



Credit risk modeling for specialized lending portfolios

KfW IPEX-Bank has been relying
on RSU's pool-based internal rating
models for over 10 years

KfW IPEX-Bank

KfW IPEX-Bank has been responsible for international project and export finance within the KfW Banking Group for almost 70 years. Since 01.01.2008, KfW IPEX-Bank has been operating as a legally independent limited liability company focusing on four core areas: exports, infrastructure and transport, climate and environmental protection, and securing raw materials.

KfW IPEX-Bank's challenges relating to credit risk modeling:

- **2008:** When KfW IPEX-Bank was founded, the credit risk models for the already existing core portfolio of international project and export finance were introduced to the IRB approach; Proprietary IRB models did not exist at that time.
- KfW IPEX-Bank's **portfolio:** Due to their low-default nature, specialized lending portfolios are difficult to model in terms of credit risk, as there is a lack of historical (default) data for modeling.
- **Requirements for IRB models:** There are very strict regulatory requirements for model compliance, resulting in permanently high costs for the operation of rating models.
- **Today:** Both the existing portfolio and new business activities in energy, infrastructure, industry and trade, and mobility, are continuously rated using IRB approved models.

The solution for KfW IPEX-Bank

RSU's pooling approach for specialized lending portfolios

Wholesale portfolios often lack historical (default) data for modeling. A data pool provides a solution - a proven approach at leading institutions.

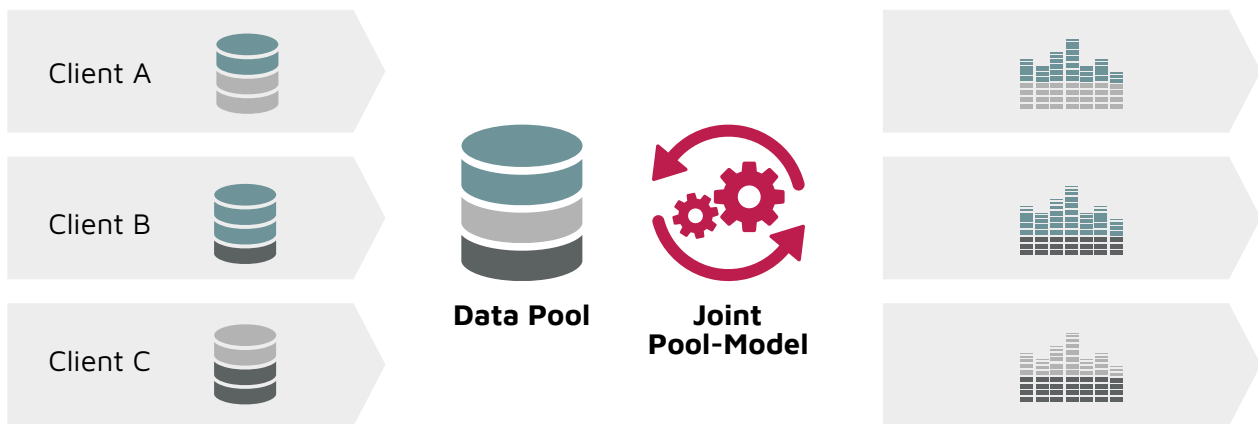
RSU's rating models, which are approved for use under the IRB approach, utilize such a data pool, which collects both the expertise and the data of all pool participants. This data pool provides a broad data base for all RSU rating models which is unparalleled in all of Europe

With this approach, the data of all users flows into a continuously growing, model-specific data pool. The rating models for the various asset classes and exposures are

regularly upgraded and validated by RSU, who also operates the IT aspects of the models. All institutions use a joint rating model. However, the results vary from institution to institution depending on when the rating was issued and the individual rating input.

There is a division of labor, particularly in respect to regulatory mandatory validation activities between RSU and the user institutes. Major aspects of model validation are outsourced to RSU, thereby minimizing the workload of the client's internal validation units. RSU is also responsible for significant tasks relating to model change processes and communication to supervisory authorities.

How the pooling approach works



- More precise**
When several asset classes with a small database are frequently included in one model, the larger volume of data enables greater differentiation in modeling.
- More stable**
Thanks to the larger database, the models become more stable over time - a decisive advantage for internal credit processes.
- Valid**
The data pool is continuously being developed, the data is regularly checked and validated by our teams of experts.
- More efficient**
We manage the core model development, a large part of the model validation and all central IT tasks.

- A more credible approach**
The statistical evaluations are also beneficial for all communication with supervisory authorities and auditors.
- More cost-effective**
The pool approach clearly offers cost advantages: You share the costs of developing and operating the applications with all other RSU clients.
- Security**
Necessary data protection are always guaranteed.

„BaFin and the Bundesbank have a very high level of acceptance of the models, thanks to the supervisory approval granted at numerous institutions.“



Dr. Vedrin Šahović
Director ICAAP & Credit Risk
KfW IPEX-Bank GmbH

„The pool approach is a game changer, for banks, particularly for specialized lending portfolios.“



Dana Wengrzik
Managing Director
RSU GmbH & Co.KG

KfW IPEX-Bank and RSU - the story of a successful cooperation

Shortly after its foundation, KfW IPEX-Bank decided to rate its future specialised lending portfolios with RSU's pool-based rating models, especially for project, ship, and aircraft financing. In contrast to RSU's models, the proprietary rating models previously used were not approved for use under the IRB approach and were to be replaced by RSU models.

Integration

The integration of the existing KfW IPEX-Bank core portfolio into RSU's existing, extensive specialized lending data pool was accomplished with little effort. RSU's expertise as a highly specialized multi-client service provider, coupled with the rating models that had already been approved for the IRB approach at other institutions, made this transfer comparatively easy. Approval for IRB-usage was granted shortly after coordinating all relevant procedural aspects and proving the representativeness of the pool models for the KfW IPEX-Bank's individual portfolios.

Since then, the rating models and their integration into KfW IPEX-Bank have been regularly monitored by the banking supervisory authority. As one of many pool participants, KfW IPEX-Bank benefits from RSU's bundled wealth of experience regarding regulatory requirements concerning other banks in the pool. In addition, the models are often already known to the supervisor from audits at other pool participants, which simplifies the process.

Use within the KfW Group

RSU rating models for specialized lending are used throughout KfW Group and are managed by KfW IPEX-Bank. The external rating models (of RSU) are integrated in KfW Group in the same way as its own rating models but are much more efficient internally in terms of costs and effort compared to its own models. While the cost of user support is at a comparable standard, outsourcing to RSU can save on personnel costs, particularly in terms of methodology and validation. The entire model development and large parts of the model validation are carried out centrally by RSU for all pool participants. In addition, RSU coordinates all central model issues towards the supervisory authorities, thus ensuring a coordinated approach by all pool participants. This ensures that RSU offers the greatest possible support in terms of supervisory processes.

For KfW IPEX-Bank, cost efficiency, model stability and security are key aspects when it comes to outsourcing the rating models for specialized lending activities.

Making risks manageable - that's what we do

RSU provides the finance industry with software solutions that deliver a solid basis for crucial decision-making. In doing so, we have been consistently fulfilling complex methodological and supervisory requirements in the field of credit risk management for more than 20 years. We take pride in the close and lasting relationships we have built with our clients – primarily banks and institutional investors –, which are a tribute to the quality of our work.

RSU Rating

Developing and operating rating systems (PD and LGD) that meet even the high standards of European banking supervisors has been our core business from the start. Whatever the nature of your credit exposure – corporate, financial, project finance or other –, by leveraging our unique data pool, we can give you greater certainty in your credit decisions and help you assess your risks precisely.

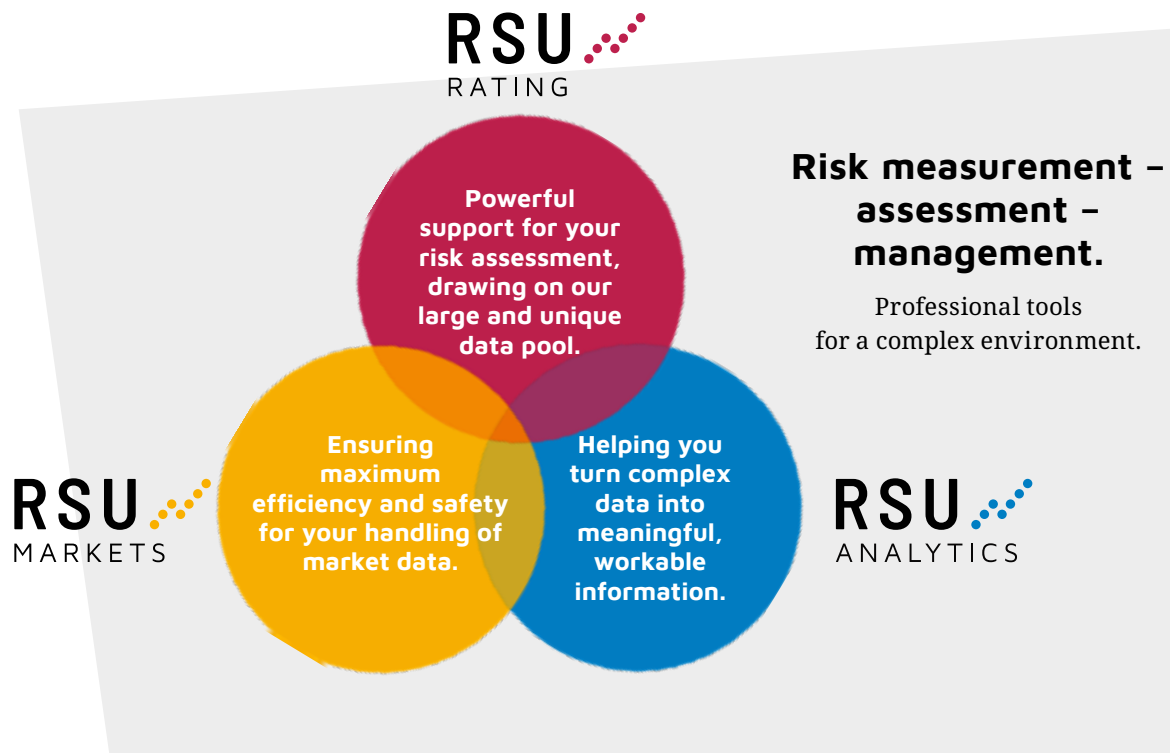
RSU Analytics

Smart solutions for various challenges beyond traditional credit evaluation: Whether on the ever-evolving subject of ESG or the extensive EU taxonomy, or for the early identification of credit risks using machine learning,

for stress testing or for meeting IFRS 9 requirements, our thoroughly developed tools will deliver important answers to support your business decisions.

RSU Markets

Leave your market data management to us: our systems provide consistent, quality-assured information on which you may confidently base your end-of-day valuations, market risk assessments, portfolio analyses, backtests, stress tests, etc. Compliance with all operational, technical and regulatory requirements goes without saying.



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