THE POWER TO KNOW.

SAS® Capital Planning and Management 2.1

Framework User's Guide

SAS® Documentation

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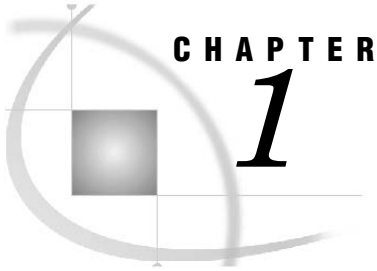
Contents



CHAPTER 1

Introduction

Introduction

SAS Capital Planning and Management 2.1 leverages SAS Financial Management 5.4 capabilities.

This document provides an overview of the SAS Capital Planning and Management 2.1 framework. For detailed information about the tasks described in this book, see the SAS Financial Management 5.4 documentation.

The SAS Financial Management 5.4 documentation is available at

http://support.sas.com/documentation/onlinedoc/fm

Note: The SAS Financial Management product documentation page is password-restricted. You can find the user name and password in the preinstallation checklist, the Instructions.html, or by contacting SAS Technical Support at

http://support.sas.com/techsup/contact.

CHAPTER 2

SAS Capital Planning and Management

Framework Overview

The SAS Capital Planning and Management solution provides all of the capabilities that are necessary for proactive capital planning. Proactive capital planning requires that banks comprehensively understand and assess the impact of their business portfolios on a wide range of measures.

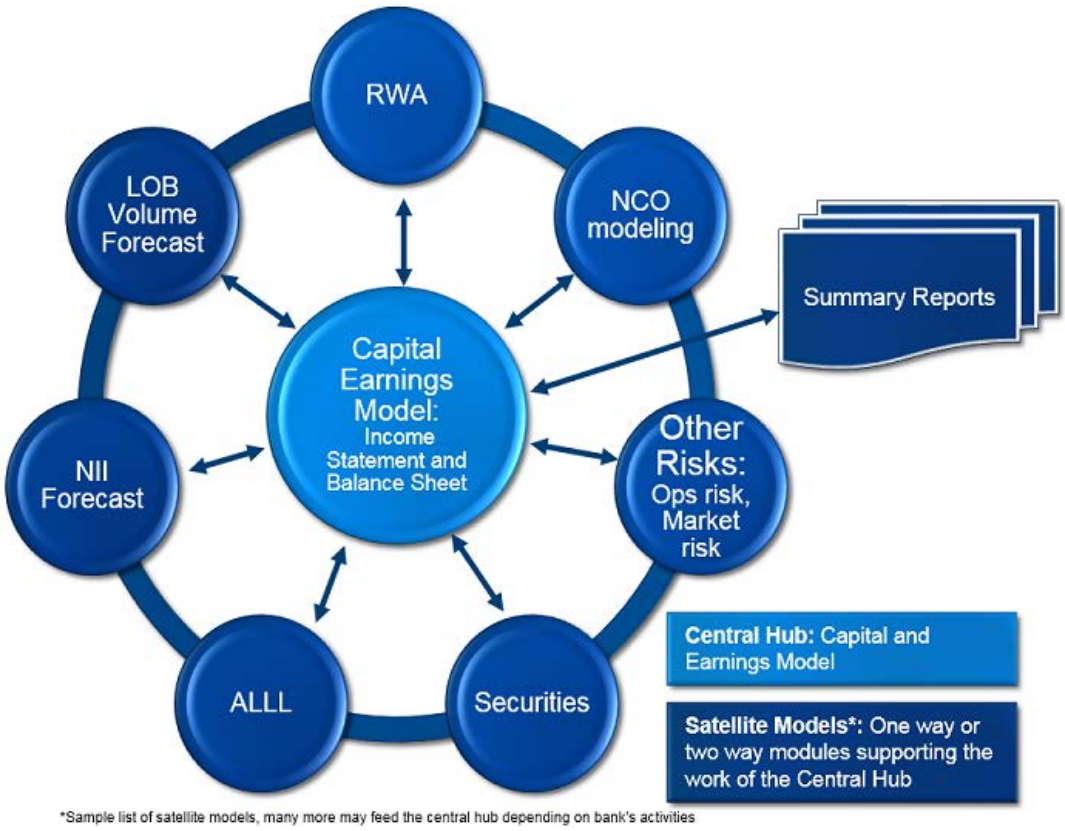
A capital management system manages the data between different units to enable banks to perform risk and profitability planning. One can describe the capital planning exercise under a different macro-economic scenario as a *hub and spoke collaboration* model shown in Figure 1-1.

The hub is the central aggregation framework that is designated as the capital earnings model where all assumptions for the base case and stressed scenarios are aggregated according financial rules for balance sheet and income statements.

The capital earnings model provides the following:

- Enables finance users to associate inputs from satellite models with balance sheet and income statement line items to generate projected statements and the resulting impact to the institution's capital base.
- Allows for centralized governance of all input assumptions into the model to facilitate transparency during regulatory scrutiny.

Figure 1-1. SAS Capital Planning and Management Framework Manages and Coordinates Input from Many Systems

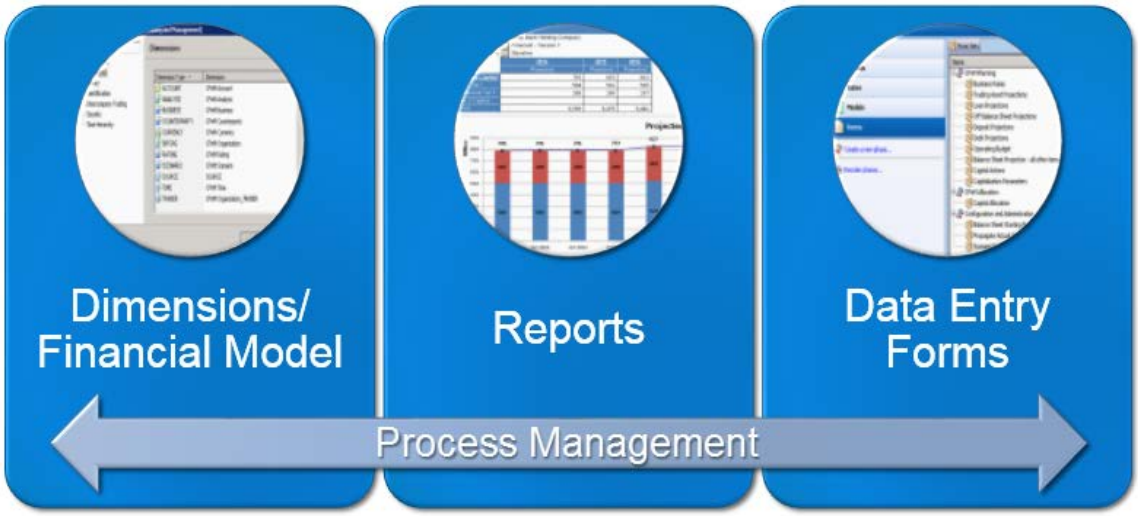


The SAS Capital Planning and Management framework provides an example of the capital earnings model leveraging predefined rates and outputs from various other systems. The framework is a self-contained example of the various interactions needed to proactively manage capital.

Figure 1-2 illustrates the SAS Capital Planning and Management framework elements:

- An extensive model of dimensions and formulas that describes the interaction between various elements. For example, based on prepayment or charge off rates, future loan portfolio balances are computed and the accompanying impact on monthly income statements.
- A set of predefined reports for reviewing ex-ante balance sheets, income statements, cash flow, and various capital measures.
- Various data collection and review phases and form sets that you can use to review, override, and collect input from many constituents.

Figure 1-2. SAS Capital Planning and Management Framework Contents



CHAPTER 3

Capital Planning Process

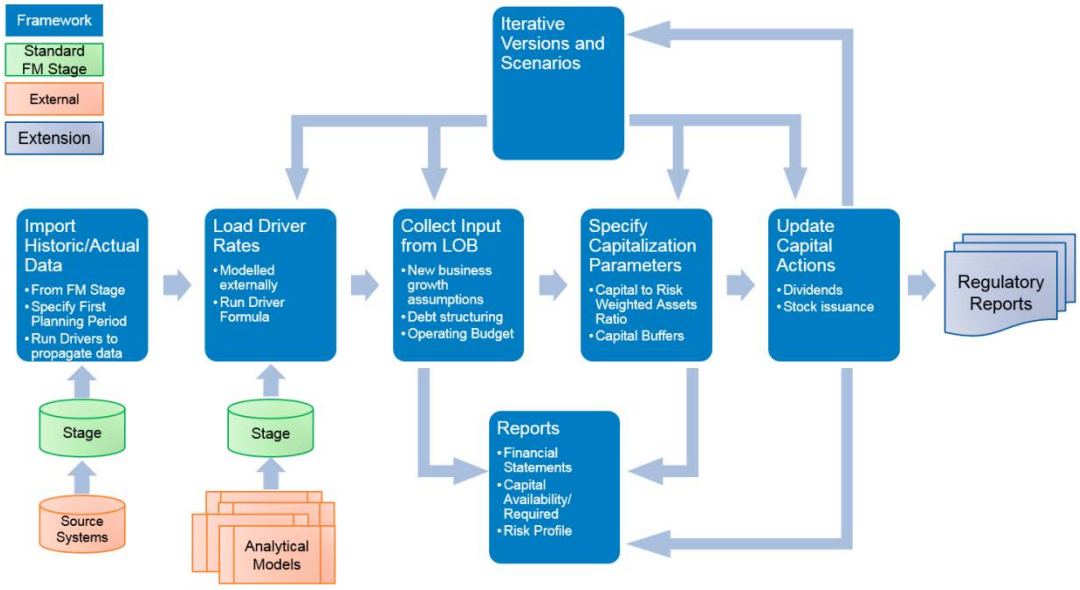
Planning Process Overview

The process of planning capital through a time horizon involves a number of inputs and tasks. The capital planning process depicted in Figure 2-1 describes the necessary interface with other source environments for actual historic data. Analytical models are also addressed externally to SAS Capital Planning and Management with the results of these models loaded through staging tables.

The SAS Capital Planning and Management framework supports an iterative methodology that allows users to review reports and make changes at any time.

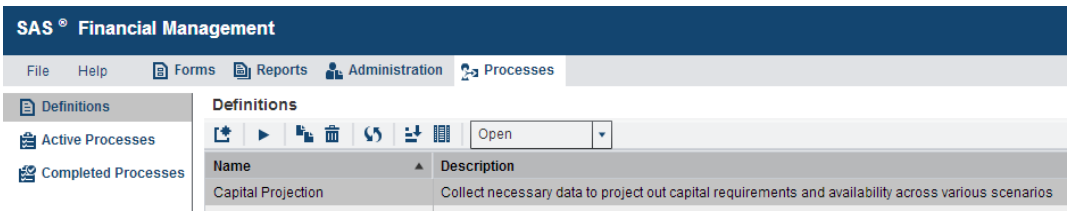
Note: The definition and the production of finished regulatory supports is outside of the included framework; however, the capabilities within SAS Capital Planning and Management allow their setup and ongoing maintenance.

Figure 2-1. Capital Planning Process



To help facilitate, manage, and coordinate the capital planning process, a process definition named Capital Projection has been provided. The Capital Projection process definition contains the various tasks that are required for capital planning.

Figure 2-2. SAS Financial Management Web Portal—Definitions View



The following sections describe the tasks defined in the Capital Projection process definition that help manage and control the planning process.

Capital Projection Tasks

1. Import Data

The first task is to import the most recent set of actual historic data. This requires that you load all historic data into the appropriate FM Staging table in advance.

2. Specify First Projection Period

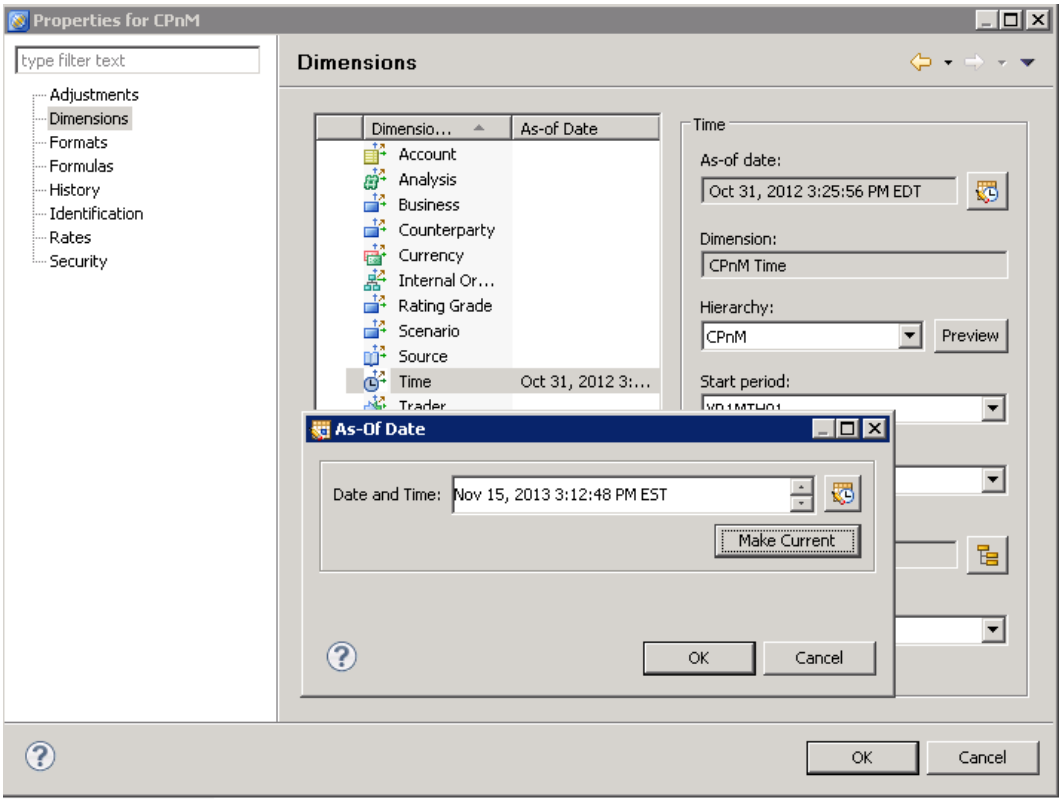
A custom property on the Time dimension indicates the monthly period that is the first period of the projected time horizon. This property is CPnM_InitialPlanningPeriod and it identifies the period to use within the formula as the most current actual data.

Note: Ensure that the CPnM_InitialPlanningPeriod property be set to **true** for only one leaf member of the Time hierarchy. Also, ensure that the CPnMInitialPlanningPeriod property is either removed or set to **false** for the prior period.

Figure 2-3. Time Dimension—CPnM_InitialPlanningPeriod Custom Property

In addition, ensure that you click the **Make Current** button on the As-Of Date dialog box in the CPnM properties to reflect this change of the dimensions as seen in Figure 2-4.

Figure 2-4. Properties for CPnM Window

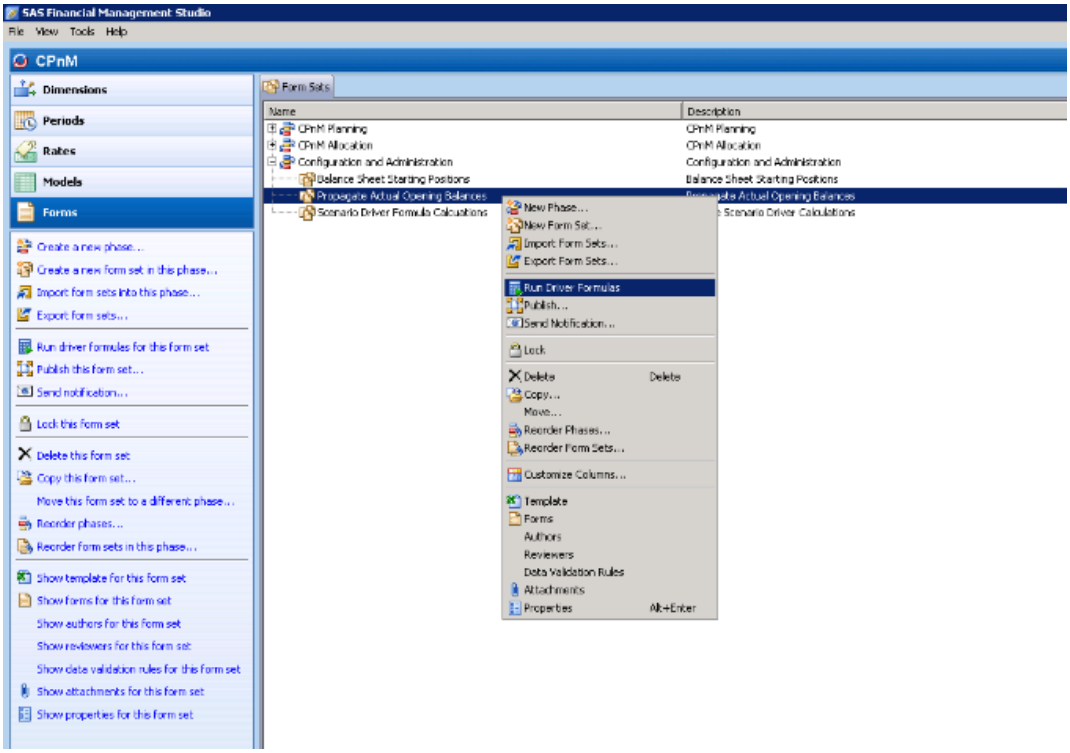


3. Propagate Actual Opening Balances

Any data load that results in changes to ending balances needs the opening balances propagated to future periods. To propagate opening balances to future periods, run the driver formula for the form set Propagate Actual Opening Balances.

To run the driver formula for a form set, right-click the form set and select **Run Driver Formulas** on the pop-up menu as illustrated in Figure 2-5.

Figure 2-5. Form Sets View



4. Load Scenario Driver Rates

Each of the rate types requires that data to be loaded for each scenario. Since the data source of each rate type might be from a different source, each rate type is a separate subtask that a user can run in any order.

Note: You must load all rates before proceeding to the next step.

Figure 2-6. Load Scenario Driver Rates

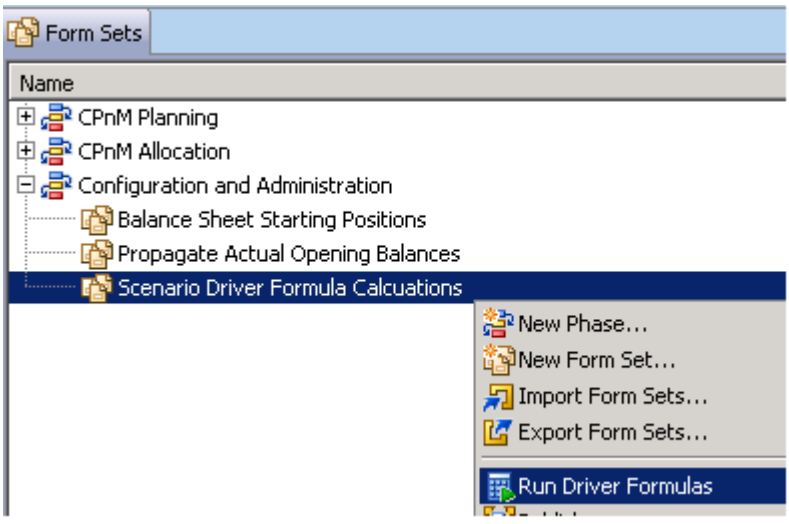
Load Scenario Driver Rates	4	Task group
Load Service Charge Rates		Load driver rates
Load Deposit Run Off Rates		Load driver rates
Load Repayment Rates		Load driver rates
Load Prepayment Rates		Load driver rates
Load PD Rates		Load driver rates
Load LGD		Load driver rates
Load Credit Card Drawdown Rates		Load driver rates
Load Credit Conversion Factor		Load driver rates
Load Credit Card Cancellation Rate		Load driver rates
Load Average Loan Yield Rates		Load driver rates
Load Commission Rates		Load driver rates

5. Review and Override Scenario Rules

The Business Rates form set provides an opportunity for business users to review and override rates that have been loaded. Publish and complete the form set.

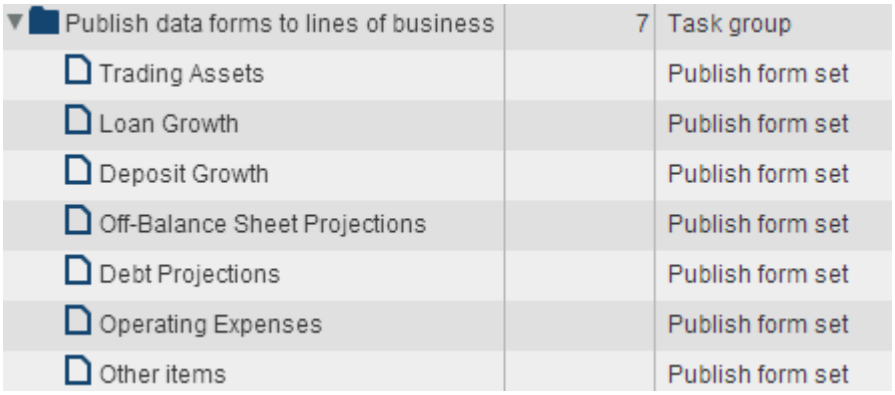
Note: It is good practice and strongly recommended that you rerun all scenario drivers before proceeding to the next task to ensure that all calculations are evaluated. To rerun all scenario drivers, select **Run Driver Formulas** for the Scenario Driver Formula Calculations form set as seen in Figure 2-7.

Figure 2-7. Form Sets—Scenario Driver Formula Calculations



6. Publish Data Forms to Lines of Business Users

Figure 2-8. Publish Data Forms to Lines of Business



7. Set Capitalization Parameters

The Capitalization Parameters are set centrally to identify the capital ratios with respect to risk weighted assets (RWAs). These parameters include basis capital to risk (weighted) assets ratio (CRAR), as well as conservation and cyclicality buffers broken down by capital type (for example, Core Tier 1, Additional Tier 1, and Tier 2) as seen in Figure 2-9.

Figure 2-9. Capitalization Parameters

Capitalization Parameters

Organization: Total Bank Holding Company
Analysis: Forecast - Version 1
Scenario: Adverse

	2014	2015	2016
	Projected	Projected	Projected
Capitalization Rate	9.500%	9.750%	9.700%
CRAR	8.000%	8.000%	8.000%
Core Tier 1	5.000%	5.000%	5.000%
Additional Tier 1	3.000%	3.000%	3.000%
Tier 2 Capital			
Buffer	1.500%	1.750%	1.700%
Conservation Buffer	0.500%	0.500%	0.500%
Core Tier 1	0.250%	0.250%	0.250%
Additional Tier 1	0.250%	0.250%	0.250%
Tier 2 Capital			
Cyclicality Buffer	1.000%	1.250%	1.200%
Core Tier 1		0.200%	0.200%
Additional Tier 1		0.050%	
Tier 2 Capital	1.000%	1.000%	1.000%

8. Collect Capital Actions Projections

Capital actions define the projected dividend payments, as well as stock issuance and repurchases. These actions have a direct result on available capital reserves.

CHAPTER 4

Dimensions

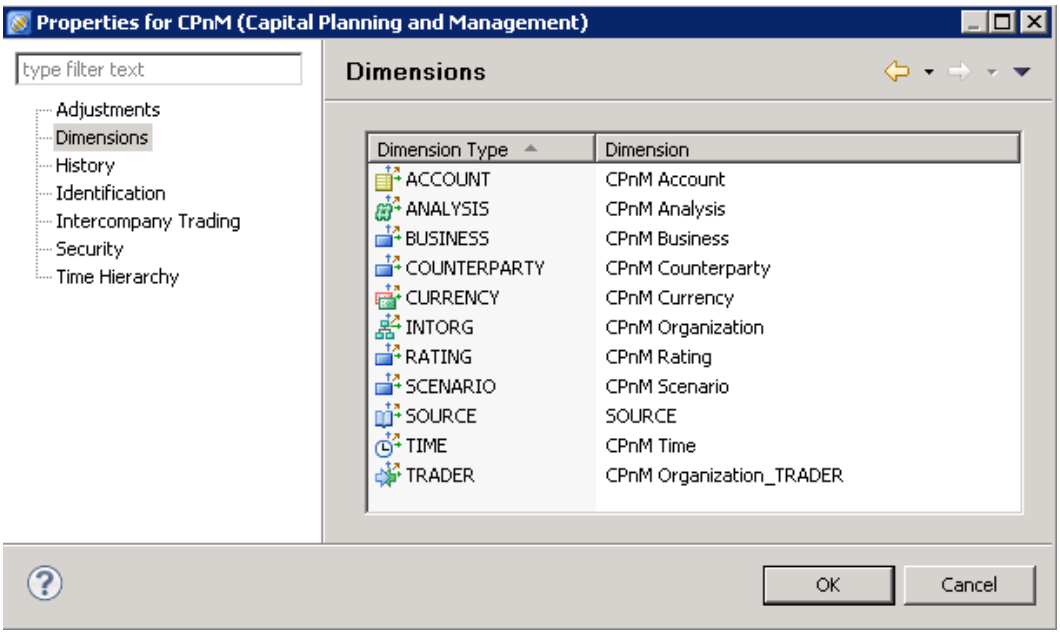
Dimensions Overview

The SAS Capital Planning and Management framework is organized into a single cycle that is named CPnM.

As seen in Figure 3-1, this cycle includes the following dimension types:

- **Account—**financial account or measure being analyzed
- **Analysis—**version of data such as historic actuals, forecast version 1, or forecast version 2
- **Organization—**organization hierarchy
- **Time—**monthly time periods organized by quarters and years
- **Currency—**monetary currency
- **Business—**line of business (business unit) and product hierarchy
- **Counterparty—**placeholder for containing details regarding counterparty
- **Scenario—**projected scenario used in combination with the analysis version (for example, baseline scenario and adverse scenario)

Figure 3-1. Properties for CPnM (Capital Planning and Management) Window



In the Dimension column of the Properties for CPnM (Capital Planning and Management) window, each dimension type within the SAS Capital Planning and Management framework is prefixed with CPnM.

The following sections describe each of the CPnM dimension types.

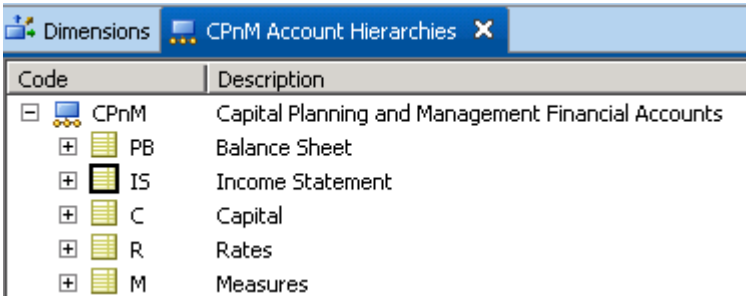
Account

The Account dimension includes the various financial accounts. It contains the greatest amount of formula logic within the SAS Capital Planning and Management framework.

The Account dimension is made up of the following five sections:

- Balance Sheet—members begin with “PB”
- Income Statement—members begin with “IS”
- Capital—members begin with “C”
- Rates—members begin “R”
- Measures—members begin with “M”

Figure 3-2. CPnM Account Hierarchies



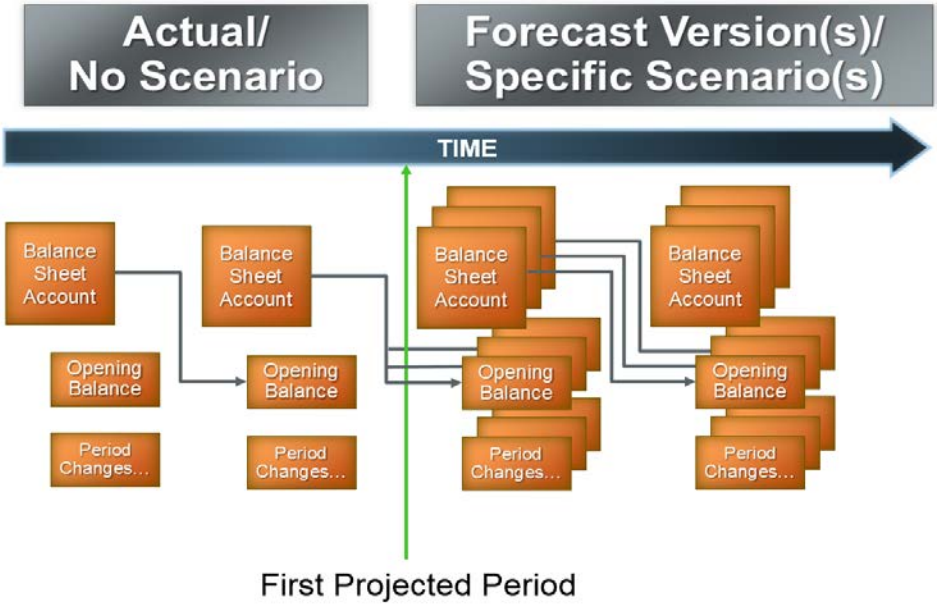
Balance Sheet Members

Balance Sheet accounts are all flow accounts (either revenue or expense) rather than balance accounts. This was required for the following reasons:

- Children members of each balance sheet account include members to capture period activity, such as new business or charge-offs. A balance account must have all decedents also be balance accounts.
- In many instances, planning is done at an annual or quarterly level. Balance accounts do not allow data entry of parents of Time members.
- Balance account members that contain formula cannot be scoped by time.

To imitate the necessary behavior of balance accounts, the following combination of driver formula are used:

- Opening Balance—sets the value to the ending balance of the previous period. If the period is the first projected period (as indicated by a custom property on the Time dimension), then the opening balance is equal to the ending balance of the Actual/NA Analysis/Scenario.



- First Projected Period—an important behavior of balance accounts is that they do not aggregate across time and show the final period balance for time rollup members.

  To imitate this behavior with flow accounts, a formula exists for each Analysis member that shows the last time leaf member (or the first for opening balance members) for a time rollup, depending on the setting of the custom properties CPnM Ending and CPnM Opening.

For example, all Opening Balance members show the first Time leaf member value; whereas, all top level balance sheet accounts such as Net Loans show the ending balance.

Millions	Opening	Ending	2013	Q1 2013	Jan 2013	Feb 2013	Mar 2013	Q2 2013	Q3 2013	Q4 2013	Oct 2013	Nov 2013	Dec 2013
Gross Loans	None	True	5,700	5,690	5,685	5,688	5,690	5,693	5,694	5,700	5,696	5,698	5,700
Opening Balance	True	None	5,881	5,881	5,881	5,685	5,688	5,690	5,693	5,694	5,694	5,696	5,698
Reduction in Balance	None	None	2,402	668	289	189	190	576	580	578	192	193	193
New Loans	None	None	2,220	477	93	192	192	578	581	583	194	194	195

Balance Sheet Logic Flow

The following sections outline the logic used for several sections of the balance sheet. For each section, a series of inputs and output have been identified.

Cash and Deposits with Banks

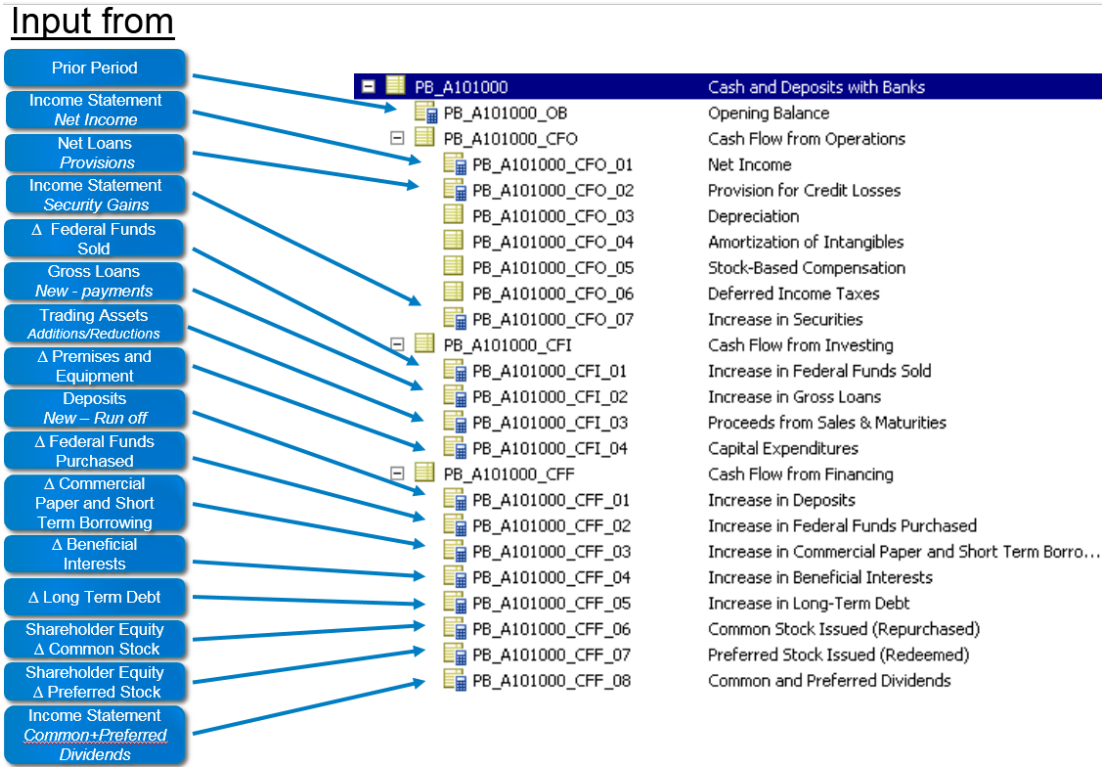
The Cash section on the balance sheet contains details that are derived from many other sections. Most changes to other sections of the balance sheet have some equal and opposite impact on the cash balance.

The Cash account is divided into the following three broad categories:

- Cash Flow from Operations—consists primarily of inputs from the income statement
- Cash Flow from Investing—consists of inputs from changes to asset balances
- Cash Flow from Financing—consists of inputs from changes to liabilities and equity accounts

Figure 3-3 illustrates an overview of the Cash section on the balance sheet, including the various inputs.

Figure 3-3. Balance Sheet—Cash Section Overview

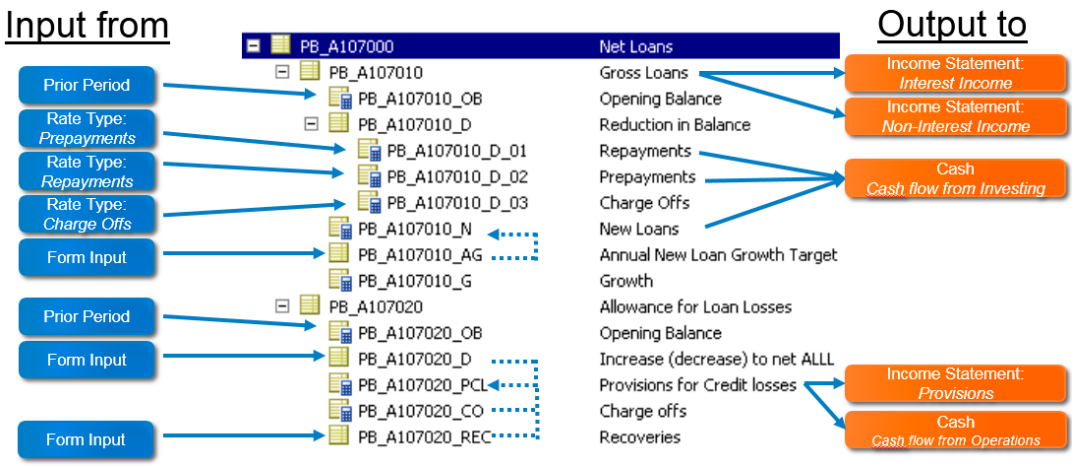


Net Loans

Net Loans on the balance sheet is composed of the gross loan balance by portfolio type and rating category less the allowance for loan losses. Calculating the projected net loans balance involves a number of inputs in the form of rates and from form.

Figure 3-4 illustrates the Net Loan logic as well as the impacting account sections.

Figure 3-4. Balance Sheet—Net Loans Logic Overview



Income Statement Accounts

Income statement accounts begin with the prefix IS. Many of the members within the income statement section contain driver formulas that depend on balance sheet member values. This requires that the affected income statement account member be visible on any forms where the balance sheet member might be modified.

For example, the income statement member related to interest income that is related to Loans and Mortgages is a formula based on the Gross Loans multiplied by a rate type. Therefore, the Loans and Mortgages account member must be included on any forms that impact the Gross Loans value.

Capital Accounts

Capital Accounts begin with the prefix C. There are three categories of capital members:

- Available Capital
- Required Capital
- Allocated Capital

Available Capital

Available Capital contains a reclassification of various members from the balance sheet into Tier 1 and Tier 2 capital classification.

Required Capital

Required Capital contains various formulas to provide a calculation of regulatory capital following the Basel II advanced approach. The following table outlines the formulas involved in Required Capital member.

Member	Description	Logic	Scope
C00110 (Exposure at Default)	Approximate EAD based on the current balance	Gross Loans * rate type "EAD:Principal Ration"	• Balance sheet members with a Basel Asset class • Forecast versions • Projected time periods
C00120 (Risk Weighted Assets)	Calculates RWA based on advanced Basel II IRB RWA formula specific to each asset category	Function of EAD and rate types for LGD and PD, differing by asset category	• Balance sheet members with a Basel Asset class • Forecast versions • Projected time periods
C00131 (RC Credit Risk)	Calculates regulatory capital for credit risk based on RWA and various capitalization	RWA * Sum(CRAR % + Conservation Buffer + Cyclicality Buffer)	• Balance sheet members with a Basel Asset class • Forecast versions

	parameters by capital type		• Projected time periods
C00141 (Non-diversified EC)	Calculates EC by multiplying RC by a ratio of EC:RC stored as a rate	RC * rate type EC:RC Ratio	• Forecast versions
C00143 (Diversification)	Calculates the benefit resulting from a diversification factor	Non-diversified EC * (1 – rate type diversification factor)	• Forecast versions • Projected time periods
C00142 (Diversified EC)	Calculates a diversified EC value using a rate type for diversification factor	Non-diversified EC * rate type diversification factor)	• Forecast versions • Projected time periods

Allocated Capital

Allocated Capital is an entered or allocated value independent of either available or required capital.

Rates

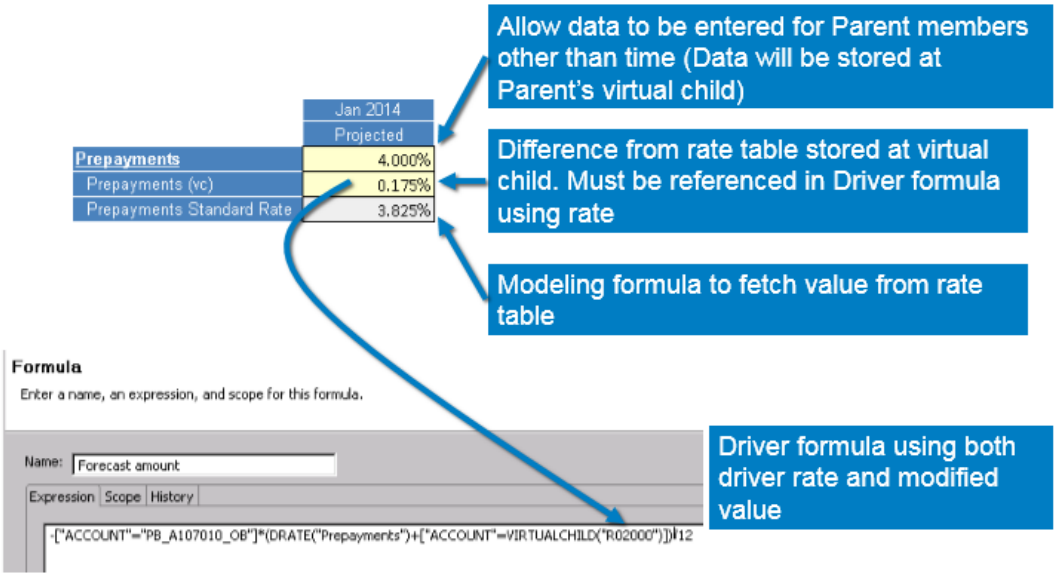
All Rates begin with the prefix R. Most rate members are also defined as a rate type and exist as an account member for display and override purposes.

Because the values in a rate table cannot be modified from within a data entry form, rates that are to be overridden on a data entry form include a child member that uses a modeling formula to look up the value from the rate table. The changes are captured at the parent virtual child.

Because driver formulas execute before modeling formula, any driver formulas that use the rate need to explicitly reference both the rate table value as well as any overridden values captured in the virtual child.

Figure 3-5 illustrates an example for prepayments.

Figure 3-5. Driver Formula—Prepayments Example



Measures

All Measures begin with the prefix M and include a reporting formula to summarize and display various key measures in context of capital planning.

The following table outlines the measures.

Member	Logic	Scope
M00100 (Capital/Assets)	Available Capital / Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00200 (Capital/RWA)	Available Capital / Risk Weighed Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00300 (Net Income before Provisions/Charge-offs)	(Net Income – Provisions)/Charge offs	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00400 (Return on Assets)	(Net Income)/Total Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL

Member	Logic	Scope
M00500 (Net Income before Provisions/Assets)	Net Income – Provisions / Total Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00600 (Avg Int Income Rate)		• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00700 (Core Tier 1 Ratio)		• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00800 (Tier 1 Ratio)	Available Tier 1 Capital / Risk Weighted Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M00900 (Regulatory Capital Ratio)	Regulatory Capital / Risk Weighted Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M01000 (Tier 1 Leverage Ratio)	Available Tier 1 Capital / Total Assets	• Counterparty: TOTAL • Business: TOTAL • Rating: TOTAL
M01100 (Common Dividend Payout Ratio)	Dividends Paid / Net Income to Common A floor of 0 is also set, which means that if dividends are paid during a net loss, then the payout ratio is 0.	
M01200 (EAD %)	EAD/EAD for Total of all Ratings Grades	Excludes Rating Grade Avg and NA
M01300 (RWA %)	RWA/RWA for Total of all Ratings Grades	Excludes Rating Grade Avg and NA
M01400 (Basic Earnings Per Share)	Net Income Due to Common / Number of Outstanding Common Shares	
M015000 (Risk Adjusted Return on Capital)	Net Income due to Common / Required Capital	
M01630 (Average Cost of Capital)	Common and Preferred Dividends + Interest Expense for Borrowing / Total Available Capital	
M01610 (Cost of Tier 1	Common and Preferred Dividends /	

Member	Logic	Scope
Capital)	Available Tier 1 Capital	
M01611 (Cost of Core Tier 1 Capital)	Common Dividends / Available Core Tier 1 Capital	
M01612 (Cost of Additional Tier 1 Capital)	Preferred Dividends / Available Additional Tier 1 Capital	
M01620 (Cost of Tier 2 Capital)	Interest Expense for Borrowings / Available Tier 2 Capital	

Analysis

The Analysis dimension identifies the version of the data that is being analyzed. The Analysis dimension contains the following members:

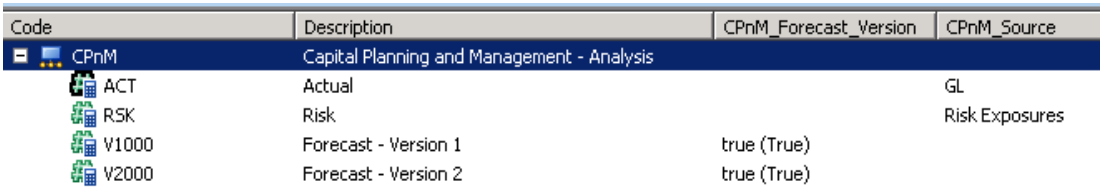
Code	Name/Description	Purpose
ACT	Actual	Historic actual values
V1000	Forecast – Version 1	Projected values
V2000	Forecast – Version 2	Projected values – second/alternative version
RSK	Risk	Placeholder for loading values from various risk system

Custom Properties

The Custom properties of the Analysis dimension are the following as seen in Figure 3-6:

- **CPnM_Forecast_Version (Forecast Version)—**Boolean property is set to true for analysis members that represent projected values (for example V1000). This property is used within formula scoping rules to identify a formula that is used for projecting values.
- **CPnM_Source (Source)—**Character property identifying the source system for data contained within the analysis member. For example, *GL* is identified as the source for *Actual* data.

Figure 3-6. Analysis Dimension Custom Properties



Formula

The following tables describe the formulas of the Analysis dimension.

Act (Actual)

Rank	Name	Description	Scope
1	Historic Scenario	Show value from the NA Scenario	• All Scenario members except NA
2	Time Dimension - Opening Balance –	Show value of the first child time period	• Accounts with property CPnM_Opening = True • Time level = QuarterYear, Year
3	Time Dimension – Ending Balance	Show value of the last child time period	• Accounts with property CPnM_Ending = True • Time level = QuarterYear, Year
4	Time Dimension – Average Balance	Show average value of time period child members	• Accounts with property CPnM_Avg = True • Time level = QuarterYear, Year

Forecast Version Members (V10000/V2000)

Rank	Name	Description	Scope
1	Time Dimension – Opening Balance	Show value of the first child time period	• Accounts with property CPnM_Opening = True • Time level = QuarterYear, Year
2	Time Dimension – Ending Balance	Show value of the last child time period	• Accounts with property CPnM_Ending = True • Time level = QuarterYear, Year
3	Time Dimension – Ending Balance	Show value of the last child time period	• Accounts with property CPnM_Avg = True • Time level = QuarterYear, Year
4	Business Rollup – Average Balance	Show average value of Business child members	• Accounts with property CPnM_Opening = True • Time level = Month • All non-leaf Business members
5	Org Rollup – Average Balance	Show average value of Organization child	• Accounts with property CPnM_Avg = True

Rank	Name	Description	Scope
		members	• Time level = Month • All non-leaf Organization members
6	Rating Rollup – Average Balance	Show average value of Organization child members	• Accounts with property CPnM_Avg = True • Time level = Month • TOTAL Rating member
7	Historic Values	Show average value from Analysis = Actual and Scenario = NA	• Time members where CPnM TimePerspective = History

Risk Engine Source (RSK)

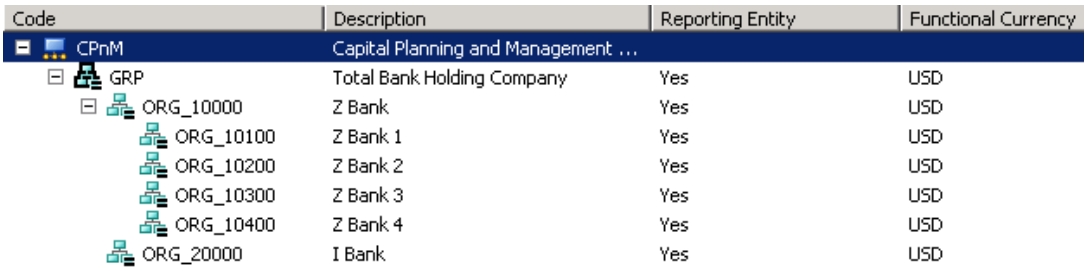
Rank	Name	Description	Scope
1	Historic Scenario	Show value from the NA Scenario	• All Scenario members except NA
2	Time Rollup – balance first	Show value of the first child time period	• Accounts with property CPnM_Opening = True • Time level = QuarterYear, Year
3	Time Rollup – balance last	Show value of the last child time period	• Accounts with property CPnM_Ending = True • Time level = QuarterYear, Year
4	Average of Time	Show average value of time period child members	• All accounts that are descendants of Driver Rates (R_D) • Time level = QuarterYear, Year

Organization

The Organization dimension represents the bank organization structure. Within the framework, each member represents a reporting entity with functional currency of USD as seen in Figure 3-7.

Note: Business units or lines of business are represented in the Business dimension rather than the Organization dimension.

Fig 3-7. Organization Dimension



Time

The Time dimension comprises 12 years of monthly time members, organized by quarters and years.

The three levels of the hierarchy are the following:

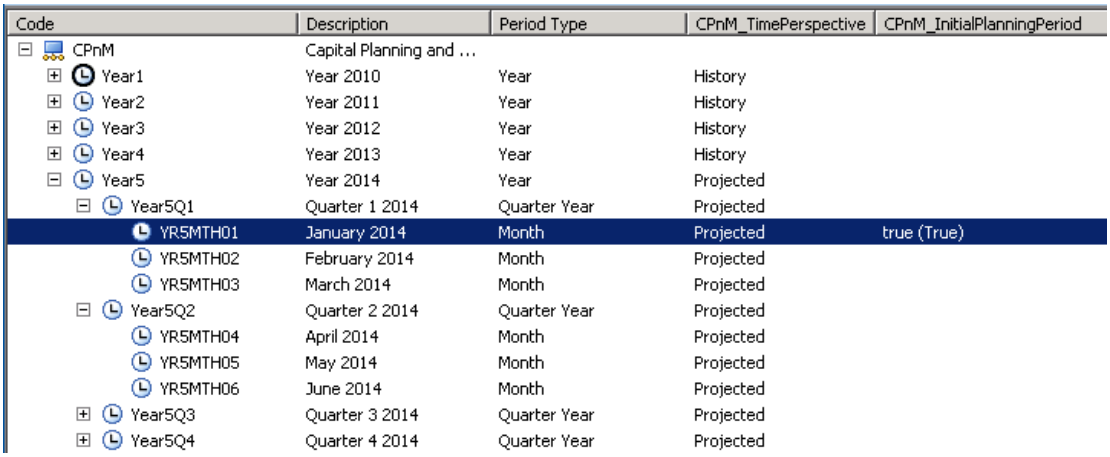
Level	Code	Name	Description
Annual	Year # **Example:** Year3	*YYYY* **Example:** 2013	Year *YYYY* **Example:** Year 2013
Quarterly	Year#Q# **Example:** Year3Q3	Q#*YYYY* **Example:** Q3 2013	Quarter # *YYYY* **Example:** Quarter 3 2013
Monthly	YR#MTH## **Example:** YR3MTH08	*Mon YYYY* **Example:** Aug 2013	*Month YYYY* **Example:** August 2013

Custom Properties

The Time dimension contains the following custom properties as seen in Figure 3-8:

- **CPnM_TimePerspective (Perspective)—**Character property that is used for reporting and formula scoping purposes. Many formula are scoped to execute only on monthly members that are identified as projected time periods. There are two possible values: *Historic* or *Projected*. Every member must belong to either one of the two possible values.
- **CPnM_InitialPlanningPeriod (Initial Planning Period)—**Boolean property is set to true for a single monthly time member that represents the first planning period. This property is used within the formula to establish starting balances going forward for each version and scenario.

Figure 3-8. Time Dimension Custom Properties



Code	Description	Period Type	CPnM_TimePerspective	CPnM_InitialPlanningPeriod
CPnM	Capital Planning and ...			
Year1	Year 2010	Year	History	
Year2	Year 2011	Year	History	
Year3	Year 2012	Year	History	
Year4	Year 2013	Year	History	
Year5	Year 2014	Year	Projected	
Year5Q1	Quarter 1 2014	Quarter Year	Projected	
YR5MTH01	January 2014	Month	Projected	true (True)
YR5MTH02	February 2014	Month	Projected	
YR5MTH03	March 2014	Month	Projected	
Year5Q2	Quarter 2 2014	Quarter Year	Projected	
YR5MTH04	April 2014	Month	Projected	
YR5MTH05	May 2014	Month	Projected	
YR5MTH06	June 2014	Month	Projected	
Year5Q3	Quarter 3 2014	Quarter Year	Projected	
Year5Q4	Quarter 4 2014	Quarter Year	Projected	

Currency

The Currency dimension has been preloaded with 21 significant currency members. Each member uses the standard ISO 4217 standard currency code.

The members of the Currency dimension include the following:

- USD United States dollar (this is the default currency)
- CAD Canadian dollar
- EUR Euro
- BRL Brazilian real
- ARS Argentine peso
- DKK Danish krone
- NOK Norwegian krone
- PLN Polish zloty
- RUB Russian ruble
- ZAR South African rand
- SEK Swedish krona
- CHF Swiss franc
- GBP British pound
- INR Indian rupee
- CNY Chinese yuan
- SGD Singapore dollar
- MYR Malaysian ringgit

- AUD Australian dollar
- JPY Japanese yen
- KRW South Korean won
- NZD New Zealand dollar

No exchange rates have been preloaded for any time periods. To use a currency other than the default currency (USD), you must load a valid set of exchanges.

Business

The Business dimension defines the business unit hierarchy as well as product portfolios. Product portfolios are identified as children of business units as seen in Figure 3-9.

Figure 3-9. Business Dimension Product Portfolios

Code	Description	CPnM_BS_Mapping	CPnM_Basel_Asset_Class
CPnM	Capital Planning and Management - Business		
TOTAL	Total Business		
BUS_10000	Retail		
BUS_11000	Retail Liabilities		
BUS_11100	Checking Accounts	Deposits	
BUS_11200	Savings Accounts	Deposits	
BUS_11300	Money Market Deposits	Deposits	
BUS_12000	Retail Assets		
BUS_12100	Real Estate Loans		
BUS_12110	First Lien Mortgages	Loans	Residential Mortgages
BUS_12120	Second / Junior Lien Mortgages		
BUS_12121	Closed-End Junior Liens	Loans	Residential Mortgages
BUS_12122	HELOCs	Loans	Residential Mortgages
BUS_12130	CRE Loans	Loans	HVCRE
BUS_12140	Loans Secured by Farmland (In Domestic Off…	Loans	Corporate
BUS_12150	Real Estate Loans Not in Domestic Offices	Loans	Corporate
BUS_12200	Credit Cards	Off balance sheet	QPRE
BUS_12300	Other Consumer		
BUS_20000	Corporate and Investment Banking		
BUS_21000	Corporate Lending		
BUS_211001	C&I Loans, excl. Small Business (Scored/Deli…		
BUS_21100	Large Commercial Credits	Off balance sheet	Corporate
BUS_21200	Small Business (Graded)	Loans	Corporate
BUS_21400	Other Loans	Loans	Other Retail
BUS_21300	Small Business (Scored/Delinquency Managed)	Loans	Other Retail
BUS_22000	Corporate Borrowing		
BUS_31000	Mutual Funds		
BUS_40000	Global Markets		
BUS_50000	Treasury		
NA	Not Applicable		

Custom Properties

The Business dimension contains the following custom properties:

CPnM_BS_Mapping (Balance Sheet mapping)—Applied to every leaf member except for NA. Represents the classification on the balance sheet that the member is associated with. This property is used to scope account member formula. For example, the account Prepayments is scoped to execute only on Business members identified as Loans.

The following custom properties apply:

- Deposits
- Loans
- Off Balance Sheet
- Commercial Paper
- Trading Assets
- Cash

CPnM_Basel_Asset_Class (Basel II Asset Class)—Applied to every leaf member that will be subjected to calculation of risk weighted assets. This property is used in scoping of the risk weighted asset formula.

The following custom properties apply:

- Residential Mortgages
- HBCRE
- Corporate
- QPRE
- Other Retail
- Banks

Counterparty

The Counterparty dimension is a placeholder dimension to capture optional counterparty details. The framework hierarchy includes the following:

- Total
    - NA–Not Applicable. This is the default member.

Scenario

The Scenario dimension provides the details for each planning scenario within a given analysis version. In a capital planning process, a bank creates a capital projection for a number of alternative scenarios.

The Scenario dimension functions similarly to the Analysis dimension. The primary difference is that the Analysis dimension identifies the version of a particular scenario (for example, a bank might plan many versions of its baseline or expected scenario as well as multiple version of an adverse scenario).

The Scenario dimension contains the following members:

Code	Name/Description	Purpose
SCN_1000	Baseline	Most likely or expected scenario
SCN_2000	Adverse	Scenario depicting adverse macro-economic conditions
SCN_3000	Severely Adverse	Scenario depicting very adverse macro-economic conditions
NA	Not Applicable	Used for historic and actual data (Analysis = Actual)
Total	Total	This member will always be zero since all members do not roll up into its parent

CHAPTER 5

Rate Types

Rate Types Overview

The following table outlines the rate types used in SAS Capital Planning and Management.

Rate Type	Description	Used By
Average Commission	Average sales commission rate	Placeholder rate type for use to customize non-interest income formula
Average Yield	Annualized average interest rate by all loan and off balance sheet product types	Loans and mortgages interest income
Cancellations	Average cancellation rate	Placeholder rate type to customize credit card fee income
CCF	Credit conversion factor to apply to off balance sheet amount for the purpose of risk weighted asset calculations	Placeholder rate type to customize on and off balance sheet exposures related to credit card portfolios
Charge Offs	Annualized average charge off rate for loans	Reduction in balance for loans and subsequently reduces the allowance for loan losses
Deposit Rate	Annualized average interest rate for all deposit accounts	Deposits interest expense
Drawdown	Percentage of off balance sheet product that is drawn in a given period	The drawdown percentage is applied against the opening balance of off balance sheet amount. The resulting drawdown amount appears on the balance sheet within the loans as either a new loan amount or as a reduction.
EAD: Principal Ratio	Ratio used to translate current exposure at default (EAD)	EAD given the projected loan balance as need for subsequent risk weighted assets (RWA) calculations
LGD	Loss given default	RWA

Rate Type	Description	Used By
New Growth Rating Distribution	Distribution of new loans by rating grade that will be applied	New loans
PD	Probability of default	Loan reduction in balance
Prepayments	Annualized average repayment rate for loans	Loan reduction in balance
Run Off	Annualized run-off rate of deposit accounts	Deposit run off
Service Charge	Average service charge rate applied to all deposit accounts	Non-interest income of service charges on deposit accounts

CHAPTER 6

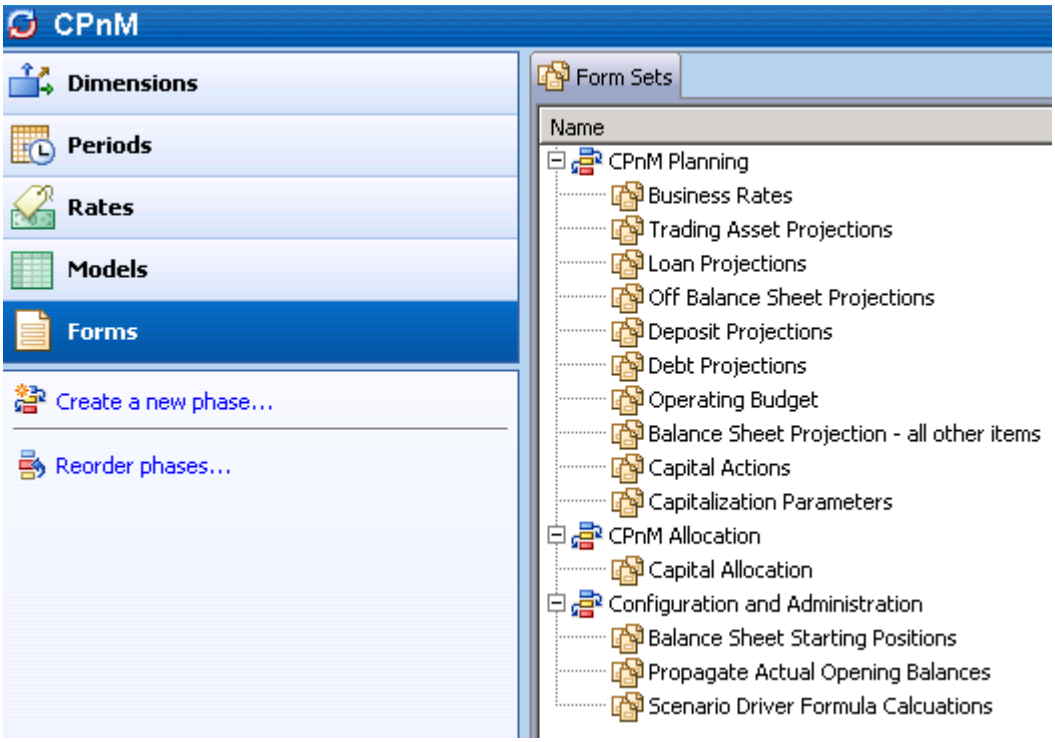
Form Sets

Form Sets Overview

Form sets have been organized into three phases as illustrated in Figure 5-1:

- **Planning—**form sets to collect all necessary inputs to project the balance sheet and income statement three years.
- **Allocation—**form set for allocating capital to business units.
- **Configuration and Administration—**form sets for setup as well as running driver formulas.

Figure 5-1. CPnM Form Sets



CPnM Planning Phase

The CPnM Planning phase contains all the form sets that are necessary to collect inputs to project out the balance sheet and income statement values for three years.

The CPnM Planning phase contains the following form sets:

- Business Rates
- Trading Asset Projections
- Loan Projections
- Off Balance Sheet Projections
- Deposit Projections
- Debt Projections
- Operating Budget
- Balance Sheet Projection – all other items
- Capital Actions
- Capitalization Parameters

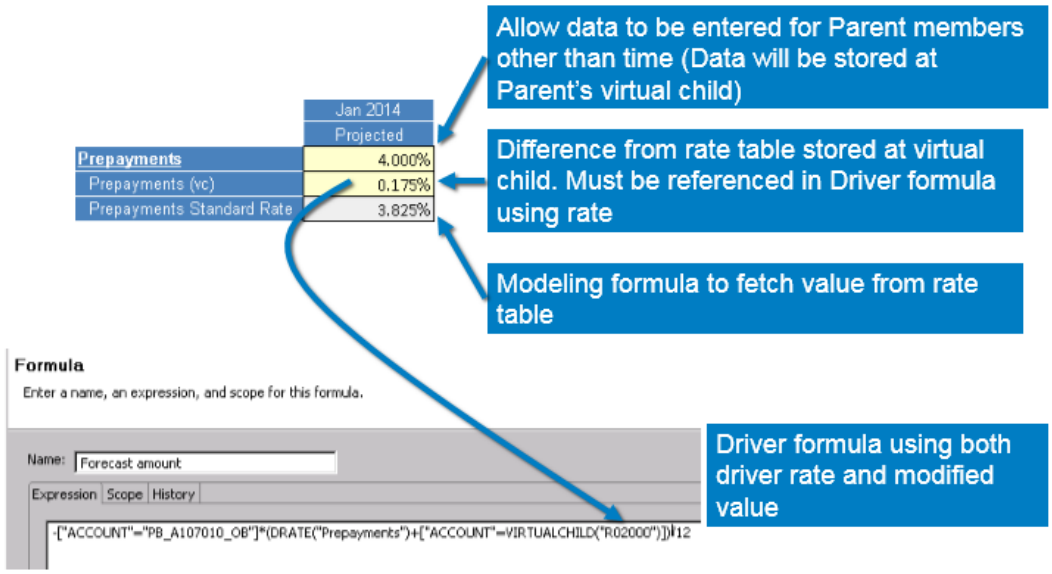
The following sections provides information about each of these form sets.

Business Rates Form Set

The Business Rates form set enables users to modify various rates that are leveraged by subsequent forms. The rates are sourced from rate types within rate tables for each.

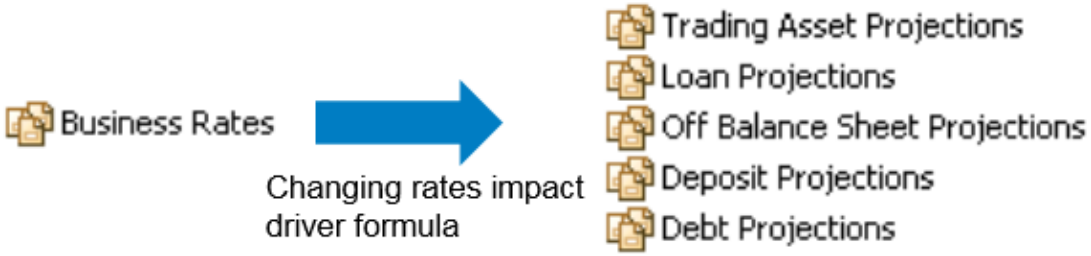
Users enter or modify the rate by entering at a parent rate member, which stores a modified amount in the virtual child. Formulas using this rate need to reference both the rate type and any value stored in the virtual child.

Figure 5-2. Business Rates Form Set



A number of form sets contain driver formulas that are dependent on values modified in the Business Rates form set. Each of the form sets shown in the Figure 5-3 require that you rerun the driver formula after making changes to Business Rates. Alternatively, the driver formulas can be run in the administrative **Scenario Driver Formula Calculations** form set.

Figure 5-3. Form Sets That Are Dependent on the Business Rates Form Set



Trading Asset Projections Form Set

The Trading Asset Projections form set collects input related to future additions or reductions for held to maturity, available for sale, and held for trading assets. For the Held to Maturity portfolio, enter the portfolio growth and average annual yield. This results in calculated values for additions or reductions and the impact to the interest income.

For the Available for Sale portfolio and the Held for Trading portfolio, enter the expected market gain (loss) as a percentage. In addition, enter any additional acquisition or sale of assets along with the average annual yield. The calculated values are computed for market gain as well as impacts to the income statement.

The **Scenario Comparison** tab enables users to visually compare scenarios of asset balance and resulting revenue. Figure 5-4 is an example form that shows the various members that can be edited within the form. All of the children members of the Global Markets Business dimension are included on the form.

Figure 5-4. Trading Assets Projections Form Set

Trading Assets Projections

Organization ...	Z Bank 2
Business ...	Municipal Bonds
Analysis ...	Forecast - Version 1
Scenario ...	Baseline

	2012	2013	2014	2015	2016
	History	History	Projected	Projected	Projected
Opening Balance	13,596,480.00	13,868,409.60	13,868,409.60	14,145,777.79	14,145,777.79
Additions (Reductions)	271,929.60		277,368.19		
Annual Growth Target	2.000%		2.000%		
Growth	2.000%		2.000%		
Average Yield	1.300%	1.400%	1.300%	1.400%	1.400%
Held to Maturity (HTM)	13,868,409.60	13,868,409.60	14,145,777.79	14,145,777.79	14,145,777.79
Opening Balance	8,157,888.00	8,263,940.54	8,263,940.54	8,371,371.77	8,371,371.77
Market Gain (Loss)	106,052.54		107,431.23		
Market Gain (Loss) %	1.300%		1.300%		
Additions (Sales)					
Growth	1.300%		1.300%		
Average Yield	1.500%	1.500%	1.500%	1.500%	1.500%
Available for Sale (AFS)	8,263,940.54	8,263,940.54	8,371,371.77	8,371,371.77	8,371,371.77
Opening Balance	32,631,552.00	32,631,552.00	32,631,552.00	32,631,552.00	32,631,552.00
Market Gain (Loss)					
Market Gain (Loss) %					
Additions (Sales)					
Growth					
Average Yield	0.500%	0.500%	0.500%	0.500%	0.500%
Held for Trading (HFT)	32,631,552.00	32,631,552.00	32,631,552.00	32,631,552.00	32,631,552.00
Trading Assets	54,763,902.14	54,763,902.14	55,148,701.56	55,148,701.56	55,148,701.56
Interest Income	465,056.83	481,274.60	470,232.21	486,769.23	486,769.23
Asset Management, Administration and Commissions	65,508.79	65,716.68	65,966.80	66,178.44	66,178.44
Securities Gains	106,052.54		107,431.23		
Non Interest Income	171,561.34	65,716.68	173,398.03	66,178.44	66,178.44
Net Revenue	636,618.17	546,991.29	643,630.24	552,947.67	552,947.67

Loan Projections Form Set

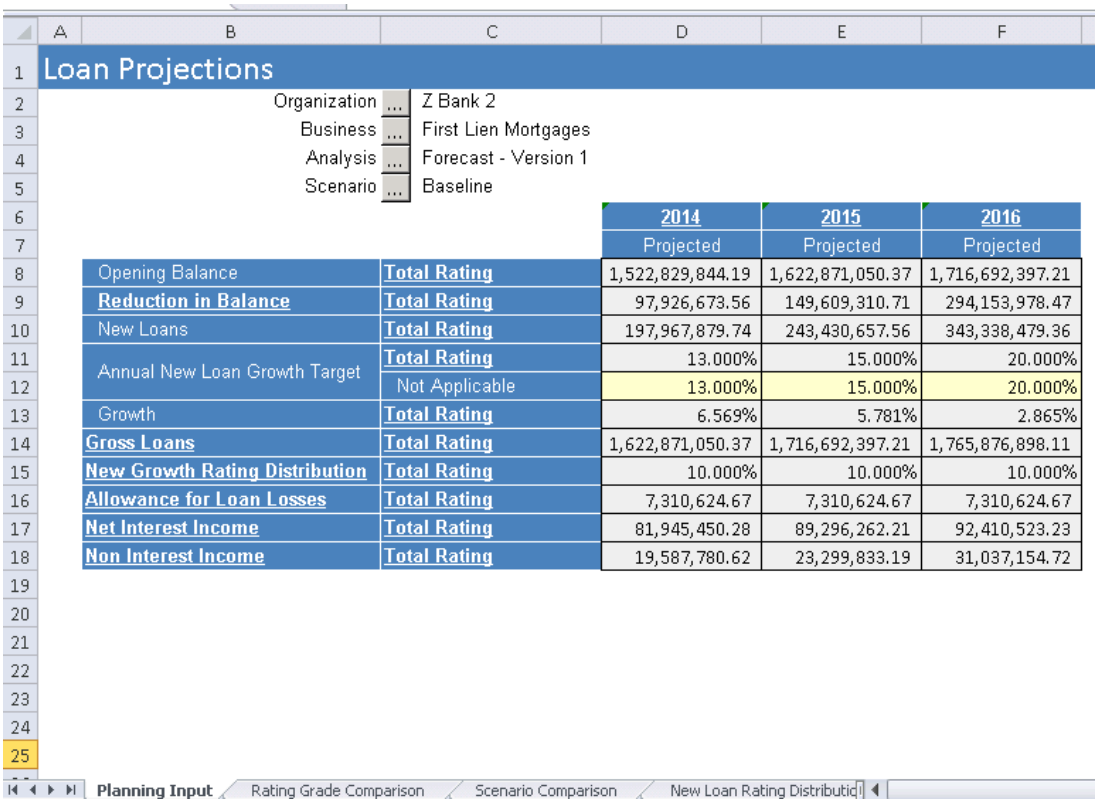
The Loan Projections form set captures input that is related to new loan growth as a percentage of the current portfolio balance.

All new loan amounts follow the same reduction in balance (prepayment, payments, or charge offs) as the existing portfolio. Similarly, all new loan business follows the same yield rate with respect to calculating the interest income.

Two **Scenario Comparison** tabs enable users to visually compare across rating category and a second set of comparison across scenarios.

Figure 5-5 is an example form that shows the members that can be edited. A user can enter loan growth annually or monthly into the NA rating grade. New loan values are computed for each rating grade based on the new loan rating distribution table. New loan rating distributions are defined as a rate type and can be changed for specific organizations, portfolios, or time periods by using the **New Loan Rating Distribution** tab. All children members of Retail Assets are included in the form template.

Figure 5-5. Loan Projections Form Set



Loan Projections

Organization	Z Bank 2
Business	First Lien Mortgages
Analysis	Forecast - Version 1
Scenario	Baseline

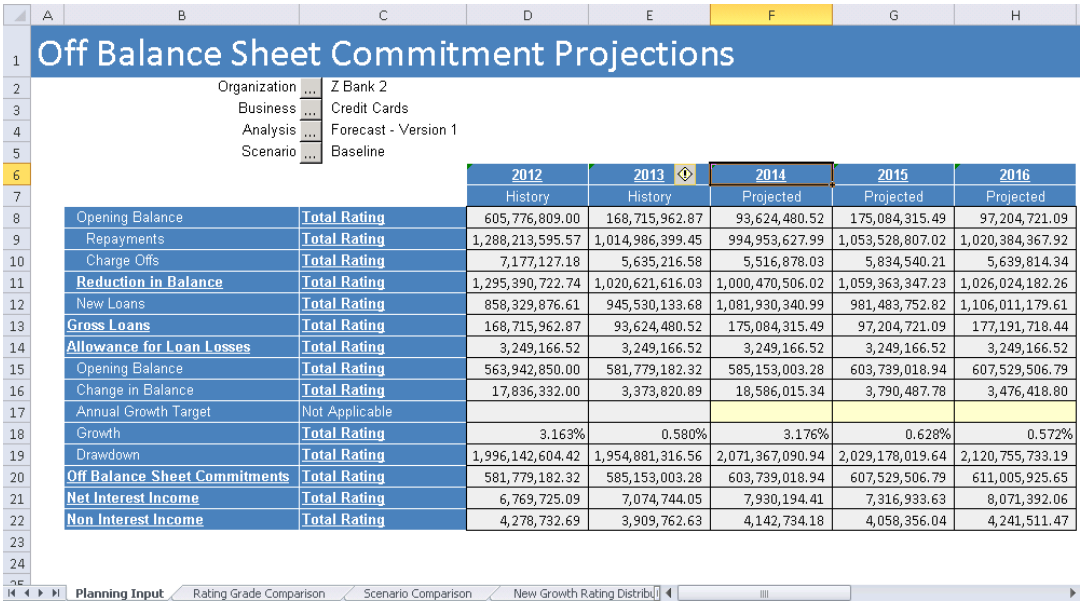
		2014	2015	2016
		Projected	Projected	Projected
Opening Balance	Total Rating	1,522,829,844.19	1,622,871,050.37	1,716,692,397.21
Reduction in Balance	Total Rating	97,926,673.56	149,609,310.71	294,153,978.47
New Loans	Total Rating	197,967,879.74	243,430,657.56	343,338,479.36
Annual New Loan Growth Target	Total Rating	13.000%	15.000%	20.000%
	Not Applicable	13.000%	15.000%	20.000%
Growth	Total Rating	6.569%	5.781%	2.865%
Gross Loans	Total Rating	1,622,871,050.37	1,716,692,397.21	1,765,876,898.11
New Growth Rating Distribution	Total Rating	10.000%	10.000%	10.000%
Allowance for Loan Losses	Total Rating	7,310,624.67	7,310,624.67	7,310,624.67
Net Interest Income	Total Rating	81,945,450.28	89,296,262.21	92,410,523.23
Non Interest Income	Total Rating	19,587,780.62	23,299,833.19	31,037,154.72

Off Balance Sheet Projections Form Set

The Off Balance Sheet form set items include product lines such as credit cards and letters of credit.

Figure 5-6 is an example form that shows the members that users can edit. Users enter the expected annual growth. Based on drawdown rates, this calculates an exposure amount that is included on the balance sheet, along with impacts to charge offs, interest, and non-interest income. New loan rating distributions are defined as a rate type and can be changed for specific organization, portfolio, or time period using the **New Growth Rating Distribution** tab.

Figure 5-6. Off Balance Sheet Commitment Projections Form Set



Off Balance Sheet Commitment Projections

Organization	Z Bank 2
Business	Credit Cards
Analysis	Forecast - Version 1
Scenario	Baseline

		2012	2013	2014	2015	2016
		History	History	Projected	Projected	Projected
Opening Balance	Total Rating	605,776,809.00	168,715,962.87	93,624,480.52	175,084,315.49	97,204,721.09
Repayments	Total Rating	1,288,213,595.57	1,014,986,399.45	994,953,627.99	1,053,528,807.02	1,020,384,367.92
Charge Offs	Total Rating	7,177,127.18	5,635,216.58	5,516,878.03	5,834,540.21	5,639,814.34
Reduction in Balance	Total Rating	1,295,390,722.74	1,020,621,616.03	1,000,470,506.02	1,059,363,347.23	1,026,024,182.26
New Loans	Total Rating	858,329,876.61	945,530,133.68	1,081,930,340.99	981,483,752.82	1,106,011,179.61
Gross Loans	Total Rating	168,715,962.87	93,624,480.52	175,084,315.49	97,204,721.09	177,191,718.44
Allowance for Loan Losses	Total Rating	3,249,166.52	3,249,166.52	3,249,166.52	3,249,166.52	3,249,166.52
Opening Balance	Total Rating	563,942,850.00	581,779,182.32	585,153,003.28	603,739,018.94	607,529,506.79
Change in Balance	Total Rating	17,836,332.00	3,373,820.89	18,586,015.34	3,790,487.78	3,476,418.80
Annual Growth Target	Not Applicable					
Growth	Total Rating	3.163%	0.580%	3.176%	0.628%	0.572%
Drawdown	Total Rating	1,996,142,604.42	1,954,881,316.56	2,071,367,090.94	2,029,178,019.64	2,120,755,733.19
Off Balance Sheet Commitments	Total Rating	581,779,182.32	585,153,003.28	603,739,018.94	607,529,506.79	611,005,925.65
Net Interest Income	Total Rating	6,769,725.09	7,074,744.05	7,930,194.41	7,316,933.63	8,071,392.06
Non Interest Income	Total Rating	4,278,732.69	3,909,762.63	4,142,734.18	4,058,356.04	4,241,511.47

Planning Input | Rating Grade Comparison | Scenario Comparison | New Growth Rating Distribu

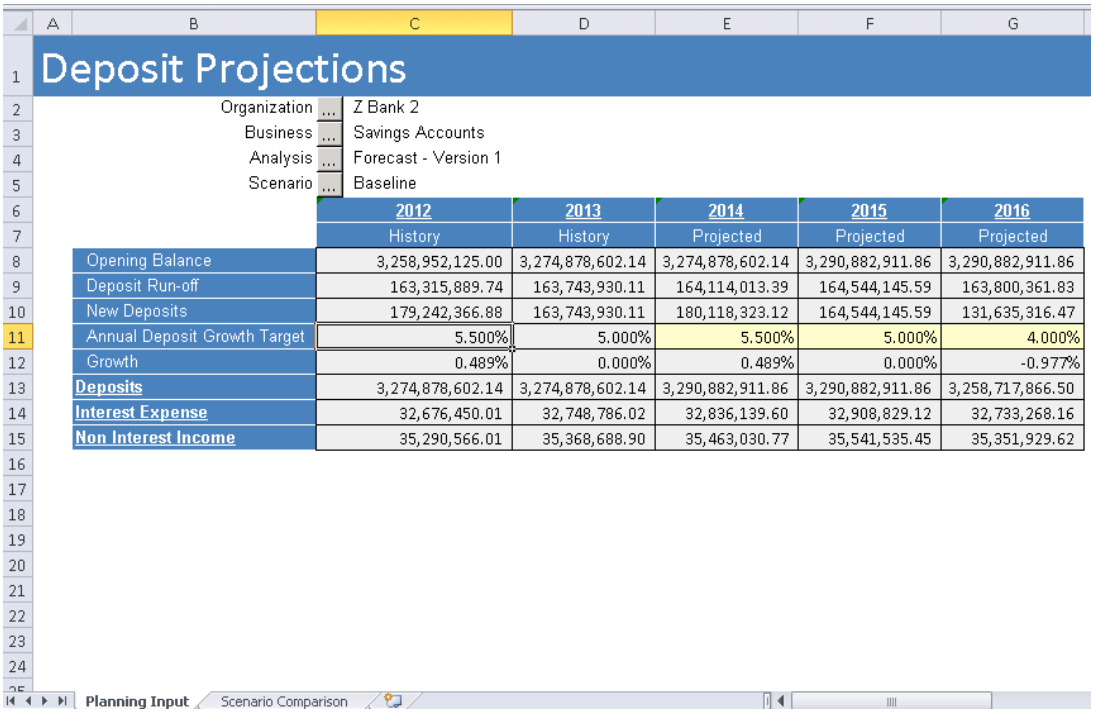
Deposit Projections Form Set

The Deposit Projections form set captures the input related to annual deposit growth as a percentage of the deposit balance. All new deposit amounts follow the same run off and interest expense rate as the existing balances.

The **Scenario Comparison** tab provides a visual comparison across scenarios.

Figure 5-7 is an example form that shows the members that a user can edit. The annual deposit growth target results in a calculated value for new deposits. The growth calculation is net growth after the run off has been accounted for.

Figure 5-7. Deposit Projections Form Set



Deposit Projections

Organization	Z Bank 2
Business	Savings Accounts
Analysis	Forecast - Version 1
Scenario	Baseline

	2012	2013	2014	2015	2016
	History	History	Projected	Projected	Projected
Opening Balance	3,258,952,125.00	3,274,878,602.14	3,274,878,602.14	3,290,882,911.86	3,290,882,911.86
Deposit Run-off	163,315,889.74	163,743,930.11	164,114,013.39	164,544,145.59	163,800,361.83
New Deposits	179,242,366.88	163,743,930.11	180,118,323.12	164,544,145.59	131,635,316.47
Annual Deposit Growth Target	5.500%	5.000%	5.500%	5.000%	4.000%
Growth	0.489%	0.000%	0.489%	0.000%	-0.977%
Deposits	3,274,878,602.14	3,274,878,602.14	3,290,882,911.86	3,290,882,911.86	3,258,717,866.50
Interest Expense	32,676,450.01	32,748,786.02	32,836,139.60	32,908,829.12	32,733,268.16
Non Interest Income	35,290,566.01	35,368,688.90	35,463,030.77	35,541,535.45	35,351,929.62

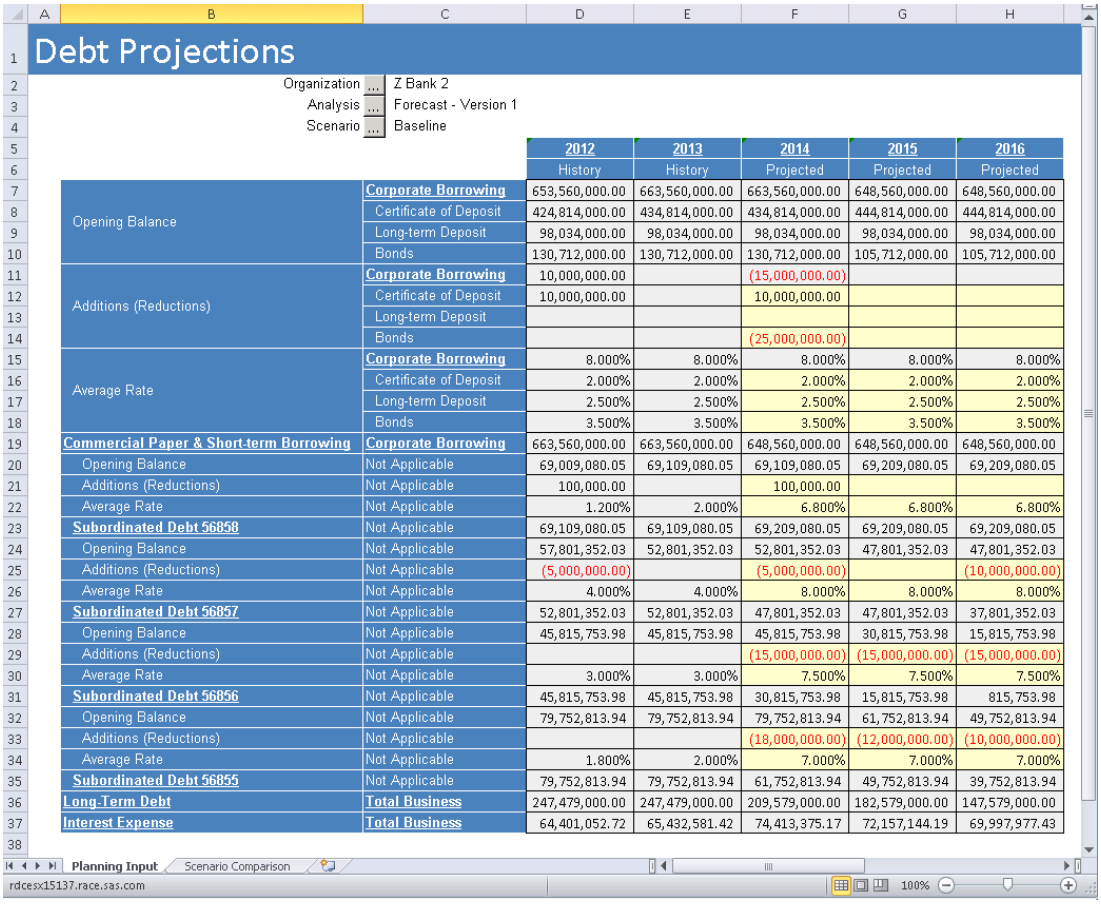
Planning Input | Scenario Comparison

Debt Projections Form Set

The Debt Projections form set allows input that details short-term and long-term debt. Short-term debt is divided into business lines for CDs, bonds, and long-term deposit accounts. Long-term debt is in the form of subordinated debt, each as a separate account.

Figure 5-8 is an example form that indicates the data that is collected for Debt Projections. For each item, any new debt (or reduction or retired) is indicated. Also entered on the Debt Projections form set is the annual average rate paid on the debt. The annual average rate paid on the debt is used in calculating the interest expense items on the income statement.

Figure 5-8. Debt Projections Form Set



Debt Projections

Organization ... Z Bank 2
Analysis ... Forecast - Version 1
Scenario ... Baseline

		2012 History	2013 History	2014 Projected	2015 Projected	2016 Projected
Opening Balance	Corporate Borrowing	653,560,000.00	663,560,000.00	663,560,000.00	648,560,000.00	648,560,000.00
	Certificate of Deposit	424,814,000.00	434,814,000.00	434,814,000.00	444,814,000.00	444,814,000.00
	Long-term Deposit	98,034,000.00	98,034,000.00	98,034,000.00	98,034,000.00	98,034,000.00
	Bonds	130,712,000.00	130,712,000.00	130,712,000.00	105,712,000.00	105,712,000.00
Additions (Reductions)	Corporate Borrowing	10,000,000.00		(15,000,000.00)		
	Certificate of Deposit	10,000,000.00		10,000,000.00		
	Long-term Deposit					
	Bonds			(25,000,000.00)		
Average Rate	Corporate Borrowing	8.000%	8.000%	8.000%	8.000%	8.000%
	Certificate of Deposit	2.000%	2.000%	2.000%	2.000%	2.000%
	Long-term Deposit	2.500%	2.500%	2.500%	2.500%	2.500%
	Bonds	3.500%	3.500%	3.500%	3.500%	3.500%
Commercial Paper & Short-term Borrowing	Corporate Borrowing	663,560,000.00	663,560,000.00	648,560,000.00	648,560,000.00	648,560,000.00
Opening Balance	Not Applicable	69,009,080.05	69,109,080.05	69,109,080.05	69,209,080.05	69,209,080.05
Additions (Reductions)	Not Applicable	100,000.00		100,000.00		
Average Rate	Not Applicable	1.200%	2.000%	6.800%	6.800%	6.800%
Subordinated Debt 56858	Not Applicable	69,109,080.05	69,109,080.05	69,209,080.05	69,209,080.05	69,209,080.05
Opening Balance	Not Applicable	57,801,352.03	52,801,352.03	52,801,352.03	47,801,352.03	47,801,352.03
Additions (Reductions)	Not Applicable	(5,000,000.00)		(5,000,000.00)		(10,000,000.00)
Average Rate	Not Applicable	4.000%	4.000%	8.000%	8.000%	8.000%
Subordinated Debt 56857	Not Applicable	52,801,352.03	52,801,352.03	47,801,352.03	47,801,352.03	37,801,352.03
Opening Balance	Not Applicable	45,815,753.98	45,815,753.98	45,815,753.98	30,815,753.98	15,815,753.98
Additions (Reductions)	Not Applicable			(15,000,000.00)	(15,000,000.00)	(15,000,000.00)
Average Rate	Not Applicable	3.000%	3.000%	7.500%	7.500%	7.500%
Subordinated Debt 56856	Not Applicable	45,815,753.98	45,815,753.98	30,815,753.98	15,815,753.98	815,753.98
Opening Balance	Not Applicable	79,752,813.94	79,752,813.94	79,752,813.94	61,752,813.94	49,752,813.94
Additions (Reductions)	Not Applicable			(18,000,000.00)	(12,000,000.00)	(10,000,000.00)
Average Rate	Not Applicable	1.800%	2.000%	7.000%	7.000%	7.000%
Subordinated Debt 56855	Not Applicable	79,752,813.94	79,752,813.94	61,752,813.94	49,752,813.94	39,752,813.94
Long-Term Debt	Total Business	247,479,000.00	247,479,000.00	209,579,000.00	182,579,000.00	147,579,000.00
Interest Expense	Total Business	64,401,052.72	65,432,581.42	74,413,375.17	72,157,144.19	69,997,977.43

Planning Input | Scenario Comparison

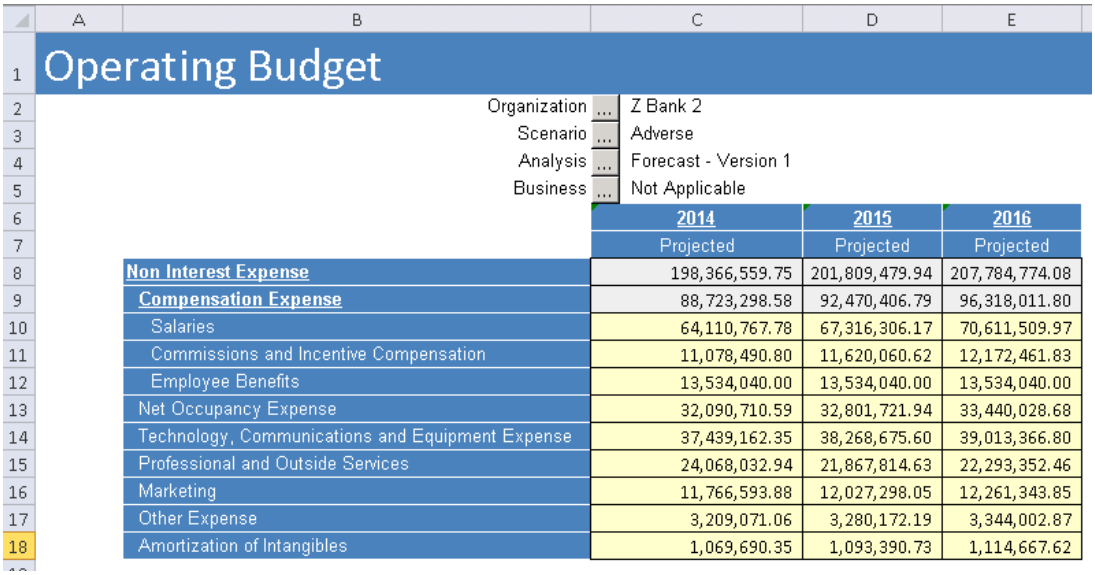
rdcesx15137.race.sas.com 100%

Operating Budget Form Set

The Operating Budget form set captures various non-interest related expense items. The Operating Budget form set is a simplified operating budget form with broad categories of expense captured. All items are entered in the form with no formulas or projected calculations occurring.

Figure 5-9 is an example of the form that shows the various items that are captured on the form.

Figure 5-9. Operating Budget Form Set



Operating Budget

Organization	Z Bank 2
Scenario	Adverse
Analysis	Forecast - Version 1
Business	Not Applicable

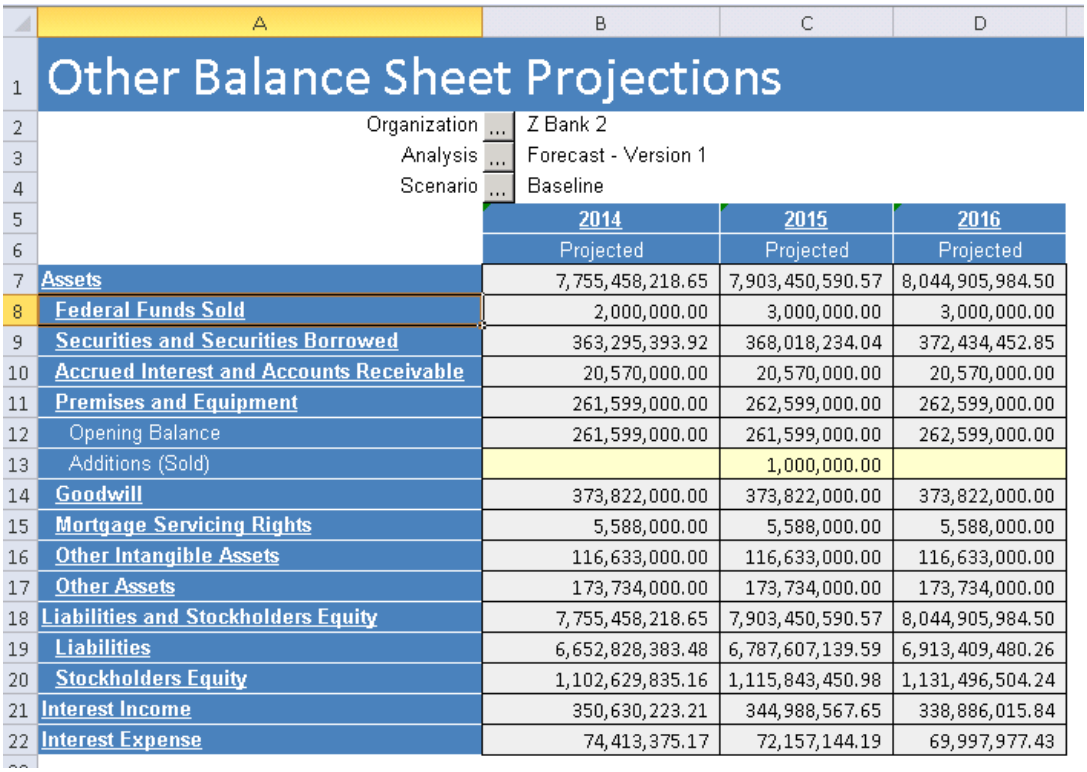
	2014	2015	2016
	Projected	Projected	Projected
Non Interest Expense	198,366,559.75	201,809,479.94	207,784,774.08
Compensation Expense	88,723,298.58	92,470,406.79	96,318,011.80
Salaries	64,110,767.78	67,316,306.17	70,611,509.97
Commissions and Incentive Compensation	11,078,490.80	11,620,060.62	12,172,461.83
Employee Benefits	13,534,040.00	13,534,040.00	13,534,040.00
Net Occupancy Expense	32,090,710.59	32,801,721.94	33,440,028.68
Technology, Communications and Equipment Expense	37,439,162.35	38,268,675.60	39,013,366.80
Professional and Outside Services	24,068,032.94	21,867,814.63	22,293,352.46
Marketing	11,766,593.88	12,027,298.05	12,261,343.85
Other Expense	3,209,071.06	3,280,172.19	3,344,002.87
Amortization of Intangibles	1,069,690.35	1,093,390.73	1,114,667.62

Other Balance Sheet Projections Form

The Other Balance Sheet Projections form set captures changes to items that are typically centrally managed or that change very little (for example, items such as Goodwill, Intangibles, and other assets and liabilities).

Figure 5-10 is an example of the form that shows input related to changes to Premises and Equipment.

Figure 5-10. Other Balance Sheet Projections Form Set



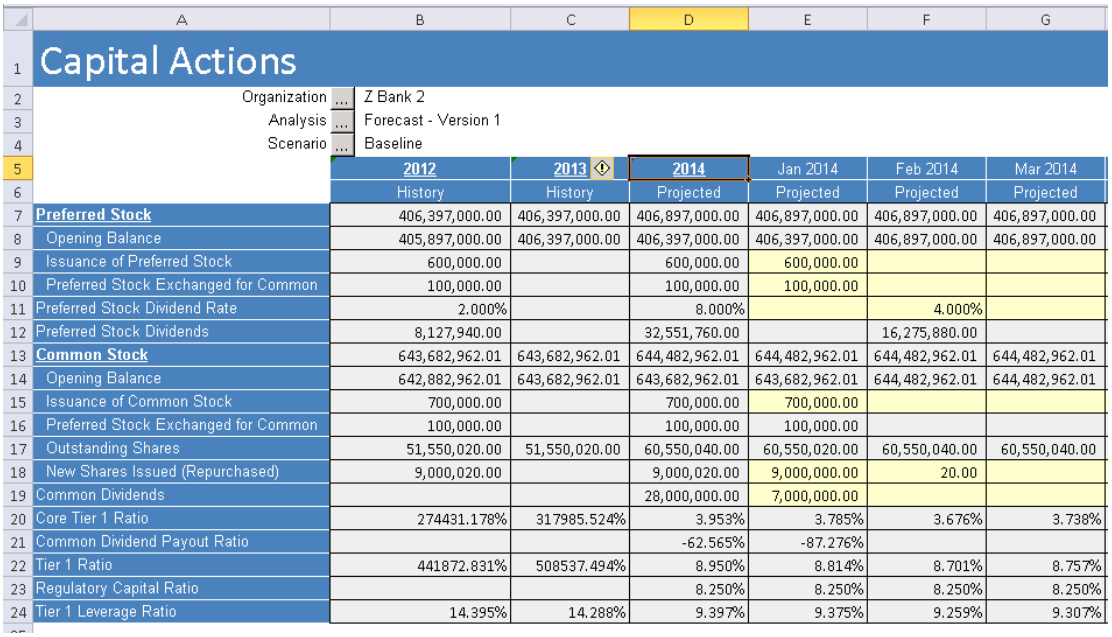
	A	B	C	D
1	Other Balance Sheet Projections			
2	Organization ...	Z Bank 2		
3	Analysis ...	Forecast - Version 1		
4	Scenario ...	Baseline		
5		2014	2015	2016
6		Projected	Projected	Projected
7	Assets	7,755,458,218.65	7,903,450,590.57	8,044,905,984.50
8	Federal Funds Sold	2,000,000.00	3,000,000.00	3,000,000.00
9	Securities and Securities Borrowed	363,295,393.92	368,018,234.04	372,434,452.85
10	Accrued Interest and Accounts Receivable	20,570,000.00	20,570,000.00	20,570,000.00
11	Premises and Equipment	261,599,000.00	262,599,000.00	262,599,000.00
12	Opening Balance	261,599,000.00	261,599,000.00	262,599,000.00
13	Additions (Sold)		1,000,000.00	
14	Goodwill	373,822,000.00	373,822,000.00	373,822,000.00
15	Mortgage Servicing Rights	5,588,000.00	5,588,000.00	5,588,000.00
16	Other Intangible Assets	116,633,000.00	116,633,000.00	116,633,000.00
17	Other Assets	173,734,000.00	173,734,000.00	173,734,000.00
18	Liabilities and Stockholders Equity	7,755,458,218.65	7,903,450,590.57	8,044,905,984.50
19	Liabilities	6,652,828,383.48	6,787,607,139.59	6,913,409,480.26
20	Stockholders Equity	1,102,629,835.16	1,115,843,450.98	1,131,496,504.24
21	Interest Income	350,630,223.21	344,988,567.65	338,886,015.84
22	Interest Expense	74,413,375.17	72,157,144.19	69,997,977.43

Capital Actions Form Set

The Capital Action form set captures all changes that are related to shareholder equity. This includes stock issuance/buy back, as well as dividend policy.

Figure 5-11 is an example form that outlines the various items input for both Preferred Stock and Common Stock.

Figure 5-11. Capital Actions Form Set



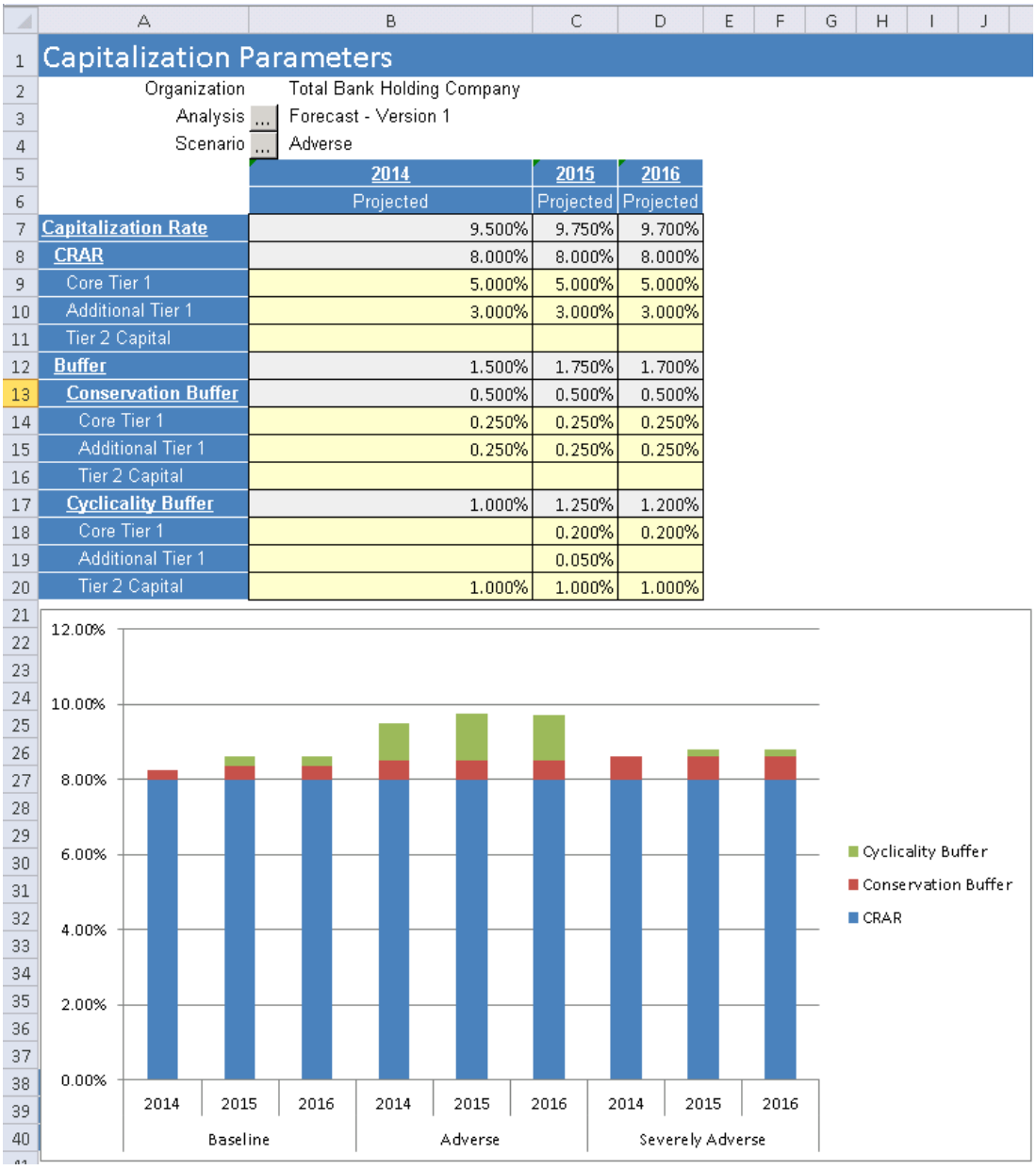
	A	B	C	D	E	F	G
1	Capital Actions						
2	Organization ...	Z Bank 2					
3	Analysis ...	Forecast - Version 1					
4	Scenario ...	Baseline					
5		2012	2013	2014	Jan 2014	Feb 2014	Mar 2014
6		History	History	Projected	Projected	Projected	Projected
7	**Preferred Stock**	406,397,000.00	406,397,000.00	406,897,000.00	406,897,000.00	406,897,000.00	406,897,000.00
8	Opening Balance	405,897,000.00	406,397,000.00	406,397,000.00	406,397,000.00	406,897,000.00	406,897,000.00
9	Issuance of Preferred Stock	600,000.00		600,000.00	600,000.00		
10	Preferred Stock Exchanged for Common	100,000.00		100,000.00	100,000.00		
11	Preferred Stock Dividend Rate	2.000%		8.000%		4.000%	
12	Preferred Stock Dividends	8,127,940.00		32,551,760.00		16,275,880.00	
13	**Common Stock**	643,682,962.01	643,682,962.01	644,482,962.01	644,482,962.01	644,482,962.01	644,482,962.01
14	Opening Balance	642,882,962.01	643,682,962.01	643,682,962.01	643,682,962.01	644,482,962.01	644,482,962.01
15	Issuance of Common Stock	700,000.00		700,000.00	700,000.00		
16	Preferred Stock Exchanged for Common	100,000.00		100,000.00	100,000.00		
17	Outstanding Shares	51,550,020.00	51,550,020.00	60,550,040.00	60,550,020.00	60,550,040.00	60,550,040.00
18	New Shares Issued (Repurchased)	9,000,020.00		9,000,020.00	9,000,000.00	20.00	
19	Common Dividends			28,000,000.00	7,000,000.00		
20	Core Tier 1 Ratio	274431.178%	317985.524%	3.953%	3.785%	3.676%	3.738%
21	Common Dividend Payout Ratio			-62.565%	-87.276%		
22	Tier 1 Ratio	441872.831%	508537.494%	8.950%	8.814%	8.701%	8.757%
23	Regulatory Capital Ratio			8.250%	8.250%	8.250%	8.250%
24	Tier 1 Leverage Ratio	14.395%	14.288%	9.397%	9.375%	9.259%	9.307%

Capitalization Parameters Form Set

The Capitalization Parameters form set captures the percentage of capital to risk weighted asset (RWA) ratio and additional buffers. These ratios are multiplied by the RWAs to determine the required capital amount. A bank can select to increase and drawdown its buffers under different scenarios.

Figure 5-12 is an example form that indicates the various items collected. The three main sections are comprised of the main capital to RWA ratio (CRAR) and the two capital buffers: the Conservation Buffer and the Cyclicality Buffer. Each section is divided into Core Tier 1, Additional Tier 1, and Tier 2 Capital percentages.

Figure 5-12. Capitalization Parameters Form Set



Capitalization Parameters

Organization: Total Bank Holding Company
Analysis: Forecast - Version 1
Scenario: Adverse

	2014	2015	2016
	Projected	Projected	Projected
Capitalization Rate	9.500%	9.750%	9.700%
CRAR	8.000%	8.000%	8.000%
Core Tier 1	5.000%	5.000%	5.000%
Additional Tier 1	3.000%	3.000%	3.000%
Tier 2 Capital			
Buffer	1.500%	1.750%	1.700%
Conservation Buffer	0.500%	0.500%	0.500%
Core Tier 1	0.250%	0.250%	0.250%
Additional Tier 1	0.250%	0.250%	0.250%
Tier 2 Capital			
Cyclicality Buffer	1.000%	1.250%	1.200%
Core Tier 1		0.200%	0.200%
Additional Tier 1		0.050%	
Tier 2 Capital	1.000%	1.000%	1.000%

CPnM Allocation Phase

The CPnM Allocation phase consists of a single sample form set for allocating capital.

Figure 5-13 is an example form that allows users to enter a desired capital amount, which is allocated to legal entities and business units that are based on predefined allocation weights. By default, the allocation weights use the **Risk-adjusted return on capital** (**RAROC**) measure to proportionally allocate the entered capital amount.

Figure 5-13. Capital Allocation Form Set

Capital Allocation

Organization ... Total Bank Holding Company
Time ... Jan 2014
Analysis ... Forecast - Version 1
Scenario ... Baseline

Millions		Net Income	Available Capital	**Required Capital**	RWA	Allocated Capital	RAROC
Total Business	**Total Rating**	8.80	1,219.21	788.54	9,558.04	1,200.00	0.498%
Retail	**Total Rating**	23.25		667.41	8,089.78	890.17	3.484%
Retail Assets	**Total Rating**	23.00		667.41	8,089.78	890.17	3.446%
Real Estate Loans	**Total Rating**	14.65		536.25	6,500.04	547.89	2.732%
Other Consumer	**Total Rating**	6.93		114.20	1,384.25	342.28	6.069%
Corporate and Investment Banking	**Total Rating**	2.15		121.13	1,468.26	309.83	1.771%
Corporate Lending	**Total Rating**	3.50		121.13	1,468.26	309.83	2.892%

Required vs Allocated by Business Line

Millions	Required Capital	Allocated Capital	Surplus (Deficit)
First Lien Mortgages	349.73	124.87	(224.86)
Closed-End Junior Liens	36.67	102.28	65.61
HELOCs	62.61	96.45	33.84
Construction	20.22	48.23	28.01
Multifamily	15.84	6.42	(9.42)
Nonfarm, Non-residential	15.07	60.42	45.35
Owner-Occupied	15.76	47.74	31.98
Loans Secured by Farmland	15.97	(12.47)	(28.43)
Real Estate Loans Not in Domestic Offices	4.38	73.94	69.57
Credit Cards	16.95		(16.95)
Auto Loans	66.86	121.04	54.18
Student Loans	41.77	90.88	49.10
Other	5.57	130.36	124.79
Large Commercial Credits	11.09		(11.09)
Small Business (Graded)	69.42	53.24	(16.19)
Loans to Foreign Governments	11.77	27.42	15.65
Agricultural Loans	11.62	49.35	37.73
All Other Loans and Leases	11.65	61.71	50.06
Small Business (Scored/Delinquency Managed)	5.57	118.12	112.55

Configuration and Administration Phase

The Configuration and Administration phase consists of form sets that provide a method to enter initial starting values and provide a mechanism to run all driver formula in a single location.

The following sections briefly describe each of the three form sets that make up the Configuration and Administration phase.

Balance Sheet Starting Positions Form Set

Use the Balance Sheet Starting Positions form set to enter the initial opening balances for all items on the balance sheet.

Propagate Actual Opening Balances Form Set

Use the Propagate Actual Opening Balances form set to run driver formula to set opening balances each period. Run the driver formula for this form set any time historic (actual) balances have changed or if the Initial Planning Period custom property on the time dimension has changed.

Scenario Driver Formula Calculations Form Set

Use the Scenario Driver Formula Calculations form set to run the driver formula that is associated with all projected scenarios.

Run the driver formula for this form set at the outset of the planning cycle to set the initial balances of all scenarios with the last actual balance. Also, run the driver formula if any rates have been modified (either reloaded to a rate table or changed in the Business Rates form set).

CHAPTER 7

Reports

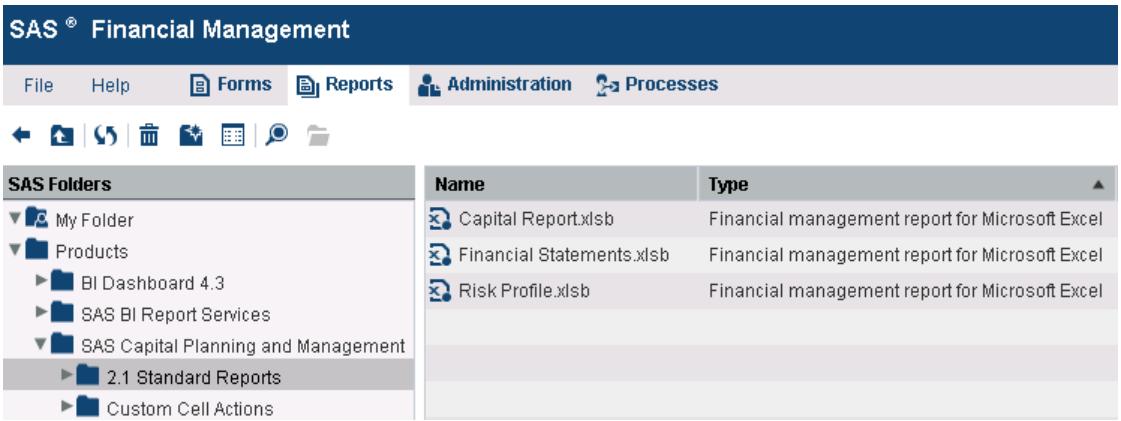
Reports Overview

The SAS Capital Planning and Management framework provides the following three principal reports, each of which contains one or more tabs or sheets:

- Capital Report—contains various views of capital ratios, measures, and details on available and required capital projections.
- Financial Statements—contains a balance sheet, an income statement, and a cash flow report.
- Risk Profile—contains a report that rates category of risk weighted assets and exposure at default.

These reports are located in the **Products** > **SAS Capital Planning and Management** >**2.1 Standard Reports** folder as seen in Figure 6-1.

Figure 6-1. SAS Capital Planning and Management Standard Reports



Capital Report

The Capital Report consists of the following tabs that you can use for reviewing capital ratios and available and required capital:

- Capital Ratios
- Available Capital
- Required Capital
- Capital Surplus

The following sections describe the information that is available on each of these tabs.

Capital Ratios

The Capital Ratios tab provides a summarized view of the various key measures and ratios for the projected periods. A scenario comparison chart shows a comparison between different scenarios for one selected measure. Figure 6-2 is an example of the information on the Capital Ratios tab.

Figure 6-2. Capital Ratios Tab

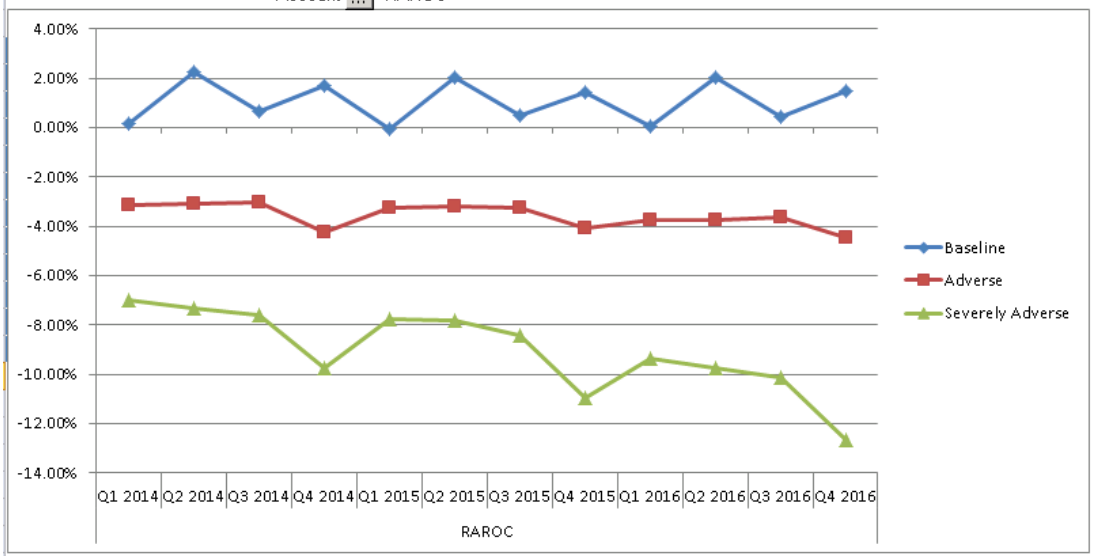
Capital Ratios

Organization ... Total Bank Holding Company
Analysis ... Forecast - Version 1
Scenario ... Baseline

	2014	2015	2016
Capital/Assets	13.232%	12.825%	12.344%
Capital/RWA	12.463%	12.383%	12.088%
Net Income before Provisions/Charge-offs	168.327%	165.699%	167.650%
Return on Assets	0.877%	0.803%	0.805%
Net Income before Provisions/Assets	2.161%	2.024%	1.995%
Core Tier 1 Ratio	4.336%	4.434%	4.502%
Tier 1 Ratio	9.422%	9.587%	9.674%
Regulatory Capital Ratio	8.250%	8.600%	8.600%
Tier 1 Leverage Ratio	10.003%	9.929%	9.879%
RAROC	4.775%	3.918%	4.056%
Average Cost of Capital			
Average Cost of Capital	7.523%	7.468%	7.467%
Tier 1	7.684%	7.651%	7.610%
Core Tier 1	6.728%	6.665%	6.588%
Additional Tier 1	8.500%	8.500%	8.500%
Tier 2 Capital	7.023%	6.842%	6.898%

Scenario Comparison

Account ... RAROC



Available Capital

The Available Capital tab provides projected available capital broken down by the type of capital (Core Tier 1, Additional Tier 1, and Tier 2 Capital).

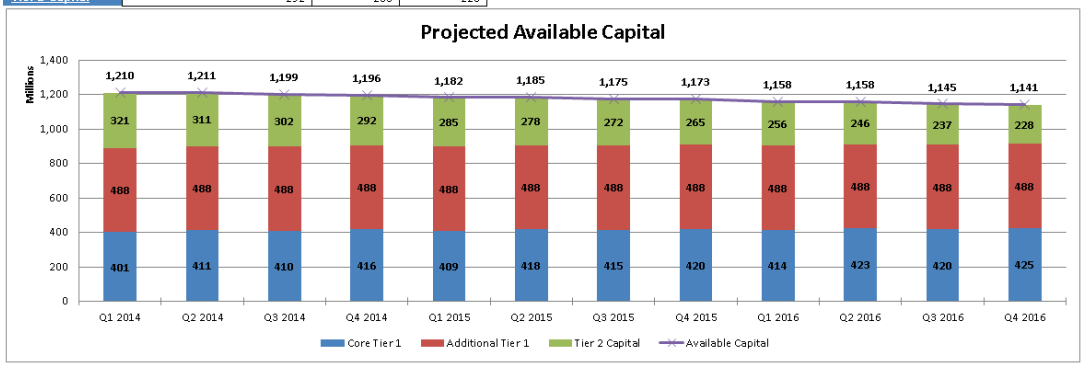
Figure 6-2 is an example of the information on the Available Capital tab.

Figure 6-2. Available Capital Tab

Available Capital

Organization ... Total Bank Holding Company
Analysis ... Forecast - Version 1
Scenario ... Baseline

Millions	2014	2015	2016
	Projected	Projected	Projected
Available Capital	1,196	1,173	1,141
Tier 1 Capital	904	908	913
Core Tier 1	416	420	425
Additional Tier 1	488	488	488
Tier 2 Capital	292	265	228

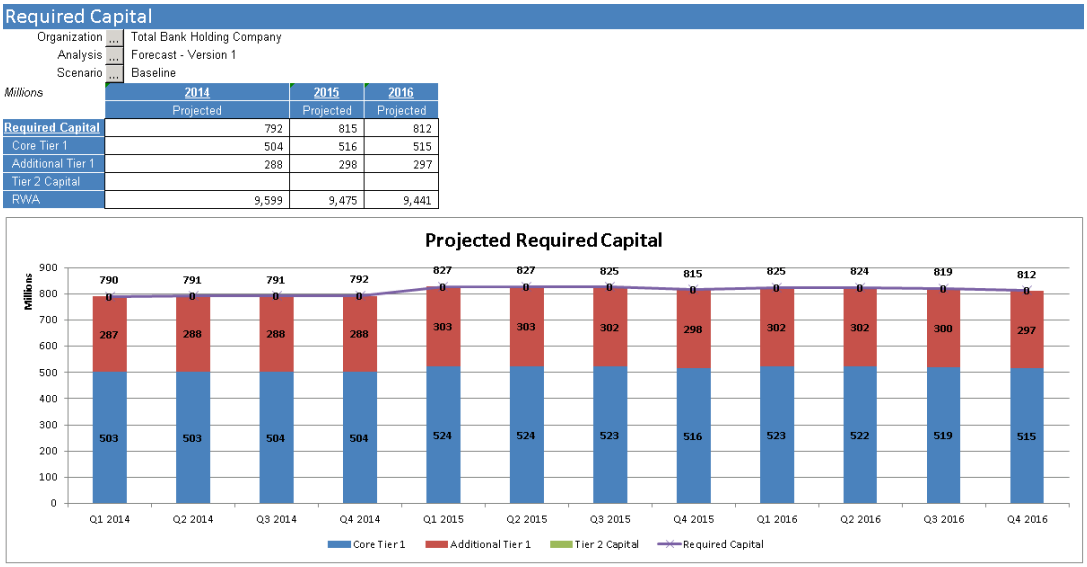


Required Capital

The Required Capital tab is a report that shows the Required Capital given the anticipated portfolio. The Required Capital is based on calculation of risk weighted assets in combination with capital buffer parameters.

Figure 6-3 is an example of the information available on the Required Capital tab.

Figure 6-3. Required Capital Tab



Capital Surplus

The Capital Surplus tab combines both Available Capital and Required Capital and provides details on projected surplus or deficits of capital over the projected time horizon.

Figure 6-4 is an example of the information available on the Capital Surplus tab.

Figure 6-4. Capital Surplus Tab

Financial Statements

The Financial Statements report combines both available and required capital. It provides details on projected surplus or deficits of capital over the projected time horizon. The Financial Statements report contains the following sheets and summaries:

- Balance Sheet
- Income Statement
- Statement of Cash Flow

Balance Sheet

The Balance Sheet shows the full balance sheet details including any off balance sheet commitments that might exist. The Balance Sheet provides two years of history followed by three years of projected values.

Figure 6-5 is an example of the information on the Balance Sheet.

Figure 6-5. Balance Sheet

Balance Sheet

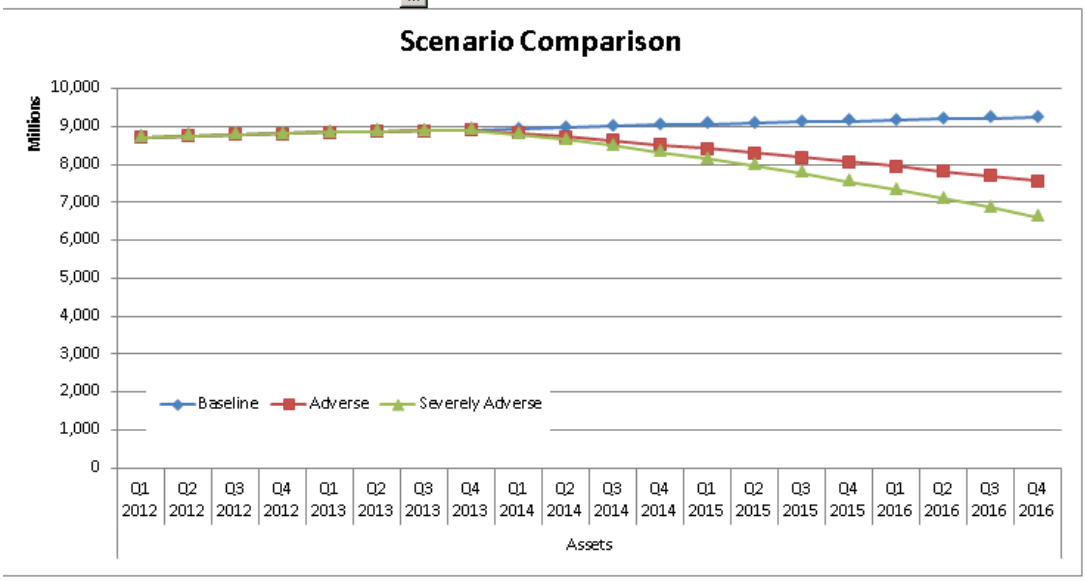
Organization ... Total Bank Holding Company
Business ... Total Business
Analysis ... Forecast - Version 1
Scenario ... Baseline

Millions

	2012	2013	2014	2015	2016
	History	History	Projected	Projected	Projected
Balance Sheet	0	0	0	0	0
Assets	8,818	8,916	9,041	9,148	9,245
Cash and Deposits with Banks	886	1,201	1,289	1,544	1,649
Federal Funds Sold	1	2	2	4	4
Securities and Securities Borrowed	415	419	427	432	436
Trading Assets	1,104	1,114	1,131	1,141	1,152
Net Loans	5,280	5,047	5,058	4,892	4,868
Accrued Interest and Accounts Receivable	24	24	24	24	24
Premises and Equipment	312	313	313	314	314
Goodwill	445	445	445	445	445
Mortgage Servicing Rights	7	7	7	7	7
Other Intangible Assets	140	140	140	140	140
Other Assets	205	205	205	205	205
Liabilities and Stockholders Equity	8,818	8,916	9,041	9,148	9,245
Liabilities	7,484	7,578	7,691	7,794	7,886
Stockholders Equity	1,334	1,338	1,350	1,354	1,359
Off Balance Sheet Commitments	921	924	944	948	951

Scenario Comparison Trend Chart

Account ... Assets



Income Statement

The Income Statement is a summary of performance as reflected in the profitability (or lack of profitability) over a given time period. The Income Statement shows the itemized revenues and expenses for two historic years and three projected years.

Figure 6-6 is an example of the information available on the Income Statement.

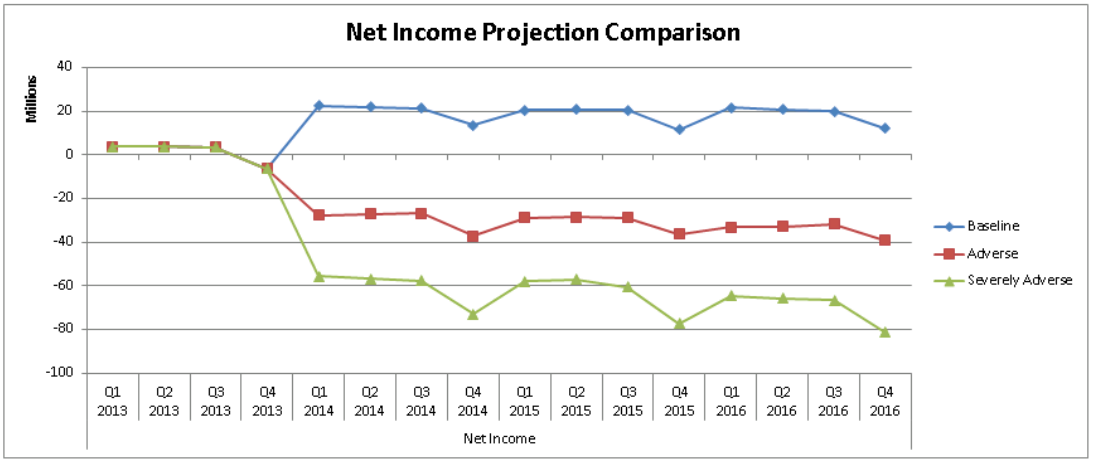
Figure 6-6. Income Statement

Income Statement

Organization	Total Bank Holding Company
Analysis	Forecast - Version 1
Scenario	Baseline
Frequency	PTD
Business	Total Business

Millions

	2012	2013	2014	2015	2016
	History	History	Projected	Projected	Projected
Income Statement	7	5	10	4	5
Net Income to Common	7	5	38	32	33
Preferred Stock Dividends	8		41	41	41
Net Income	15	5	79	73	74
Pre-Tax Income	15	5	79	73	74
Net Revenue	255	253	311	313	319
Net Interest Income	162	158	213	213	211
Interest Income	360	349	415	409	402
Interest Expense	73	73	86	83	81
Provision for Credit Losses	125	117	116	112	110
Non Interest Income	93	95	97	99	109
Non Interest Expense	240	248	231	239	245
Compensation Expense	118	123	110	114	118
Net Occupancy Expense	37	38	37	38	38
Technology, Communications and Equipment Expens	43	45	43	45	45
Professional and Outside Services	25	26	25	26	26
Marketing	11	11	11	11	11
Other Expense	4	4	4	4	4
Amortization of Intangibles	1	1	1	1	1
Common Dividends			28	28	28
Basic Earnings per Share	0.12	0.08	0.55	0.46	0.48



Statement of Cash Flow

The Statement of Cash Flow provides a summary of the historic and projected incomings and outgoings of cash for a particular period.

Figure 6-7 provides a picture of the driver or area of the Balance Sheet or Income Statement that contributes to a net change in the cash balance.

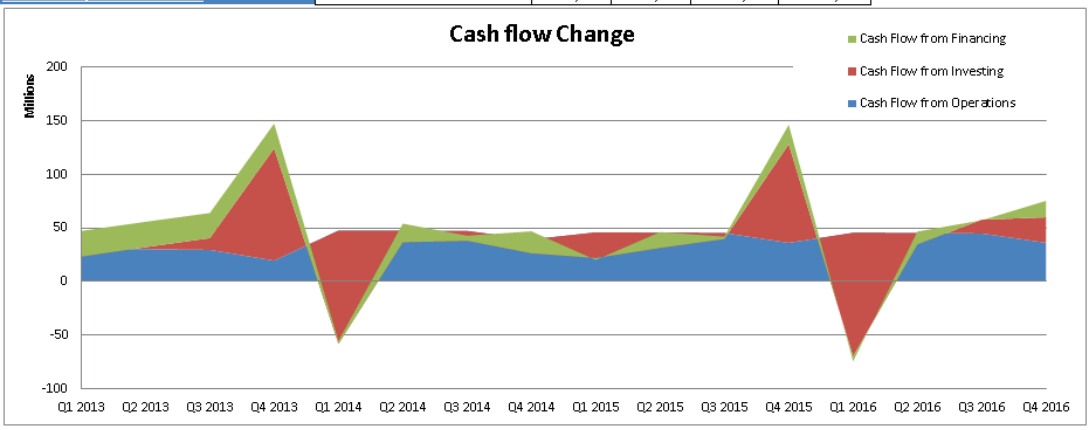
Figure 6-7. Statement of Cash Flow

Cash Flow

Organization	Total Bank Holding Company
Analysis	Forecast - Version 1
Scenario	Baseline

Millions

	2012	2013	2014	2015	2016
	History	History	Projected	Projected	Projected
Opening Balance	68	886	1,201	1,289	1,544
Net Income	15	5	79	73	74
Provision for Credit Losses	125	117	116	112	110
Increase in Securities	13	11	14	12	12
Cash Flow from Operations	127	110	182	173	172
Increase in Federal Funds Sold	1	1	1	1	
Increase in Gross Loans	(578)	(116)	127	(54)	86
Proceeds from Sales & Maturities	(10)	(4)	(11)	(4)	(3)
Capital Expenditures		1		1	
Cash Flow from Investing	567	110	(139)	48	(89)
Increase in Deposits	124	94	165	130	129
Increase in Federal Funds Purchased	0				
Increase in Commercial Paper and Borrowing	12		(13)	(0)	
Increase in Beneficial Interests	0		0		
Increase in Long-Term Debt	(6)	(0)	(39)	(27)	(37)
Common Stock Issued (Repurchased)	1		1		
Preferred Stock Issued (Redeemed)	1		1		
Common and Preferred Dividends	(8)		(69)	(69)	(69)
Cash Flow from Financing	123	94	45	33	22
Cash and Deposits with Banks	886	1,201	1,289	1,544	1,649



Risk Profile

The Risk Profile report shows the distribution of credit exposures at default (EAD) and corresponding risk weighted assets (RWA) across the internal rating categories. This information is used to review, analyze, and optimize risk distribution and risk profile of portfolios.

Figure 6-8 is an example of the Risk Profile report.

Figure 6-8. Risk Profile Report