower because it induces brokers to lend conservatively and to structure mortgages such that only large shocks to rates and prices would be sufficient to induce prepayment or default activities.

The very conservativeness of lending practices the model would advocate could also have a negative effect on the overall mortgage market. Too much conservatism and risk-avoidance in lending practices could slow mortgage issuances and make it more difficult for borrowers to obtain any loan at all, especially those that would benefit from a subprime mortgage. This is not the intention of the model. The upfront portion of the compensation model is intended to help offset these risks to the brokers, and so needs to be large enough to ensure some risk taking on the part of brokers.

This model might also have a tendency to drive long term mortgage costs up slightly to provide long-term rather than immediate income to the broker. This problem, however, should be counterbalanced by the decrease in initial closing costs. In the end, the yield of the mortgage could

remain the same, with the costs being spread out over time rather than coming out of the borrowers pocket up-front. This decrease in the placement of the costs could have potentially dramatic effects. For example, it would likely ease the barriers that first-time homebuyers face, and thus stimulate new loan issuances. The downside would be that, while the costs of buying might be lower, the amount that borrower could afford to borrow may be slightly reduced.

This paper is exploratory in nature. Ideally future research should focus on an analysis of a system of this nature in order to explore its strengths and its weaknesses more fully, and to develop it to its fullest potential. We believe, however, that such a system, once refined and properly calibrated, holds the potential to correct information asymmetries and protect future borrowers from fiduciary indiscretions in the future.

7. CONCLUSION

It is amply evident that borrowers are, as a whole, unable to represent their own interests when it comes to financing their homes. This is why, acting as principals, borrowers seek expert agents to represent their interests for them. However, in the subprime buildup of 2005-2008, shifts in the overall structure of the mortgage market (particularly within the ABS and CDO markets) placed pressures on lenders to increase mortgage loan issuances nationwide. In seeking to expand their potential customer base, lenders got creative and developed new, innovative, and almost always complex mortgage products that improved short-term affordability, thus expanding the pool of potential customers.

These new and riskier mortgage products were well beyond the financial acumen of the borrowers whom they targeted. As such, brokers had a fiduciary responsibility to shoulder the burden of finding the best product for their client. However, because of the magnitude of the information asymmetries that existed between the savvy brokers and the borrowers, brokers were able to take advantage of their expertise at the ultimate expense of their client.

Disclosure and regulation cannot correct the information asymmetries between brokers and borrowers alone. By themselves, such efforts cannot ultimately succeed in the absence of a significant increase in the financial literacy of the general public at large, by way of the simple fact that, no matter how much information is shown to a borrower, they are currently unlikely to be able to interpret that data correctly. (Pappalardo 2008)

We therefore propose that the best way to reduce these asymmetries and resolve the conflict of interests present in the mortgage market is to modify the system by which brokers receive their compensation for brokering deals. The new compensation model would need to incorporate two primary attributes: first, an initial outlay to the broker that is less than what they would earn currently and second, a long/medium-term, residual income component. If the broker's full compensation can only be earned if the loan remains serviceable for the borrower for a moderate term (say three to five years), then the broker has a strong incentive to make sure that the mortgage offered to the borrower is affordable enough for the borrower that they both can and will service the loan for at least this time period. Additionally, the model encourages brokers to design mortgages that have the ability to remain attractive for the borrower so that the borrower will be resistant to the idea of refinancing. On the other side, if the broker's residual income on the deal is tied to the interest earned by the lender, then the broker is additionally motivated to create products that are profitable to the lender.

Because of the conflicting nature of the motivational forces this new compensation package model places on brokers, it will fall to the broker to find the ideal balance between the lender's interests and

the borrower's interests. Mortgages that issue at that optimal point will also result (if the model is properly calibrated) in the broker receiving their optimal compensation, thus aligning all three of the party's interests.

The benefit of such a compensation package is that it would encourage brokers to find products for their clients which are not only affordable in the short-term, but would continue to remain affordable over the long-run. Additional research and analysis is required to fully develop such a system, but we believe that such a system, when properly implemented, would encourage brokers to correct the information asymmetries themselves, so that they can find the best long-term product for their client. Such a system would be able to prevent such abuses as was seen in the subprime buildup and would help lenders to be able to build more stable and healthy mortgage portfolios.

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