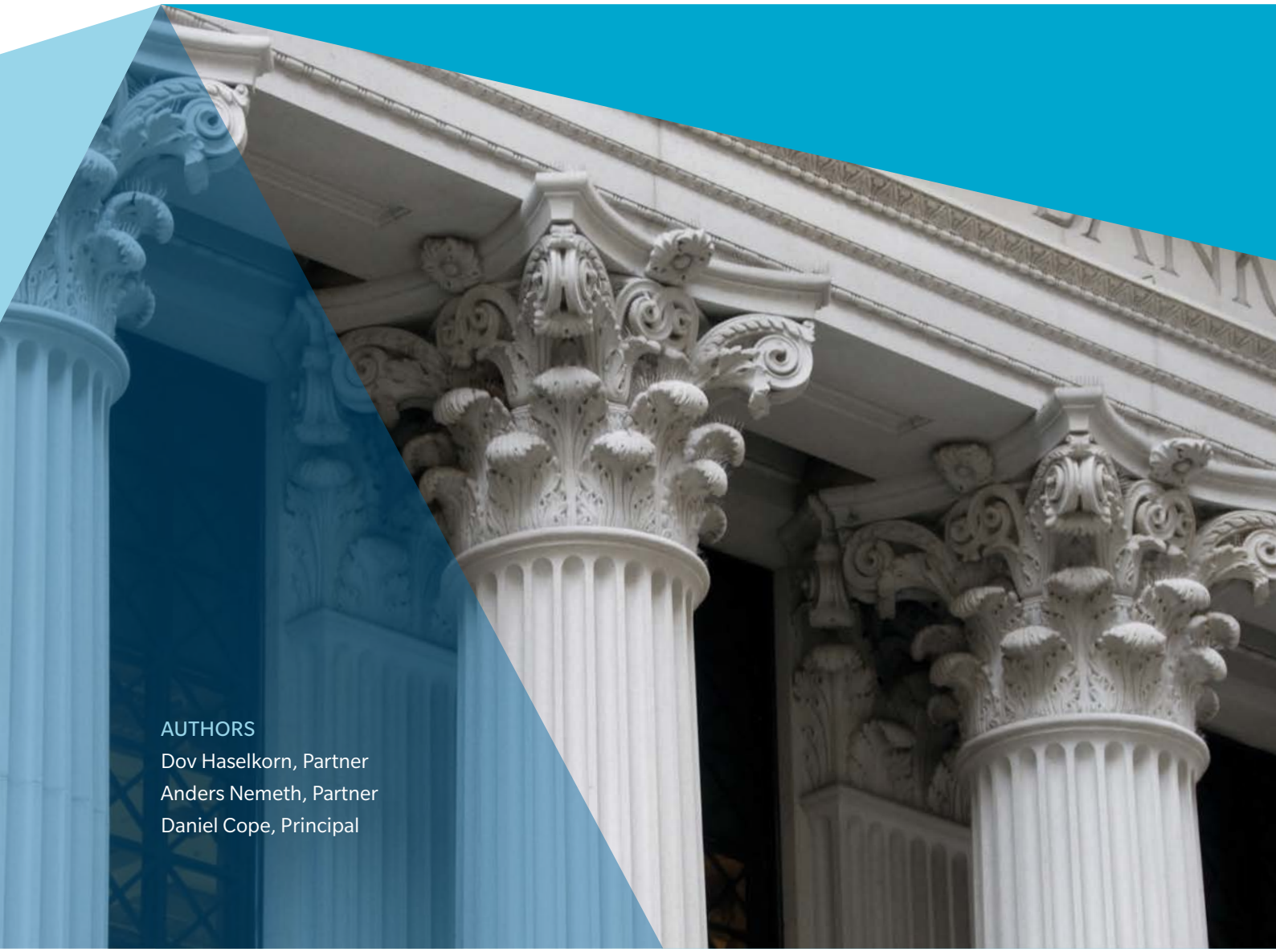
OLIVER WYMAN

Financial Services

MANAGING RWA CONSTRAINTS: A NORTH AMERICAN PERSPECTIVE

COMMERCIAL AND RETAIL BANKING



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1. INTRODUCTION

The recent financial crisis, uncertain economic growth, low interest rates, and new regulations are putting pressure on North American banks' return on equity, making capital efficiency a top-priority agenda item. In addition to implementation of Basel 2, banks are also responding to new regulations to implement Basel 2.5 and 3. Further, the Dodd-Frank Wall Street Reform Act contains provisions reaching nearly every financial institution in the US – far beyond the titular Wall Street investment banking community.

The sum total of these changes is resulting in re-engineered business models and increased compliance costs across the sector. In response, North American banks are actively seeking to mitigate lower post-crisis profits with aggressive cost reduction and capital management to meet return targets.

In this light, banks are exploring levers to manage risk-weighted assets (RWAs), improving capital ratios and returns. Done right, these projects will lead to increased transparency and accuracy in managing the capital costs of doing business – affecting high level resource allocation as well as the pricing and performance management incentives that shape day-to-day decision making. However, getting this right is a significant challenge for banks of all stripes, which will require strong engagement and coordination across the bank – from the top levels of management to stakeholders throughout Finance, Risk, IT and individual business lines.

In this paper we provide a framework for driving management of RWAs across all types of major banking organizations, and apply it specifically to the traditional credit risks arising from commercial and retail banking. In a companion paper[1], we also apply this framework to the market and counterparty risk types arising from trading and capital markets activity. While the specific technical challenges differ between trading or capital markets businesses and commercial or retail banking, there are core similarities in the framework and a number of the organizational challenges.

Given the similarities, our companion papers overlap considerably, but this paper focuses more detailed commentary on commercial and retail banks and provides specific examples relevant to these institutions.

1 MANAGING RWA CONSTRAINTS: A NORTH AMERICAN PERSPECTIVE: Market and Counterparty Credit Risks

2. IMPACT OF NEW REGULATIONS

Banks today face as material a sea change as they have since the aftermath of the Great Depression. Exhibit 1 describes many of the new elements of regulation impacting banks' RWAs.

EXHIBIT 1: KEY ELEMENTS OF REGULATION INFLUENCING RWAs

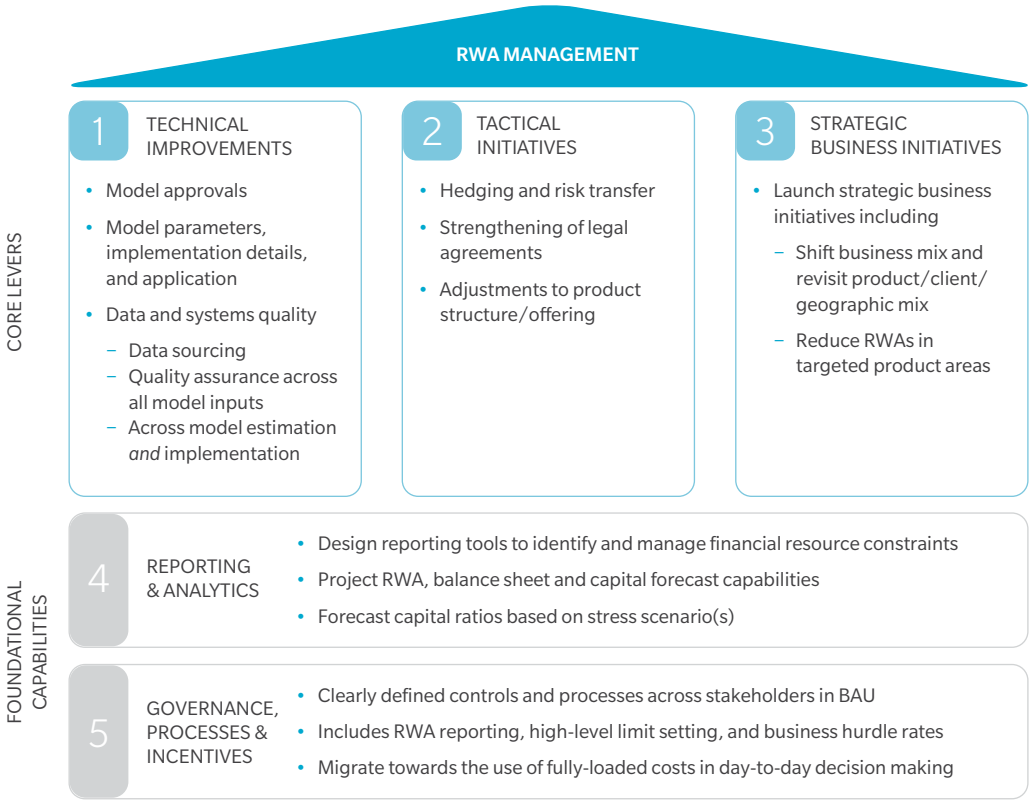
REQUIREMENT	SOURCE	DESCRIPTION
Advanced Internal Ratings Based Approach for credit risk (AIRB)	Basel 2	• The AIRB framework is the essence of Basel 2 and provides a framework for calculating risk weighted assets for credit risk, primarily impacting the banking book • While the Basel 2 regulations were released pre-crisis, it was not fully implemented and thus remains an area of ongoing work
Internal Models Method (IMM)	Basel 2	• Optional approach for counterparty risk within AIRB framework • Use of IMM models requires explicit regulatory approvals • Banks with large derivative trading activities require IMM approval to avoid the higher capital requirements of the Current Exposure Method
Credit Valuation Adjustment VaR (CVA VaR)	Basel 3	• CVA is a pre-existing accounting adjustment for the counterparty credit risk of trading book exposures • CVA VaR is a new capital adjustment to account for the volatility of CVA • Banks with large derivative trading activities will see an increase in RWA, particularly if they are on Current Exposure Method
Simplified Supervisory Formula Approach (SSFA)	Basel 2/ Dodd-Frank	• Required due to the Dodd-Frank Act's requirement to remove the use of agency ratings in supervisory requirements • Replaces Ratings Based Approach for securitizations in the banking book under Basel 2 • Uses externally-observable attributes of a securitization to establish RWA
Asset Value Correlation factor for financial institutions (AVC)	Basel 3	• Increased the supervisory asset value correlation assumption for unregulated financial institutions and large financial institutions to account for the systemic risk posed by the likelihood that many financial institutions will fail together
Comprehensive Risk Measure (CRM)	Basel 2.5	• Intended to incorporate all risk factors affecting corporate CDOs into a single risk measure • Corporate CDO positions not covered by an approved CRM model attract more conservative standardized charges
Incremental Risk Charge (IRC)	Basel 2.5	• Intended to incorporate capital for default and migration risk of non-securitization credit exposures in the trading book
Stressed VaR (SVaR)	Basel 2.5	• Requires banks to calculate an additional VaR measure using a stressed market period as the calibration window • Intended to mitigate pro-cyclicality of pre-existing market risk VaR measures

The most significant items for commercial and retail banks are highlighted. Chief among these is the core AIRB requirement of Basel 2. The requirements of achieving AIRB touch on nearly every part of commercial and retail banking. The SSFA and increased AVC will have a smaller impact on most commercial and retail banks at a top-of-the-house perspective, but may significantly impact certain groups. In particular, the Treasury will need to account for the changes in the ratings approaches for securitizations and account for the increased AVC applied to large or unregulated financial institutions.

3. FRAMEWORK FOR RWA MANAGEMENT INITIATIVES

Oliver Wyman's RWA management framework covers five levers, depicted in Exhibit 2, which should be explored in any RWA management initiative.

EXHIBIT 2: OLIVER WYMAN RWA MANAGEMENT FRAMEWORK



The core levers represent initiatives that can directly reduce RWAs, while the foundational capabilities provide the necessary infrastructure to enable the core levers to achieve the maximum reduction possible. The following sections will detail a variety of initiatives within each of these categories that we have identified in different client situations.

We see two main challenges in implementing RWA management.

Firstly, each of the core levers above tends to require the engagement of different functions within the bank. At a minimum, technical levers will typically involve Risk methodology teams, IT teams involved in both data and model implementation, and possibly other stakeholders who may own data sources. Tactical initiatives will involve a combination of the front office groups originating business, and the middle office, operations and legal groups that support them. Strategic initiatives may involve the senior levels of product, client and group level management, but also depend significantly on forecasts of segment-level revenue, cost and RWA from the Finance and Risk organizations.

Secondly, the effectiveness of such initiatives can be impaired if they run in silos with independent prioritization. The benefits of a modeling decision to recognize partial guarantees, for example, can only be realized if the IT systems are in place to track those guarantees and the credit processes are changed to encourage the taking of guarantees and require they be recorded in the system.

Given the distributed nature of the opportunities and responsibilities for RWA optimization, success depends on sustained, informed commitment and sponsorship by senior executives. It also requires rigorous program management to ensure disciplined, coordinated execution across functional lines. Such coordination can ultimately make these initiatives mutually reinforcing.

For instance, Basel modeling teams may face pressure to deliver according to tight qualification timelines, which may for example lead modelers to make conservative approximations in place of resolving historical data issues. An effective technical review of the models may require an 'outsider' view to challenge these conservative assumptions and build consensus around any investment required in data quality.

Similarly, tactical and strategic initiatives must be prioritized and selected by the business line and Finance based on output from the risk modeling teams. Once initiatives are implemented, the modeling teams will need to reflect the changes to the underlying business in the models to realize the desired impact.

A strong central program manager empowered by senior executives can drive coordination among all of these groups.

4. TECHNICAL IMPROVEMENTS

For commercial and retail banks where core Basel 2 AIRB models are the primary drivers of RWA, technical improvements can yield significant reductions through a detailed review of PD, LGD, and EAD models, removing any inefficiency in modeling techniques and capital calculations, and improving data quality. Exhibit 3 shows a range of such initiatives.

EXHIBIT 3: TECHNICAL IMPROVEMENT INITIATIVES

CATEGORY	INITIATIVES
Data	• Avoid data cleaning and aggregation approaches that rely on "worst of" methods, e.g. lowest FICO score for co-borrowers • Ensure exposures are mapped to appropriate models and avoid use of "catch all" methods imposing conservative penalties • Review system data flows for integrity and efficiency (e.g. link front line databases to central data store) • When applying models, review rules for missing input data to avoid conservative treatments; instead consider modeling 'missing' as an input value
PD modeling	• Review time periods included to avoid biases caused by heavily weighting development data toward the Crisis; manual data collection efforts may pay for themselves • Ensure benefit is given to low-default segments, e.g. muni bonds, GSE debt • Consider special treatment/segmentation for inactive accounts to appropriately capture their reduced default risk • Review treatment of attrited accounts to ensure PD estimates include these observations as "partially good" • Ensure ratings/PDs are assigned to all obligors to avoid punitive assignments
LGD modeling	• Collect/obtain data to demonstrate effectiveness of risk-mitigating terms (e.g. collateral values) • Adjust LGD observations to account for extended recovery timelines • Review downturn period identification • Ensure consistency of PD and LGD data, e.g. ensure zero loss events are accounted for in either PD or LGD • Reconsider any usage of the supervisory mapping function • Consider segmentation of workout costs and limiting only to post-default workout costs • Include gains from workout in LGD estimates • Include pre-default drawdowns in exposure as a recovery • Review LGD discount rate
EAD modeling	• Impose regulatory floor on EAD estimates on model final outputs • Consider utilizing downturn EAD only • Ensure EAD estimates accurately account for portfolios where limits vary frequently, e.g. ABL and borrowing base
Other	• Ensure effective maturity is calculated using weighted average cash flows • Ensure exposures eligible for effective maturity < 1 year receive the benefit • Consider full modeling of non-material portfolios where RWAs under advanced approaches are likely to be significantly lower • Review exposure categorization to ensure best treatment is used, e.g. ensure FIs not subject to 1.25 AVC multiplier receive the benefit

EXAMPLE: WEIGHTED AVERAGE MATURITY VS. CONTRACTUAL MATURITY APPROACH FOR MATURITY ADJUSTMENT PARAMETER

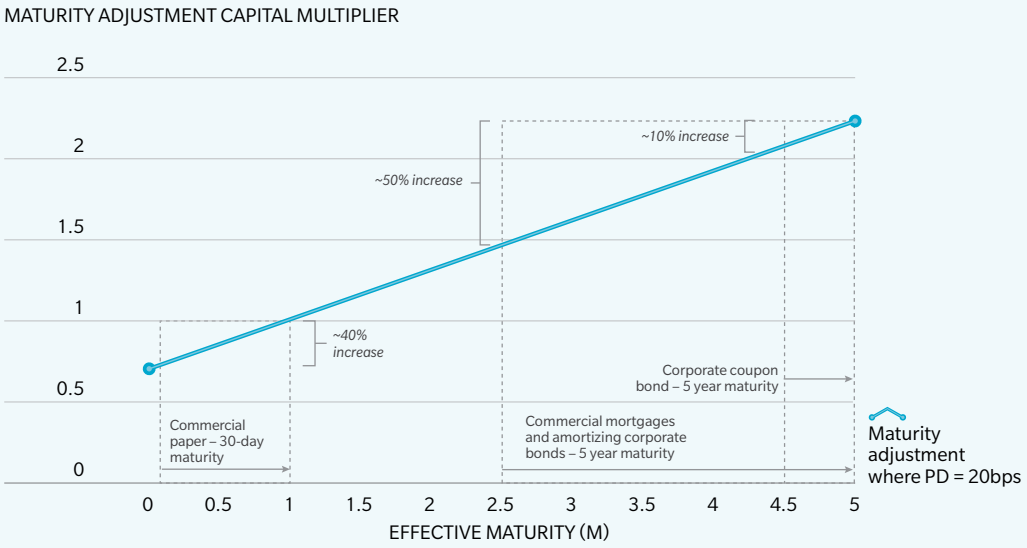
The maturity adjustment parameter calculated utilizing the weighted average maturity of expected cash flows can vary materially from the contractual maturity. This is especially true for:

- Commercial mortgages and amortizing bonds and loans, where weighted average maturity would be approximately half of contractual maturity
- Bonds and loans with maturity less than five years, where coupon payments result in a weighted average maturity moderately less than the contractual maturity

Banks often fail to implement a weighted average maturity calculation method due to difficulties in calculating cash flows even for products with defined cash flow schedules. And few banks have grappled with how to assign a weighted average maturity adjustment parameter when cash flows are subject to adjustable rates. Additionally, the maturity adjustment presents a further challenge in accurately tracking which exposures qualify for an effective maturity of less than one year.

Nevertheless, as Exhibit 4 shows, the increase in the maturity adjustment capital multiplier when resorting to the contractual maturity method or applying the floor of one year unnecessarily can be severe.

EXHIBIT 4: CAPITAL IMPACT OF OVERSTATED EFFECTIVE MATURITY PARAMETERS



5. TACTICAL INITIATIVES

Tactical initiatives can significantly reduce RWA levels in the near-term by adjusting product structures, tracking specific loan terms, managing limits, and improving risk transfer strategies while limiting the impact on the business. Exhibit 5 shows an illustrative range of tactical initiatives that we have seen be effective.

EXHIBIT 5: TACTICAL INITIATIVES

CATEGORY	INITIATIVES
Hedging and risk transfer	• Assess efficiency of **collateral management**: – Allocation of shared collateral to RWA intensive obligations – Collateral types eligible for more favorable treatment • Consider options to **take assets off balance sheet** where the cost of holding on balance sheet are uneconomic • **Recognize all guarantees**, including partial guarantees, by creating necessary tracking and calculation engines
Tactical business actions	• **Manage down limits** of under-utilized credit cards and lines of credit • **Re-examine profitability** of credit cards with limits over $100,000 • **Incentivize refinancing** of under-utilized home equity lines into new mortgages • Review credit card agreements to **minimize cards disqualified from QRE treatment** • **Alter product design** to lower risk profile and adjust risk parameter estimates accordingly, e.g.: – Tighter mortgage underwriting requirements – Increase collateral requirements or security interest perfection standards

EXAMPLE: INACTIVE AND UNDERUTILIZED LINES

Inactive and underutilized credit lines can be a significant contributor to capital. Within commercial banking, relationship managers typically strive to offer the highest limits possible for lines as a way of attracting and retaining clients, sometimes without regard for the resulting capital impact. A typical bank-wide line utilization rate might be 50%. Lowering limits to achieve a 75% utilization rate can significantly decrease capital requirements: a 15-20% decrease is achievable depending on EAD estimates. Even achieving a more modest 60% utilization level can reduce capital as much as 10%.

A similar effect appears within retail banking. Banks may seek to increase the number of credit card and home equity line accounts opened, along with the average spend and balances of open accounts. Without incorporating the cost of unutilized lines into the equation, such analysis risks assigning limits that may not be utilized but will attract significant amounts of capital. Furthermore, because analysis typically demonstrates that higher lines result in higher spend and balances – with diminishing marginal returns of course – this may lead banks to further increase lines to drive spend and balances without fully accounting for the associated capital costs.

6. STRATEGIC BUSINESS INITIATIVES

Strategic business initiatives can significantly reduce RWA levels in the medium- to long-term by re-configuring, or even exiting, RWA intensive businesses. Senior management requires a range of reporting metrics (including revenues, costs, RWAs, balance sheet usage) to determine which low-return/high RWA-consumption segments are exited or downsized and which represent high-return/low RWA-consumption opportunities. Examples include re-structuring marketing of revolving products to avoid customer segments unlikely to utilize their line, or alternatively to structure the product to charge such customers greater inactivity fees. Exhibit 6 shows examples of strategic business initiatives.

EXHIBIT 6: STRATEGIC BUSINESS INITIATIVES

CATEGORY	INITIATIVES
Shift in product/ business mix	• **Reexamine present business** mix given changed RWA economics – Triage businesses as profitable/unprofitable/"gray areas" – Re-weight portfolio to focus on advantaged segments/products • **Redesign products** to continue to serve underlying client/customer needs at more acceptable capital levels e.g. – Design limits for new clients to reduce unutilized lines – Add fee-based income to products that consume RWAs without producing interest income – Configure products around new regulatory 'cliffs' such as the $100,000 credit limit for QRE treatment • **Reassess pricing** for products that attract higher RWA, for example – Lot loans not qualifying for 'residential mortgage exposure' treatment may be mis-priced – Fronting LCs where RWAs are held against both the customer and the participating banks
Shift in client mix	• Reposition or **exit client segments** with low return/high-RWA consumption (over the cycle) • **Enter client segments** whose economics are newly favorable (on an absolute or relative basis)
Legal entity structure	• **Optimize legal entity structure** to minimize trapped capital, liquidity and funding • **Eliminate entities** with restrictive charters that may trap capital or liquidity in the future
Client education	• **Educate sophisticated clients** about implications of regulations and ways to optimize financing structures to mitigate impact

EXAMPLE: INCORPORATING RWA IMPACT INTO SALES INCENTIVES

The calibration of sales incentive schemes for both retail and commercial bank staff frequently neglect to include the RWA impact of additional sales. Additionally, they may incentivize sales of individual units rather than sale of products that maximize profit per RWA.

A typical branch incentive scheme may offer incentives for the sale of credit cards, mortgages, and home equity products calibrated based on expected average balances and the profits flowing from those balances. However, each of these products will impact RWAs very differently. Importantly, incentivizing the sale of line products – both cards and home equity – must compel staff to properly evaluate the likelihood that customers will ultimately draw on these products.

7. REPORTING AND ANALYTICS

In order to steer RWA management initiatives, senior management will require a regularly updated view on the business and client segments that are driving RWA, the returns associated with those same segments, as well as estimates of "trapped" RWA that could be unlocked by various technical and tactical initiatives. While each of these can be estimated as a one-off review when kicking off the program, enhanced reporting and analytical capabilities are needed to track progress and understand how these measures evolve.

Finance and Risk functions should have integrated and well-structured reporting and analytical capabilities to support RWA management efforts. These would include senior management dashboards to track progress to stated targets across identified initiatives, as well as forecasting and high-level scenario planning capabilities.

In addition, front office staff should have reporting to make decisions which are informed by capital impact. This is particularly challenging but also crucial to allow font-line staff to properly price for increased risk and to incorporate an accurate view of all costs into their decision-making. Transparency to front-line staff is also critical to allow them to both effectively participate in the model design process and to react appropriately to signals these risk models are sending.

Exhibit 7 illustrates a number of supporting capabilities which are key to effectively managing an institution's RWA constraints.

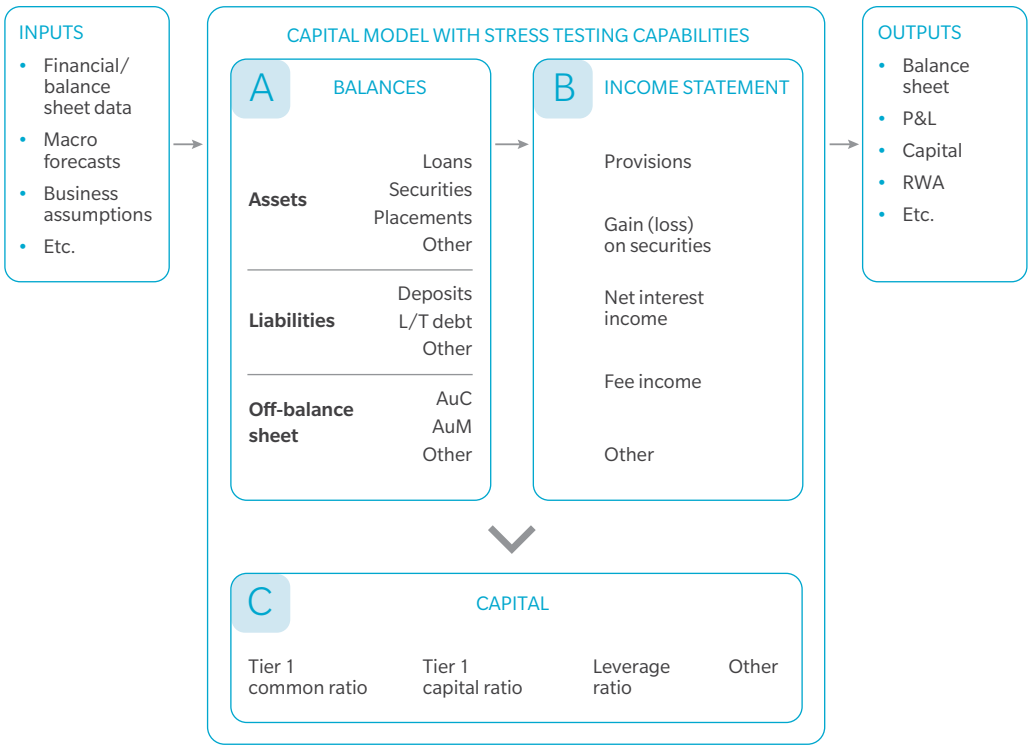
EXHIBIT 7: REPORTING AND ANALYTICS CAPABILITIES

CATEGORY	CAPABILITIES
Reporting	• Reporting **supports management decision-making** beyond regulatory reporting requirements • **Content and process** of reporting promotes business objectives through timely delivery of data tied to incentives • Design tools to **identify and manage** financial resource constraints
Distributed analytics	• **Loan pricing tools** including RWA impacts • **Granular portfolio analytics** to identify retail and commercial segments making outsized contributions to RWA, and articulate alternatives for disposing or hedging, or soliciting these customers for more optimal products • Incorporation of RWA analysis into **retail targeting models** and **commercial relationship manager incentives**
Centralized analytics	• Develop flexible and integrated **balance sheet, capital, and P&L model** – Multi-year modeling of balance sheet evolution and P&L (base versus stress scenarios) – Correctly captures earnings accretion, interest rate and credit spread sensitivity – Will be used to test alternative strategies for efficient frontier analysis – Sets expectations and supports decision making • Include **stress testing capabilities** to determine post-stress Tier 1 Common ratio and ROE under different balance sheet scenarios • Review **asset and liability characterization** including margins, spreads, losses, spread duration, interest rate duration, balance forecasts, stable/persistent, mortality,and re-pricing

A flexible analytical framework is needed to generate pro-forma P&L, balance sheet, and core capital ratios under different management-defined scenarios. Additional analysis can stress P&L forecasts under a macro economic downturn (e.g., CCAR-type scenarios) and carry out sensitivity testing with different core assumptions. Exhibit 8 shows target analytical capabilities which can support a review of different balance sheet scenarios with associated RWA levels.

These reporting and analytical tools will allow a view into the impact of the macroeconomic environment on the RWA position. This will support RWA management strategies that are resilient to changing macroeconomic environments. At their most advanced, these capabilities would produce RWA impacts that incorporate both macroeconomic scenarios and management decisions, such as currently-planned strategies and planned strategies that are contingent on macroeconomic conditions.

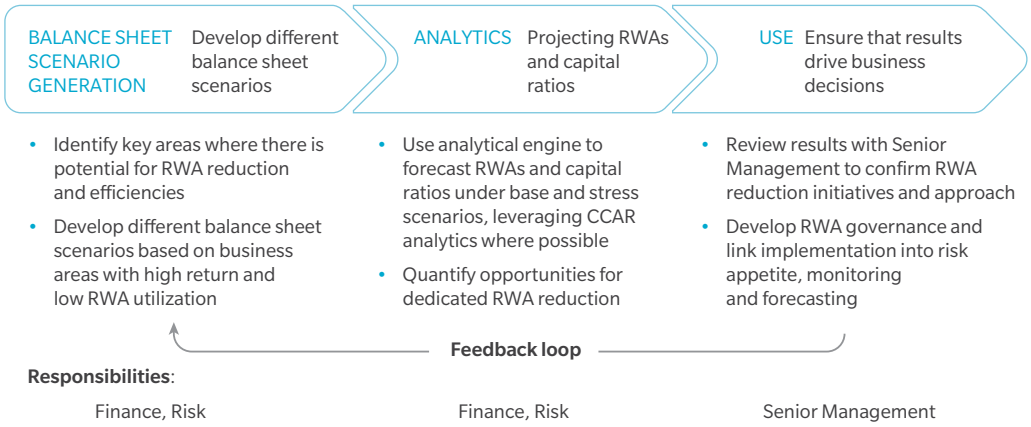
EXHIBIT 8: MANAGING RWA AND CAPITAL RATIOS REQUIRES SIGNIFICANT ANALYTICAL CAPABILITIES



Analytical capabilities enable banks to consider many of the strategic initiatives discussed in Section 6: repositioning business, asset and liability strategies, as well as dividend and capital decisions. Defining balance sheet scenarios, interpreting results, and developing business decisions requires significant stakeholder input from Senior Management – to include the CEO, CFO, and CRO – and from the Finance and Risk teams below them. The coordination required is shown in Exhibit 9.

For example, understanding how an asset-based lending loan portfolio's RWAs might react to a downturn in collateral values may point to a number of potential initiatives, including reducing the exposure to particular collateral types, restructuring loans to diversify collateral types or cross-collateralize deals, and reconsidering the pricing of deals involving specialty collateral.

EXHIBIT 9: SENIOR MANAGEMENT, FINANCE, AND RISK PLAY AN INTEGRAL ROLE IN FORECASTING RWA AND CAPITAL RATIOS TO HELP DRIVE BUSINESS DECISIONS



8. GOVERNANCE, PROCESSES, AND INCENTIVES

There are two fundamental challenges in organizing and governing for greater RWA efficiency: the **program management** challenge of coordinating across a set of business, risk and IT initiatives to bring today's RWA under control, and the **organization design** challenge of setting up incentives and responsibilities that embed new metrics of capital efficiency into tomorrow's business-as-usual.

MANAGING THE PROGRAM

As alluded to in Section 3, the distributed nature of the work required in transition presents a unique program management challenge of its own. Many stakeholders across Risk, Finance, IT, operations and other functional groups will need to pull together to address both technical and tactical initiatives, and to provide the information needed for senior management to set priorities.

Given the distributed nature of the opportunities and responsibilities for RWA management, success depends on sustained, informed commitment and sponsorship by senior executives. It also requires rigorous program management to ensure disciplined, coordinated execution across functional lines.

At most institutions, large program teams have been assembled for achieving Basel 2 compliance and adapting to regulatory reforms. As these programs achieve their objectives and transition to business-as-usual, some of their surge resources and program governance mechanisms may be repurposed toward the goal of reshaping RWAs.

DESIGNING THE FUTURE ORGANIZATION

Transparency, achieved through strong reporting and analytics described in the previous section, plays a major part in enabling the business-as-usual optimization of RWA. Once they have transparency on the risk costs they will face, front office staff will naturally shift activity to optimize the economics of their business. However, governance and incentives are critical: if incentives are poorly aligned, transparency may also incentivize gaming the system. If strong governance is not in place, such gaming can become endemic and harder to root out.

Most leading banks already embed existing risk costs (including RWAs and liquidity) into capital allocation, pricing and performance measurement, at least at the business unit level. However, in addition to pushing through changes to the metrics being allocated, the challenge of RWA optimization may prompt more granular allocation to enlist the efforts of retail branch-level staff and commercial relationship managers more directly. Alternatively, banks may embed such optimization mandates in new or expanded centralized functions, e.g. retail targeting or decision science teams, the design of a commercial loan pricing tool, or the construction a branch incentive scheme. In either case, a good deal of detailed design must go into the structure of both responsibilities and incentives to make either approach work.

Exhibit 10 shows a range of governance, processes and incentives capabilities which should be established.

EXHIBIT 10: GOVERNANCE, PROCESS, AND INCENTIVES

CATEGORY	CAPABILITIES
Governance design decisions	• Oversight responsibilities of different stakeholders – Role of ALCO vs. senior management/executive committee – Level of involvement of Board of Directors and Board committees (especially Risk and Compensation Committees) • Committee requirements. E.g., composition, mandate and responsibilities • Business unit level review to ensure appropriate internal allocation • Design of optimization groups, where responsibility not further allocated
Technical design	• Decide nature of incentives for RWA management • Design approach for capital cost allocation approach: – What gets allocated (E.g., standalone RWA, marginal RWA contribution, other) – If allocating diversification, whether to fix at inception or update – Frequency, timing of charge – Smoothing or charging for RWA volatility
Process design	• Decision on level to which allocations are made • Process to review, reclaim and re-allocate financial resources • Escalation process for resource limit excess • Incorporate balance sheet, capital and funding in annual strategy and budgeting process • Agree limit setting approach and connection to risk appetite and targets
Incentives	• Approach to target setting (returns on resources, quantum of economic profit) and role in P&Ls • Connection of targets & limits to wholesale incentives – at what organizational level to apply • Choose metrics and link to compensation • Approach to monitoring resulting behaviors

CONCLUSION

At its core, RWA management requires retooling a bank to operate in a world with a radically altered capital regime. With capital serving as a fundamental constraint to banks' strategic planning and business decision making, the significant changes imposed by Basel 2, 2.5, and 3 combined with additional provisions of Dodd-Frank represent a major shift for banks. The necessity of retooling is no longer debatable; the question is when and how. The institutions that most quickly and effectively adapt their capabilities and planning to this new environment will have a key advantage in managing through the headwinds and renewing earnings growth.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

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