

## WHITEPAPER

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# Technology: Key to Building an Effective Risk Appetite Framework

## Defining the challenge

Risk appetite is not a new concept within the financial services industry. Senior risk executives at banks have always held risk appetite as one of their key priorities to continually define and re-optimize their portfolios in response to macroeconomic volatility. Attention to risk appetite by bank executives gets magnified during economic downturns. Regulators, however, keep a steady eye on risk appetite in good times and bad. They have pressed banks to develop risk appetite statements, establish strong reporting and monitoring infrastructure, provide better clarity around roles and responsibilities, and ensure that strict policies and guidelines are established.

Banks have responded with efforts to improve their risk management capabilities and remediate regulatory concerns. Yet challenges remain in raising risk appetite measures to the level of top management and making them relevant to downstream business units on a day-to-day basis, linking risk appetite to business decisions and having appropriate business metrics to monitor. Banks continue to face communication challenges in taking their risk appetite frameworks to the front line and simultaneously relaying the impact of front-line decisions back to the risk appetite limits. In short, successfully establishing, implementing, and enforcing risk appetite continues to be challenging.

This paper will explore several common risk appetite challenges and how technology can help improve risk appetite frameworks and implementation at banks of all sizes.

## What is risk appetite and why is it important?

Regulators have defined risk appetite as the aggregate level and types of risk a bank's board of directors and management are willing to assume to achieve its strategic objectives and business plan, consistent with applicable capital, liquidity, and other regulatory requirements. From a practical standpoint, credit risk appetite is about setting boundaries around the bank's credit risk activities. That could take the form of setting limits for business divisions, geographical regions, sectors, industries, products, top customers, and other customers based on their risk grade.

Risk appetite is a key component of a bank's risk management framework. Effective risk management is fundamental in ensuring that there is an appropriate balance between risk and reward to maximize shareholder returns. In today's low interest rate environment, bank executives are under increased pressure from shareholders to deliver earnings growth by rolling out new products and services and entering new markets, which means potentially taking on more risk.

Good risk management does not involve avoiding risk at all costs. Nothing ventured, nothing gained. Instead, effective risk management implies taking on additional risk as long as the bank is making informed choices regarding the risks it wants to take in pursuit of its objectives and has measures in place to mitigate those risks. Mismanagement of risk appetite will not only bring the ire of regulators, but it can also have serious ramifications for the bank. These include incurring losses due to an inappropriate management of concentrations in the portfolio, bad decisions on risk/reward trade-offs, and lack of awareness of hidden risks in the portfolio.

Having a strong risk appetite statement and well-established policies and procedures is important. Equally important is the effective implementation of this framework. Critical elements in putting a risk appetite framework into action include the ability to monitor, enforce, and report on compliance with risk appetite. And the ability to do so effectively is dependent on having the right IT infrastructure, systems, data, and analytical capabilities in place.

#### Four challenges in implementing a credit risk appetite framework

Based on discussions with a number of credit risk executives at small and large banks, we have identified four key challenges to implementing an effective credit risk framework:

1. Ensuring data quality and integrity
2. Setting appropriate limits
3. Implementing and enforcing risk appetite limits
4. Monitoring limits and managing breaches



## 1. ENSURING DATA QUALITY AND INTEGRITY

One of the most common risk appetite challenges cited by banking executives is data quality and integrity. Data quality and integrity not only help establish a clear understanding of risk appetite based on measurable metrics, they are essential to making fair, timely, and accurate credit decisions.

Poor data quality may lead to poor definition of risk appetite, which in turn leads to unverifiable data aggregation outputs. Let's look at an example of how inadequate data can create risk appetite challenges. Most banks have concentration limits in place for customer relationships. Thus, when making a credit decision, a bank needs to have a clear understanding of all products involving credit risk that are tied to that particular client and its related entities. The bank also needs to have a fast and seamless way to see its complete exposure to ensure it's not over-exposed at the time of origination. No banker wants to approve additional credit that would trigger an unnecessary breach of risk appetite limits, especially if a particular sector is experiencing difficulties. But error-prone and inadequate manual processes can have exactly that result.

Another issue we've heard from banks is that each of their product offerings has a different booking system, and these systems do not communicate well with each other. Also, when making acquisitions, banks have often neglected to consolidate all their credit risk systems. Multiple sources of risk data resulting from acquisitions and multiple types of products can be difficult to bring together. The accumulation of these acquisitions together with diverse, unintegrated systems have created significant challenges over the years as banks got bigger, putting the spotlight on the issue of data integrity. These data issues require further refinements and validation by the credit and risk teams.

Making sure you're staying within the exposure boundaries of a single-client relationship is not the only limitation in place. Banks have concentration limits for overall products, top customers, industries, and more. In the previous example, we had to aggregate exposure across an entire client relationship. Now we have to aggregate the exposures across products, industries, countries, regions, and more. Having to gather that information manually and source it from different systems, or even spreadsheets, creates a process prone to human error. It's also a highly inefficient process, which demands significant man-hours and also creates the possibility of not properly sizing risk.

Regulators are increasingly demanding that a solid risk governance framework should include policies and processes to provide risk data aggregation and reporting capabilities. In order to accomplish this, banks should have the necessary IT infrastructure to store and archive data and support risk aggregation and reporting needs in order to capture material risks, concentrations, and emerging risks in a timely manner.

Technology systems today can significantly improve data quality and data aggregation. Current systems offer one single source of truth, with the ability to gather the various risk data in one system that is easy to view and pull information from. There's no need for checking multiple systems, tracking exposure in spreadsheets, adding up numbers, and asking internal groups whether they are aware of any exposure to that particular client. Systems can now offer a detailed view of all subsidiaries of a particular client within that relationship hierarchy – and not just loans, but all products. These systems can also aggregate all the exposures across products, industries, regions, and so forth.

## 2. SETTING APPROPRIATE LIMITS

This brings us to the limit-setting process. At banks, it is usually the risk management function that is responsible for the design and application of the bank's risk appetite management framework. Although this group is typically independent of the bank's business units, risk executives often complain that their business counterparts don't participate in setting risk appetite limits. And rightfully so, as the first line of defense

must be the responsibility of the business units and the originators of risk. Hence, the absence of buy-in from business unit leaders makes it difficult to set and enforce risk appetite limits.

At times, setting risk appetite is not regarded as a paramount issue among business unit leaders, who view it as a risk function and are content as long as the limits passed down to them don't interfere with business growth. On other occasions, business unit leaders complain that limits are set arbitrarily and there isn't enough business justification for how limits were produced. Relying on an arbitrary and poorly justified set of limits could hamper the ability of business units to drive revenue growth without increasing risk, they argue.

Regardless, the key question is why do limits tend to be based more on individual judgment rather than scientific data? Some common explanations that emerged during our discussions with bankers include:

- » We don't have the data to conduct the thorough analysis required.
- » We don't really have the capabilities, resources or time.
- » We could not get business leaders to articulate their tolerance for volatility or loss.
- » Limits were not connected to business strategy because loan forecasts were prepared by finance and risk with limited input from business.
- » We rely too much on risk executives' gut feelings and experience.

Some ways to deal with this situation are to align compensation with risk culture and take a collaborative and analytical approach to limit setting that is well articulated, tied to business objectives, and clearly demonstrates the consequences of breaching limits.

In addition, banks can leverage the significant amount of funding and resources that have already been allocated to conduct regulatory stress testing to help set risk appetite limits using an analytical approach. Unfortunately, the units preparing the stress testing and limit setting often don't share the same technology and don't interact with each other.

Moody's Analytics is at the forefront of stress testing and risk appetite limit-setting research. We have worked to help clients better express their risk appetite limits through a well-defined analytical and quantitative approach. This analysis can help tie risk appetite metrics to the strategic direction of the business, which is still a very difficult process in need of improvement. Ultimately, this approach can help risk management set appropriate and dynamic limits, reset limits as the market environment changes, obtain business buy-in, and improve the bank's overall risk culture.

### 3. IMPLEMENTING AND ENFORCING RISK APPETITE LIMITS

As discussed above, effective risk appetite can be thwarted by integration challenges between risk, business, and other functional areas at banks. This same dynamic influences the implementation of risk appetite limits at the various business units and origination points. Lack of cultural alignment and unoptimized processes often prevent the risk appetite framework from being adopted by the business units or the point of origination, rendering it ineffective.

Some of the factors that make it difficult to integrate limits across business units and reinforce risk awareness at the frontlines are both cultural and process driven and include:

- » Originators of the credits don't necessarily know the limits in place. ("I didn't know there was a top 20 customer limit.")
- » They find it difficult to determine if a certain credit is going to cause capacity issues, because they don't know where to look.

- » Limits utilization reports are stored on an internal website which isn't often updated, so they think they have capacity but they don't.
- » They couldn't see all the exposure tied to a customer and missed some that caused the overage.

Clearly, banks still have problems with appropriately sharing all the limits in place with the individuals who are originating risk. On the other hand, originators want to spend their time on winning new business and generating revenues. Finding out who they need to call, where the data is located, knowing all the limits out there, and checking if other units may be using up capacity is time stolen from generating business and responding to clients.

Luckily, new credit origination technology can help mitigate these issues and make the process more efficient and proactive. For example, Moody's Analytics offers solutions that allow bank officers to see at the point of origination whether a potential deal is going to breach any risk appetite limits. At that point, before moving forward, the red flag is raised if there is a potential limit breach. Originators can then decide to continue the approval process and seek an exception or escalate it to higher-ups or even decline the deal. Interestingly, having an automated mechanism to check limits at the time of origination is not a widely adopted solution in the banking industry. At many banks the process is still a highly manual one, consisting of checking reports and spreadsheets to ensure compliance, where automation could bring significant benefits in terms of time and accuracy.

A robust origination system with feedback mechanism will make it easy for banks to quickly put in place any additional approval requirements and flag any transactions where limits are close to breach or an industry is experiencing rapid deterioration. This also helps the bank remain within its risk appetite limits and closely monitor exceptions. Once banks can immediately disseminate new risk appetite limits, even in a rapidly changing market environment, there can be no excuses that individuals on the frontlines didn't receive the notice or wrongly thought that they were in compliance.

Thus, automation will make the process more efficient, but also enhance governance around risk appetite and overall portfolio management. Additionally, automated technology will allow credit originators to focus on "non-administrative," value-added tasks and build stronger relationships with clients.

Another factor in enforcing risk appetite limits is cultural alignment. The bank's risk culture will dictate whether or not business units feel that limits can be breached without much consequence. This really starts at the top. Senior business unit leaders need to understand the metrics, contribute to the limit setting, buy in to them, and reinforce the message that breaching these limits has consequences. Unfortunately, in reality this is not always the case, leaving the risk appetite framework open to avoidable lapses.

#### **4. MONITORING LIMITS AND MANAGING BREACHES**

The topics we have discussed so far may suggest that comparing exposure to limits is an "after the fact" process – after the deal origination is done – rendering limits management reactive rather than proactive. Such is not the case. As part of building a robust and successful risk appetite framework, banks should establish processes to:

- » Identify real time breaches of the risk appetite statement or concentration risk limits.
- » Establish protocols for quickly disseminating information regarding a breach.
- » Provide details on the breach resolution and any impact on the risk appetite limits.

The use of spreadsheets to monitor risk appetite limits is more common than people think. To this day, banks spend a considerable amount of time generating reports that aggregate data across multiple systems and

silos. Employees then consolidate the information, conduct various calculations, and compare the results to established limits. The magnitude of the calculations is amplified by the number and type of credit risk limits in place and the complexity of the bank's portfolio.

Moreover, reports are usually not prepared on a daily basis. Reports compiled on a bi-weekly or monthly basis are usually manually generated and stored in an internal site. There are several problems with this approach:

- » The task of manually aggregating and calculating data is a significant use of resources and time that can be better spent in client-facing, revenue-generating activities.
- » Manual calculations are subject to human error and thus may not accurately identify and quantify risks.
- » The untimely identification of a breach often means fewer options for resolution. By the time a breach is identified, significant damage may already be done.

Identifying limit breaches and near-breaches in a timely manner is critical to a dynamic risk appetite monitoring process. Limits should be reviewed and updated frequently, as changes in market conditions, risk tolerance, strategy, or other factors arise. Having ready access to customer and portfolio data, and where various exposures stand against limits, is essential to make prompt portfolio decisions.

Breaches must be identified as they occur, automatic alerts sent to the right decision-making individuals at the bank, and the breach and resolution must be well documented so it can be audited in the future. Manual calculation and spreadsheets cannot guarantee this; only a strong IT infrastructure with limits management capabilities can achieve this desired state.

Limits monitoring should also be about continuous verification of the relationship between the risk taken and the return received. No one wants to hamper business growth, but capital is finite and banks need to make decisions on where to allocate capital to get the best risk/reward balance.

## Conclusion

Despite ongoing work to enhance risk appetite frameworks, there are still gaps that need to be addressed. Technology can deliver significant value to the overall risk appetite process. Systems can provide cost-saving efficiency gains, better data quality, and enhanced analytics. And these factors, in turn, drive the ability to measure, monitor, and adjust risk taken against expressed risk appetite and facilitate communication to stakeholders at all levels of the bank.

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