
Empyrean Solutions

Empyrean Planning Tips and Tricks

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Agenda

- Exogenous Accounts and Equations
- Entity Structures, Intercompany and Consolidations
- Yield Adjustments
- Managing Versions
- Equity Balancer

Exogenous Accounts and Equations



Exogenous Accounts

- Exogenous accounts are memo-type accounts that provide a way to use values or numbers in planning without a data import.
- Values in exogenous accounts can be referenced in formulas and used for KPI and financial metric reporting.
- Standard exogenous accounts are prepopulated in every planning environment.
 - Custom exogenous account structures can be imported from ALM or created in model settings.
 - KPIs are available for both historical and forecasted months in reporting.
- Exogenous account values are imported from ALM in version settings or input directly into planning in Version Drivers > Other Drivers> Exogenous Lines.

Exogenous Accounts

Exogenous Lines

Custom ALM Imported **Standard KPI**

	Name	Mnemonic	Account Number	Group	Description	Display Setting	Display Order	Display Format	Calculation Order	Simulation Calculation Order	Entity Type
1	Assets per Employee Ratio	Asset_per_Emp_Ratio_ES	1100	Secondary KPIs		Plan KPIs	0	rate	100	Post-Sim	Evaluated At Department
2	Assets per Employee Ratio - Denominator	Asset_per_Emp_Ratio_DENOM_	1043	Supporting			0	flow	10	Post-Sim	Evaluated At Department
3	Assets per Employee Ratio - Numerator	Asset_per_Emp_Ratio_NUM_ES	1044	Supporting			0	flow	10	Post-Sim	Evaluated At Department
4	Average Allowance for Credit Loss (ACL)	Avg_ACL_ES	1001	Supporting (Point on Hierarchy			0	Stock	0	Post-Sim	Evaluated At Entity
5	Borrowing Cost of Funds	Borr_COF_ES	1101	Secondary KPIs		Plan KPIs	0	rate	100	Post-Sim	Evaluated At Department
6	Borrowing Cost of Funds - Denominator	Borr_COF_DENOM_ES	1045	Supporting			0	flow	10	Post-Sim	Evaluated At Department
7	Borrowing Cost of Funds - Numerator	Borr_COF_NUM_ES	1046	Supporting			0	flow	10	Post-Sim	Evaluated At Department
8	Charge-offs	Crg_off_ES	1047	Supporting (Point on Hierarchy			0	Stock	10	Post-Sim	Evaluated At Entity
9	Common Equity Tier 1 Leverage Ratio	ComEq_Tier1_Ratio_ES	1102	Secondary KPIs		Plan KPIs	0	rate	100	Post-Sim	Evaluated At Entity
10	Common Equity Tier 1 Leverage Ratio - Denominator	ComEq_Tier1_Ratio_DENOM_ES	1048	Supporting			0	flow	10	Post-Sim	Evaluated At Entity
11	Common Equity Tier 1 Leverage Ratio - Numerator	ComEq_Tier1_Ratio_NUM_ES	1049	Supporting			0	flow	10	Post-Sim	Evaluated At Entity
12	Cost of Funds (COF)	COF_ES	1103	Secondary KPIs		Plan KPIs	0	rate	100	Post-Sim	Evaluated At Department
13	Cost of Funds (COF) - Denominator	COF_DENOM_ES	1050	Supporting			0	flow	10	Post-Sim	Evaluated At Department
14	Cost of Funds (COF) - Numerator	COF_NUM_ES	1051	Supporting			0	flow	10	Post-Sim	Evaluated At Department

Determines sorting in the exogenous lines driver page

Rate = 4 decimals
Flow = 2 decimals
Stock = no decimals

Up to 4 can be displayed in graph on home page as Primary KPIs

Calculation order should be higher for exog. accounts that depend on calculations from other exog accounts

Exogenous Accounts

- Most standard exogenous accounts use the classification and sub-type fields from the COA but some values need to be populated by the user.
 - In this example Debt-to-Assets Numerator is using the total value for sub-type of borrowings.
 - Both numerator and denominator values must have a value for ratio results to calculate.

The screenshot displays the software interface for configuring metrics. On the left is a navigation menu with sections: Model Settings, Reports, DB Tools, ELIZABETH_VERSION, Home Page, Version Settings, VERSION DRIVERS (Balance Sheet, Non-Interest Income/Expense, Payroll, Other Drivers), and PROCESS (Import & Calculate, Distribute, Process & Publish, Version Rollover). The 'Other Drivers' section is expanded to show 'Exogenous Lines'. The main area shows a list of metrics under 'Primary KPIs', with 'Debt-to-Assets - Numerator' selected. To the right, a table titled 'Debt-to-Assets - Numerator' shows the formula '=EX(Tot_End_Borr_ES)' and a grid of values for 30 periods.

fx	=EX(Tot_End_Borr_ES)	
	Period	Equation/Value
1	-12	=EX(Tot_End_Borr_ES)
2	-11	
3	-10	
4	-9	
5	-8	
6	-7	
7	-6	
8	-5	
9	-4	
10	-3	
11	-2	
12	-1	
13	0	
14	1	
15	2	
16	3	
17	4	
18	5	
19	6	
20	7	
21	8	
22	9	
23	10	
24	11	
25	12	
26	13	
27	14	
28	15	
29	16	
30	17	

Equations

- Equations can be used to calculate interest rates, non-interest income, and loan loss products. With the new release, equations can also be used for balance sheet products.
- Equations use a combination of
 - Numbers (1, 2, 3)
 - Algebraic operators (+, -, /, ^, *)
 - Conditional operators (>, <=, >=, <>)
 - Parentheses () Empyrean data lookup functions
 - Mathematical functions (LOG, EXP, etc.)
 - Relational functions (IF, MIN, MAX)
 - Empyrean reserved words (such as CurrFace, AgeInMths, etc.)

Equations – Rates

- Instead of inputting a forecasted rate for NOW Commercial, the rate is 50% of Fed Funds.
- The interest rate formula can be different for each month.
- Prior month's rates can be referenced for lags.

$$=.50*IX(FF)$$

NOW_COMM_Rate

fx = .50 *

Date	Input
Actual	0.000
Jan-2023	0.000
Feb-2023	0.000
Mar-2023	0.000
Apr-2023	0.000
May-2023	0.000
Jun-2023	0.000
Jul-2023	0.000
Aug-2023	0.000
Sep-2023	0.000
Oct-2023	0.000
Nov-2023	0.000
Dec-2023	0.000

Equation Builder - Interest Rates

= .50 *IX(FF)

Drivers & Other Support Data Access Functi... IX Mnemonics

EX(Mn)
YC(Mn, Term)
IX(Mn)

3L
4CMT
5CMT
60L
7CMT
90L
BPrime
CDARS_PF_Rate
CDARS_Rate
Chk_Base
FF
HSA_Rate
ICS_SAV_Rate
IRA_FR_Rate
IRA_VR_Rate
MMDA_Base
MMDA_COMM_Rate
MMDA_PERS_Rate

Returns interest rate index values at the term point

IX(Mnemonic [, Period [, ToPeriod]])

No syntax errors detected

OK CANCEL

Equations – Noninterest Income and Expenses

- In this example, Service Charges on MMDAs is equal to the average book of total MMDAs for the current month times .05%.

$$=avgbook(T_Mmdas)*.0005$$

- Period is an optional parameter. If omitted the current period is used.
- To reference Average Book for the previous month, add a -1 to the end of the equation.

$$=avgbook(T_Mmdas,-1)*.0005$$

The screenshot shows the 'Equation Builder - Non Interest New Volumes' dialog box. The equation entered is `=avgbook(T_Mmdas)*.0005`. Below the equation, there are two dropdown menus: 'Balance Sheet Data Access Functions' and 'Balance Sheet'. The 'Balance Sheet Data Access Functions' dropdown is open, showing a list of functions with 'AvgBook(Mn)' selected. The 'Balance Sheet' dropdown is also open, showing a list of balance sheet items with 'T_Mmdas' selected. At the bottom of the dialog, there is a green 'OK' button and a white 'CANCEL' button. A status message at the bottom left of the dialog reads 'No syntax errors detected'.

Equations – Noninterest Income and Expenses

- In this example, Origination Fees equals 1% of total loan new volume.

$$= \text{Marginal Volume of Total Loans} * .01$$

The screenshot shows the 'Equation Builder - Non Interest New Volumes' dialog box. The main text area contains the formula `=MgVolume(T_Loans)*.01`. Below the text area, there are two dropdown menus: 'Balance Sheet Data Access Functions' and 'Balance Sheet'. The 'Balance Sheet Data Access Functions' dropdown is open, showing a list of functions including `AvgFace(Mn)`, `AvgBook(Mn)`, `AvgYield(Mn)`, `AmortCF(Mn)`, `EOPFace(Mn)`, `EOPCoupon(Mn)`, `EOPBook(Mn)`, `IntAccrual(Mn)`, `IntCF(Mn)`, and `PrinCF(Mn)`. The 'Balance Sheet' dropdown is also open, showing a list of balance sheet items including `T_Cash_Due_From_Banks`, `T_Cds`, `T_Cds_Purch_Sold`, `T_Checking_Int_Accts`, `T_Deposits`, `T_Due_From_Banks`, `T_Fixed_Assets`, `T_Gross_Loans`, `T_Int_Earn_Not_Collect`, `T_Investments`, `T_Iras`, `T_Liabilities_Capital`, `T_Loan_Reserves`, `T_Loan_Sys_Loans`, `T_Loans`, and `T_Misc_Assets`. The `T_Loans` item is selected. At the bottom of the dialog, there is a green 'OK' button and a white 'CANCEL' button. A green message 'No syntax errors detected' is displayed at the bottom left of the dialog.

Equations – Balance Sheet

- With the latest release, you can use equations as a growth method on balance sheet accounts
- In this example, Overdrafts equals 0.01% of total deposits

$$=AvgBook(T_Deposits)*.0001$$

- Equations can also be used to change growth methods in the forecast horizon

- Overdrafts can be held flat in the first year with equation

$$=EOPBook(Overdrafts)$$

- Overdrafts can have a growth of 3% in the second year with equation

$$=EOPBook(Overdrafts,-1)*1.03$$

Entity Structures, Intercompany and Consolidations



Consolidations and Eliminations

- Model Settings and Data
 - Entity (Company) Hierarchy
 - Elimination companies may only have one Department
 - Entity Settings – establish ownership
 - GL Data for each company including an Elimination Company
 - Chart of Account includes at least one posting account each for:
 - Investment in Sub (Balance Sheet)
 - Account Sub-Type = “Equity Common”
 - Equity in Sub Earnings (Income Statement)
- Version Settings
 - Balancing Entries reflect account number where investment in subsidiary and equity in subsidiary earnings are recorded. The department is determined by the Retained Earnings Balancer Department of the Parent.
 - Intercompany Settings identify other non-ownership related intercompany activity that needs to be eliminated in consolidated results

Model Settings: Entity (Company) Hierarchy and Entity Settings

In Planning Entities are defined by Departments...

Model Settings

- ▶ Chart of Accounts
- Empyrean ALM Integration
- ▼ Organization Setup
- Department List

Entity

	Org Unit	Name	Mnemonic	ID	Parent ID	Department	
1	Total	LLL Consolidated	HC_Consol	10000	-1		...
2	Entity	First Manhattan	Holding_Company	1000	10000	100999701	...
3	Entity	LLL Northeast	Bank	2000	10000	200020300,200020400,200030001,200030100,200030200	...
4	Entity	HC Eliminations	HC_Eliminations	9000	10000	9000100	...

Each consolidation level requires an elimination company

...and Entity Settings Define Ownership

Model Settings

- ▶ Chart of Accounts
- Empyrean ALM Integration
- ▼ Organization Setup
- Department List
- Organization Structure
- ▶ Hierarchies
- ▶ Assignees
- Entity Settings**

Entity Settings

Organization Hierarchy Entity

	Organization Unit	Name	ID	Parent ID	Eliminations	Eliminations Dep.	Balancing (Yes/No)	Tax Department	Controlling Entity	Controlling Common Pct Owned	Con
1	Total	LLL Consolidated	10000	-1	No		No				
2	Entity	First Manhattan	1000	10000	No		Yes	100999701			
3	Entity	LLL Northeast	2000	10000	No		Yes	200620001	First Manhattan	100.0 %	
4	Entity	HC Eliminations	9000	10000	Yes	9000100	No				

Each affiliate that is owned by another affiliate must have a Controlling Entity assigned with an ownership percentage

Version Settings: Balancing and Intercompany Settings

Balancing Settings for subsidiary entities

Version Settings

- ▼ Planning Methodologies
- Balance Sheet**
- Capex
- Loan Loss
- Intercompany Settings
- ▶ Payroll
- Planning Levels
- ALM Import
- Add Account / Department
- Re-Sync Security/Assignees
- ▶ Copy Version Drivers
- Update Account Attributes

Account Balancing	Account	Department
First Manhattan		
AssetBalance	1275000 — FFS	100999701 — First Mahanttan Bankcorp
LiabBalance	2310000 — Fed Funds Purchased Nonaffilia	100999701 — First Mahanttan Bankcorp
EquityBalance	39999990 — Equity Balancer (planning only)	100999701 — First Mahanttan Bankcorp
RetainedEarnings	49999990 — Forecasted Earnings (planning only)	100999701 — First Mahanttan Bankcorp
LLL Northeast		
AssetBalance	1275000 — FFS	20099979997 — Settlement Unit
LiabBalance	2310000 — Fed Funds Purchased Nonaffilia	20099979997 — Settlement Unit
EquityBalance	49999990 — Forecasted Earnings (planning only)	20099979997 — Settlement Unit
RetainedEarnings	39999990 — Equity Balancer (planning only)	20099979997 — Settlement Unit
InvestmentInSubs	1890000 — Investment in Sub	
NonControllingInterest	None	
IncomeFromSubs	4960000 — Undistributed Earnings In Sub	
IncomeDueToNoncontrollingInterest	None	

The Holding Company has no settings for Controlling Interest

Each affiliate that is owned by another affiliate must be assigned an investment in sub account and an income from sub account. If the affiliate is not 100% owned, then the non-controlling interest accounts must be selected. The controlling/non-controlling accounts must be set to Posting in the Chart of Account.

The department for the consolidation entries is determined by the parent Retained Earnings Department

Process – Calculating Consolidation and Elimination Entries

- Consolidation and Elimination entries are created during the Admin “Process” calculation.
- The calc engine uses the Entity Settings to establish the order in which to balance the legal entities. It will start with the lowest affiliate and progress to the Consolidated Corp.
- At each level it calculates the Investment In Sub and Earning in Sub and posts the balances to the accounts indicated in the Version Settings Balance Sheet settings. The department is determined by the Parent’s Retained Earnings balancer department.
- At each elimination company, it automatically eliminates the Investment in Sub balance, the sub’s equity balance and the sub’s income from sub balance.
- Finally, the calc engine uses the Intercompany Settings from Version Settings and creates the indicated intercompany transaction elimination entries.

Version Settings: Intercompany Settings

This utility allows the planning administrator to identify both sides of an intercompany transaction, define the amount to be eliminated and establish which elimination company to use for the elimination entries.

The AccountNum and Organization Unit define the balance to be eliminated. This must be a discreet Intercompany balance

The Counter Party Org Unit and Org Unit define which elimination company to use

Version Settings		Intercompany Settings							
▼ Planning Methodologies									
Balance Sheet									
Capex									
Loan Loss									
Intercompany Settings		Intercompany Rule Name	Mnemonic	Description	AccountNum	Organization Unit	Counterparty Organization Unit	Counterparty Account Number	
	1	HC Cash	HC_Cash	HC Cash	1152000	... Holding_Company ...	Bank	... 2020000 ...	...
	2	Interco Loan	IntercoLoan	Interco Loan	2791000	... Holding_Company ...	Bank	... 1307000 ...	...
	3	Interco Rent	IntercoRent	Interco Rent	5541000	... 200640001 - Insurance ...	Bank	... 4880000 ...	...
	4					...		...	...

Results – Consolidating Balance Sheet

Version	Bobs Test	▼	Date Hierarchy	Jan 2023
Chart Of Account N...	2023 Budget (Bobs Test)	▼	Org Hierarchy Name	Entity

Consolidating Balance Sheet - Plan - Ending

Planning Hierarchies	LLL Consolidated	First Manhattan	LLL Northeast	HC Eliminations
Investment in Sub	\$0	\$101,778,807		-\$101,778,807
Purchased Goodwill	\$4,584,605		\$4,584,605	
Accum Amortization Goodwill	-\$1,585,537		-\$1,585,537	
Total Miscellaneous Assets	\$24,664,254	\$101,778,807	\$24,664,254	-\$101,778,807
Total Other Assets	\$34,457,312	\$101,778,807	\$34,457,312	-\$101,778,807
Federal Reserve Bank	\$26,828,153		\$26,828,153	
Total Liabilities	\$1,472,472,304		\$1,472,521,540	-\$49,236
Capital Stock	\$0		\$1,500,000	-\$1,500,000
Certified Capital Surplus	\$0		\$34,500,000	-\$34,500,000
Paid In Capital Surplus	\$0		\$46,339,719	-\$46,339,719
Retained Earnings	\$0		\$59,178,554	-\$59,178,554
Mark-To-Market G/L On Securities	\$0		-\$63,439,140	\$63,439,140
Equity Balancer (planning only)	\$97,529,052	\$97,529,052	\$4,249,755	-\$4,249,755
Current Earnings	\$0		\$23,257,347	-\$23,257,347
Forecasted Earnings (planning only)	\$4,249,755	\$4,249,755	-\$3,807,428	\$3,807,428
Current Earnings	\$4,249,755	\$4,249,755	\$19,449,918	-\$19,449,918
Total Capital	\$101,778,807	\$101,778,807	\$101,778,807	-\$101,778,807
Total Liabilities And Capital	\$1,574,251,111	\$101,778,807	\$1,574,300,347	-\$101,828,043

Calc engine creates the Investment in Sub balance at the Parent (First Manhattan) to equal the subs equity

Later in the process it also eliminates that balance

Sub's Equity is Eliminated

Holding Company Equity equals the Consolidated Result

Yield Adjustments



Yield Adjustments

- Two types of yield adjustments can be set up in the COA
 1. Include income statement balances other than interest income or interest expense posting accounts in the yield calculations.
 2. Accretion/amortization of an income statement account flows through to the corresponding accretion/amortization account on the balance sheet
- Adjustment type
 - Intangible will affect equity balancer
 - Cash flow will affect cash balancer
- Cash Treatment
 - Increase – increases in a balance as cash
 - Decrease – decreases in a balance as cash
 - Neither – increases and decreases in balance are non-cash events

Yield Adjustments – Cash Flow example

BALANCE SHEET		INCOME STATEMENT		CLEAR ALL FILTERS		HOME		ACCOUNT ATTRIBUTES		POSTING ACCOUNTS	
	Account Name	Account Mnemonic	COA Account Number	Parent Account Number	Account Attributes			Posting Accounts Amortization Posting Account	Yield Adjustment		
					Account Type	Account Sub-Type	Classification		Adjustment Type	Cash Treatment	
7	Total Mortgages	tmtg	160000	110000	Asset	Total	Total				
8	MTG Loan	MtgLoan	130000	160000	Asset	Loans	Fixed Income				
9	MTG Loan Fee Income	MTGLFINC	130001	160000	Asset	Loans	Yield Adjustment	420000	Cashflow	Neither	
16											
17											
18											

	Account Name	Account Mnemonic	Account Number	Parent Account Number	GL Account Number	Account Type	Account Sub-Type	Classification
8								
9								
10								

In this example, the yield adjustment account is created as a balance sheet account with the income statement linked to it.

- monthly forecast entered on yield adjustment account in other version drivers and the monthly forecasted amount posts to income statement
- Yield at the total mortgage subtotal level includes the interest income and loan fee account

Yield Adjustments – Intangible example no new volume

BALANCE SHEET INCOME STATEMENT CLEAR ALL FILTERS HOME ACCOUNT ATTRIBUTES POSTING ACCOUNTS PLANNING ATTRIBUTE

	Account Name	COA Account Number	Parent Account Number	Account Attributes			Posting Accounts			Yield Adjustment	
				Account Type	Account Sub-Type	Classification	Amortization Posting Account	Intangible Posting Account	Adjustment Type	Cash Treatment	
273	Amortizing Intangible Asset	16210010	16219999	Asset	Asset Intangible	Intangible	...	...	Intangible	Neither
274	Amortizing Intangible Asset - YA	16210013	16219999	Asset	Non-Interest Earning Assets	Yield Adjustment	56022010	16210010	Intangible	Neither	

BALANCE SHEET INCOME STATEMENT

	Account Name	Account Mnemonic	Account Number	Parent Account Number	Account Type	Account Sub-Type	Classification
546	Amortization-Cust Rel Intangible Asset	56022010	56022010	56029999	Expense Account	Other Non-Interest Expense Posting	

	Account Name	Growth Method	Rest of Year		Plan Horizon		Jun 2024	Jul 2024	Aug 2024
			Current YTD	Admin Growth Target	Current Year Total	Admin Growth Target				Current Year Total
1	Intangible	...							
2	Amortizing Intangible Asset	None	100000	-	-	-	-	-	-
3	Yield Adjustment								
4	Amortizing Intangible Asset - YA	Monthly Adds	50000	-	-35000	-	-5000	-5000	-5000

In this example, the yield adjustment account is created as a balance sheet account with the income statement and intangible balance sheet amortizing accounts linked to it. The change in balance sheet is calculated by the yield adjustment as the balance sheet growth method is set to none.

- Yield adjustment forecast posts to income statement and the balance sheet intangible asset is adjusted each month by the yield adjustment forecast



Yield Adjustments – Intangible example with new volume

	Account Name	nt Mnem	COA Account Number	Account Attributes			Posting Accounts		Yield Adjustment	
				Account Type	Account Sub-Type	Classification	Amortization Posting Account	Intangible Posting Account	Adjustment Type	Cash Treatment
2	Deferred Loan Fees	DFL	5000	Asset	Loans	Intangible	...	...	Intangible	Increase
3	Deferred Loan Fees - Yield Adjustment	DFLYA	50001	Asset	Loans	Yield Adjustment	7000	5000	Intangible	
295							...	...
296							...	...

	Account Name	Account Mnemonic	Account Number	Parent Account Number	Display Order	Account Type	Account Sub-Type	Classification
2	Deferred Loan Fees	DFLIS	7000	799999900	0	Income Account	Loan Interest Income	Posting
279								
280								

	Account Name	Growth Method	Current YTD	Plan Horizon					
				Admin Growth Target	Current Year Total	Jan 2023	Feb 2023	Mar 2023	Apr 2023
1	Intangible	...							
2	Deferred Loan Fees	Target EOM	-500000	-	(490,000)	(499,500)	(499,000)	(498,500)	(498,000)
3	Yield Adjustment								
4	Deferred Loan Fees - Yield Adjustment	Monthly Adds	8000	180,000	9,600	800	800	800	800

In this example, the yield adjustment/income statement amount and the change in balance sheet, net new deferred fees, is manually input. The yield adjustment forecasts posts to the income statement account.

Managing Versions

New Developments That Improve The Experience



Version Management – Current State (Pre-2024 Planning Release)

Reasons to Create a New Version

- Start a New Budget, What If, Forecast
- Model Setting Updates
 - Chart of Account Parent/Child
 - Organizational Structure
 - Yield Curves and Indices
 - Prepayment Models
 - Exogenous Lines
 - Contributor/Approver Assignments
- Version Settings Updates
 - Balance Sheet Balancing
 - Planning Levels

Challenges in Creating New Version

- Using a Version Backup still leaves a Lot of work to copy from previous Version
 - Balance Sheet New Volume Driver
 - Income and Expense Growth Driver
 - Rate Spreads
 - Payroll Version Settings
 - And Some Data Is Lost
 - Loss of Contributor Inputs
 - Loss of Contributor Optional Requests
- Starting From Scratch Has Additional Challenges
 - All the Above plus...
 - Some Version Settings cannot be copied automatically
 - Balance Sheet Balancing
 - Intercompany Settings
 - Payroll Settings
 - Contributor Inputs
 - Contributor Optional Requests

Version Management – Planning Release 2024

Reasons to Create a New Version

- Start a New Budget, What If, Forecast
- Model Setting updates
 - Chart of Account Parent/Child
 - Organizational Structure
 - ✓ ~~• Yield Curves and Indices~~
 - ✓ ~~• Prepayment Models~~
 - ✓ ~~• Exogenous Lines~~
 - ✓ ~~• Contributor/Approver Assignments~~
- Version Settings updates
 - Balance Sheet Balancing
 - Planning Levels

Challenges in Creating New Version

- Using a Version Backup still leaves a lot of work to manually copy from previous Version
 - ~~• Balance Sheet New Volume Driver~~
 - ✓ ~~• Income and Expense Growth Driver~~
 - ✓ ~~• Rate Spreads~~
 - ✓ ~~• Payroll Version Settings~~
 - ✓ ~~• And Some Data Is Lost~~
 - ~~• Loss of Contributor Inputs~~
 - ✓ ~~• Loss of Contributor Optional Requests~~
- Starting from scratch has additional challenges
 - All the Above plus...
 - Some Version Settings cannot be copied automatically
 - ✓ ~~• Balance Sheet Balancing~~
 - ✓ ~~• Intercompany Settings~~
 - ✓ ~~• Payroll Settings~~
 - ✓ ~~• Contributor Inputs~~
 - Contributor Optional Requests

Changes to Model Settings

Replicate for Forecast includes Copy Contributor Inputs

Replicate Options

Replicate

▶ Replicate for Forecast

Bob Test 3 | Replicate Version

Version Management

Version Name
Name is a required field

New Version Description

Actual Data Date

Rest Of Year # of Periods

Of Plan Periods

Advanced Options

Contributor Options

Copy Contributor inputs

Fill Options

Leave Blank

Auto Fill

Changing Assignees is fully functional (found on Version home page in contributor details or Process)

- Model Settings
- Reports >
- DB Tools
- BOB TEST 3
- Home Page
- Version Settings

Planning Payroll

Choose Method: Choose Dimension:

	Dimension	Name	Contributor	New Contributor	Approver	New Approver
1	Department	EXECUTIVES	bmarkus@empyreancloud.com,laura.r...	nicholas.rupp@empyreancloud.com	testuser1	laura.roberts@empyreancloud.com
2	Department	FINANCE	bmarkus@empyreancloud.com,laura.r...		testuser1	
3	Department	HUMAN RESOURCES	bmarkus@empyreancloud.com,laura.r...		testuser1	

Changes to Version Settings and Drivers

All Version settings may be copied all at once or one at a time...

Version Settings | Bob Test 3 | Balance Sheet

Global/Driver Methodologies

Rate Spread Periods: Multiple Period Input

New Volume Product Mix Periods: Multiple Period Input

Forecast FTP:

Contributor Input Options

Rate Spreads: Allow Adjustments

New Volume Product Mix: Allow Adjustments

Account Balancing

Account	APPLY TO ALL	Department
Bank		
AssetBalance	11210001 - FED FUNDS SOLD - TIB SWEEP BALANCER	309997 - BANKWIDE

...including Balance Sheet Growth...

ADMIN PLANNING | Bob Test 3 | New Volumes

AMERICAN RIVIERA REGRESSION

Actual Data Date: 30 Nov 2023

Show Months RESET INPUTS UPDATE ALLOCATIONS 1 NOTIFICATION

Copy New Vols from Version: Please Select

Planning Account	Method	Rest of Year	Plan Horizon	Current Balance	ROY Total	Plan Total
1 Asset		Growth Target	Growth Target			
2 CASH & CASH ITEMS	Unit Allocations	Target AOM				

Changes to Version Settings and Drivers

...and Non Interest Income/Expense...

Version Settings

Bob Test 3 | Balance Sheet

Global/Driver Methodologies

Rate Spread Periods: Multiple Period Input

New Volume Product Mix Periods: Multiple Period Input

Forecast FTP:

Contributor Input Options

Rate Spreads: Allow Adjustments

New Volume Product Mix: Allow Adjustments

Account Balancing

Copy All Planning Methodology Settings from Version: Please Select

Copy Account Balancing from Version: Please Select

Account	APPLY TO ALL	Department
Bank		
AssetBalance	11210001 - FED FUNDS SOLD - TIB SWEEP BALANCER	309997 - BANKWIDE

...New Volume Product Mix...

Bob Test 3 | New Volume Product Mix

Actual Data Date: 30 Nov 2023

Show Months RESET INPUTS 1 NOTIFICATION

Copy New Vol Prod Mix from Version: Please Select

Account	Maturity Months	Current Position	Current Month Product Mi	Projected NV Prod Mix
1 Asset Account				

Changes to Version Settings and Drivers

...and you can now Re-Sync Yield Curves and Indices....

Bob Test 3 | Interest Rates Actual Data Date: 30 Nov 2023 RE-SYNC MODEL SETTINGS 1 NOTIFICATION

Filter Mnemonic or Name

Yield Curves

- New Yield curve
- OISFedFundsCV
- PrimeCurve
- SNFRV

New_Yield_Curve

fx 0.0000 %

Copy Interest Rates from Version : Please Select COPY

Term	Actual	Dec-2023	Jan-2024	Feb-2024	Mar-2024	Apr-2024	May-2024	Jun-2024	Jul-2024	Aug-2024	Sep-2024	Oct-2024	Nov-2024	Dec-2024	Jan-2025	Feb-2025	Mar-2025	Apr-2025	May-2025
0	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %	0.0000 %

...and Prepay Models and Exogenous Lines

Bob Test 3 | Prepayment Rates Actual Data Date: 30 Nov 2023 RE-SYNC MODEL SETTINGS 1 NOTIFICATION

Filter Mnemonic or Name

Prepayment Models

Attributes: Methodology: CPR Dimension 1: Rows: Refi Incentive

Bob Test 3 | Exogenous Lines Actual Data Date: 30 Nov 2023 RE-SYNC MODEL SETTINGS 1 NOTIFICATION

Primary KPIs

- Earning Assets Ratio
- Loans-to-Deposits (LTD)
- ROA
- ROE

Earning Assets Ratio

fx =SAFEDIVIDE(EX(Ear_Asset_Ratio_NUM_ES),EX(Ear_Asset_Ratio_DENOM_ES),0)

Period	Equation/Value
1	-12 =SAFEDIVIDE(EX(Ear_Asset_Ratio_NUM_ES),EX(Ear_Asset_Ratio_DENOM_ES),0)

Changes to Version Settings and Drivers

Payroll Version Settings may also be copied from a previous version



The screenshot shows a software interface with a dark sidebar on the left containing the following menu items: "Version Settings", "Planning Methodologies", and "Balance Sheet". The main content area is titled "Bob Test 3 | Salary Settings". Below this, there is a "Planning Level" section with a dropdown menu currently set to "Employee Level". To the right of the "Salary Settings" section, there is a red-bordered box containing the text "Copy All Planning Methodology Settings from Version :", followed by a dropdown menu with "Please Select" and a downward arrow, and a "COPY" button.

Changes to Version Settings and Drivers

Copying Version Drivers has been expanded and now includes:

Version Settings

- ▶ Planning Methodologies
- Planning Levels
- Empyrean Import
- Add Account / Department
- Re-Sync Security/Assignees
- ▼ Copy Version Drivers
 - Planning**
 - Payroll
 - Update Account Attributes

Bob Test 3 | Copy Planning Version Drivers

Copy From

Planning Drivers	Copy Drivers
Interest Rates	<input type="checkbox"/>
Prepayment Rates	<input type="checkbox"/>
Capex Setup	<input type="checkbox"/>
Sub Ledger Items	<input type="checkbox"/>
Exogenous Lines	<input type="checkbox"/>
New Vol Product Mix	<input type="checkbox"/>
Rate Spreads	<input type="checkbox"/>
Contributor Inputs ▾	<input type="checkbox"/>
Balance Sheet Contributor Inputs	<input type="checkbox"/>
Non-Interest Contributor Inputs	<input type="checkbox"/>
Balance Sheet New Vol Admin Targets	<input type="checkbox"/>
Non Interest Income Admin Targets	<input type="checkbox"/>

Version Management Best Practices

- Version Management processes include:
 - Create a new version in Model Settings
 - Replicate a Version
 - Replicate a Version for Forecast
 - Version Rollover

Version Management – Best Practices

Version Management processes include:

- Create a new version in Model Settings
- Replicate a Version
- Replicate a Version for Forecast
- Version Rollover

Events that require a Version Management Process:

- New Annual Budget
- Rate Shock or What If Scenario
- Periodic Forecast
- Rolling Forecast or Budget Rollover
- Strategic Plan
- Version Backup

Version Management – Best Practices

- **Creating a New Annual Budget Version**

- If you are following last year’s pattern of planning levels, COA and Org structures, you could start with a replicate of an “Open” version (defined later). This approach will capture all changes to COA and Org hierarchies and allow a reset to assignees (contributor and approver).
 - After the replicate and adjustments to planning levels, you will want to validate. Once a clean validation is achieved, then replicate the version to create a backup. This is a time saver, though improvements to the version user experience reduces the time savings.
 - Next step is to process a Current Position Import and use the CP Validation report to reconcile your starting point. Note, at this point your
 - Once the CP is reconciled, you can copy all of your other version settings and drivers from previous versions.
- If, however, the changes you are making won’t benefit from using a previous year’s pattern, you will instead need to create a new version and then copy in your version settings or enter them manually.

Add Version

Version Name: Boba Test4

Description: Bobs Test 4

Plan Type: Budget

Contributor Active Version:

Bypass Approval Process:

Additional Details: **HIDE ADDITIONAL DETAILS**

Status: In Process

Actual Data Date: 06/2024

Rest of Year Start Date: 07/2024

Rest of Year # of Periods:
Rest of Year # periods must be populated with a whole number

Plan Horizon Start Date: 07/2024

Of Plan Periods:
Plan Horizon # of periods must be populated with a whole number

Of Historical Periods: ⓘ

Plan Due Date: month/day/year

Payroll As of Date: month/year ⓘ

Chart of Account:
Chart of Account cannot be blank

Balance Sheet Planning Method:
The Balance Sheet Planning Method cannot be blank

Empyrean ALM Scenario:
ALM Scenario Cannot be Empty

CANCEL **SAVE**

Version Management – Best Practices

- Rate Shock or What If Scenario (a comparative version)
 - This is best accomplished using a full replicate which allows you to copy over all contributor inputs and optional requests as well as version settings and drivers.
 - The Replicate form allows you to select a different rate scenario (if using Empyrean ALM Integration) and/or modify drivers manually for the desired comparative.

The image shows a software interface for version management. On the left is a dark blue sidebar titled "Replicate Options" with a red box around the "Replicate" button and the text "Replicate for Forecast". The main area is titled "Bob Test 3 | Replicate Version". It contains a "Version Management" section with a "Version Name" field containing "Bobs Test 4", a "New Version Description" field containing "Replicated from Bob Test 3", and a red box around the "Advanced Options" dropdown. Below this are "Payroll Drivers" and "Copy Existing Employees" toggle switches. At the bottom is a "Version Drivers" section with a list of checked items: Interest Rates, Prepayment Rates, Rate Spreads, Capex, Taxes, Balance Sheet New Vol, New Vol Product Mix, Non-Interest Income Expense, and Loan Loss. To the right is a "Contributor Options" section with a red box around the "Copy Contributor inputs" checkbox.

Version Management – Best Practices

- Periodic Forecast

- A forecast for this discussion may differ from a budget in

- content (no fixed assets or employee data)
- level of detail (top of the house, summary line item)
- frequency (monthly, quarterly or semi-annually)

- Given these parameters, a new forecast process could start from a Replicate for Forecast from the original budget only if the planning levels did not need to change.

- Otherwise, you could either start with an open backup of the Budget (prior to CP Import process) or start a new version and leverage components from the budget that fit and modify/create new where they don't. This approach also allows you to change the assignee to a set of forecast assignees that may be at a higher org level than budget.

- You may also start from a Replicate for Forecast of an open back up copy of a previous forecast year.

Replicate Options

Replicate

► Replicate for Forecast

Bob Test 3 | Replicate Version

Version Management

Version Name: Bobs Test 4

New Version Description: Replicated from Bob Test 3

Actual Data Date: 11/2023

Rest Of Year # of Periods: 1

Of Plan Periods: 24

Advanced Options ▾

Contributor Options

Copy Contributor inputs

Fill Options

Leave Blank

Auto Fill

Payroll Drivers

Payroll As of Date: month/year

Warning

Exempt Next Payment Date: 05/03/2024

Non-Exempt Next Payment Date: 05/03/2024

Copy Existing Employees

Version Drivers | Payroll Drivers

- Interest Rates
- Prepayment Rates
- Rate Spreads
- Capex
- Taxes
- Balance Sheet New Vol
- New Vol Product Mix
- Non-Interest Income Expense
- Loan Loss

Version Management – Best Practices

- Rolling Forecast and Rolling Forward a Budget
 - Initially, a Rolling Forecast follows the instruction for a Periodic Forecast
 - After the initial forecast is completed and a new forecast for the same fiscal year is required, the best approach is to use the “Version Rollover” process.
 - This allows you to back up the source version and then change the as of date to a new as of date where data is available in the Dataverse.
 - The date you roll forward to must start in the same fiscal year as the source forecast, otherwise the “Rest Of Year” periods will default to zero.
 - When you reach the end of the year, you will have the options available stated previously for a new version.
 - A budget rollover is the same as a forecast rollover. Payroll employee data does not have to be the same as of date of the rollover.
 - However, fixed assets must be reloaded in the Dataverse. It is a best practice to use the same as of date data file as previous months but modify the data by moving the data in the file to a column that corresponds with the new as of date. This avoids the need to revise proposed new adds.

Bob Test 3 | Version Rollover

Rollover Settings

Version	Bob Test 3
Previous Period	Nov 2023
New Period	MMM YYYY
Create Backup	MMM YYYY
Backup Name	Dec 2023
Rollover Payroll Data	Jan 2024
	Feb 2024

Version Management – Best Practices

- Strategic Plan

- Similar to a forecast, but usually with a longer plan horizon.
- Similar considerations in choosing the method to create a strategic plan version as a forecast version.
- If this is the initial Strategic Plan, you may want to start with an open backup of a forecast or budget, but then modify planning levels and assignees so fit the parameters of your strategic plan.
- If you have previous Strategic Plans with similar parameters, you can either start with a replicate of an open backup or start from a new version and copy over your version settings and drivers and then modify.

Version Management – Best Practices

- Version Backup

- This step can be a time saver if a modification is required to the chart of accounts or organizational structures.
- Create a version backup when working on a new version structure after the version has been validated but before you have processed the current version.
- This is a best practice recommendation, though the time savings over creating a new version are much less in the new 24.xxx release.
- Use the word “Backup” as a prefix for your version name to easily spot it in the version list
- Delete old backups and unused versions to keep the version management screen and reporting drop downs clean.

Equity Balancer

What Causes It To Appear In Your Balance Sheet



Equity Balancer – What Is It?

- The calc engine used for ALM and Planning is designed to separately track and balance both cash and intangible transactions.
 - Cash transactions include
 - Non-Intangible Balance Growth. Loan, Deposit, Investment Borrowings, Other Assets and Liability growth all are cash transactions.
 - Interest Paid/Received, Non-Intangible Income and Expense
 - Cash transactions are balanced through the balancing accounts defined in Version Settings
 - Intangible transactions include:
 - Amortization of Discounts and Premiums
 - Intangible account balance sheet growth
 - Intangible account income or expense
 - Interest accrued not paid/received (increases to AIR/AIP)
 - Accumulated Other Comprehensive Income, Deferred Taxes and Unrealized Gains and Losses
 - Intangible transactions are balanced through the Equity Balancer
 - The Equity Balancer also ensures that the Current Position balance sheet is balanced by Entity
 - These Balancing routines occur for both the Ending and Average balance sheets

Equity Balancer – What Causes it to have a balance?

Common Causes of the Equity Balancer are:

- Missing AIR/AIP posting account assignments on Fixed Income accounts
- Missing D/P Amortization posting account assignment
- Out of Balance Current Position Balance Sheet (by entity)
- Anomalies between GL Elimination Data and the Current Position Calculated Elimination. (e.g. GL has multiple departments in an Elimination Company)
- Intangible balances change by different net amounts than the intangible net income (e.g. Deposit Intangible balance decreases by an amount different than the related amortization income account)
- Instruments are eliminated by the Calc Engine from current position due to invalid indices, maturity dates in the past or issue dates in the future
- The average balance sheet will always have a balance commensurate with monthly net income due to inherent timing differences in daily recognition of income vs. simple average of current period earning

Equity Balancer – Strategies to Eliminate It

- Do not assign balance sheet accounts and income statement accounts to the “Intangible” classification
- Ensure that all Fixed Income accounts have been assigned an Interest Accrued Not Paid Posting
- Ensure you’ve accounted for all portfolios with Book/Face differences with a D/P Amortization Posting Account assignment
- Collapse multiple departments in a single GL elimination company into a single department in Dataverse import file.
- Ensure that Consolidation entries are properly accounted for in CP data (some challenges include recording of intercompany dividends as income)
- Ensure CP Validation report balances at the entity level