S&P Global
Market Intelligence

Case Study

A Bank Enhances Its IRB Model for Basel Regulations

THE CLIENT:

A large European-based bank with a global reach

USERS:

The credit risk team

Under the Basel regulatory guidelines, banks are permitted to use their own estimated risk parameters for the purpose of calculating regulatory capital. This is known as the internal ratings-based (IRB) approach for credit risk. Competent authorities in Europe conduct an annual assessment of the quality of the internal approaches used for the calculation of own funds requirements. To assist, the European Banking Authority (EBA) distributes benchmark values that enable a comparison of the risk parameters being used by different institutions.

For the 2024 benchmarking exercise, the data collection is extended to high-default portfolios, i.e., corporate small- and medium-sized enterprises (SMEs) and retail exposures. Members of the credit risk team at this large European bank wanted to enhance their IRB model for the bank's corporate loan portfolio prior to the 2024 submission by incorporating more reliable and comprehensive financial data for both public and private companies.

Pain Points

Members of the credit risk team had limited access to private company data for their IRB model for the bank's loan portfolio and also wanted easier access to comprehensive data on publicly traded companies. Team members were fine-tuning their model in advance of the 2024 benchmarking submission and wanted to enrich the input data with:

- Standardized global financial statement data for public companies, including both active and inactive companies.
- Extensive data on private companies, many of which are SMEs.
- A solution to seamlessly link data to a corporate hierarchy to tie common entities together.
- Efficient delivery of all the information to an internal system.

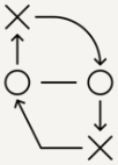
The bank had been a long-standing client of S&P Global Market Intelligence ("Market Intelligence"), and the credit risk team contacted their relationship manager to discuss different datasets.

To be eligible for the IRB approach a bank must demonstrate that it meets certain minimum requirements, calling for access to reliable company input data to ensure that a model performs well.

The Solution

Specialists from Market Intelligence described the company's extensive **public and private company financial data**, plus unique mapping capabilities that would save hours of work by automating the data linking process and efficiently delivering all the information to an internal system to feed the IRB model.

To test the relevancy of the data, it can be accessed via **S&P Global Marketplace Workbench ("Workbench")** powered by Databricks prior to subscribing. Workbench is a cutting-edge technology that enables users to test, explore and experiment with datasets from S&P Global and curated third-party providers in a scalable and secure cloud-based environment, with no installation required. Using a web-based notebook environment, users can create and share documents that contain live code, equations, visualizations and explanatory text. The solutions would provide the credit risk team with:



An environment to test and experiment with data

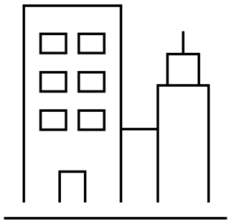
Workbench provides access to the datasets needed to perform exploratory analysis or build models. Users can easily analyze and review 65+ pre-built notebooks[1] by S&P Global data experts or build their own to better understand and see first-hand the value of various datasets.

Workbench facilitates multi-language support in a single notebook inclusive of R, Python, SQL and Scala and supports interoperability between programming code that is executed in different languages.

Code, text and data are automatically version controlled, keeping track of changes that have been made and ensuring that team members are all using the latest information. With Workbench, users can create tables, charts, dashboards, animations and more to see correlations and capture the power of the data.

The environment enables teams to collaborate across notebooks in their company's own secure and scalable workspace. Users can share notebooks and work with colleagues through real-time co-authoring and commenting to enable streamlined teamwork while maintaining control.

[1] Numbers as of January 2023.

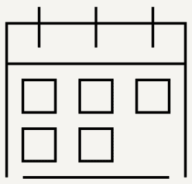


High-quality standardized data for publicly traded companies

S&P Capital IQ Financials provides global standardized financial statement data for 150,000+ public companies, including 95,000+ active and inactive companies.[2] The data enables users to extend the scope of their historical analysis and back testing models with consistently standardized data from all filings of a company's historical financial periods, including press releases, original filings and restatements.

The dataset includes:

- 5,000+ standardized financial, supplemental, segment, ratio and industry-specific data items on an annual, quarterly, semi-annual, last twelve month and year-to-date basis.
- Detailed debt and equity capital structure data.
- Historical annual and interim data available as far back as 1985 for certain datasets and geographies, with significant coverage from 1993 onward.
- Financial instance date providing the date and time data was first delivered.
- Unconsolidated data for publicly traded Chinese, Taiwanese, Korean, Japanese and OTC traded Chinese entities.

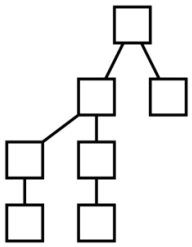


Unrivalled data for private companies

Private Company Data on S&P Capital IQ Pro is continually expanding and now covers:

- 52M+ private company profiles.
- 12M+ private companies with recent financial statements.
- 85M+ private company professionals.
- 3M+ corporate structure relationships.
- 1.04M+ early stage companies supported by data from Crunchbase.

[2] Coverage for all mentioned Is January 2023.



An automated data linking capability

Business Entity Cross Reference Service provides immediate cross-reference capabilities for millions of public and private entities using standardized and proprietary identifiers. This timely and accurate data mapping systematically updates and maintains the multifaceted relationships within a corporate hierarchy, avoiding the time consuming and costly endeavor of manually maintaining linkages for tying entities to issuers. The dataset includes:

- Global Tax IDs, VAT and Registration IDs.
- Rating IDs from S&P Global Ratings, Moody's and Fitch.
- D&B Duns IDs, Legal Entity Identifiers (LEI) and Markit Red Codes.
- Internal Entity IDs: GVkey, SNL Institutional ID and CUSIP.
- Ultimate Parent ID for companies with greater than 50% ownership.
- Domicile Codes for headquarters and country of registration.

State-of-the-art data cleansing prior to data linking

Kensho Link connects "messy" company data (e.g., data in a CRM system could have spelling mistakes) to S&P Global's Market Intelligence Key Institution IDs, letting users benefit from the unparalleled quality and depth of S&P Global's company data.

Kensho Link's machine-learning models are trained on a wide variety of datasets, enabling off-the-shelf implementation with no need for additional user training. Simply input as little as a company name, or include additional data fields like aliases, address, country, phone number, URL or year founded.

The more information that is provided, the better the model performs, but Link is also highly effective with limited input, even if there are errors, misspellings or ambiguities. The solution returns a list of suggested mappings to identifiers for each entity, along with a score representing the quality of the match.

Efficient data delivery to an internal system

Xpressfeed™ automates the download and management of data, enabling delivery as needed in a ready-to-query relational database to link to internal applications.

Key Benefits

According to the International Bank for Settlements, supervisors continue to observe a range of practices for IRB models and provisioning across banks and have taken action, including thematic deep dives, onsite investigations, issuing guidance and bank-specific steps.[3] It is therefore essential that banks monitor and continuously enhance controls around model risk management and development to ensure that a model remains fit for purpose. Members of the credit risk team saw the Market Intelligence datasets, linking and delivery options as being a major step forward and subscribed to the offerings after experimenting with the data in Workbench. They are now benefiting from having:

- Comprehensive financial data for both public and private companies from a trusted provider.
- All instances of standardized financial data for public companies on an annual, quarterly, semi-annual, last twelve month and year-to-date basis, plus point-in-time representations of a financial period, including press releases, original filings and all restatements.
- An ever-expanding dataset for private companies, with 12M+ companies with recent financial statements.
- More time to conduct analysis and less retrieving and managing data with cleansing, linking and delivery solutions.

Click here to explore some of the datasets mentioned in this Case Study.

[3] "Newsletter on credit risk issues", Bank for International Settlements, July 4, 2023, www.bis.org/publ/bcbs_nl32.htm.

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