ORACLE DATA SHEET

Oracle Financial Services Loan Loss Forecasting and Provisioning

ORACLE FINANCIAL SERVICES

Global financial institutions need to accurately forecast credit losses and create provisions for such losses, along with key disclosures, in accordance with IFRS9, CECL and other regulatory guidelines. Oracle Financial Services Loan Loss Forecasting and Provisioning provides pre-configured & extensive computations that enable institutions to effectively compute expected credit losses across multiple scenarios and arrive at an Effective Interest Rate while also computing interest adjustments.

Comply with International Guidelines

Predicting expected credit loss and calculating the associated provisions will fundamentally alter the amount of profit a bank reports. Banks require a solution to easily manage capital planning and enable strategic decision making by incorporating forward looking credit risk information, and accurately computing expected credit loss across multiple on and off balance sheet product types. These values have an impact on the profit and loss statement and balance sheet in multiple ways.

Oracle Financial Services Loan Loss Forecasting and Provisioning integrates with the industry renowned cash flow engine[1], for various computations and is complete with powerful pre-configured rules for classification, stage determination and expected credit loss methodologies. These methods can be applied per risk profile or policy of the financial institution. Furthermore, the application supports Probability of Default (PD) and Loss Given Default (LGD) term structure based Expected Credit Loss (ECL) computation which financial institutions can easily customize to suite their unique needs.

Collective Assessment for both stage determination and expected credit loss computations is fully supported in the application. Characteristics grouped by similarities can be defined as per the risk profile of the financial institution and workflow based stage and classification reassignment at the account granularity is prebuilt and out-of-the-box.. This feature is useful in cases where reassignments are necessary. Segments (Portfolio) can be created using dedicated processes that can be used in various classifications /computations; segmentation helps businesses strategically group and monitor assets in line with management or risk policies.

Oracle Financial Services Loan Loss Forecasting and Provisioning works directly with Oracle Financial Services Enterprise Modeling[1], comprising of techniques including stochastic processes, multi-factor models, Markov Chains, and time series to define risk parameters that can be used in expected credit loss computation.

KEY FEATURES

- Pre-configured methods for Expected Credit Loss computation
- Wide range of product type coverage both on and off Balance Sheet
- Stage and Account Classification with Exception Management
- Segmentation (Portfolio) creation
- PD Modeling (TTC to PIT conversion)
- EIR computation and Interest Adjustments Support
- Management Reporting and Disclosure Reports

KEY BENEFITS

- Configurable to suit risk assessment & evaluation policies, business conditions and other economic factors
- Enable strategic capital decisions using a single consistent suite of applications
- Assess risk for a portfolio across multiple parameters
- Enable multi jurisdiction reporting
- Improve capital management and strategic planning

[1]option available as part of the OFSAA suite of products

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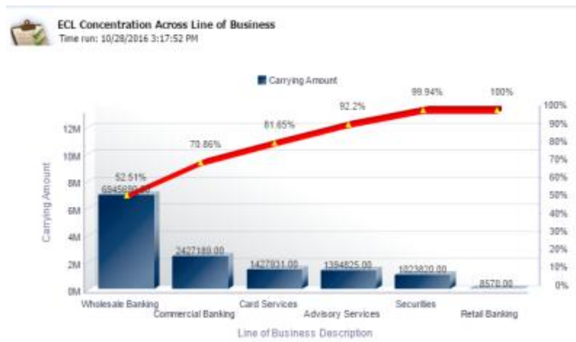
RELATED PRODUCTS

- Oracle Financial Services Economic Capital Advanced
- Oracle Financial Services Credit Risk Management
- Oracle Financial Services Operational Risk Economic Capital
- Oracle Financial Services Operational Risk
- Oracle Financial Services Basel Regulatory Capital
- Oracle Financial Services Asset Liability Management
- Oracle Financial Services Hedge Management and IFRS Valuations



	Advisory Services	Card Services	Commercial Banking	Retail Banking	Securities	Wholesale Banking
Allowance Amount	873964.05	384310.67	447274.14	1565.64	449745.20	2691675.77
ECL Amount	873964.05	384310.67	451800.22	2288.50	449745.20	3678322.49
Provision Amount	0.00	0.00	4526.08	722.86	0.00	986646.73
ECL as % of Carrying Amount	0.63	0.27	0.19	0.27	0.44	0.53
Stage 1 ECL as % Total	0.11	0.00	0.47	0.38	0.14	0.09
Stage 2 ECL as % Total		0.92	0.25	0.62	0.53	0.69
Stage 3 ECL as % Total	0.11		0.02		0.08	0.00
Carrying Amount	1394825.00	1427931.00	2427189.00	8570.00	1023820.00	6945690.00

Figure 1: ECL Concentration across Line of Business

Advanced Methods for Risk Calculation

Oracle Financial Services Loan Loss Forecasting and Provisioning estimates losses and calculates loan loss provisions using advanced pre-built methods:

- **Risk Measure Estimation (Expected Credit Loss)**: estimate key measures such as amortized cost, expected credit loss (both 12 month and Lifetime loss), significance of increase in credit risk at an account-level or pool-level granularity with a variety of methodologies:
  - **Cashflow Methodology**: 12 month and Lifetime ECL are computed using discounted cashflows factoring in cumulative and lifetime PD values
  - **Forward Exposure Methodology**: 12 month and Lifetime ECL are computed using contractual principal and interest projections, marginal PD value and cashflows
  - **Specific Provision Methodology**: addresses accounts that are under default where no cashflows are expected
  - **Provision Matrix Methodology**: as an alternative method, ECL is computed applying provision rates recorded in a matrix defined across customer type, product type and stage combinations.
  - **Roll Rate Methodology**: This method makes use of the transition matrices (historically computed or manually defined), where they are projected into the future to the maturity of the account. Roll rate is computed based on these projections and credit status of the account (Rating or DPD days). In addition, loss rate is computed based on historical data for each segment. ECL is arrived at based on these values.
- **Cash Flow Estimation**: leverage the cash flow engine for estimating contractual cash flows at an exposure level of granularity. Cash flows are estimated taking parameters into consideration such as interest rates, reset dates, spreads, and residual maturity. The application also provides the flexibility to estimate cash flows at various levels of granularity.
- **Transition Matrix:** The application provides multiple techniques including regression and time-series for predicting transition probabilities. Regression models can be configured based on user specified risk factors. It also provides a multi-factor method that estimates transition probability across rating classes based on credit spreads. The application has the flexibility to “host” transition matrices developed using “in-

house" models or directly use transition probabilities calculated using other applications. Oracle Financial Services Loan Loss Forecasting and Provisioning uses statistical methods based on the Poisson process to estimate forward probabilities.

Reconciliation/Attribution Analysis

Management must have a clear understanding of any causes in the change of asset quality while risk & finance teams constantly observe and understand causes of change in ECL and composition of assets, to comply with periodical disclosures or regulatory scrutiny. Oracle Financial Service Loan Loss Forecasting and Provisioning has the reconciliation capability to help institutions monitor quality and health of the financial institution by identifying reasons for higher provisions, resulting from a varied range of factors including but not limited to strategic decisions, quality of customers, and economic circumstances. The ECL reconciliation feature also consists of reports catering to disclosure requirements of IFRS 9.

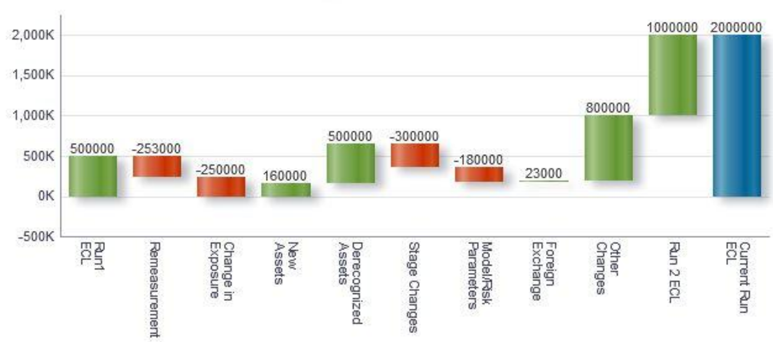


Figure 2: Waterfall chart explaining key factors causes of ECL movements between two dates.

Perform Accounting Adjustments

IFRS9 guidelines are specific on recognizing Effective Interest Rate (EIR) based interests on exposures accounting for differences between the contractual interest amounts and EIR based interest. Oracle Financial Services Loan Loss Forecasting and Provisioning is bundled with powerful processes that not only compute EIR but also identifies amounts that require accounting adjustments, which is also a key IFRS9 requirement. The Oracle Banking Platform can be leveraged with this application to post appropriate accounting entries using the adjustment feeds; the application computes at account granularity based on the last interest accrual date. These metrics include Effective Interest Amount, Fair Value Gain/Loss, Amortization of Fees Premium/Discounts, and Modification Gain/Loss.

Recoveries and Writeoffs
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Line of Business	Carrying Amount EOP	ECL	Recoveries	Write Offs
Alternate Investments	20000.00	2072.46	0.00	2072.46
Card Services	149880.44	47067.24	43324.81	47067.24
Commercial Banking	13415910.07	3824040.83	28865.38	3824040.83
Corporate Agency	9405040.33	1483507.21	4400.00	1483507.21
Corporate Centre	0.00		0.00	
Corporate Finance	61151010.85	10424838.70	26400.00	10424838.70
Corporate Trust	5600836.95	906655.24	4400.00	906655.24
Merchant Banking	9794137.81	1450136.35	4400.00	1450136.35
Other Retail Banking	10000.00	460.00	0.00	460.00
Proprietary Positions	30000.00	3684.92	0.00	3684.92
Retail Banking	2762386.28	248372.09	48289.95	248372.09
Wholesale Banking	462855.88	194439.21	2200.00	194439.21

Figure 3: Report depicting Recoveries and Writeoffs across various Lines of Businesses

Probability of Default Modeling Capability

Oracle Financial Service Loan Loss Forecasting and Provisioning comes pre-packed with advanced probability of default (PD) modeling capability converting Through-the-Cycle (TTC) to Point-in-Time (PIT) PD. PD values can be calculated based on historical observations at the segment/portfolio level to be leveraged in various calculations and outputs can be tweaked according to various scenarios and Merton R specifications that users have the flexibility in defining. Further, the application also allows for the user to specify the PD values for a particular segment through the user interface.

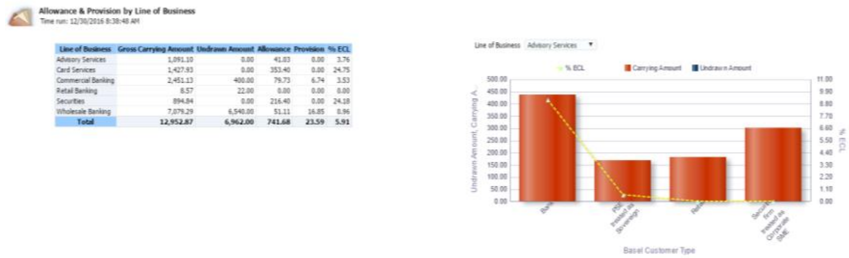
Comply with Multi-Jurisdictional Mandates

Oracle Financial Services Loan Loss Forecasting and Provisioning offers the flexibility of defining multiple calculation runs, each catering to the requirements of a different regulation. The calculation process is flexible and parameterized and driven by a business user-friendly graphical user interface. It is designed in a manner that allows for estimation of risk of a portfolio across multiple models/methods. Users can configure the calculations to run only on a subset or the entire portfolio; while exposures can be mapped to multiple runs and the provisions can be estimated under multiple sets of parameters, thereby enabling multi-jurisdictional reporting.

Leveraging Advanced Analytics

Oracle Financial Services Loan Loss Forecasting and Provisioning has strong dashboard capability that enables the delivery of advanced analytics through pre-configured reports, charts and graphs with drill-through capability. The risk metrics reported include stage compositions, allowances, provisions, amortized cost, transition matrix, and many more. Oracle Business Intelligence Enterprise Edition (OBIEE) further provides ability to create alerts based on pre-specified rules.

The dashboard allows the comparison of risk and back testing measures across multiple portfolios and market risk models. This allows the top management to compare the relative risk and performance of each portfolio and devise appropriate strategies.



Line of Business	Gross Carrying Amount	Undrawn Amount	Allowance	Provision	% ECL
Advisory Services	1,091.10	0.00	41.03	0.00	3.76
Card Services	1,427.93	0.00	353.40	0.00	24.75
Commercial Banking	2,451.13	400.00	79.73	6.74	3.53
Retail Banking	8.57	22.00	0.00	0.00	0.00
Securities	894.84	0.00	216.40	0.00	24.18
Wholesale Banking	7,079.29	6,540.00	51.11	16.85	0.96
Total	**12,952.87**	**6,962.00**	**741.68**	**23.59**	**5.91**

Figure 4: Tabular and column chart depicting allowance and provision composition across various lines of businesses

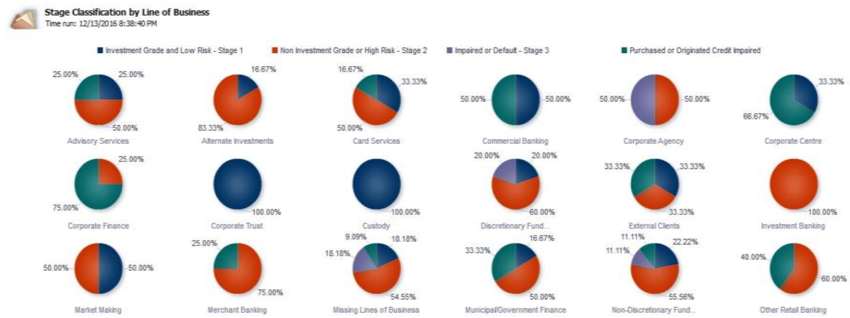


Figure 5: Trellis chart depicting various Stage compositions across Lines of Businesses

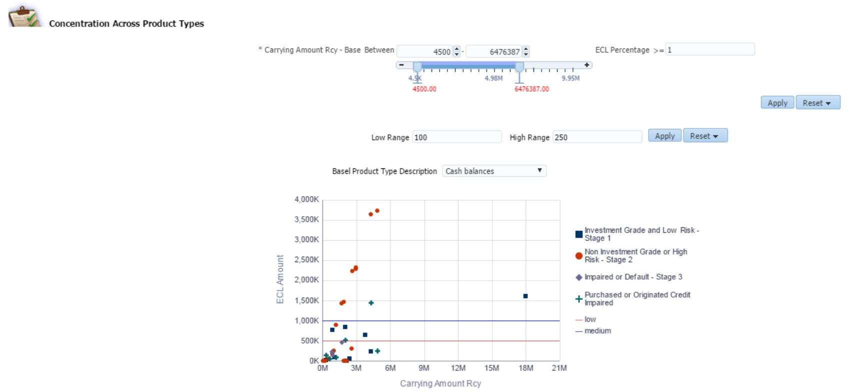


Figure 6: An interactive scatter plot chart showing ECL concentration across chosen product type

About Oracle Financial Services Analytical Applications

Oracle Financial Services Analytical Applications bring financial institutions best-of-breed capabilities to proactively manage Financial Crime, Compliance, Risk, Treasury, Finance and the Front Office. The applications are built upon a commonly available analytical infrastructure consisting of a unified financial services data model, analytical computations, a Metadata driven "R" modeling platform, and the industry-leading Oracle Business Intelligence platform.

A single, unified data model and infrastructure provides one version of the analytical "truth" to business users throughout the entire enterprise. This enables financial services institutions to confidently manage performance, governance, risk and compliance. Shared data, metadata, computations and business rules enable institutions to meet emerging business and regulatory requirements with reduced expenses and the unified platform helps financial institutions to leverage existing investments.

CONTACT US

For more information about Oracle Financial Services Loan Loss Forecasting and Provisioning, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

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