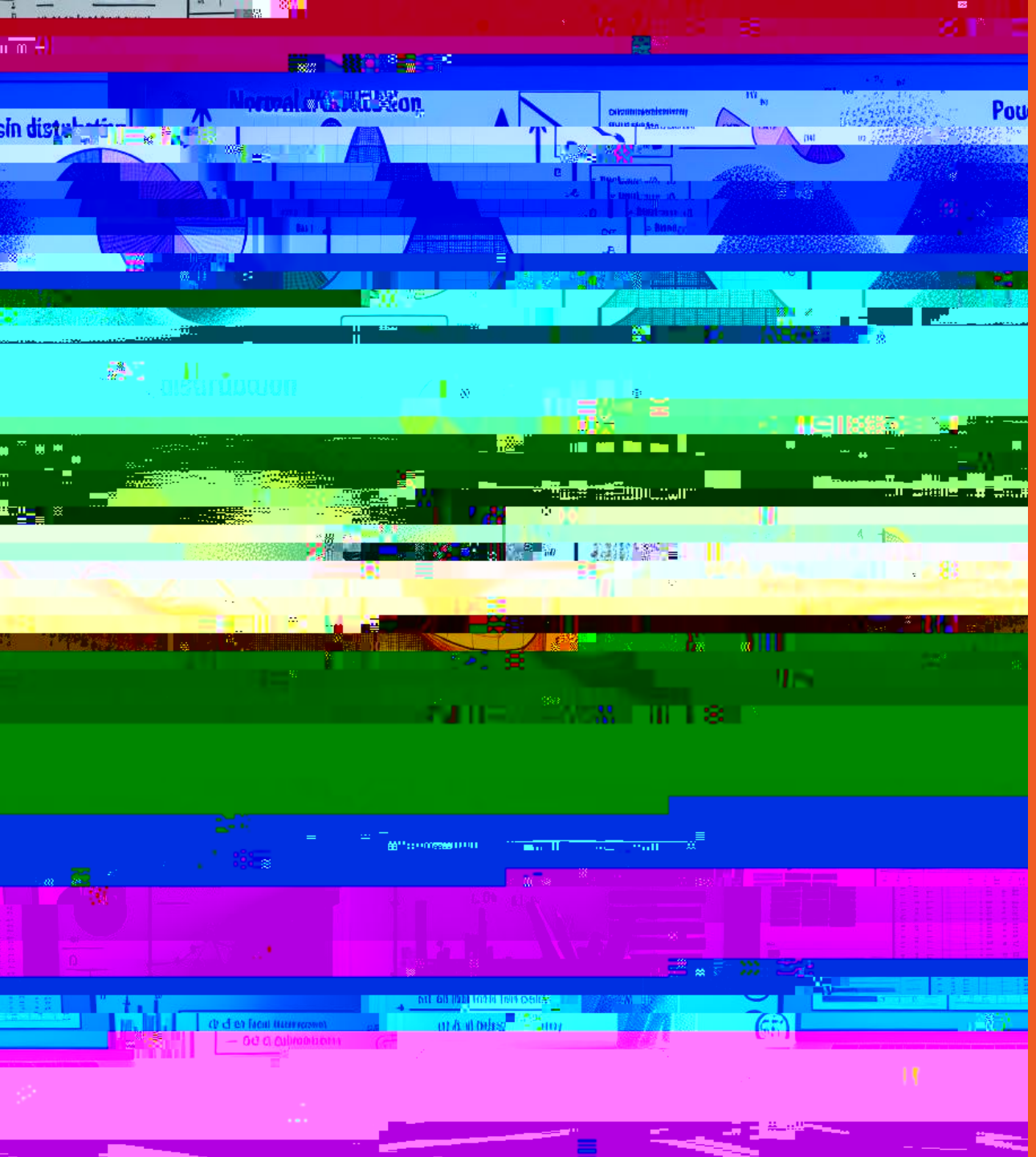

Ad-hoc meeting

Eric Kolchinsky

December 5, 2024

Overview

- The core algorithm chosen to set the probabilities is simple:

1. Calculate the portfolio “risk” in each deal by applying RBC to each loan
2. Randomly generate probability distributions
3. Select distribution which minimizes the mean squared error for all CLOs in our database:

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- Due to computational costs in step 2, a hybrid approach was taken as described below.
- The resulting PRELIMINARY probability distribution is

1	2	3	4	5	6	7	8	9	10
0.0890	0.0900	0.2000	0.2460	0.1350	0.1300	0.0565	0.0500	0.0025	0.0010

Probabilities - Initial Approach

Probabilities - Hybrid Approach

- As a result of the computational expense, it was decided to take a hybrid approach to the optimization.

Phase I

Probabilities - Local Randomness

- In phase III, we sought to optimize the local solution found in Phase II above.
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Matching Overview

- We calculated the RBC of the tranche for each probability distribution. The percentage loss was mapped to a Designation Category via Part 4 Section 28 of the P&P. The percentage was multiplied by the face value of the tranche to determine the $ value of tranche risk.
- These values were then aggregated by deal.
  - For the purposes of matching only, the Equity tranche was assumed to be 100% multiplied by the implied value (all Assets + Cash – all Liabilities).
- The “error” for each deal was the difference between the Liabilities and the Portfolio

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- The probability scenario which minimized the mean squared error was selected.
- This process was repeated for each new probability distribution.
- The selected probability explains 97% of the RBC risk in the portfolio (with Equity @100%).

Feedback Requested

1. Feedback on the overall approach
2. Better Probability Distribution?
3. Addition of scenarios on the right? The current approach has difficulty in differentiating between AAA-A. Should more scenarios be added – without adding more probability.
4. Matching Assumptions as described above:
   - Matching $ vs %
   - Match RBC vs total loss
   - Use of Mid-point
   - Equity “RBC”

Next Steps

- Seeking formal or informal feedback
- Starting early next year we will endeavor to rerun all the deals with the new probabilities on a monthly basis.
  - We will also add the previously discussed methodology adjustments.
  - Add FE designations and updated Implied Equity Balance (added Cash Principal).

Appendix