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# An Approach to Improvement of Information Integrity in Key Areas of Portfolio Management

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***Abstract*—**At a time of growing market turbulence and a strong shifts towards increasingly complex risk models and more stringent audit requirements, it is more critical than ever to maintain the highest quality of financial and credit information. IFC implemented an approach that helps increase data integrity and quality significantly. This approach is called "Screening". Screening is based on linking information from different sources to identify potential inconsistencies in key financial and credit data. That, in turn, can help to ease the trials of portfolio supervision, and improve overall company global reporting and assessment systems. IFC experience showed that when used regularly, Screening led to improved information.

***Keywords*—**Information Integrity, Information Quality, Business Rules, Portfolio Management

## I. Introduction

MORE sophisticated banking regulation requires more robust risk assessment models.While corporate accounting, financial, portfolio systems and tools are undergoing metamorphosis of complexity, covering more and more in-depth information, and becoming increasingly sophisticated, there are many places which require manual information input. Key areas in portfolio management which require a special attention are financial statements of investee companies, asset valuations and credit risk rating assessments, especially if the company accepted Advanced Measurement Approach to credit risk modeling. Current research will focus on an approach which allows to streamline the tasks of portfolio supervision, target information inconsistencies, and help to facilitate time efficient resolution of these irregularities. This approach is implemented in IFC and is referred to as Screening. A Screening mechanism can pinpoint potential errors and inconsistencies of information and facilitate quality reviews [1-3].

## II. Screening Mechanism and Model

In order to assist in facilitation of the financial and credit information quality review, the following steps are performed: (a) financials' statements consistency checks; (b) portfolio valuation checks versus accounting and financial data and guidelines; (c) credit rating reports checks for consistency with the guidelines, and the financial and valuation information available in different corporate information systems. Inconsistencies are indicated by advisories. All reports are assigned the level of priority based on the expert assessments. Majority of credit reports draw on different sources of data such as accounting system, project terms and project operational statistics. The Screening approach is structured to reflect the guidelines for detailed assessment of internal credit risk model, accounting and financial information and other related operational data. It is checked if the conclusions of the reports are justified by the underlying data. The Screening system compares data in the underlying information sources and researches if the conclusions are made consistent.

The messages are color-coded in red, yellow and green, and are combined into traffic light –like reports. "Red" message is generated when there is a high probability of information inconsistency. "Yellow" message is generated to either draw attention to inconsistency from important factual information which is either known or unknown, or to some trend, or fact which could be based on company's financials, or company activity. "Green" shows that there are no potential inconsistencies found in the rating process to the extent to which it could be checked, but does not indicate a "clean" bill of health. Figure 1 illustrates the meaning of reports color coding.


Fig. 1 Screening Reports Color Coding

If the screening report triggers red message, it does not mean, that there is an error, but that there is a high likelihood of an inconsistency. The responsible staff can review, evaluate, and explain if there is a reason for a "red" flag.

The business rules engine performs the checks periodically, and the output is continuously updated. Figure 1 shows how the Screening model is structured.

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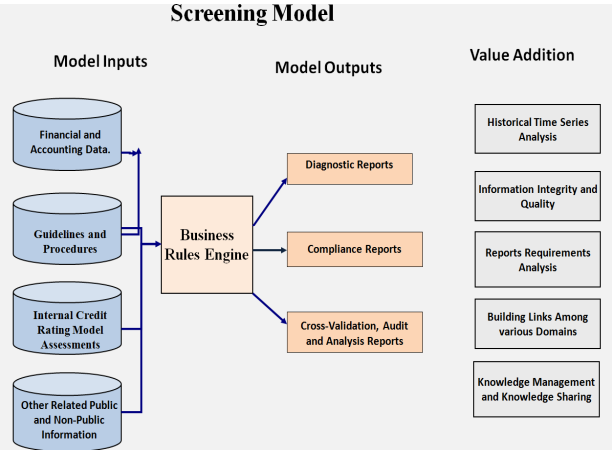


Fig. 2 Screening Model

The process allows to observe trends of red, yellow and green advisories to judge the quality of portfolio and other systemic issues at various levels. The reports also allow to easily identify the projects that require a close review.

Screening summary statistics can be reviewed dynamically by various stakeholders and used to detect the areas of systematic inconsistencies. They information can facilitate SWAT analysis to point out the areas of strength and weakness with respect to the internal systems and vulnerable areas and target training areas for the operating staff.

Further actions allow to adjust and refine financial information for the analysis, reporting, and portfolio stress testing and identify issues related to systems inflexibility. Potential IT systems upgrades and enhancements can be implemented subsequently.

The Screening approach helps to improve the information about the risk and return potential of the portfolios and via evaluating client company information and draws attention of responsible staff to potential issues.

The aggregate level of information can be analyzed from the output Summary Reports which provide the results by various sub-segments.

Knowledge management aspect is another major advantage of the Screening process. The reports educate staff and disseminate knowledge about various types of risks and bring to the surface their causes and effects. It is important that the complexities and interrelationships between credit system and respective processes are clearly understood.

Screening is a very broad concept and can cover any areas of analysis where model assessments are involved, where historical time series are used, and where scorecards are evaluated. It adds value to the data models design, information processing and analysis.

IFC has implemented the process for financials analysis, credit rating and portfolio valuations. We are looking into integration of more domains into this model.

## III. Review and Feedback Cycle

Based on IFC experience it is recommended that the Screening results are reviewed periodically and aligned with the reporting cycle. Figure 2 represents the recommended steps to most efficiently use the reports.

We recommend that financial Screening results are reviewed first and financial reports and all relevant inputs to portfolio valuation models are reconciled.

The screening approach helps to reinforce and ensure the logical chain among the three major components of credit assessment. Financial reports inconsistencies can directly lead to portfolio valuation inconsistencies and to credit rating distortion.

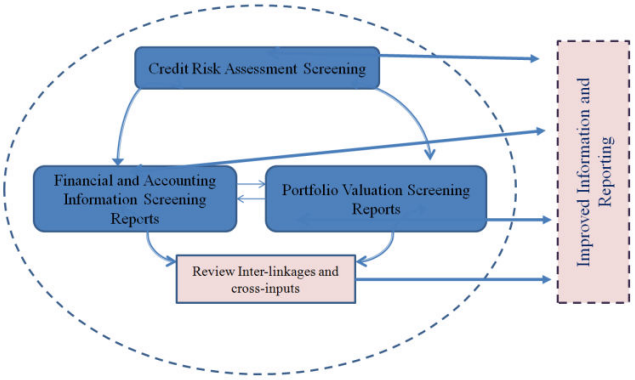


Fig. 3 Screening Results Review Process

## IV. Conclusion

Increasingly sophisticated banking regulation requires more comprehensive risk models and robust data. With increasing sophistication of operations and systems and growing volumes of data, banks are looking at operational risk very closely. Data consistency and quality needs additional due diligence process when multiple systems are involved and non-uniform inputs are to be linked for the purpose of corporate reporting and analysis.

Screening is a powerful way to address the data integrity and quality in almost any area of financial reporting and business risk analysis. We have illustrated an approach which allows to dissect and analyze data inconsistencies at different reporting levels and address the discrepancies analysis in a systematic way. The rationale for using the Screening approach is to help portfolio staff achieve a broader overview during the supervision process, mitigate risks, and highlight potential issues before they occur. Use of this tool also saves resources, by using automation to relieve workloads, and making significant progress to achieve outstanding overall data quality.

## References

[1] B. von Halle, "Business Rules Applied. Building Better Systems Using the Business Rules Approach," Wiley, 2002

[2] Business Rules Group , "Defining Business Rules:What are they Really?, 2011 " *web: http://www.businessrulesgroup.org/first_paper/br01c0.htm*

[3] V. Bakhtina, J. van Bilsen *Screening: An Efficient Path to Smarter Portfolio Management*, IFC Smart Lesson brief, IFC internal publication: October 2011

**Victoria A. Bakhtina** holds the equivalent of a Bachelors and Masters in Applied Mathematics and Composite Materials Mechanics from Lomonosov Moscow State University, a Ph.D. in Applied Mathematical Education from Moscow State Pedagogical University, a MBA in Business and Finance from Waynesburg University, and a certificate in Credit Risk Modeling from Stanford University.Ms. Bakhtina, a Portfolio Officer in International Finance Corporation has over 10 years of experience devising portfolio and risk solutions and managing projects requiring collaboration across sectors, regions, and disciplines. She manages a corporate Portfolio Screening initiative, addressing integrity and quality of information for key portfolio areas. In addition, Ms. Bakhtina has worked in the areas of portfolio performance analysis (including applications to a corporate incentive program), credit research and rating performance, and loan recovery analysis. She has also built models for client financial reporting and compliance analysis.