UNIFICATION OF FINANCIAL ANALYSIS OF FINANCIAL INSTITUTIONS

Today's most profitable investment in IT infrastructure

To begin, we will shortly describe our understanding of financial analysis and the importance of the notion of unification as a prerequisite for the effective integration of all analysis activities. In a second paragraph we will give a small overview how within 40 years IT transformed the financial services industry of developed countries to making it one of the key facilitator of the economic growth. We will then describe why unification of the financial analysis is not only a business, compliance and regulation driven necessity but also a huge strategic investment opportunity. Finally, we will share some of our experience about the best way to implement a unified financial analysis infrastructure.

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What do we mean by Financial Analysis in financial institutions?

Basically, in a financial organisation we can distinguish the analysis of operational activities aimed at sustaining the business such as human resources, the IT systems, the buildings, the distribution, the promotion etc from the financial analysis which covers the content of each financial contract generated by operational activities. By content we mean the implied financial obligations of the bank and the customers resulting in real or expected cash flows over time.

The analysis of the operational aspects reflects real incurred historical cost which are categorized (activities, cost centres, products, etc) and adjusted (depreciation) following given internal and external rules and covers the bookkeeping and traditional MIS views based on account structures.

The purpose of financial analysis is to measure value and income over time of all executed and planned individual contracts based on given endogenous and exogenous scenarios and strategies following accepted valuation principles. This measurement can cover the past (historical analysis) the present based on fixed scenarios (static analysis) or the future based on scenario and strategies evolving over time (dynamic analysis). It enables one to quantify what could happen financially in the future. As there is no such thing as a universal valuation norm, the results of the analysis have to be represented either with the method corresponding best to the question which the organisation wants to address or the one prescribed by the regulator. Examples of methods accepted or prescribed today are accrual and nominal (accounting view), market to market and fair value. In other words, financial analysis covers the analysis of the financial 'behaviour' of each executed or planned contract over time based on the made assumptions about the market(s), the customers (counterparties, collaterals, rating, recovery rate etc), the regulation (weighting formulas,

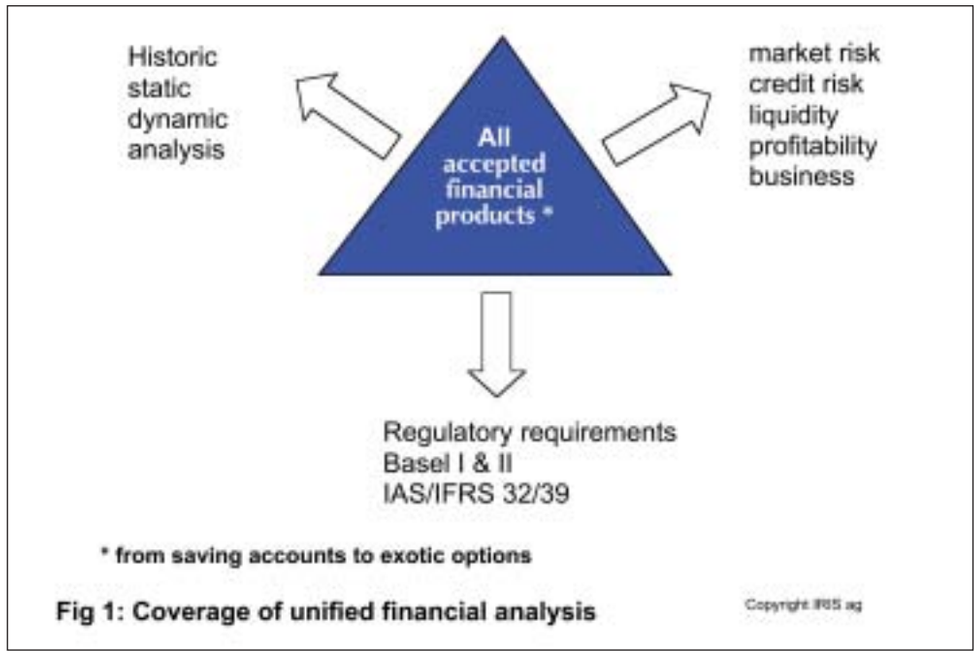

Fig 1: Coverage of unified financial analysis

capital charges formulas) from the individual contract to the total organisation.

Historically, the development of static analysis was triggered by the accounting and regulatory requirements and departmental initiatives. It was mainly based on fixed account structures. The development of the dynamic analysis originated mainly in the treasury (Liquidity Management, Asset and Liability management), the trading book and the advances in financial theory and mathematics asked for contract centric structures. The advanced Basel II requirements and IAS/IFRS 32/39 have made analysis down to the contract level (contract centricity) an unavoidable prerequisite.

IT and rationalisation development in banking

As an industry mainly concerned with collecting and processing information about money and its users, financial services adopted computer early in the game. They replaced the tedious and error prone manual and accounting processes.

In its initial phase IT was used to process the transaction originated manually in an insular manner with distinct account oriented identification and numbering systems. These often were organised along products such as saving accounts, loans, mortgage, trade finance, securities. Processing was mainly updating accounts and producing batches of printed transaction journal and position documentation. Financial analysis was totally decentralised with the exception of the bookkeeping. This meant for example that very few banks knew the effective number of their customers as each application had its own customer definition and world.

The second rationalisation wave came through the advent of the automated teller machines (ATMs) which put the burden of data input of the retail transaction on the customer and the first trade processing systems. The various processing steps began to be integrated and the account keeping evolved from batch to real time. At the data level, integration became a focus. This meant, for example, building more or less centralised databases for the accounts, customers and products. This was birth of Customer Information files, Instrument data bases and so on.

The current third phase is characterised by a rising use of the internet (e-banking) and the melting of the borders (transborder banking). Customers originate today directly or indirectly (for example through credit cards) close to 100 % of the retail transactions. Electronic value added services are expanding fast (portfolio management, credit scoring, financial planning, etc) in the framework of so-called Service Oriented Architectures. Productivity continues to rise as does the volume of data. This results in large investments into so called data warehouses meaning in most cases the transfer of myriads of data to one or few locations 35) for faster access and processing, higher data security but with very limited focus on data consistency. In fact, very few organisations used this reengineering of their system architecture to look at the standardisation of their data, despite the on going raise of regulatory requirement. Other challenges are processing and services cost optimisation, 7/24 seamless processing, connectivity, security, time to market of new services, differentiation, database marketing, integration of CRM, and of course better risk and profitability management. Surprisingly, the sleeping potential benefits of better financial analysis with lower cost is addressed very seldom.

From integration to unification

Over time, 'integration' has become one of the most used qualification of any IT solution. It usually means that the information generated at one end of a solution is understood by all components of the solution, for the defined purpose of the solution, but not beyond. In terms of financial analysis an integrated solution will in most case address the queries and calculation in an insular way within the scope of the solution. This is not sufficient for financial analysis as defined above. What is required is a contract centric standardisation at two levels – first, at the generic financial contract level meaning the ability to mapping each real life contract in standard patterns of expected cash flows, triggered by the associated risk factor. These patterns and the required attributes are defined in an underlying contract data model which has to be on the same time robust and flexible. Secondly, an architecture and standardisation of the calculation through the whole organisation for pricing and valuation purposes. It has to secure that for example the Net Present Value (NPV) calculation of a collateral within an exposure uses the same algorithms as the NPV calculation of a given asset for any scenario. This solution is called a *unified financial analysis infrastructure*.

Such an analysis infrastructure will be centralised and cover all financial products of an institution. Its value relies on the universality of the covered financial products and valuation methods, the correctness and acceptance of the result from a pricing and regulatory perspective, the flexibility towards changes of the environment, ease of replication of the real life contracts, ease

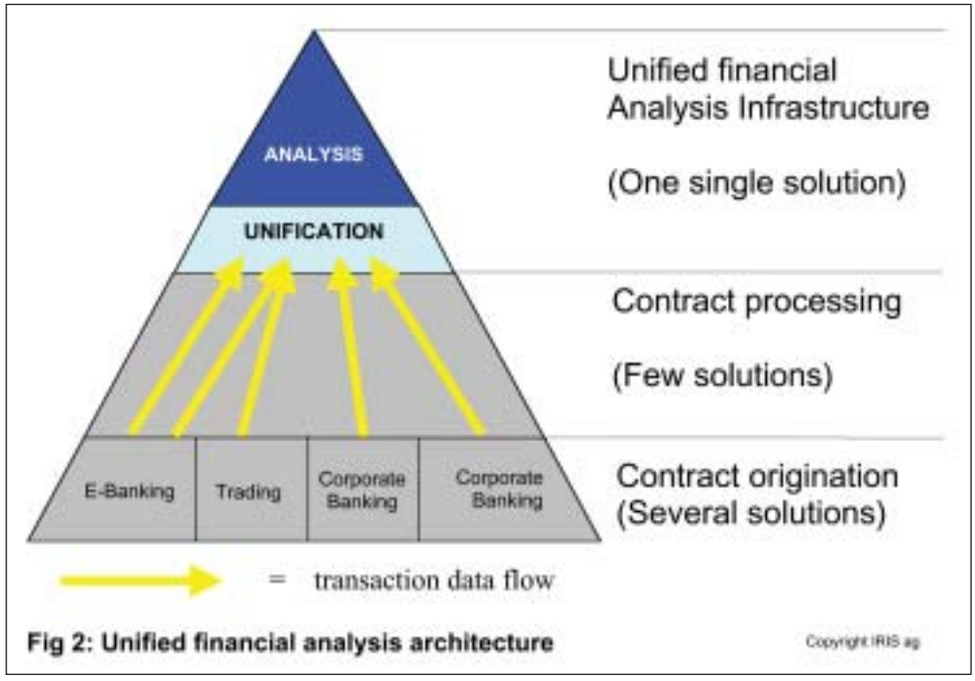

Fig 2: Unified financial analysis architecture

of use by the analysts and managers. A standard solution used by banks of different types and sizes, in different economic environments with results accepted by the concerned regulatory agencies in several countries can be a good indicator for a certain universality. As an example, Riskpro the unified analysis infrastructure developed by IRIS is satisfying the financial analysis and pricing requirements of over 200 banks and its analytical results have been implicitly accepted by 15 central banks.

Until recently, such solutions were restricted to very large and visionary organisations with the required know-how, development capabilities going into hundreds of man years and corresponding financial means. However, in the last few years a number of more or less unified financial analysis solutions have appeared in the market. This is good news, especially for smaller organizations which can now also afford this type of solution at reasonable cost and without development risk so far, they have a real understanding about unification and are able to judge and measure all its requirements and implication at the level of the system architecture and data.

With the right analysis architecture and infrastructure covering a unified financial analysis infrastructure brings following benefits:

- Consistent results throughout the organisation under any condition based on algorithms calibrated in praxis, suppressing the need of tedious reconciliations
- Compliance to current and future regulatory reporting requirements including extreme cases such as those presented by Sarbanes Oxley
- A single analysis infrastructure fed by only one interface by transaction system as replacement of the various 'analysis silos'
- Control of the analysis process by users in a structured common environment (scenario and strategies)
- High reactivity to unforeseen changes in the environment
- Ability to validate the accounting results produced by updating balances with the results of the unified analysis. (The later ones are based on the generation and valuation of each expected individual cash flow). This allows, for example, for the detection of immediately possible systemic risks or valuation discrepancies
- Better results, meaning also higher transparency and better pricing
- Substantial reduction of up to 30% of the total cost of ownership and operation of financial analysis.

The systematic application of unification allows today one of the most active banking groups in South-East Europe with a balance sheet of around 17 Bio Euro to manage market, credit and liquidity with 15 persons….

Implementation of a unified financial analysis infrastructure

From our experience with over 100 banks, the pressure for the unification of financial analysis starts usually with the awareness at the operational level of the limitation, redundancies and cost of the current solution(s) or new regulatory requirements. In rare instances, it stems from the top despite the vested interest Directors, CEOs, CFOs should have in the full financial transparency and understanding of the business. In practice, the selection of the right analysis solution will depend very much on the broadness and depth of the set requirements. In addition, these should, at least in the beginning, come from the top and not a department or specialised function more interested in the optimisation of specicific need than a full transparency.

Once the right decision has been made, the selection of unified financial analysis infrastructure follows. Here the major challenges are:

- a suitable project organisation closer to the business and analysis function than to the IT with full support from the sponsor
- a plan with unambiguous milestones delivering first results fast
- a clear representation of the analysis processes at departemental and centralised level and of scenarios and strategy definitions
- a pragmatic approach to the mapping of real life contracts into the underlying contract data model.
- full understanding of all the handled financial products and their valuation in the concerned view
- the effectivness of the testing and reactivity of the IT departments to needed data corrections or enhancements in the transaction origination systems.

The more recent the contract origination systems are, the better the quality and scope of the data. However the mapping remains usually an iterative process during which missing or doubtful data has to be substituted by "intelligent" default data by the analysis solution. This substituted data will be gradually replaced by real productive data when it becomes available. This will increase the precision of the results.

The effort of the "digital business cleansing" at the level of the individual contract in the frame of the mapping is a one-off investment, which is, in any event, necessary sooner or later for internal and external purposes. In certain cases the implementation of a unified analysis infrastructure will also mean a reengineering or replacement of the young and partly improvised Basel II and IFRS solutions for the better.

Conclusion

The implementation of a unified analysis infrastructure is an important best practice and rationalisation opportunity. It is in our judgment the best investment in infrastructure a financial institution can do for today and tomorrow. *However, this will only happen on the basis of a strong vision, awarness and commitment from the top of the organisation (Board of Directors, CEO, CFO).*

The implementation of an unified analysis infrastructure based on a field proven standard solution is feasible today at *reasonable cost* and *without project risk* even for small organizations based on the right solution and implementation factors. Such an undertaking will reduce the cost of analysis substantially, increase the quality and flexibility of the analysis in a business where transparency and correct pricing of risk plays an increasing role. In addition, it gives the ability to continuously optimize – the business strategies and, if applicable, the capital charges requirements. From an investment perspective this rationalisation step will produce the *best return* an organisation can make today with its infrastructure, as far as this transformation happens in symbiosis with the evolution of the risk and profitability management culture and processes. Also with the best unified financial analysis infrastructure "a fool with a tool is still a fool"… But this is another story. ■

J.B.W.