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## The Month In Review

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*January 2006*

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### New in CompassPoint™!

Compass is pleased to report its recent development progress in CompassPoint™, including:

- Continued work on Pooling/Aggregate Statistic Tool:
  1. Generalized Data Source for Pooling Source Data
  2. Expanded Trade Allocation Capabilities
  3. User Interface Enhancements
  4. User Defined Fields/Excel Population Tools
- Expanded DB Tools Functionality:
  1. Ability to define query strings for db analytics
  2. Ability to copy query results with rows >1000
- Expanded Granularity and Improved Performance on Loan Reconciliation Tasks
- Expanded Help File Coverage
- Expanded Cash Flow Valuation Capabilities
  1. Cash Flow (CPR, CDR, Loss Severity) Loan Valuation and Shocks
  2. Whole Loan & Structured (Simplified Sequential, Residual)
  3. Loan Level Cash Flow Diagnostics
- Loan Level Data Adjuster/Filter Improvements

CompassPoint™ features and capabilities reflect the business needs as defined and requested by its users. For additional information on new features or to submit suggestions and requests, please contact Rob Kessel at 415-925-2812 or e-mail at [rkessel@compass-analytics.com](mailto:rkessel@compass-analytics.com).

### Market Update

In a lackluster, holiday season trade, bond yields in December continued to trickle lower from their November highs. The 10-yr treasury yield, which reached 4.66% in early November, finished the year at about 4.39% and daily price volatility became muted as the holidays came and went. Inversion also became the buzzword again as the 10-yr yield dropped below the 2-yr yield on a couple of occasions, eventually to finish the month virtually flat.

The most recent flattening/inversion of the yield curve was driven in large part by the expectation of an end to the current Fed tightening cycle. At the FOMC's December 13 meeting, the usual .25% bump in the Fed Funds target was accompanied by a change to the policy statement that included dropping the phrase "remove excess accommodation". Following the announcement, the bond markets continued to price in an



increase for the January meeting, but expectations for a March increase began to dwindle. With the Fed seemingly entering a more neutral phase, the emphasis shifts back to the economic data and it may help steepen the yield curve somewhat in the coming weeks.

Several economic releases in December moderated from their prior month's readings. Industrial production, Chicago PMI, the ISM index, construction spending and existing home sales were among the numbers that slipped from the levels released in November. On the inflation front, headline CPI dropped .6% in the previous month, although annualized core inflation accelerated over the last three months.

Bond investors were also cheered by a Treasury Department report showing that net foreign purchases of U.S. securities reached an all-time high in October. In addition to treasuries, mortgage bonds did well during the month, but mortgage applications continued to drop. The MBA index fell 6.8% and 1.5%, respectively, in the last two weeks of the year as rate-lock activity slowed into the holidays.

The December employment report, released on January 6, showed a non-farm payroll growth of 108k, well below the estimated 200k+. But, this was tempered by a sharp increase to the October payroll gain (from 215k up to 305k). Even with the muted December job growth, the unemployment rate dropped to 4.9%, a level that may cause some concern for bonds if it is maintained for any length of time.

All-in-all, December was a pretty good month for bonds, but mortgage volumes remain pretty weak. With oil and gasoline prices on the rise again and natural gas already high, it will be interesting to see whether the economy slows any further. The Fed will certainly be watching each release closely as they approach a pause or end in the tightening cycle. *-Lindsay Hill*

### **Topic of the Month: Challenges in Pricing and Valuing Non-Conforming Products**

As production has trended toward non-conforming products such as Jumbo, Alt-A and Subprime fixed and adjustable products, many originators have found better execution in selling such production in closed loan, mandatory bulks (pools of 5M or greater of similar mortgages) as opposed to individual mandatory or best efforts loan sales. Although this execution strategy has resulted in superior delivery for most originators, secondary marketing managers (SMMs) have found it increasingly difficult to value and price individual loans to their expected bulk execution. For example, while an SMM can accurately price an individual loan to a specific investor and program using a published base price and loan feature price or yield adjustments, the same loan may be valued significantly different if delivered and sold within a bulk delivery, even if sold to the same investor. This pricing disconnect can become particularly unnerving as pipelines become more concentrated with non-conforming, bulk product. The objective of this article is to identify the challenges this pricing disconnect poses to SMMs, provide color as to why the pricing mismatch exists in the first place and pose possible solutions to more closely match expected and actual bulk execution valuations.

#### *Characterizing the Challenge:*

Most SMMs are formulaic in their approach to the rate sheet pricing they distribute daily. SMMs establish the total value a given loan represents to his or her firm, back out their desired product or channel profit margin and publish base prices along with investor loan feature price adds and subtracts. If the loan is being hedged, assumptions are usually made about hedge cost and expected profit margins net of assumed hedge cost. See Table A below for a more detailed example of how SMMs might price a 30 year, fixed, 7.25%, 30 day, no ratio, Alt-A lock that is a non-owner occupied, 2 unit, 75% LTV purchase with a 475K loan amount where the borrower has a 740 FICO.



**Table A: Sample Lock Price/Economic Value Derivation**

<i>Investor Rate Sheet Price</i>		100.977
<i>SRP (Feature Adjusted)</i>		1.350
<i>Loan Feature Price Adjustments:</i>		-2.125
NOO/LTV	-0.875	
Units/LTV	-0.500	
FICO/LTV	-0.250	
Loan Amount/LTV	-0.125	
No Ratio Documentation Type	-0.375	
<i>Best Efforts/Mandatory Pickup</i>		0.400
Investor Mandatory Pickup	0.250	
Anticipated Bulk Premium	0.150	
<i>Lender Economic Value</i>		100.602
<i>Rate Sheet Adjustments</i>		-0.550
Budgeted Hedge Cost	-0.100	
Targeted Profit Margin	-0.450	
<i>Lock Price</i>		100.052

Assuming locks are priced and sold in this fashion and reasonable hedge performance is achieved, SMMs can assure profitable production and forecast future gains on sale. To the extent that SMMs are not confident about the total economic value of any given product or loan on lock date, SMMs suffer a commensurate loss in confidence in what (if any) profit margin they are pricing into their rate sheet as well as what (if any) mandatory – best effort spread exists. Consequently, as SMMs evaluate their hedge performance ex poste, they have limited confidence in attributing gains or losses into the margin or hedge performance categories.

*Why the Pricing Disconnect Exists:*

In order to understand why this pricing disconnect exists, it is important to understand the ultimate disposition of non-conforming product. Most non-conforming product is securitized into CMO (Collateralized Mortgage Obligations) or pass through securities. In Table B below, we create a fictional securitization of 10M of underlying loans that is structured into three pieces, or tranches, each with its own principal balance, credit rating, expected (average) life and par yield.

**Table B: Simplified Securitization Structure (Sequential CMO)**

<b>Tranche:</b>	<b>Principal (M):</b>	<b>Credit Rating</b>	<b>Average Life (Yrs)</b>	<b>Yield at Average Life (%)</b>	<b>Credit Spread (bps)</b>	<b>Par (Required) Yield</b>
1	8.5	AAA	2.25	4.85	50	5.35
2	1.0	BBB	7.85	4.92	250	7.42
3	0.5	Unrated	N/A		1500	15.00



In the above example of a sequential CMO, all prepayments pay down the AAA piece first. After the AAA piece has been reduced to zero principal, subsequent prepayments pay down the BBB piece. As non-conforming loans are uninsured, default losses are passed through to the investor, eroding the principal of the unrated, residual piece first after which they erode the principal of the neighboring senior (BBB) piece. Based on the priority and direction of payments, prepayment and default assumptions, the Average (expected) Life of each tranche may be calculated. The Yield at Average Life is the current treasury or swap yield at the point of its curve equal to the average life of the tranche, e.g. 2.25 years for Tranche 1. The Credit Spread is the extra yield investors require for the security given its credit rating or absence thereof. In this fictional pool, 9.5M would be sold as two liquid securities and the 500K residual would be retained or sold by the originator. Using back-of-the-envelope calculations, the 10M pool of loans would need to have a WAC (weighted average coupon or note rate) of 6.29% in order for the pool to trade at par or 100% of 10M (excluding any servicing value). The 6.29% was calculated by deriving a weighted yield (6.04%) from the three tranches above and adding a 25 bps servicing fee.

Note that the fictional securitization above has no explicit consideration for the loan product type, loan amount, underwriting guidelines or the loan features of the underlying loans that comprise the 10M pool. Instead, all of the variables SMMs are familiar with in valuing and pricing mortgages have been incorporated into credit rating and prepayment and default assumptions. For example, FICO, LTV, property type, documentation type and occupancy have all been wrapped up into how much of the pool is granted AAA (and lower) credit rating by the credit rating agencies such as S&P and Moodys. Other variables, e.g. loan type, payment information, and prepayment penalties, manifest themselves in prepayment rates which impact average life of each tranche and therefore required yield. Finally, other loan variables and external variables such as applicable local economies and real estate markets impact credit ratings and investor default assumptions which impact how quickly the principal erodes from the residual (and possibly more senior pieces) and prepayment rates. Similar variables also directly impact the value of the servicing for the loans. To put into context the impact that the credit rating has on price, if the loan features of our example pool changed, or if the rating agencies evaluation of the same loan features changed, and the changes resulted in downgrade of 5% of the AAA piece to the unrated piece, the required WAC would increase by nearly 50 bps, or using a rate-to-price multiple of 3:1, a decrease of price by 150 bps (ignoring the likely change to servicing value).

The above example, though grossly simplified, describes in concept how bulks are valued and purchased by bulk investors. Investors receive a spreadsheet or data feed of applicable data, push the data to an S&P, Moodys or other credit model, and employing loan and credit data, engineer the most applicable securitization structure. The cash flows and ultimate valuation of the securitization structure is generated by looking at the current yield curve, credit spreads and the weighted average life of each tranche which is based on their prepayment and default models which in turn is based on the loan level data. In released transactions, servicing values are derived by using servicing valuation models employing similar prepayment and default assumptions. A whole loan bulk bid then becomes the sum of the securitization and servicing values.

Returning to pricing disconnect problem SMMs face, the question remains that if the investors have access to these same models and assumptions, why would they buy an individual loan for their rate sheet, feature adjusted price, when that price is different than the price they would pay for the loan if delivered within a bulk. One possible answer is the limited transparency on how the credit rating models work, e.g. what loan level features or combinations thereof, in what markets, individually impact their credit rating. In other words, investors may not have sufficient credit grade granularity to pass along to originators. Another possible answer lies in the complexity investors face in how they communicate price adjustments based on multiple variables which don't necessarily add up if applied sequentially. For example, the five loan



feature adjustments from Table A may sum to a 2.125% hit in price but when considered in connection with each other and other variables in a multidimensional model, may only represent a 1% hit in price. Finally, the properties of any individual loan may often be mitigated by other loans when evaluated within a pool of loans, i.e. the value of an individual loan is dependent on the loans with which it is pooled.

*Possible Solutions:*

For many SMMs, the first response to mitigate this pricing disconnect is to go back to selling loans on an individual, mandatory basis. With this strategy the SMM has reasonable faith that the feature adjustments will stay the same and he/she can anticipate realizing the investor mandatory – best efforts pickup less a more transparent hedge cost. Unfortunately, this strategy can be costly over time as bulk execution often results in substantial premiums relative to individual investor single loan mandatory sales.

A hybrid of this strategy is to evaluate what applicable investors would pay for each individual loan, deriving a weighted price across the pool of mortgages, and comparing that weighted price to the best bulk bid. Although this strategy may indeed represent a sound best execution strategy, SMMs have to be careful that they evaluate which investors will bid on loans both individually and in bulk and for such investors, what, if any, underwriting guideline differences may exist between individual and bulk loan sales.

A solution for SMMs who continue to sell bulk is to price to an average of top investors' prices and feature adjustments and calibrate these adjustments over time with each bulk sale. Although this approach can provide better valuations and confidence in performance, pricing disconnects may still exist as the calibration/average process is reactive to market conditions, changing pipeline composition and changing credit agency fundamentals.

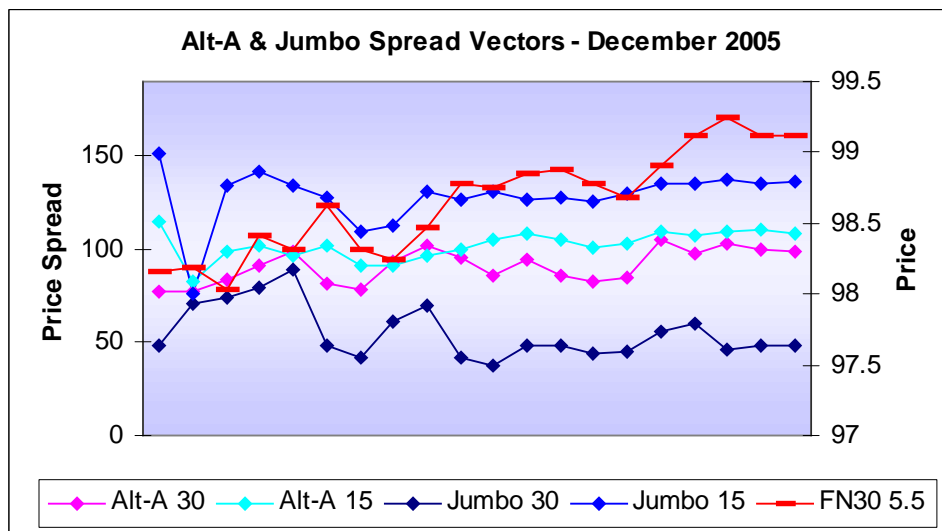
The ultimate solution, one that is beginning to emerge in the marketplace, is for SMMs to start employing the same models investors employ when SMMs price locks and value pipelines. By adopting these models, SMM can narrow this pricing disconnect as much as possible by employing the same models and data available to the larger investors. This entails utilizing loan level credit rating data that is now available, albeit expensive, from some of the credit rating agencies and tying that data into cash flow and securitization models, kept current with market levels and contemporary securitization structures in order to derive truer loan and servicing values. Similar models and data also enables SMMs to calibrate individual loan prices against modeled pools of loans in order to calibrate any difference in the value of a pool of loans versus the weighted price of the individual loans. Through these types of models and increasing transparency from the credit rating agencies, SMMs can begin to mitigate this troubling price disconnect that applies to ever-growing portions of their pipeline. – *This is a preview article which will be printed in Secondary Marketing Executive's April 2004 Pipeline Risk Management Supplement, Rob Kessel*



## Alt A and Jumbo Spreads

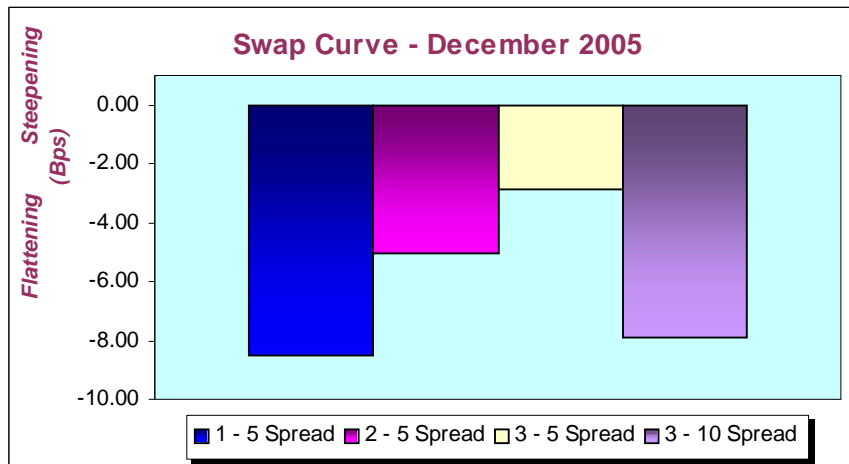
The first half of December, characterized by a volatile MBS market, absorbed little, but mixed economic data. Like every month, December started with the typically market moving Non-Farm Payroll release, which was atypically in line with expectations. Although the market barely moved, Alt-A and Jumbo 15 year spreads tanked, as much as 75 bps on the Jumbo 15 year spread. Interestingly, 30 year spreads showed a very different reaction, as the Alt-A 30 moderately changed and the Jumbo 30 spread widened. The 15 year spreads widened to near previous day levels the following day, and remained relatively stable throughout the month. Another Fed rate hike in the middle of December caused a two-day market rally, as the Fed slightly changed the language in the accompanying policy statement. All spreads widened, although not nearly as much as MBS prices rallied. The market continued to edge higher through the last half of December, while spreads moved in a tight range day-over-day. The average daily change was 4 bps for all spreads, with the exception of the Jumbo 30 year which exhibited the most volatility, as can be seen in the graph below.

Compass observed fewer bulks executed than usual in December, most likely due to year-end factors. We valued ten Alt-A and Jumbo Fixed bulks, for which our valuation derived prices within a mode range of 14bps from the winning bids. The range of investor bids widened from previous months, at an average of 162 bps, with one bulk seeing a range as high as 222 bps. Two specific investors won the majority of bulks in December, with a 30bp average cover back from the winning bids. – *Vimi Vasudeva*





## Hybrid Arm Hedge Analysis



Yields moved higher in the first few days of December with economic data pointing to solid economic growth. Friday's NFP release showed a gain of 215,000 jobs and was in line with expectations, leaving the MBS market little changed. Swap spreads widened at the front of the curve, though the long end tightened as more short-term rate hikes were feared. The 1-5 spread steepened over 2 bps and the 3-10 flattened over 2 bps.

A volatile market week followed with a few mixed economic indicators released. Higher productivity and lower unit labor costs led to a rally on Tuesday and tighter spreads throughout the swap curve. The market fell off and then rallied with a lack of significant news Wednesday and Thursday. Friday, the Univ. of Mich. Sentiment Index hit a four month high and the previous day's rally was erased, forcing swap spreads wider. The MBS market gained 13 bps over the course of the week and swap spreads were marginally wider.

The following week the Fed, as widely expected, raised the Fed Funds Rate 25 bps on Tuesday. The big news was the change in the accompanying policy statement, from which "accommodative" was removed and "measured" retained. The market rallied 53 bps over two days following the statement. Thursday's relatively benign CPI releases were in line with expectations and left the market little changed. Overall, the market finished up 53 bps and swap spreads flattened with the 1-5 spread leading the way, tighter by 7 bps, while the remainder of the curve was tighter by an average of 3 bps.

In the final two weeks of December trading was thin and little significant news hit the market. The most watched occurrence was the slight inversion of the Treasury yield curve in the last week of the year. The 3-10 portion of the swap curve continued to flatten as short-term yields remained unchanged or increased while the 10 year swap yield fell.

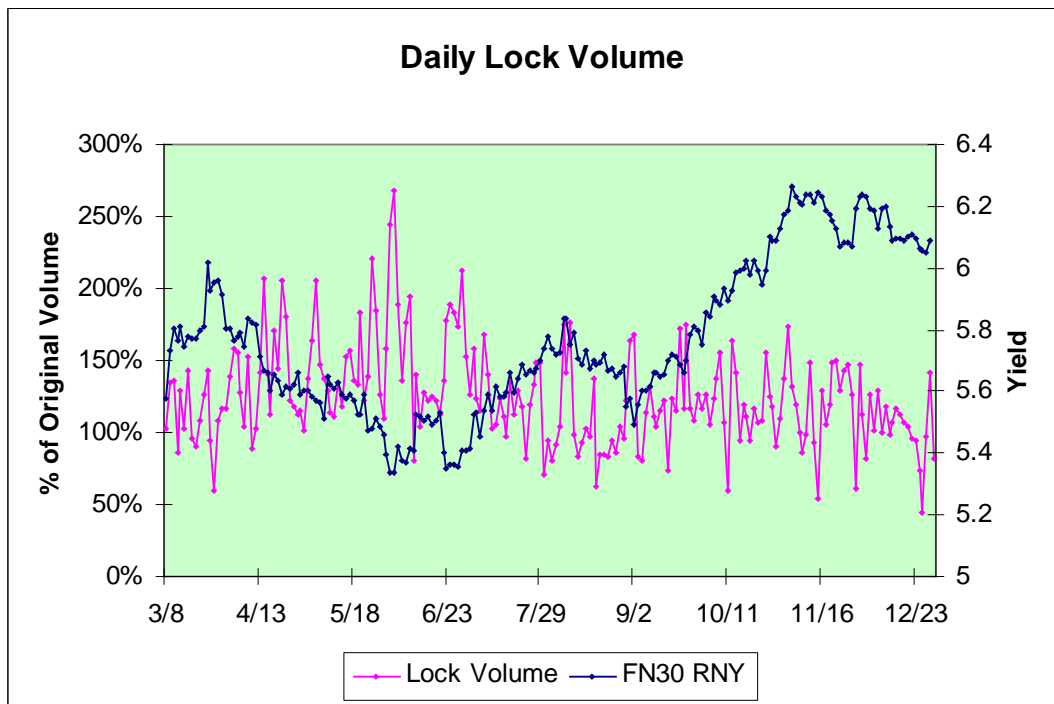
As seen in the graph, the swap curve flattened throughout in the month of December with the market gaining 75 bps. The 1 year Libor yield was up 3 bps while the 5 and 10 year swap yields were down about 5 and 10 bps, respectively.

The Eurodollar Future hedge outperformed the Dwarf hedge by an average of about 2 bps with all hedge results in negative territory. The 3/6 hedges showed the best performance. The 3/6 EDF hedge outperformed the Dwarf hedge by 5 bps while the 5/6 and 7/6 hedge differences were marginal. *—Virgil Caselli*



Month Ending Dec 30 2005	Hedge Performance	
	ED (Bps)	Dwarf (Bps)
3/6 Arm	-3	-8
5/6 Arm	-11	-12
7/6 Arm	-10	-11

### Production Index



With help from the Winter Holidays production in December continued November's downward trend. Average volume for the month was 104% of our base volume (vs. 110% in November) ranging from a high of 147% to a low of 44%. Again, similar to November, yields on the FN30 RNY traded in a tight range with a low of 6.05% and a high of 6.24% with an average yield of 6.13%. - *Bob Gundel*