WHITE PAPER

RISK MANAGEMENT

IMPACT STUDY 2015: SURVIVAL GUIDE FOR BANKS – THE BATTLE OF SOPHISTICATION

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Abstract:

The top drivers for change within the banking industry are:

- The real government's' politics: Capital buffers - the hidden champions of change
- Regulators' focus on simplicity and comparability

The process to reengineer banks' capital requirements and allocations by 2017 means that the entire Basel Pillar I (i.e. market, credit and operational risk) has to be newly implemented at banks around the world. Once banks have overcome this hurdle, ironically the new regulatory capital buffers become more important in terms of capital requirement than the entire pillar I. In addition, the regulators' focus on simplicity and comparability makes most banks' unique selling points evaporate, leaving them having to reinvent and reorganize themselves. The G20's aim is to make the banking crisis less critical for the overall economy, hence simpler and more effectively to control. While many industry participants are under the impression that the banking industry therefore becomes simpler also behind the scenes, in fact the opposite is true. We are expecting a battle of sophistication to commence.

This study analyzes the consequences of this industry standardization and outlines six strategic choices that banks' have, as well as documenting sub sequential IT infrastructure requirements.

INTRODUCTION

Regulators are working to reengineer banks' entire capital requirements determination and allocations by 2017. Therefore, Basel's Pillar I (market risk, credit risk, and operational risk) is redesigned and other constraints like the leverage ratio (LR), liquidity coverage ratio (LCR) and the net stable finding ratio (NSFR) are coming into play.

Once all changes have been implemented, the new buffer driven regulatory capital requirement of Basel III will be important than the whole of Pillar I. Banks will have to focus on Common Equity Tier 1 (CET1) as CET1 has increase via the buffers up to 675% compared to 2013[1] and total capital by 800%. In addition the regulatory body's focus on simplicity and comparability made the unique selling points (USPs) of many banks evaporate, forcing them to reorganize and reinvent themselves. This has created one main challenge for banks' senior management:

"How do we steer our bank and manage its sustainable profitability given all the changes and striking constraints?"

To answer this, a bank must reevaluate its business model, organization and IT architecture.

This paper analyzes the options of banks and provides recommendations to aid their strategic choices. It also provides an outline of the IT infrastructure requirements and the opportunities that lie ahead for banks.

[1] **SOURCE 1:** THE OVERALL CAPITAL INCREASES FROM 8% UP TO 21.5% AND THE CET1 REQUIREMENT IS INCREASING FROM 2% (IN 2013) UP TO 18% FROM 2019 ONWARDS. THE CRUCIAL POINT IS THAT 13.5 PERCENT POINTS OF THE CET1 REQUIREMENTS IS BUFFER DEFINED.

Banks' top six must dos

For banks to successfully navigate new standardization and reinvent themselves, FIS recommends the following six must dos as strategic guidance to success in this area:

1. The 90° conversion: From vertical silos to a horizontal, enterprise wide customer approach.

The regulatory focus on comparability changes the USPs of many banks today. To remain competitive, these banks have to manage customers holistically. Business decisions are therefore both driven and constrained by the entire profitability target(s) of a customer across all lines of businesses globally. In particular, large international banks have to achieve a new holistic customer view by adjusting the organizational structure and IT infrastructure.

2. True and complete profit determination: A rigorous transfer pricing approach

Despite having a complete customer view, the ability to determine the profitability including an incremental engagement (deal) is essential. The smaller margins become, the more each business decision needs to be based on true profitability. Such a true and transparent picture is only achieved if any given business engagement is based on a holistic and adequate consideration of all immediate and expected lifetime exposures and costs. Therefore, a complex transfer pricing concept far beyond fund transfer pricing for all lines of business is required. Collateral Transfer Pricing is one starting point.

3. Take up the battle: Sophistication and/or lean processing

Low processing costs (in particular in the capital markets) have become the new mantra across all banking tiers. Unless a bank want to become a pure processing service provider or target only at minor capital markets business, they need an entire live-time, pricing (pre-deal) to remain competitive. The battle for profitability ensured pricing is won with an increasing degree of pricing adjustment sophistication (over and above the known XVAs). The required though leadership and integrated, agile IT infrastructure are expensive and unaffordable for non-specialized, lower tier banks. Banks focused solely on the sophistication and not operational efficiency will have to outsource these parts of the value chain.

4. Accurate & adoptable risk appetite conform steering:

Implement an adoptable limit and bank steering solution reflecting the current risk appetite and profitability based on regulatory changes.

In the new banking reality, profitability is only achieved if the available risk taking capacity is fully utilized. While a complete transfer pricing is essential, it cannot safeguard against the current regulatory regime is likely to make non-risk sensitive constraints the binding ones. The manifold of regulatory constraints cannot be managed on a trade-by-trade basis by the individual front line decision owner. The transfer of constraints into a smaller, more manageable set implies more and more granular limitations. The development of a constraint transfer mechanism and an enterprise wide limit infrastructure are mandatory investments.

5. Implementing risk and compliance governance: Avoid the strike of the unknown.

While there is a focus on generation of revenue, it is essential to avoid the big hits. In particular, this will drive a new focus on operational risk and compliance in Europe. Governance will be at the top of the regulatory agenda.

Retail funded banks:

6. Predict the future: Focus on retail customer's behavior

Historically retail customers' behavior has not reached an equal level of sophistication compared to areas such as instrument pricing. Banks whose funding is primarily dependent on the retail business have to invest in customer modelling to make right business decisions that drive profitability and guarantee survival. Banks which are private banking driven will have to manage their customer base proactively. They have to identify investment requirements based their customer's expense patter. This implies investment into predictive analytics.

Background: The two ultimate drivers of change

The materialization of significant changes within the banking system is on the horizon. While it is common knowledge that banks have to change, there is no common knowledge about how the financial markets are evolving. Though many industry participants are under the impression that the banking industry is becoming simpler, the opposite is the case. Moving forward we foresee a battle of sophistication.

At the center stage of bank steering and industry changes are risk weighted assets (RWAs). Consequently the macro level drivers for change are:

- Regulators focus on simplicity and comparability
- The real government's' politics: Capital buffers, the champions of change

How are these drivers impacting the industry and what are the knock on effects? As part of our analysis we will hence carry out the background of the more unexpected must dos, i.e. the above highlighted must dos one to four.

In the following chapter, we will observe that financial markets are becoming more global; banking however started the journey of de-globalization. The bank's biggest risks are not business inherent risks and are not regulations. The biggest risks today are "the real (government) politics".

Simplicity and comparability (S&C): The Regulators' Focus

The regulator's focus on simplicity, transparency, and comparability is driving the financial markets to monocultures and is driving changes in risk management (Ludwig, 2014). However the impact is not as simple as that. The historical discretion in the risk weighted asset (RWA) determinations in line with business models and risk assessments vanishes[2]. The primary knock-on effect will be notably visible in the capital markets business, leaving banks to choose whether to invest or exit. No exit and no investment implies a bank's decision in favor of a role of a pure but loss making intermediary. Hence banks who are remaining in the capital markets business have to take at least[3] one of the following approaches:

S&C-1. Impact and Recommendation: Internal fight for lean, back office operations

The decreasing margins of (capital market's) business transactions put the high post trade processing costs on the spot. Competitive advantage (room for compensation of missing sophistication) can be achieved here. For example, if a global tier 1 bank processes a trade at $15, other banks with costs at $1'000 are not running a sustaining business model. The smaller margins are the more important are the processing costs, so it is vital to consider the entire business spectrum, including exchange traded business.

Banks have to invest to achieve operational efficiency, exit the business or engaging with a partner providing the processing excellence. The focus on lean operations will create increased requirements for business process outsourcing, with particular emphasis on OTC transaction processing. Hence banks should investigate their strength and analyze their ability to become a Business Process Outsourcer (BPO). If they do not become a BPO they need achieve lean operations or use the services of such BPO.

S&C-2. Impact and Recommendation: Battle of sophistication.

To some extend processing costs and sophistication can be balanced out. The ability to ensure expected profitability of a trade at inception is likewise important. Expected profitability can only be ensured with a complete, entire life-time pricing approach to potential trades. We will see an increasing degree of sophistication around pricing adjustments (over and above the known XVAs) reflecting the live time cost/benefit element. Only such pricing adjustments will lead to an informed competitive pricing. Thought leaders in this area such are already investigating the "stochastic" life-time tax adjustments in pricing. The required thought leadership and integrated agile IT infrastructure will be increasingly expensive, unaffordable for non-specialized lower tier banks. Banks specialized solely on sophistication and not addressing operational efficiency will outsource these parts of the value chain.

The battle of sophistication creates new data requirements from sources across the organization. Banks have to establish data management and IT infrastructure which allows providing required source data before the time ozf inception of any business activity.

On the capital markets' side the required speed of sophistication and complexity will require a new IT layer above today's typical trading solutions. The layer will house a flexible and open valuation and simulation engine proving a consistent life-time impact on all types of constraints.

[2] **SOURCE 2:** BY THE FORTHCOMING FLOORING IN INTERNAL MODELS (MARKET RISK, RATING AND CREDIT RISK), A BANK RUNNING IN INTERNAL MODEL HAS NO DIFFERENT DIFFERENTIATOR.

[3] **SOURCE 3:** ADDRESSING BOTH (S&C-1 AND S&C-2) IS THE SUPERIOR APPROACH.

Capital buffer (CB): The hidden champion of change

Up until now, the banking industry focused on 8% overall equity, 2% Common Equity Tier 1 (CET1) respectively. With the new capital buffers the CET1 requirement is increasing dramatically. Capital buffers now allow sovereigns to individually demand an additional 13.5% CET1 ratio, i.e. an increase of 675% compared to 2013.[4]

It is worthwhile to mention that the country independent management of buffers is a strong driver for de-globalization and governments' focus on the home financial industry.

CB-1. Impact and recommendation:
Adaptable CET1 Steering

The systemic risk buffer, capital conversation buffer and the countercyclical buffer will add up to 13.5% CET1 requirement while the entire pillar I of Basel requests only 8% total capital (4.5% CET1)[5]. With changes in capital ratios and RWA (given the reengineering of the entire pillar I), business models need to be adjusted immediately as portfolios cannot be changed overnight. The challenge will be significantly increased by the forthcoming capital requirement for the banking book.

The steering of banks will focus on CET1. The ability of the governments to set capital buffers will also mean that the CET1 capital requirement may become fairly volatile. Together these imply that profitability needs to be assessed and monitored very closely. Monolithic IT solutions are built for growth and not for change[6]. Hence changes in the business model (e.g. shut down of a dedicated trading desk) are not reflected in the cost structure and associated business processes. Thus banks find themselves locked in the status quo. More than ever banks will require an interwoven componentized infrastructures where costs and complexity are mirrored adequately. The "internal fight for lean operations", "battle of sophistication" and CET1 steering

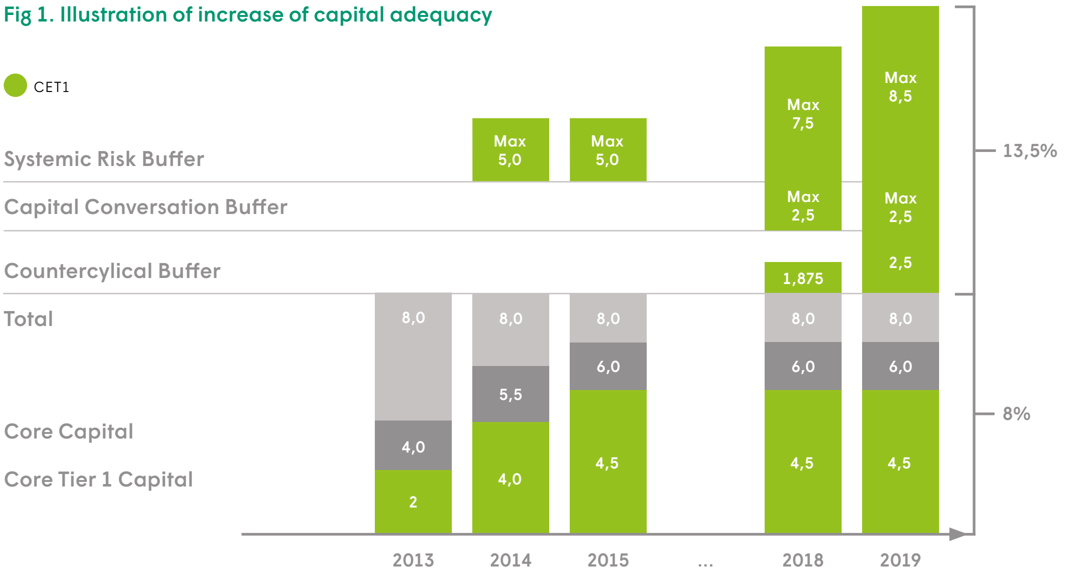
will break up the front office solutions into new architectures, e.g. a further decoupling of position keeping and pricing as well as decoupling across instruments.

As IT infrastructures need to be aligned with the business model, current bank's IT infrastructures are not a competitive advantage, they are liability. A perfect correlation of the evolving business model and cost becomes a focus. As business models become agile the IT infrastructures need to breathe in size, complexity and costs. Banks will need to capitalize on the value of a componentization of IT solutions, which will become superior to a monolithic cross asset focus. The new slicing of front office trading and treasury solutions will reinforce a further componentized approach. The new banking steering will require enriched capabilities of business model simulation, CET1 capital determination with joined simulations of RWAs.

CB-2. Impact and recommendation:
Multiple constraints vs. granular limitation

With fairly ad-hoc changing ratios (including ongoing national and global initiatives for further regulations), banks need an agile tool for enterprise steering. Capital (implicitly defined via RWAs) has typically been the constraining factor and therefore often a decisive measure for the steering of a bank. With Basel III the regulator(s) have introduced a significant number of new constraints (e.g. LCR, NSFS) and also the Leverage Ratio (LR).

Fig 1. Illustration of increase of capital adequacy



SOURCE: SEE PROF. HERMANN SCHUTE MATTLER IN PARTICULAR, OR E.G. ECB, CREDIT SUISSE

[4] SOURCE 4: THE OVERALL CAPITAL INCREASES FROM 8% UP TO 21.5% AND THE CET1 REQUIREMENT IS INCREASING FROM 2% (IN 2013) UP TO 18% FROM 2019 ONWARDS. THE CRUCIAL POINT IS THAT 13.5 PERCENT POINTS OF THE CET1 REQUIREMENTS IS DECIDED BY THE LOCAL GOVERNMENT.

[5] SOURCE 5: REQUIREMENTS TO BE FULFILLED STARTING JANUARY 2019.

[6] SOURCE 6: EXAMPLES CAN BE OFTEN FOUND IN THE FRONT OFFICE TRADING WORLD, BUT IT IS BY FAR NOT LIMITED TO THESE.

The Leverage Ratio is a non-risk sensitive measure, i.e. a US Treasury is as "risky" as loaning to a startup for framing services for the Death Valley. For many banks LR is the constraining factor going forward. As it is not risk sensitive it is not meaningful for bank steering. Likewise it is currently not practical to steer any business activity by an impact analysis on all constraints. Budgets for such exposures will be allocated to business units. Hence more complex, potentially automated transfer mechanisms with an agile, flexible limit solution are required for dynamic bank steering.

It is fundamental to identify every constraint and source consumption. This allows implementing an infrastructure which allows determining the current constraints and current utilizations under current and simulated scenarios (e.g. via a Monte Carlo Simulation). Constraints and resource consumptions have been transferred into a cost (sometimes benefits). This approach enables a bank to create an x-transfer pricing mechanism and ultimately steer a bank most efficiently in line with the business model. For constraints and resource consumptions where such an approach is not (yet) possible a time banded limit approach has to be introduced.

The bank's risk appetite allocation process has to be industrialized. The financial institution's front line and decision makers have to be empowered with a solution providing them a view on their individual binding constraints. A focus is on narrowing down the number of constraints. However it has to be expected that there are more types of limits and constraints as today.

Date-to-day profitability steering (PS) of a financial institution

In addition to strategic bank steering, the impact on day-to-day management and steering is also essential. Again, in this area banks have to decide whether to invest or exist.

PS-1. Impact and recommendation:
Trade by trade assessment

Every business transaction affects the profitability of a bank. Historically the commercials of many business activities have been agreed bank internally on the basis of a future cross-sale opportunity argument. In the new scenario each activity has to meet defined profitability thresholds. This scenario is in line with impacts S&C-1 and CB-1 above. This silo approach implies that the profitability of a certain granular business sector is permanently measured and monitored; a measurement which is nowadays infrequent and resource intense.

Hence banks need to upgrade their IT infrastructure to include a full transfer pricing mechanism to determine the true profitability of each business activity. This approach provides the required transparency in cross-sales discussions (ex-ante and ex-post) and also bridges the gap between theoretical expected lifetime costs and banks' realized costs, e.g. the FVA costs are based on theoretical optimal to collateral, but the collateral inventory does not necessarily allow to post the optimal collateral.

PS-2. Impact and Recommendation:
Customer engagement evaluation.

An innovative organization is holistic customer engagement view with an incremental trade-by-trade approach (PS-1). This means the entire profitability of a customer engagement (across the whole bank) is the business decision driver. A realization of this approach also means a change on the organizational structure of a bank.

With changing customer's organizational structures, ongoing mergers and acquisitions a consolidation is a challenge in its own right. Historically inflexibility in IT architectures, gaps in cost transfer mechanism and limitations in what-if analysis often prevented an accurate aggregation of customer engagements combined with pre-deal analytics. In memory technologies will gain traction in helping banks develop IT infrastructures that enable meaningful and complete views on customer engagement globally. Now where the IT infrastructure challenge is solvable much more flexible, will now transfer to the mandatory discussion on bank internal organizational adjustments. Those banks that address both trade by trade and customer engagement evaluation will lead in the profitability stakes likewise business decisions including cross-sales arguments are made transparent.

Conclusion – Opportunities for banks

As a result of identical regulatory incentives across the banking industry, the industry evolves towards a monoculture. Profitability and as profit is the capital of the future survival of a bank can only be achieved with investment into next generation IT architecture. Whereas profitability is the result, more accurate short term and strategic bank steering achieved simultaneously.

Bank steering becomes different and much more granular. The focus on Common Equity Tier 1 (CET1) and sophistication are key attributes of the next banking transformation decade. The entire customer view, transfer pricing capabilities, granular incremental analysis, limits and lean operations are further driving banks' investments into the 'Magna Carta' for an IT infrastructure.

The required complexity of such an IT-architecture requires banks to extend technological breadth. More than ever the requirements become interwoven; a new type of data and process management is essential. The new white spots on the Magna Carta of a bank's IT architecture need to be filled.

About FIS

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