

# **PRICE VERIFICATION P & P**

## **SECURITIZED PRODUCTS VALUATION CONTROL**

**Updated March 3, 2008**

## PRICE VERIFICATION P&P

### Identification of Inventory to be Tested

#### *Extract*

The price verification process begins with the identification of the population to be tested (referred to as “Inventory”) and the determination of a valuation date. The population is derived from the positions that are booked in the Gquest system (referred to as “Gquest”) as of the last business day of each month (referred to as “Valuation Date”) in the Mortgage Trading ledgers.

Gquest is a global system for tracking profit and loss (referred to as P&L”) and facilitates data collection, correction, and reporting. It provides Finance with the ability to report the P&L from an individual security level up to a consolidated divisional level. Gquest sources trade date plus one day data from a variety of other systems including GEDS, ITS, GSS, TMS, RISC and GFS. Product controllers can view the components that generate P&L at a detailed level. The system allows users to modify/correct trading and commission data in order to produce the daily P&L “flash” reports. Gquest retains information at the individual position level for 35 calendar days or 22 business days back from the current date. Further dated information is only available as of the last business day of each month.

Gquest is also used to identify the positions to be price verified because it includes all positions on Lehman’s balance sheet and any other commitments related to VaR.

An extracting tool within Gquest allows for the download of critical information of the Inventory for analysis. Finance extracts the Inventory booked in Gquest as of the Valuation Date to Excel, (referred to as the “Extract”). The data contained in the Extract includes the following:

<b>Profit Center</b>	<b>Position Size</b>
<b>Trader</b>	<b>Price (referred to as “Inventory Price”)</b>
<b>Account Number</b>	<b>Market Value</b>
<b>Security Number</b>	<b>EJV Price (Third party price provider)</b>
<b>Cusip</b>	<b>IDC Price (Third party price provider)</b>
<b>Issuer</b>	<b>Extel Price (Third party price provider)</b>
<b>Coupon</b>	<b>ABSG Price (Third party price provider)</b>
<b>Maturity Date</b>	

The Third Party Prices are derived from a tool built within Gquest that pulls Third Party Prices from the ESM system within Lehman Live.

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The Gquest Extract is the starting point for the price verification process and is the basis for the creation of the “**Central File**”. A sample of the Extract is in **Appendix I** and can be found in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** folder under the applicable year and month.

In order to maintain the integrity of the data, a **Control Number** is assigned to each position. This ensures that as the holdings in the file move through the price verification process all positions are accounted for.

Additional information is downloaded from Bloomberg via the API function and is added to the Central File. In order to facilitate a quicker download from Bloomberg, multiple excel files are created using only the control number and cusip columns from the Central File. These files are named “MTG Simple Bloomberg 1, 2, 3, 4...” and can be found in the **G:\Financial Control\Daily B-S\Mortgages Bloomberg\jPK** folder.

The following data is downloaded from Bloomberg:

- Security Description**
- Moody’s Rating**
- S&P Rating**
- Fitch Rating**
- Bloomberg Rating**
- Mtg CMO Class**
- Mtg Tranche Type (Short)**
- Mtg Tranche Type (Long)**
- Mtg Type**
- Lead Manager**
- Co Manager**
- Mtg WAL**

This data is updated in the Central File using Vlookups to the MTG Simple Bloomberg files. After the data is updated it is range valued and the Vlookups are eliminated.

Before the file is completed the following formula columns are added:

**ABS MKT VAL** – Absolute market value

**Avg. Ext. Price** - The average of EJ, IDC, Extel and ABSG prices

**Variance** – The difference between the absolute market value and the inventory price multiplied by the position amount divided by 100.

**Link** – An additional unique identifier made up of acct\_no and sec\_nbr fields.

**Grade** – An “If” statement is used to determine IG or NIG based on ratings.

**BS File Collateral Type** – Vlookup is used to extract type from prior period file.

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Any missing types are determined by using the Profit Center, Trader, Issuer, Security Description, and Tranche Type.

**Identifiers 1, 2, 3** – Used to identify those positions that are IO, PO, INV, MEZ, Sub, Z and Sup tranches based on MTG CMO Class

**Tolerance** – The allowable price differential between Product Control and the Trader. Those positions are assigned a value via a Vlookup to the “Tolerance Matrix.” Pass through securities are given specific tolerances based on fixed or floating collateral. The tolerance matrix was determined by compiling the third party marks received and comparing the differences in prices during a three month period. This analysis provides a proxy for how much prices change during a period. The last analysis was performed for the third quarter 2007. Bond prices had widened out so significantly during that time period and thereafter that the analysis resulted in using more aggressive tolerances than outlined below. The matrix was not changed and the conservative tolerances outlined below continue to be used. Bond prices continue to be analyzed and any changes to the tolerances will be made as necessary.

<u>Type</u>	<u>Agency</u>	<u>Prime</u>	<u>Non Prime</u>
IO	3.0	4.0	4.0
PO	3.0	4.0	4.0
INV	2.5	3.5	3.5
Z	2.5	3.5	3.5
Sub	2.5	3.5	4.5
MEZ	3.0	4.0	5.0
SUP	3.0	4.0	5.0

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Pricing tolerances, which are based on bid offer spreads, are reviewed quarterly.

**Flag** – Determined using “IF” statements described in further detail later in the procedure. The flags include:

*NPA* – indicates that No Price is Available from a third party mark, recent trade or alternative procedure.

*Pass 1* – Positions which pass the dollar difference threshold based on the position’s IOSCO rating. These thresholds are set by Global Price Verification.

*Pass 2* – Positions which pass the price threshold (Tolerance) based on the instrument type. This test, which considers position size, is performed on all positions that fail the dollar difference threshold.

*Fail* – Positions which fail to pass either the dollar or price threshold test.

**Variance** – A formula populates the amount from the variance column for all positions flagged “Fail”.

**Longs** – Formula populates the value of all positions greater than 0.

**Shorts** - Formula populates the value of all positions less than 0.

**ABS mkt val of Ext. APriced – Absolute Value of Long Market Value.**

**ABS mkt val of Ext. Priced – Absolute Value of Short Market Value.**

**Pricing File Collateral Type** – An “If” statement is used to determine if the market value is less than \$ 1 million. These positions fall below scope and are identified as such. The remaining population is updated with the types from the Collateral Type BS File column.

**IOSCO** – Used to identify SFAS 157 Fair Value Hierarchy.

After these columns are updated the file is reviewed to ensure that all positions have been assigned a collateral type. By using the Profit Center, Trader, Issuer, Security Description and Tranche Type, as well as referencing Bloomberg and Gquest, missing collateral types are assigned.

To summarize, an Extract from Quest is downloaded and is built upon by incorporating additional data elements from Bloomberg as well as some formula columns. Once finalized, it is saved under the filename “Central File”. The Central File is used as the

## PRICE VERIFICATION P&P

basis for other reports and processes performed by Product Control, including the Price Verification, the Balance Sheet Matrix, the Asset Watch List and various FAS disclosures. In order to maintain the integrity of the data, a copy of the Central File is pasted as a tab labeled “**Quest Extract**” in the price testing analysis or the “**Pricing File**”. The record count, total UPB and total Market Value are checked to ensure that all the data was copied from the Central File. The Pricing File contains the information resulting from the Price Verification Process.

The Pricing File is located in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** folder under the applicable year and month.

The positions are carved up based on the Pricing File Collateral Type column. A tab is created for each type they include:

- ABS Real Estate**
- ABS Secondary**
- Agency CMO**
- Prime**
- Passthroughs**
- Non-Prime**
- NIM**
- Residuals**
- Servicing**
- Whole Loans**
- Futures**
- Treasury**
- Below Scope**

Summary and Control tabs are added to ensure that record count, total UPB and total Market Value reconcile to the Quest Extract tab. Additional tabs are created that include:

- Conclusions** – By type, explaining price verification conclusion reached
- Inventory** - A chart showing priced inventory concentration
- Credit Exposure** - Charts showing credit exposure by type
- Tolerance Matrix** – Matrix used to look up price tolerance by type
- Breakout** - Summation of IOSCO information used for Fair Value Disclosure.

The Price verification process begins at this point. The verification process for each type is described in detail in the Price Verification Process section of the P&P.

### **Reconciliation of Inventory**

In order to ensure that all positions have been included in the Price Verification process, the positions obtained through the Quest Extract are reconciled to two other systems. These include the Global Funding System (GFS) and Whole Loan Tracking.

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### *Global Funding System to Gquest*

Global Funding System (referred to as “GFS”) is Lehman’s balance sheet technology system. Its purpose is to serve as an application to provide a strategic global platform for warehousing and reporting Lehman’s financial resources. It incorporates a consolidation of accounts, positions, and trade level information. The GFS system contains four modules to provide a single source of data required to determine Lehman’s funding needs, identified as 1) Carry – Allocation of funding costs, 2) Sources and Uses – Allocation of secured financing and identification of unsecured funding requirements, 3) Balance Sheet - Statement of capital resources, and, 4) Cash Capital – Calculation and allocation of capital requirements. At each Valuation Date item 3, the Balance Sheet, is reconciled to the Quest Extract.

Using the reporting tool within GFS, a Custom Balance Sheet Positions report is run listing the position detail contained in GFS as of the valuation date. Custom filters are used to ensure that FID Product Control Mortgage Trading positions are captured. The report is run to Excel and is saved as a tab in the **GFS to Gquest Reconciliation file** labeled GFS Download. Certain positions are reflected in GFS that have not yet settled and would not be reflected in Gquest. These include “When Issued” and “Whole Loan Pending”. These positions are carved out and saved in a separate tab labeled “Removed Items”. A formula is added to the download tab that will “Link” the Acct\_Nbr and Sec\_Nbr fields. The data contained in the extract is lot level detail; the “Link” is used as an advanced filter to summarize the data in the “GFS Download Summarized Data” tab of the file. A copy of the Central File is pasted as an additional tab and is labeled Gquest Source Data. The record count, total UPB and total Market Value are checked to ensure that all the data was copied from the Central File. Using the “Link” a reconciliation of position amount and market value is performed between the Gquest Source Data and the GFS Download Summarized Data. Positions that are not in GFS are identified and saved in a separate tab identified as such.

It is important to recognize that GFS is a balance sheet system and Gquest is a P&L tracking system. The reconciliation between the two will normally have variances due to the timing of when mark to market information is updated in GFS. These variances can be attributable to system timing differences from collateral paydown and bond notional write downs. In addition to the timing, the majority of the variances between the two systems relate to the following:

**Balance Sheet Gross Ups** are reflected in GFS and not in Gquest.

**Netted Hedges** (referred to as “Cusip Netting”) are reflected in GFS and not in Gquest.

**Forward purchases** (referred to as “TBA’s”) and **Commitments** are reflected in Gquest and not GFS because they are essentially options to purchase and have the same characteristics as a derivative.

A sample may be seen in **Appendix II** and can be found in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** folder under the applicable year and month.

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### *Whole Loan Tracking to Gquest*

Whole Loan Tracking is Lehman's loan tracking system referred to as ("WLT"). Using the reporting tool within WLT, an inventory download is run containing the detail of each loan on Lehman's balance sheet as of the specified valuation date. Each loan is part of a loan pool identified by MTS code. Since the data contained in Gquest reports all whole loans bucketed by MTS code the downloaded loan detail must be rolled up by MTS code. This process is facilitated by using MS Access. After the WLT detail is rolled up by MTS a file is created that contains the MTS Code and a total of the current balance of the loans contained in each. This data is saved as a tab labeled "WLT Data" in the "**Whole Loan Reconciliation**" file. The whole loan data is copied from the central file into a tab labeled "(Month Name) Rec". The record count, total UPB and total Market Value for the whole loan population are checked to ensure that all the whole loan data was copied from the Central File. Using the Vlookup function reconciliation is performed comparing the Gquest data to the WHL data. The total current balance of each MTS code is compared and a column is added identifying the Variance. Each variance is identified and a Comment column is added where each variance is explained.

In addition to the timing differences, the majority of the discrepancies between the two systems relate to Forward Purchases/Sales, HUD/Joint Venture, and Pipelines.

**Forward Purchases/Sales** are reflected in Gquest but not in WLT until settled. These positions are identified with MTYS codes that begin with "WH".

**HUD/ Joint Venture** activity is reflected in Gquest and in WLT.

**Pipeline** information is reflected in Gquest and not contained in WLT.

A sample of the **Whole Loan Reconciliation** may be seen in **Appendix II** and can be found in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month under the **Whole Loan** folder.

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### Price Verification Process

#### *Whole Loans*

Price transparency does not exist for whole loans. The exit strategy of the whole loans purchased by Lehman is primarily securitization, agency deliveries and sales. Stemming from this concept, the whole loans in inventory are price verified using a few different methodologies which include Mock Securitization, Agency Conforming, and recent sales prices.

#### **Mock Securitization**

The Mock Securitization Model can be run using two pricing methodologies. The first is the **PnL** experience of the last securitization. The second is using the **Levels** approach where the average inventory bond prices are applied to a subordination structure.

#### **PnL**

During the last week of the month the valuation team begins to compile the Deal P&L Sheets for those deals that are closing for the month. The Deal P&L Sheets are utilized by the P&L Management group as an aid in the reconciliation of flashed deal P&L and are incorporated into the price verification process for whole loans. The compilation of the Deal P&L Sheets ensures that the exit spread that will be utilized for whole loan testing is an accurate measure, since it has been validated by a variety of support systems and to the firm's books and records.

The Deal P&L sheets consist of a description of the securities created with relevant information such as tranche type, current face, market price, unpaid balance (UPB), number of loans in deal, weighted average coupon, cost of loans, trapped interest and any other expenses. Since the Deal Sheets are utilized to reconcile recorded reserves and PnL flashed, transaction specific deal information is traced back to Whole Loan Tracking, MTS and Gquest. The tracing of this data is evidenced by pasting print screens from appropriate systems into the Deal P&L Sheets. These print screens include, a copy of the wire into the issuing trust of the Whole Loan, copies of MTS trade detail of any securities that sold prior to closing as support of the market price and copies of inventory mark as per Gquest for those tranches without a sale price.

A sample of the **Deal P&L Sheets** may be seen in **Appendix III** and can be found listed by deal name in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month under the **Whole Loan** folder.

In addition to the information listed above, a copy of the mid office deal P&L estimate work sheet (referred to as "Mid-Office Sheet") is also pasted into the Deal P&L Sheet. A sample of the **Mid-Office Sheet Appendix III** and can be found in the **J:\Mbs-mid on 'leh\corp\groups\fin.\DEALS** in the applicable year and month.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Whole Loans-continued*

In order to utilize the Mock Securitization model the whole loan population needs to be split into the various whole loan types. This is facilitated by pasting the “**Whole Loan**” tab of the “**Pricing File**” into a new file called “**Whole Loan Population**”. The record count, total UPB and total Market Value of the whole loan population are checked to ensure that all the whole loan data was copied from the Pricing File. Not all the fields from the Pricing file are required for this testing. The fields maintained in the Whole Loan population file include:

<b>Control No.</b>	<b>Mat_dt</b>
<b>Profit_Center</b>	<b>Position</b>
<b>Trader</b>	<b>ABS Positions</b>
<b>Acct_No</b>	<b>Inv Price</b>
<b>Sec-Nbr</b>	<b>Mkt value</b>
<b>Issuer</b>	<b>Abs Mkt Val</b>
<b>Coupon</b>	

By utilizing the profit center and trader information each position is assigned a type based on the categories listed below. Each type is tested based on the applicable Shelf Names indicated for each.

<b>Category</b>	<b>Securitization Shelf Name</b>
<b>FHA/VA</b>	<b>SASCO Year - #RF</b>
<b>High LTV</b>	<b>SASCO Year - #H</b>
<b>Home Express</b>	-----discontinued securitization as exit-----
<b>Neg Am – Negative Amortization</b>	<b>LXS Year - #N</b>
<b>Prime Fixed</b>	<b>LXS Year - #</b>
<b>Prime Hybrid Arms</b>	<b>SARM Year - #</b>
<b>Reverse Mortgage</b>	<b>SASCO Year – RM#</b>
<b>SBF – Small Business Finance</b>	<b>LBSBC Year - #</b>
<b>SBA Non-performing</b>	-----not securitized-----
<b>Scratch &amp; Dent</b>	<b>SASCO Year – GEL#</b>
<b>Sub Prime</b>	<b>SAIL Year - #</b>
<b>Sub Prime Seconds</b>	<b>SAIL: Year - #S</b>
<b>Pipelines</b>	variety of deal structures listed above

Each collateral class has a specific deal structure or Lehman shelf securitization. Year indicates the calendar year of issuance and # indicates the chronological order of deal issued off that shelf.

Essential to the price verification of whole loans, is the categorization of its performance. A file containing loan level performance information for each MTS code is provided by Aurora Loan Servicing (ALS) and aging information is provided by the Business Support and Analysis group. This information is divided into three categories, 1) legal status, 2) days delinquent, and 3) days aged. Legal status indicates if a loan is in bankruptcy,

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### Price Verification Process

#### *Whole Loans-continued*

foreclosure or REO. In addition current appraisal information is also received from ALS. This information is pasted as a tab labeled “MTS” into the Whole Loan Population file.

A “Summary” file is created linking the data from the spreadsheet for each type to ensure that the total UPB and Market Value of the whole loan population were included in the tested analysis.

The Whole Loan Population file, the individual files for each type and the Summary file may be viewed in **Appendix IV** and can be found in **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month under the **Whole Loan \ WL Testing** folder.

Not all whole loans meet the requirements of a securitization. In order to identify the whole loan inventory deemed securitizable, whole loans that can not be securitized must be identified. These non-securitizable loans include foreclosures, REO and delinquent loans. The VLookup function in Excel is utilized to populate the appropriate performance data from MTS to the positions in each whole loan type. The whole loans are then divided by legal status, performance, status and age.

Once this data has been updated algorithms in the Excel spreadsheet total the positions up into one of these categories and the loans are price tested as follows:

**Non-Securitizable** – Loans are tested using the average appraisal values of those loans in foreclosure and/or REO which are less than 100% of the loan balance. If there are no foreclosed or REO loans in the specific population being tested, the average appraisal value under 100% of a similar collateral type will be used (Prime, Neg AM, Prime Hybrid ARMs could utilize the same value) of those loans under

The **Securitizable** positions are price tested using the Mock Model.

#### **PnL**

During the last week of the month the valuation team begins to compile the Deal P&L Sheets for those deals that are closing for the month. The Deal P&L Sheets are utilized by the P&L Management group as an aid in the reconciliation of flashed deal P&L and are incorporated into the price verification process for whole loans. The compilation of the Deal P&L Sheets ensures that the exit spread that will be utilized for whole loan testing is an accurate measure, since it has been validated by a variety of support systems and to the firm’s books and records.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Whole Loans-continued*

The Deal P&L sheets consist of a description of the securities created with relevant information such as tranche type, current face, market price, unpaid balance (UPB), number of loans in deal, weighted average coupon, cost of loans, trapped interest and any other expenses. Since the Deal Sheets are utilized to reconcile recorded reserves and PnL flashed, transaction specific deal information is traced back to Whole Loan Tracking, MTS and Gquest. The tracing of this data is evidenced by pasting print screens from appropriate systems into the Deal P&L Sheets. These print screens include, a copy of the wire into the issuing trust of the Whole Loan, copies of MTS trade detail of any securities that sold prior to closing as support of the market price and copies of inventory mark as per Gquest for those tranches without a sale price.

A sample of the **Deal P&L Sheets** may be seen in **Appendix III** and can be found listed by deal name in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month under the **Whole Loan** folder.

In addition to the information listed above, a copy of the mid office deal P&L estimate work sheet (referred to as "Mid-Office Sheet") is also pasted into the Deal P&L Sheet. A sample of the **Mid-Office Sheet Appendix III** and can be found in the **J:\Mbs-mid on 'leh\corp\groups\fin.\DEALS** in the applicable year and month.

Based on the type of whole loans being tested, a copy of the applicable Deal PnL Sheet is pasted as a tab into each type file. Generally, the most recent securitization is utilized. For most this would translate into a transaction which closed in the prior month. Not all types are securitized every month. In some cases Deal PnL Sheets from securitizations that closed a year ago could be used. This is the best estimate available for testing.

The concept behind the Mock Model is to price test the positions utilizing the PnL from the last securitization and adjusting for the change in the **WAC** and **Duration** from the securitization date to valuation date (See Table 1 for an illustration of these calculations).

In order to calculate the WAC and Duration adjustments the Model is updated with the treasury rate and corresponding PV01 amount for the applicable valuation period. This information is obtained from the **USD\_Close\_Text1** spreadsheet that is e-mailed to FID NY Close from the Fixed Income - Interest Rate Products - Derivatives Trading Desk on a daily basis.

Where applicable, the "**FNMA 30Yr Hedge Ratio**" for 4.5, 5, 5.5, 6 and 6.5 coupons is updated. The hedge ratios are obtained by running the Fixed Rate TBA report from the Pricing Report section of the US MBS page found on LehmanLive.

These files may be viewed in **Appendix IV** and can be found saved in **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month under the **Whole Loan \ WL Testing** folder.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Whole Loans-continued*

The “**Price Impact of WAC difference**” is calculated as follows:

The WAC from the Deal PnL Sheet is automatically updated to the file. A formula calculates the WAC of the Securitizable population. Some of the newer or repurchased positions may not have a coupon assigned or may be reflecting the teaser rate (blanks translate to a 0% and teaser rates are very low). Including these would skew the WAC. The population is analyzed and these positions are identified. Utilizing a Vlookup the information in the WAC from MTS tab is inserted to determine if a valid coupon has is reflected in MTS. Unless a coupon rate has been determined, the position will not be included in the WAC calculation.

Once the WAC has been calculated, the difference between the WAC from the Deal PnL Sheet and the WAC of the Securitizable population is calculated and expressed in basis points.

The basis point change in the WAC needs to be converted and expressed into a price. Based on the hedge ratios that were entered, formulas in the file calculate the Slope, Y Intercept and Interpolated Hedge ratio. It is then converted to a dollar amount by multiplying it by the PV01 amount.

Once all these components are determined, the Price Impact of WAC difference is calculated as follows:

$$(PV01 * Interpolated Hedge ratio) * (WAC - Difference / 100)$$

The “**Interest rate Duration Adjustment**” is calculated as follows:

The applicable treasury rate for the current month-end has already been entered. The prior month-end rate is updated by referencing the previous month-end **USD\_Close\_Text1** file. The change in the two rates is calculated and expressed in basis points. (NOTE: If a securitization was done during the valuation period no duration adjustment is necessary).

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### Price Verification Process

#### *Whole Loans-continued*

The Price Adjustment due to Interest Rate Movement is calculated and expressed in basis points as follows:

$$(PV01) * (\text{Change in Note} / 100)$$

<b>Adjustment Calculations</b>			
<u>Price Impact of WAC difference</u>			<u>Notes:</u>
7.39	WAC - Mock Securitization	(a)	
6.76	WAC - Securitizable WL population		**WL WAC is less than Mock Sec. WAC**
(63)	WAC - Difference (in bps)		
766	10YR PV01		
0.40	Interpolated HR of FNMA 30yr		
306	(10yr PV01 * HR)		HR convert to hedge amount
(1.94)	Price Adjustment due to WAC difference (in bps)		
<u>Interest Rate Duration Adjustment</u>			<u>Notes:</u>
5.14	10YR note yield 6/30/2006		Settle Date
5.14	10YR note yield 6/30/2006		Test Date
0	Change in 10YR note yield (in bps)		
1	HR		
0.00	Price Adjustment due to Interest Rate movement (in bps)		
<u>FNMA 30Yr Hedge Ratio</u>			<u>Notes:</u>
<b>Rate</b>	<b>HR</b>		
4.5		0.75000	-0.164
5.0		0.69000	1.508
5.5		0.64000	0.39909
6.0		0.53000	
6.5		0.42000	

(Table 1)

The Adjusted Mock Exit Price of the bonds is calculated by taking the Mock Exit Price (the exit price of the prior securitization) and adjusting for the WAC and Duration calculated above (See Table 2 for an illustration of these calculations).

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### Price Verification Process

#### *Whole Loans-continued*

The Gain/Loss on Securitizable Inventory is calculated and expressed in basis points by taking the difference between the proceeds (Bonds at Mock Exit Price) less expenses (Securitizable Inventory)

The “Estimated Market Price” of the population is then calculated by adjusting the “Original Securitizable WL Population Price” by Variance between the Pnl on the last deal and the current deal divided by 100.

Price testing is then performed by taking the difference between the inventory values of the Securitizable positions less the Estimated Market Price. The difference between the two is then expressed as a percentage change over the total inventory value.

<b>Exit Price Adjustments &amp; Market Data – PRIME FIXED</b>	
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Mock Sec Exit Price (Exit MV / Current Face)	100.97
Price Impact of WAC difference	(1.94)
Duration Adjustment	0.00
Adjusted Mock Sec Exit Price	99.03
Estimated Market Price	99.53
Original Securitizable WL population Price	100.04

Gain/Loss on Last Deal - (in Bps)	(53)
Gain/Loss on Securitizable Inventory - (in Bps)	(105)
Variance - (in Bps)	(52)

<b>Securitizable Inventory</b>	
UPB - Securitizable Inventory	2,581,958,250
Securitizable Inventory Value	2,583,100,544
Price Tested Market Value	2,569,719,511
<b>Variance for Securitized Population</b>	<b>(13,381,033)</b>

**PASS** **(.52 %)**

(Table 2)

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### Price Verification Process

#### *Whole Loans-continued*

#### Levels

The Levels model utilizes a subordination structure similar to that used by the rating agencies. Based on the specific collateral type a structure is created to determine what the percentage of each rating category (AAA to Residual and Servicing) would result if a securitization was created.

The average inventory marks are used to value each rating category. The average marks are collateral specific and are calculated using the Balance Sheet Matrix. (See Table 3 for an illustration of these calculations).

Rating	Avg % of Deal	Leh Avg Price		
		Sub Prime Performing Loans	2/29/2008	
		138,616,986		
AAA	73.343%	101,666,335	94.34	95,912,021
AA+	5.691%	7,888,215	69.94	5,517,018
AA	4.112%	5,700,392	69.94	3,986,854
AA-	3.585%	4,970,017	69.94	3,476,030
A+	2.472%	3,427,211	57.34	1,965,163
A	2.383%	3,302,923	57.34	1,893,896
A-	2.148%	2,977,332	57.34	1,707,202
BBB+	1.430%	1,982,642	21.81	432,414
BBB	1.932%	2,677,978	21.81	584,067
BBB-	1.679%	4,023,941	21.81	877,621
BB+	1.836%	-	13.53	-
BB		-	13.53	-
Residual	7.683%	138,616,986	4.453	6,172,900
Total		138,616,986		122,525,186 88.39118

Table 3

**PRICE VERIFICATION P&P**

**Price Verification Process**

*Whole Loans-continued*

Agency Conforming/Deliverable

The population is also analyzed to determine if any of the loans are Agency Conforming. The population is sent to the Mortgage Transaction Management Team and they run it through the Agency Conforming model. They return the file to Product Control updated with loan specific conforming and deliverability indicators that highlight the eligibility of each loan. Those loans are carved out and priced based on the last agency delivery price. In addition, whole loan sales are reviewed and any loans that fit the criteria of a recent sale are priced using the sales price. (See Table 4 for an illustration of these calculations).

Rating	Avg % of Deal	Prime Performing Loans		
		Leh Avg Price		
			2/29/2008	
		1,732,398,974		
		420,504,982	101.5723	427,116,582
				Agency Eligible
		1,013,650,896	101.0512	1,024,306,394
				Sale of Jumbo
		298,243,096		
AAA	91%	272,546,559	76.54	208,607,136
AA+	2%	5,332,710	55.85	2,978,318
AA	2%	4,649,694	55.85	2,596,854
AA-	1%	2,157,002	55.85	1,204,686
A+	1%	2,331,069	49.44	1,152,481
A	1%	2,070,176	49.44	1,023,495
A-	0%	1,279,695	49.44	632,681
BBB+	0%	1,100,834	48.29	531,593
BBB	1%	1,784,112	48.29	861,548
BBB-	1%	1,498,416	48.29	723,585
BB+	1%	3,492,828	32.1	1,121,198
BB	0%	-	32.1	-
Residual		298,243,096	3	8,947,293
Servicing		1,732,398,974	0.75	12,992,992
Total		1,732,398,973		1,694,796,836
				97.829

Table 4

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Whole Loans-continued*

The total market value calculated by Product Control (securitizable plus non-securitizable) is compared to the inventory values and prices and the variances in both are calculated.

Generally, Product Control is comfortable using a default amount of plus or minus 3.0 percent variance. In some instances the testing of whole loans may exceed this tolerance magnitude. Market conditions drive what the tolerance levels are for whole loans. The whole loan testing as a whole is reviewed with senior management to determine if any next steps need to be taken with the traders.

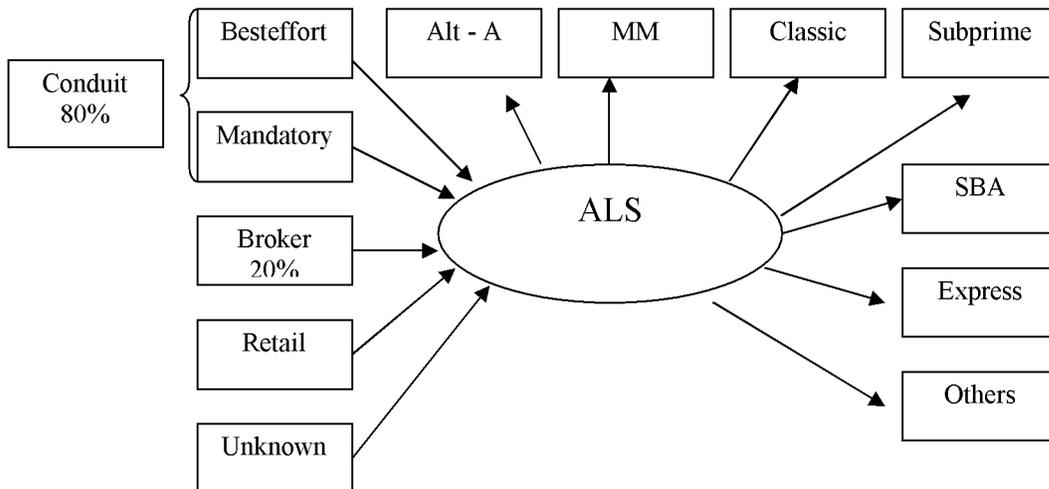
# PRICE VERIFICATION P&P

## Price Verification Process

### *Pipelines*

#### Introduction

Lehman buys mortgage loans from channels and uses them to fund MBS. The lenders offer an interest rate to each borrower and give him/her the option to accept (pull through) or reject (fall out of) the loan by the end of the lock period, which is typically 60 days. In the origination business, Lehman commits to buying loans before their lock periods expire, or even before the borrowers are identified, obviously without knowing which ones will pull through. To buy loans that have not yet been offered to borrowers, the loans must usually confirm to particular guidelines. Different guidelines define different loan codes, or products.



The probability of % of borrowers accepting the loans (pull-through) is estimated using a pull-through model. The pull through model estimates the probability that a loan will pull through as a function of channel type, product type and rate change.

As BNC origination has dried up, currently all the pipeline population is obtained from ALS.

#### Data flow process

##### ALS to RAMP

RAMP team receives pipeline data from ALS team on a daily basis and applies the pull-through model resulting in a pull through report generated every day. The pull through report is available at LehmanLive on a daily basis at

Fixed Income → Mortgage / ABS / MBS → US MBS → Origination → Pipeline Tracking Report

Pipeline tracking report contains top products based on UPB. Not all products are shown in the report. Hence, a complete report containing all the products is e-mailed to Securitized Products valuation team every day. Different products have different ways to represent. Example - A51A, A51C, A51E are all variants of ALT-A 5 year loans

## PRICE VERIFICATION P&P

### *Pipelines – continued*

A list of all the ALS codes (Fixed and Hybrid) for different loan types is available from ALS origination team. This list is mapped to the RAMP cusips based on closed or pipeline loan types. Pipeline Tracking Report can be linked to RAMP data.

#### **RAMP to SP Valuation**

RAMP analytics team sends ALS pull-through data to Securitized Products Valuation team on a monthly basis based on all the month-end ALS population. Data contained in the report includes – RAMP CUSIP, loan type description, ledger, original face, current face, market value, spread, price, gross WAC. The data is queried for all the RAMP Cusips (fixed and hybrid). Once the RAMP data is received, SP valuation team categorizes the data into fixed and hybrid based on RAMP Cusips and ALS codes. Cusips are tagged as W – for closed loans and WP – for Pipeline loans

A second report is also generated by RAMP team to get the consolidated dollar amount for WMP5 and WMPN ledgers. WMP5 is Pipeline Fixed ledger and WMPN is the Pipeline Hybrid ledger. “PIPEFIX” and “PIPEHYBR” also roll up to a new ledger W1QA. This is compared to the values in monthly PRICING file.

### **Valuation**

#### **Completeness verification**

RAMP data and Pipeline tracking report are used to value exiting pipeline population. Valuation team verifies the completeness of the pipeline population and makes sure that the valuation is performed on the entire population. RAMP data and Pipeline tracking report are generated by two independent teams. Data collected from each team is analyzed for the monthly position level by comparing the “Original Face” column in RAMP data and “Base” column in Pipeline tracking report. Both the column data is categorized into fixed and hybrid and values compared for completeness. ALS codes in Pipeline tracking report are matched to RAMP ALS pipeline Cusips. Example – ALS codes – A15F, A20F, and A30F are mapped to RAMP Cusips – BE15F, BE20F, BE30F respectively, which are all variants of ALT-A fixed loans. For a complete working example, please refer to the **Appendix A – Pipeline tracking report** and **Appendix B – RAMP data**

#### **Price Comparison**

Fixed rate TBA report is downloaded for the valuation date and prices compiled for different coupons.

#### **Fixed pipeline**

Fixed pipeline population is categorized into 15 yr, 20 yr and 30 yr. Occasionally, 40 yr fixed loan types are also included. Fixed loan types which do not fall into these categories are listed as individual line items. UPB is based on original face value from RAMP data. Prices from TBA report for different coupons are assigned to different loan types based on the gross WAC (from RAMP data). An average service fee of 100 bps is usually added to the TBA price. P&L is calculated based on these prices from the loan balances.

#### **Hybrid pipeline**

Hybrid pipeline population is categorized into 3 yr ARM, 5 yr ARM, 7 yr ARM and 10 yr ARMs. Prices are based off hybrid OAS report. Service fee of 100 bps is also assumed for hybrid pipeline population. Hybrid OAS usually trades at least 200 bps higher than Fixed TBAs. Hybrid Borrowers who seek flexibility in payments seek ARM loans. Given the risks associated with

## PRICE VERIFICATION P&P

### *Pipelines – continued*

Hybrid ARMS, we feel that a haircut of 200 bps for all Hybrid ARM pipeline types is necessary to properly compare to fixed pipelines.

**Appendix A and B attached**

A sample of the **Pipeline pricing report** may be seen in **Appendix V** and can be found in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Pass-Throughs*

This asset class generally is made up of Fannie Mae and Freddie Mac certificates. Since price transparency exists for this asset class the majority of the positions are price verified utilizing Bloomberg prices and roll forward values. The Gquest extract includes a small population of prices from EJV, IDC, Extel and ABSG.

Formulas built into the spreadsheet perform the price verification which includes the following tests:

- ✓ If Model Price column equals NCF, then flag as NPA.
- ✓ If Average External Price (including model price) is equal to zero, then flag as “NPA”, if not perform Dollar Value Test.
- ✓ **Dollar Value Test** - If the absolute value of the Variance column, (calculated by the difference of the Average External Price column and the Inventory Price column, divided by 100 and multiplied by the Position size column, or face value), is less than \$200,000, then flag as “Pass 1” as the variance is within the firm’s key threshold, if false then perform Price Percentage Test.
- ✓ **Price Percentage Test** – If the Tolerance column is less than the absolute value of the difference of the Inventory Price and the Average External Price, then flag as “Fail”, if false, then flag as “Pass2”

**The price tolerance for Pass-through’s is .125 and Pass-through Arms is .25.**

Not all positions may have third party prices available at the time the extract was downloaded from Gquest. These positions would be flagged NPA and are reviewed and researched. Pricing for these positions could be not be downloaded or obtained from Lehman’s Enterprise Security Master (ESM) database. In the event that an external price is not available via a third party vendor, a Bloomberg download is performed for the applicable positions.

Forward purchases or commitments identified as “TBA’s” are priced in Inventory at the forward settle date price. To price verify these positions a spreadsheet from LehmanLive trading activity is utilized for a price quote, or roll forward price. In addition roll forward prices are downloaded from Bloomberg based on Agency type and security WAC.

Once all the pricing that is available has been updated, the testing results are categorized and are reflected in the “Flag” column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have “Failed” the testing.

## PRICE VERIFICATION P&P

### *Pass-Throughs- continued*

Almost 100 % of Pass-Through Deals are price tested using third party pricing

Once the verification is completed, the results of the testing are categorized and are reflected in the "Flag" column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have "Failed" the testing. The research performed includes ensuring that the third party mark is correct or that Product Control ran the appropriate yield table in Intex. Product Control will then contact the trader to discuss the pricing of the position and a determination will be made as to re-marking.

In the instances where the pricing variance is outside of the tolerable range the issue is raised to the Trader who owns the position. Generally speaking Trading and Product Control will review the different marks along with the methodologies and assumptions used to obtain. As a result of this discovery process Product Control can either revise its mark based on information the Trader has provided, withdraw his request for a remark (tolerances outside of the acceptable range are explained and footnoted in the WL Summary File), or request that the trader remark his position. If the Trader does not accept Product Control's conclusion that a position be remarked then the issue will be raised senior Product Control and Trading management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Agency CMO*

Agency CMOs are generally bonds backed by Fannie Mae and other government agencies. Positions are within a variety of profit centers and could include various types of CMO tranches. Since price transparency exists for this asset class the majority of the positions are price verified utilizing third party prices. The Gquest extract includes pricing from EJV, IDC, Extel and ABSG.

Formulas built into the spreadsheet perform the price verification which includes the following tests:

- ✓ If Model Price column equals NCF, then flag as NPA.
- ✓ If Average External Price (including model price) is equal to zero, then flag as “NPA”, if not perform Dollar Value Test.
- ✓ **Dollar Value Test** - If the absolute value of the Variance column, (calculated by the difference of the Average External Price column and the Inventory Price column, divided by 100 and multiplied by the Position size column, or face value), is less than \$200,000, then flag as “Pass 1” as the variance is within the firm’s key threshold, if false then perform Price Percentage Test.
- ✓ **Price Percentage Test** – If the Tolerance column is less than the absolute value of the difference of the Inventory Price and the Average External Price, then flag as “Fail”, if false, then flag as “Pass2”

#### **Tolerance for Agency CMO is based on the Tolerance Matrix**

Since this asset class includes many different tranche types, individual price tolerances for each have been determined and are used for the Dollar Spread Test. There is a matrix within the Pricing File in which the algorithm looks up the type of security being tested and reports the Tolerance dollar amount for that type of security by its identifier. The Identifiers are reported from Bloomberg in the Pricing File. The main types of Identifiers are as follows:

1) Interest Only	IO
2) Principal Only	PO
3) Inverse	INV
4) Zero-Coupon	Z
5) Subordinate	SUB
6) Mezzanine	MEZ
7) Supplemental	SUP

The Tolerance Matrix is broken up further by Agency, Prime and Non-Prime. Support for the magnitude of the tolerance Matrix amounts are revisited quarterly. The amounts consist of averages of the Third Party Prices from the prior quarter inventory. If a position is not flagged with one of the identifiers listed above, the

## PRICE VERIFICATION P&P

### *Agency CMO- continued*

default amount of plus or minus 1.5 is utilized.

Not all positions may have third party price available at the time the extract was downloaded from Gquest. These positions would be flagged NPA and are reviewed and researched. The research performed includes determining if there were any recent trade prices. If none are available, a yield table analysis generated in Intex Desktop is run. Each assumption input in IntexDesktop is validated by information provided in the Intex Desktop database or collateral performance parameters in Bloomberg. In some instances, the remittance report is utilized in support of collateral performance pricing assumptions. Other assumptions such as discount rate are substantiated by third party publications, or any other data source, including rates extracted from trader's sales of similar positions.

In order to run the yield tables CPR and CDR assumptions must be entered into Intex. The determination is made as follows:

#### Determination of CPR Assumptions

- Our CPR assumption is a best estimate of the actual prepayment characteristics of the collateral.
- 1 month, 3 month, 6 month, and 12 month CPR's are provided by Intex and Bloomberg
- If a CPR from Intex looks unusual then we cross reference that data with Bloomberg, making sure the integrity of the data is intact.
- We look at every duration of CPR when selecting which variable to use. This enables us to identify which time periods could have experienced an out of the ordinary spike or dip in the actual prepayment speeds. This allows us to more accurately project the actual prepayment risk of the bond.
- When selecting prepayment speeds we will look at the collateral composition as well in order to determine whether the speeds identified fall in line with the corresponding lending characteristics; whether that be subprime, prime, etc.

#### Determination of CDR Assumptions

- Our loss assumptions are pooled together from Intex and Bloomberg. We analyze delinquency information from Intex along with collateral performance data from Bloomberg.
- We use this data in conjunction with collateral composition (Prime, Subprime, and Home Equity) and tranche seniority when determining how losses will affect the value of each bond.
- Additionally, we also incorporate REO and foreclosure information from Intex and Bloomberg in order to accurately reflect losses flowing through to each bond.
- We also analyze past performance of similar deals, making sure the collateral we are analyzing follows past performance trends.

## PRICE VERIFICATION P&P

### *Agency CMO- continued*

Almost 100 % of Agency CMO Deals are price tested using third party pricing

Once the verification is completed, the results of the testing are categorized and are reflected in the “Flag” column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have “Failed” the testing. The research performed includes ensuring that the third party mark is correct or that Product Control ran the appropriate yield table in Intex. Product Control will then contact the trader to discuss the pricing of the position and a determination will be made as to re-marking.

In the instances where the pricing variance is outside of the tolerable range the issue is raised to the Trader who owns the position. Generally speaking Trading and Product Control will review the different marks along with the methodologies and assumptions used to obtain. As a result of this discovery process Product Control can either revise its mark based on information the Trader has provided, withdraw his request for a remark (tolerances outside of the acceptable range are explained and footnoted in the WL Summary File), or request that the trader remark his position. If the Trader does not accept Product Control’s conclusion that a position be remarked then the issue will be raised senior Product Control and Trading management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### All other MBS/ABS/CDO Bonds

Some price transparency exists most of these bonds. Those positions are price verified utilizing third party prices. The Gquest extract includes pricing from EJV, IDC, Extel and ABSG.

Formulas built into the spreadsheet perform the price verification which includes the following tests:

- ✓ If Model Price column equals NCF, then flag as NPA.
- ✓ If Average External Price (including model price) is equal to zero, then flag as “NPA”, if not perform Dollar Value Test.
- ✓ **Dollar Value Test** - If the absolute value of the Variance column, (calculated by the difference of the Average External Price column and the Inventory Price column, divided by 100 and multiplied by the Position size column, or face value), is less than \$200,000, then flag as “Pass 1” as the variance is within the firm’s key threshold, if false then perform Price Percentage Test.
- ✓ **Price Percentage Test** – If the Tolerance column is less than the absolute value of the difference of the Inventory Price and the Average External Price, then flag as “Fail”, if false, then flag as “Pass2”

Since this asset class includes many different tranche types, individual price tolerances for each have been determined and are used for the Dollar Spread Test. There is a matrix within the Pricing File in which the algorithm looks up the type of security being tested and reports the Tolerance dollar amount for that type of security by its identifier. The Identifiers are reported from Bloomberg in the Pricing File. The main types of Identifiers are as follows:

1) Interest Only	IO
2) Principal Only	PO
3) Inverse	INV
4) Zero-Coupon	Z
5) Subordinate	SUB
6) Mezzanine	MEZ
7) Supplemental	SUP

The Tolerance Matrix is broken up further by Agency, Prime and Non-Prime. Support for the magnitude of the tolerance Matrix amounts are revisited quarterly. The amounts consist of averages of the Third Party Prices from the prior quarter inventory. If a position is not flagged with one of the identifiers listed above, the default amount of plus or minus 1.5 is utilized.

## PRICE VERIFICATION P&P

### All other MBS/ABS/CDO Bonds –continued

Not all positions may have third party price available at the time the extract was downloaded from Gquest. These positions would be flagged NPA and are reviewed and researched. The research performed includes determining if there were any recent trade prices. In some instances where the position is a AAA rated, floating rate position at a senior tranche level within its deal structure, a value of par is input into the system and it is noted in Comment/Trade Date column. For the remaining unpriced, a yield table analysis generated in Intex Desktop is run. Each assumption input in IntexDesktop is validated by information provided in IntexDesktop database or collateral performance parameters in Bloomberg. In some instances, the remittance report is utilized in support of collateral performance pricing assumptions. Other assumptions such as discount rate are substantiated by third party publications, or any other data source, including rates extracted from trader's sales of similar position order to run the yield tables CPR and CDR assumptions must be entered into Intex. The determination is made as follows:

#### Determination of CPR Assumptions

- Our CPR assumption is a best estimate of the actual prepayment characteristics of the collateral.
- 1 month, 3 month, 6 month, and 12 month CPR's are provided by Intex and Bloomberg
- If a CPR from Intex looks unusual then we cross reference that data with Bloomberg, making sure the integrity of the data is intact.
- We look at every duration of CPR when selecting which variable to use. This enables us to identify which time periods could have experienced an out of the ordinary spike or dip in the actual prepayment speeds. This allows us to more accurately project the actual prepayment risk of the bond.
- When selecting prepayment speeds we will look at the collateral composition as well in order to determine whether the speeds identified fall in line with the corresponding lending characteristics; whether that be subprime, prime, etc.

#### Determination of CDR Assumptions

- Our loss assumptions are pooled together from Intex and Bloomberg. We analyze delinquency information from Intex along with collateral performance data from Bloomberg.
- We use this data in conjunction with collateral composition (Prime, Subprime, and Home Equity) and tranche seniority when determining how losses will affect the value of each bond.
- Additionally, we also incorporate REO and foreclosure information from Intex and Bloomberg in order to accurately reflect losses flowing through to each bond.
- We also analyze past performance of similar deals, making sure the collateral we are analyzing follows past performance trends.

## PRICE VERIFICATION P&P

### All other MBS/ABS/CDO Bonds –continued

Once the verification is completed, the results of the testing are categorized and are reflected in the “Flag” column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have “Failed” the testing. The research performed includes ensuring that the third party mark is correct or that Product Control ran the appropriate yield table in Intex. Product Control will then contact the trader to discuss the pricing of the position and a determination will be made as to re-marking.

In the instances where the pricing variance is outside of the tolerable range the issue is raised to the Trader who owns the position. Generally speaking Trading and Product Control will review the different marks along with the methodologies and assumptions used to obtain. As a result of this discovery process Product Control can either revise its mark based on information the Trader has provided, withdraw his request for a remark (tolerances outside of the acceptable range are explained and footnoted in the WL Summary File), or request that the trader remark his position. If the Trader does not accept Product Control’s conclusion that a position be remarked then the issue will be raised senior Product Control and Trading management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### Residuals and NIMs

**Residual** positions are made up of several different types that include: X-Class (excess spread class tranches or economic residual), non-economic residuals and prepayment penalty tranches. Not all positions held have significant value. Primarily, securitizations that are not pass throughs, contain an excess spread embedded in the structure. The bulk of market value within the Residuals category on Lehman's balance sheet is related to the X and P Classes (excess spread tranche and the prepayment penalty tranche). Non-economic residuals have no economic value and are classified as Below Scope for price verification purposes.

**NIM's** are securitizations of residuals both the X and P tranches. Generally, the first tranche of a NIM, is typically identified as the A tranche. Other tranches in a NIM could include B tranche, C tranche and a PS tranche (Preference Share). The PS class is a residual and would receive any excess cash flow remaining in the structure after the other tranches have been paid off. The NIM structure is unique in that the deals are usually private placements and are structured with a priority of payments to satisfy the first tranche. There are occasions when Lehman continues to hold 100% the of the NIM structure. The NIM structure is ignored and these NIM positions are labeled **Re-Constituted NIMS** and the valuation is performed on the underlying residual positions.

Price transparency does not exist for residuals and there are no third party prices available. Unlike bonds which are generally well insulated from credit losses and receive monthly interest and principal payments, residuals are first loss, interest only positions. As such they are very sensitive to prepayment and loss scenarios (timing and magnitude). Bonds are also generally priced to very generic prepayment and discount rate assumptions, resulting in very standard pricing across issuances. Residuals are a nuance driven product and prices across issuances vary based on collateral performance.

## PRICE VERIFICATION P&P

### Residuals and NIMs – continued

This asset class is price verified utilizing the Intex Desktop. The valuation includes the use of collateral specific curves and/or vectors and a yield.

**Sub Prime curves** are obtained from Loan Performance Data via LehmanLive and include CPR and CLR. The curves used are by mortgage or amortization type - fixed, floating and overall (used for hybrids).

**Prime curves** are developed with the help of Research and include deal specific CPR and CLR. These curves are updated periodically to include actual deal performance.

These curves are loaded into Intex and *SSS* files are created.

A **Yield** is also entered into Intex. Yields could be in a range of 15% - 25% and could change based on market conditions at the time of testing.

For those positions where a curve is not available prepayment and loss assumptions are determined using actual historical deal performance.

#### Determination of CPR Assumptions

- 1 month, 3 month, 6 month, and 12 month CPR's provided by Intex are analyzed to determine the best estimate to use in the valuation
- Collateral composition will also be analyzed in order to determine whether the speeds identified fall in line with the corresponding lending characteristics; whether that be subprime, prime, etc.
- Current market conditions will also as reported in research materials both from published by Lehman as well as other industry players will be analyzed to determine what the projection for prepayments is.

#### Determination of CDR Assumptions

- Our loss assumptions are pooled together from actual deal performance as reported in Intex.
- Generally, we take into consideration 60+ delinquencies, REO and foreclosure percentages to calculate the CDR used.
- We also analyze past performance of similar deals, making sure the collateral we are analyzing follows past performance trends.

Those positions where no deal information is available and the deal is not modeled in Intex will be flagged in the pricing file as No Cash Flow "NCF" and will be reported as No Price Available "NPA" in the pricing results. PC will continue to follow up the Intex

## PRICE VERIFICATION P&P

### Residuals and NIMs – continued

representatives to determine if the deals will be modeled. PC will also follow up with the traders to determine how to test these positions if there will be no model available.

Each residual, NIM tranche and Reconstituted NIM is run individually in Intex and a yield table is produced. The yield table includes the deal specific data and the results of the valuation calculated.

The results of the residual valuation along with deal specific performance data is compiled in an Excel workbook. Deal specific performance data includes:

- UPB- Unpaid principal balance
- WALA – Weighted average loan age
- Loan Status – percentages of 60+ delinquencies, Foreclosure (FC) and Real Estate Owned (REO)
- Over Collateralization Amounts (OC) - Target and Actual
- Actual deal loss
- CPR – 1 month and 3 month
- Actual Cash Flow received

The results of the valuation are compared to the inventory market value of the position and a variance is calculated. For Re-Constituted NIMS the inventory market value is the total of all the tranches held on the books. The variance for each position is then analyzed to determine if it is acceptable. In addition, the total portfolio variance is analyzed to determine if the positions are marked conservatively overall.

Residuals are price tested using the closest thing to market consensus assumptions PC can obtain, and then in the assessment of the trader's mark PC allows for individual performance differences between issuances and issuers. This is done by looking at the deal's modeled cumulative losses and prepayment rate compared to the deal's historical performance. An analysis is performed to determine if the actual deal performance of each position is justified by the pricing. In some cases the valuation could be off from the inventory valuation. This could be the result of Product Control (PC) projecting losses on a deal which has had no losses recorded yet. It could also be attributed to the timing of when losses are projected in the assumptions used by PC. After a position level analysis is performed and PC has gained comfort around the nuances of each individual position's variance the total portfolio variance is reviewed to determine if the portfolio valuation is marked conservatively over all.

The finalized price testing results are sent to the trader. A Product Controller reviews monthly price testing and resolves variances with individual traders. Even though the overall variance is reviewed for conservatism, the individual variances are discussed with the trader to determine if any re-marking is necessary. Unresolved Issues are brought to

## PRICE VERIFICATION P&P

### Residuals and NIMs – continued

the attention of Senior Product Controller, and Business Head as necessary. In the event PC feels strongly about a variance a reserve will be recorded if the issue cannot be resolved with the trader. The Final Price Verification Document is reviewed by Senior Product Controller on a monthly basis.

The total portfolio variance is included in the Monthly Valuation & Control Report that is distributed to senior management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Treasuries*

Treasuries are generally used for hedging purposes. Since price transparency exists for this asset class all of the positions are price verified utilizing third party prices. The Gquest extract includes pricing from EJV, IDC, Extel and ABSG.

Once the verification is completed, the results of the testing are categorized and are reflected in the "Flag" column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have "Failed" the testing. The research performed includes ensuring that the third party mark is correct or that Product Control ran the appropriate yield table in Intex. Product Control will then contact the trader to discuss the pricing of the position and a determination will be made as to re-marking.

In the instances where the pricing variance is outside of the tolerable range the issue is raised to the Trader who owns the position. Generally speaking Trading and Product Control will review the different marks along with the methodologies and assumptions used to obtain. As a result of this discovery process Product Control can either revise its mark based on information the Trader has provided, withdraw his request for a remark (tolerances outside of the acceptable range are explained and footnoted in the WL Summary File), or request that the trader remark his position. If the Trader does not accept Product Control's conclusion that a position be remarked then the issue will be raised senior Product Control and Trading management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Futures*

Futures within the mortgage trading ledgers are generally Euro dollar futures for hedging purposes. During the Gquest Extract phase, Third Party Prices are downloaded for each of the futures positions. Essentially price verification is already performed in the setting up stages of the process. Therefore, it is included in the price verification process of Mortgage Trading and not sent over to the IRP group for the purposes of convenience and certainty of positions tested.

Once the verification is completed, the results of the testing are categorized and are reflected in the "Flag" column of the Pricing File. Any remaining NPA positions will be reviewed and alternative testing could be determined. Research is performed for those positions that are deemed to have "Failed" the testing. The research performed includes ensuring that the third party mark is correct or that Product Control ran the appropriate yield table in Intex. Product Control will then contact the trader to discuss the pricing of the position and a determination will be made as to re-marking.

In the instances where the pricing variance is outside of the tolerable range the issue is raised to the Trader who owns the position. Generally speaking Trading and Product Control will review the different marks along with the methodologies and assumptions used to obtain. As a result of this discovery process Product Control can either revise its mark based on information the Trader has provided, withdraw his request for a remark (tolerances outside of the acceptable range are explained and footnoted in the WL Summary File), or request that the trader remark his position. If the Trader does not accept Product Control's conclusion that a position be remarked then the issue will be raised senior Product Control and Trading management.

## PRICE VERIFICATION P&P

### Price Verification Process

#### *Servicing Rights*

There are two types of servicing rights currently on Lehman's balance sheet consisting of Primary Servicing Rights and Sub-Serviced Servicing Rights. While a tab exists in the Pricing file for Servicing, it is only used to identify and reconcile the positions. The information from the Servicing tab of the Pricing file is pasted into a new file called "MM-DD-YY Servicing". A tab in this file labeled "Priced Inventory Final" totals up the Servicing Rights positions to ensure that the total UPB and Market Value was copied over correctly from the Pricing File. It can be found in **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** in the applicable year and month. This is where the price verification of the Servicing Rights positions is performed.

Servicing Rights are price tested using two methodologies:

#### **RAMP**

Lehman's Risk system called RAMP is used to price test most of the MSR positions. A file which lists the positions and calculated market value and price is downloaded from RAMP and pasted into the "RAMP by MTS" tab of the pricing file. The market price contained in the file is used to price test the positions.

The model in Ramp (at the back end of the system) prices the primary serviced MSRs using a curve that incorporates prepayment speed as well as delinquency and cost projections. Only the Research and Technology groups have access to the model. The assumptions used in the RAMP model are reviewed by Product Control for reasonability. These assumptions include CPR and cost of servicing. The CPR is reviewed and benchmarked against the actual deal experience as evidenced in the residual price testing data. The cost of service is discussed with representatives from ALS.

#### **Price Matrix**

In general, 2 factors are required to obtain the price for each servicing position:

$$\text{MSR Price} = \text{Economic Servicing Fee} * \text{Bid-Multiple}$$

For the majority of the primary serviced population such as Prime/FHA/Alt-A collateral types, the MSR Price is obtained directly from Ramp. (Formulas are written so that the Ramp prices are referenced FIRST when looking up the MSR price).

For the remaining subset of the primary serviced population where prices are NOT available in Ramp, Product Control calculates the weighted average Price for each MTS code (based on the number of loans for each collateral type provided by ALS). Final Weighted Avg MSR price = (Economic Servicing Fee \* Bid-Multiple)\*loan%. The Economic Servicing Fee data is obtained solely from ALS while the bid-multiple is obtained from the Matrix that is created using Lehman Live MSR Valuation report and a report downloaded from Ramp, as explained in detail below.

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### *Servicing Rights- continued*

**Economic Servicing Fee Price Matrix-** By the 5<sup>th</sup> business day of each month, ALS provides a file listing all the MTS codes (cBldrBrkrCode) that are in their inventory/Database. For each MTS code, the corresponding Economic Servicing Fee is provided, as well as the collateral types and loan counts. (Data from ALS is pasted in the ALS Inventory tab). The average economic servicing fee for each collateral type listed in the Price Matrix table is calculated by taking the average of all MTS code for that collateral type.

**Bid Multiples Price Matrix-** For some of the collateral types, the bid multiples are obtained from 2 sources:

- **Lehman Live MSR Valuation Report** (published by Research on a daily basis) for various conforming, jumbo, mortgage maker Hybrid/fixed collateral types.

In Lehman Live, search for keyword “USMO”. This will bring up the page that contains the “MSR Valuation” Report. Click on “Current Coupon Servicing”. Select the date of interest, which is normally the last day of the month. For Conforming Alt-A Fixed/Hybrid Rate collateral types, the corresponding Multiple number is pasted into the in the respective cells in the Price Matrix table.

- **“Predefined Summary Report” in RAMP**

Download the “Predefined Summary Report” in Ramp. Using Report 3: Distribution by Seasoning, the bid multiple are derived by dividing the MSR Price by the Servicing fee (calculation in the last column). Paste the corresponding multiple for Prime ARM/Fixed New/Seasoned collateral types as well as for ALT-B ARM Seasoned and ALT-B FRM Seasoned collateral types in the Price Matrix table.

A small portion of the population is not marked in RAMP and the bid-multiples/economic servicing fee cannot be obtained using the Price Matrix. This is mostly for Sub-prime, SBA, and Scratch and Dent collateral types. This population will be classified as below scope for testing purposes. It will be reviewed monthly to determine if the total position is large enough to require the development of a price testing methodology

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### *Servicing Rights- continued*

The positions are tested by using either the RAMP market price or the Matrix price compared to the market value obtained from the desk to come up with the difference/variance in the final column.

The “Priced Inventory by Trader” tab totals up the positions and categorizes them by trader name. The totals for UPB, Trader Market Value and PC Market Value are reflected. Using this information, average “Desk Mark” and “PC Average Mark” is calculated. The two marks are compared using a +/-10% variance in price. A comments section reflects the Pass/Fail status and conclusion reached.

In the instance when the price verification has resulted in a Fail status, the details of the trader’s inventory are reviewed. Discussions with the traders and Research are conducted to get a better understanding of any market nuances which may have effected the traders marks. Based on these discussions PC may request that Research re-run the valuation using different assumptions that will capture any nuances highlighted by the desk.

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#### *Interest Rate Swaps*

The interest rate swaps held in Securitized Products are price tested by the Rates Valuation and Control Team. On a monthly basis the Rates Valuation and Control Team provides a report with the results of the price testing. This report is included in the Securitized Products Pricing Package uploaded to SARBOX. In order to ensure all interest rate swaps held within the Securitized Products BPM are tested a reconciliation of accounts is done. The testing process utilized by Rates Valuation and Control is accounts driven. If a new account is opened in Securitized Products that contains Interest rate Swaps the Rates Team is notified and their model is updated to capture the new account.

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### Price Verification Process

#### *Principal Finance Residential – PFR*

The Principal Finance Residential business of Lehman lends money to external financial institutions such as mortgage originators. Lehman receives home equity loans as pledged collateral for revolving lines of credit. These transactions are given banking book treatment. Banking book positions are those whose material economic risk is illiquid and not hedge-able, valuation is not robust and accurate, and, the underlying risks are managed actively in accordance with risk limits and trading strategies. As a result they are not subject to mark-to-market price verification. However, from a risk and collateral value control perspective, the Valuation team maintains a monthly process to validate the pledged collateral balances and values as booked within the management systems. This process also identifies any need for a margin call.

Around the 20<sup>th</sup> business day of each month, the Product Control group receives a “Mortgage Lending Mark to Market” report from the Principal Finance Residential (PFR) business listing Home Equity credit facility positions. The file contains Collateral UPB, outstanding balances for each credit facility and the mark of the pledged collateral.

The Product Control team creates a “PFR Valuation” file based on the Mark report received from the PFR group. The information received from the PFR group is included in the valuation file as a separate tab labeled Mortgage Lending Mark Report. The file is located in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** directory under the applicable year and month. For each of the core lending business, the Valuation file shows the commitment amount, funded amount, Mark per research, UPB of collateral, as well as the Market value of the collateral. It is important to ensure that the funded amount be greater than the market value of the collateral.

In order to ensure that all positions have been included in the PFR Valuation file, the positions obtained from the PFR group are reconciled to the Warehouse Lending System. The Historical Margin Report is run from the Warehouse Lending System on LehmanLive. The report is pasted as a tab into the Reconciliation file.

Comparing the PFR report and the Margin Report the Total UPB and Total Collateral amounts are reconciled. In some instances these amount may not match. In most cases additional funding may have occurred which has not yet been reflected in the PFR Report. As a result, the Margin Report is run for additional days which may be prior to the month-end valuation date. There could also be facilities included on the Margin Report which are not part of the PFR positions. These issues are researched and an explanation as to why they are not included is provided for each. In most cases these positions are either not warehouse facilities or non-performing troubled loans in workout.

A file named “PFR Reconciliation” is created and saved in the **G:\Capital Markets\FID Control\Mortgage Trading\Pricing** directory under the applicable year and month.

## PRICE VERIFICATION P&P

### *Principal Finance Residential – PFR - continued*

The positions are price tested using inventory whole loan pricing and price testing data or, are run utilizing Intex desktop as outlined above.

The majority of positions tested generally have greater value of collateral pledged than funded loan balance of the credit facility. The difference provides a conservative cushion in the event the collateral value changes adversely. In the instance that the collateral value pledged equals or falls short of the funded balance, a discussion with the business is warranted. Values and amounts are reviewed a second time. If the results are similar, then a margin call is appropriate. Discovery of such instances is the sole purpose of this exercise. Product Control monitors the collateral values.