Data Model and Power Query Analysis Report

This report provides a comprehensive analysis of the provided Excel workbook, detailing its data model, structured tables, DAX measures, and Power Query transformations.

1. Workbook Overview

The workbook is a complex financial model with 24 worksheets, a sophisticated data model, and an extensive set of Power Query connections for data integration and transformation.

1.1. Worksheets

The workbook contains the following worksheets:

- Credit Macro
- Credit Marco 2
- Rates + Macro
- Portfolio Risk
- TradeGroups
- TradeSheet
- Portfolio RV
- Universe RV
- rv-sector term
- US RV
- VS crvs + XXCY
- Issuers
- NI
- Runz Group
- all dealers
- roll-calc
- roll-hard values
- Supply Expectations
- Portfolio

- New Issues
- New Issues (2)
- Additional_Data
- Bloomberg data
- prtu

2. Structured Tables

The workbook contains 18 structured tables that serve as the foundation for the data model and analysis. Below is a summary of these tables, their worksheet locations, and their columns.

Table Name	Range	Columns (Partial List) -
Table11	CK1:CQ13	AD Ticker, Prime, Ref Bloomber Ticker, Long Spread, Short Spread, Long Rate, Short Rate -
Table7	CE1:CI1357	Cusip, SECURITY, Funding, TradeGroup (Overide), TradeGroup Match -
Table14	CS1:CV28	Prime, Security, CUSIP, Rate -
Table1416	CX1:DA29	Prime, Security, CUSIP, Rate -
Table17	CK17:CO23	AD Ticker, Prime, Prime2, Short Cash Spread, Short Cash Rate -
Table1719	CK29:CO35	AD Ticker, Prime, Prime2, Long Cash Spread, Long Cash Rate -
Table1720	CK40:CO46	AD Ticker, Prime, Prime2, Short Cash Spread, Short Cash Rate -
Table172021	CK52:CO58	AD Ticker, Prime, Prime2, Short Cash Spread, Long Cash Rate -
Table3	A4:AC1453	Cusip, Security, Pricing Date, Days Since NI, NI G, NI Spread, Bid Spread, vs NI, WoW, MTD, QTD, YTD, Notes, Amount Outstanding, Sector... -
Table37	A5:AC1455	Cusip, Security, Pricing Date, Days Since NI, NI G, NI Spread, Bid Spread, vs NI, WoW, MTD, QTD, YTD, Notes, Amount Outstanding, Sector... -
Main	A3:BW2594	CUSIP, Benchmark Cusip, Custom_Sector, Marketing Sector, Notes, Bloomberg Cusip, Security, Benchmark, Make_Whole, Back End, Floating Index, Stochastic Duration, Stochastic Convexity, CR01/1MM, Pricing Date... -
Table2433	A4:BW2595	CUSIP, Benchmark Cusip, Custom_Sector, Marketing Sector, Notes, Bloomberg Cusip, Security, Benchmark, Make_Whole, Back End, Floating Index, Stochastic Duration, Stochastic Convexity, CR01/1MM, Pricing Date... -
Table5	A4:R736	Dates, .ABS M5B:222F Index, .AUTO M5B:2229 Index, .BI M5B:222B Index, .FINMAPLES M5B:222G Index, .INDUS M5B:222H Index, .INFRA M5B:222J Index, .INSUB M5B:222K Index, .MID M5B:222L Index, .FHYBRIDS M5B:222T Index, .NFHYBRID M5B:222S Index, .NVCC M5B:222M Index, .OIL M5B:222N Index, .PIPE M5B:222D Index, .REIT M5B:222P Index... -
		Dates, .ABS M5B:222F Index, .AUTO M5B:2229 Index, .BI

Table510	T4:AK736	Dates, .ABS M5B:222F Index, .AUTO M5B:2229 Index, .BI M5B:222B Index, .FINMAPLES M5B:222G Index, .INDUS M5B:222H Index, .INFRA M5B:222J Index, .INSUB M5B:222K Index, .MID M5B:222L Index, .FHYBRIDS M5B:222T Index, .NFHYBRID M5B:222S Index, .NVCC M5B:222M Index, .OIL M5B:222N Index, .PIPE M5B:222D Index, .REIT M5B:222P Index... -
Table51011	AM4:BD736	Dates, .ABS M5B:222F Index, .AUTO M5B:2229 Index, .BI M5B:222B Index, .FINMAPLES M5B:222G Index, .INDUS M5B:222H Index, .INFRA M5B:222J Index, .INSUB M5B:222K Index, .MID M5B:222L Index, .FHYBRIDS M5B:222T Index, .NFHYBRID M5B:222S Index, .NVCC M5B:222M Index, .OIL M5B:222N Index, .PIPE M5B:222D Index, .REIT M5B:222P Index... -
Table5101113	BF4:BW736	Dates, .ABS M5B:222F Index, .AUTO M5B:2229 Index, .BI M5B:222B Index, .FINMAPLES M5B:222G Index, .INDUS M5B:222H Index, .INFRA M5B:222J Index, .INSUB M5B:222K Index, .MID M5B:222L Index, .FHYBRIDS M5B:222T Index, .NFHYBRID M5B:222S Index, .NVCC M5B:222M Index, .OIL M5B:222N Index, .PIPE M5B:222D Index, .REIT M5B:222P Index... -
Table4	BY4:CZ1049	Dates, .1YRBI U Index, .2YRBI U Index, .3YRBI U Index, .5YRBI U Index, .7YRBI U Index, .1YRBCE U Index, .2YRBCE U Index, .3YRBCE U Index, .5YRBCE U Index, .10YRBCE U Index, .30YRBCE U Index, .1YRENB U Index, .2YRENB U Index, .3YRENB U Index... -
Table49	DB4:EC1049	Dates, .1YRBI U Index, .2YRBI U Index, .3YRBI U Index, .5YRBI U Index, .7YRBI U Index, .1YRBCE U Index, .2YRBCE U Index, .3YRBCE U Index, .5YRBCE U Index, .10YRBCE U Index, .30YRBCE U Index, .1YRENB U Index, .2YRENB U Index, .3YRENB U Index... -

Measures

Below is a list of all the measures identified in the data model:

Plain Text

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1. MV
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2. YTD Avg
3. SD Avg
4. NAV (all selected)
5. Weight (%NAV)
6. CR01
7. CR01 (all selected)
8. CR01 %
9. MV Corporate Postions (all selected)
10. MV of Govt Postions (all selected)
11. Abs Value of Short Positions (all selected)
12. Leverage
13. Weight (%CDS Adj)
14. Weight (% Corp)
15. CR01 as % NAV (all selected)
16. YTM (Funding Included)
17. Yield Contribution
18. Running Yield (all selected)
19. Yrs (AD Calc)
20. CR01 as % MV
21. Net Yield (SUMX contribution)
22. Net Leverage
23. Tradegroup Sprd
24. SD Avg (>1yr)
25. G
26. G High
27. G Low
28. Retrace%
29. Retrace% (>1yr)
30. Bid/Offer
31. Net Sizes
32. Wide Offer Filtered for Size
33. Tight Bid Filtered for Size
34. Bid/Offer Filtered for Size
35. Sherman
36. vs BI
37. vs BCE
38. Max Yrs
39. Yrs Rank (Bond Level)
40. G row t-1
41. Yrs row t-1
42. Diff in Years
43. Credit Diff
44. Credit/Yr
45. MTD Excess
46. YTD Excess
47. Yrs (averagex)
48. Ask Sprd (avgex)
49. Bid Size (SUMX Runs History)
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50. Ask Size (SUMX Runs History)
51. Net Size (SUMX Runs History)
52. Bid Size T-1 (Runs History)
53. Ask Size T-1 (Runs History)
54. Net Size T-1 (Runs History)
55. Net Size DoD (Runs History)
56. Ask Sprd (Max Date Var)
57. Ask Sprd (Max Date Var T-1)
58. Price (avgex aggies)
59. MD (avgex aggies)
60. YTM (avgex aggies)
61. # Quotes
62. Yrs( aggies,jsut corps)
63. DV01 (aggies, sumx)
64. Yield Contribution (Aggies, HASONEVALUE)
65. Yrs (API, Cvn, averagex)
66. Yrs Contribution (Aggies)
67. OAS Mid (API, Averagex)
68. OAS Contribution (Aggies & API, % NAV)
69. OAS Contribution (Aggies & API, % Corps)
70. Yield Contribution (Aggies, No format for HASONEVALUE)
71. Count Unique Securities (Sector_Lookup, countrows(),values())
72. Bid Sprd (only report filters)
73. DoD (no explicit filters other than dates)
74. Bid Sprd (RBC)
75. Bid Sprd (TD)
76. Bid Sprd (SCM)
77. Bid Sprd (CIBC)
78. Bid Sprd (NBF)
79. Bid Sprd (BMO)
80. MTD- Sprd Chg (Custom Date)
81. YTD Sprd Chg (Custom Date)
82. DV01 as % MV
83. Weight (% Corps-dont know if i should use this version)
84. YTM Non Zeros (Aggies)
85. Credit Duration Un-Levered Contribution % Corps (Aggies)
86. Duration Contribution (Aggies)
87. ER Cust
88. Count Unique Securities (Aggies, From Sector_Lookup Rows)
89. Yield Contribution (Aggies, Correct Subgroups and GrandTotals)
90.  TG Count Unique Securities (Aggies, Rows Fom Aggies)
91. TG Notional (Aggies)
92. TG MV (Aggies)
93. TG Yield/Sprd (Aggies, No Funding Adjustment)
94. TG Yield/Sprd (Aggies, Funding Included)
95. TG Yield Contribution (Aggies, Funding Included)
96. TG Yrs (Aggies, Calc)
97. Bid/Offer Yield (RUNs)
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98. G Sprd Self Calc (API)
99. Notional (Historical_Aggs)
100. Notional Last (Historical Aggies)
101. Notional T-1 (Historical Aggs)
102. DoD Chg Notional (Historical Aggs)
103. MTD Chg Notional (Historical Aggs)
104. YTD Chg Notional (Historical Aggs)
105. Custom Date Chg Notional (Historical Aggies)
106. MV Last (Historical Aggies)
107. DoD Chg MV (Historical Aggs)
108. MTD MV Chg (Historical Aggs)
109. YTD MV Chg (Historical Aggs)
110. Custom Date Chg MV (Historical Aggs)
111. CR01 Last (Historical Aggies)
112. DoD Chg CR01 (Historical Aggs)
113. MTD Chg CR01 (Historical Aggs)
114. YTD Chg CR01 (Historical Aggs)
115. Custom Date Chg CR01 (Historical Aggs)
116. DV01 Last (Historical Aggs)
117. DoD Chg DV01 (Historical Aggs)
118. MTD Chg DV01 (Historical Aggs)
119. YTD Chg DV01 (Historical Aggs)
120. Custom Date Chg DV01 (Historical Aggs)
121. NAV Last (Historical Aggs)
122. NAV T-1 (Historical Aggs)
123. NAV Last Month End (Historical Aggies)
124. NAV Last Year End (Historical Aggies)
125. NAV Custom Date (Historical Aggies)
126. Corporates Only MV Last (Historical Aggs)
127. Corporates Only MV T-1 (Historical Aggies)
128. Corporates Only Last Month End MV (Historical Aggies)
129. Corporates Only Last Year End MV (Historical Aggies)
130. Corporates Only MV Custom Date (Historical Aggies)
131. Short Positions MV Last (Historical Aggs)
132. Short Positions MV T-1 (Historical Aggs)
133. Short Positions Last Month End (Historical Aggs)
134. Short Positions Last Year End (Historical Aggs)
135. Short Positions Custom Date (Historical Aggs)
136. YTM Funding Adj Last (Historical Aggs)
137. NAV % Last (Historical Aggs)
138. NAV % T-1 (Historical Aggs)
139. NAV % Last Year End (Historical Aggs)
140. NAV % Custom Date (Historical Aggs)
141. CR01 % NAV Last (Historical Aggs)
142. DoD Chg CR01 as % NAV (Historical Aggs)
143. MTD Chg CR01 as % NAV (Historical Aggs)
144. YTD Chg CR01 as % NAV (Historical Aggs)
145. Custom Date Chg CR01 as % NAV (Historical Aggs)
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146. NAV % Last Month End (Historical Aggs)
147. YTM Funding Adj T-1 (Historical Aggs)
148. YTM Funding Adj Last Month End (Historical Aggs)
149. YTM Funding Adj Last Year End (Historical Aggs)
150. YTM Funding Adj Custom Date (Historical Aggs)
151. Yield Contribution Last (Historical Aggies)
152. Count Distinct Securities (Historical Aggs)
153. Yield Contribution T-1 (Historical Aggies)
154. Yield Contribution Last Month End (Historical Aggies)
155. Yield Contribution Last Year End (Historical Aggies)
156. Yield Contribution Custom Date (Historical Aggies)
157. DoD Chg Yield Contribution (Historical Aggs)
158. MTD Chg Yield Contribution (Historical Aggs)
159. YTD Chg Yield Contribution (Historical Aggies)
160. Custom Date Chg Yield Contribution (Historical Aggs)
161. CDS Adj NAV % Last (Historical Aggs)
162. CDS Adj NAV % T-1 (Historical Aggs)
163. CDS Adj NAV % Last Month End (Historical Aggs)
164. CDS Adj NAV % Last Year End (Historical Aggs)
165. CDS Adj NAV % Custom Date (Historical Aggs)
166. Notional Last TG Total (Historical Aggs)
167. DoD Chg Notional TG Total (Historical Aggs)
168. Sprd Last TG (Historical Aggs)
169. DoD Sprd Chg TG (Historical Aggs)
170. MTD Sprd Chg TG (Historical Aggs)
171. YTD Sprd Chg TG (Historical Aggs)
172. Custom Date Sprd Chg TG (Historical Aggs)
173. MTD ER (Total Return)
174. QTD ER (Total Return)
175. YTD ER (Total Return)
176. Custom Date ER (Total Return)
177. Last Date (Historical Aggs)
178. NAV Weight FIAF (Aggies)
179. NAV Weight COF (Aggies)
180. NAV Weight KJH (Aggies)
181. FIAF - COF Weight (Aggies)
182. FIAF - KJH Weights (Aggies)
183. COF-kjh Weight (Aggies)
184. TG Weight % of NAV (Aggies)
185. Count Distinct Bonds in Group (Runs_History)
186. Bid Size Last RBC (Runs_History)
187. Bid Size Last TD (Runs_History)
188. Bid Size Last SCM (Runs_History)
189. Bid Size Last CIBC (Runs_History)
190. Bid Size Last NBF (Runs_History)
191. Bid Size Last BMO (Runs_History)
192. Ask Size Last RBC (Runs_History)
193. Ask Size Last TD (Runs_History)
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194. Ask Size Last SCM (Runs_History)
195. Ask Size Last CIBC (Runs_History)
196. Ask Size Last NBF (Runs_History)
197. Ask Size Last BMO (Runs_History)
198. Total Ask Size (Runs_History)
199. Total Bid Size (Runs_History)
200. Total Net SIze (Runs_History)
201. Min Bid Sprd With Size (Runs_History)
202. Max Ask Sprd With Size (Runs_History)
203. Bid/Offer Last (Runs_History)
204. Bid Yield (Runs_History)
205. Min Bid Yield With Size (Runs_History)
206. Max Ask Yield With Size (Runs_History)
207. Bid/Offer Yield (Runs_History)
208. DoD Chg in Ask Size RBC (Runs_History)
209. DoD Chg in Ask Size TD (Runs_History)
210. DoD Chg in Ask Size SCM (Runs_History)
211. DoD Chg in Ask Size nbf (Runs_History)
212. DoD Chg in Ask Size CIBC (Runs_History)
213. DoD Chg in Ask Size BMO (Runs_History)
214. DoD Chg in Total Ask Size
215. DoD Bid Sprd Chg RBC (Runs_History)
216. DoD Bid Sprd Chg TD (Runs_History)
217. DoD Bid Sprd Chg SCM (Runs_History)
218. DoD Bid Sprd Chg CIBC (Runs_History)
219. DoD Bid Sprd Chg NBF (Runs_History)
220. DoD Bid Sprd Chg BMO (Runs_History)
221. Ask Size All (Runs_History)
222. Ask Size (Runs)
223. Credit Duration Levered Contribution (Aggies)
224. TG Yield/Sprd Neting Out Cash (Aggies, Funding Included)
225. Notional (no filters, Tradesheet)
226. Notional Long (Tradesheet)
227. Notional Short (Tradesheet)
228. Net Notional (Tradehseet)
229. Sprd Traded (Tradesheet)
230. +/- In the Money (Sales)
231. +/- In the Money (Buys)
232. Sprd Traded When Sold (Tradesheet)
233. Sprd Traded If Bought (Tradesheet)
234. Sum DoD Changes All Dealers (Runs_History)
235. Count Non Blank DoD Changes All Dealers (Runs_History)
236. Avg DoD Bid Sprd Chg All Dealers (Runs_History)
237. vs Cust Date (Sector_Performance)
238. MTD Bid Sprd Chg RBC (Runs_History)
239. MTD Bid Sprd Chg TD (Runs_History)
240. MTD Bid Sprd Chg SCM (Runs_History)
241. MTD Bid Sprd Chg CIBC (Runs_History)
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242. MTD Bid Sprd Chg NBF (Runs_History)
243. MTD Bid Sprd Chg BMO (Runs_History)
244. Sum MTD Changes All Dealers (Runs_History)
245. Count Non Blank MTD Changes All Dealers (Runs_History)
246. Avg MTD Bid Sprd Chg All Dealers (Runs_History)
247. YTD Bid Sprd Chg RBC (Runs_History)
248. YTD Bid Sprd Chg td (Runs_History)
249. YTD Bid Sprd Chg SCM (Runs_History)
250. YTD Bid Sprd Chg CIBC (Runs_History)
251. YTD Bid Sprd Chg NBF (Runs_History)
252. YTD Bid Sprd Chg BMO (Runs_History)
253. Count Non Blank YTD Changes All Dealers (Runs_History)
254. Sum YTD Changes All Dealers (Runs_History)
255. Avg YTD Bid Sprd Chg All Dealers (Runs_History)
256. Yield (Pricing)
257. Yield row t-1 (Pricing)
258. Yield Diff (Pricing)
259. Yield/Yr (Pricing)
260. Wide Offer >5mm (RUNS)
261. Widest Ask Yield in Bps >5mm (RUNS)
262. Tightest Bid Yield in Bps >2mm (RUNS)
263. Bid/Offer Yield in Bps >Size (RUNS)
264. TG Sprd Contribution (Aggies)
265. TG Notional Last (Historical Aggies)
266. DOD Chg TG Notional (Historical Aggies)
267. MTD Chg TG Notional (Historical Aggies)
268. YTD Chg TG Notional (Historical Aggies)
269. Custom Date Chg TG Notional (Historical Aggies)
270.  TG Count Unique Securities Last (Historical Aggies)
271. TG Yield Contribution Last (Historical Aggies)
272. TG Yield Contribution T-1 (Historical Aggies)
273. TG Yield Contribution MTD Start Date (Historical Aggies)
274. TG Yield Contribution YTD Start Date (Historical Aggies)
275. TG Yield Contribution Custom Start Date (Historical Aggies)
276. DoD Chg in TG Yield Contribution (Historical Aggs)
277. MTD Chg in TG Yield Contribution (Historical Aggs)
278. Test Code for TG Yield contribution (other then "last" values)
279. YTD Chg in TG Yield Contribution (Historical Aggs)
280. test12
281. Amount Issued (NI_Monitor)
282. MTD Amount Issued (NI_Monitor)
283. QTD Amount Issued NI (NI_Monitor)
284. YTD Amount Issued NI (NI_Monitor)
285. YTD Last Year Amount Issued (NI_Monitor)
286. Bid Size (Runs)
287. YTD 2 Yrs Ago Amount Issued (NI_Monitor)
288. YTD 3 Yrs Ago Amount Issued (NI_Monitor)
289. YTD 4yr Avg (NI_Monitor)
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290. vs YTD 4yr Avg
291. vs Wides (RV_YTD)
292. Bid Yield (Runs)
293. Yield vs Bval (Runs)
294. Bench Sprd BVAL (Pricing)
```

Power Query Transformations

Based on the analysis of the workbook's internal structure, a sophisticated Power Query architecture is in place to handle data extraction, transformation, and loading (ETL). The following is a summary of the queries and connections found:

Connection Summary

The workbook contains a total of 40 Power Query connections, which can be categorized as follows:

- **Data Model Connections (3):** These connections link the queries to the internal data model of the workbook.
- **Main Queries (17):** These are the core queries that perform the primary data transformations.
- **Parameter Queries (5):** These queries define parameters that are used by other queries, allowing for flexible and dynamic data analysis.
- **Sample and Transform File Queries (15):** A series of template queries for handling file-based data sources and applying transformations.

Main Queries

The following is a list of the main queries identified:

- `AD_Dim`
- `AD_History`
- `Aggies`
- `API`
- `API_Historical`
- `Calendar`
- `Des`
- `NI_Monitor`
- `Runs`

- `Runs_Bench`
- `Runs_History`
- `RV_YTD`
- `Sector_Lookup`
- `Spread_Performance`
- `TG`
- `Trade_Groups`
- `Tradesheet`

Summary and Conclusion

The workbook utilizes a highly sophisticated data model, leveraging Power Query for extensive ETL processes and a large number of DAX measures for complex financial calculations. The structure indicates a robust system for market data analysis, tracking historical trends, and generating insights from various data sources. The modular nature of the Power Query design, with separate queries for parameters, data sources, and transformations, allows for a maintainable and scalable data architecture.