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**MORTGAGE BROKERS AND THE SUBPRIME  
MORTGAGE MARKET**

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## MORTGAGE BROKERS AND THE SUBPRIME MORTGAGE MARKET

### I. Introduction

A mortgage broker is an intermediary that brings a borrower and a creditor together to obtain a mortgage loan. The broker takes the application, performs a financial and credit evaluation, produces documents, and closes the loan. The creditor underwrites, funds, and may service the loan. Mortgage brokers play a major role in the mortgage market. In 2003, about 44,000 mortgage brokerage firms originated about 65% of all mortgages (Schneider 2003).

That mortgage brokers originate over half of mortgages suggests that mortgage brokers might perform a useful function. Descriptive literature on the industry indicates that mortgage brokers may provide benefits for both borrowers and creditors.<sup>1</sup> Brokers typically deal with several different creditors. A broker may reduce borrowers' search costs and enable borrowers to obtain lower cost credit than they could find themselves. Similarly, creditors often deal with several different brokers. A broker may lower creditors' origination costs through economies of scale and specialization. And by using different brokers, a creditor may be able to reach more borrowers than it could on its own.

Despite their market share, mortgage brokers have a mostly bad reputation in the press and among consumerist organizations. The press reports regulatory agencies' actions against unscrupulous brokers (Savage 2003; Mason 2003) and warnings against predatory practices by brokers (Ehrenfeld 2000; Vickers and Timmons 2002; Hechinger 2003). Consumerist organizations allege that inadequate disclosure, lack of borrower sophistication, and broker incentives that tie compensation to loan origination lead to market failure (Renuart and Sanders 1998; Kim-Sung and Hermanson 2003). Brokers steer borrowers to higher cost loans that generate higher compensation, do not give adequate consideration to borrowers' ability to repay, and encourage excessive refinancing of existing mortgages. These problems are especially prevalent, the consumerists assert, in the subprime market, which they characterize as predominately low income, minority, and elderly.

There is little research and virtually no empirical evidence on the behavior of mortgage brokers. We do not really know whether mortgage brokers reduce creditors' and borrowers' costs, nor do we know whether the problems with brokers are prevalent throughout mortgage markets or isolated cases. This paper provides empirical evidence that helps address these questions for the subprime mortgage market. Using a large database that is estimated to include nearly half of the subprime mortgage market, the paper examines the pricing of broker- and creditor-originated subprime mortgages. Specifically, the paper investigates whether or not broker-originated mortgages are more costly to the borrower than creditor-originated mortgages. The paper considers separately pricing in lower income, predominately black, and predominately Hispanic geographic areas, where market failures are alleged to be prevalent. The paper also

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<sup>1</sup> See, for example, various issues of *National Mortgage Broker* magazine.

considers pricing in areas with restrictive licensing requirements for mortgage lenders and mortgage brokers, which may raise entry costs and inhibit competition.

## **II. The Economics of Mortgage Brokerage**

In a broker-originated mortgage transaction, the broker takes the application, performs a financial and credit investigation, produces documents, and closes the loan.<sup>2</sup> The broker may also conduct financial counseling with the borrower. Mortgage brokers' revenue comes from an origination fee paid directly by the borrower.<sup>3</sup> Brokers may also obtain revenue from the spread between retail and wholesale prices of loans.<sup>4</sup>

The creditor in a broker-originated transaction underwrites, funds, and may service the loan. The creditor bears the credit and interest rate risk. The creditor's revenue comes chiefly from the periodic payments of interest and principal. The creditor also may receive revenue from fees, such as late payment fees or prepayment penalties.

The role of the mortgage broker is simply that of a seller of mortgages. It obtains a mortgage for a buyer from one of several creditors with which it has an arms-length business relationship. They are not normally agents of either the borrower or the creditor. Mortgage brokers compete with other brokers and with retail creditors.

Descriptive literature on mortgage brokers suggests that brokers may help creditors reduce origination costs in several ways. Specialization and economies of scale may enable brokers to originate loans at a lower cost than creditors, enabling a creditor to economize on its own origination costs. Use of brokers may also enable a creditor to expand or contract mortgage lending more quickly and at a lower cost than would be possible using its own employees and offices. In addition, use of brokers may enable a creditor to reach more potential customers without increasing marketing costs.

Brokers' working with different creditors may also reduce borrowers' transaction costs. Borrowers may obtain information on prices charged by different creditors at lower cost by using brokers than by shopping themselves. Borrowers who are uncertain of their qualifications may reduce the costs of learning different creditors' credit standards and the standards for which borrowers qualify. Borrowers who lack experience in the mortgage market may reduce the cost of learning about the availability of different mortgage products, terms, and creditors through broker counseling.

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<sup>2</sup> Brokers originate loans in one of three ways: (1) A broker may process a loan that is closed in the creditor's name, (2) close the loan in its own name (without providing funding) and immediately transfer the loan to the creditor, or (3) close and temporarily fund the loan (using its own capital) until the loan is sold.

<sup>3</sup> The borrower may pay fees in one of the following ways: (1) the borrower may pay from his or her own funds at closing, (2) the mortgage loan amount may be increased to finance the mortgage broker fees or points (which increases the amount the borrower borrows), or (3) some combination of (1) and (2).

<sup>4</sup> The retail price is the combination of points and contract rate that the broker quotes to the borrower. The borrower typically can choose from a menu of different points and contract rates. The wholesale price is from a menu of loan prices (expressed as a percentage of the loan amount) that the creditor is willing to pay for different contract rates with specific lock-in terms, which is based on the value of the loan in the secondary mortgage market. The broker's spread is equal to the loan price less 100 plus the number of points paid by the borrower.

### *Broker Efficiency*

Theoretical analysis of the brokerage function indicates that brokers may indeed reduce buyers' and sellers' search costs. There is no theoretical model for mortgage brokerage *per se*, but there are a few general models, which have mainly been used to analyze the role of brokers in real estate and labor markets.<sup>5</sup> Yavas (1994) examined the role of brokers who match buyers and sellers in a market in which both buyers and sellers search for each other. Buyers' search for a seller is generally recognized, but it is also important to recognize that a seller must search for customers. A seller's search may involve telephone or mail solicitations or more generally advertising. Yavas assumed probability distributions to represent buyers' and sellers' reservation prices. A trade takes place when a buyer and seller meet, and the buyer's reservation price is greater than or equal to the seller's reservation price.

Both buyers and sellers face search costs. In the mortgage market, for example, buyers face search costs to identify creditors and learn their prices. Sellers incur marketing costs to attract borrowers. There is uncertainty whether a seller and a buyer will trade. The buyer's reservation price may be lower than the seller's reservation price. Moreover, when the price involves borrowers' uncertain promises to make future payments, borrowers must demonstrate their creditworthiness, and creditors perform credit evaluations to avoid unacceptably risky promises.

Sellers and buyers search if the expected gains from search exceed the costs. They use a broker if the expected gain from search is less than the expected gain from going to the middleman. Use of a broker, however, requires that the buyer or seller shares part of the gain with the middleman.

Yavas examined conditions under which buyers and sellers search, go directly to a broker, or use a broker only after search. Several results are of interest. An increase in search by either the borrower or the seller increases the probability of a trade and hence a benefit to the other. As neither the buyer nor the seller takes this positive externality into account, buyers and sellers search less than would be in their joint interest. The broker internalizes this externality in return for a fee. The broker does not increase the amount of search, however. The broker reduces the uncertainty of completing a trade and hence increases the volume of trades. Yavas notes that buyers and sellers could always choose additional search rather than incur the broker's commission. That a buyer or seller chooses to deal with a broker implies that the broker is more efficient in forming matches than the buyer and seller.

### *Potential Agency Problems*

The allegations of broker misconduct are based on the possibility of agency problems. An agency issue exists because basing broker compensation on origination of a loan, not the stream of periodic payments of principal and interest, gives the broker different

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<sup>5</sup> The literature distinguishes between two types of brokers: market-makers and matchmakers. Market-makers buy and trade for their own account. Matchmakers only match buyers and sellers. They do not trade for their own account. For discussion, see Yavas (1992).

incentives from those of the creditor. In taking an application and performing the financial and credit investigation, a broker may be in a position to increase the likelihood of approval. That is, a broker may misrepresent a loan to qualify a marginal borrower in order to make a sale.

A broker has a greater incentive to contact borrowers about the possibility of refinancing than the current creditor, which depends on receipt of periodic payments for revenue. And the broker's access to the price lists of the several creditors with whom it has relationships may provide the broker greater opportunities to offer favorable terms for refinancing than a single creditor. Moreover, brokers have information about previous customers, which might facilitate identifying prospective customers.

The incentive to originate loans is also the basis for allegations that mortgage brokers are more likely than creditors to engage in certain abusive or "predatory" practices. One practice is repeatedly refinancing a borrower's mortgage solely to receive the origination fee. In abusive cases, high-pressure salesmanship and fraud are involved to convince the borrower to refinance often in the absence of any conceivable benefit to the borrower. Another alleged abuse is that mortgage brokers steer customers to mortgages that provide higher compensation to the broker but are not necessarily the lowest cost or most advantageous to the customer.

There are considerations that may mitigate agency problems associated with mortgage brokers. Since loans that are fraudulent may subject the creditor to legal risks and reputational damage, creditors may take actions to control risk associated with broker originations. For example, creditors may set different standards on loans originated by brokers than those originated by employees, or they may seek to limit their dealings to brokers that are known to be reputable. Mortgage brokers' incentive to steer borrowers to higher cost mortgages that provide greater compensation may be tempered by market competition. A broker quoting a higher price to receive a little more compensation risks receiving no compensation at all if the prospective borrower chooses a mortgage from a competitor.

### *Empirical Evidence*

Empirical evidence on the behavior of mortgage brokers is very limited. LaCour-Little and Chun (1999) found evidence consistent with creditors encountering an agency problem when third parties, such as brokers or correspondents, originate mortgages. As mentioned, third-party originators receive revenue from originations, not from the stream of mortgage payments on which the creditor relies for revenue. Since it is often easier to complete transactions from previous customers than to find new customers, they pointed out, third-party originators have an incentive to contact previous customers about refinancing existing loans.<sup>6</sup> And if contacted by a previous customer, a third-party originator would have little incentive to discourage refinancing. Consequently, they

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<sup>6</sup> Contracts between lenders and third-party originators typically have non-solicitation clauses, which prohibit solicitation of previous customers for any purpose, including refinancing. However, such provisions may be evaded and evasions may be difficult to detect.

hypothesized that prepayment rates on third-party originations may be greater than those on creditor originations.

LaCour-Little and Chun used two sets of data to test this hypothesis: loan-level data from a single national mortgage loan-servicing firm and aggregate prepayment data from Mortgage Information Corporation (the former name of Loan Performance System). With the loan-level data, they estimated logistic regression models of the probability of prepayment as a function of the age of the loan, original loan size, the spread between the contract interest rate and the ten-year constant maturity Treasury rate, borrower income, and whether the loan was originated by a third party. Regression results indicated that loans originated by a third party were statistically significantly more likely to prepay than loans originated by a creditor for each of four types of mortgages analyzed. The third-party effect was quite large, moreover. Over all types of mortgages, third-party loans were about three times more sensitive to refinancing incentives than creditor-originated loans.

The aggregate prepayment data representing many creditors provided evidence that prepayment rates were generally greater for third-party originations than creditor originations. Prepayment rates on loans originated between 1994 and 1998 were greater for third-party originations than for creditor originations. Prepayment rates for loans originated before 1994 were not.

In a preliminary working paper, Woodward (2003) examined the relationship of loan and borrower characteristics to the level of mortgage brokers' compensation at one creditor. The effect of shopping strategy was of particular interest. Her hypothesis was that consumers' lack of information and difficulty in assessing tradeoffs between interest rates caused "confusion," which resulted in brokers receiving higher compensation for loans when points were paid than when points were not paid.

Woodward argued that the easiest shopping strategy for the consumer is to roll all settlement costs into the interest rate and shop for the lowest interest rate and that the most difficult shopping strategy is to pay all settlement costs in cash and pay points to reduce the interest rate. Note that the easiest shopping strategy is not necessarily the optimal strategy. Creditors typically set the tradeoff between contract rate and points for a period considerably less than the full term to maturity.<sup>7</sup> A borrower who expects to repay the loan over a longer period of time than that assumed in the rate sheets may pay less if he pays points than if he does not.

Empirical results suggest that broker compensation varied systematically across different sets of mortgage terms and borrower characteristics. Higher broker compensation does not imply higher mortgage cost to the borrower, however. Higher broker compensation may be offset by a lower interest rate or other loan fees. Thus, Woodward's results do not provide evidence on the efficiency and agency issues discussed in the beginning of this section.

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<sup>7</sup> Woodward found a seven to ten year expected term in rate sheets for 30-year mortgages for the creditor that funded the mortgages in her sample.

### **III. Empirical Analysis**

This paper investigates whether subprime mortgages originated by brokers are more costly to borrowers than mortgages originated by creditors. A finding that mortgages originated by brokers are more costly would support the hypothesis that an agency problem exists. In contrast, a finding that broker-originated mortgages are no more or less costly than creditor-originated mortgages would support the hypothesis that competition forces brokers to share any efficiencies in originating mortgages with borrowers.

The paper also investigates broker pricing in minority and lower income areas and in states that have restrictive licensing requirements for individual mortgage originators. Because of a lack of resources, experience, and financial sophistication many consider minority and lower income market segments to be especially vulnerable to abuses. Restrictive licensing requirements for individual mortgage originators include pre-licensing education, testing, and continuing education. Such requirements may inhibit competition and thus pressure brokers to share origination efficiencies with borrowers by making entry or expansion slower and more costly.

#### *Data*

Our data are from the American Financial Services Association's (AFSA) subprime mortgage database for the first quarter of 2002. Ten large subprime mortgage subsidiaries of AFSA-member companies contributed to the database. The database includes all mortgages originated or purchased by these companies between the third quarter of 1995 and the first quarter of 2002. Staten and Elliehausen (2001) estimated that the AFSA's subprime mortgage database covered about 40% of subprime mortgage originations in 1998. The analysis in this paper includes all closed-end first and second mortgages.

#### *Model*

The dependent variable is the cost of the mortgage to the borrower as measured by the annual percentage rate. The annual percentage rate is an annualized discount rate that equates the actual amount of credit received by the borrower with the flow of periodic payments required to repay the loan. The annual percentage rate reflects all finance charges, which are defined as "... any charge payable directly or indirectly by the consumer to the creditor and imposed directly or indirectly by the creditor as an incident to or condition of the extension of credit (12 CFR Ch. II § 226.4 (a))." The finance charge also includes "[f]ees charged by a mortgage broker (including fees paid by the consumer directly to the broker or to the creditor for delivery to the broker) ... even if the creditor does not require the consumer to use a mortgage broker and even if the creditor does not retain any portion of the charge (12 CFR Ch. II § 226.4 (a)(3))."

Explanatory variables are loan characteristics, property or borrower characteristics associated with credit risk, year of origination, and state. The loan characteristics include loan amount, whether the loan has a fixed or variable interest rate, term to maturity, and loan-to-value percentage (on first mortgages). The property and borrower characteristics

include property value, borrower income, and FICO credit risk score. Year of origination is included to account for differences in economic and market conditions during the Q3 1995-Q1 2002 time period. State is included to account for differences in regulatory environments and economic conditions across states.

Table 1 provides variable definitions and descriptive statistics for first and second mortgages.

### *Results*

Separate models were estimated for first and second mortgages using ordinary least squares. Table 2 presents results of estimation for all mortgages.

The models are significant and explain a high percentage of the variation in annual percentage rates. Estimated coefficients are significant and generally have the expected signs. The coefficients for loan amount are negative, reflecting the effect of spreading largely fixed operating costs over a larger loan amount. The coefficient of the variable interest rate dummy is negative for first mortgages, a result that is consistent with the reduced interest rate risk associated with long-term variable rate mortgages. The coefficient for the variable interest rate dummy is not significant for second mortgages, however. By far, most second mortgages have variable interest rates. The relatively short term to maturity for most second mortgages may explain its lack of significance for second mortgages. The coefficient for term to maturity is negative for first mortgages but positive for second mortgages.

The dummy variables for the loan-to-value percentage are negative and increase in absolute value up to the greater than 100 percent category. Normally, one would expect that higher loan-to-value percentages are associated with greater risk and therefore higher interest rates. This apparently anomalous result occurs because nearly all borrowers with high loan-to-value mortgages have relatively high credit risk scores and income. Creditors do not make high loan-to-value mortgages to high-risk borrowers. Thus, the high loan-to-value percentage is a signal of high credit quality. This result is consistent with findings by Calomiris (1998).

The value of the home is negatively related to the annual percentage rate. This result is consistent with the theory that greater collateral reduces risk. The income dummy variables are generally negative, indicating that borrowers with incomes less than \$100,000 had lower annual percentage rates than borrowers with incomes of \$100,000 or more. The largest negative coefficients in absolute value were in middle-income groups, where the majority of subprime borrowers fall. The lowest income group had a positive coefficient for first mortgages and a medium-sized coefficient for second mortgages. These coefficients likely reflect the tendency for lower income borrowers to have relatively high debt burdens. Smaller coefficients in absolute value for the higher income borrowers likely reflect other characteristics that cause them to be in the subprime rather than prime market. The coefficients for FICO risk score dummy variables are positive and generally rise from highest to lowest groups. These coefficients indicate that annual percentage rate rises with increases in credit risk.

Behavior of Mortgage Brokers. The estimated coefficients for broker-originated mortgages are negative, indicating that broker-originated mortgages are less costly to the borrower than creditor-originated mortgages after holding other loan terms and borrower characteristics constant. The size of the estimated coefficients indicates that broker-originated first mortgages are 1.132 percentage points less costly than creditor-originated first mortgages and that broker-originated second mortgages are 1.973 percentage points less costly than creditor-originated second mortgages. These estimated differences may seem large, and would seem unrealistic for prime mortgages. However, large differences in annual percentage rates between broker and creditor-originated mortgages may not be unreasonable. The subprime market is quite heterogeneous and considerable variation in borrower risk, which is reflected in the range of annual percentage rates from near prime to 18-20% or more. Brokers may be able to shop from a larger set of loans than a single creditor and find a better match between borrower risk and annual percentage rate. Brokers also be better able than consumers shopping on their own to match borrower risk and annual percentage rate.

The estimated differences in annual percentage rates may not be attributable entirely to broker efficiencies that are shared with borrowers. There may be other loan terms and borrower risk characteristics not included in the model that are correlated with broker originations. There is also the possibility of a self-selection issue that influences the results. The general theoretical model discussed in the previous section of the paper suggests the possibility of self-selection based on search costs. In the case of mortgage brokers, however, selection may not be much of an issue if borrowers have difficulty distinguishing between mortgage brokers and mortgage bankers.

Mortgage Brokers in Selected Market Segments. Even if there do not appear to be problems in the subprime market overall, there may be market segments in which problems exist. To investigate this possibility, we estimated separate models for areas that have predominately minority populations or have relatively low incomes. We considered three market segments: (1) areas with 75% or greater black population, (2) areas with 75% or greater Hispanic population, and (3) areas with per capita income less than 75% of the state per capita income. The geographic areas were defined by zip codes. We choose these segments because many believe that minority and lower income borrowers are especially vulnerable to abuse because these populations have less credit experience and financial sophistication than the general population.

Table 3 presents estimated coefficients for the broker-origination dummy variable in these models. The results show that in each of the three market segments, broker-originated loans had relatively large, significantly lower annual percentage rates than creditor-originated loans. This is true for both first and second mortgages.<sup>8</sup>

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<sup>8</sup> It is not useful to speculate about differences in coefficients between any of these groups and all mortgages because the models do not include all mortgage or borrower characteristics that influence annual percentage rates.

In addition, we considered separately states in which restrictive licensing requirements for mortgage originators may inhibit competition. The licensing requirements involve pre-licensing education, testing, and continuing education for all individual mortgage originators. Such requirements raise costs and make entry or expansion difficult in the short run. This may limit competition in the short run and reduce pressure for brokers to share origination efficiencies with borrowers. We consider two general types of licensing requirements: (1) requirements for all employees of any mortgage originator (broker or creditor) who originate mortgages, and (2) requirements for all employees of brokers (but not creditors) who originate mortgages. States having the first type of licensing requirements are California, Oregon, Louisiana, and North Carolina. States having the second type of licensing are Indiana and Florida.<sup>9</sup>

Table 4 presents estimated coefficients for the broker-origination dummy variables in the two sets of states. Broker-originated loans had relatively large, significantly lower annual percentage rates than creditor originated loans in states with licensing requirements on all originators and in states with licensing requirements only on mortgage brokers.

In sum, our findings suggest that subprime mortgage borrowers in market segments that might be vulnerable to abuse or in states with licensing requirements that might inhibit competition did not pay higher mortgage costs when their loans were originated by brokers rather than creditors. These findings provide little support for the hypothesis that brokers systematically steer vulnerable borrowers to more expensive mortgages. Even if brokers did steer borrowers, borrowers were still better off obtaining mortgages through brokers than directly from creditors.

#### **IV. Conclusions**

The findings reported in this paper indicate that broker-originated mortgages are less costly to the borrower than creditor-originated mortgages after holding other loan terms and borrower characteristics constant. Broker-originated mortgages are less costly in the subprime market as a whole and in market segments that may be vulnerable to abuses or in states with laws that may inhibit competition. The results are not conclusive, however, because the differences in annual percentage rates between broker- and creditor-originated mortgages may not be attributable entirely to broker efficiencies that are shared with borrowers. There may be other loan terms and borrower risk characteristics not included in the model that are correlated with broker originations. There is also the possibility of a selection issue that influences the results. The general theoretical model of the role of brokers discussed in the paper suggests the possibility of self-selection based on search costs. In the case of mortgage brokers, however, selection may not be much of an issue if borrowers have difficulty distinguishing between mortgage brokers and mortgage bankers. Despite these qualifications, the results presented do not support the hypothesis that borrowers obtaining mortgages through brokers pay more than borrowers obtaining mortgages directly from creditors.

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<sup>9</sup> See National Association of Mortgage Brokers (2002).

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**TABLE 1**  
**VARIABLE DEFINITIONS AND DESCRIPTIVE STATISTICS**

<u>Variable</u>	<u>Definition</u>	<u>First mortgages</u>		<u>Second mortgages</u>	
		<u>Mean</u>	<u>Std. dev.</u>	<u>Mean</u>	<u>Std. dev.</u>
APR	Annual percentage rate, percent	12.27	1.82	13.78	2.51
BROKER	Broker origination, dummy variable	.24	.43	.59	.49
LNAMT	Loan amount, \$thousands	88.85	52.37	35.41	19.74
VARIABLE	Variable interest rate, dummy variable				
TERM	Term to maturity, months	289.17	92.01	206.51	65.31
LTV≤70	Loan to value ≤ 70%, dummy variable	.21			
LV71-80	Loan to value 71-80%, dummy variable	.20	.40	...	...
LV81-90	Loan to value 81-90%, dummy variable	.18	.38	...	...
LV91-100	Loan to value 91-100%, dummy variable	.16	.37	...	...
LV>100	Loan to value > 100%, dummy variable	.25	.43	...	...
VHOME	Value of home, \$thousands	106.64	63.34	160.37	98.14
IN<15	Income < \$15,000, dummy variable	.02	.15	.00	.04
IN15-24	Income \$15,000-24,999, dummy variable	.12	.32	.02	.14
IN25-34	Income \$25,000-34,999, dummy variable	.17	.38	.08	.27
IN35-49	Income \$35,000-49,999, dummy variable	.26	.44	.22	.42
IN50-74	Income \$50,000-74,999, dummy variable	.27	.44	.35	.48
IN75-99	Income \$75,000-99,999, dummy variable	.10	.30	.18	.38
IN≥100	Income ≥ \$100,000, dummy variable	.06		.15	
S<540	Risk score < 540, dummy variable	.14	.35	.04	.20
S540-579	Risk score 540-579, dummy variable	.18	.38	.06	.23

**TABLE 1**  
**VARIABLE DEFINITIONS AND DESCRIPTIVE STATISTICS (CONTINUED)**

<u>Variable</u>	<u>Definition</u>	<u>First mortgages</u>		<u>Second mortgages</u>	
		<u>Mean</u>	<u>Std. dev.</u>	<u>Mean</u>	<u>Std. dev.</u>
S580-599	Risk score 580-599 dummy variable	.11	.31	.04	.20
S600-619	Risk score 600-619 dummy variable	.12	.33	.05	.23
S620-639	Risk score 620-639 dummy variable	.13	.33	.07	.26
S640-679	Risk score 640-679 dummy variable	.20	.40	.28	.45
S $\geq$ 680	Risk score $\geq$ 680 dummy variable	.12		.46	

Notes:

1. Information for year and state variables are not shown.
2. ... Variable not included in model.

**TABLE 2**  
**ESTIMATION RESULTS FOR ALL FIRST AND SECOND MORTGAGES**

<u>Variable</u>	<u>First mortgages</u>		<u>Second mortgages</u>	
	<u>Coef- ficient</u>	<u>Std. error</u>	<u>Coef- ficient</u>	<u>Std. error</u>
BROKER	- 1.132	.006 **	-1.973	.006 **
LNAMT	- .001	>0.001 **	- .007	>0.001 **
VARIABLE	- .155	.003 **	.005	.006
TERM	- .002	>0.001 **	.005	>0.001 **
LV71-80	- .538	.007 **	...	...
LV81-90	- .658	.008 **	...	...
LV91-100	- .816	.009 **	...	...
LV>100	- .600	.009 **	...	...
VHOME	- .007	>0.001 **	- .006	>0.001 **
IN<15	.267	.016 **	- .420	.052 **
IN15-24	- .115	.011 **	- .648	.018 **
IN25-34	- .253	.010 **	- .405	.012 **
IN35-49	- .291	.010 **	- .203	.009 **
IN50-74	- .242	.009 **	- .112	.008 **
IN75-99	- .141	.010 **	- .145	.008 **
S<540	1.685	.007 **	1.542	.012 **
S540-579	1.002	.007 **	1.443	.011 **
S580-599	.780	.007 **	1.394	.012 **
S600-619	.631	.007 **	1.333	.011 **
S620-639	.499	.007 **	1.398	.010 **
S640-679	.331	.007 **	1.584	.006 **
Intercept	13.016	.017 **	13.782	.019 **
R-squared	.441		.535	
F-statistic	5,345.18 **		9,191.71 **	
Observations	529,004		590,986	

Notes:

1. Omitted dummy variables are  $LV \leq 70$ ,  $IN \geq 100$ , and  $S \geq 680$ .
2. Coefficients and standard errors year and state variables are not shown.
3. ... Variable not included in model.
4. \*\* Significant at 1%

**Table 3**  
**Estimated Broker Coefficients for Minority and Lower Income Areas**

<u>Group</u>	<u>First mortgages</u>	<u>Second mortgages</u>
75% or greater black population	-1.054	-1.899
75% or greater Hispanic population	-2.002	-2.380
Per capita personal income less than 75% of state average	-1.243	-1.089
All mortgages	-1.325	-1.973

**Table 4**  
**Estimated Broker Coefficients for States with Restrictive Licensing Laws**

<u>Group</u>	<u>First mortgages</u>	<u>Second mortgages</u>
Licensing requirements for all mortgage originators	-1.254	-2.035
Licensing requirements for mortgage brokers	-1.289	-2.006
All mortgages	-1.325	-1.973