

LCDX Primer

This document aims to outline the key characteristics of LCDX, and give investors the information they need to trade the index with confidence.

What is LCDX?

LCDX is a tradeable index with 100 equally-weighted underlying single-name loan-only credit default swaps (LCDS). The default swaps each reference an entity whose loans trade in the secondary leveraged loan market, and in the more recent LCDS market.

The index is being brought to market by CDS Index Co, a firm backed by a consortium of dealer banks active in the credit derivatives market. CDS Index Co has a successful track record of launching indices in this space, having launched CDX, ABX and CMBX since the firm's inception. These indices are administered by Markit, which also acts as the licensing, marketing and calculation agent for the indices. ISDA and Cleary have also been active participants in the drafting of the trade documentation and auction rules.

What is LCDS?

LCDS is buying or selling protection on an issuer's debt but unlike traditional CDS the deliverable debt being protected against is syndicated secured debt that had been bought to market by a syndicate of banks. LCDS transactions are unfunded.

Buyers of protection pay a fixed coupon agreed at time of trade, and receive compensation on the principal (not accrued) if the entity named on the contract defaults on its secured debt. The compensation will be par minus recovery either via the protection seller paying par in return for gaining possession of the loan or via cash settlement.

LCDX is simply the buying or selling of protection on the 100 names that comprise the LCDX portfolio. It literally is the buying and selling of 100 single-name LCDS, except that there is a fixed coupon. Similarly to LCDS, the index is an unfunded product.

Where can I trade LCDS and LCDX?

Both LCDS and LCDX are over-the-counter products. Over 10 investment banks provide liquidity for LCDS today, and this number will grow with the index launch. 13 banks are expected to trade the index at launch, with the number expected to grow.

The banks that will trade LCDX are Bank of America, Barclays Capital, Bear Stearns, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan, Lehman Brothers, Merrill Lynch, Morgan Stanley and UBS.

How do I trade LCDX?

The index will launch with a fixed coupon, which you pay quarterly when you buy protection on the index, or 'sell' the index. Correspondingly, you receive the coupon if you sell protection or 'buy' the index. The index trades on a price basis. Similar to bonds, if the spread goes down, the price goes up and vice versa. The index will be quoted on a clean basis.

Buying and selling the index can be compared to buying and selling a loan portfolio. When you buy the index you are taking on the credit exposure to the loans, and are exposed to defaults similar to when you buy a loan portfolio. If you sell the index you are passing this exposure on to someone else. Your exposures are similar in both cases.

To compensate investors for the change in value of the index over time, an upfront payment is made at time of trade to account for the change in present value of the index since inception. For example the index will launch with a price of approximately 100, and if you go to buy the index when it has moved to 102, you will pay 2 percentage points of the notional of your trade at settlement to your counterparty. When you later exit your position, you will again pay or receive compensation depending on whether the index is trading above or below par.

Deliverable Obligations

Deliverable Obligations for LCDS are defined by the Markit Syndicated Secured List. This list will also govern the deliverable obligations for LCDX.

Credit Events

The 2 events that would trigger a payout from the buyer (protection seller) of the index are bankruptcy or failure to pay a scheduled payment on any debt (after a grace period), for any of the constituents of the index.

If a credit event occurs, a new version of the index will be issued with the defaulted entity removed and with a reduced notional. Until the credit event is settled, both versions of the index may trade – one with and one without the defaulted entity. People who trade the index with the defaulted entity prior to settlement of the credit event are making a play on the recovery of the defaulted entity as the settlement payout at that moment is unknown.

Credit Events can be settled via 2 means – physical or cash settlement.

Physical settlement entails delivering the loan and receiving par. The protection seller who took delivery of the loan is left holding the defaulted asset. This method is the traditional method of settlement, but runs into problems when the notional of the outstanding loans is less than the LCDS outstanding. Additionally, not every LCDX counterparty will be able to take receipt of the loans. For an index, where the notional

exposure in many trades for an actual credit will be small, and investors typically won't own the loan on the credit event date, cash settlement makes for a very attractive choice. The mechanics of cash settlement will be simpler and quicker than physical settlement where an actual loan trade takes place.

Cash settlement will be conducted by setting the recovery price in an auction and the compensation protection buyer receives will be based on that. The auctions have been developed over the past 2 years for the unsecured market and will be expected to be utilized in the LCDS market too, and in particular it is expected any credit that is a constituent of LCDX will be subject to an auction. The recovery price is used across the whole market to settle trades, ensuring all contracts are settled at the same price. For more information on the auctions please see the primer to be published shortly on www.creditfixings.com and on the LCDX website.

Credit Event Example

Once the bankruptcy is announced, ISDA will congregate the major participants in the market and agree an event determination date. Coupons will stop accruing on the defaulted entity on this date.

An auction will most likely be announced for a date approximately 3 weeks after the credit event. In the auction a recovery price will be set.

If we assume a recovery of 70 cents in the dollar, all protection buyers will be compensated 30 cents in the dollar on the defaulted name. For LCDX contract holders, where each entity has a 1% weighting in the index, they will be compensated $1\% * 0.3$ multiplied by the notional of the LCDX trade. For a \$10m trade, this will be \$30,000.

Repayment of Debt

Unlike with traditional unsecured CDS, the LCDS contract is cancellable if an issuer repays its debt without issuing new senior syndicated secured debt. This change was made in recognition of this being a regular occurrence in the loan market, especially when an issuers rating moves from high-yield to investment grade.

When a credit has repaid its debt, the name is polled for and removed from the syndicated secured list. This triggers an automatic 30 business day search period in which new debt is searched for (this allows time for companies who re-finance their debt to get their new debt into the market) and if after 30 days no new debt is found the name is removed from the index with a dealer vote.

If the entity was trading at a spread higher than the implied (based on the price) spread of the index, you will see the price go up after the entity gets removed, and vice-versa if entity was trading at a lower spread.

Accruals and Coupons

The index coupon is paid quarterly on the same dates as all other LCDS, CDS and CDS Indices.

If there is a credit event, the coupon for the defaulted name will stop accruing on the event determination date. This is either the date you send your notice of physical settlement, or as is becoming more often the case the biggest banks and investors in the market will agree a common date to minimize operational burdens post-default.

Once the coupon for the defaulted entity stops, and the credit event has settled, you are left with protection on 99 names (assuming the index was 100 names prior to the default), with an amortized coupon. For example, a protection buyer who had \$10m of protection on an index with a 150 bps coupon, sees their notional factor down to \$9.9m, and their coupon is then $150 \text{ bps} * \$9.9\text{m} = \$148,500$ per annum.

When a credit is removed due to repayment of debt, the coupon stops for that name on the close of the 30 day search period for new debt if no new debt is found.

Valuing the Index

The theoretical price of the index depends on a) the coupon of the index and b) the individual spreads of the credits in the index. There are two ways to value the index – one accurate but not trivial, and one less accurate (but still a very good approximation) but easier to do.

The simpler method is to take each individual credit, and multiply the duration of the credit by the difference between the spread of the credit and the coupon of the index. This gives you the PV on each component. The fair value price of the index is 100 minus the sum of all the PV's across all constituents.

For example, if the first credit is trading at 200 bps, with a duration of 3.75 years, vs an index coupon of 150 bps, then the contribution to the index price is $3.75 * 50 / 10,000 = 0.01875$. If we assume all other credits are trading at 150 bps (i.e. equal to the index coupon), then the price of the index will be $100 - 0.01875 = 99.98125$.

The major difference in valuing LCDX vs CDX indices is the cancellability option. Because LCDS is cancellable upon repayment of debt, the final maturity for a given LCDS is unknown, and the duration in the above calculation then needs to be reduced appropriately to allow the likelihood of this happening to be factored in. How the market ends up discounting the duration will be a key characteristic in how the product is finally valued. The market at the moment assumes a maturity of 3.5 to 5 years.

The second method, which is outside the scope of this document, is calculating the present value of each component in the index using the hazard rate model that is the standard in the market today for valuing CDS trades. This method is more accurate as

it allows for a curve in the duration, interest rate and credit curves for the LCDS, whereas the above assumes flat curves.

Note it is expected that the index will trade away from the intrinsic value calculated above. The index is a tradeable index, and market supply and demand ultimately dictates where the index trades, although the intrinsic value provides a benchmark.

Markit will be calculating and providing intrinsic values for the index at launch.

Where can I get further information?

All documentation for the index will be posted prior to launch at <http://www.markit.com/information/affiliations/lcdx> including trade documentation, annexes, a daily closing price for the index and further announcements.

You can contact Markit for further information by emailing support@markit.com or calling 1-877-7-MARKIT, or you may also contact your dealer who will be able to provide further information.

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