Materiality of RMBS Disclosures of Exceptions from Underwriting Product Pricing Parameters

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Abstract

The claim that underwriting disclosures in residential mortgage backed securities (RMBS) were misleading because they failed to disclose the extent of exceptions to numeric criteria is not supported by an analysis of three pools. Issuers defending securities law suits based on such claims should undertake similar analyses to assess the likelihood that claims will prove unfounded.

Introduction

Nature of Underwriting

> *We can never know about the days to come.*
> *But we think about them anyway.*
> *(Carly Simon)*

Underwriting a mortgage loan application substitutes for the same unsatisfactory answer to two questions:

- Will the borrower repay the loan?
- If not, will net proceeds from sale of the property be enough to recover the unpaid balance?

That unsatisfactory answer is, of course, ***we don't know.*** A prospectus underwriting disclosure may contain material misstatements or omissions, but they are necessarily concerned with the past or present. A reasonable investor knows that the future is not yet a fact.

Underwriting assesses credit of the borrower — ability and willingness to repay — and the value of the property securing the loan, through an appraisal or other valuation. What is disclosed in the prospectus is a description of indicators of credit and the valuation, as well as a description of how those indicators and valuation were derived. Traditionally, these indicators were disclosed in summary form only, for the pool as a whole. While detailed information on each indicator was provided (count and principal balance of loans by credit score (FICO) score, for example), the lack of loan-level

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detail made it impossible to determine if, for example, loans with lower (less favorable) FICO scores were also loans with higher (less favorable) debt-to-income ratios. In 2005, however, new free writing prospectus rules of the Securities and Exchange Commission (SEC) made it possible to provide information concerning the indicators on a loan-by-loan basis.[1] This was accomplished through written materials provided to investors during the marketing of mortgage backed securities. Some issuers also incorporated the loan-level information into the prospectus through filing it as "ABS informational and computational material" pursuant to Regulation AB[2] of the SEC.

Criticisms of Underwriting Disclosures

It is frequently alleged that originators "abandoned" or "disregarded" underwriting guidelines[3]. The allegations are supported by soundbites supposed to discredit the entire underwriting process and by the subsequent history of loans that defaulted and experienced losses. The implicit assumption is that had the loans been correctly underwritten, they would not have defaulted and, had they defaulted, losses would have been avoided or minimized. Plaintiffs have attempted to show that disclosures concerning credit indicators and valuation lack "ground truth," such as borrowers who lacked an intent to make a property a primary residence, appraisals that were "inaccurate" or stated income that was exaggerated by the borrower. Some of these indicators, such as borrower actual intent, cannot be known at the time of the credit decision.[4] Other indicators, such as borrower income based solely on the representation of the borrower are by design not verified. To the extent that the originator's underwriting guidelines contain procedures to reduce uncertainty, the degree to which they were followed might be an issue.

Likewise, a valuation is an opinion or estimate, based on historical data of sales of comparable, but not identical, properties or other indicators of market value. Like all estimates and opinions, whether they will prove prescient cannot be known in advance.

Loan Level Detail

What is missing from the pleadings is any allegation of *specific* facts concerning mortgage pools that would constitute a material misstatement or omission of any fact necessary to make another statement not misleading. What proportion of a mortgage pool, assuming that the disclo-

[1] *See* Securities Offering Reform adopting release http://goo.gl/SI7lY.

[2] *See* Asset-Backed Securities adopting release http://goo.gl/uifgI.

[3] Sponsor "was very liberal in granting exceptions to its underwriting standards"; "abandoned or disregarded disclosed underwriting guidelines"; "exceptions to ... underwriting guidelines were the rule."

[4] This is why that standard forms of mortgage for owner occupied loans have a covenant that the borrower will occupy the mortgaged property as a primary residence within a stated period of a few months and that failure to do so will accelerate payment on the related mortgage note. Among the market participants who have insisted on this provision is Freddie Mac, which includes it in its own form.

sures accurately describe the credit indicators and valuation used in underwriting the mortgage loan, represent exceptions from the originator's underwriting guidelines for which no apparent explanation exists? Disclosures typically claim that the underwriter has objective credit standards that were applied to each loan decision and that exceptions could be made in the presence of compensating factors. (The following disclosure is representative: "Exceptions to the sponsor's loan program parameters may be made on a case-by-case basis if compensating factors are present.") Those facts are available through the loan-level provided to investors in fmany transactions.

Plan of Analysis

This paper analyzes the materiality of exceptions in three mortgage pools originated by a now-defunct sponsor and compares the pool composition as disclosed on a loan level basis to a set of "product pricing guidelines" that provide the basic credit framework for each type of mortgage loan based on location, purpose, occupancy, property type, loan-to-value ratio, FICO score and loan amount. This was *not* the same version of the guidelines used in originating the loan. The guidelines underwent continuous revision and new versions were published approximately twice each month. While the guidelines were published in mid–2007, after deteriorating loan performance had started to become a concern, and are likely as stringent or more stringent than the standards actually applied, in practice it will be necessary to tie each loan to its applicable set of criteria.

For each pool, the free writing prospectus or ABS informational and computation material containing a loan-level tape was analyzed to determine if loans failed to meet one or more of the stated criteria. The purpose is to identify mortgage loans with exceptions to the guidelines, the nature of any exception and if compensating factors are apparent. With those results, materiality questions will be considered.

None of the pools is the subject of current litigation.

Results

As discussed in detail in Appendix A, all three pools contained loans with exceptions to the assumed applicable numeric criteria for FICO scores. Some of those loans had more favorable characteristics that compensate for less favorable FICO scores. Each pool contained loans with compensating loan-to-value ratios (five percentage points or greater more favorable), debt-to-income ratios (five percentage points or greater more favorable), margins[5] (0.25% or greater), or a combination. Factors other than those provided in the data may have considered in the underwriting and led to a favorable underwriting decision based on other compensating factors. Each pool also contained

[5]Payments by the borrower are based on the sum of the margin and the applicable index, such as the twelve-month moving average monthly yield on United States Treasury Securities adjusted to a constant maturity of one year ("One-Year MTA," regarded as a proxy for the lender's cost of funds, the index portion of the adjustable rate represents the time value of money and the margin the risk premium on the loan.

loans with no apparent compensating factor: Pool A, 0.35% by principal balance; Pool B, 0.67%; Pool C, 0.10%. In addition, there were loans that represented exceptions from property type requirements that were not considered.[6]

Materiality

Statements Claimed to Give Rise to a Material Omission

It is tempting to look at the small proportions of loans with FICO exceptions in the three pools and conclude that they are *de minimis*. As the Supreme Court recently reminded us, however, materiality cannot be reduced to a simple numeric test.[7] Rather, the inquiry turns on a nuanced assessment of what inferences a reasonable investor would draw from a statement made in a prospectus and the significance that the investor would attach to those inferences. That loans were underwritten to applicable underwriting guidelines and exceptions could be made to those guidelines is the statement criticized as misleading in some prospectuses because omitted was a detailed description of the exceptions. In the offerings for the three pools exceptions were in fact made (based on the assumption that all the loans were subject to the same set of guidelines considered here). Neither the numeric criteria applied nor the exceptions made were disclosed. The numeric characteristics, however, were disclosed.

The Reasonable Investor in Residential Mortgage Backed Securities

Prior to December 2005, there had been a small portion of the public RMBS market devoted to individual investors. Classes of certificates with minimum denominations of $1,000, generally insured by a monoline carrier, were available in many pools backed by fixed rate mortgages. This market disappeared after lead underwriters became uncomfortable with control of regional dealer over the use of free writing prospectuses by their sales staff. With the exit of the retail classes, the remaining buyers of publicly offered RMBS were institutions, often acting as fiduciaries for pension funds. While there was no requirement that the institutions be large, in practice most buyers were "qualified institutional buyers" with $50 million or more in assets under management that purchased directly or through a registered investment adviser.

Among the facts that an RMBS investor should be assumed to know, because they were contained in the prospectus, are:

- RMBS are not suitable investments for all investors
- RMBS represent interests in an issuing trust the assets of which consist primarily of mortgage loans
- RMBS are not obligations of the depositor, sponsor nor any of their affiliates

[6] Pool B consists of loan originated by sellers unaffiliated with the sponsor using other underwriting guidelines. Two of the pools contained loans on duplex, triplex or fourplex units for loan types that the guidelines used do not permit. This was not considered due to data issues.

[7] *See Matrixx Initiatives, Inc. v. James Siracusano et al.*, 131 S.Ct. 1309 (2011).

- RMBS have prepayment, credit, liquidity and market risks
- There is no guarantee that principal payments on RMBS will be made at any specific rate or on any specific dates
- Losses on mortgage loans reduce the yield on RMBS
- The underwriter may make a secondary market in the RMBS, but it has no obligation to do so
- There is no assurance that such a secondary market will develop or, if it develops, that it will continue
- It may not be possible to sell RMBS readily or at prices that will produce a desired yield
- The market values of RMBS are likely to fluctuate; these fluctuations may be significant and could result in significant losses
- RMBS can lose value because of actual performance as well as perceptions of future performance based on changes in the external interest rate environment and other market factors not directly related to the performance of the mortgage loans themselves
- The secondary markets for RMBS have experienced periods of illiquidity and can be expected to do so in the future
- Illiquidity can have a severely adverse effect on the prices of RMBS that are especially sensitive to prepayment, credit, or interest rate risk, or that have been structured to meet the investment requirements of limited categories of investors
- Recently, the residential mortgage market in the United States has experienced a variety of difficulties and changed economic conditions that may adversely affect the yield on RMBS
- Delinquencies and losses with respect to residential mortgage loans generally increased in 2007, and may continue to increase.
- In addition, in the first half of 2007 housing prices in many states declined or stopped appreciating, after extended periods of significant appreciation
- A continued decline or an extended flattening of those values may result in additional increases in delinquencies and losses on residential mortgage loans generally, particularly with respect to second homes and investor properties and with respect to any residential mortgage loans whose aggregate loan amounts (including any subordinate liens) are close to or greater than the related property values
- Another factor that may have contributed to, and may in the future result in, higher delinquency rates is the increase in monthly payments on adjustable rate mortgage loans
- Borrowers with adjustable payment mortgage loans are being exposed to increased monthly payments when the related mortgage interest rate adjusts upward from the initial fixed rate or a low introductory rate, as applicable, to the rate computed in accordance with the applicable index and margin

- This increase in borrowers' monthly payments, together with any increase in prevailing market interest rates, may result in significantly increased monthly payments for borrowers with adjustable rate mortgage loans
- Borrowers seeking to avoid these increased monthly payments by refinancing their mortgage loans may no longer be able to find available replacement loans at comparably low interest rates
- A decline in housing prices may also leave borrowers with insufficient equity in their homes to permit them to refinance, and in addition, many mortgage loans have prepayment premiums that add to the cost of refinancing
- Furthermore, borrowers who intend to sell their homes on or before the expiration of the fixed rate periods on their mortgage loans may find that they cannot sell their properties for an amount equal to or greater than the unpaid principal balance of their loans
- These events, alone or in combination, may contribute to higher delinquency rates
- The general market conditions may affect the performance of the mortgage loans and may adversely affect the return on RMBS
- The loss and delinquency experience on the higher balance mortgage loans ($1,000,000 and above) may have a disproportionate effect on the mortgage pool
- The sponsor selected the mortgage loans from among its portfolio of mortgage loans held for sale based on a variety of considerations, including type of mortgage loan, geographic concentration, range of mortgage interest rates, principal balance, credit scores and other characteristics, and taking into account investor preferences and the depositor's objective of obtaining the most favorable combination of ratings on the certificates
- A security rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time by the assigning rating agency
- The rating assigned to each class of RMBS by each rating agency is based on that rating agency's independent evaluation of that class of RMBS
- The rating assigned to a class of offered RMBS by one rating agency may not correspond to any rating assigned to that class by any other rating agency.
- The ratings assigned to this issue do not constitute a recommendation to purchase or sell these securities
- Some classes of the RMBS are subordinate in right of payment and provide credit support to senior classes
- The support thus provided is intended to enhance the likelihood of regular receipt by the senior RMBS of the full amount of the monthly distributions of interest and principal to which they are entitled and to afford the senior RMBS protection against some losses

- When the subordinate classes are no longer outstanding, losses are allocated to the senior classes
- The credit support provided for a series of RMBS will in most cases not provide protection against all risks of loss and will not guarantee repayment of the entire principal balance of the RMBS and interest due on the securities.
- If losses or shortfalls occur that exceed the amount covered by credit support or that are not covered by credit support, RMBS holders will bear their allocable share of deficiencies.
- The credit support provided for a series of RMBS will not provide protection against all risks of loss and will not guarantee repayment of the entire principal balance of the RMBS and interest due on them
- If losses or shortfalls occur that exceed the amount covered by credit support or that are not covered by credit support, RMBS holders will bear their allocable share of deficiencies

Questions that the Reasonable RMBS Investors Addresses

A reasonable RMBS investor armed with this information knows that it is exposed to credit risk on the mortgage loans in the pool. In assessing that risk, it is seeking to substitute for the unsatisfactory answer to two questions:

- What will be the incidence of default on the mortgage loans?
- Given default, what will be the losses that will be allocated to the purchased class of RMBS?

That unsatisfactory answer is, of course, ***we don't know.***

The Reasonable RMBS Investor Considers Ratings as One Factor

In considering the question of incidence, the RMBS investor can look to the opinions of rating agencies for comfort[8]. In doing so, it will have reviewed the agencies's publications on methodology. For example, one of the agencies, Standard and Poors', at one time assumed for purposes of its highest rating, AAA, that 15% of the mortgage loans in a "prime" pool would default and that it made adjustments in that assumption based on each loan's credit score, LTV, property type, purpose, payment term of the loan, occupancy and "seasoning" (time since origination), balance and documentation type. Likewise, considering LTV, mortgage insurance, balance, maturity, loan type, purpose, property type, occupancy, seasoning and location, the agency estimated loss severity given default would be approximately 43% for a first-lien mortgage loan, owner-occupied, single-family detached property,

[8] It is possible that an RMBS investor may have relied *solely* upon ratings (termed "buying the rating.") If this is considered the standard of conduct for a reasonable investor, the materiality question posed here is resolved: such an investor would not have attached any significance to any other statement.

with an LTV of 80% on an unpaid balance of $80,000.

Given that basic understanding of the rating process, an RMBS investor knows that a rating agency assigning a AAA rating to an RMBS with a 12% subordination level is projecting that the default rate multiplied by the loss severity will not exceed 12%, given the agency's assumptions regarding the relationship between loan characteristics and the likelihood of default and its severity. A pool of mortgages with an aggregate principal balance of $1,000,000,000 that the rating agency estimates has a likely 24% default rate and an assumed 50% loss severity will have credit support for the most senior classes equal to 12%, or $120,000,000.

The RMBS investor will not know what combination of the two percentages was used (50% probability of default and 24% loss severity assumptions produce the identical result) for a particular transaction. That can be overcome by the conservative assumption that loss severity will be 100%, resulting in a 12% default rate.

The Reasonable RMBS Investor Considers the Risks that Credit Support is Designed to Mitigate

If the RMBS investor assumes that defaulted loans will have a 100% loss severity, its next inquiry is whether it has confidence that the default incidence will be less than the credit support. Recognizing that credit support must cover *all* risks, known and unknown, the RMBS investor will consider both the risks that it can discern by examining the pool assets and the risks that inhere in the environment at large, such as a European sovereign debt crisis triggering economic distress affecting the U.S. economy. The ability to assess general conditions is a task for which the issuer of RMBS has no privileged position. Its assigned role is that of provider of information about the pool assets.

Information Provided by the Issuer Relative to Pool Assets

The issuer provides two types of information:

- Process information concerning *how* loans were underwritten
- Output information concerning *what*

[9] "The sponsor's underwriting guidelines generally are intended to evaluate the prospective borrower's credit standing and repayment ability and the value and adequacy of the mortgaged property as collateral."

[10] "Some mortgage loans are manually underwritten, in which case an underwriter reviews a loan application and supporting documentation, if required, and a credit report of the borrower, and based on that review determines whether to originate a loan in the amount and with the terms stated in the loan application. Some mortgage loans are underwritten through the sponsor's automated underwriting system, described below."

[11] "Prospective borrowers are required to complete a standard loan application in which they provide financial information regarding such factors as their assets, liabilities and related monthly payments, income, employment history and credit history. Each borrower also provides an authorization to ac-

the resulting characteristics of the loans are

How information in a typical prospectus includes purpose[9], methods[10], information gathered[11], use of income information[12], valuation methods[13] and whether exceptions to numeric criteria are permitted[14].

What information in a typical prospectus includes documentation type (full documentation vs. reduced documentation), occupancy (owner occupied as primary residence, second home, or non-owner occupied), property type (single-family, PUD, condominium, co-operative apartment, duplex, etc.), loan purpose (purchase, rate-term finance, cash-out finance), location (city, state and zipcode), origination date, original loan balance, type of mortgage, terms, including the index and margin for an adjustable rate mortgage, duration of any fixed rate period and maturity, FICO score, back-end debt-to-income ratios, loan-to-value ratio based on the loan amount and valuation used in origination and whether the mortgage loan is insured and, if so, by what percentage.

If an RMBS investor believes in the sufficiency of underwriting *process* to predict losses, it necessarily believes that the interest rate on each mortgage loan is adequate protection against the risk of loss for that loan plus sufficient additional protection to cover a portion of the risk of loss on other loans. An RMBS investor with that worldview should be willing to accept levels of credit support half or less than those generally on offer. Conversely, an RMBS investor that believes that the underwriting process is necessary but not sufficient turns naturally to the *what* output of the underwriting process.

cess a credit report that summarizes the borrower's credit history. In the case of some mortgage loans originated under the sponsor's streamline documentation programs (described below), the prospective borrower is not required to provide certain financial information, including information about income and assets."

[12] "The maximum acceptable [debt-to-income] ratios may vary depending on other loan factors, such as loan amount and loan purpose, loan-to-value ratio, credit score and the availability of other liquid assets. Exceptions to the ratio guidelines may be made when compensating factors are present."

[13] "The adequacy of the mortgaged property as collateral generally is determined by an appraisal made in accordance with pre-established appraisal guidelines. At origination, all appraisals are required to conform to the Uniform Standards of Professional Appraisal Practice adopted by the Appraisal Standards Board of the Appraisal Foundation, and are made on forms acceptable to Fannie Mae and/or Freddie Mac. Appraisers may be staff appraisers employed by the sponsor or independent appraisers selected in accordance with the pre-established appraisal guidelines. Such guidelines generally require that the appraiser, or an agent on its behalf, personally inspect the property and verify whether the property is in adequate condition and, if the property is new construction, whether it is substantially completed. However, in the case of mortgage loans underwritten through the sponsor's automated underwriting system, an automated valuation method may be used, under which the appraiser does not personally inspect the property but instead relies on public records regarding the mortgaged property and/or neighboring properties."

[14] "Exceptions to the sponsor's loan program parameters may be made on a case-by-case basis if compensating factors are present. In those cases, the basis for the exception is documented, and in some cases the approval of a senior underwriter is required. Compensating factors may include, but are not limited to, low loan-to-value ratio, low debt-to-income ratio, good credit standing, the availability of other liquid assets, stable employment and time in residence at the prospective borrower's current address."

Information Generally Not Provided by the Issuer Concerning Pool Assets

Issuers generally did not disclose the numeric criteria for underwriting that are applied to produce the outcomes disclosed on the characteristics of the mortgage loans. The reasons for this include the multiplicity of underwriting categories and frequent changes of the numeric criteria[15]. Over a period of months during which loans in 10 or 15 categories may have been originated, numeric criteria changes may have resulted in dozens of different rules that were potentially applicable to the loans in the pool. In addition, the algorithms used in automated underwriting systems operating in parallel with the manual underwriting may have undergone changes.

The RMBS investor considering the numeric criteria and exceptions to those numeric criteria as significant factors in the investment decision cannot have failed to notice the absence of a disclosure of the numeric criteria. It would be anomalous to disregard the lack of knowledge about the criteria and at the same time place emphasis on the importance of knowledge of exceptions from those criteria, leaving unasked *"exceptions from what, exactly?"*

The Reasonable RMBS Investor Considers the Total Mix of Information

The bleak view that defaults will have loss severities of 100% leads the RMBS investor to focus on the question of incidence of default. For this, it must form a view on the relative importance of loan characteristics. For an asset pool of $1,000,000,000 and credit support of 12%, the RMBS investor asks "what are the worst $120,000,000 in mortgages in the pool?" For this, the RMBS investor turns to the data in the tape.

The process is tedious, but not difficult, requiring only the grade school skills of addition, subtraction, multiplication and division. The RMBS investor must have a view on the categories into which loans should be classified (for example, reduced documentation, owner occupied purchase money loans on single-family residences), sort the loans into those categories and examine the distributions of loan characteristics within those categories. A useful byproduct of this exercise is the identification of outliers – loans that differ from comparable loans in one or more respects in ways that the RMBS investor believes may indicate enhanced risk. This provides information similar to what would be shown by an identification of loans for which one or more exceptions were made from the numeric criteria. That information derived from the RMBS investor's own examination, however, also provides a compelling additional benefit: it reflects the RMBS investor's judgment of the significance to be attached to loans that march to the beat of a different drummer than those in the RMBS investor's selected category.

Conclusion

In one of the pools examined in this paper, Pool A, the weighted average interest rate

[15] The underwriting guidelines used in this paper were published twice each month.

on the mortgage loans was approximately 1.93%, which reflected the recent origination of mortgage loans , which were still in the low, fixed-rate period. That was less than the weighted margin on the mortgage loans in the pool, approximately 3.03%. Yet, the AAA subordination level was 12%, six times greater than the current risk premium on the pool and four times greater than the risk premium after the completion of the fixed rate period.

A belief that the loans as a whole had an adequate risk premium to assure payment on RMBS representing 88% is an implicit belief that losses on the $1,626,681,009 pool will be limited to $31,394,943 during the fixed rate period and $49,288,434 over the life of the pool. Considering that credit enhancement for that 88% was $144,958,044, the RMBS investor must wonder why the credit agencies insisted on an amount so much greater than the risk premium and why the sponsor accepted that amount if each shared with the RMBS investor the belief in the adequacy of the interest rates borne by the mortgage loans. Reflection will lead the reasonable RMBS investor to conclude that risk reasonable for a lender to assume and manage is not necessarily the same risk that is appropriate for a passive investor. Hence, the difference between the risk premium and credit support represents a margin of assumed safety. Indeed, that is the very reason that the RMBS investor seeks to own mortgage loans in securitized form, rather than as whole loans.

In light of the large difference, 8.97%, between credit support levels and the default rates implicit in the margins on the mortgage loans, a reasonable RMBS investor would not consider the omission to specify the difference, 0.33% (in the example used from Pool A), of the mortgage loans representing exceptions from numeric underwriting criteria without apparent compensating factors as significant in the investment decision.

Appendix A: Pool Data

Pool A

Pool A was issued in April 2007 and consisted of adjustable rate loans originated in 2007, except for nine loans originated in 2006.

Table 1: Pool A Summary

Pool A as a whole	
Count:	3,178
Principal balance:	$1,626,681,009
Weighted average FICO:	715
Weighted average target FICO:	636
Weighted average LTV:	72.59%
Weighted average DTI:	33%
Weighted average margin:	3.03%
Loans with one or more exceptions	
Count:	92
As a percentage of pool count:	2.89%
Principal balance:	$35,662,724
As a percentage of pool balance:	2.19%
Weighted average FICO:	651
Weighted average target FICO:	669
Weighted average LTV:	66.81%
Weighted average DTI:	27%
Weighted average margin:	3.62%
Loans with no exceptions	
Count:	3,086
As a percentage of pool count:	97.11%
Principal balance:	$1,591,018,285
As a percentage of pool balance:	97.81%
Weighted average FICO:	716
Weighted average target FICO:	635
Weighted average LTV:	72.72%
Weighted average DTI:	33
Weighted average margin:	3.02%

Product terms used
FICO: credit score used for underwriting
target FICO: minimum FICO score required for a manually underwritten mortgage loan of the same maximum loan balance, purpose and documentation, property and owner ocupancy types
LTV: loan-to-value ratio based on the loan amount and the valuation used

DTI: back-end debt-to-income ratio

The loans with one or more apparent exceptions to the underwriting criteria represent approximately 2.89% of the loans in the pool, 2.19% on the basis of original principal balances. As a group, the exception loans on a weighted basis fall approximately 18 points short of their applicable minimum FICO scores, 651 compared to 659. However, as a group, the weighted average LTV is better than the pool as a whole, 66.81% compared to 72.59%, and the margin[16] is substantially better, 3.62% compared to 3.03%. The DTI ratio is substantially more favorable than the pool as a whole, 27% compared to 33%.

Looking at the pool without the loans with possible exceptions, the differences from the pool as a whole are small. The weighted average FICO is a point higher, the weighted LTV higher (less favorable) by 0.13%, 72.72% compared to 72.59% and the margin is slightly lower, 3.02%, compared to 3.03%. There is no difference in the weighted DTI. The presence of the loans with possible underwriting exception has very little effect on the pool's overall characteristics.

The related securitizations each consist of three groups of certificates, referred to as "Senior Certificates," "Senior Subordinate Certificates," and "Junior Subordinate Certificates." Losses are allocated first to the Junior Subordinate Certificates, then to the Senior Subordinate Certificates and then to the Senior Certificates. In a securitization structure like this one, in which credit support is provided by subordination, the aggregate balance of the more subordinate certificates is referred to as a "subordination level." In this transaction, the subordination level for the Senior Certificates was 12%. The subordination level for the Senior Subordinate Certificates was 1.60%.

Table 2: Pool A Detail

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
1059926	9	70,700	70.00%	*	-3	-0.57
1057770	9	440,000	80.00%	*	-3	0.88
1057955	5	67,900	70.00%	35%	-20	0.00
1058058	10	75,750	75.00%	*	-40	1.43
1058083	10	65,250	75.00%	27%	-40	1.43
1059561	21	1,388,750	55.00%	28%	-20	-0.10
1058603	26	178,500	70.00%	34%	-54	0.92
1058653	26	82,500	75.00%	34%	-20	1.01
1058661	26	60,750	75.00%	31%	-7	1.06
1058663	26	63,750	75.00%	31%	-7	1.06
1058664	26	67,500	75.00%	31%	-7	1.06
1058665	26	51,000	75.00%	31%	-7	1.06
1058671	26	403,200	80.00%	12%	-1	1.49
1058733	25	89,600	80.00%	40%	-36	1.12
1058735	26	142,500	75.00%	37%	-15	1.49
1058737	26	56,250	75.00%	32%	-20	1.11

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[16]The margin is the rate of interest on an adjustable rate mortgage added to the applicable index to produce the rate of interest on the mortgage note.

1058768	26	341,250	65.00%	30%	-24	0.16
1058782	25	559,300	70.00%	29%	-17	-0.11
1058786	25	764,000	80.00%	12%	-15	1.38
1058791	26	350,000	70.00%	33%	-9	0.66
1060397	25	350,000	70.00%	*	-15	-0.31
0833940	25	170,100	87.68%	29%	-5	0.89
0939870	22	672,000	80.00%	33%	-15	1.05
1060424	22	1,181,250	75.00%	*	-17	0.52
1060440	26	357,500	65.00%	*	-17	0.39
1057324	26	255,000	85.00%	33%	-1	1.01
1057328	26	224,000	80.00%	41%	-27	1.74
1057330	19	260,000	80.00%	37%	-6	0.76
1060007	24	1,495,000	65.00%	19%	-6	0.41
1058842	20	2,300,000	61.70%	18%	-24	-0.45
1060138	22	760,000	80.00%	*	-19	1.05
1058888	26	165,000	47.83%	38%	-18	0.56
1058900	26	180,000	38.30%	32%	-8	0.16
1060195	22	705,000	70.50%	*	-18	1.02
1060269	26	94,500	67.64%	31%	-12	0.46
1060284	19	114,730	70.00%	51%	-25	-0.00
1060455	21	1,200,000	63.16%	*	-3	0.20
1059360	26	259,000	70.00%	32%	-27	0.24
1059367	26	521,500	70.00%	53%	-7	0.06
1059951	24	415,000	39.52%	43%	-9	0.11
1058935	26	317,000	45.29%	28%	-8	0.16
1058970	26	300,000	46.15%	21%	-55	0.15
1059004	26	300,000	64.52%	51%	-13	-0.04
1059009	20	580,000	80.00%	6%	-19	0.90
1059048	26	469,000	70.00%	41%	-20	-0.29
1059113	26	49,000	70.00%	42%	-12	0.39
1059123	26	333,000	57.41%	5%	-5	0.40
1057411	20	625,000	64.10%	36%	-74	-0.15
1057418	25	425,600	80.00%	50%	-27	1.29
1057421	26	525,000	63.25%	39%	-20	0.51
1057462	26	335,000	69.94%	*	-5	0.27
1059183	22	1,040,000	65.00%	15%	-15	0.40
1057523	20	620,000	56.36%	38%	-23	-0.25
1057540	26	575,000	63.89%	46%	-12	-0.04
1057630	19	108,800	80.00%	60%	-5	0.52
1057632	22	660,000	80.00%	44%	-11	0.57
1057633	26	52,500	75.00%	10%	-36	1.49
1057638	26	392,000	70.00%	55%	-26	0.24
1057672	26	72,000	75.00%	10%	-36	1.39
1059468	20	630,000	64.62%	39%	-81	-0.20
1057726	26	228,000	75.00%	33%	-50	1.86

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1057735	25	500,000	80.00%	41%	-4	1.52
1057846	26	172,500	75.00%	17%	-2	1.49
1057865	26	161,250	75.00%	49%	-5	1.16
1057885	26	107,000	66.05%	23%	-34	0.86
1057892	26	280,000	80.00%	49%	-6	1.01
1057894	25	159,200	80.00%	38%	-10	1.22
1057902	26	280,000	80.00%	32%	-6	0.99
1057959	25	225,000	73.53%	45%	-10	1.07
1057973	26	386,250	75.00%	49%	-5	0.81
1057976	26	80,500	70.00%	39%	-56	0.04
1057994	22	2,065,000	25.81%	39%	-10	0.42
1058034	26	133,000	70.00%	49%	-11	0.26
1058035	26	160,000	63.24%	44%	-30	0.51
1058094	25	198,000	79.52%	39%	-7	1.22
1058120	22	890,000	68.46%	42%	-15	0.77
1058142	26	412,500	75.00%	47%	-38	1.21
1058211	25	247,500	75.00%	43%	-35	1.47
1058247	25	235,192	80.00%	*	-5	1.42
1058248	25	240,792	80.00%	*	-5	0.42
1058251	26	112,500	75.00%	37%	-38	0.64
1058255	26	176,000	80.00%	26%	-24	1.81
1058258	26	416,000	80.00%	35%	-20	0.96
1058311	26	196,860	80.00%	*	-14	1.76
1058328	19	340,000	80.00%	41%	-33	1.72
1058345	22	825,000	75.00%	36%	-7	0.45
1058441	26	417,000	66.72%	46%	-19	0.39
1058485	19	31,500	90.00%	32%	-1	1.05
1058496	26	252,000	70.00%	37%	-3	-0.09
1058504	26	107,250	65.00%	38%	-16	0.06
1059319	26	120,000	50.85%	48%	-14	0.34
1059334	26	100,000	61.73%	48%	-22	-0.29

** missing data*

Additional product terms used

5: Texas full doc non-owner occupied cash out
9: Texas reduced doc non-owner occupied purchase or non cash out
10: Texas reduced doc non-owner occupied cash-out loans
19: non-Texas full doc non-owner occupied purchase or non cash out
20: non-Texas full doc non-owner occupied cash out
21: non-Texas reduced doc owner occupied cash out
22: non-Texas reduced doc owner occupied purchase or non cash out
24: non-Texas reduced doc second home cash out
25: non-Texas reduced doc non-owner occupied purchase or non cash out
26: non-Texas reduced doc non-owner occupied cash out

Table 3: Pool A Pool Exceptions with Compensating LTV

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
1059926	9	70,700	70.00%	0.00%	-3	-0.57
1059561	21	1,388,750	55.00%	28.00%	-20	-0.10
1060007	24	1,495,000	65.00%	19.00%	-6	0.41
1058842	20	2,300,000	61.70%	18.00%	-24	-0.45
1058888	26	165,000	47.83%	38.00%	-18	0.56
1058900	26	180,000	38.30%	32.00%	-8	0.16
1060455	21	1,200,000	63.16%	0.00%	-3	0.20
1059951	24	415,000	39.52%	43.00%	-9	0.11
1058935	26	317,000	45.29%	28.00%	-8	0.16
1058970	26	300,000	46.15%	21.00%	-55	0.15
1059123	26	333,000	57.41%	5.00%	-5	0.40
1059183	22	1,040,000	65.00%	15.00%	-15	0.40
1057523	20	620,000	56.36%	38.00%	-23	-0.25
1057994	22	2,065,000	25.81%	39.00%	-10	0.42
1058120	22	890,000	68.46%	42.00%	-15	0.77
1059319	26	120,000	50.85%	48.00%	-14	0.34
1059334	26	100,000	61.73%	48.00%	-22	-0.29

Balance: $15,155,994
Percentage of Pool Balance: 0.93%

Table 4: Pool A Pool Exceptions with Compensating DTI

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
1059561	21	1,388,750	55.00%	28.00%	-20	-0.10
1058671	26	403,200	80.00%	12.00%	-1	1.49
1058786	25	764,000	80.00%	12.00%	-15	1.38
1060007	24	1,495,000	65.00%	19.00%	-6	0.41
1058842	20	2,300,000	61.70%	18.00%	-24	-0.45
1058970	26	300,000	46.15%	21.00%	-55	0.15
1059009	20	580,000	80.00%	6.00%	-19	0.90
1059123	26	333,000	57.41%	5.00%	-5	0.40
1059183	22	1,040,000	65.00%	15.00%	-15	0.40
1057633	26	52,500	75.00%	10.00%	-36	1.49
1057672	26	72,000	75.00%	10.00%	-36	1.39
1057846	26	172,500	75.00%	17.00%	-2	1.49
1057885	26	107,000	66.05%	23.00%	-34	0.86

Balance: $9,007,950
Percentage of Pool Balance: 0.55%

Margins are higher (more favorable) by 0.25% or more for 66 mortgage loans.

Table 5: Pool A Pool Exceptions with Compensating Margin

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
1057770	9	440,000	80.00%	*	-3	0.88
1058058	10	75,750	75.00%	*	-40	1.43
1058083	10	65,250	75.00%	27.00%	-40	1.43
1058603	26	178,500	70.00%	34.00%	-54	0.92
1058653	26	82,500	75.00%	34.00%	-20	1.01
1058661	26	60,750	75.00%	31.00%	-7	1.06
1058663	26	63,750	75.00%	31.00%	-7	1.06
1058664	26	67,500	75.00%	31.00%	-7	1.06
1058665	26	51,000	75.00%	31.00%	-7	1.06
1058671	26	403,200	80.00%	12.00%	-1	1.49
1058733	25	89,600	80.00%	40.00%	-36	1.12
1058735	26	142,500	75.00%	37.00%	-15	1.49
1058737	26	56,250	75.00%	32.00%	-20	1.11
1058786	25	764,000	80.00%	12.00%	-15	1.38
1058791	26	350,000	70.00%	33.00%	-9	0.66
0833940	25	170,100	87.68%	29.00%	-5	0.89
0939870	22	672,000	80.00%	33.00%	-15	1.05
1060424	22	1,181,250	75.00%	*	-17	0.52
1060440	26	357,500	65.00%	*	-17	0.39
1057324	26	255,000	85.00%	33.00%	-1	1.01
1057328	26	224,000	80.00%	41.00%	-27	1.74
1057330	19	260,000	80.00%	37.00%	-6	0.76
1060007	24	1,495,000	65.00%	19.00%	-6	0.41
1060138	22	760,000	80.00%	*	-19	1.05
1058888	26	165,000	47.83%	38.00%	-18	0.56
1060195	22	705,000	70.50%	*	-18	1.02
1060269	26	94,500	67.64%	31.00%	-12	0.46
1059009	20	580,000	80.00%	6.00%	-19	0.90
1059113	26	49,000	70.00%	42.00%	-12	0.39
1059123	26	333,000	57.41%	5.00%	-5	0.40
1057418	25	425,600	80.00%	50.00%	-27	1.29
1057421	26	525,000	63.25%	39.00%	-20	0.51
1057462	26	335,000	69.94%	*	-5	0.27
1059183	22	1,040,000	65.00%	15.00%	-15	0.40
1057630	19	108,800	80.00%	60.00%	-5	0.52
1057632	22	660,000	80.00%	44.00%	-11	0.57
1057633	26	52,500	75.00%	10.00%	-36	1.49
1057672	26	72,000	75.00%	10.00%	-36	1.39
1057726	26	228,000	75.00%	33.00%	-50	1.86
1057735	25	500,000	80.00%	41.00%	-4	1.52
1057846	26	172,500	75.00%	17.00%	-2	1.49
1057865	26	161,250	75.00%	49.00%	-5	1.16

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1057885	26	107,000	66.05%	23.00%	-34	0.86
1057892	26	280,000	80.00%	49.00%	-6	1.01
1057894	25	159,200	80.00%	38.00%	-10	1.22
1057902	26	280,000	80.00%	32.00%	-6	0.99
1057959	25	225,000	73.53%	45.00%	-10	1.07
1057973	26	386,250	75.00%	49.00%	-5	0.81
1057994	22	2,065,000	25.81%	39.00%	-10	0.42
1058034	26	133,000	70.00%	49.00%	-11	0.26
1058035	26	160,000	63.24%	44.00%	-30	0.51
1058094	25	198,000	79.52%	39.00%	-7	1.22
1058120	22	890,000	68.46%	42.00%	-15	0.77
1058142	26	412,500	75.00%	47.00%	-38	1.21
1058211	25	247,500	75.00%	43.00%	-35	1.47
1058247	25	235,192	80.00%	*	-5	1.42
1058248	25	240,792	80.00%	*	-5	0.42
1058251	26	112,500	75.00%	37.00%	-38	0.64
1058255	26	176,000	80.00%	26.00%	-24	1.81
1058258	26	416,000	80.00%	35.00%	-20	0.96
1058311	26	196,860	80.00%	*	-14	1.76
1058328	19	340,000	80.00%	41.00%	-33	1.72
1058345	22	825,000	75.00%	36.00%	-7	0.45
1058441	26	417,000	66.72%	46.00%	-19	0.39
1058485	19	31,500	90.00%	32.00%	-1	1.05
1059319	26	120,000	50.85%	48.00%	-14	0.34

Balance: $23,126,844
Percentage of Pool Balance: 1.42%

Table 6: Pool A Pool Exceptions with No Apparent Compensating Factors

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
1057955	5	67,900	70.00%	35.00%	-20	0.00
1058768	26	341,250	65.00%	30.00%	-24	0.16
1058782	25	559,300	70.00%	29.00%	-17	-0.11
1060397	25	350,000	70.00%	*	-15	-0.31
1060284	19	114,730	70.00%	51.00%	-25	-0.00
1059360	26	259,000	70.00%	32.00%	-27	0.24
1059367	26	521,500	70.00%	53.00%	-7	0.06
1059004	26	300,000	64.52%	51.00%	-13	-0.04
1059048	26	469,000	70.00%	41.00%	-20	-0.29
1057411	20	625,000	64.10%	36.00%	-74	-0.15
1057540	26	575,000	63.89%	46.00%	-12	-0.04
1057638	26	392,000	70.00%	55.00%	-26	0.24
1059468	20	630,000	64.62%	39.00%	-81	-0.20
1057976	26	80,500	70.00%	39.00%	-56	0.04

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1058496	26	252,000	70.00%	37.00%	-3	-0.09
1058504	26	107,250	65.00%	38.00%	-16	0.06

Balance: $5,644,430
Percentage of Pool Balance: 0.35%

As shown on the table immediately above, the 92 loans representing exceptions from the numeric underwriting criteria on the basis that their FICO scores were less than the minimum had compensating factors that were apparent from the loan tape data disclosed, except for the 16 loans representing 0.35% of the principal balance of Pool A.

Pool B

Pool B was issued in June 2007 and consisted of adjustable rate loans originated in 2007, except for 389 loans originated in 2006. The Pool B loans were originated by correspondent lenders.

Table 7: Pool B Summary

Pool B as a whole	
Count:	1,534
Principal balance:	$586,093,156
Weighted average FICO:	712
Weighted average target FICO:	627
Weighted average LTV:	74.69%
Weighted average DTI:	33%
Weighted average margin:	3.34%
Loans with one or more exceptions	
Count:	37
As a percentage of pool count:	2.41%
Principal balance:	$12,247,100
As a percentage of pool balance:	2.09%
Weighted average FICO:	659
Weighted average target FICO:	673
Weighted average LTV:	73.48%
Weighted average DTI:	38%
Weighted average margin:	3.74%
Loans with no exceptions	
Count:	1,497
As a percentage of pool count:	97.59%
Principal balance:	$573,846,056
As a percentage of pool balance:	97.91%

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Weighted average FICO:	713
Weighted average target FICO:	626
Weighted average LTV:	74.71%
Weighted average DTI:	33%
Weighted average margin:	3.33%

The loans with one or more apparent exceptions to the underwriting criteria represent approximately 2.41% of the loans in the pool, 2.09% on the basis of original principal balances. As a group, these loans on a weighted basis fall approximately 14 points short of their applicable minimum FICO scores, 659 compared to 673. However, as a group, the weighted average LTV is slightly better than the pool as a whole, 73.48% compared to 74.69%, and the margin is substantially better, 3.74% compared to 3.34%. The DTI ratio is substantially less favorable than the pool as a whole, 38% compared to 27%.

Looking at the pool without the loans with possible exceptions, the differences from the pool as a whole are small. The weighted average FICO is a point higher, the weighted LTV slightly higher (less favorable) by 0.02%, 74.71% compared to 74.69% and the margin is slightly lower, 3.33%, compared to 3.34%. There is no difference in the weighted DTI.

In this transaction, the subordination level for the Senior Certificates was 10.1%. The subordination level for the Senior Subordinate Certificates was 1.9%.

Table 8: Pool B Detail

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
5929782	26	333,500	69.92%	34.62%	-12	-0.23
5760801	20	183,000	89.27%	54.68%	-25	0.93
5906241	26	180,950	70.00%	37.00%	-16	0.22
5883257	26	546,000	70.00%	50.00%	-9	-0.28
5726411	25	432,000	80.00%	42.20%	-8	1.10
5726412	26	440,000	80.00%	42.20%	-28	1.12
5726413	26	464,000	80.00%	42.50%	-28	1.12
5726420	26	436,000	80.00%	42.20%	-28	1.12
5947313	26	415,000	58.45%	45.70%	-4	0.10
5947317	26	450,000	75.00%	38.64%	-10	0.35
5952308	20	591,000	62.21%	44.69%	-31	0.98
5929847	26	206,250	75.00%	35.01%	-1	0.02
5929851	26	210,000	75.00%	34.14%	-1	0.02
5930013	26	310,800	80.00%	33.46%	-20	0.27
5930016	25	322,000	70.00%	22.81%	-1	0.25
5954601	26	264,300	75.00%	30.10%	-18	-0.28
5954619	25	487,000	76.09%	48.40%	-10	0.05
5930049	26	520,000	61.90%	28.10%	-40	0.52
5959759	26	203,300	60.69%	16.86%	-8	-0.03
5844042	26	147,000	70.00%	34.30%	-5	-0.83
5844043	26	147,000	70.00%	34.30%	-5	-0.83
5959814	26	228,000	75.00%	43.42%	-9	0.10

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5964380	26	389,000	79.39%	49.54%	-27	0.27
5906698	25	246,500	78.25%	*	-18	0.25
5964400	21	1,301,250	75.00%	47.90%	-5	0.45
5964421	25	320,000	80.00%	49.46%	-18	0.25
5895202	26	228,750	75.00%	35.75%	-5	-0.08
5929844	26	202,500	75.00%	34.14%	-1	0.02
5788801	26	217,500	75.00%	37.87%	-9	-0.03
5971593	26	321,000	75.00%	28.37%	-13	0.05
5906721	25	244,000	80.00%	*	-3	0.25
5929977	24	153,750	75.00%	37.88%	-5	0.45
6006671	24	215,000	49.83%	23.14%	-2	-0.10
5906255	26	189,000	70.00%	45.34%	-16	-0.03
5929990	26	212,250	75.00%	34.44%	-14	0.27
5929991	26	217,500	75.00%	34.44%	-14	0.27
5929876	26	272,000	80.00%	12.78%	-9	0.02

** missing data*

Table 9: Pool B Pool Exceptions with Compensating LTV

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
5947313	26	415,000	58.45%	45.70%	-4	0.10
5952308	20	591,000	62.21%	44.69%	-31	0.98
5930016	25	322,000	70.00%	22.81%	-1	0.25
5930049	26	520,000	61.90%	28.10%	-40	0.52
5959759	26	203,300	60.69%	16.86%	-8	-0.03
6006671	24	215,000	49.83%	23.14%	-2	-0.10

Balance: $2,343,800
Percentage of Pool Balance: 0.40%

Table 10: Pool B Pool Exceptions with Compensating DTI

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
5930016	25	322,000	70.00%	22.81%	-1	0.25
5930049	26	520,000	61.90%	28.10%	-40	0.52
5959759	26	203,300	60.69%	16.86%	-8	-0.03
5906698	25	246,500	78.25%	*	-18	0.25
5971593	26	321,000	75.00%	28.37%	-13	0.05
5906721	25	244,000	80.00%	*	-3	0.25
6006671	24	215,000	49.83%	23.14%	-2	-0.10
5929876	26	272,000	80.00%	12.78%	-9	0.02

Balance: $6,100,550
Percentage of Pool Balance: 1.04%

Table 11: Pool B Pool Exceptions with Compensating Margin

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
5760801	20	183,000	89.27%	54.68%	-25	0.93
5726411	25	432,000	80.00%	42.20%	-8	1.10
5726412	26	440,000	80.00%	42.20%	-28	1.12
5726413	26	464,000	80.00%	42.50%	-28	1.12
5726420	26	436,000	80.00%	42.20%	-28	1.12
5947317	26	450,000	75.00%	38.64%	-10	0.35
5952308	20	591,000	62.21%	44.69%	-31	0.98
5930013	26	310,800	80.00%	33.46%	-20	0.27
5930049	26	520,000	61.90%	28.10%	-40	0.52
5964380	26	389,000	79.39%	49.54%	-27	0.27
5964400	21	1,301,250	75.00%	47.90%	-5	0.45
5929977	24	153,750	75.00%	37.88%	-5	0.45
5929990	26	212,250	75.00%	34.44%	-14	0.27
5929991	26	217,500	75.00%	34.44%	-14	0.27

Balance: $6,100,550
Percentage of Pool Balance: 1.04%

Table 12: Pool B Pool Exceptions with No Apparent Compensating Factors

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
5929782	26	333,500	69.92%	34.62%	-12	-0.23
5906241	26	180,950	70.00%	37.00%	-16	0.22
5883257	26	546,000	70.00%	50.00%	-9	-0.28
5929847	26	206,250	75.00%	35.01%	-1	0.02
5929851	26	210,000	75.00%	34.14%	-1	0.02
5954601	26	264,300	75.00%	30.10%	-18	-0.28
5954619	25	487,000	76.09%	48.40%	-10	0.05
5844042	26	147,000	70.00%	34.30%	-5	-0.83
5844043	26	147,000	70.00%	34.30%	-5	-0.83
5959814	26	228,000	75.00%	43.42%	-9	0.10
5964421	25	320,000	80.00%	49.46%	-18	0.25
5895202	26	228,750	75.00%	35.75%	-5	-0.08
5929844	26	202,500	75.00%	34.14%	-1	0.02
5788801	26	217,500	75.00%	37.87%	-9	-0.03
5906255	26	189,000	70.00%	45.34%	-16	-0.03

Balance: $3,907,750
Percentage of Pool Balance: 0.67%

As shown on the table immediately above, the 37 loans representing exceptions from the numeric underwriting criteria on the basis that their FICO scores were less than the minimum had compensating factors that were apparent from the loan tape data disclosed, except for the 15 loans representing 0.67% of the principal balance of Pool B.

Pool C

Pool C was issued in June 2007 and consisted of adjustable rate loans originated in 2007, except for two loans originated in 2006 and one loan originated in 2004.

Table 13: Pool C Summary

Pool C as a whole	
Count:	2,435
Principal balance:	$1,448,865,045
Weighted average FICO:	715
Weighted average target FICO:	634
Weighted average LTV:	73.19%
Weighted average DTI:	40
Weighted average margin:	3.06%
Loans with one or more exceptions	
Count:	37
As a percentage of pool count:	1.52%
Principal balance:	$19,377,100
As a percentage of pool balance:	1.34%
Weighted average FICO:	640
Weighted average target FICO:	656
Weighted average LTV:	59.79%
Weighted average DTI:	36
Weighted average margin:	3.33%
Loans with no exceptions	
Count:	2,398
As a percentage of pool count:	98.48%
Principal balance:	$1,429,487,945
As a percentage of pool balance:	98.66%
Weighted average FICO:	716
Weighted average target FICO:	634
Weighted average LTV:	73.37%
Weighted average DTI:	40
Weighted average margin:	3.06%

The loans with one or more apparent exceptions to the underwriting criteria represent approximately 1.52% of the loans in the pool, 1.34% on the basis of original principal balances. As a group, these loans on a weighted basis fall approximately 16 points short of their applicable minimum FICO scores, 640 compared to 656. However, as a group, the weighted average LTV is substantially better than the pool as a whole, 59.79% compared to 73.19%, and the margin is substantially better, 3.33% compared to 3.06%. The DTI ratio, is substantially less favorable than the pool as a whole, 36% compared to 40%.

Looking at the pool without the loans with possible exceptions, the differences from the pool as a whole are small. The weighted average FICO is a point higher, and the weighted LTV slightly higher (less favorable) by 0.18%, 73.37% compared to 73.19%. There is no difference in the weighted DTI or margin.

In this transaction, the subordination level for the Senior Certificates was 10%. The subordination level for the Senior Subordinate Certificates was 2%.

Table 14: Pool C Detail

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
205361	24	207200	80.00%	31%	-13	0.63
205557	26	417000	50.61%	40%	-3	0.26
205575	25	277900	69.48%	29%	-16	-0.44
205624	22	660000	66.00%	34%	-13	0.02
205690	26	250000	64.10%	40%	-11	-0.06
205703	21	1680000	60.00%	39%	-12	-0.06
205716	26	161000	70.00%	10%	-24	0.24
205801	26	164500	70.00%	48%	-8	0.14
205849	26	245000	66.94%	38%	-15	-0.36
206008	22	1000000	57.97%	36%	-20	0.32
206155	23	1350000	75.00%	42%	-9	0.26
206224	22	665250	64.90%	41%	-11	0.17
206244	26	500000	40.00%	30%	-10	0.64
206261	26	400000	53.33%	10%	-8	-0.01
206301	24	210000	71.19%	35%	-5	0.85
206398	26	225000	50.00%	41%	-47	0.49
206417	26	417000	62.24%	16%	-34	0.14
206444	26	273000	65.00%	43%	-60	0.67
206447	26	175000	50.00%	41%	-47	0.49
206474	19	91000	70.00%	47%	-34	-0.12
206480	21	2450000	42.61%	39%	-4	0.14
206481	25	160000	49.69%	54%	-12	0.06
206488	25	255000	51.00%	54%	-12	0.06
206658	26	1820000	67.41%	25%	-34	0.81
206849	24	1082000	56.06%	28%	-20	0.20
206873	26	211000	29.10%	51%	-36	0.64
206975	25	476000	70.00%	46%	-5	-0.18
207028	26	259000	70.00%	34%	-11	0.34
207123	26	260000	41.94%	50%	-5	0.10

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207146	26	305000	58.10%	48%	-20	0.01
204708	25	254000	69.98%	51%	-9	0.13
204745	25	107000	64.85%	35%	-40	0.18
204818	16	405000	90.00%	36%	-5	0.49
204852	25	500000	41.67%	30%	-14	0.26
205059	20	87750	65.00%	48%	-18	0.54
205079	21	1030000	64.38%	44%	-8	-0.01
205239	26	346500	70.00%	31%	-31	0.56

Additional product term used
23: non-Texas reduced doc second home purchase or non cash out

Table 15: Pool C Pool Exceptions with Compensating LTV

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
205557	26	417000	50.61%	40%	-3	0.26
205624	22	660000	66.00%	34%	-13	0.02
205703	21	1680000	60.00%	39%	-12	-0.06
206008	22	1000000	57.97%	36%	-20	0.32
206224	22	665250	64.90%	41%	-11	0.17
206244	26	500000	40.00%	30%	-10	0.64
206261	26	400000	53.33%	10%	-8	-0.01
206398	26	225000	50.00%	41%	-47	0.49
206447	26	175000	50.00%	41%	-47	0.49
206474	19	91000	70.00%	47%	-34	-0.12
206480	21	2450000	42.61%	39%	-4	0.14
206481	25	160000	49.69%	54%	-12	0.06
206488	25	255000	51.00%	54%	-12	0.06
206849	24	1082000	56.06%	28%	-20	0.20
206873	26	211000	29.10%	51%	-36	0.64
207123	26	260000	41.94%	50%	-5	0.10
207146	26	305000	58.10%	48%	-20	0.01
204745	25	107000	64.85%	35%	-40	0.18
204852	25	500000	41.67%	30%	-14	0.26
205079	21	1030000	64.38%	44%	-8	-0.01

Balance: $12,173,250
Percentage of Pool Balance: 0.84%

Table 16: Pool C Pool Exceptions with Compensating DTI

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
205361	24	207200	80.00%	31%	-13	0.63
205575	25	277900	69.48%	29%	-16	-0.44

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205624	22	660000	66.00%	34%	-13	0.02
205716	26	161000	70.00%	10%	-24	0.24
206261	26	400000	53.33%	10%	-8	-0.01
206417	26	417000	62.24%	16%	-34	0.14
206658	26	1820000	67.41%	25%	-34	0.81
206849	24	1082000	56.06%	28%	-20	0.20
204818	16	405000	90.00%	36%	-5	0.49
204852	25	500000	41.67%	30%	-14	0.26

Balance: $5,930,100
Percentage of Pool Balance: 0.41%

Table 17: Pool C Pool Exceptions with Compensating Margin

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
205361	24	207200	80.00%	31%	-13	0.63
205557	26	417000	50.61%	40%	-3	0.26
206008	22	1000000	57.97%	36%	-20	0.32
206155	23	1350000	75.00%	42%	-9	0.26
206244	26	500000	40.00%	30%	-10	0.64
206301	24	210000	71.19%	35%	-5	0.85
206398	26	225000	50.00%	41%	-47	0.49
206444	26	273000	65.00%	43%	-60	0.67
206447	26	175000	50.00%	41%	-47	0.49
206658	26	1820000	67.41%	25%	-34	0.81
206873	26	211000	29.10%	51%	-36	0.64
207028	26	259000	70.00%	34%	-11	0.34
204818	16	405000	90.00%	36%	-5	0.49
204852	25	500000	41.67%	30%	-14	0.26
205059	20	87750	65.00%	48%	-18	0.54
205239	26	346500	70.00%	31%	-31	0.56

Balance: $7,986,450
Percentage of Pool Balance: 0.55%

Table 18: Pool C Pool Exceptions with No Apparent Compensating Factors

ID	Program	Balance	LTV	DTI	FICO Δ	Margin Δ
205690	26	250000	64.10%	40%	-11	-0.06
205801	26	164500	70.00%	48%	-8	0.14
205849	26	245000	66.94%	38%	-15	-0.36
206975	25	476000	70.00%	46%	-5	-0.18
204708	25	254000	69.98%	51%	-9	0.13

Balance: $1,389,500
Percentage of Pool Balance: 0.10%

As shown on the table immediately above, the 5 loans representing exceptions from the numeric underwriting criteria on the basis that their FICO scores were less than the minimum had compensating factors that were apparent from the loan tape data disclosed, except for the 15 loans representing 0.10% of the principal balance of Pool C

Appendix B: Pool Analysis

Introduction

This appendix considers how a reasonable RMBS investor might analyze Pool A in coming to an investment decision. As reasonable minds may differ, there is no single way to analyze a pool, and actual practices among RMBS investors likely differed from this analysis and varied among RMBS investors. In the absence of a universal turnkey system for evaluation of mortgage loan pools, considerable judgment is required to select the relevant data and examine it in ways helpful to reaching a conclusion.

This raises an embarrassment: the legal fiction of the reasonable RMBS institutional investor[17] is difficult to sustain in a narrative describing the sometimes messy and *ad hoc* approach to decision making that actually occurs in institutions that necessarily act through human agents. The appendix will meet that awkwardness with a personification of an RMBS investor analyst named, for this purpose, Matthew.

Matthew is imagined as a bright, ambitious young man originally intended by his family for a career in the law who pursued a liberal arts degree in history at a good school as preparation. He found law school uncongenial, however, and eventually found employment in the treasury department of an RMBS investor called "FUNDCO," where he worked for a veteran data analyst named Barbara for a few months until she left to take care of her elderly parents across the country. This left Matthew reporting to Samantha, an extremely conscientious and hardworking executive far too busy to give direction.

Matthew sits in the corner of the trading desk, amidst the clamor of the traders, by the side of a few admins, who were the only other people in the room not glued to a bank of monitors and a telephone in each hand. The head trader, Danny, is a man in his early 30s who shouts a lot and seems to be completely up to the minute on what absolutely everyone in the market is thinking about anything. Danny hasn't yet lost his adolescent craving for the big score but is beginning to show intimations of mortality through a growing susceptibility to superstitions. The house quant, a studious looking man in his late 20s, comes off as if he should actually be wearing a lab coat. He speaks in an impenetrable language of composed of γ, σ, ζ, and $\bigtriangledown$, interspersed with English phrases such as "negative convexity" that Matthew doesn't quite understand.

Matthew has been allowed to attend meetings of FUNDCO's Asset Liability Committee, ALCO, as an onlooker, and he's been given a copy of the ALCO Manual. This he finds to be a frustrating mix of platitudes ("and otherwise prudent instruments") and insanely detailed proscriptions ("but in no event any swaption that would be classified as an embedded derivative for purposes of forward marks under the latest revisions to Section 3.11(a), except as approved by an officer with C Level authority").

[17] Like vampires among teenagers, belief in their existence is much more widespread than claims to have actually encountered one in real life.

Danny has just emailed Matthew the disclosure package for Pool A with the command to report back whether it's all good. Matthew is thinking about what to do.

What's in the Package

Matthew finds attachments labelled "FWPs," "Tape" and "arb runs." The first is a detailed description of the cash flows in the deal, together with 200 pages of text that seems to discuss mortgage backed securities in general, with a lot of legalese. The tape he recognizes. Most of what he did until Barbara left was to bludgeon the contents of similar tables of mortgage loan level detail into usable form so that she could analyze the pool information. The arb runs consist of reams of tables and charts that appear to describe what will happen to cash flows under various interest rate scenarios. He decides to take these and the cash flow description to the house quant.

"Don't worry about those," he's told. "It's all based on my model that Danny gave the underwriters when they were putting the deal together." Matthew's relieved, because there's enough to look out without having to try to figure out the meaning of passages like:

> The "Group 1 Senior Percentage" for any Distribution Date will equal the lesser of (i) 100% and (ii) the sum of the aggregate Class Principal Balance of the Class 1A, Class 1A-1B, Class 1X-PPP and Class R Certificates and the aggregate Component Principal Balance of the Class CA-1B Group 1 and Class CA-1C Group 1 Components divided by the Stated Principal Balance of the mortgage loans in loan group 1, in each case immediately before that Distribution Date. The "Group 1 Subordinate Percentage" for any Distribution Date will equal the excess of 100% over the Group 1 Senior Percentage for that date. The Group 1 Senior Percentage and the Group 1 Subordinate Percentage as of the Closing Date will be approximately 88.00% and 12.00%, respectively.

This leaves the legal disclosure, which Matthew finishes reading just as the building lights go out.

Introspection

While the traders are in their morning meeting the following day, Matthew reflects on what he's seen so far. He sees that the question of what FUNDCO is supposed to be paid, and when, is something for the house quant to decide and how much to pay for it is up to Danny. That question of *if* FUNDCO will be paid falls to Matthew to figure out. As he understands the legal disclosures, the answer to that question depends mainly on the mortgage loans , since it doesn't look like the trust that is designed to issue the RMBS is allowed itself to do much of anything than pass along payments. Whether the loans will perform, it appears to Matthew, depends on their nature.

He recalls his father wondering why the idiot neighbor took out an adjustable rate loan at what seemed to be a good rate only to see monthly payments skyrocket within a few years. The family almost exhausted their savings before they could refinance into a fixed rate loan. This pool is full of them. Matthew wonders if FUNDCO should be considering this deal at all.

There's nothing in the ALCO manual with the words "adjustable rate mortgage," but Matthew remembers Samantha talking in ALCO meetings several times about the difficulties of managing basis risk. She said that too much of the intermediate term portfolio was in fixed rate coupon and FUNDCO was too exposed to potential inflation risk. That seems to put to rest the question of whether to consider ARMs at all. Next question: what is there to worry about?

Sources of Worry

As a person with a practical outlook, Matthew likes to think concretely, and he was much influenced by his junior high school teacher's admonition to ask the newspaper questions: *who, what, where, when, why* and *how*.

Who

Matthew knows that he has limited information to work with about borrowers: FICO scores, DTI ratios, and occupancy type. He decides to worry about low FICO scores (borrowers with a poor record of paying bills on time), high DTI ratios (borrowers spending a high proportion of their income on housing who may not be able to afford to pay the mortgage if income goes down), high LTV ratios (borrowers who stand to lose little capital if they default) and occupancy (borrowers on second homes and investment properties, who will still have a place to live if they default).

What

Matthew doesn't worry too much about property type, single-family vs. duplex vs. condo. He's already made the conservative assumption of 100% loss severity, and he doesn't have a view on which types are more likely to default. He does wonder about property value, though. Not because it deepens losses (due to the loss severity assumption, that is not an issue) but because over-optimistic valuations mean that homeowner belief in equity in the property, and therefore willingness to sacrifice to protect it, may be weaker than the numbers otherwise suggests. He also wants to see how much of the pool is in conforming loans ($417,000 and under) and how much in superjumbo ($1,000,000 and over). If loans financed by Fannie Mae and Freddie Mac really do have more stringent requirements and lower total costs, it suggests that borrowers who go the non-agency route are not so well qualified. For high balance loans, Matthew's unease is that some of these may be families “living large.” The other *what* is the margin on the loan. Matthew can only assume that the originator considered higher margin loans more risky than lower margin loans, and he wants to understand why.

Where

Whether it’s a natural or man-made disaster, Matthew thinks, it can’t be good to have too many loans in the same place, and he makes a note to check concentration.

When

Matthew doesn’t have a particular view on when loans were originated, except that he figures the longer ago a loan was originated, the less that the information on the tape will help him.

Why

Whether the borrower is taking equity out, with a cash out refinance, or putting it in, with a purchase, or letting it ride, with a rate term finance is the “purpose” of a loan.

How

Whether the loan was underwritten with full documentation or reduced documentation seems like a no-brainer worry to Matthew. Reduced translates to less, or less reliable, information than full.

The First Pass: Counts Survey

The traders are now streaming back on to the floor and it’s time for Matthew to put his head down and look busy. Cranking the handle on the data conversion machine to strip out all the useless decoration so that he can load the raw data on the system makes looking busy easy. By 10 AM, Matthew is ready to start the descriptive part of the work, with a look at how many of loans of each type the tape contains.

He decides to begin by looking at the count and balance of the mortgage loans in the pool broken down by occupancy type, then documentation type, and then loan purpose. Looking at the breakdown by occupancy type in Figure 1 on page 32, he notices that while there is not a really large amount in the superjumbo category[18], there does seem

[18]Loans with original principal balances greater than $1,000,000

Figure 1: Count and Balance by Occupancy Type

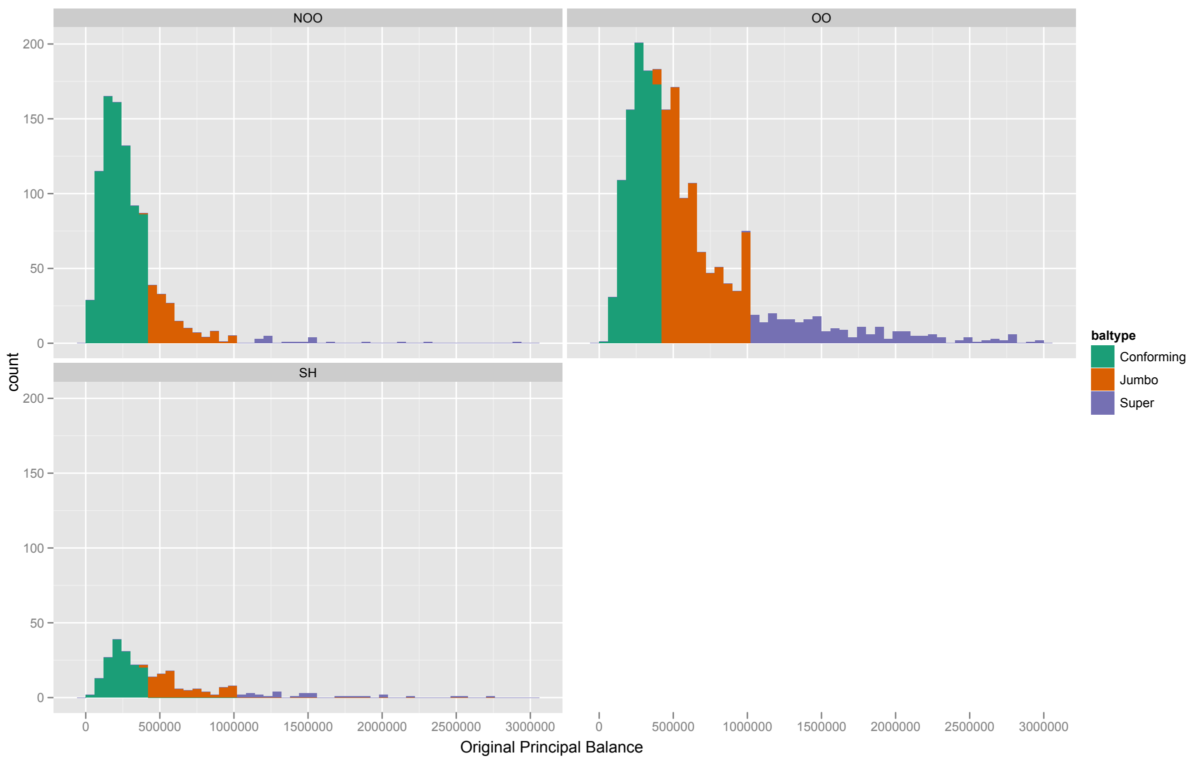
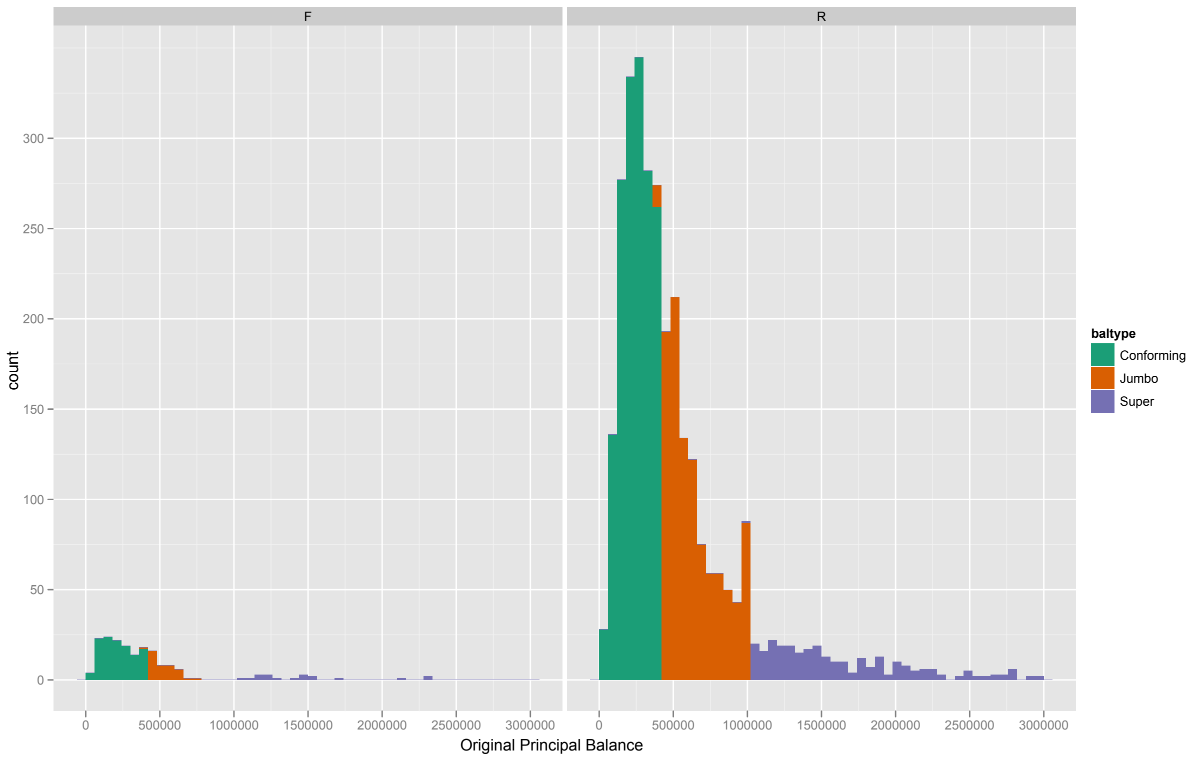


Figure 2: Count and Balance by Documentation Type



to be a high proportion of conforming balance loans (under $417,000). He knows that subprime mortgage loan pools have larger proportions of conforming loan balances than prime pools and he wonders why he hasn't heard anyone refer to this as a subprime deal.

There is a noticeable chunk of second homes in the pool and the proportion of non-owner occupied loans seems large. Most of the superjumbo loans are owner occupied. He notices something odd, which really stands out in the owner occupied category, which is the "fence" at the $1,000,000 loan size in all three ownership types, where there is a large number of loans just under that size. It bears looking at, he thinks.

The next thing to look at is the breakdown by documentation type on Figure 2 on page 33. Here, there's not a lot to look at; reduced documentation is not going to have a decisive impact on where to draw the line between acceptable risk levels. Matthew figures this is another threshold issue, like whether to consider adjustable-rate mortgages in the first place. On the other hand, it really depends on how important the debt-to-income ratios are, so he'll put aside the question for now.

To complete the look by categories, Matthew sees in Figure 3 on page 34 that there are roughly equal amounts of the pool in cash out refinancing compared to non-cash out (rate/term) refinancing and purchase money loans. He again notices the "fences"

Figure 3: Count and Balance by Purpose

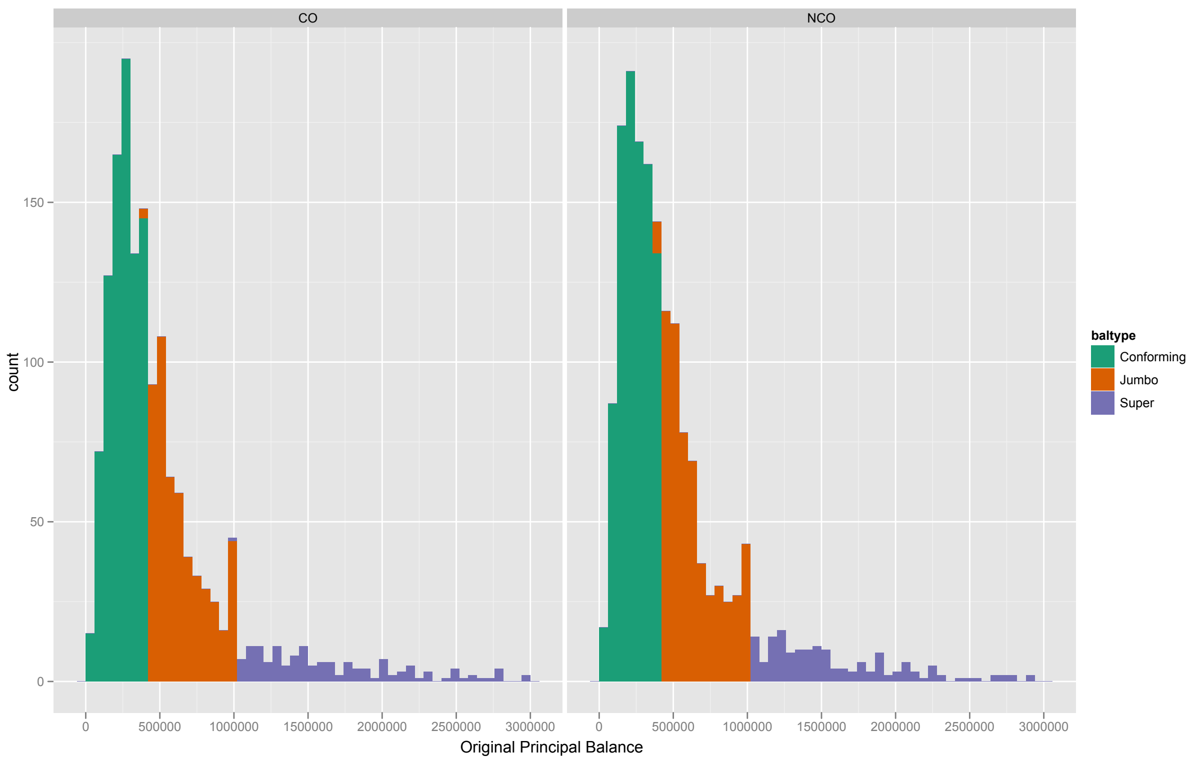


Figure 4: FICO Scores by Occupancy Type

at $1,000,000 and wonders what it is that's creating the bunching of loan balances just under that amount.

In Figure 4 on page 35 there are more fences, this time in the FICO score distributions around 680 for non-owner occupied loans and 640 for all loan sizes and 720 for jumbo owner occupied loans. Matthew decides that this must have something to do with the originator's underwriting criteria, and that the lower numbers mark where exceptions may begin.

A look at Figure 5 on page 36 shows that FICO scores have similar distributions for loan size classes. The few full documentation loans don't have any clear bunching of scores.

Aside from the same types of fences, Matthew can't see anything startling about the difference in FICO score distributions between cash out and non-cash out loans on Figure 6 on page 37.

The thing that jumps out immediately in Figure 7 on page 38 is the large number of loans with a "0" DTI ratio, meaning that data wasn't available to include on the tape. Matthew thinks this will make it less likely that favorable DTIs may play a big role as a tie breaker.

For the loans that do have DTI, Figure 8 on page 39, there are big fall offs around 30%

Figure 5: FICO Scores by Documentation Type

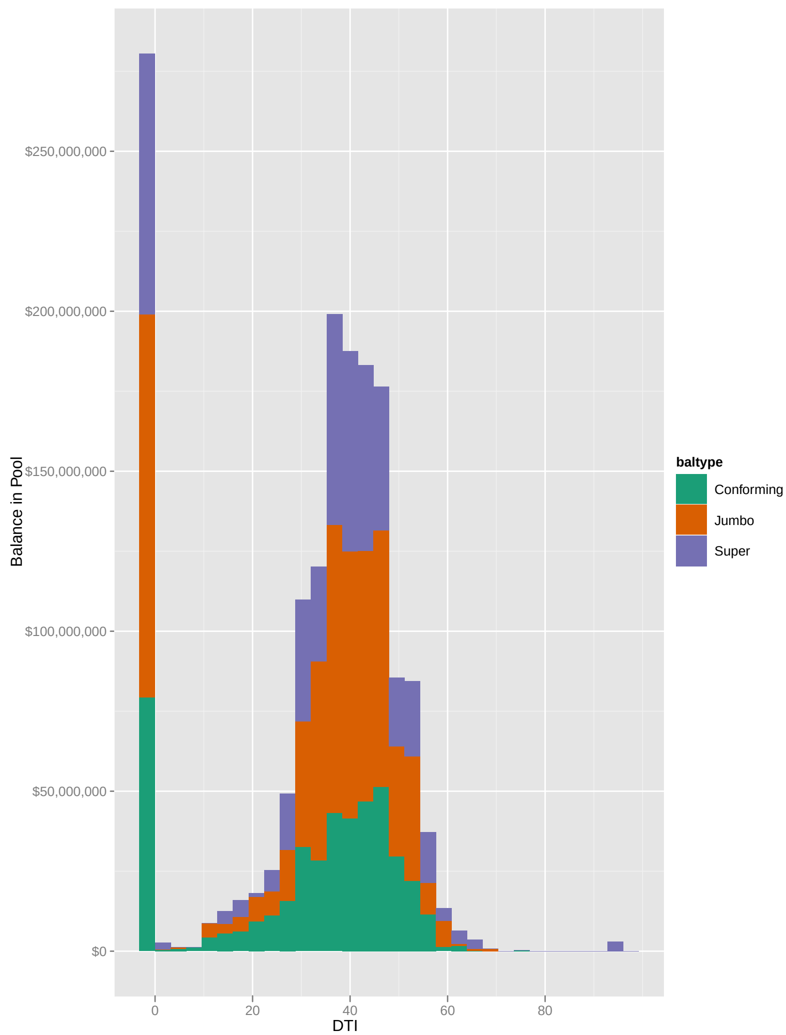


Figure 6: FICO Scores by Purpose

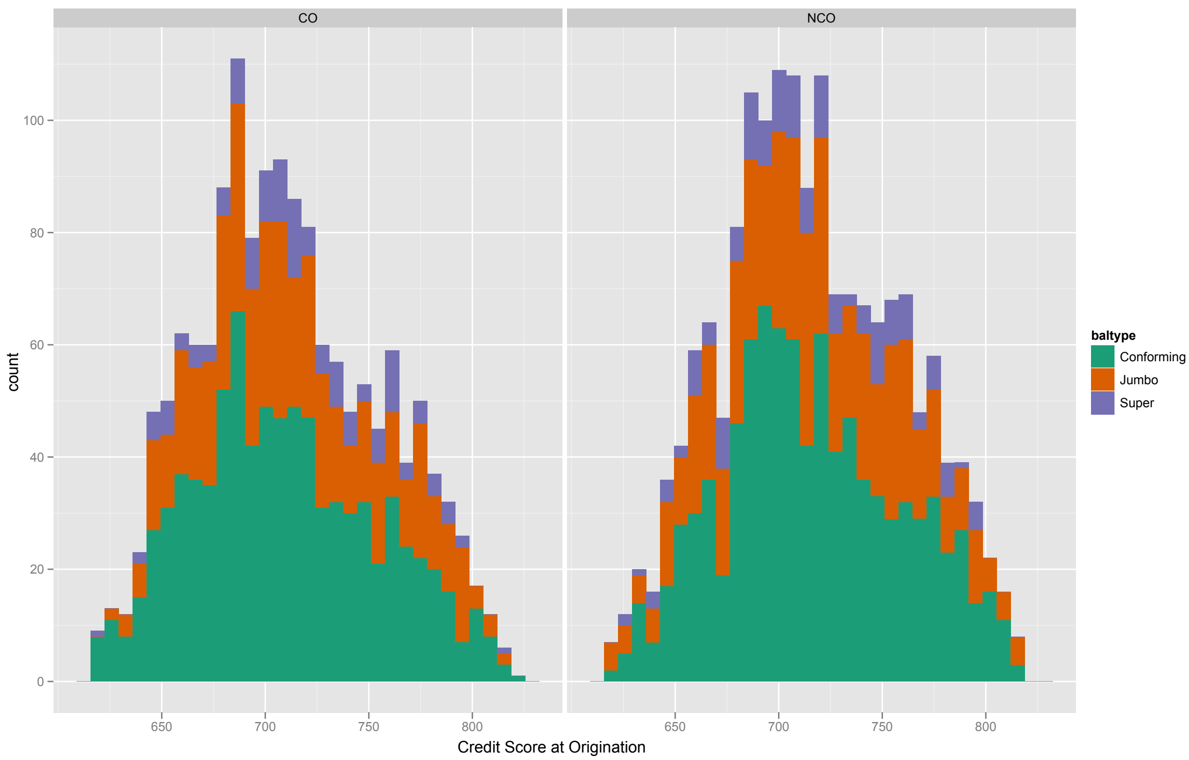


Figure 7: DTI by Occupancy Type

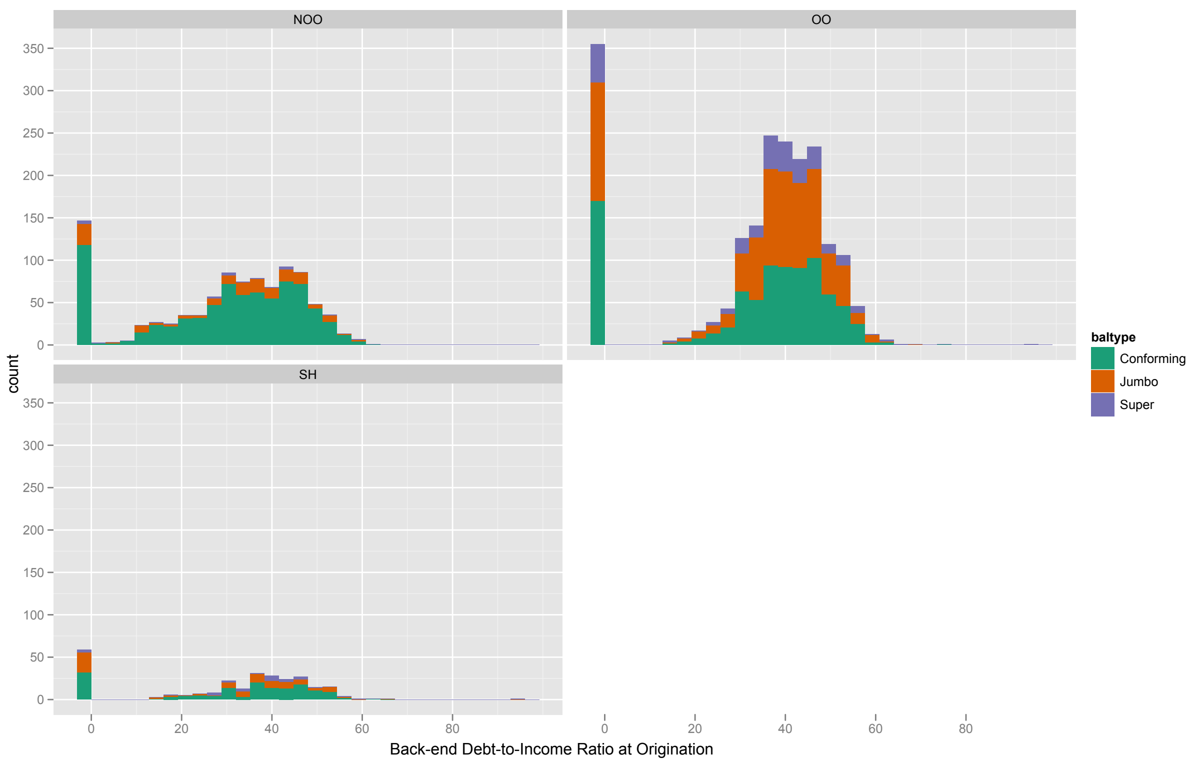


Figure 8: DTI by Documentation Type

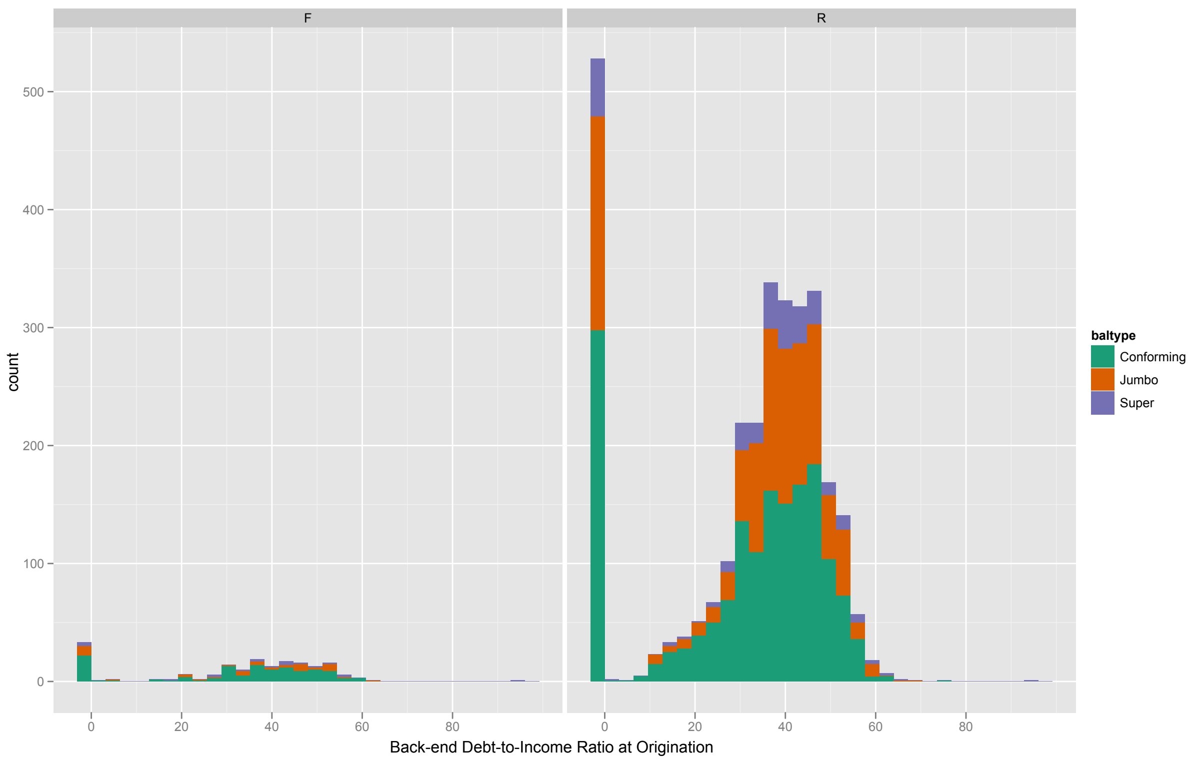
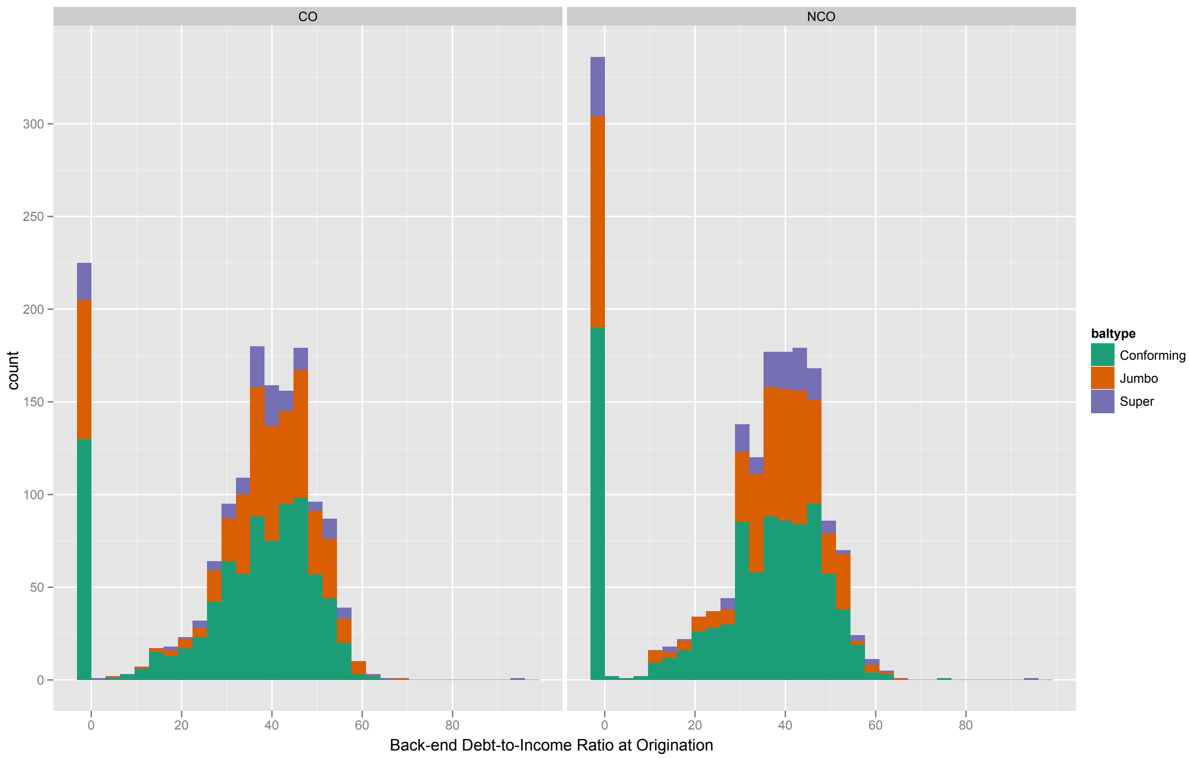


Figure 9: DTI by Purpose



and 50% for both cash out and non-cash out loans.

Figure 7 on page 38, the table of DTI by documentation type, doesn't add much because of the large preponderance of reduced documentation loans.

Figure 10 on page 41 shows that origination loan-to-value ratios are subject to the same fence effects, with clearly defined drop offs at 80%, 70% and 60%. Matthew feels like he can probably write this one off to people wanting to get the largest loan they can without paying for mortgage insurance.

Figures 20-23 on pages 50-53, show origination dates; although a few loans from 2006 may have stale data, Matthew thinks that this information isn't going to be very useful one way or the other.

The Second Pass: Balances Survey

It's almost noon, and Matthew turns to the "how many" part of the question. The pool is bound to appear somewhat different when looking at loans by size. He prepares the same set of graphs, showing this time not how many but the aggregate balance of loans. He decides to skip the runs for documentation type and state location because so much is reduced documentation and in California. Since it's Friday, he heads for

Figure 10: LTV by Occupancy Type

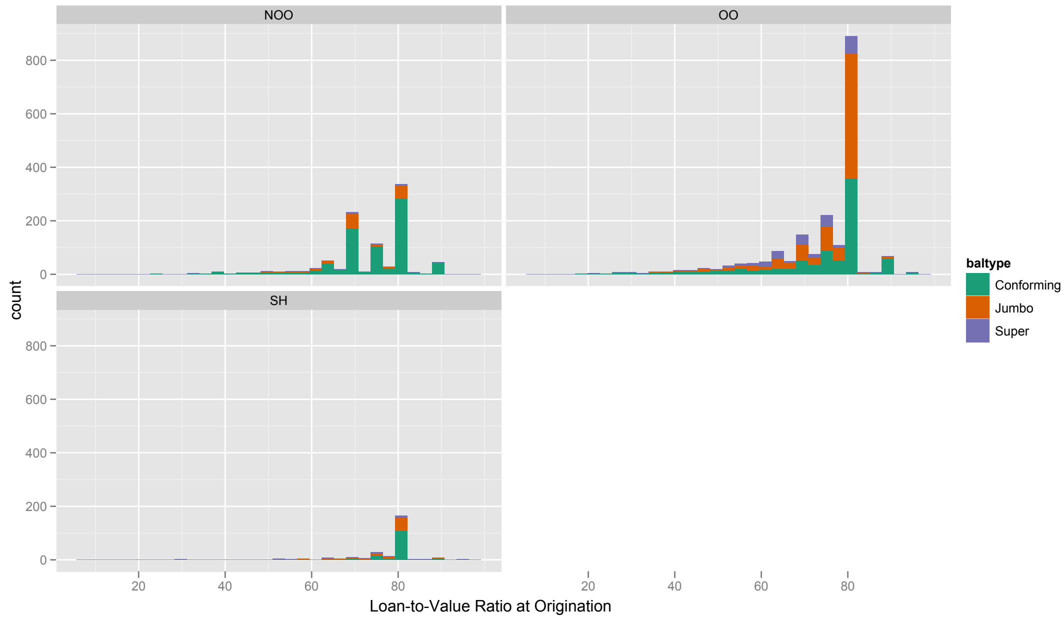


Figure 11: LTV by Documentation Type

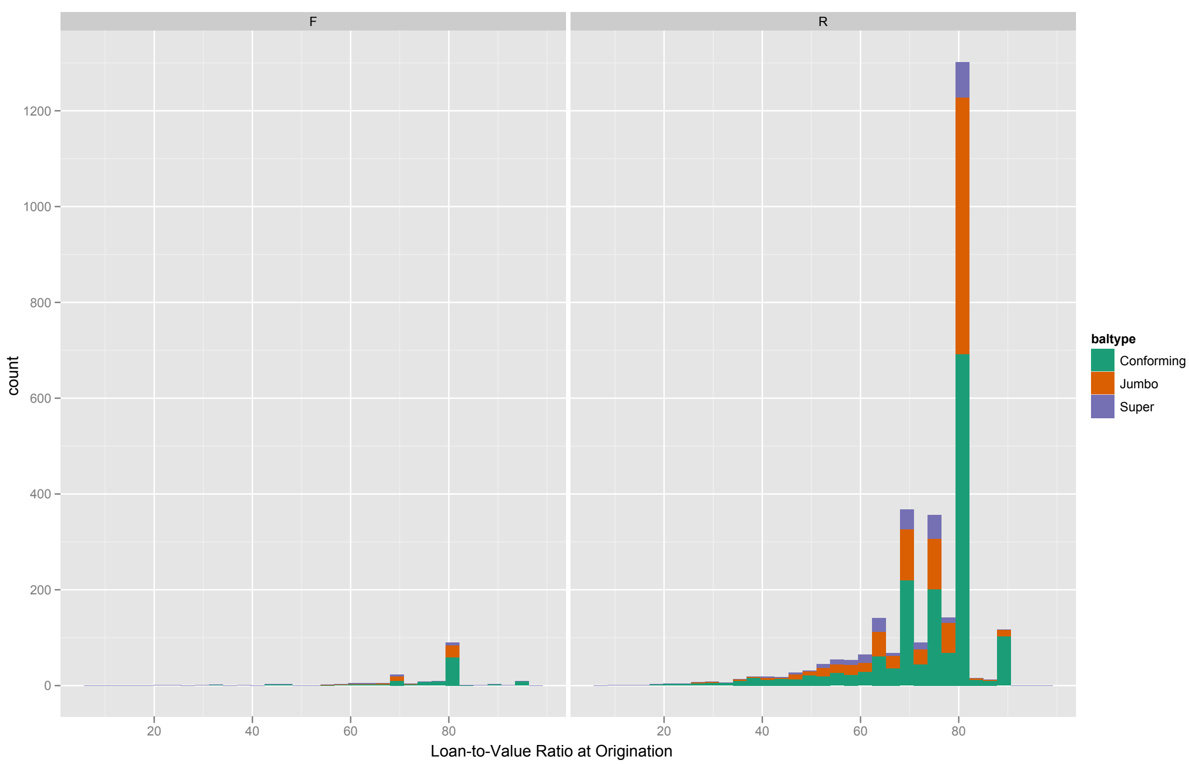


Figure 12: LTV by Purpose

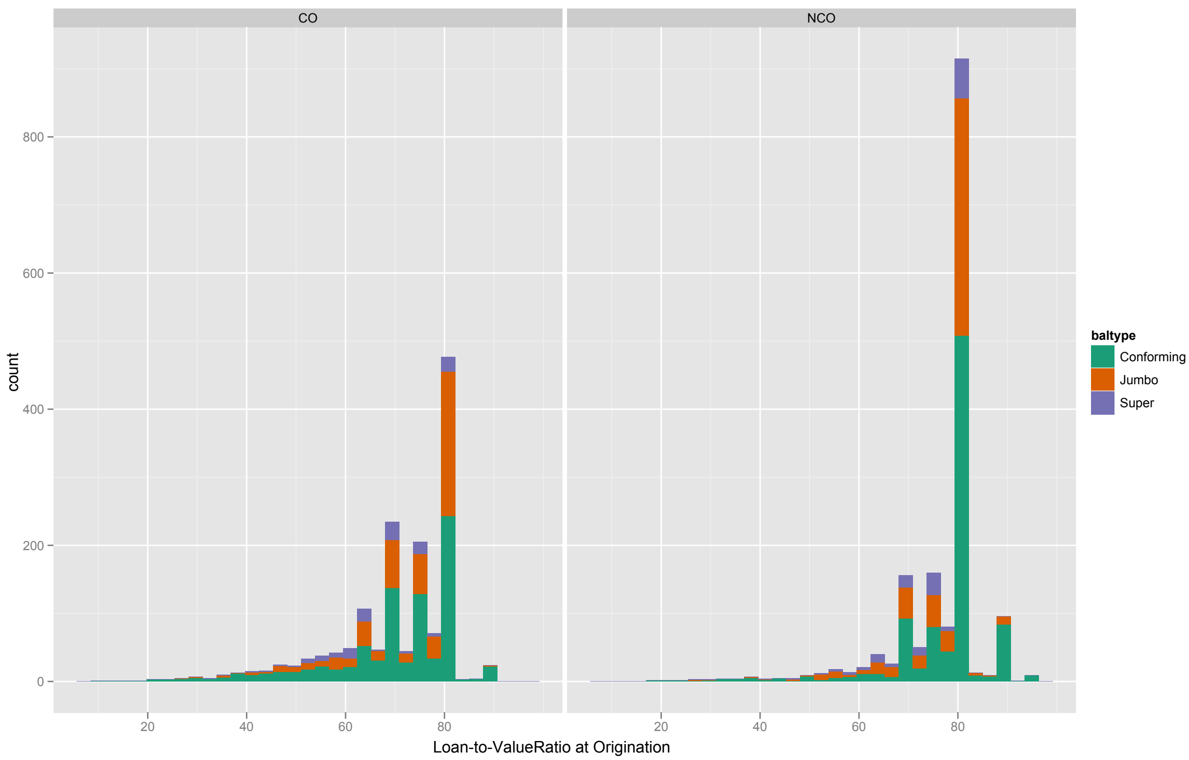


Figure 13: Margin by Occupancy Type

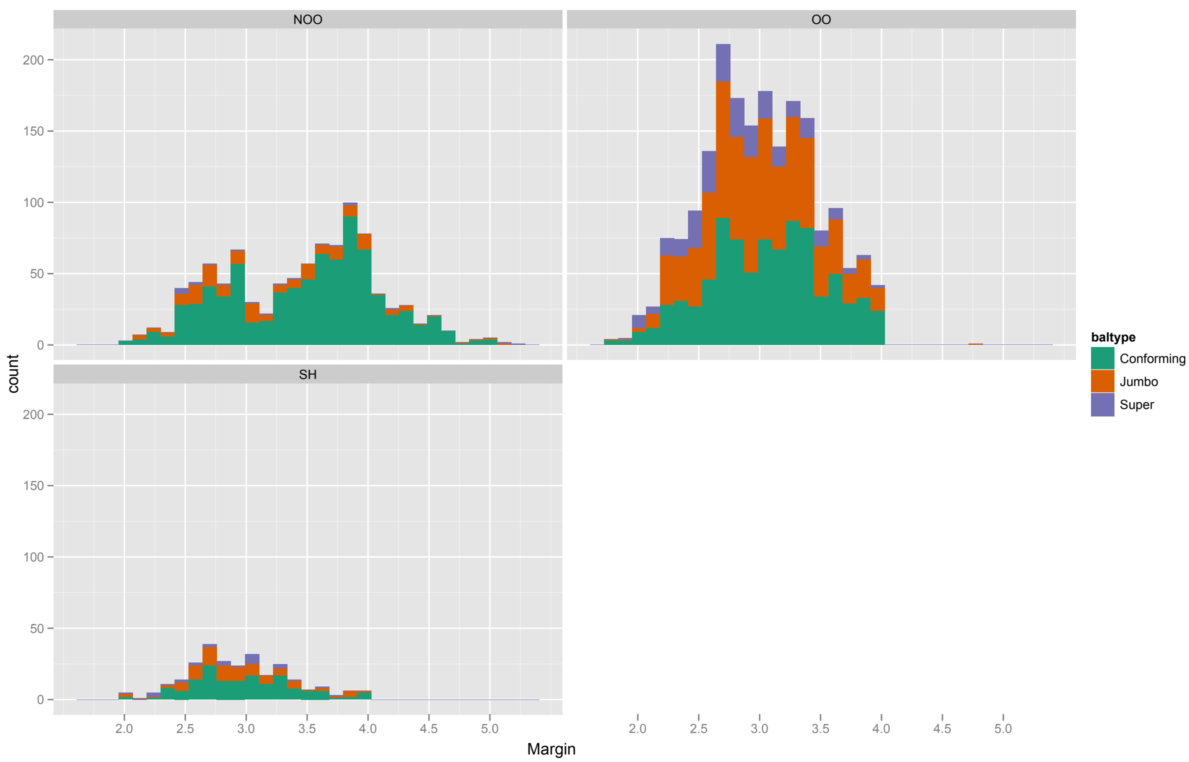


Figure 14: Margin by Documentation Type

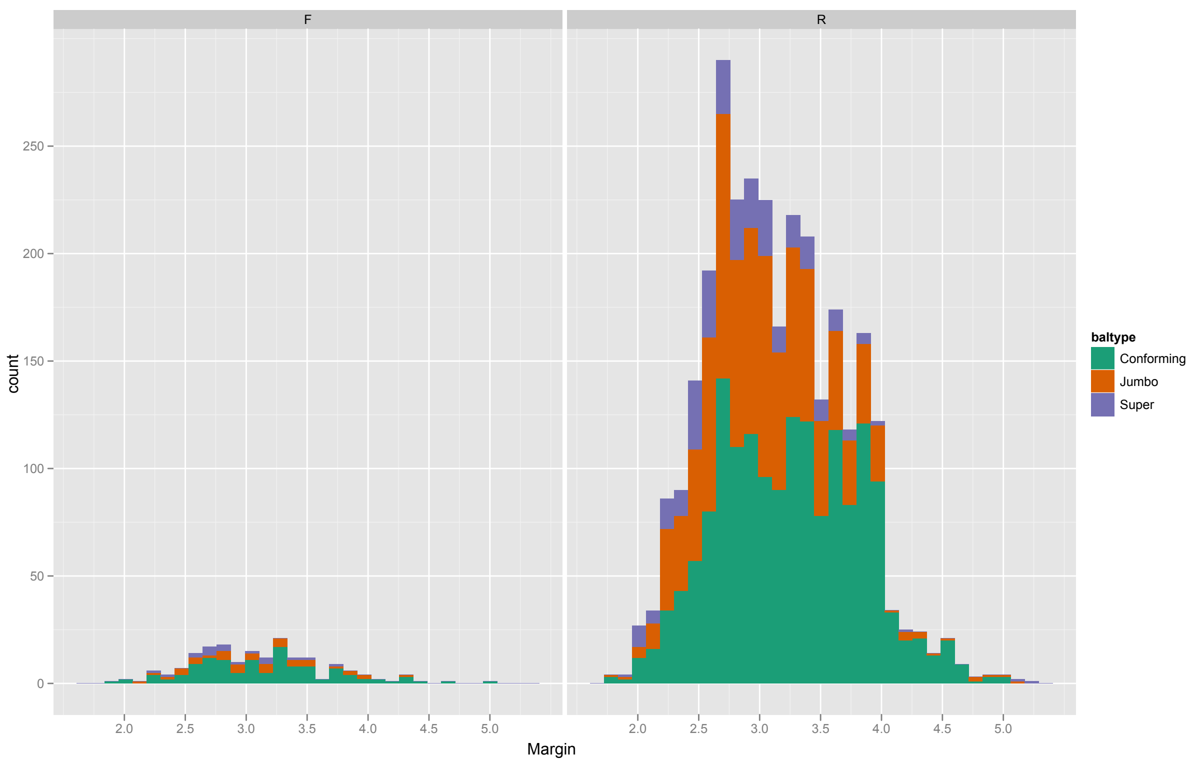


Figure 15: Margin by Purpose

Figure 16: State by Balance Type

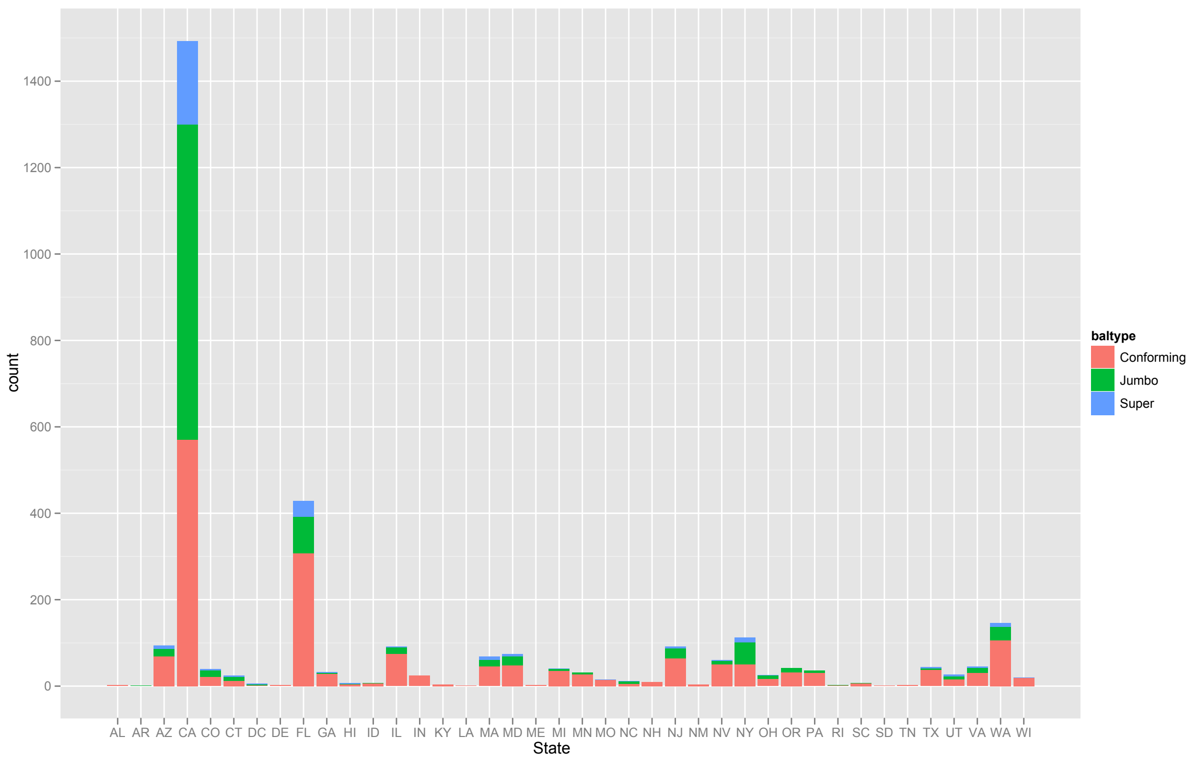


Figure 17: State by Occupancy Type

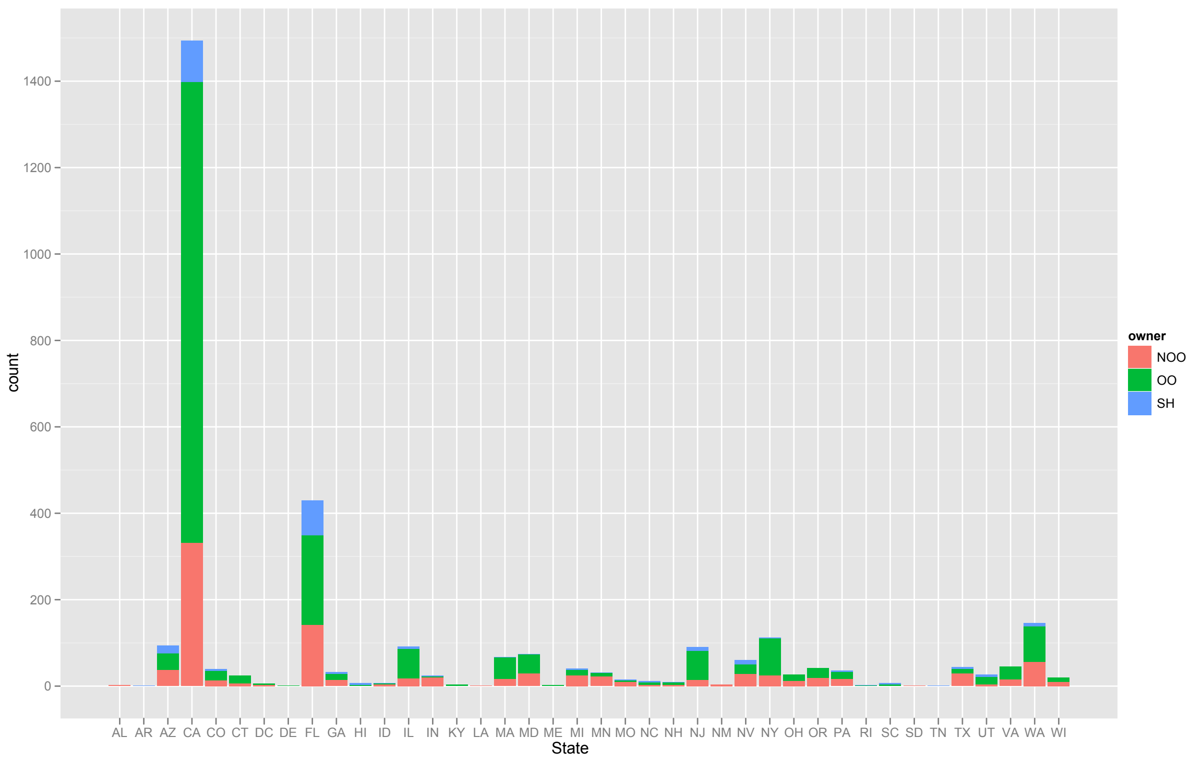


Figure 18: State by Documentation Type

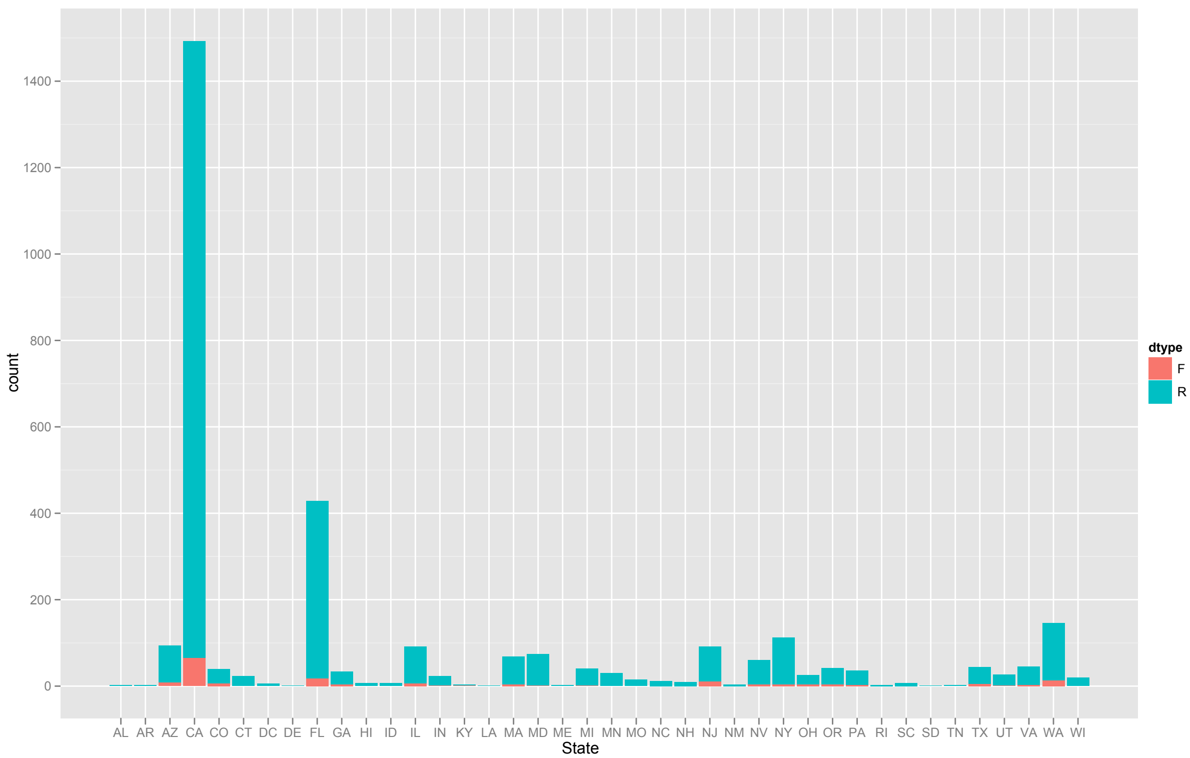


Figure 19: State by Purpose

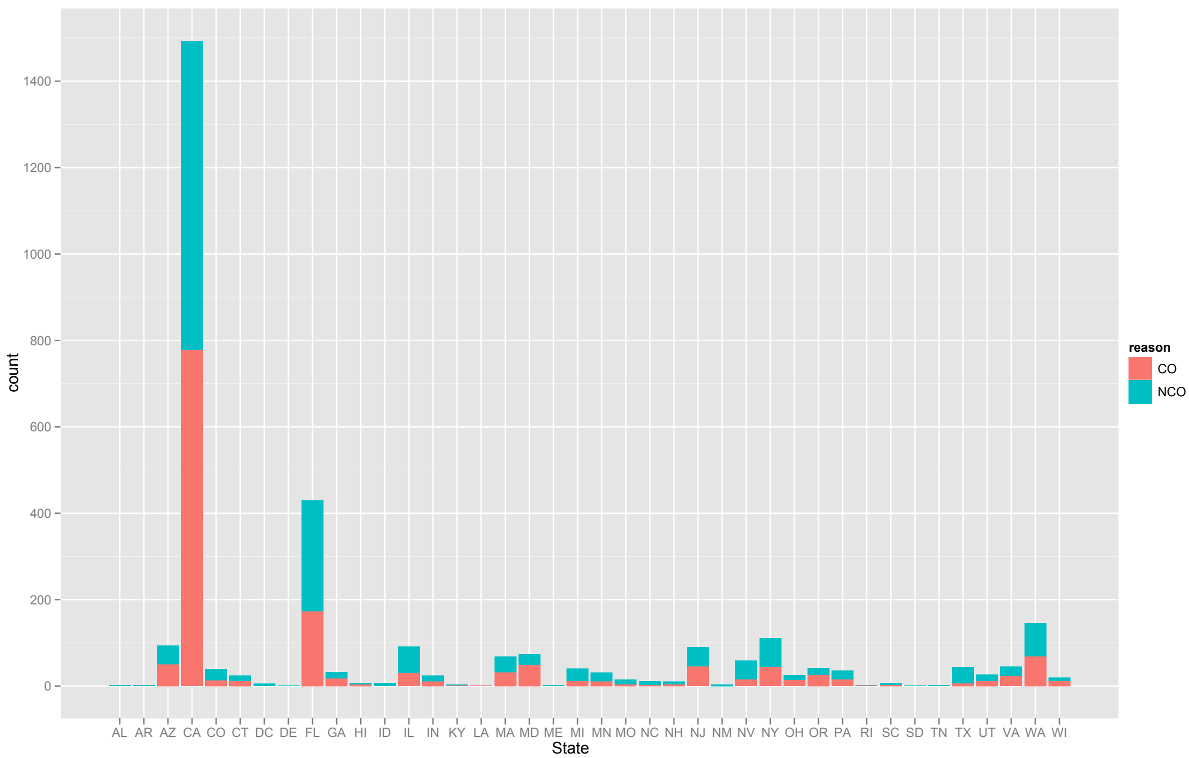


Figure 20: Seasoning by Balance Type

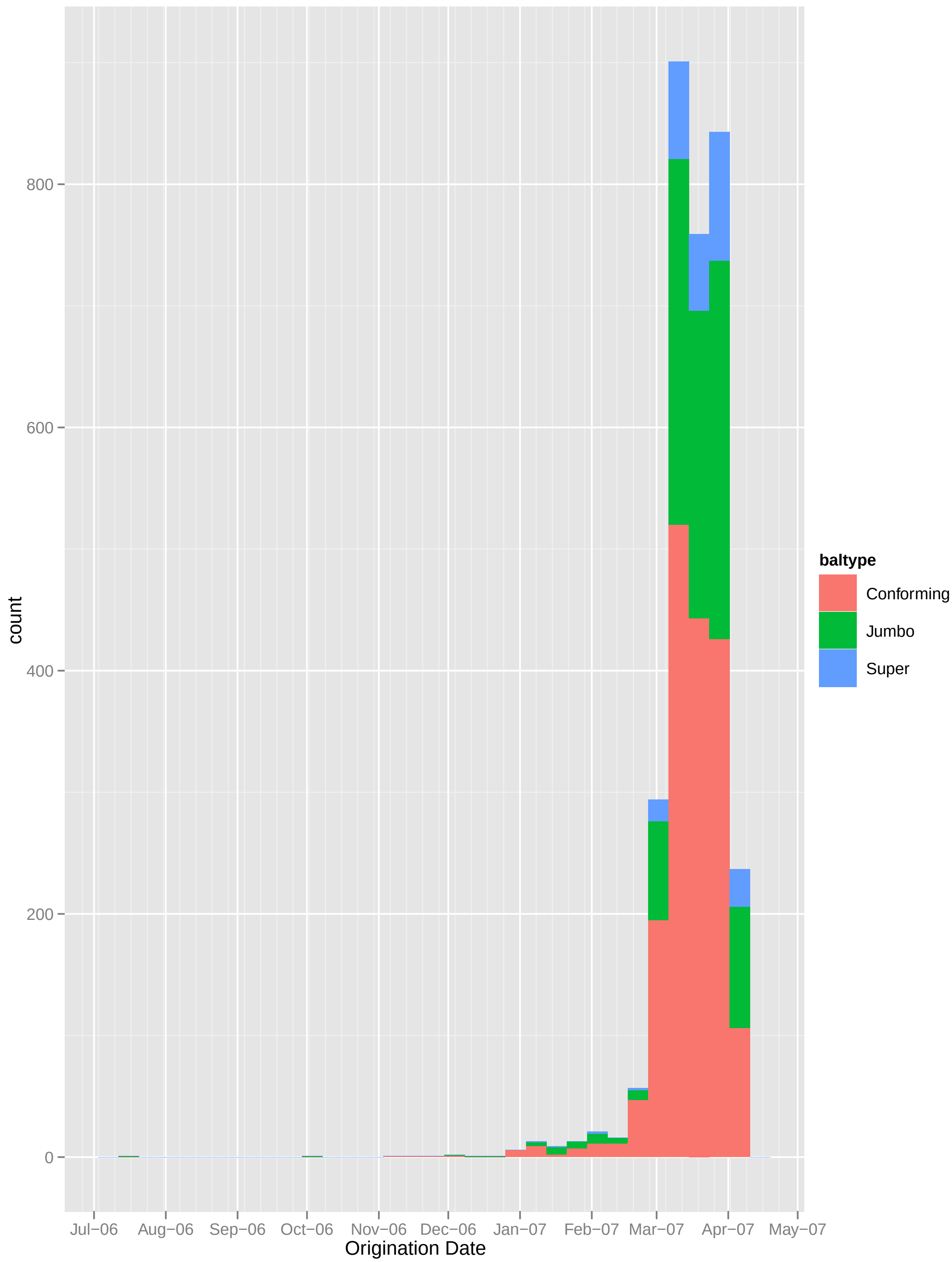


Figure 21: Seasoning by Documentation Type

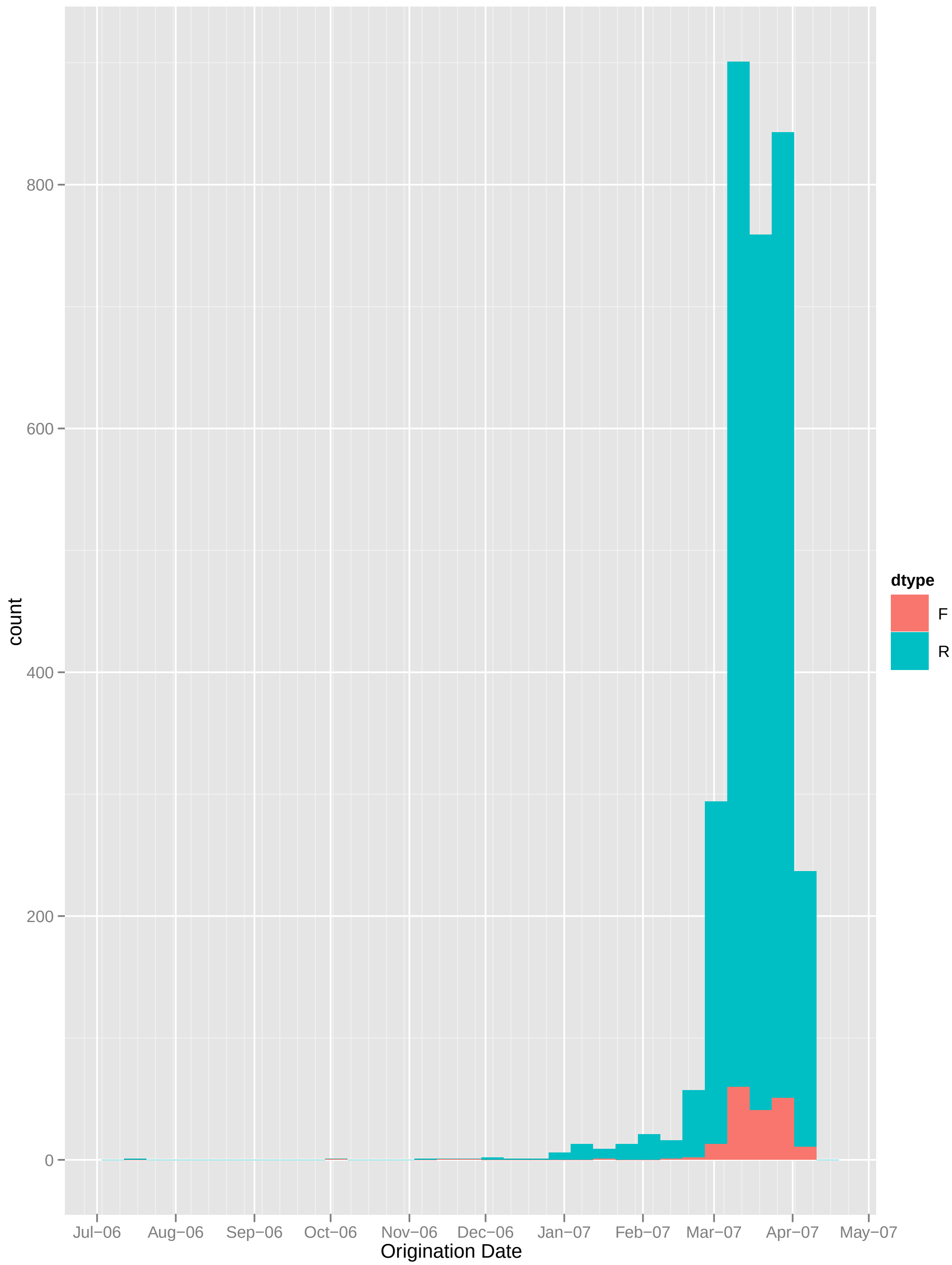


Figure 22: Seasoning by Occupancy

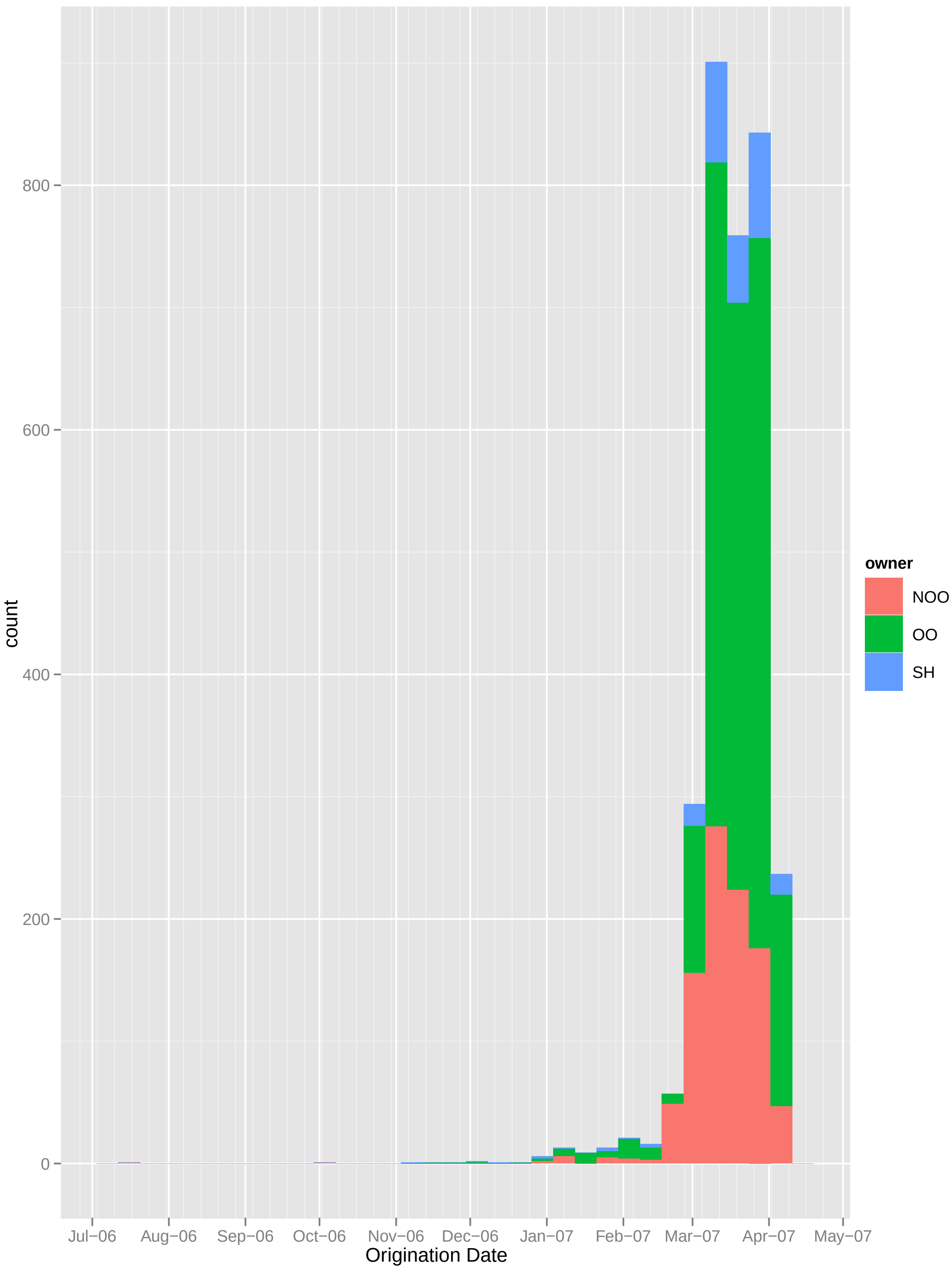


Figure 23: Seasoning by Loan Purpose

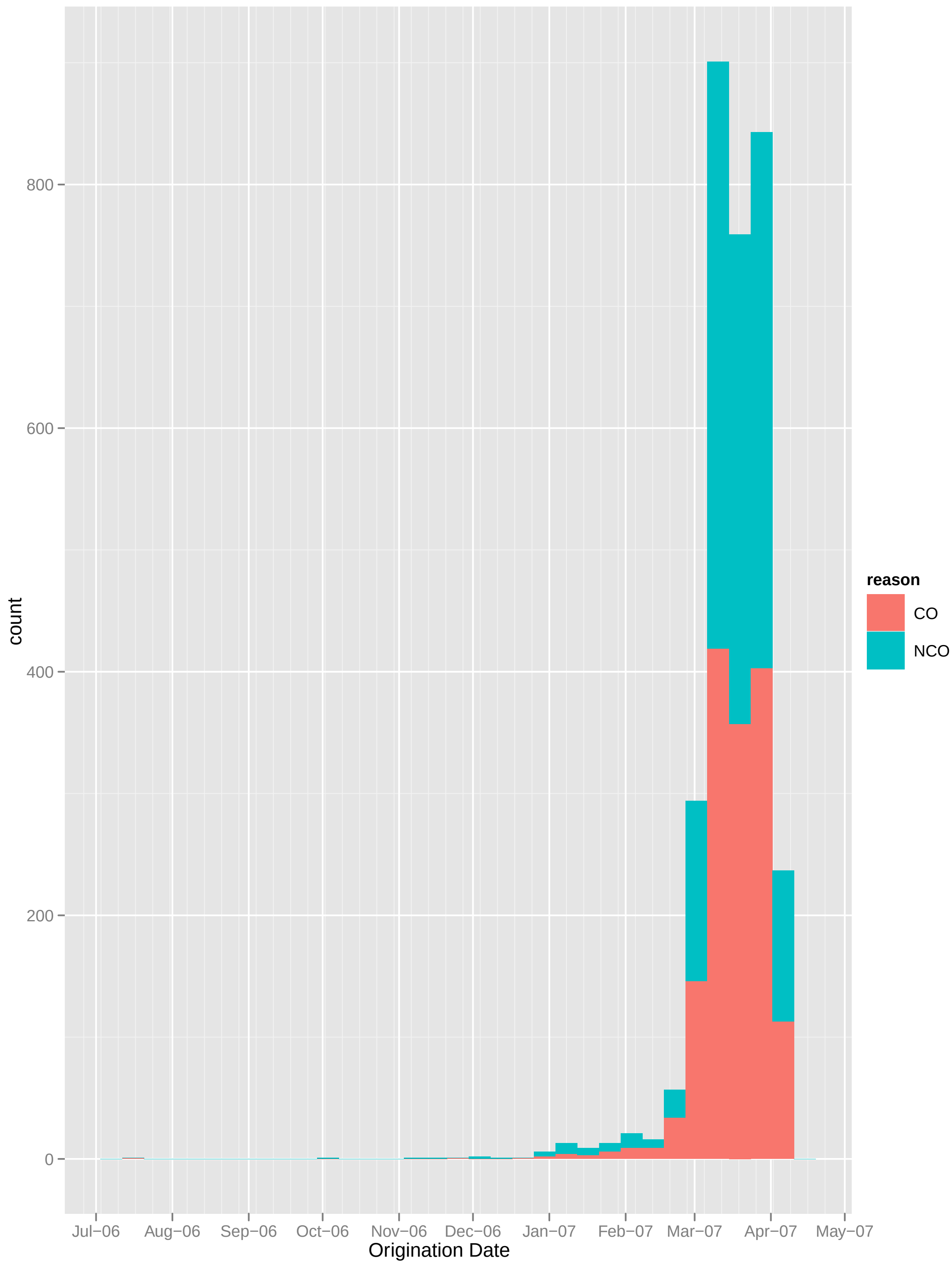
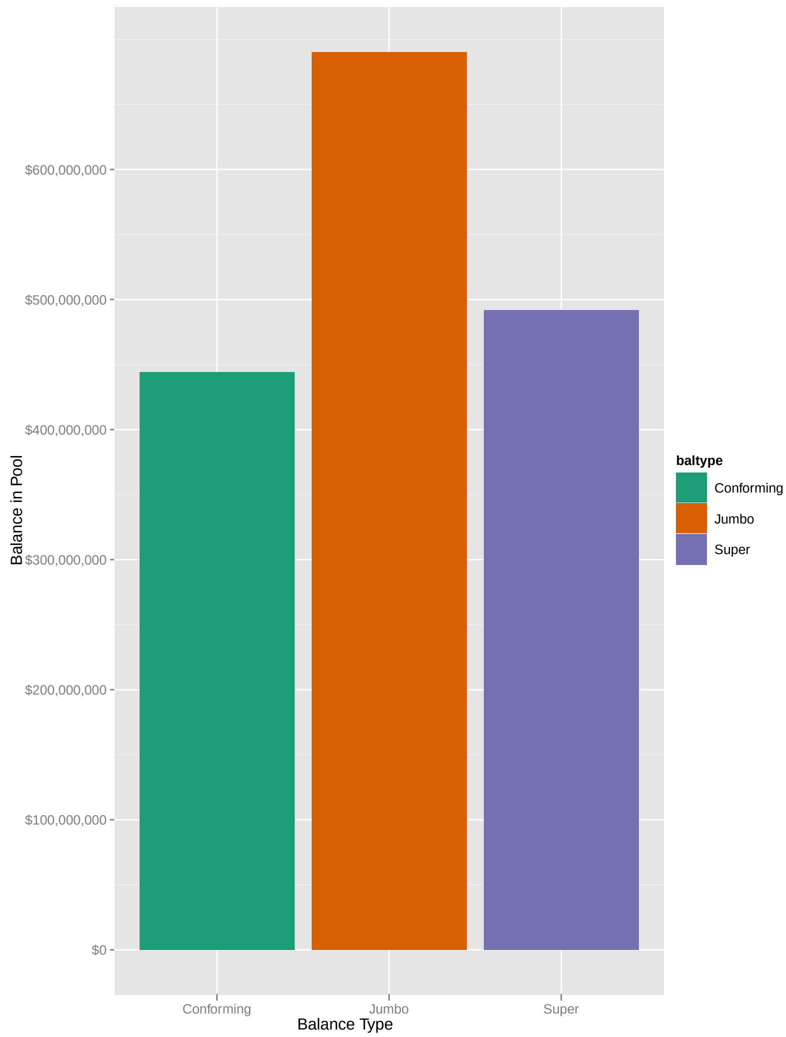


Figure 24: Balances by Balance Type



the conference room for pizza. He sees the house quant and says that he's looking at some interesting pool data. The house quant looks blank. Matthew says, "you know, loan balances, FICO scores, that sort of thing." The house quant just says "scalars don't interest me" and walks away. Matthew shrugs and takes his pizza back to his corner.

Matthew looks at Figure 24 on page 54 and sees that he hasn't been paying attention to what a large part of the pool is represented by the loans with balances over $1,000,000, when you look at dollars rather than count.

With Figure 25 on page 55 he sees, don't that FICO scores differ greatly except that superjumbos have some spikes in the 750-800 range than aren't pronounced in jumbo balances and are missing in conforming loan balances. He still sees the persistent drop off around 680 and 640. Figure 26, on page 56, with FICO scores by loan purpose and

Figure 25: FICO by Balance Type

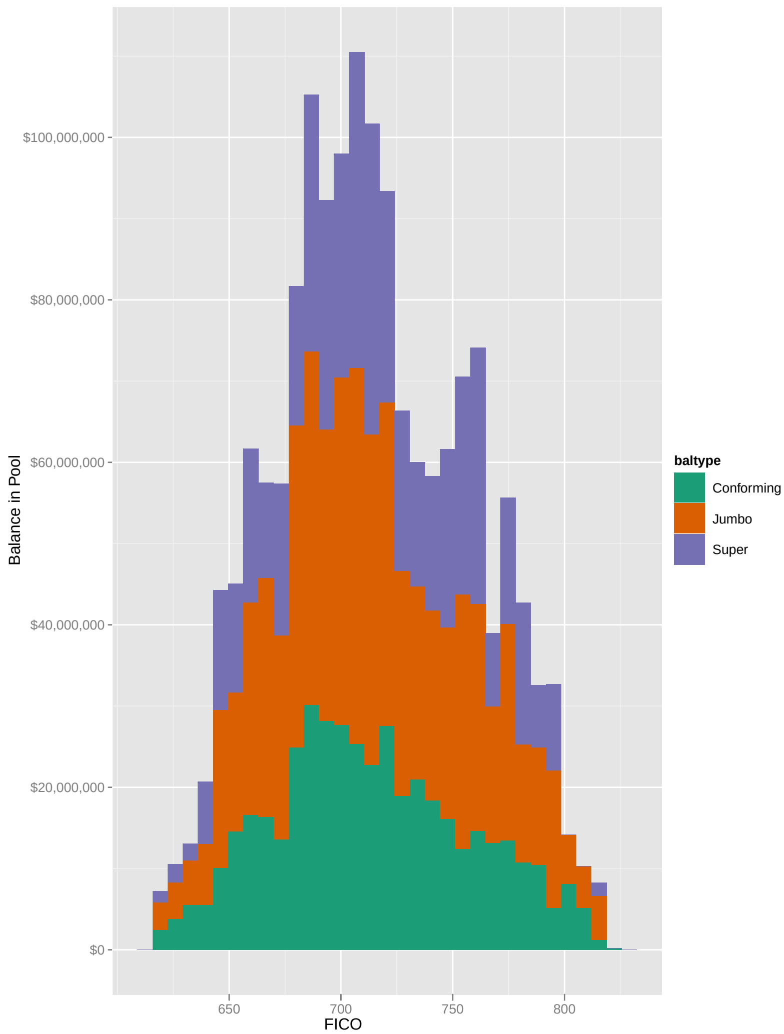


Figure 27, on page 57, for occupancy don't add much.

He turns next to the DTI tables, beginning with Figure 28 on page 58. He is beginning to feel uncomfortable with how much data is missing, the amount of the pool balance in the high 40s and above and some ridiculous outlier off in the 90s. Talk about being house poor.

He notices that a considerable chunk of the above-50 DTI is in cash out loans and thinks that can't be good. These people should be going for rate reductions on lower balances rather than taking cash out. That's the lesson he takes from Figure 30 on page 60.

Turning to LTV, he sees from Figure 31 on page 62 that there's a sizeable chunk of conforming loan with LTV above 80% and a huge amount of the pool right at 90%. He

Figure 26: FICO by Loan Purpose Type

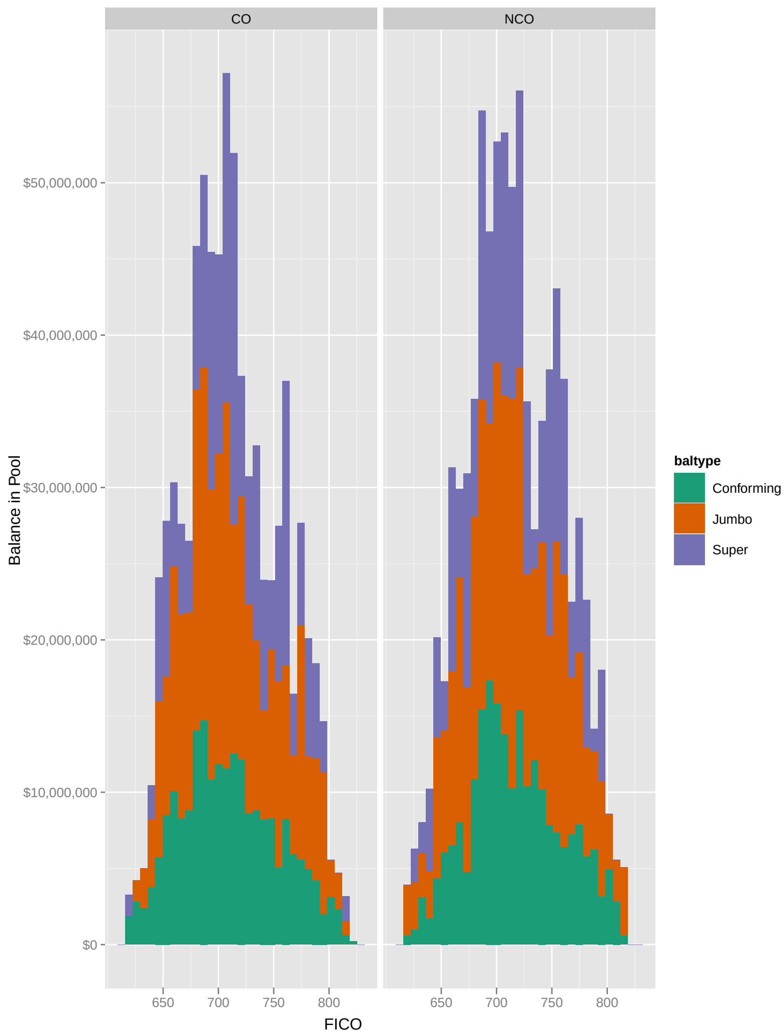


Figure 27: FICO by Occupancy

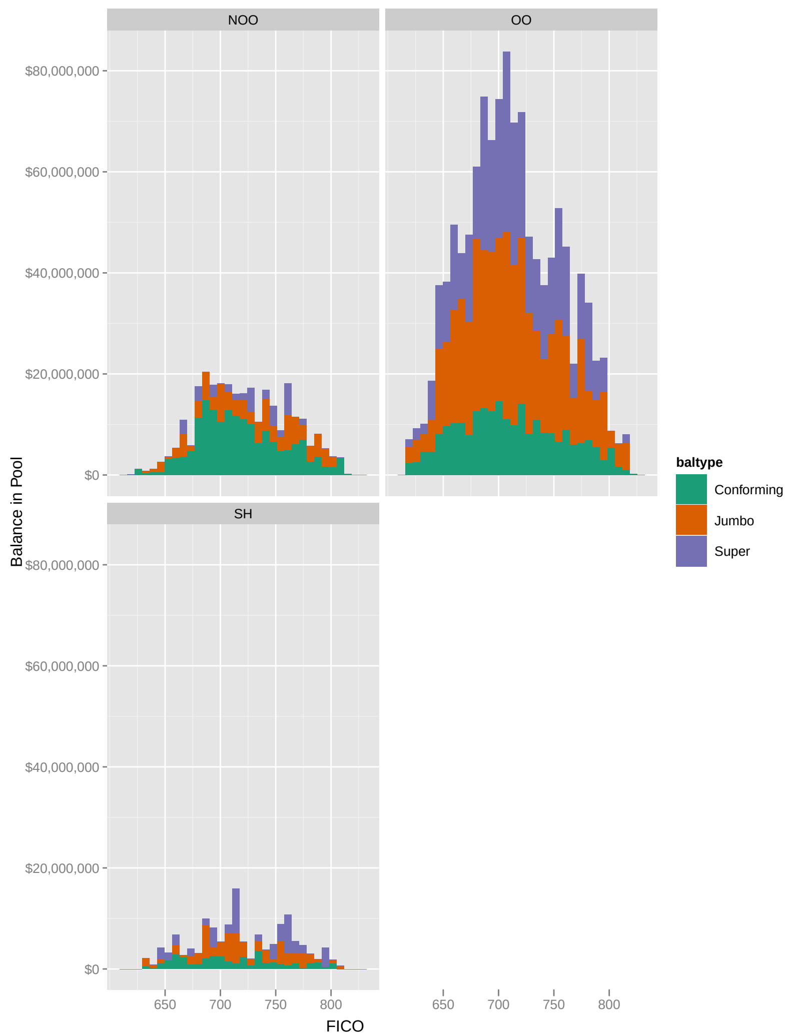


Figure 28: DTI by Balance Type

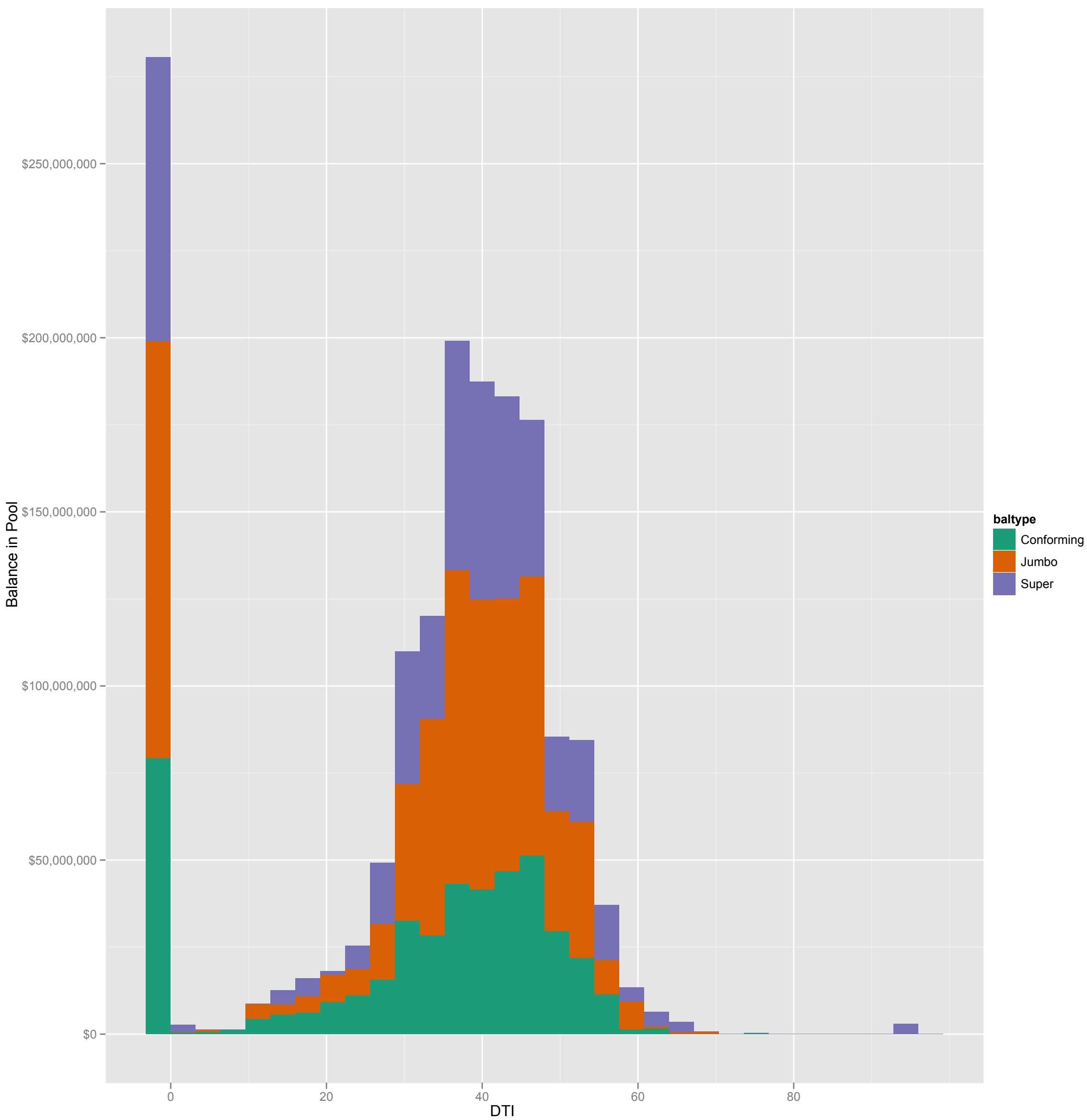


Figure 29: DTI by Occupancy

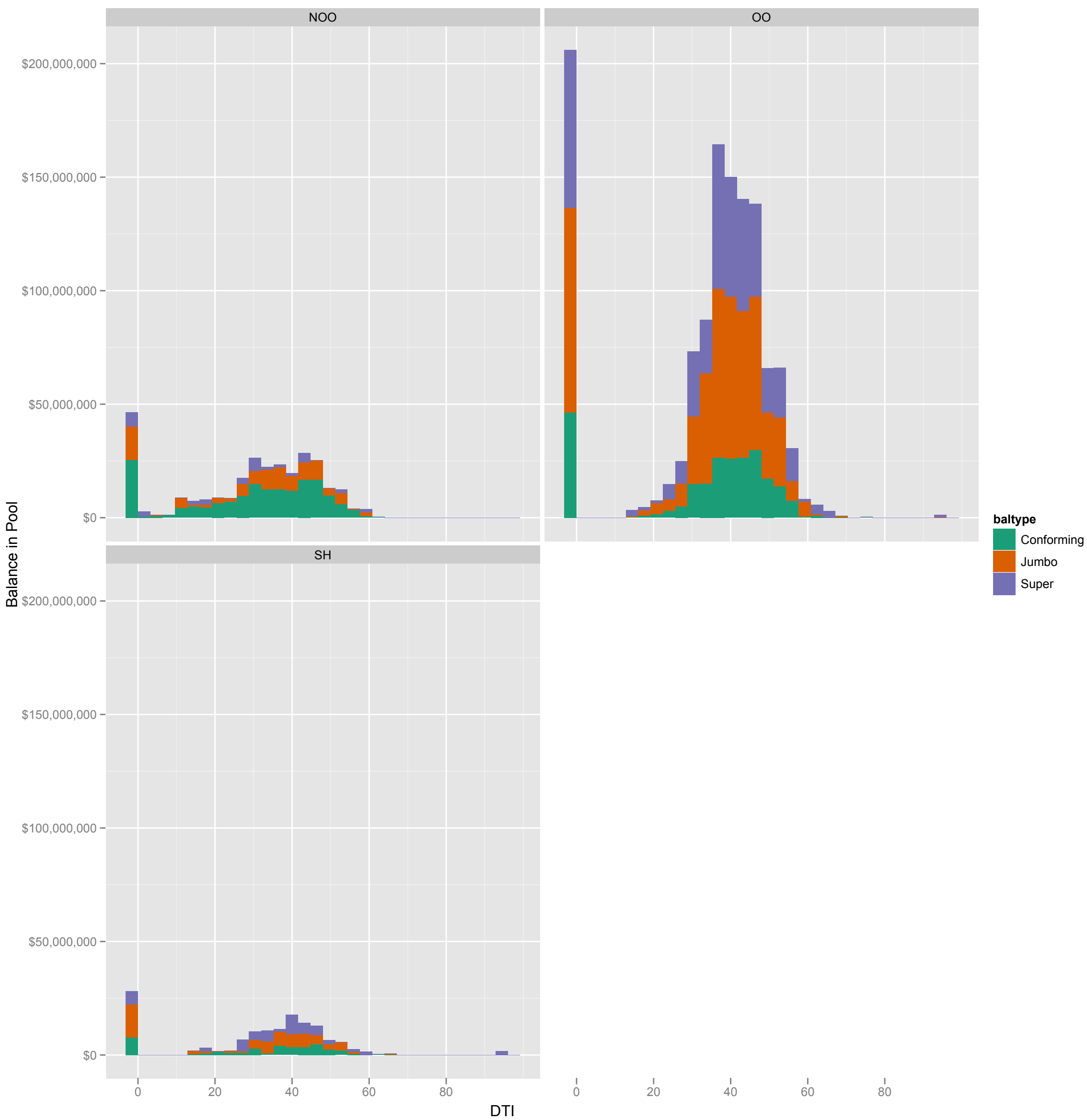
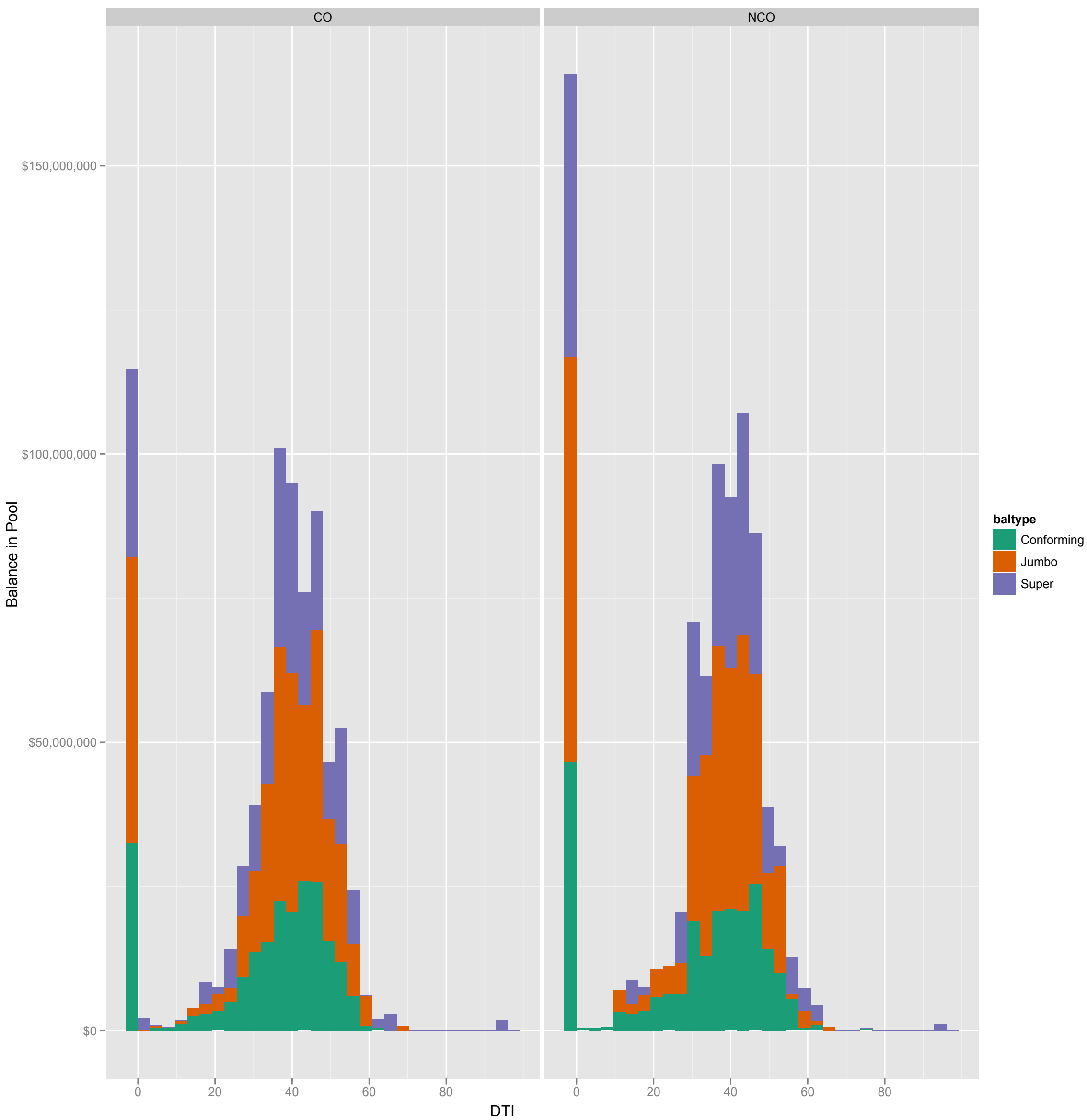


Figure 30: DTI by Purpose



wonders what it would take to put those loans underwater, and therefore more likely to default. He does a quick back-of-the-envelope calculation using the Case-Shiller home price indexes for year-end 2000 and 2006 and throws in growth in inflation and population, using California for the home and population, since that's so much of the pool. Wow. Home prices have increased far faster than inflation or the population (Figure 32 on page 63). Eyeballing it, prices would only have to fall back a year to make that huge part of the pool at 80% LTV go underwater. Matthew doesn't want to think about what happens if they fall back to 2004, rather than 2005, and then he remembers that the pool consists of loans that have lower minimum payments than the amount needed to fully amortize and realizes that the negative amortization is only going to make things worse. Grandma always said "trees don't grow to the sky forever." He's now feeling queasy enough to regret the pizza. Danny walks up.

"What's the answer?"

"I'm still working on the report."

"You idiot! I don't pay you to write reports, I pay you for answers and I want them now."

"I don't actually work for you, Danny. I work for Samantha."

"Same thing. Just ..." His cell rings and he storms off.

Matthew doesn't suppose that he's going to be able to let this slide over the weekend and decides to quickly wrap up the survey. In Figure 33 on page 64 and Figure 34 on page 65, he sees that the already over 80% LTV loans show up both in owner occupied and cash out slices.

Wrapping up the balance survey with margins on Figures 35-35 on pages 68-68 show a worrisome amount of the balance carries a high 4% plus margin. This is concentrated in non-owner occupied loans and cash out refinances. This makes sense, Matthew guesses, because an investor can default and still have a roof over his head at night.

Putting it All Together

Matthew now has a good sense of how many loans and how much the larger balances are causing him unease for the various loan characteristics. Now, it's time to see how much these worry beads string together.

Matthew begins typing[19]:

```
$ library(ggplot2)
$ library(sqldf)
```

[19] He'll be doing a lot of this work with the database software. The notation is compact and the appearance on the screen is Spartan, but it's *very* efficient, and unlike working with a spreadsheet, it's much less prone to non-obvious operator error.

Figure 31: LTV by Balance Type

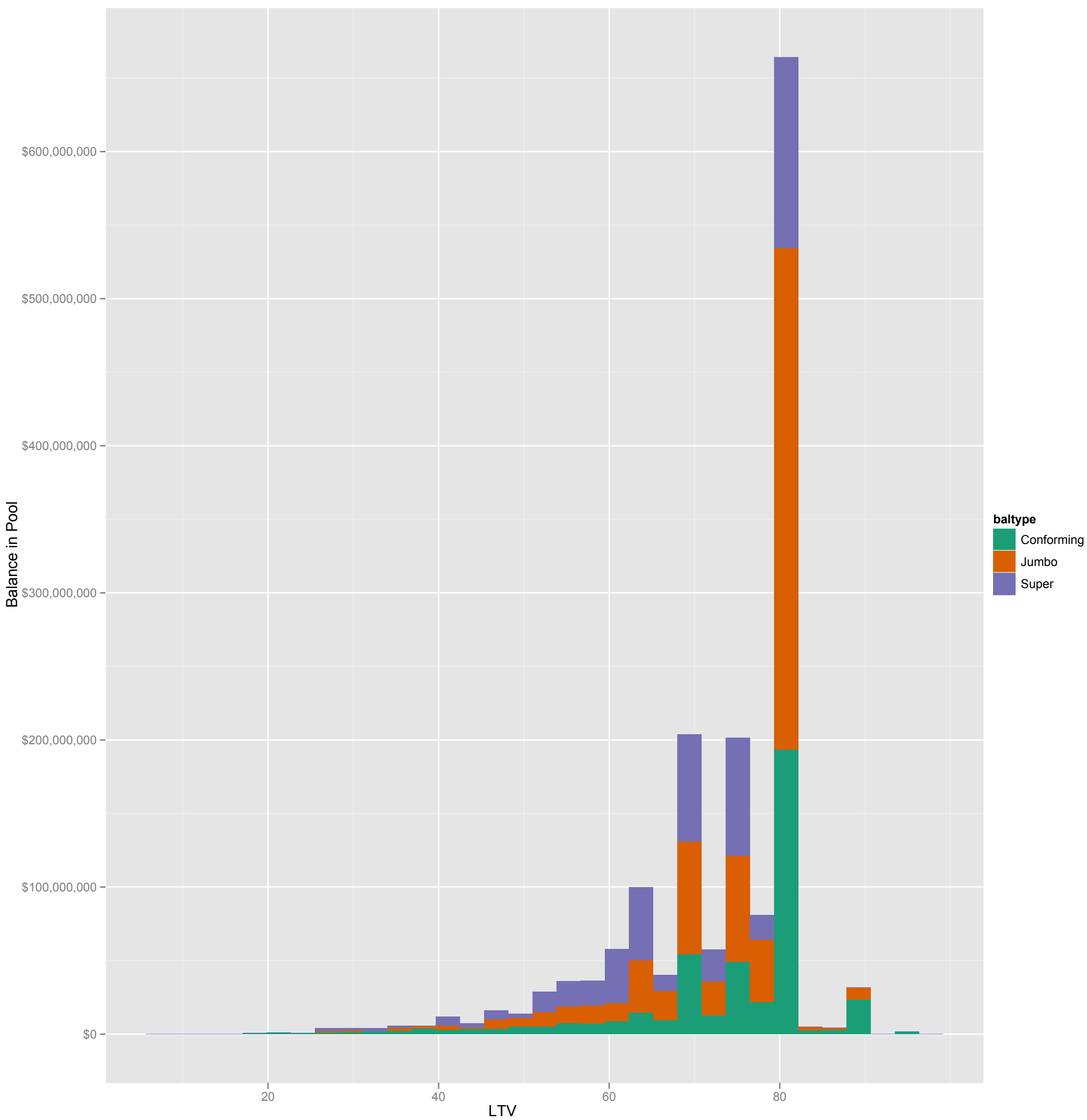


Figure 32: Home Price Trends

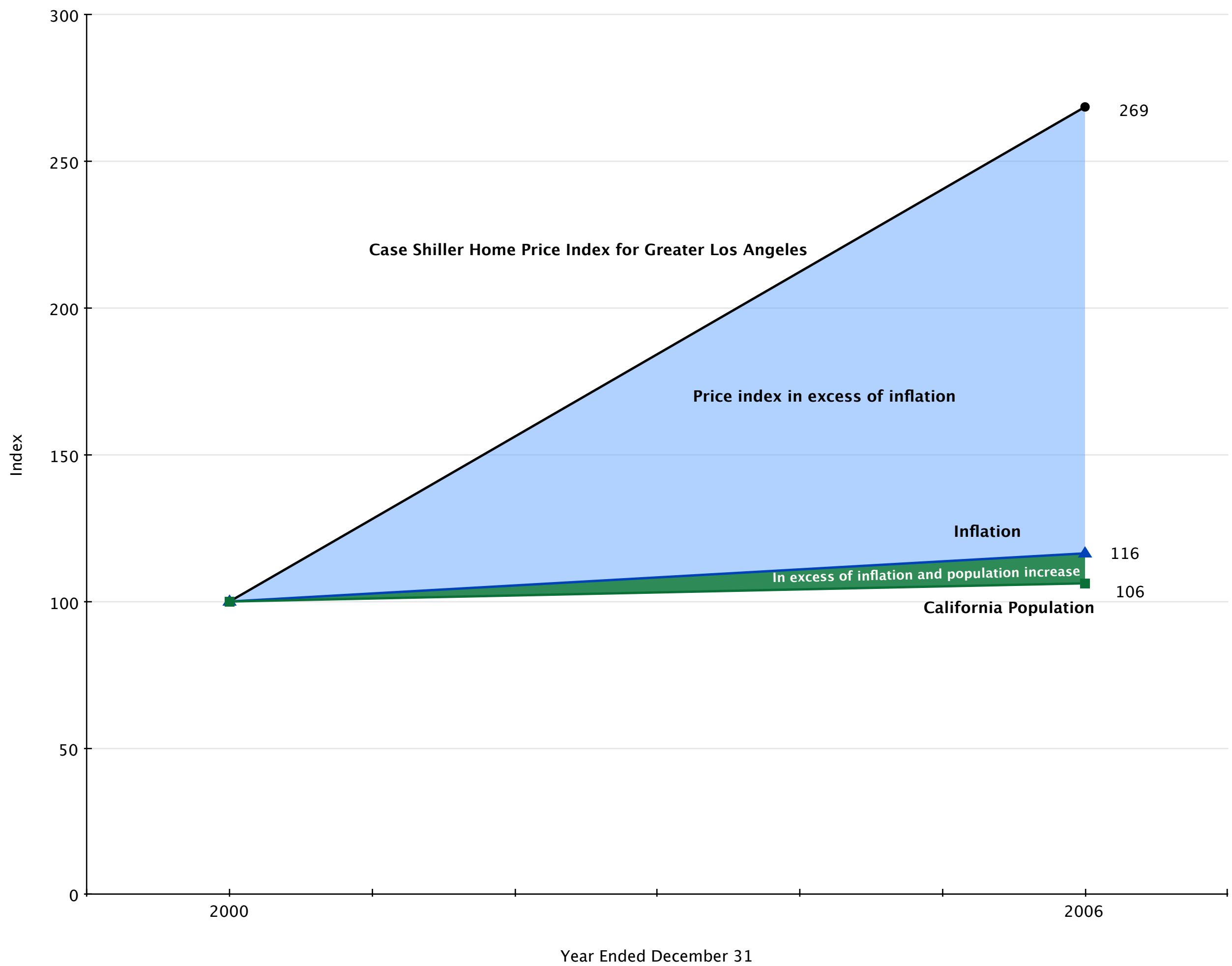


Figure 33: LTV by Occupancy Type

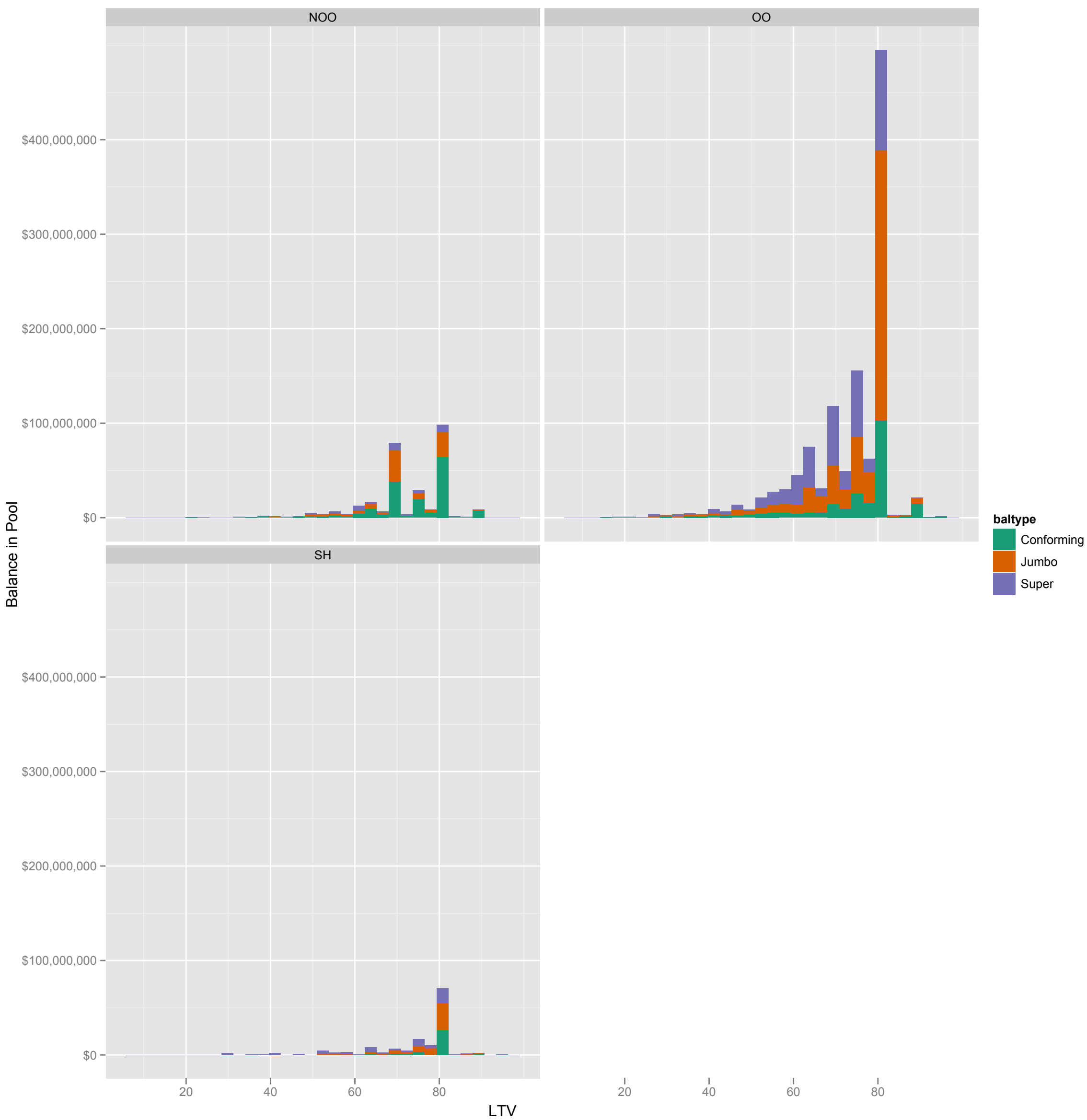


Figure 34: LTV by Purpose

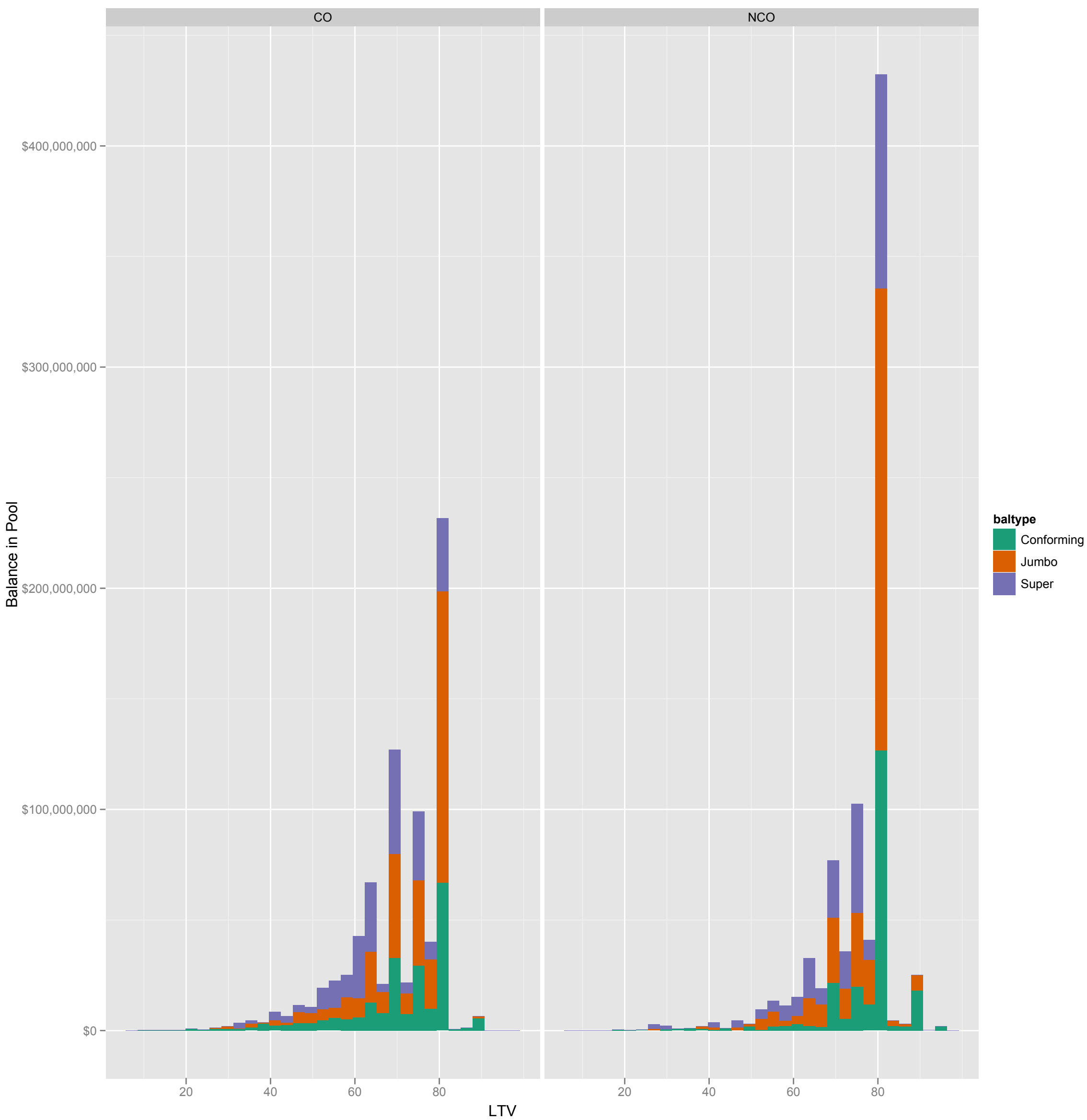


Figure 35: Margin by Balance Type

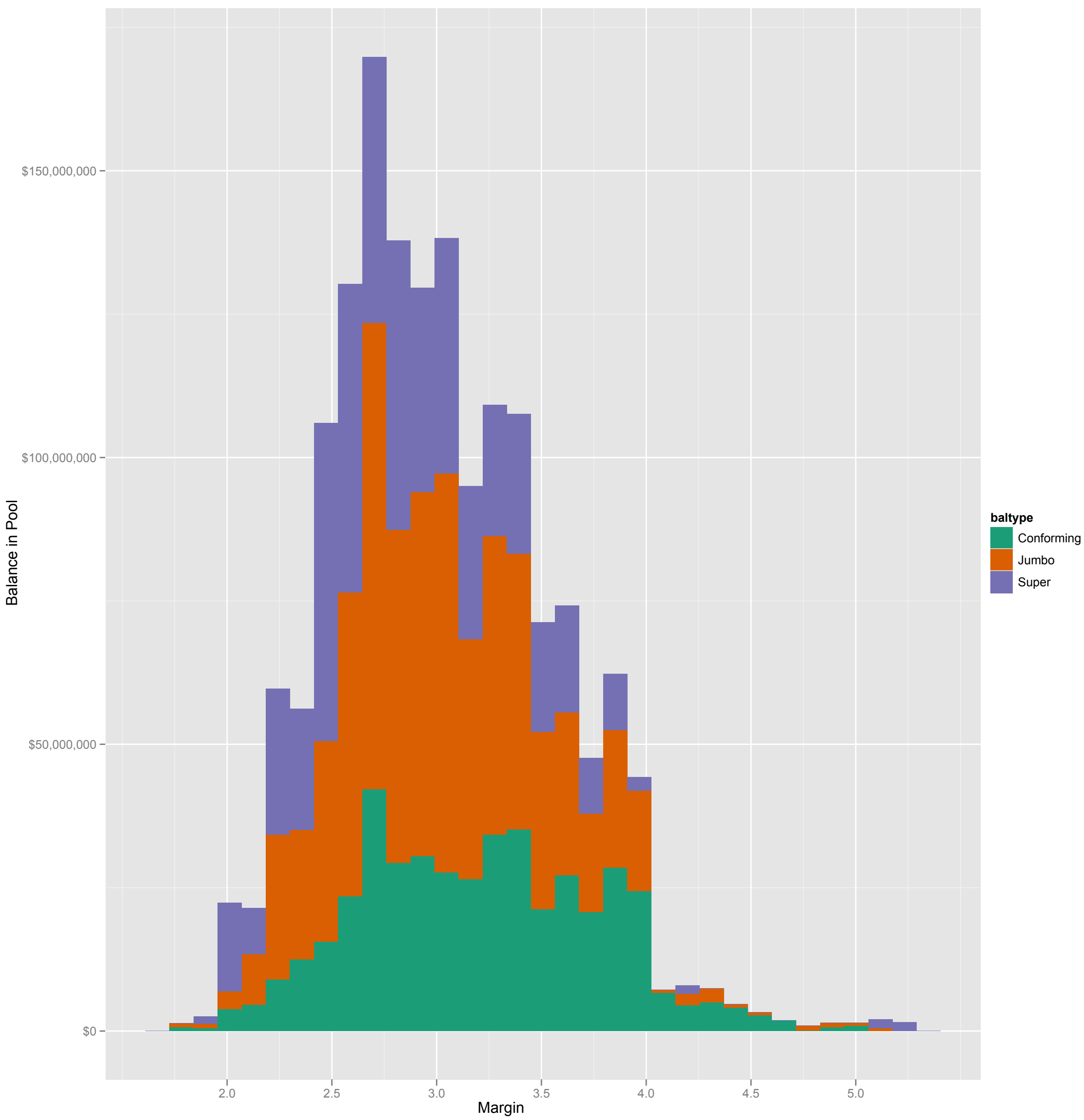


Figure 36: Margin by Occupancy Type

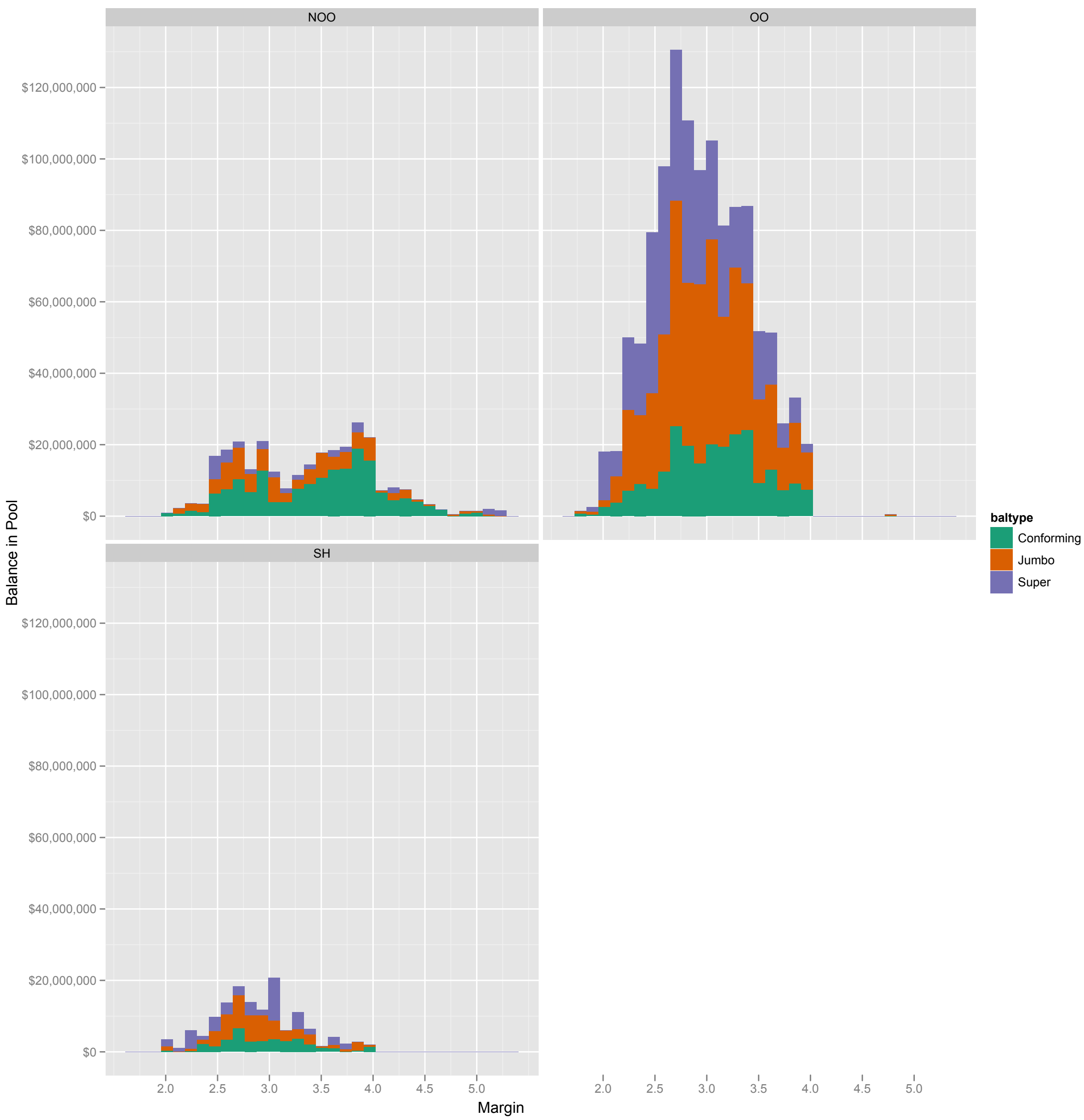
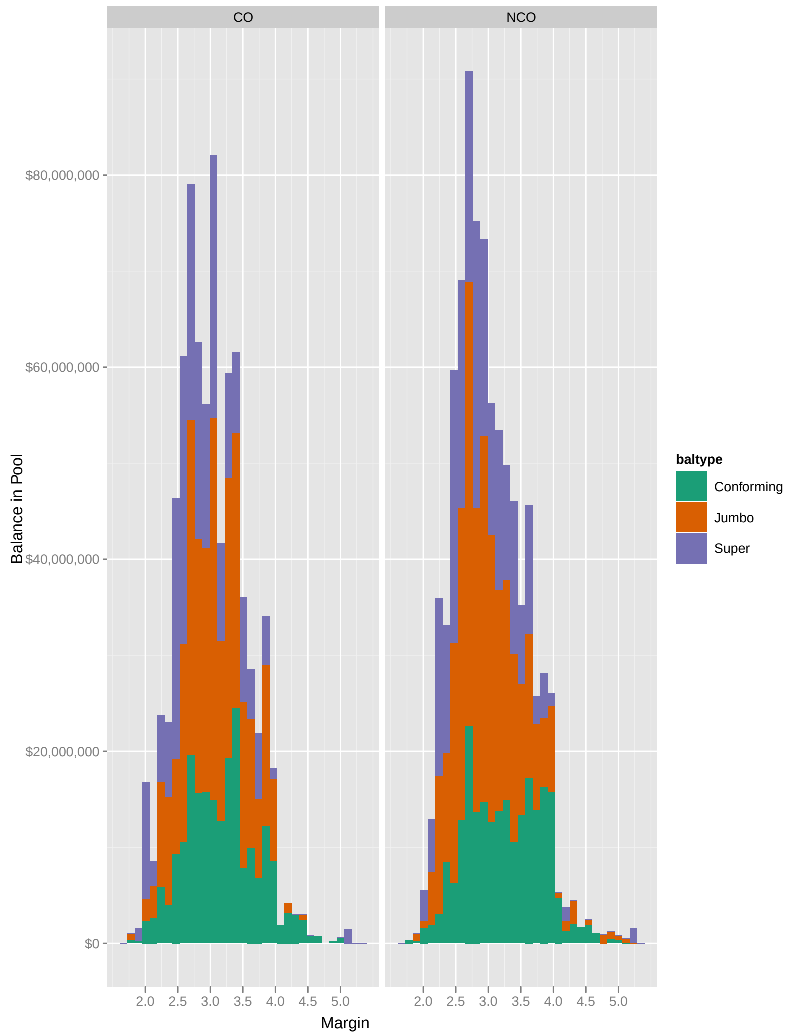


Figure 37: Margin by Purpose



```
$ tape = as.data.frame(read.csv("/home/Toolbag/oa4.csv"))
$ subord <- function(x) x/sum(tape$obal) * 100
$ highmargin = sqldf("select id, obal, fico, dti, oltv, margin from tape
where margin
>= 4")
$ margin_component = subord(sum(highmargin$obal))
$ margin_component
2.909171
```

This 2.9% represents the loans with margins greater than 4%, which he decides not worth the risk, especially given that FUNDCO is only getting a spread of around 0.75% above the index.

Matthew also sees no reason to assume that loans with FICO scores under 640 will perform. The falloff in the scores right around the 640 mark bothers him for reasons he can't quite put his finger on, but he feels that whatever it is, loans with scores that low don't belong in a prime pool. That's another 2.08% of the pool and he's quickly up to about 5%, almost half way through the credit support under his assumption of 100% loss severity.

Next, he decides to assume that the loans with an 80% or higher LTV that also have DTIs greater than or equal to 50% are equally suspect. The potential that falling real estate prices puts the home equity at risk for borrowers with a high debt loans. This adds another 4.3%, which brings his assumed defaults up to 9.29%.

Then there's the question of what to do with the large chunk of loans with no DTI data available that also have LTVs of 80 or greater. Maybe they have low DTIs and maybe they don't. That's another 7.38% chunk, pushing the defaults up to 16.66%, well above the 12% credit support level for the bonds that FUNDCO is buying. Even if he supposes that half of the DTIs are below 50%, he's still busted the credit support floor.

Does it make a difference if he relaxes his loss severity assumption? If he brings it down to 70% from 100%, the assumed default rate times the new assumed loss severity gives almost exactly 12%. He wishes that FUNDCO had some kind of written policy on weighing these risks or that Barbara had explained more to him about her thought processes.

Matthew is now getting a headache. What if he's wrong about the potential for the real estate markets to take a big backward step? If his fears are exaggerated, most of the worry about the higher LTV/DTI and higher LTV/no DTI issues recede. But if he's wrong the other way, not pessimistic enough, and prices fall further, he can easily see loans with LTVs as low as 60% at risk the same way. That would be 23.0% instead of 7.38%, making a third of the pool assumed to default when added to the low-FICO loans and high margin loans.

If that's the case, to stay under the 12% credit support level the loss severities could be no more than about 36%. That's unrealistic given his assumptions that a severe housing price contraction is the cause of the defaults in the first place.

He gets up to get a cup of coffee and runs straight into Danny. It's 2pm and trading closes at 4. Danny seems subdued.

"What's the answer?"

"Danny, it depends on what happens with real estate prices, especially in California and Florida."

"I can't trade on what ifs. Is it good or not?"

"I can only tell you that if it were up to me, I'd pass on this pool because it has too much low FICO, too much high-margin, and too much high DTI, concentrated into too few markets. That translates for me into overextended weak credits in a market that could be headed for a train wreck."

"Yeah. That's what I'm hearing, too."