Walkthrough and Frequently-Asked Questions for the Structured Finance Portal

Welcome to the Structured Finance Portal. This walkthrough should provide a comprehensive look at the features of the SF Portal and answer some common questions we've received. If you have any questions or comments, please do not hesitate to contact us directly or through our product mailbox at SFPortalHelp@moodys.com.

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The Walkthrough

Navigate to https://sfportal.moodysanalytics.com and use your credentials to log in.

The Dashboard

The Dashboard functions as the jumping-off point for the rest of the SF Portal. From here you can access your portfolios, search the CLO space for any given entity, analyze a BWIC (Bids Wanted in Competition), and so on.

If this is your first time logging in, your portfolio list is most likely empty. Let's create one. Click the Create New link in the top-right corner of the Portfolios widget.

Enter a name for your portfolio. We'll call ours "Walkthrough." When you're done, you will see your new portfolio listed on the Dashboard. Right now it has no tranches, though, so let's add some. To the right of each portfolio are two graphical links – one for Edit and one for Delete. Click the Edit button next to your portfolio.

You are now in the Edit Portfolio screen. The box on the left lists all the tranches in your portfolio. Once we've added some, it will also allow you to remove them. In order to add tranches, we need to find them by CUSIP or ISIN. Copy the following list of identifiers and paste them into the Find Tranches text box in the upper right.

09624SAD7

XS0299873785

05617LAD9

Click the Add All button. The website will search our database for those tranches and then immediately add them to your portfolio, on the left. If you'd like to verify which tranches they are before adding them, you can click the

Search button instead of Add All. The tranches will appear in the box on the lower right, after which you can select individual tranches and click the Add to Portfolio button.

In the list of bonds in your portfolio, you can specify how much you own of the tranche in both percentage and dollars (or whatever the tranche's base currency is). Note that these values are relative to the original tranche balance. In other words, please enter the values corresponding to the time of your purchase, not today's balance.

The owned amount affects how all the deal, tranche, and asset data is aggregated together in the higher-level reports, especially in the Portfolio view, which we will visit now. If you do not wish to scale the aggregate reports based on owned amount, simply leave the owned amount as 100%.

Once you are satisfied with your portfolio, click Save Changes in the lower right to return to the Dashboard.

The Portfolio list will now show your new portfolio along with some statistics. Click the name of the portfolio.

The Portfolio View

Most views on the SF Portal follow the same structure. Below the navigation bar on the top of the screen is a section that identifies the view you're in and gives some summary statistics. In this case, it shows that we're in the Portfolio view. Below that is a set of tabs that organize the view's content. Right now we're in the Overview tab.

The top widget is for Alerts. Our database tracks all changes in deal, tranche, and asset statistics and notifies you of any significant movement. For example, you may see that a given deal's Caa bucket has recently increased by 25%. [FAQ]

On the bottom is the list of your exposures along with some basic information and how much you're holding of each (if you inputted it earlier). Note there are two other sections available (Valuation and Regulations). Click on

the Valuation link. Moody's Analytics has a dedicated Valuations team who serves third-party clients by pricing their portfolios. Our Valuations team calculates both estimated market values as well as fundamental values (a measure of credit risk). These valuations are included in the Portal for the whole CLO universe. [FAQ]

Click on the Regulations link. Moody's Analytics calculates Simplified Supervisory Formula Approach (SSFA) metrics for the whole CLO universe. In this screen you can see the final capital charge for each tranche in your portfolio along with the underlying metrics that are used in the formula.

Click the Composition tab. In this section, we are aggregating all the data on the positions in your portfolio and providing high-level reporting. After you've looked through these reports, let's take a moment and focus on the Top Issuers widget. Besides showing the top ten issuers that you're exposed to within this portfolio, we are also calculating the weighted average market price for those issuers' loans. Loan market prices come from our two providers: MarkIt and Thomson Reuters. [FAQ] Also, note the two icons in the upper right corner. Click the magnifying glass. This will open a pop-up window and drill down into the data, expanding beyond just the top ten. Close that window and click the other icon. This icon will export the data into Excel. Look for these buttons on other widgets as well.

Navigate to the Asset-Level Data tab. Here you can view the loan-by-loan data for all the deals in your portfolio. Under the settings section, you can choose how to filter the results. You can pick a particular deal, you can search for a particular issuer/issue, or both. Select a deal and click Load Asset Data.

A table with all the deal's assets will appear. You can show/hide particular columns, set how many assets you want to view per page, and you can search the result set. The search will look through all the columns. For example, type "Caa" into the Search box. Now, click the "Reuters Price" column to sort it. We've identified the loans in this deal with weaker ratings and market pricing.

Next, click the Performance tab. Here you can select various reports focusing on historical performance. You will see the performance aggregated across your entire portfolio. You can select different data series on the bottom of the graph.

Go to the Overlap tab. The idea here is to compare deals in your portfolio and see how much of their underlying exposure is the same. Click the Add All link at the top to add all your exposures. The dropdown below governs which asset identifier is used to generate the overlap analysis. LoanX is the default.

Press Generate Overlap Matrix. You will see something like a heat-map showing pair-wise overlap percentages between each of your selected exposures. Click one of the percentages to drill down. This screen shows which individual assets actually overlap. The three columns on the right show three different methodologies for calculating the overlap.

» Min Par Exposure – Imagine deal A has $5 of Activision and deal B has $10. The minimum par exposure would be $5.

» Min % Exposure – Imagine deal A has 5% of Activision and deal B has 10%. The minimum percent exposure would be 5%.

» Avg % Exposure – Using the previous example, the average percent exposure would be 7.5%.

There's another button labeled Run Overlap on Selected. This runs the same analysis except uses all of your selected deals at once. So, the overlap it generates are only assets that exist in all those deals at the same time.

Finally, we have the Analytics tab. While the SF Portal is not necessarily intended as a replacement for your current cashflow solution, we do have full support for running custom cashflows. This feature is an add-on – we don't want you to pay for something if you don't plan to use it. However, let's take a look at it briefly.

You will see each of your tranches along with a set of assumptions you can make for each one. Note that there are two panel with settings and assumptions in the upper right – Basic Settings and Advanced. You can also adjust what output you're looking for in the Settings toward the top. Changing this setting will change what inputs are available for each tranche. For example, if you set output to Price, you can enter discount rate assumptions. [FAQ]

The page has pre-sets already in place so you can use those or enter your own. You can also select which tranches to run by using the checkboxes to the left of their names. When you're ready, press Run Cashflows. The summary statistics will appear, along with the ability to view the period-by-period cashflows.

Go back to the Overview tab and look at your list of exposures. Note that the deal and tranche names are links. Let's start with the Deal page. Click on one of the deal names.

The Deal View

Similar to the Portfolio view, the top of the page contains some bread-and-butter information around the deal you selected. There is also a set of tabs containing various content.
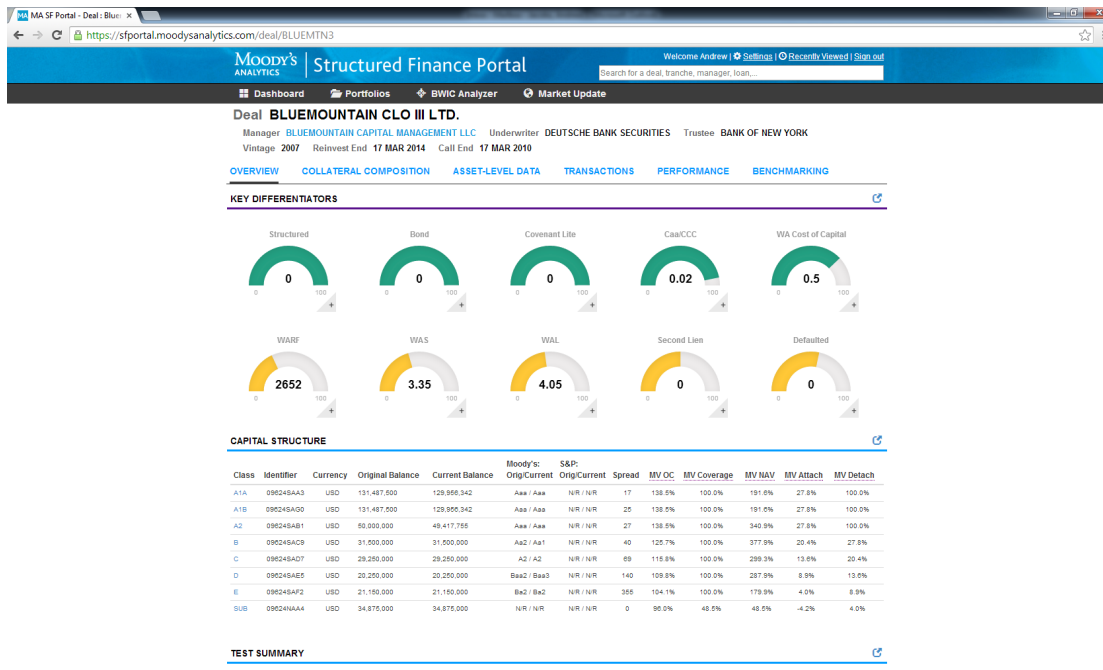
The Overview tab starts with the Key Differentiators widget. We are comparing this deal to its cohort (all CLOs in the same vintage) and highlighting this deal's best five and worst five metrics. [FAQ]. Here's how to read the gauges. The text in the center is the metric for this particular deal. How much the gauge is filled up shows where this deal sits in the distribution. Higher and greener is better. If you mouse over a gauge, you will see more information around the underlying distribution, including the median and quartiles.

At the top of the widget is a Comparison drop-down. The default is to compare to deals in the same vintage. However, you it is possible to customize this using the Screener. We will talk about the Screener functionality in more detail later but, in short, the idea is to be able to specify criteria and slice and dice the market any way you want. Further, you can compare to one of your existing portfolios.

Let's say you want to dig deeper, into the the Key Differentiators. Click on the Benchmarking tab. Here you can select what type of chart you want and which metrics to focus on. Right now, it's set to a Ranking chart and the default metric is WARF. You will see where your deal sits in the distribution versus the cohort. If you change Chart Type to Scatter Plot, another dimension is added to the graph. You can select two different metrics (say, WARF and WAS) and see at a glance how your deal compares. You can also mouse over individual data points to identify the deal there.

The cohort drop-down allows you to customize who you are comparing to. The functionality is the same as the Comparison drop-down in the Key Differentiators widget. Again, we will discuss the Screener later.

Go back to the Overview tab. The Capital Structure widget contains the basic information about each tranche but it also shows several market value metrics, including NAV and MV Coverage. These market value metrics are calculated live using MarkIt and Thomson Reuters loan pricing. By default, unpriced loans are assigned the weighted average price for the rest of the collateral pool. However, you can customize this.

Click on "Settings" at the very top of the page, above the Search bar. Here you see the Asset-Level Business Rules interface.
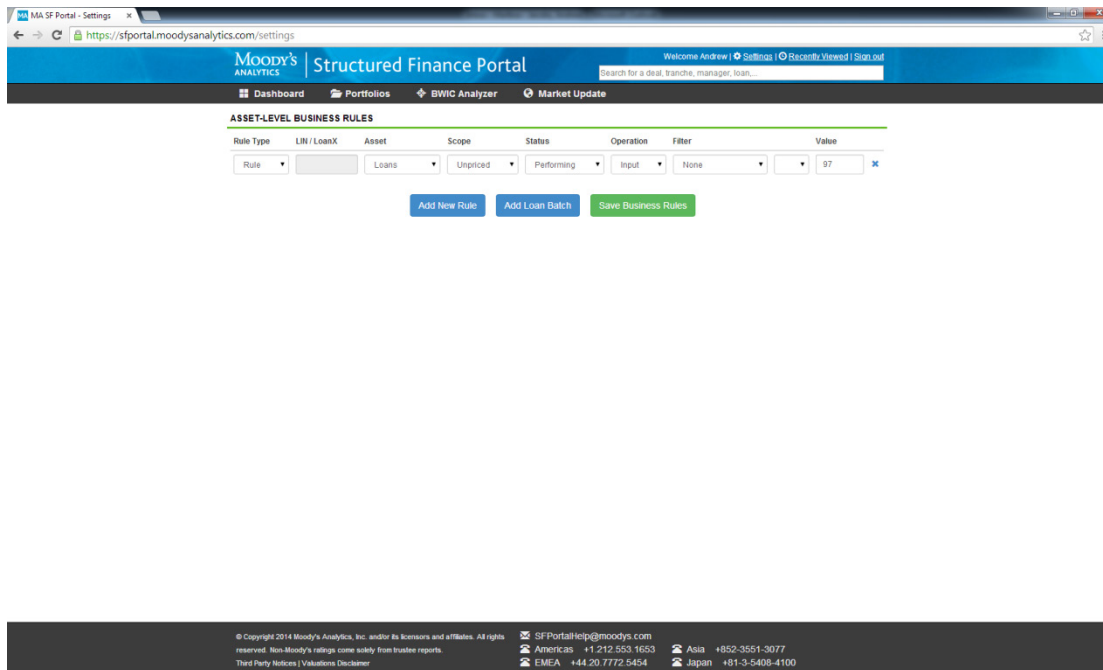
This feature allows you to set up a rule set for overriding loan prices. These loan price overrides flow directly into the market value metrics calculations in the Deal view, updating them instantly.

Click Add New Rule. There are two types of overrides: Rule and Loan. Rule involves creating a catch-all for a certain subset of assets. Loan allows you to override specific loans by inputting a LoanX or LIN identifier. The default type is Rule. You can select from the dropdowns to customize the overrides and specify the price as well. For example, clients commonly set up a set of rules to assign prices to Unpriced loans. Switching the Rule Type to Loan unlocks the LIN / Loan X input. If you want to input a batch of loan price overrides at once, you can click the Add Loan Batch button. The easiest method here is to create a grid of LoanX/LIN identifiers in one column, the price override in the second column, and then simply copy paste the table into the Add Loan Batch dialog box.

When you're done, click Save Business Rules. Then, mouse over the Recently Viewed link at the very top of the screen. Click on the Deal that you were just viewing before to return to the Overview tab.

Below the Capital Structure widget are the following widgets:

» Test Summary – The latest quality tests, triggers, and also the recent history.

» Notable Metrics – Highlighting certain popular deal-level metrics.

» Deal Documents – Links to the deal's trustee and note valuation reports. [FAQ]

» Call Risk – A measure of this deal's callability versus the CLO space. [FAQ]

Navigate to the Collateral Composition tab. This tab features aggregate reporting similar to that which we saw in the Portfolio View, except now we're looking at once deal. The page highlights, for example, top defaulted loans, top Caa-rated loans, loans with the lowest market pricing, and industry concentrations.

Go to the Asset-Level Data tab. This is the same output that you saw in the Asset-Level Data tab in the Portfolio View except now we're looking at one deal. Again, you can customize the view by selecting which columns to show, sorting by columns, and searching the result set.

Click the Transactions tab. Here you see all the recent transactions for the deal along with all the data about the dates, the transaction type, the price and par traded, and the reason for the transaction.

Finally, under Performance, we present historical charts of the Deal's performance metrics. For example, you can see the WAS over time compared to its trigger.

Navigate back to the Overview tab and click on one of the tranche names.

The Tranche View

Similar to the Deal view, the top portion shows some basic information on this tranche. Also similar to the Deal view, each tranche has a Key Differentiators widget.
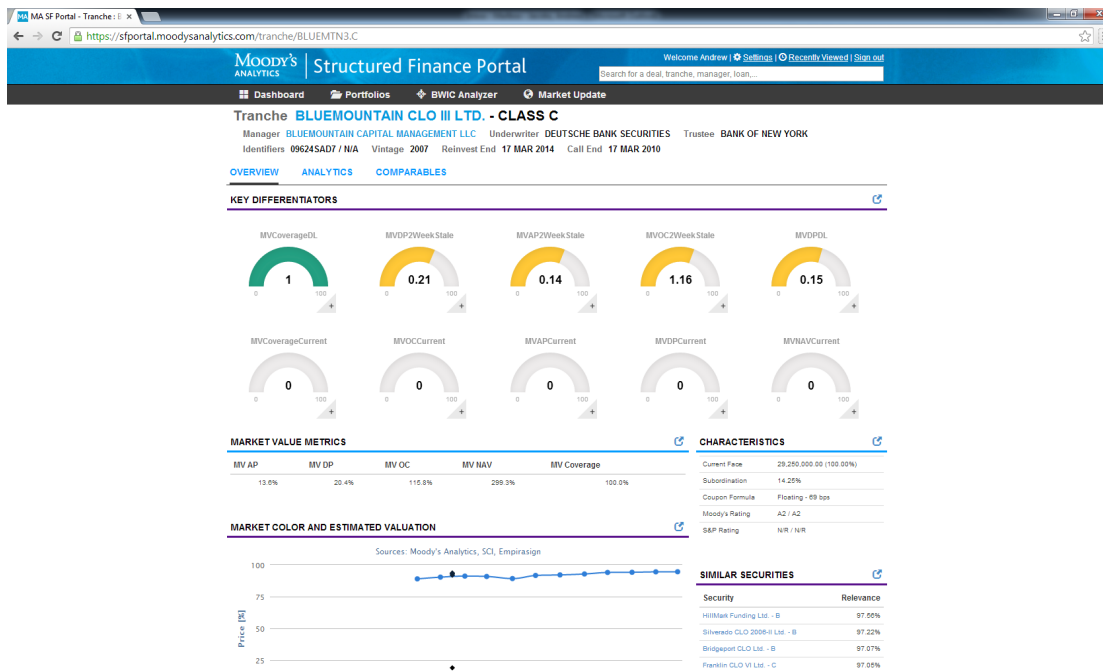
Where the Tranche view differs is in its focus on value. Look at the Market Color and Estimated Valuation widget. As mentioned, our internal Valuations team provides values for the whole CLO space and this widget displays their market valuation historically. Additionally, we work with a couple market color providers whose business is to gather all available market color, mostly from BWICs, and put it in a database. If market color is available for the tranche you selected, it would appear overlaid on this valuation widget.

We also have a widget for the Simplified Supervisory Formula Approach (SSFA). We show the capital charge along with the underlying factors on a historical basis.

Not all tranches have recent market color, though. For this case, Moody's Analytics has a comparability algorithm to figure out the most similar bonds to the one you're looking at. The widget labeled Similar Securities on the right side shows the top five similar tranches. Click the link Get More Information.

We are now in the Comparables tab and the list of comparable tranches has expanded to the top 20. The Relevance score is how the tranches are ranked – it is the output of the comparables algorithm. If you click on one of the relevance scores, you will see all the deal- and tranche-level factors that went into the algorithm. You will also see the values of those factors for the two tranches you're comparing, as well as the Proximity metric, which represents how close those two tranches are on the distribution. Finally, we have layered in all the most recent market color for these comparable tranches, allowing you to get an understanding of what your tranche's market value may be. You can also click on a given market color number to see the underlying data.

Click the Analytics tab. For a given tranche, you are given the option to run dynamic cashflows (the same as you can find in the Portfolio view). You can also view pre-run cashflows for each CLO tranche using commonly-run scenarios that our clients have requested.

Above the tabs, you'll notice that the manager name is a link. Click it.

The Manager View

All managers in the CLO space have their own page. Moody's Analytics calculates a bunch of metrics around the manager's performance and style and allows you to compare them against cohorts and also against individual managers.
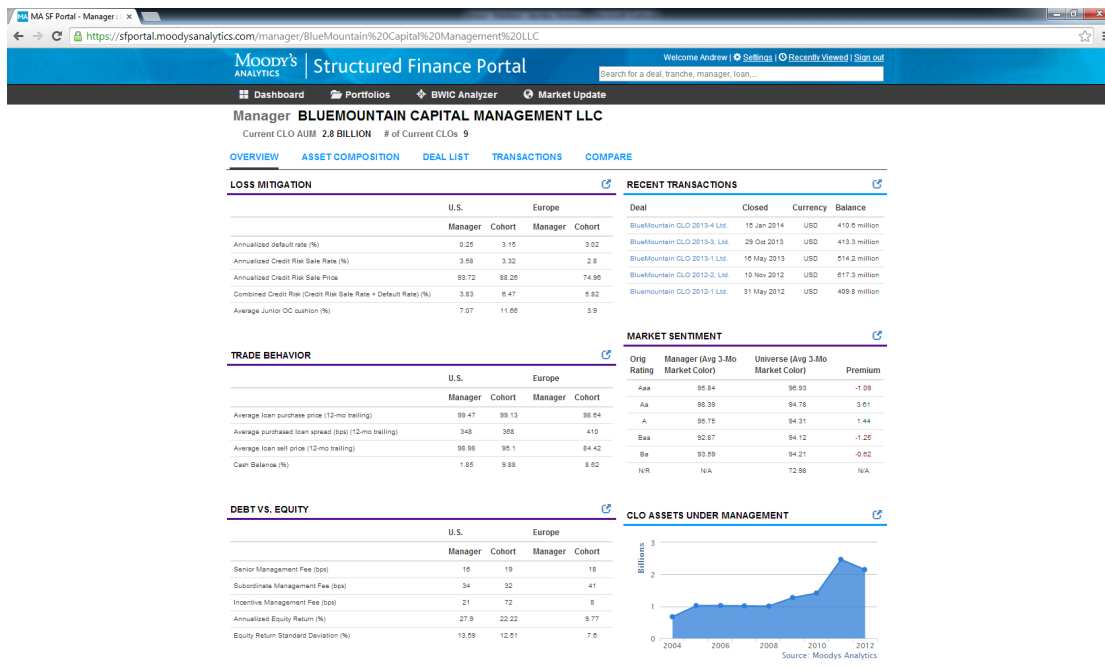
Look through the metrics in the Loss Mitigation, Trade Behavior, and Debt vs. Equity widgets. The metrics are split up by region and by this manager and the cohort. What is the cohort here? By default, the cohort are all CLOs in the given region that were issued in the same vintages that the manager issued transactions. Depending

on the manager, it can be a broad scope. That's why we have the option to specify a filter, which we'll get to in a moment.

Note the Market Sentiment widget on the right. Here we use our market color database to calculate recent average pricing for this manager's tranches as well as the universe of CLOs. This can give you a sense of whether the market attaches a premium or discount to the manager's name.

Click the Asset Composition tab. In this tab, there are several widgets that go into detail on what sort of assets the manager likes to buy. For example, you can see the manager's industry concentrations versus everyone else. You can see what issuers the manager is most exposed to, the levels of their concentration buckets, and their loan price distribution. Take a moment to look through each widget to see how this manager compares.

Under the Deal List tab, you can see all of this manager's deals, some high-level information about each one, and when the deals terminated. Under the Transactions tab, we collate all the manager's recent transactions across their deals.

Finally, click on the Compare tab. In here, you can type in a number of manager names and you will see all those statistics for each manager side-by-side for easy comparison. Further, you can use the region and vintage inputs to narrow down the list of deals you want to consider. Those settings will affect both the managers your comparing and also the cohort column that is included in the output.

The Loan and Issuer Views

Click into the search bar at the very top of the screen and type "weight." You will see results for both the issuer and a set of individual loans. Click the result for "Weight Watchers International, Inc." and you will navigate to the Issuer view. This view simply shows all the loans issued by the given issuer that are currently held in the CLO space. You can sort this list and also filter the list using the search box.

Click into the search box in the issuer view (not the search box at the top of the screen that we just used). Type in "W000." The search results should now only show loans that have a LIN starting with W000. Click on the first loan's name.

We have navigated to the Loan view. All loans in the CLO space have their own page like this. Besides clicking on a loan through the Issuer view, you can also get to a loan's page through the site's search bar and also by clicking a loan's name in the Deal view or anywhere else it may appear. Beyond the bread and butter information towards the top, we have several other widgets. For example, in the top right you can see the top deals and top managers with exposure to this particular loan.
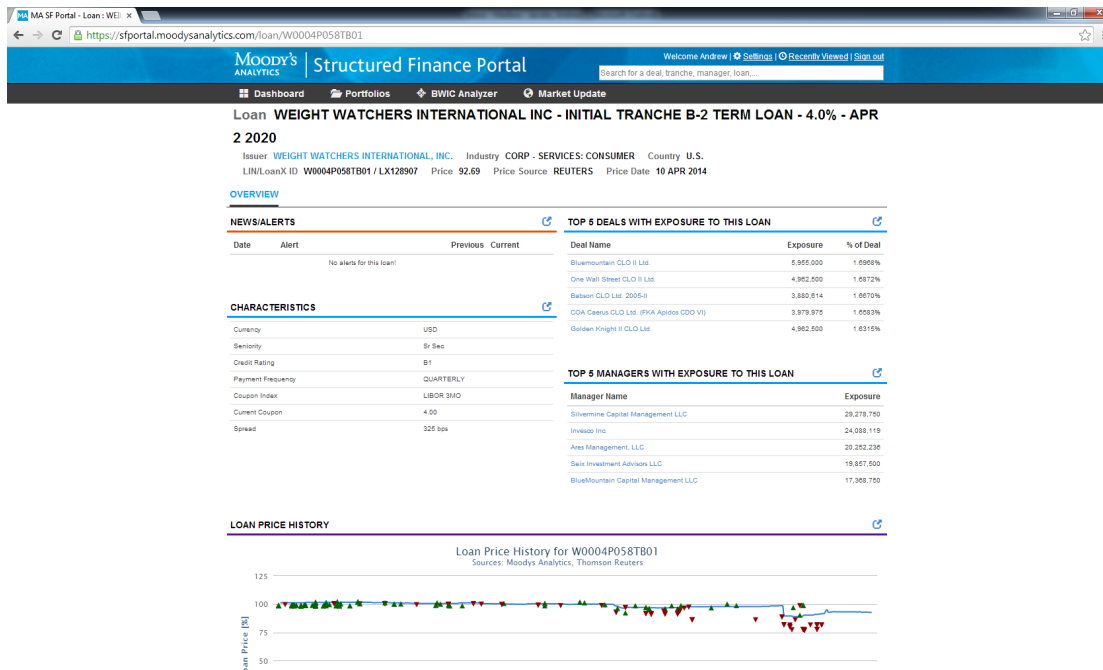
The loan price history shows the historical loan price from Thomson Reuters in blue. We then overlay all CLO market trade data on top of the chart. The green arrows are purchases, the red arrows are sales. You can mouse over individual data points to see which deal/manager made the trade and also the price at which the trade was done.

We have an EDF History widget. EDF stands for Expected Default Frequency and it is a metric calculated by Moody's Analytics for all public companies, as well as any bank that reports financials to the FDIC. Basically, it is a default probability term structure and it is a model-based metric which means it's more responsive to market conditions than a typical rating but also more volatile.

Finally, for public companies, we have linked in their reported financial ratios.

Mouse over the Tools option in the main navigation bar at the top of the page. There are two options: Screener and Overlap Analysis. Overlap Analysis works the same as the interface we looked at in the Portfolio screen – the only difference is that you can select any arbitrary list of deals rather than just the deals in your portfolio. Click the Screener option.

Screener

The concept behind the screener is to specify deal, tranche, and asset-level criteria and be able to search the CLO space using that criteria. Further, you can save the criteria that you've specified and use those "screens" in other areas of the site. For example, you can specify a screen that only returns deals that closed in the first half of 2014. After saving it, you can use it in Deal Benchmarking as the Cohort that you're comparing to.

Right now you probably have no screens saved. Click Create a Screen.
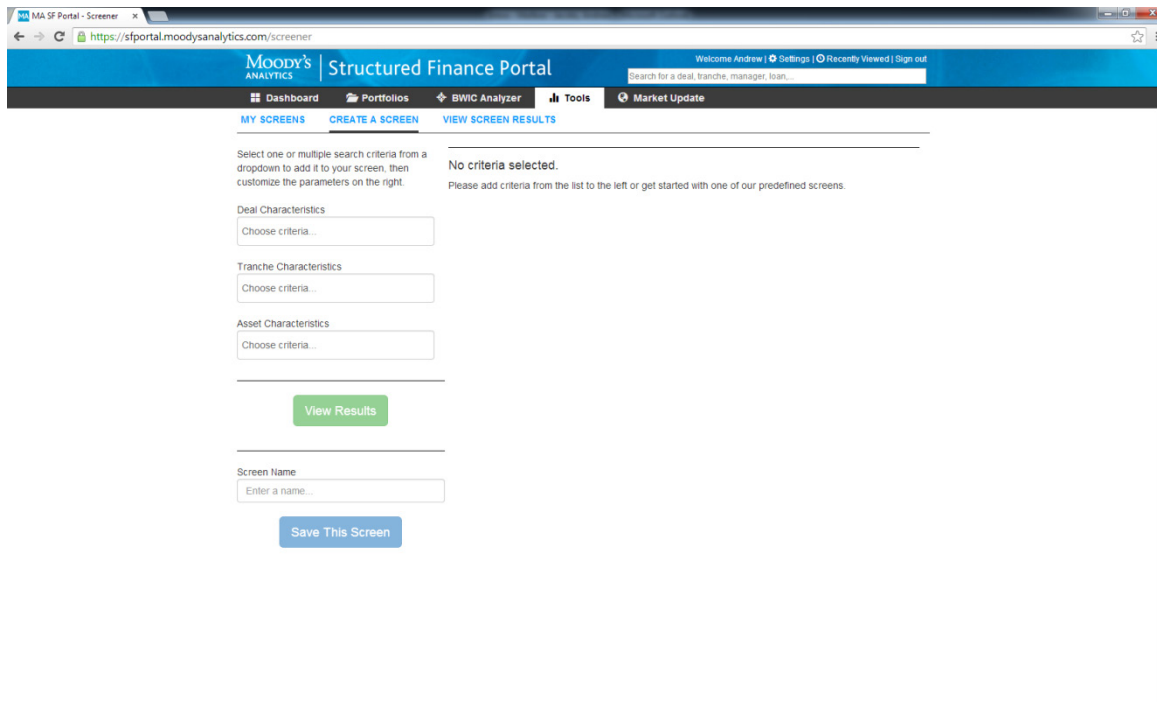
On the left you see three options: Deal, Tranche, and Asset Characteristics. Start by clicking the Deal Characteristics area and selecting Closing Date. A Closing Date section will appear on the right. Input a date range such as 2007-01-01 to 2007-07-01. Now click the green View Results button. You will be taken to the results screen where you will see a list of deals that fit the criteria you inputted.

Click the Create a Screen tab on the top to go back. Click into the Asset Characteristics section and select Issue. This is the name of the asset. The Issue section will appear on the right side. Type in "Activision" there. Click View Results again. You will now see all the deals that were issued in the specified date range and also contain an asset with Activision in the name. Go back to Create a Screen again.

At the top of the right section, there is a drop-down currently set to "Deals." This drop-down determines what kind of search result you get. It is independent of the types of characteristics you specified. To demonstrate this, change the drop-down to "Tranches" and click View Results. Now you will see a list of all the tranches from deals that were both issued in the given date range and also contain an asset with Activision in the name. Go back to Create a Screen one more time.

On the lower left, you can enter a name for this screen. Put in a name and click Save This Screen. Your screen will now appear under the My Screens tab at the top. Also, you can now access this screen elsewhere in the site, such as the Benchmarking and Key Differentiators widgets.

Click the Market Update link in the main navigation bar at the top of the page.

Miscellany

The Market Update has three tabs. The Performance tab lets you specify various criteria and see aggregated historical performance for the deals that meet your criteria. For example, you can see the historical Junior OC levels and cushions for 2007 vintage deals. The Trading tab shows market-level data on things like

secondary spreads, pricing trends, and callability. Additionally, under the Research tab, we link to Moody's Analytics and Moody's Investors Service research, where relevant.

Mouse over the BWIC Analyzer link in the main navigation bar and click the Analyze a BWIC button. Here you can put in a list of CUSIPs or ISINs and get some quick statistics about each tranche. The page can also serve as a jumping off point for further analysis without having to create a new portfolio and have it potentially clog up your Dashboard.

Copy any list of CUSIPs/ISINs into the box or use the following as an example:

09624SAD7

XS0299873785

05617LAD9

Hit Analyze. You will see the bonds in a list as well as some high-level information around each one. We have included a few metrics which trading clients have identified as being useful but our goal with this page is to be able to find out anything about these tranches at a glance. Expect enhancements in this page, and throughout the site, in the coming weeks and months.

Frequently-Asked Questions

1. **Can I customize the alerts?**

   Not yet. In the current version, the thresholds are built in. However, we have heard feedback from clients that they'd like to set their own thresholds so we will add this in a future update.

2. **Are the Thomson Reuters and MarkIt loan prices live?**

   We use a pass-through model. This means that if your organization is already a customer of one or both of these providers, live loan prices will automatically flow into the SF Portal. If you are not customers of these providers and you don't plan on becoming one, you still get loan pricing but it will be two weeks stale.

3. **Are you adding more options for running cashflows?**

   Yes. Some of the features being added include: a loan-by-loan watchlist for controlling pricing and performance, break-even analysis, and yield tables. Note, though, that cashflows are not the primary use-case for the SF Portal so please let us know if a certain cashflow feature is critical to you so we can prioritize it.

4. **What is your Valuation team's methodology?**

   Please contact us directly to obtain a copy of our methodology documentation.

5. **Can I customize which metrics appear on the Key Differentiators widget?**

   As of the time of writing, no. However, in our next release we will add this functionality. In the meantime, you can already go to the Benchmarking tab in the Deal view to see the same metrics that are present in Key Differentiators but with the option to customize.

6. **I'm on a trial subscription and it won't let me access the trustee reports. Why?**

   All paid subscribers will get access to the trustee reports and note valuation reports. For esoteric reasons, we have a separate login process to get these reports so we do not create logins for trial accounts. Rest assured, they are available.

7. **Can you add links to the legal documents for each deal too?**

   We are unlikely to be able to redistribute the indenture or any other legal documents. However, we are adding in a listing of those documents on the site in a future update. You may not be able to download, say, an amendment document from us but at least you will know an amendment has happened.

8. **How does your Call Risk measurement work?**

   All CLOs are ranked individually on the following factors:

   Call Value – The Call Value is calculated as Equity NAV minus Equity Estimated Market Value. The idea is to determine how much value could be obtained by calling the deal versus holding onto the tranche into the future.

   » *Equity NAV* is calculated using live Thomson Reuters and MarkIt loan pricing. Loans which are unpriced are assigned the weighted average price from the collateral that is priced in that deal.

   » *Equity Estimated Market Value* is calculated by the Moody's Analytics Valuations team, who provides valuations for third parties, along with estimated market values for all CLO tranches. In order to calculate the prices, they run static scenarios using market-

standard assumptions and secondary market spreads which are adjusted up or down based on manager, performance factors and judgment.

Deal Factor – is the percentage amount that the deal is outstanding versus original balance.

Senior Tranche Spread

About Moody's Analytics

Moody's Analytics, a unit of Moody's Corporation, helps capital markets and credit risk management professionals worldwide respond to an evolving marketplace with confidence. The company offers unique tools and best practices for measuring and managing risk through expertise and experience in credit analysis, economic research and financial risk management. By offering leading-edge software and advisory services, as well as the proprietary credit research produced by Moody's Investors Service, Moody's Analytics integrates and customizes its offerings to address specific business challenges.

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