IRIS integrated risk management ag

IT implementation of Basel II in financial institutions: the ideal springboard towards an efficient and sustainable integrated financial analysis infrastructure

By Jürg B. Winter*

Introduction

Since June 2004 we finally know it: as of December 31, 2006 Basel II will come in force for the larger Banks of the developed economies and the Cad 3 for the European Union countries. For the majority of the larger Banks having elected the standard approach for 2007, the required enhancements and investments in IT will be minimal. For the banks wanting to go further, meaning to implement the internal rating based approaches (IRB foundation and IRB advanced), Basel II will require substantial IT investments, the standardization of all financial contract definitions, the set up of internal rating infrastructures and actualization mechanisms. Such developments and reengineering of the analysis systems will, in the majority of the cases, result in a replacement of the current "jungle" of partial analysis organically grown systems by a **single financial analysis infrastructure** based on **consistent contract** and **customer data**. With the right approach and architecture such a new infrastructure covering all financial activities and products will be able to satisfy all internal current and future analysis requirements as well as the ones from the regulator. Such a solution will, beside total transparency, give the corresponding banks the ability to price risks correctly and to better manage their transfer and evolution. Last, but no least, the cost saving resulting from an integrated analysis infrastructure compared to non integrated partial solutions are of over 50%. Among the larger savings are

- the dramatic reduction of the number of data interfaces to develop and maintain,
- the suppression of result reconciliation efforts as all data and algorithms are consistent
- easier internal and external audits thanks to total transparency.

This evolution towards more analytical transparency and consistency is a strategic necessity for all banks and financial services organizations, independently of their size.

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It is based on the requirements of the Bank for International Settlements (BIS), but above all, on the necessity for all financial organizations to better control their cost, in particular the ones of the risk and to benefit from the growing risk transfer markets.

After some thoughts about the foundation of Basel II, the essence of integrated financial analysis solutions and some implementations aspects will be discussed.

The limits of accounting

Until 20 years ago, the financial position of a financial organization was considered as sufficiently described through accounting (Balance sheet, P&L Account). However accounting is by definition only a **view of the past**. Any contract based financial transaction results in a position on one or several accounts of a given date, as for example the closing date.

The position in the account reflecting a single or many contracts is just a “stock”. Additional information, for example in terms of future evolution, can only be derived from the characteristics of the account in which the position has been created by the corresponding posting.

In this perspective, accounting can be seen as a type of financial language, build on many evolving conventions often derived from the legal and tax system. This language allows describing the past within the used conventions. It does in no ways describe the future and its uncertainties. The knowledge of the past is **no more sufficient** to manage the present and the future of a financial organization and the financial system itself.

Basel II: the new language of finance

The foundation of the Basel II rules is the objective to increase the **transparency** and **stability** of the international financial system by taking into account the rising importance of the risk dimension perception but also the standardization prerequisites of the financial globalization. This ambitious goal requires a **new language** allowing the market participants and regulators to communicate consistently, **to describe the present and what the future could be, including the calculation of the buffers required** to better master it. These objectives reflect the evolution of the financial industry which in the past 20 years has made an enormous progress in the mastering of market risk and focuses now on the most expensive risk : the credit or counterparty risk. **The new language needed for Basel II requires a new alphabet**. The letters of this new alphabet are a precise definition of any financial contract or instrument in terms of expected cash flows, their links to the market and customer behavior, the strategy. These expected cash flows are the foundation of value and income under any accepted valuation method (accrual accounting, fair value, observed value, NPV etc.).

What is meant by integrated financial analysis infrastructure?

It is an infrastructure consisting of a homogenized and consistent replication **of all real and planned sold or bought contracts** of an organization, including all the parameters affecting the “active” life of each contract.

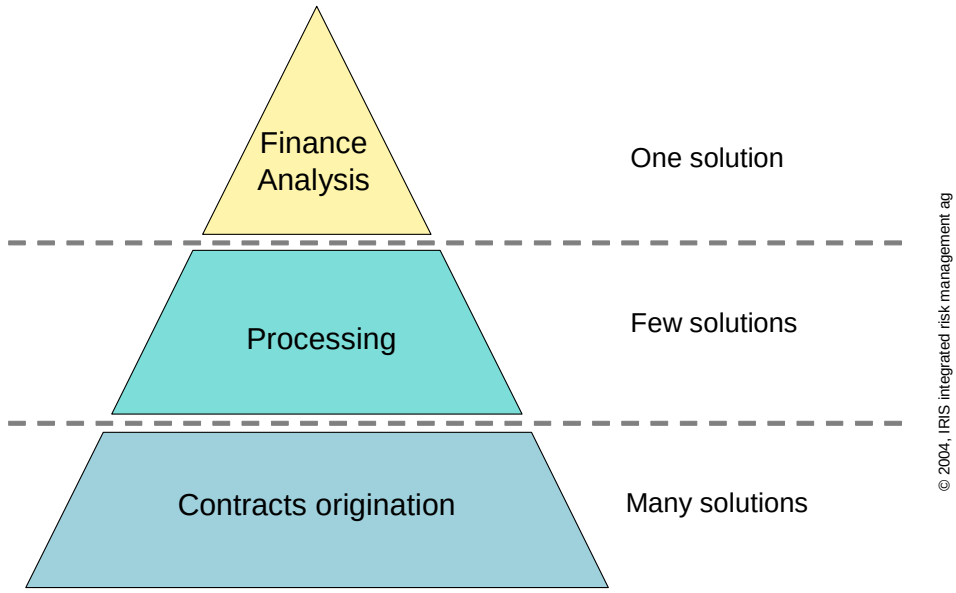

Fig. 1: Positioning of the finance analysis in the bank

This must include inter alia the patterns of the expected cash flows, the relationship with the risk factors, such as markets, counterparties, optionalities, specific conditions such as repricing, etc. On top of this standardized data comes an analytical framework allowing the authorized user to select the contracts to be analyzed (selection, aggregation, granularity), the time parameters (internals, past, present, future), markets (history, assumptions (scenarios, behavior), strategy, valuation methods, and last - but not least - the calculation rules. The later have in all circumstances to rely on the same **common algorithms**, to make sure that the results are as **consistent as the** data. The definition by the user of the required views and presentation of the results as for example the Balance Sheet, the P&L accounts, the time scales, the granularity etc. takes place like in Excel outside the calculation engine.

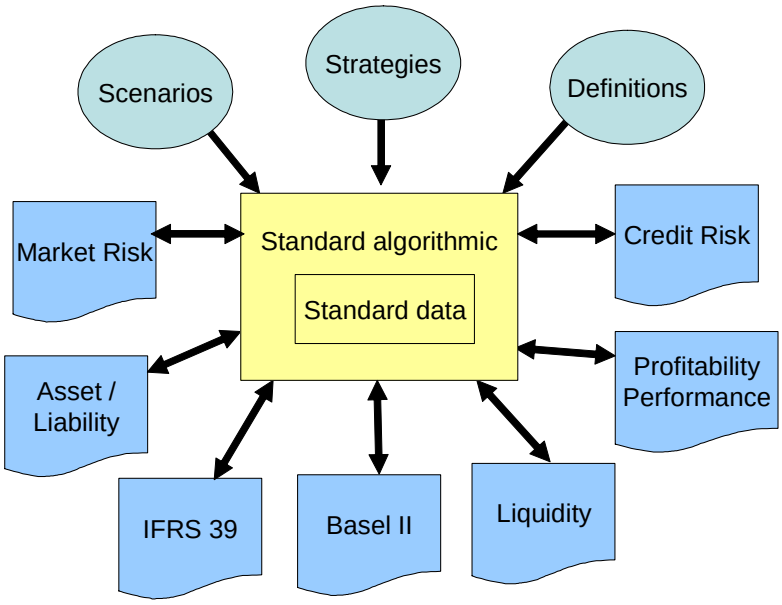

Fig. 2: General architecture of an financial analysis infrastructure

This type of analytical infrastructure is centered on the **individual financial contract**. For large organizations this can be tenth of millions. So it is only since recently, thanks to the convergence of the total digitalization of the transaction processing activities, the increase in storage and processing speed and the advances in finance and statistics, that such solutions are becoming a practical reality.

Until recently, such solutions were restricted to very large and visionary organizations with the required know-how, development capabilities going into hundreds of man years and corresponding financial means. However, in the mean time a small number of standard global analysis solutions appeared in the market, but none with the scope, depth of integration and ease of use of the RiskPro integrated financial analysis infrastructure from IRIS integrated risk management ag. This is good news, especially for smaller organizations, which can now also afford this type of solution at a reasonable cost and without any development risk.

Implementation of an integrated analysis infrastructure

Despite the current integrated solution offering from the market, still many financial organizations have started or are starting individual self contained projects in the areas of Basel II, IFRS39, liquidity management, engaging themselves in a lot of redundand efforts. This is a waste of resources and time as in reality all these projects are just different views and calculation having as foundation the same contract and counterparty data. These substantial projects are often executed by the banks in cooperation with large and sometime various system integrators. They reflect in

certain cases also the silo characteristics of traditional business structures and/or the internal and external apprehension linked to a total financial transparence at all levels of the organization.

For any financial organization, to use Basel II as a springboard towards an integrated financial analysis infrastructure is a very valuable move. Especially today, as it will have the choice between an expensive own development or proven third party **standard solutions**. The later have no development and **minimal implementation risk** – which might be important looking at the time schedule of Basel II – but also offer clear cost advantage in terms of acquisition, implementation, maintenance and operation. Beyond these advantages we see some additional analytical benefits coming from **proven universality of the underlying contract data model and correctness of calculation**, which can be quite complex, for example in the field of non plain vanilla options. A standard solution broadly used internationally indicates that the calculated results have been implicitly accepted by all the concerned regulatory agencies. The correctness of the calculation can also be very useful in the area of performance measurement at all level of the organization.

In the implementation, the major challenge is the **standardization** and **synchronization** for any contract type of the organization of all data which will define the behavior of the contract and affect the wanted valuation. This is usually a step by step process during which missing or doubtful data can be substituted by “intelligent” default data. This substituted data will be gradually replaced by real data when it becomes available, a step which will increase the precision of the results. Such investment in the “digital cleansing” of all existing and planned contracts is a one-off investment, which is necessary anyway sooner or later for internal and external purposes.

Conclusion

It is useful, that the responsible at the top of a financial institution realizes, that from an IT perspective, the demands for Basel II – but also for IFRS39 and 32, are an ideal springboard towards an **integrated financial analysis infrastructure**. This is not only for Basel II, but for the future development of the IT analysis infrastructure. The implementation of such an infrastructure is feasible today at **reasonable cost** and **without any project risk** even for small organizations. Such an undertaking will very fast have a positive impact on the cost structure and the analysis process in a market, where transparency and the correct pricing of risk plays an increasing role. In addition, it gives the banks the chance to continuously optimize the Basel II capital charges requirements. From a financial angle, it is easy to show that the implementation of the right standard analysis infrastructure is the investment with the **best return** an organization can make today, as far as it happens in symbiosis with the evolution of the risk and profitability management culture and processes. However, also with the best integrated financial analysis infrastructure “a fool with a tool is still fool”… But this is another story.

