Quarter 3, 2008, Volume 23, No. 3

General

BondEdge®

Tradeshow Schedule

Client Services Q & A

Live Web Seminar: The Basics of Duration & Convexity – *Register Today!*

Register today for our upcoming *free live web seminar:* The Basics of Duration & Convexity on **Thursday, August 14** at **2:00 PM EDT**. The event will provide you with an intuitive understanding of how option-adjusted duration and convexity are widely used in fixed income portfolio management to quantify the price sensitivity of securities and portfolios to interest rate changes.

Event Info:

Event: **The Basics of Duration & Convexity**
Date: Thursday, August 14, 2008
Time: 2:00 pm EDT | 11:00 am PDT
Duration: 1 hour 15 minutes
Cost: Free

The 75-minute web event, presented by Teri Geske, Senior Vice President, Business & Product Development, will provide a review of the various definitions of duration and convexity and explore the concepts from first principle. Applications for each will be demonstrated using analysis on a variety of different security types, including bonds with embedded options and interest-sensitive prepayments.

Highlights:

- Option-adjusted duration and convexity for different securities - what do they really tell us?
- What is the difference between modified and effective duration and why is it important?
- What is OAS?
- Why use Monte Carlo valuations for mortgage-backed securities?
- Interpreting duration and convexity for derivatives

Register yourself or a colleague today!

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Available Soon! BondEdge Cash Flows via GGY AXIS Asset-Liability System via Seamless Link

Interactive Data Fixed Income Analytics will soon make available the BondEdge structured finance cash flow engine and library through GGY's AXIS system via a seamless link. The AXIS system features sophisticated actuarial tools that include pricing, valuation and modeling. The fully integrated offering is designed to save insurance clients valuable time and help further mitigate risk during the asset-liability modeling process by significantly streamlining access to projected asset market values and cash flows for the complex fixed income securities modeled by Interactive Data Fixed Income Analytics. The functionality is scheduled to be generally released by mid-August.

With increased regulatory requirements for stochastic analysis, more tightly integrated information exchange between asset and liability systems provides insurance companies with a critical alternative to flat file information transfer. Via Microsoft® dynamic-link library (DLL), the GGY AXIS application accesses the BondEdge asset cash flow engine to generate scenario-driven cash flows under unlimited interest rate environments from within the AXIS system for more sophisticated asset-liability analysis. This new interface can help reduce risk by eradicating the need to transfer large amounts of information back and forth as well as eliminate the need to maintain two separate systems. ***For more information about the offering, please contact your Interactive Data Fixed Income Analytics representative.***

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Highlights: 2008 BondEdge Annual Fixed Income Workshops

Interactive Data Fixed Income Analytics hosted two highly successful fixed income workshops this year in New York and Chicago. 300 portfolio managers and other fixed income professionals from the asset management, insurance, banking, pension fund, and broker-dealer industries attended the workshops, indicating strong interest in the many new topics covered this year.

"Great 1-day Conference! Very informative!"

This year's Annual Fixed Income Workshops covered fixed income theory as well as practical applications of BondEdge®. Session topics addressed updates in various key areas including liability-driven investing, private wealth management, and derivatives. The Performance Attribution session was extremely well attended, as were sessions covering a wide range of BondEdge advancements, such as BondEdge Quantitative Modeling Enhancements and Risk Measure Solutions for the Front, Middle, and Back Office: Analytix Direct Case Studies. Lunchtime guest speaker, Andrew Davidson, founder and president of Andrew Davidson & Co., Inc., a quantitative research and prepayment modeling firm, received an enthusiastic response from attendees for his comments given on the mortgage market.

In addition to the topics above, attendees were given an in-depth demonstration of the BondEdge Next Generation product, which employs Microsoft® .NET Framework tools (Click here for related article).

BondEdge Annual Fixed Income Workshop, Chicago, May 15, 2008

Lunchtime guest speaker, Andrew Davidson, founder and president of Andrew Davidson & Co., Inc., speaks to workshop attendees on the mortgage market.

If you attended one of our workshops, you qualify to receive CFA Institute continuing education credits (1 credit per workshop hour attended). If you would like to receive accreditation, please contact Interactive Data Fixed Income Analytics Marketing at fia.marketing@interactivedata.com.

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Analytix Direct Web Seminar Case Study a Success!

Nearly 75 firms signed on to participate in our recent BondEdge Web seminar, “Case Studies: Analytix Direct for the Front, Middle, and Back Office.” Louis J. Gehring, Senior Vice President, BondEdge Product Manager, and Jeffrey Foley, Vice President & Manager, Sales & Marketing, presented a key case study review of real-world Analytix Direct applications that focused on some of the various benefits firms today are already realizing. The discussion highlighted firms that are providing private wealth statements with a competitive advantage, data warehousing within a master trust environment, feeding high-end bond-level analytics such as key rate durations into 3rd party applications, and integrating time series data into VaR models.

During the web seminar, we polled attendees on their current practices regarding or plans for data warehousing of fixed income analytics. Our informal polling reveals a clear trend and growing need to capture more sophisticated risk measures via an automated datafeed. ***To request more information about this offering, please call (310) 479-9715.***

Poll Recap:

- 2/3 currently employ a central data warehouse solution to feed downstream
- 3/4 have fixed income analytical data as part of the dataset they are attempting to centralize
- Of those who do, 2/3 use Bloomberg, 1/4 use Reuters, 3/4 use Interactive Data Pricing & Reference

Data, and 1/3 use another solution to handle their fixed income data

All attendees were given post-seminar access to the web seminar recording. *If you were unable to attend the event and are interested in requesting online access, please click here or contact Interactive Data Fixed Income Analytics Marketing at (877) 850-2900 or via email at fia.marketing@interactivedata.com.*

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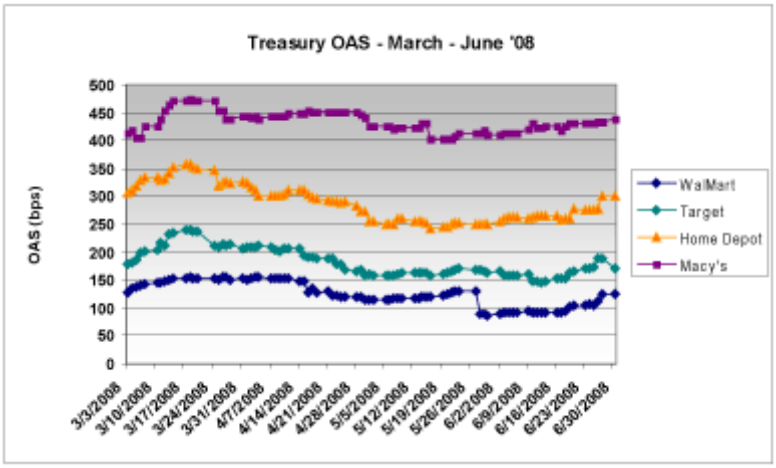
Credit Case Study

At the time of this writing, the markets are reeling from concerns over the stability of the financial sector, including speculation about the need for government intervention to prop up Fannie Mae and Freddie Mac. With the Financial sector representing one-third of a commonly used investment grade All Credit Index (since Agency debt is not part of the Financial sector, this excludes debt issued by Fannie and Freddie), fixed income investors have their hands full deciding what to do – attempt to weather the storm or head for higher ground? And, if the decision is made to reduce exposure to the Financial sector, how does one identify a relatively safer haven in the credit markets? The overall economic picture is grim, driven by the impact of high gasoline prices and the depressed housing market on consumer spending – to no one's surprise, the rating agencies (with troubles of their own) are predicting greater numbers of downgrades and defaults in the coming year. While fundamental credit analysis must play a part in any investment decision, we offer the following mini case study to show how the OAS and Default Probability Histories available on the BondEdge private client website can help investors to identify areas of opportunity, both when times are tough and when fair winds are blowing.

We began by selecting an industry that at least has some potential to hold up better than others in the current environment and concluded that Retail should hold up better than, say, Auto Manufacturing or Home Building, given that consumers still need to buy food, clothes and other staples. We then turned to BondEdge and ran the Compare "Contribution to Duration by Sector & Ticker" report to get a list of Issuers in the Retail sector that are in the All Credit Index. From this list, we selected four that had the large weightings in the sector (for liquidity) and that represented a cross-section of credit ratings and types of retail stores operated. The four issuers were WalMart, rated Aa2/AA, Target (Dayton Hudson), rated A2/A+, Home Depot, rated Baa1/BBB+, and Macys (Federated Dept. Stores), rated Baa2/BBB-.

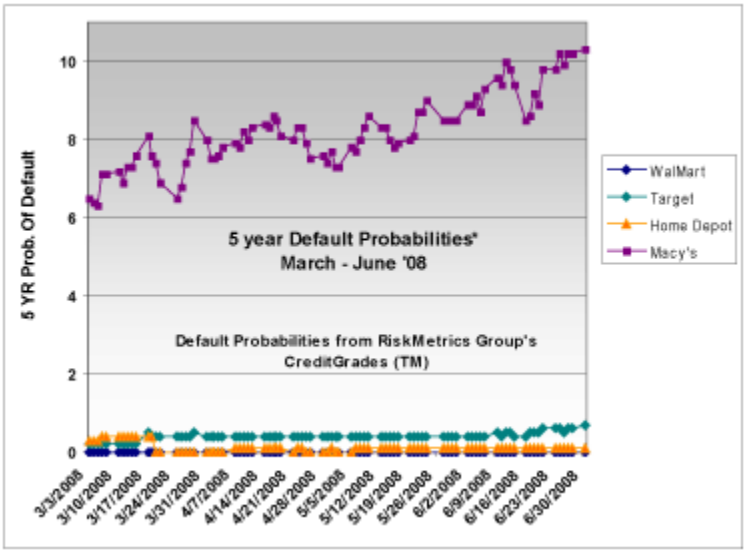
We then used the BondScan feature (under the Security menu in BondEdge) to generate lists of the specific issues of these Issuers by entering each Ticker symbol (one at a time) as the sole scanning criteria. We selected four specific issues with similar effective durations (in the 4-7 year range), one from each Issuer. With the identifiers for these issues, we then turned to the Private Client website and clicked on the link for Corporate OAS Histories. On this page, clients can enter a CUSIP or ISIN and retrieve daily, weekly or monthly histories of price, yield, OAS and the issuer's stock price over a specified time period. Clients who subscribe to the Credit Risk module can also access historical Default Probabilities and model-implied CDS spreads from the RiskMetrics Group's CreditGrades™ model. We retrieved daily OAS's (Treasury and LIBOR) and 5-year Default Probabilities for the period 03/01/2008 to 06/30/2008, and downloaded the data to Excel for further analysis.

For comparison, we also wanted to see the OAS for the overall Credit index and for the Retail sector as of 3/30/08, 4/30/08, 5/31/08 and 6/30/08. We obtained this by backdating a "dummy" portfolio as of each of those dates (using the Reprice function under File Management), then running the Credit Risk Distributions report with our Credit Index. BondEdge automatically retrieves the Index data that most closely matches the selected portfolio's Pricing Date so in a few minutes we were able to get the historical data we wanted. Although we retrieved both the Treasury and LIBOR OAS's for our four retail issues and for the overall index, we found there was little, if any, additional information gleaned from the differences between them and given the turmoil in the financial sector to which the swap market is tied, we chose to focus only the Treasury OAS. Here are some of the results we found:



By historical standards, of course, all of these spreads seem extremely wide – it is difficult to find a time in the past 10 years when an Aa-rated credit traded at an OAS of 150 bps. But the relationships among the issues seemed consistent with their credit ratings – WalMart, rated Aa2/AA, had the lowest spreads and Macy's, rated Baa2/BBB-, was trading far above the others, even Home Depot, rated only 1-2 notches higher. As we can see, spreads were widest for all four issues in mid-March, then all came down during April and May, with the Home Depot issue tightening the most, and Macy's the least, before trending upward again in June.

We then wondered if the Default Probabilities from the RiskMetrics Group's Credit Grades™ model could shed any light on what, if any, relative value exists here. These Default Probabilities are generated by RiskMetrics' proprietary structural (Merton) model of default risk. Structural models recognize that since stocks represent a contingent claim on a levered firm's assets, the Black-Scholes-Merton option model can be used to derive an implied probability of default for the firm, i.e., the probability that the firm's asset value will be below its liabilities when they come due, based on its equity price and debt structure. While there are many assumptions that go into this type of model, the general observation that equity markets quickly reflect investors' consensus view of a company's net asset value, and that the more debt a firm takes on the higher its risk of bankruptcy for a given level of asset value, is true and relevant to this analysis.



This graph suggests the equity market is shrugging off the possibility of a bankruptcy for three of the four firms – in fact, WalMart's 5 year probability of default is 0 to two decimal points. Interestingly, Home Depots default probability is lower than Target's, even though it is rated lower and trades at a significantly higher spread. Perhaps the bond market is over-penalizing Home Depot for the slowdown in home construction? Perhaps the stock market is too sanguine about Home Depot's prospects? This is where the fundamental

analysis becomes critical, but it is clear that the bond and equity markets have different views about this issuer, and in our view, this type of situation is exactly what we knew the data in BondEdge could help us to find.

Tsy OAS	3/31/08	4/30/08	5/31/08	6/30/08
All Credit	286	246	237	264
- Retail	251	236	209	232
- Bank	301	259	254	298
- Broker	350	280	286	317

On a closing note, we observed that the entire Retail sector has traded at tighter spreads than the overall Credit Index for the period of our study, bolstering our initial thought that this might be a relatively calmer place to invest than some other industries. As for the financial sector, specifically banks and brokers, well, the credit world seems to have turned upside down. We recommend holding on to your life preservers for a while – the waters look rough.

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The Importance of Home Price Appreciation… Or Depreciation

Home price appreciation (HPA) is an important factor in determining the riskiness of mortgage pass through securities and other mortgage derivative securities, such as Collateralized Mortgage Obligations (CMOs) and Asset Backed Securities (ABS). Given that this is the case, there are several questions that naturally arise. How does the one measure HPA? Why does HPA play such an important role? What are the primary factors that influence HPA? How should pricing and risk models reflect HPA? We will briefly explore some of these issues in this article.

Measures of HPA

There are two dominant sources available for HPA data: the Office of Federal Housing Enterprise Oversight (OFHEO) Housing Price Index and the S&P/Case Shiller® Index.[1] There are of course advantages and disadvantages to both.

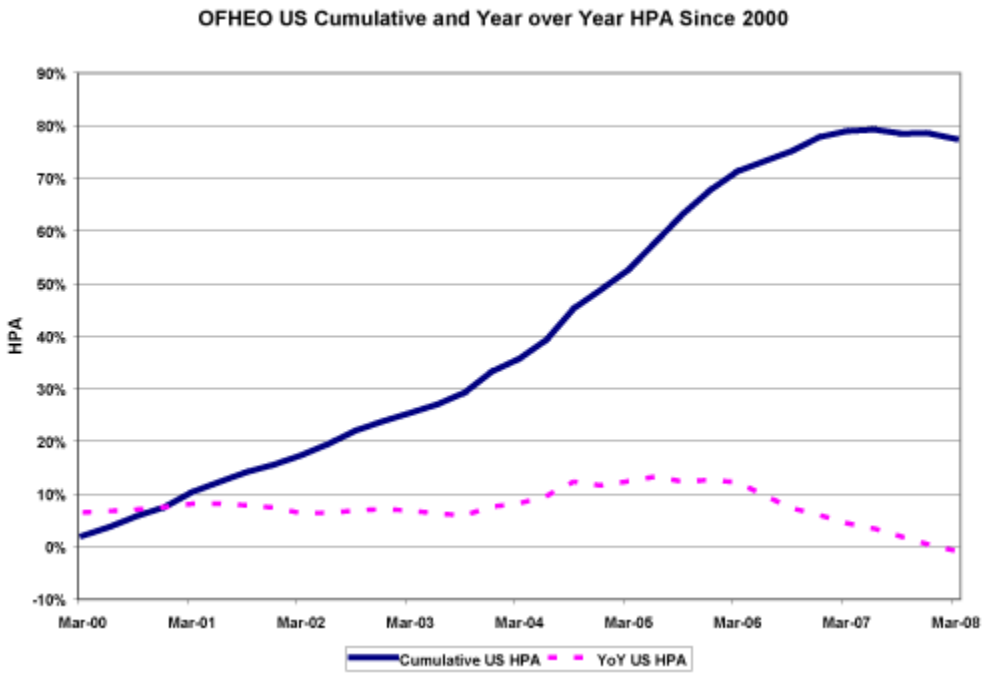
The OFHEO provides home price appreciation data at a regional level[2], on a state by state basis, as well as for the nation as a whole. The House Price Indices are freely available quarterly on the internet. The loans that are used to compile this index are the conforming loans purchased by the Government Sponsored Enterprises (GSEs), Fannie Mae and Freddie Mac. This does represent a drawback for this set of indices, since it fails to reflect the substantial non-conforming mortgage market, as well as those conforming loans not purchased by the GSEs.

The S&P/Case Shiller® Home Price Indexes are available monthly, and has a different focus. They measure home price changes in 20 regions across the U.S. on a monthly basis. In addition, regional[3] and national composite indices are available. Perhaps the single most important methodological advantage associated with these indices is that they are not confined to transaction occurring in the conforming mortgage market. Instead, they use information obtained from county assessor and recorder offices.[4]

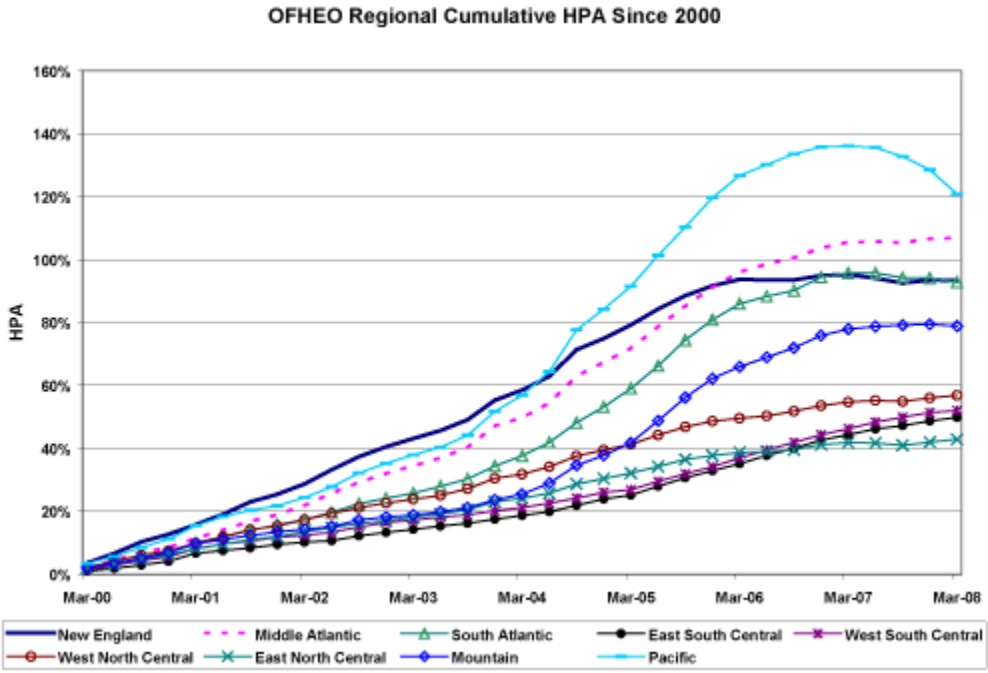
The two indices also weight housing data in slightly different ways. According to the OFHEO, “the S&P/Case-Shiller® indexes are value-weighted, meaning that price trends for more expensive homes have greater influence on estimated price changes than other homes. OFHEO’s index weights price trends equally for all properties”. This weighting difference has not led to major differences historically, but may cause the indices to diverge going forward.

For some recent historical HPA data, refer to charts 1 and 2 for national and regional HPA according to the OFHEO. As chart 1 indicates, home prices are up about 80% since 2000, nationally; however, in the most recent year, they are down about 1%. The year over year trend line indicates that the rate of appreciation

has been falling since March 2006.



As clearly seen in Chart 2, all regions do not appreciate (or depreciate) at the same rate. The Pacific and Middle Atlantic regions have let the way in HPA, and are likely to be among the hardest hit in the current environment of falling housing prices. Meanwhile, areas such as the East South Central and East North Central that did not experience the tremendous boom in the last decade should be somewhat more protected from falling HPA.



Why does HPA play such an important role?

In and of itself, HPA is just a number. However, it represents the cumulative strength of the housing market and consequently influences the behavior of borrowers. For example, a borrower who has built up equity in their home due to home price appreciation may opt to fund their family needs (e.g., a child's educational expenses) through cash-out refinancing. They may also obtain a home equity loan in order to make improvements to the property.

Besides providing funding options to borrowers, home price appreciation greases the wheels of the entire mortgage market. Real estate speculators are more likely to invest in hot markets, remodel and then resell homes at breakneck pace. Potential buyers are more willing to take on the risk of a mortgage when real estate is strong. Buyers with limited time horizons (e.g., first time buyers looking for a starter home), feel more confident that they will be able to sell their homes when the time comes without taking a big loss.

It is easy to see from the discussion above that HPA can play a fundamental role in determining prepayment sensitivity, and consequently will have an affect on the option-adjusted spread and duration of a mortgage backed security. However, there is a darker side to HPA – negative HPA or home price depreciation.

Home price depreciation is strongly correlated with delinquencies, defaults and foreclosures. After defaults and foreclosures events occur, the bank owned properties are then resold based on what the properties can resell for, which of course is based on the current levels of HPA for that neighborhood.

HPA also plays a vital role in valuing and measuring the risk of structured mortgage deals. Many subprime mortgages are packaged into ABS structures in which the subordinate and mezzanine tranches take the first hit when losses (due to default or foreclosure) are experienced. Moreover, the timing of the cashflows to the senior tranches are also affected the credit related losses. In addition, the recovery amount on defaulted loans will eventually be allocated back to the bond holders. The best way to model this recover rate is through HPA. All of this underscores the need for accurate HPA projections in determining the risk associated with these tranches.[5]

What are the primary factors that influence HPA?

HPA is heavily influenced by macroeconomic, legislative/political, and local forces.

At the macroeconomic level, credit availability (i.e., liquidity and availability of mortgage programs), interest rates, mortgage rates, inflation, strength in rental rates, income growth rates, overall strength in the economy, unsold existing inventories, and employment rates. Among these, rental rates are particularly important, since most homebuyers typically consider the cost of renting versus owning before committing to a property.

Some recent legislative and political factors that have and will influence HPA include: tax rates and exemptions, rent control, immigration policy, limits on foreclosures and ARM resets, and the recent bailout of Freddie Mac and Fannie Mae. These legislative factors are perhaps the most unpredictable in nature, but any one of these issues could dramatically influence how homes appreciate (or depreciate) in value. For example, if Congress implemented a comprehensive immigration reform package that forced the estimated 12 million illegal immigrants to leave the country and secured the U.S. border, there would be a sudden and dramatic decline in housing demand on both rental units and single family homes. Local economies (grocery stores, restaurants, etc.) would also be affected, with fewer consumers in need of goods and services.

Local factors are the last, but certainly not the least, of the factors that have profound influence on HPA. Some of these local factors include school test scores, foreclosure rates, the likelihood of disasters (e.g., Hurricane Katrina), population growth, neighborhood home improvement levels, and indicators that a neighborhood is in transition (e.g., from suburb to industrial, etc.).

How should pricing and risk models reflect HPA?

Different approaches to forecasting HPA may be required depending on the need. For example, if one is trying to value an individual loan or a particular group of loans, one may need accurate data at even the ZIP

code level. To make projections going foreword, it may then be appropriate to take an average of valuations across a set of probabilistic HPA outcomes (i.e., a Monte Carlo simulation).[6]

On the other hand, if one is instead projecting prepayments on a pool of geographically diverse loans, it would be more appropriate to use the demographic national trend rather than detailed local data. And since the calculation of option-adjusted risk measures already relies on a Monte Carlo simulation, efficiency demands the development of a forecast for HPA based on its correlation to the random variables already being simulated.

Conclusion

HPA is a vital input to the mortgage valuation and risk measurement process. As is the case with all forecast models, the modeled HPA will not likely match the actual evolution of HPA. Instead, the focus must be on projecting reasonably likely scenarios for HPA. Finally, HPA is increasingly important when one is modeling for credit in CMO and ABS securities.

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[1] There are additional data sources available for HPA. For example, The National Association of Realtors® provides a Housing Affordability Index.
[2] Regional breakdowns are available based on U.S. Census divisions.
[3] Also using U.S. Census divisions and available on a quarterly basis.
[4] According to the OFHEO website at www.ofheo.gov.
[5] This is typically referred to as modeling for credit.
[6] Refer to "OFHEO House Price Indexes: HPI Technical Description" by Charles A. Calhoun.

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2nd Quarter 2008 Fixed Income Markets Review: *Market Flash*

Fixed income benchmarks recorded negative absolute returns for the 2nd quarter as inflationary pressures caused by rising fuel prices pushed U.S. Treasury rates significantly higher. Credit spreads managed to rally during the quarter, although spreads at mid-year 2008 are still substantially higher than at the end of 2007.

The above is a partial reprint of our quarterly capital markets report, "Market Flash". ***To view this report in its entirety, please click here.***

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BondEdge NextGen – Spotlight on Key New Features: Two Tables & Filtering in Holdings Reports

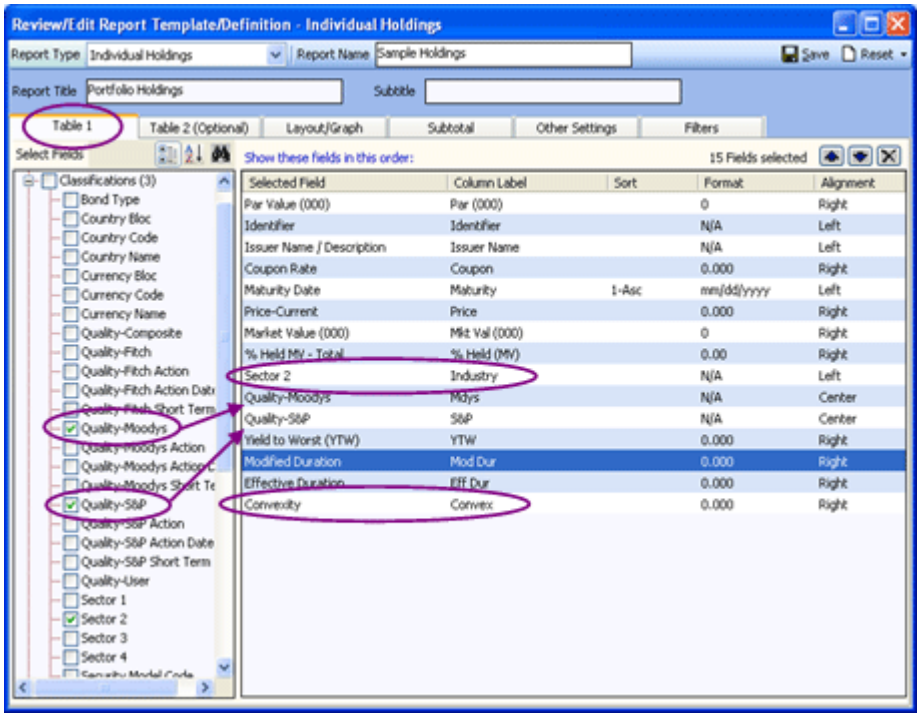
At our BondEdge Workshops this past May in New York and Chicago there was a lot of "buzz" about how the BondEdge NextGen system will make it easier for clients to get exactly the kind of portfolio reports they need, quickly and easily. As we approach the initial release of NextGen (scheduled for late August) and clients begin to convert over to the new system, we will be writing a series of articles spotlighting some of these features. We hope these articles will help you to become familiar with, and anticipate how to use the powerful tools we have built into NextGen's new navigation and reporting logic.

This article spotlights some of the new features you can use in creating Holdings-style Reports, i.e., reports that show the bond-level detail for the securities in a portfolio (other report types include Distributions, Categories, Simulations and Cashflows). While we have replicated the standard reports from the existing BondEdge system (the "Windows" version), you can create any number of your own reports and have

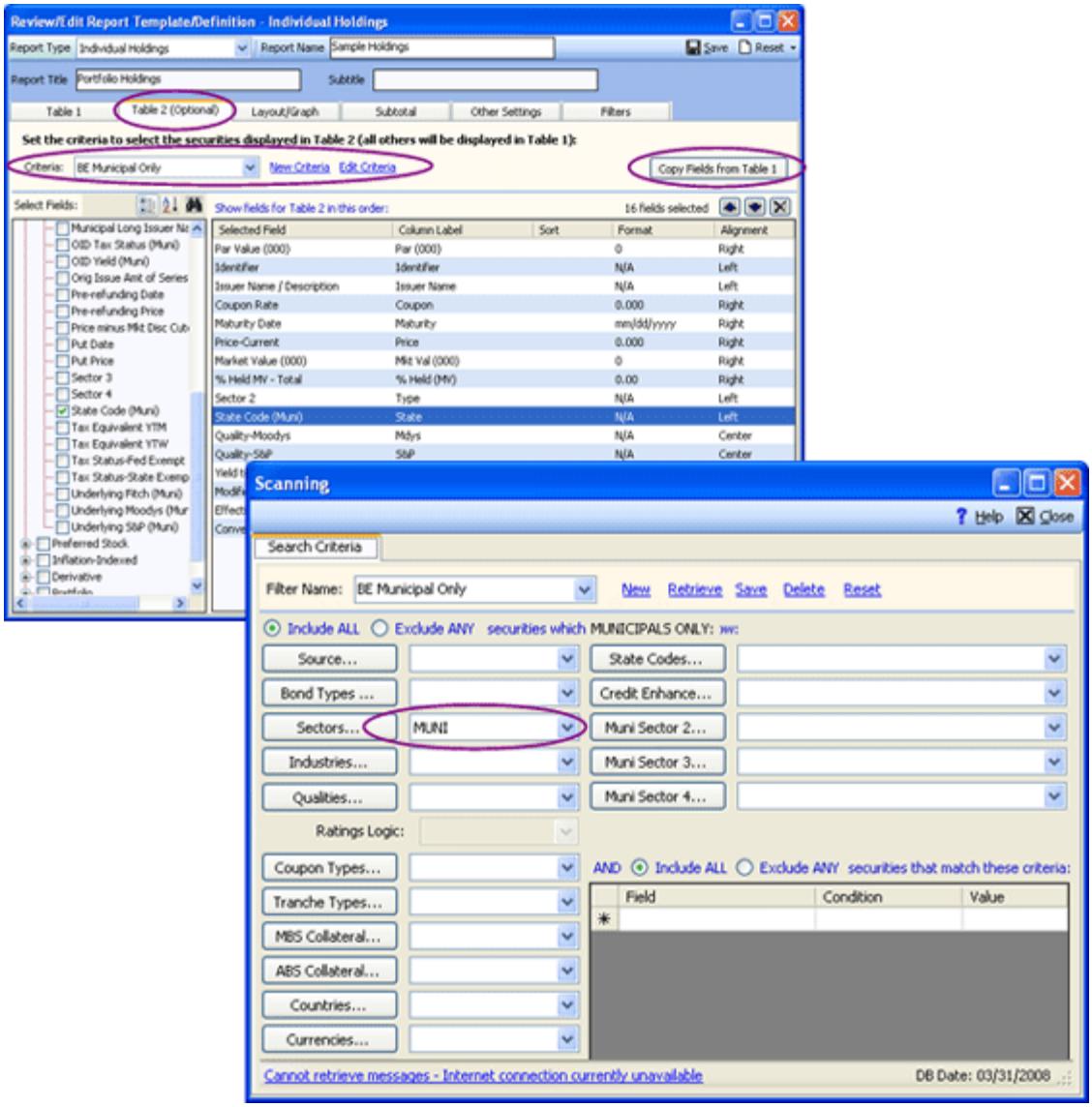
virtually unlimited flexibility to select, order, combine, filter, aggregate and display portfolio information.

One of the most useful new features in a Holdings Report is the ability to segregate a portion of the portfolio's holdings into a separate table. This can be used to separate Taxable vs. Tax-Exempt bonds, Investment Grade vs. High Yield, Mortgage-backed Securities vs. Corporates, Derivatives vs. Cash Instruments, short vs. long duration bonds – the possibilities are endless. We can also filter out certain types of bonds entirely – perhaps you want to create a report that shows just your pass-throughs in the first table, and structured securities (CMOs, ABS and CMBS) in the second table, but want to exclude CMO floaters, or show only pass-throughs backed by non-GNMA collateral.

In this example, we take a standard BondEdge Holdings report, change some of the fields, divide the holdings into two tables and filter out certain securities from the report, then save this version under a new name. We started with the layout of the standard BondEdge Holdings report as it is similar to the report we wanted to create. The fields are displayed, in order, on the Table 1 tab. We want to replace the Composite Quality shown on the standard version of the Holdings Report with the Moody's and S&P ratings, and want to include Sector 2 on the report. We do so by selecting the new fields and moving them to the desired place on the list, and simply delete the Composite Quality field. We also changed the way two of the column headings will be displayed on the actual report to show "Sector 2" as "Industry" and "Convexity" as "Convex".

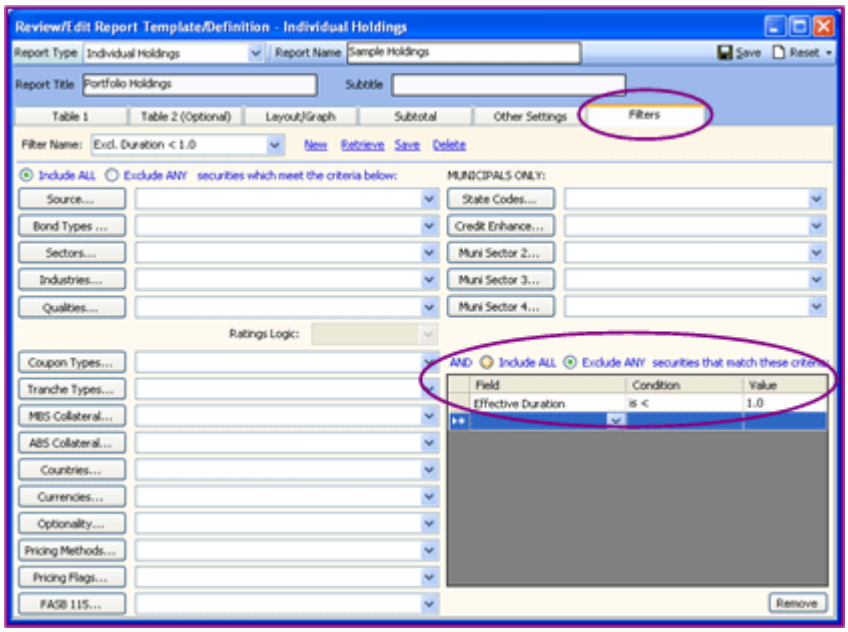


Now we turn to the notion of a second table in the Holdings Report. In the current BondEdge system, a Holdings report automatically shows derivatives in a separate table, with a fixed set of columns relevant to derivatives (such as Strike Rate, Contract Size, Expiration Date,). In NextGen, you can specify the types of securities should be shown in the second table and which fields to display. In this example, we want to display Taxable and Municipal bonds in separate tables. We do so by clicking on the Table 2 tab and choosing the criteria for the bonds that will appear in the second table. NextGen comes with a set of commonly used Criteria, including "High Yield Only", "CMO Only" and "Derivatives Only" – here we use the "Municipal Only" criteria to define Table 2 to include only bonds with "Muni" as the primary sector. You can easily create your own criteria to isolate the securities that you want to show in Table 2 using the logic that has long been used in the Bond Scan and Portfolio Scan tools in BondEdge for Windows.

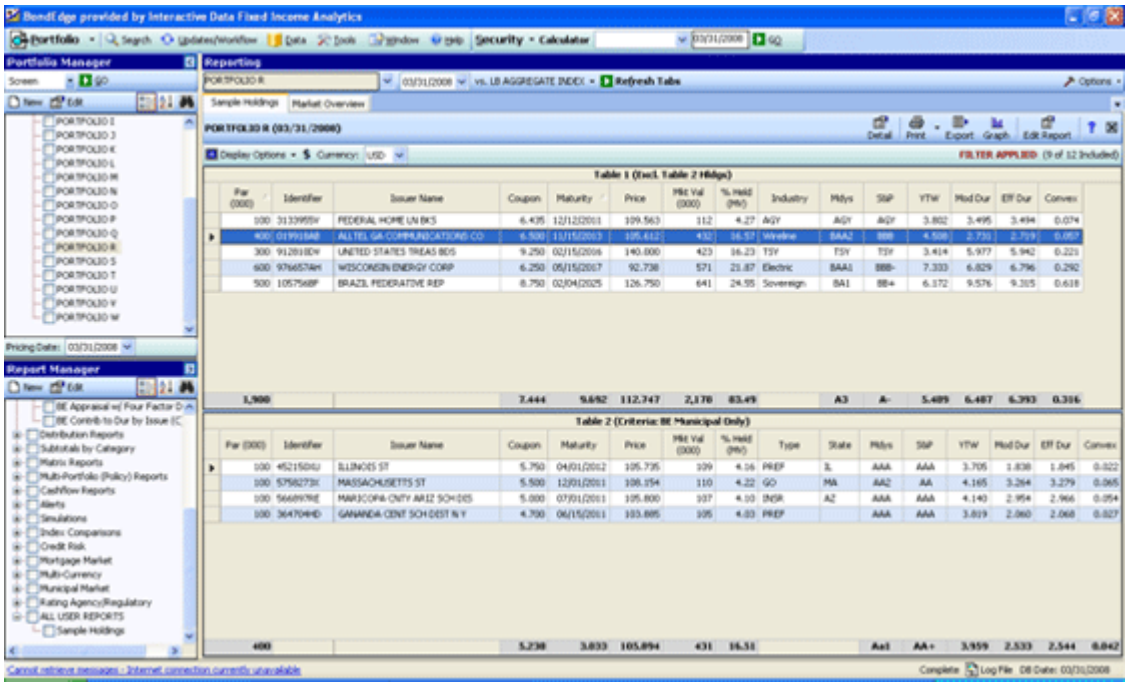


We want to show all of the columns from Table 1 of the report in Table 2, so we simply click on “Copy Fields from Table 1” to accomplish this. We also decide to add State Code as a field in Table 2, and change the Column Heading of “Industry” to “Type”, as Munis will show either G.O., Revenue, Insured or Pre-Refunded here. Finally, we decide to exclude securities with an Effective Duration of less than 1.0 from the report, which we do via the Filters tab:

Using the Filters tab we can Include or Exclude securities that have certain characteristics. In this case, using the inputs on the lower right part of the screen we choose the characteristic “Effective Duration” with the logical criteria “= <” and entered the value of 1.0 to Exclude any securities with an Effective Duration less than or equal to 1.0:



We then save this report under a new name, “Sample Holdings”, click on the portfolio(s) we wish to view with this report, and we’re done:



We hope this example has given you some ideas of reports you’d like to create in NextGen, and gives you a sense of how easy it is to use the new reporting tools. ***If you would like more details about NextGen, please contact your BondEdge Consultant.***

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Client Services Q & A

Q. **I am creating a portfolio which holds GNMA 15-year MBS and GNMA 30-year MBS. Do you have a generic CUSIP that I can enter to get current pricing and analytics?**

A. BondEdge uses the following generic mortgage CUSIPs:

- 30-Year Mortgage Backed Securities
  FN, FH, FG or GN as first 2 characters representing FNMA, FHLMC, FHGOLD or GNMA
  Coupon rate as next 4 characters
  Final maturity year as last 2 characters

Example: 30YR FNMA 5.00% 06/01/2035 = FN050035

- 20-Year Mortgage Backed Securities
  FNW, FGW or GNW as first 3 characters representing FNMA, FHGOLD or GNMA
  Coupon rate as next 3 characters
  Final maturity year as last 2 characters

Example: 20YR FNMA 5.50% 06/01/2025 = FNW05525

- 15-Year Mortgage Backed Securities
  FNF, FGF, GNF, as first 3 characters representing FNMA, FHGOLD or GNMA
  Coupon rate as next 3 characters (truncated)
  Final maturity year as last 2 characters

Example: 15YR FNMA 6.00% 06/01/2020 = FNF06020

- 10-Year Mortgage Backed Securities
  FNX, FGX, GNX, as first 3 characters representing FNMA, FHGOLD or GNMA
  Coupon rate as next 3 characters
  Final maturity year as last 2 characters

Example: 10YR FNMA 4.50% 06/01/2010 = FNX04515

Q. **In assigning Corporate bonds to industries, does BondEdge employ one of the standard industry classification systems such as SIC codes or GICS, and if so, which system and which level in the hierarchy?**

A. BondEdge uses SIC codes to determine the industry classification. The detailed mapping and logic is available in the BondEdge Help screens.

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