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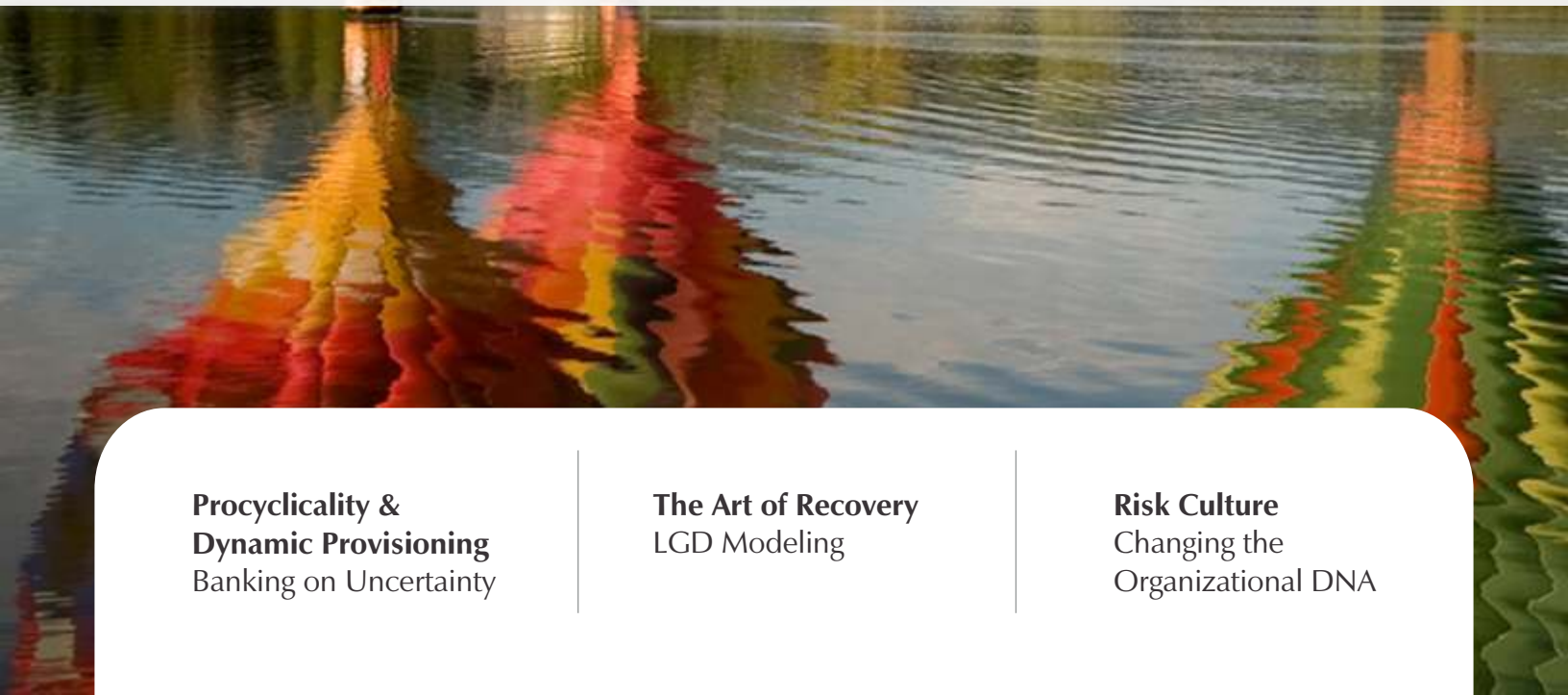
Risk Newsletter from Aptivaa
September 2012

# RWA Variation Theory:
## Are the risk weightings at banks trustworthy?



**Procyclicality & Dynamic Provisioning**
Banking on Uncertainty

**The Art of Recovery**
LGD Modeling

**Risk Culture**
Changing the Organizational DNA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# The Good, the Bad & the Ugly

The film's title aptly describes the banking industry's upsides, downsides and the parts that could, or should have been handled better, but were not. For those few banks, which emerged from the financial crisis with their business and reputation relatively unscathed, the recent events in the global banking and financial industry were a big comedown.

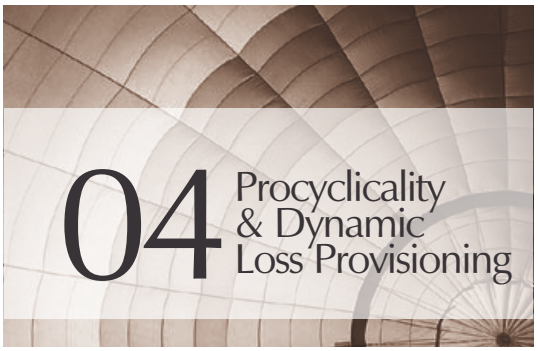
These events sound like a real-liferemake of "The Good, the Bad and the Ugly", a 1966 epic Spaghetti western film, with Jamie Dimon, Peter Sands and Bob Diamond cast in the title roles. A trilogy consisting of massive derivative losses, AML failures and low balling LIBOR is very similar to the dollars trilogy following A Fistful of Dollars (1964) and For a Few Dollars More (1965), except in the real world, all this happened in the span of just a few weeks. Pretty much like the movie, the plot revolves around three characters competing to find a fortune in buried Confederate gold amid the chaos of the conduct of business, governance and risk management failures.

In this issue, the magazine questions and, tries to answer, a few key concepts linked to the biggest fears that financial institutions faced and dodged through the periods of the most recent crises. The first article examines and dissects the notion of procyclicality and how dynamic provisioning comes into play at banks to counter the adverse impacts of unpredictable economic cycles. The cover story narrates the events that led to the recent realization that financial institutions globally were optimizing their risk capital computations, not always uniformly across various jurisdictions. The third article introduces and demystifies the credit recovery metric that is most commonly overlooked by banks – LGD. Finally, addressing behavioral and infrastructural elements of financial institutions that fail to mitigate risk, the fourth article discusses the growing importance of embedding risk culture into the labyrinth of organizations given the plethora of internal and external factors that generate risk.

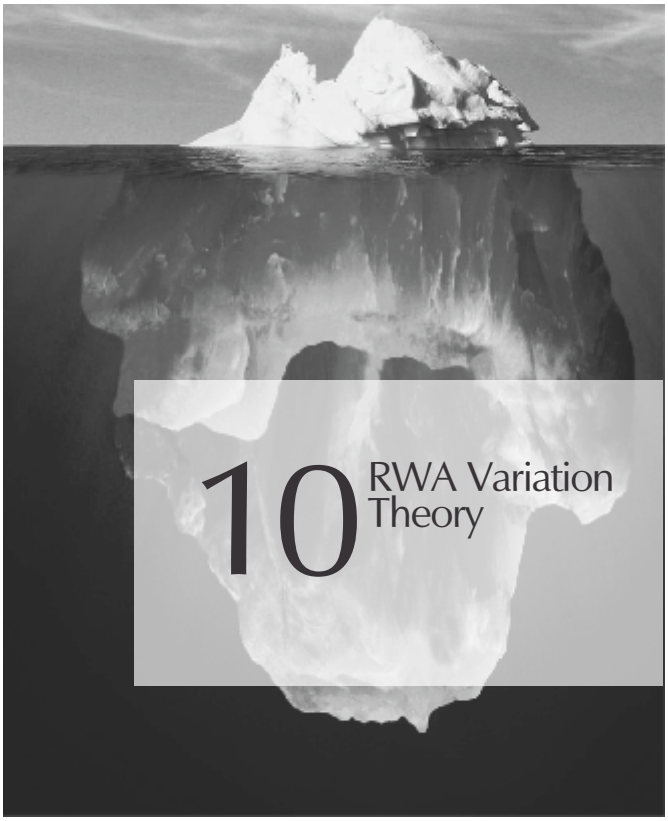
While we wait for your valuable feedback on the current issue, we all hope to see fundamental changes in the behavior of global banks so they can reclaim the advert "Here for good".

**You can also find a soft copy of this issue and many interesting white papers on our newly enhanced website www.aptivaa.com/exponent .**

Alok Tiwari - CEO







# Procyclicality & Dynamic Loss Provisioning

The ongoing period of stress has kindled considerable debate amongst the banking, regulatory and accounting communities on various macro-prudential tools which could be used to moderate the adverse impact of procyclical behavior embedded within the banking system.

Dynamic Loss Provisioning is one such tool that has caught the attention of regulators worldwide. This article superficially looks at the concept of procyclicality, systemic effects of procyclical behaviour by banks and how a well-calibrated Dynamic Loss Provisioning Framework can contribute to reducing such an impact.

**What is Procyclicality?**

The Financial Stability Board defines procyclicality as "the mutually reinforcing ('positive feedback') mechanisms through which the financial system can amplify business fluctuations and possibly cause or exacerbate financial instability". In simpler terms, it refers to the behavior of financial institutions which tend to aggravate the adverse impact of business cycles.

Typically during an expansionary phase of the economy, as profits and cash flows of projects surge, there is an increase in demand for credit, and in a competitive environment, banks loosen their lending standards. This lowering of underwriting standards increases the risk-taking behavior of firms as funds become more easily available, resulting in built-up vulnerabilities in the system. Conversely, during a downturn, banks stiffen their lending standards and even profitable projects may suffer from a paucity of funds. This not only chokes funds for existing projects but may also result in delays in implementation of projects in the pipeline, further weakening the economic activity. Furthermore, it results in increasing financial distress of firms. Such behavior by banks which tends to amplify the adverse impact of cyclicality is termed as procyclicality.

While procyclicality is a vast area of research in itself, for the sake of understanding its nature, we will briefly look at some of its causal factors. Theoretically, procyclicality is explained as a deviation from the efficient market hypothesis. According to the efficient market hypothesis, information is perfectly available to all market participants, who then evaluate and act on it rationally. Whereas in a procyclical scenario, this hypothesis may break down due to the following reasons:

(i) Asymmetric Information Hypothesis: This hypothesis postulates that there is an information asymmetry among market participants, and that borrowers possess more information about their projects than the lenders. Consequently, in a downturn, banks become wary of funding to borrowers.

(ii) Disaster Myopia Hypothesis: This hypothesis states that, in an upturn, a bank's behavior may be myopic in nature, i.e., banks may focus

on short term risks of lending while underestimating the likelihood of severe events in the future. Even if a bank has weathered any crisis in its loan portfolio, it may be forgotten once conditions become benign. Consequently, banks tend to step up lending in an expansionary phase.

(iii) 'Herd' Behavior: Individual banks may simply follow competitors in loosening or tightening credit standards for the following reasons:
- For fear of being singled out in the event individual choices go wrong.
- Executive compensation is largely determined by market practices.

At a more practical level, other causes of procyclicality may include:

(i) Difficulty in measuring the timing of risk: Financial systems are complex, and it is difficult to model underlying trends, cycles and their causal factors accurately. In certain instances, the build-up of risk is discreet. Banks might not be able to fully factor in all risks in the premia charged to the customers. As a result, credit may be available at a cost which does not fully reflect the underlying risks.

(ii) Fiscal and monetary policies: Ideally, fiscal policy should play the role of an economic stabilizer. In times of downturn it should provide the necessary impetus for growth and in times of boom, government spending as a share of GDP should come down. However, in case fiscal policy is not managed prudently, it can have the opposite effect. This trend has been observed particularly in case of developing countries. One of the main reasons cited for this is that, in bad times it is hard for such countries to borrow and consequently cannot run high deficits resulting in low public spending; whereas in times of boom, they increase their public spending leading to Procyclicality. Monetary Policy can contribute to Procyclicality through three channels:

- Interest rate channel which affects the demand for loan.
- Impact of interest rates on revenues, profitability, and asset values etc. which impacts the demand for loans.
- Bank capital channel whereby a change in interest rates impacts the trading book which in turn impacts the availability of bank capital for lending purposes.

(iii) Extent of competition: When there is intense competition in the market, credit standards are lowered during an expansionary phase of the economy to get a larger share of the market. Banks may even resort to undercutting each other and consequently, the risks may not be adequately priced. On the other hand, during a contraction phase, all the banks collectively curtail lending.

(iv) Regulatory environment
Regulatory environment may contribute to Procyclicality in the following ways:
- Regulators tend to increase the scrutiny and lending standards during downturns.
- Empirical evidence suggests that Basel II capital standards are procyclical in nature.[1] As a consequence, capital requirements increase during downturns and reduce during upturns.

In reality, however, procyclicality may be caused by a combination of several factors rather than just one single factor.

**Procyclicality and Provisioning**

Banks are expected to cover unexpected losses with capital and expected losses through appropriate pricing and provisioning. Cushioning of expected losses through provisioning is essential as it makes earnings of banks more stable and less sensitive to macroeconomic factors. Also, if the balance sheet of a bank were to represent the realizable value of gross advances, the full impact of expected losses has to be recognized through provisioning.[2]

**Provisions typically do not increase until after economic growth has slowed down considerably and often not until the economy is clearly in a recession.**

Having said this, provisions tend to be strongly procyclical. Provisions typically do not increase until after economic growth has slowed down considerably and often not until the economy is clearly in a recession. During a downturn, even though warranted, banks may not provide provision higher than the industry norms for the fear of sending negative signals to the market. Consequently, the provisioning levels, even in a downturn, may always be in line with market norms.

**Impact of Procyclicality**

- Role of the banking system as stabilizers during downturns is weakened and in fact rather than cushioning for the swings in the economic activity, they amplify the swings.
- Procyclicality contributes to volatility in bank's earnings and capital levels which can have a bearing on their solvency.
- There is a great amount of empirical evidence available to suggest that periods of high economic growth are correlated with periods of high credit growth, which are marked by high asset prices which might not necessarily reflect their fair value ('asset bubbles').

Therefore, in order to minimize the impact of procyclicality:

- Impact of financial stress in the form of higher delinquencies in the loan portfolio has to be minimized.
- Build-up of riskiness in the loan portfolio caused due to lowering of credit standards during expansionary phases has to be minimized.
- Banking provisions should cover expected losses over the life of the asset, rather than a horizon of one year for risk measurement.
- Ideally, this level of expected loss provision has to fluctuate over time such that in times of high credit growth and high profits, accumulation to provisions is more and this 'reserve' can be utilized at a time when loan losses begin to creep in.

This is the conceptual backdrop behind the expected loss based provisioning framework, otherwise called the dynamic provisioning framework.

**Loan Loss Provisioning Framework**

A robust Loan Loss Provisioning Framework (LLPF) is critical to the development of a sound banking system in an economy. It serves the twin purpose of bringing about stability in banks' earnings as well acting as a stabilizing force in times of excessive credit growth. Stability in earnings is brought about by the creation and accumulation of earnings buffers which get released during periods of stress (in the loan portfolio). Such buffers act as a fortress in times of stress and consequently bring about a better ability to forecastprofits.

Periods of excessive credit growth have a twofold impact on the financial stability of an economy. Firstly, they have the potential to create asset bubbles, which when exploded not only result in an increase in delinquency but also are typically accompanied by a steep fall in the value of collateral (and hence recoverability from delinquent assets). Secondly, periods of excessive credit growth are succeeded by a period of deleveraging when banks curtail lending to conserve capital. This feeds into the stress and creates a vicious cycle.

An LLPF dampens the excessive growth of credit, and thereby the creation of asset bubbles. Thus, by aiding in stable earnings and credit growth, the LLPF brings about a stable financial system as well. Typically, an LLPF is structured around either of two main approaches - Incurred Loss Approach and Dynamic Loss Provisioning Approach. Under the Incurred Loss Approach, provisions are made ex-post, i.e., after an event that questions the recoverability of an asset. Such events typically occur when an asset is declared as non-performing or impaired (according to the extant guidelines on asset classification). Thus, the Incurred Loss Approach is 'backward looking' in nature. This approach has been criticized

[1] *Procyclicality in Basel II: Can we treat the disease without killing the patient (2004), Gordy & Howels.*
[2] *Procyclicality of the financial system and financial stability: issues policies and options.*

widely for exacerbating the financial crisis by increasing the provisioning requirement of banks during stress, forcing them to curtail lending and thus further amplifying the issue. On the other hand, Dynamic Loss Provisioning (DP) Approaches are 'forward looking' or ex-ante in nature. Under this approach, provisions are made in anticipation of losses based on historical evidence or empirical models rather than on the occurrence of actual losses.

DP was first introduced by the Spanish banking regulator in July 2000 to manage credit risk in portfolios of Spanish banks following periods of aggressive expansion of their balance sheets. The banks were also significantly under-pricing risk due to intense competition. In 1999, Spain had the lowest ratio of loan loss provisions to total loans among the OECD countries and there had been a significant reduction in non-performing loans in the latter half of the 1990s.[3] In response to this, Banco de Espana, the Spanish central bank introduced the system of Dynamic Provisioning to moderate credit growth as well as to create a buffer against potential losses. The concept has been later adopted by other regulators in Colombia, Peru, Mexico, Uruguay, and by even advanced countries such as the U.K. The Indian regulator has been following a practice of increasing or decreasing the risk weights used in the computation of capital charges to certain sensitive sectors such as real estate. The drawback of this approach is that it directly impacts the capital rather than creating a buffer in a systematic manner which can be drawn down in times of need.

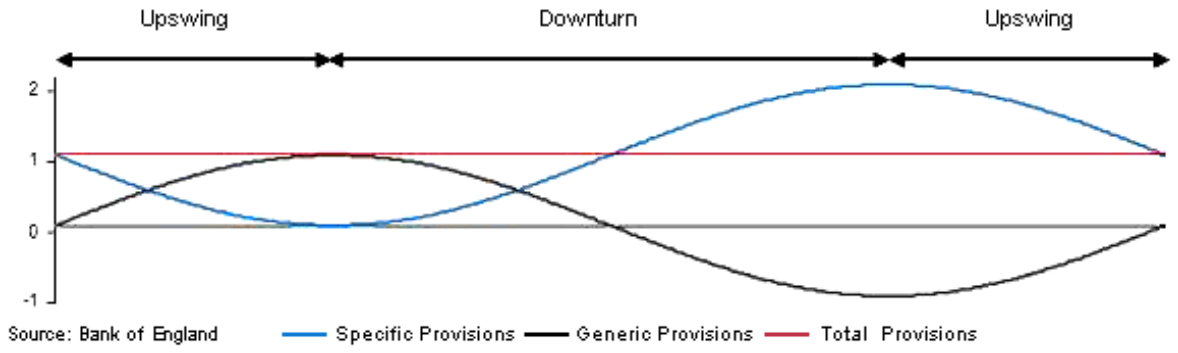



*Figure 1 : Dynamic Provisioning*

**Dynamic Loss Provisioning Approaches**

Broadly, Dynamic Loss Provisioning Approaches can be classified into three categories based on their approach to estimate anticipated losses:

**(I) Through-The-Cycle Provisioning Approach**

Spanish Regulatory Authority follows this approach. Under this approach, general provisions are accumulated through the cycle to cover for (I) Estimated credit loss on incremental loans underwritten during the year, and (ii) average provision over the cycle applied on outstanding stock of loans at the end of the year after netting off specific provisions already created. Specifically, general provision is computed using the following formula:

$$(gen.prov)_t = \alpha \triangle C_t + \left(\beta - \frac{(specific.prov)_t}{C_t}\right) C_t$$

Brief explanation of the formula:

(i) α is the estimated average % of credit losses for each homogenous pool of risk. The six homogenous pools which have been defined are zero risk (cash & public sector debt), residential mortgages with LTV below 80% and corporate with rating A and above, residential mortgages with LTV above 80%, consumer durable financing, credit cards/overdrafts and other loans including corporate rated below A and SMEs.

(ii) $C_t$ is the stock of loans.

(iii) β is the historical average % of specific provisions. Both α and β are given by the regulator.

(iv) Total provision is equal to sum of general provisions and specific provisions.

(v) β supplements α by comparing historical system-wide average specific provisioning % and specific provision %existing in the Bank's books. In times of credit expansion, $(\beta - \frac{(specific.prov)_t}{C_t})$ is positive and adds to α component. Similarly, in times when specific provisioning component is high, it c[illegible] α component.

(vi) This general provision has a cap of 125% of $\alpha C_t$ to avoid excess provisioning.

**(II) Trigger Based Provisioning Approach**

[3] *Dynamic Provisioning: The Experience of Spain (2009), Saurina, Jesus*

In this method of provisioning, such as the one adopted by the Peruvian Regulator, additional provisioning is triggered when rate of growth of GDP exceeds a predefined threshold (signifying credit boom). This additional provisioning is over and above the provisions which are required to maintained during normal times and the quantum of additional provisioning varies depending on the type of borrower. The additional provisioning gets deactivated either (i) when the average y-o-y GDP growth for the last 30 months goes from a level above 5% to one below it or (ii) when the average y-o-y GDP growth for the last 12 months is 400 bps lower than the previous year's average value.

**(III) EL based Provisioning Approach**

This method is a refined variant of the Through-the-cycle provisioning approaches. Under this approach, instead of building provisions based on system wide average losses, expected loss can be estimated by every bank based on incremental loans underwritten during a period. The advantage of this method is that individual borrower characteristics can be explicitly factored in for arriving at the anticipated losses and any biases in using system wide data can be reduced. However, this supposes availability of data at sufficient granular level and for sufficient period of time. In order to counter pro-cyclicality, it is essential to use through-the-time PD and downturn LGD in computation of expected loss.

Apart from countering pro-cyclicality, dynamic provision can go a long way in improving the financial stability and thus lowering banks' probability of default. To substantiate this claim, Torsten Wezel, Jorge A. Chan-Lau and Francesco Columba ran Monte-Carlo simulations to determine the probability of exhausting loan loss reserves under standard and dynamic provisioning. This assessment of the bank soundness was carried out by applying the Spanish dynamic provisioning rule to the same sample of 14 banks in Chile between 2004 and mid-2010. It was concluded from the study[4] that even dynamic provisioning may at times be insufficient to cover up the losses since the loan losses may have a fat tail. However, the likelihood of the provisions being sufficient to cover bank losses was higher under dynamic provisioning as opposed to standard provisioning method.

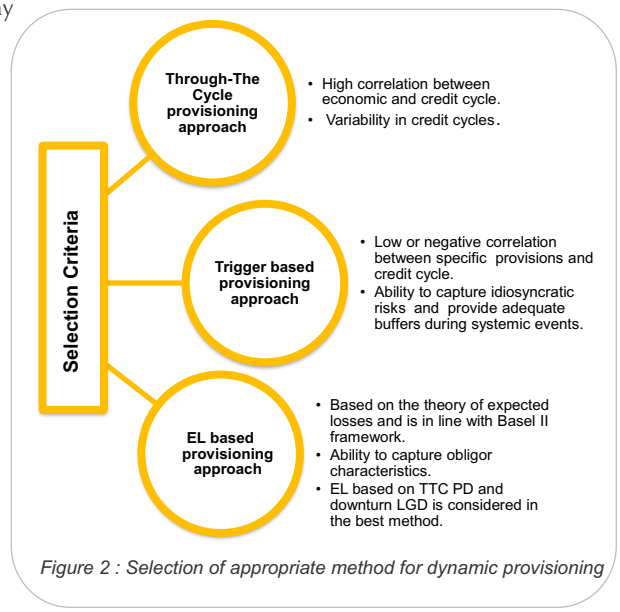


*Figure 2 : Selection of appropriate method for dynamic provisioning*

**Implementation Challenges**

**Apart from countering pro-cyclicality, dynamic provision can go a long way in improving the financial stability and thus lowering banks' probability of default.**

Even though, conceptually Dynamic Loss Provisioning framework is sounder than the incurred loss model, its implementation is tougher on account of the following reasons:

**(I) Reliable estimates of Expected Loss**

Development and calibration of a sound system of Dynamic Loss Provisioning pre-supposes the existence of an Internal Ratings Based (IRB) system for capital computation through which reliable estimates of EL can be arrived at. It is always preferable for banks to compute their own estimates of EL rather than using system-wide numbers. Hence reliable estimates of Expected Loss at a sufficiently granular level are a prerequisite.

**(II) Alignment with financial accounting**

There has been much debate on the acceptability of dynamic loss provisioning frameworks as it is based on anticipated losses rather the generally accepted accounting principle of incurred losses. Further, the system of fair value accounting has also been criticized on its being procyclical in nature. A common ground of understanding is required to be reached by the accounting standard setters and the banking regulators regarding treatment of provisioning based on anticipated losses. Better the availability of data at a granular level, more reliable are the estimates of expected losses

**(III) Calibration Issues**

Dynamic Loss Provisioning Framework requires calibration of system wide expected loss parameters. This presupposes a sound modeling framework taking into account the peculiarities of the economy and availability of reliable data for sufficient period of time covering credit at least more than one credit cycle.

**(IV) Data Requirement**

[4] *Dynamic Loan Loss Provisioning: Simulations on Effectiveness and Guide to Implementation (2012), Torsten Wezel, Jorge A. Chan-Lau and Francesco Columba*

Default and recovery data for major asset classes is required for the implementation of the Dynamic Provisioning Approach. In most countries, while default data is less of an issue, recovery data poses a challenge. Recovery data should ideally be identifiable for different facilities and collateral. Such default and recovery data must be available at least over one business cycle so that the parameters may be correctly calibrated.

**(V) Timing of introduction**

The timing of the introduction of Dynamic Provisioning is critical as ab initio it would require the creation of a loan loss reserve based on EL rather than on incurred loss. Ideally, Dynamic Provisioning should be introduced on the verge of a recovery phase or during an upturn. If the approach were to be introduced during a downturn, it could potentially intensify stress.

**Dynamic Provisioning should be introduced on the verge of a recovery phase or during an upturn. If the approach were to be introduced during a downturn, it could potentially intensify stress.**

**Conclusion**

*Spain's experience has shown that Dynamic Loss Provisioning framework, by itself, cannot tame excessive credit growth. They are just a tool in managing the adverse impact of Procyclicality. They cannot take the place of sound monetary and fiscal policy, reinforced by a sound regulatory environment. Furthermore, Spain's experience also highlights the importance of applying the appropriate method in Dynamic Provisioning considering the fact that the formula has proven ineffective under variations in an economic cycle like the current one.*

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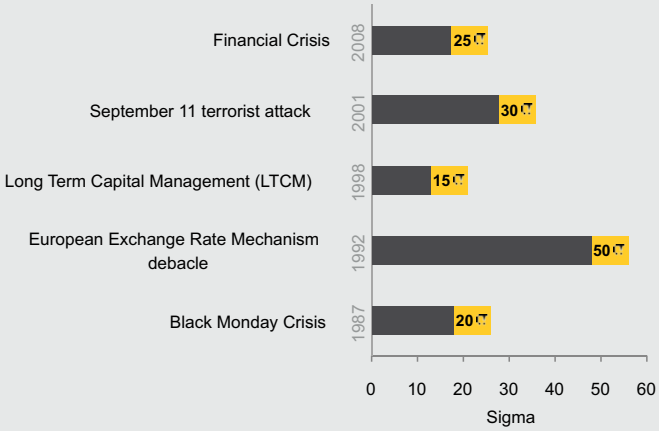
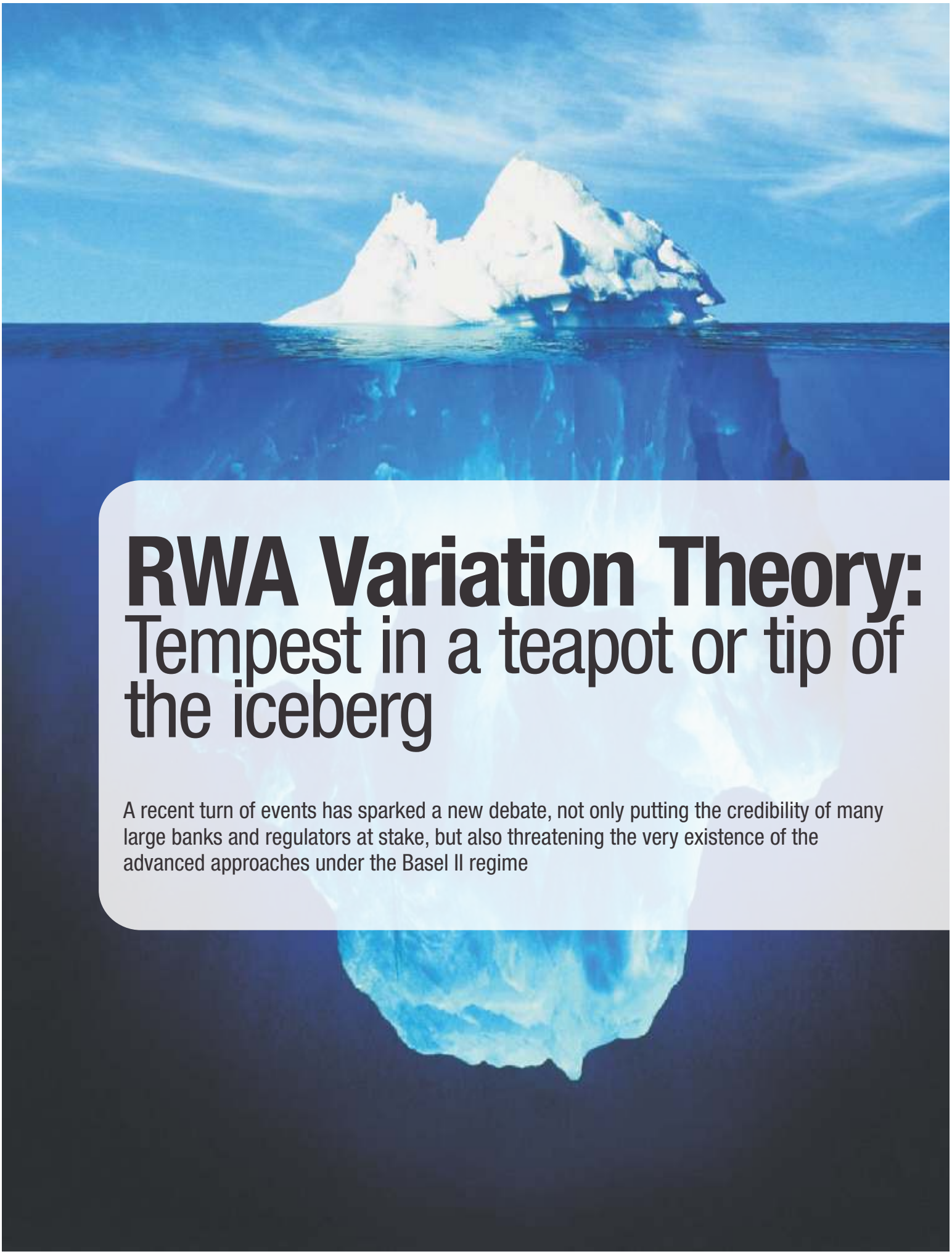
Kasthuri is a Chartered Accountant and has also completed his PGDBM from the Indian Institute of Management (IIM) Indore. He has rich experience in the area of credit and market risk management at Axis Bank, one of the largest private sector banks in India. He has worked in market risk and credit risk teams across areas of risk assessment, risk model development and validation, risk systems implementation and ICAAP. He has previously worked as the Audit Manager at HDFC Bank.

# Σσς

Traditionally, banks have been calibrating VaR model to predict events that would occur once in 10,000 years, also known as 3-sigma loss events. Sigma is a statistical metric indicating the number of deviations from the mean with respect to the probability of occurrence of an event. For instance, a probability of a 5-sigma loss on any given day would mean that such an occurrence should happen once in 14000 years (assuming 250 trading days in a year). David Viniyar, the CFO of Goldman Sachs was quoted in 2007 saying "We were seeing things that were 25-standard deviations moves, several days in a row". In subsequent post-financial crisis analysis, his apprehensions about the predictive power of the model beyond 3-sigma was singled out as one of the major reason for capital shortfall. The sigma's of some major black swan event are presented in the adjacent graph.




Given that the VaR model stands incapacitated in predicting all low probability extreme events, BCBS has recently proposed a new model known as Expected shortfall or Conditional VaR which will be able to capture all the possible extreme events in the model and provide a robust estimate of risk capital. It will be interesting in the coming years to note whether the proposal is mandated by the member countries.



# RWA Variation Theory: Tempest in a teapot or tip of the iceberg

A recent turn of events has sparked a new debate, not only putting the credibility of many large banks and regulators at stake, but also threatening the very existence of the advanced approaches under the Basel II regime

**Abstract**

- In this article, we present an overview of the recent debate surrounding the advanced approaches to measuring RWA which is severely affecting the confidence of stakeholders in the banking system.
- Further, we aim to identify the factors which could possibly explain the gaping difference in RWA% across and within geographical boundaries.
- Recognizing the seriousness of this growing issue, the Basel Committee has constituted a Standards Implementation Groups (SIG) to dig deeper into the issue; the result of which is keenly awaited.

**Introduction**

The Basel Committee, in its capital guidelines (known as the Basel II Accord), primarily provided two different frameworks for the estimation of minimum regulatory capital requirements, – the Standardized Approach and (two variants of) the Advanced Approaches for credit risk measurement. While the Standardized Approach is more rule-based, where all risk weights are provided by the regulator and uniform across a jurisdiction, the advanced approaches are more principle-based where specifics are left to the interpretation of banks, assuming strong governance and controls around the entire process.

A lot of emphasis was placed on the ability of the banks to develop sophisticated 'advanced' models / systems to assess risk accurately. If banks were to move to advanced approaches (given the 'aggressive' risk weights in the Standardized Approach), they would not only be able to improve their risk management and measurement capabilities, but they would have to allocate lesser capital as indicated by numerous studies and research reports. Realizing this opportunity, most of the large banks started investing heavily in their risk management infrastructures and setting deadlines for their transition to advanced approaches.

More fuel got added to this fire when external rating agencies also began recognizing the advanced approach status as a proxy for better risk management and safety. All was well till a few hard-hitting events unfolded globally which gave rise to demands to overhaul the Basel guidelines for the advanced approaches.

**RWA Variation Debate: So what is it about?**

There has been a sequence of events which eventually led to investigation by the Basel committee. (Figure 1).

U.S. banks allege Europeans banks of indulging in 'RWA optimization' i.e. using suitable methods to reduce RWA and apprehend that such practices will grow after the introduction of Basel III guidelines. (Figure 3)

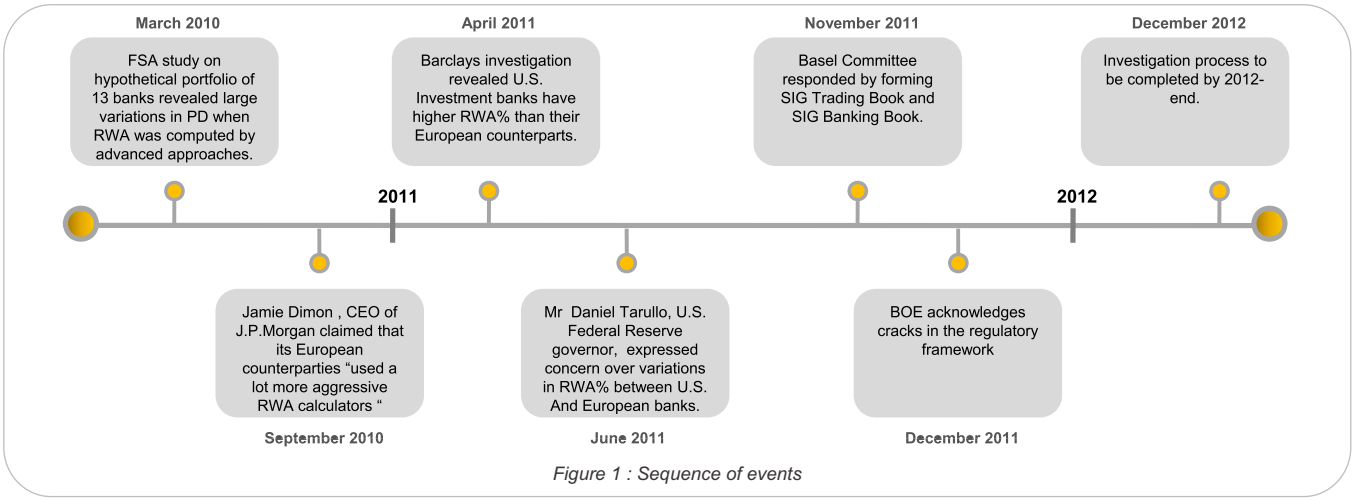



*Figure 1 : Sequence of events*

Since 2009, there have been several studies conducted by FSA, Barclays Capital and IMF focusing on RWA% within and across geographical peripheries. In 2009, the FSA attempted to investigate the inconsistency in RWA %[1] (RWA as a percentage of total assets) of leading U.K. banks to measure the impact of internally developed PD models. For this purpose, the FSA created a hypothetical portfolio comprising of 50 sovereigns, 100 banks and 200 corporates and asked 13 banks (12 banks of which were approved for advanced approaches) to use their internally developed models to estimate the PD of this common portfolio of borrowers. The study revealed a high degree of variation in the PDs used in the RWA estimation for the common portfolio (Figure 2). Also, the estimated PDs were lower than that of those reported by external rating agencies like S&P.

**Fuel got added to this fire when external rating agencies also began recognizing the advanced approach status as a proxy for better risk management and safety.**

[1] *Financial Services Authority, "Results of 2009 hypothetical portfolio exercise for sovereigns, banks and large corporations", March 2010.*

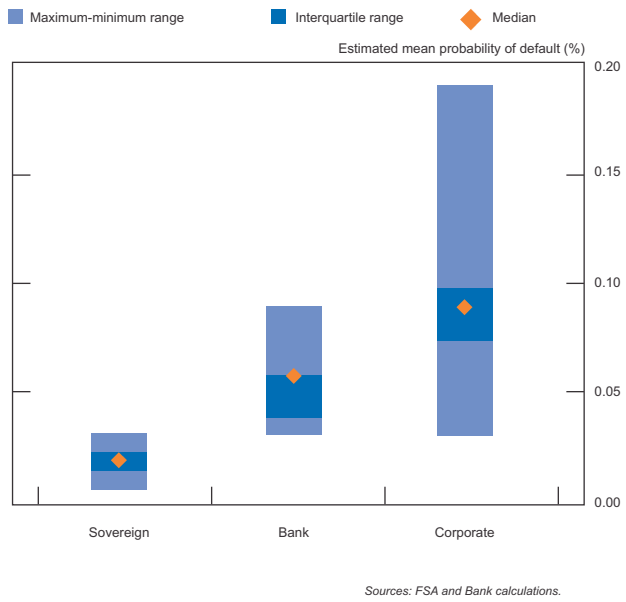



*Figure 2 : Findings of FSA study*

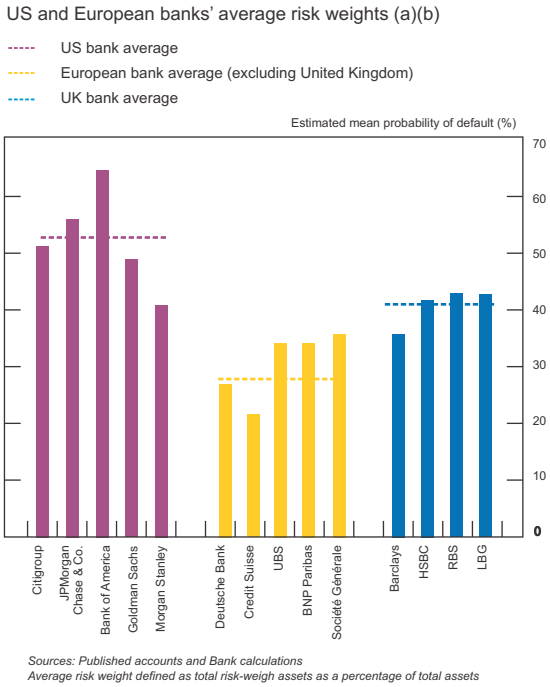



*Figure 3 : U.S. and European Banks RWA%*

In April 2011, Barclays Capital published a research note[2] investigating the geographical disparities in RWA%. Based on this study of 35 banks, it was concluded that the RWA% varied vastly across different countries. The results showed that RWA% ranged from 15.1% for the Swiss bank UBS to 81% of India's ICICI bank. Mr Dimon, CEO of J.P. Morgan, created a stir when he claimed that European banks used aggressive risk calculators. Corroborating his claim[3], U.S. investment banks were found to have a higher RWA% compared to their European counterparts.

In his interview to the Financial Times, Lord Turner, FSA Chairman, also expressed his concerns - "we've enough time in the past two years to standardize the definition of capital as the numerator in the ratio of capital adequacy. Now we must look deeper consideration of the denominator, assessing whether the calculation of risk weighted assets was comparable in different banks in different countries".

The Bank of England for the first time acknowledged in its Financial Stability Report[4] of December 2011 the presence of cracks in the regulatory framework. If the gaps in the regulatory framework are not plugged soon, it may have huge repercussions on investor confidence in the financial system. Banks can ill-afford such a situation especially when they have to operate under limited leverage and depend more on higher equity financing going forward. In the past there have been instances where banks have used the loopholes in regulatory framework to their advantage. For instance, after taking over HBOS in 2009, the Lloyds Banking Group found that its new acquisition used the advanced internal-based approach (AIRB), while Lloyds used the foundation internal-based approach (FIRB). Applying Lloyds' methodology to the HBOS balance sheet reduced the new group's risk-weighted assets by £34 billion. This boosted the combined bank's core Tier 1 capital by 50 basis points. Such vast discrepancies in RWA computation have severely affected the trust of analysts and investors.

As banks become more globally active and capital becomes more scarce and expensive, the issue of capital arbitrage has put a big question mark on the future of advanced approaches in capital calculations. Recognizing the gravity of the situation, the Basel Committee has responded by forming two Standards Implementation Groups (SIG) – SIG Banking Book and SIG Trading Book[5]. The SIG Banking Book group will monitor the progress of implementation of Basel III capital and liquidity standards in 27 member countries and investigate inconsistencies found in RWA calculations.

It is not that this debate is limited to credit risk regulatory capital management; the advanced approach to manage market risk, better known as IMA (Internal Models Approach), is equally in the line of fire. It has been often criticized that the calculation of VaR based on different methodologies and data periods lead to variations in capital requirements across banks. This problem is further compounded in the case of stressed VaR – a component being introduced by Basel Committee as a stop-gap approach to increase capital requirements of the trading book. On account of no concrete guidelines for the selection of stressed period(s), banks could choose a relevant period depending on their discretion. Financial institutions and researchers have been urging the BCBS for a revamp of the advanced approach methodology and a need for more granular guidelines by the regulators.

[2] *Barclay's Capital, "Can you trust risk weightings at European banks?", Equity research, Industry Update, April 2011.*
[3] *ft.com/alphaville ,"How to tinker with bank risk-weightings", http://ftalphaville.ft.com/blog/2011/06/08/588106/how-to-tinker-with-bank-risk-weightings/*
[4] *Bank of England, "Financial Stability Report," Issue 30, December 2011.*
[5] *Risk. net, http://www.risk.net/riskmagazine/interview/2162881/-ryozo-himino-basels-rwa-probe-minimum-standards*

**Empirical Analysis of the RWA Differences among banks**

The Basel Committee is collecting detailed information to investigate the reasons behind significant RWA% discrepancies. To throw more light on this issue, we have identified three primary factors which can possibly explain the variations in credit RWAs computed by different banks, both, within and across different regions: (1) Accounting framework, (2) Regulatory framework, and (3) Business model mix.

**1) Accounting Framework:**

According to Basel II guidelines, a bank considers an obligor defaulted when he/she is unlikely to pay its credit obligation without any recourse to the bank or when the obligor is past due more than 90 days on the credit obligation. Distressed restructuring is considered as 'unlikely' to pay the credit obligation under the purview of Basel II default definition. However, there could be obligor accounts whose credit quality improves after 90 days past due enabling them to make the payment at a delayed time. These accounts are referred to as 'cured' accounts. At present, the committee does not include any provision for cured accounts in its definition of default.

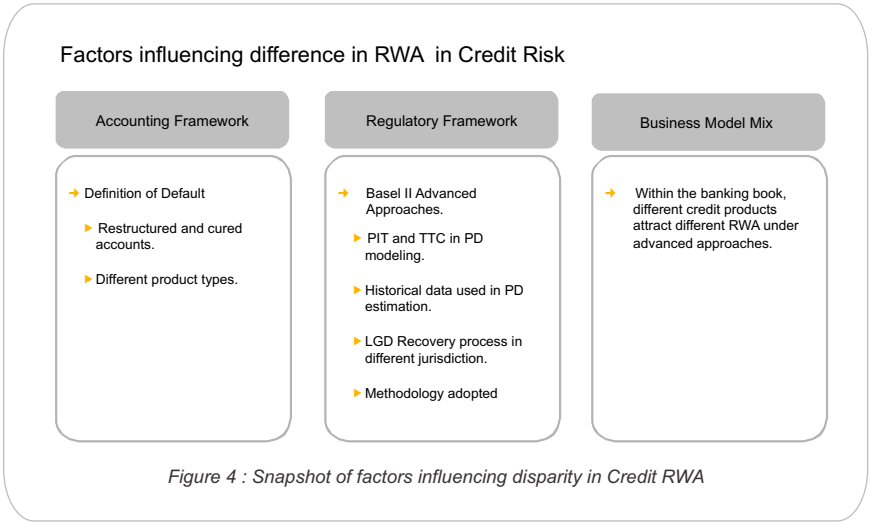



*Figure 4 : Snapshot of factors influencing disparity in Credit RWA*

The default definition proposed as par Basel II and most Central bank regulations is general as it does not take into consideration product specific factors. For instance, credit products like agricultural loans may have different default definitions for short crop loan[6] and long crop loan[7] due to the seasonal nature of the industry. In the U.S., banks apply different default definitions to different credit products based on their respective behavioral analysis. Speaking on this issue, Mr. Samuel Bhutia, subject matter expert with Aptivaa points out "During our credit risk modeling exercise with various banks globally, we have observed that the definition of default is not followed rigorously especially in the case of restructured loans. This calls for a more comprehensive definition of default by BCBS and stronger compliance by all member countries". The default definition is also a coherent part of the regulatory framework as it is the first step to credit risk modeling.

The differences in accounting standards across different geographies can also have a bearing on the market risk RWA. Several Asian, South and North American countries follow accounting standards which are in line with IFRS. The European Union has also adopted all the standards of IFRS except for IAS 39 and IFRS 9. However, U.S. continues to follow U.S. GAAP as its prevalent accounting framework. The primary difference between the two accounting standards is that the U.S. GAAP does not allow for netting of derivative agreements while the IFRS does. Consequently, the off-balance sheet items would be inflated under U.S. reporting standards, which in turn would translate into a higher RWA. The definition of default under IFRS accounting standard is more aggressive as compared to Basel II.

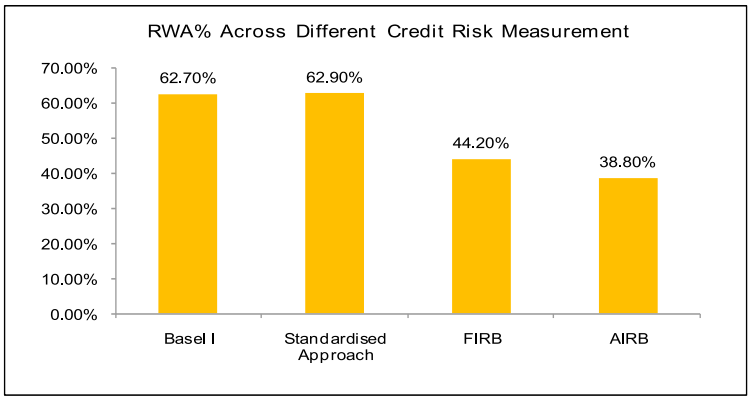



*Figure 5 : RWA% from different Basel approved methods*

**2) Regulatory Framework:**

The regulatory framework adopted by different jurisdictions has a significant influence on the variations in RWA% across different regions. The RWA% of banks as on June 2011 was 57% in U.S., 51% in Asia and 35% in Europe. Since Basel I is widely used by U.S. banks to measure credit risk, the RWA% is much higher than EU banks which widely practice IRB approaches to credit risk measurement.

Vanessa Le Leslé and Sofiya Avramova from the Monetary and Capital Markets Department of IMF conducted an extensive study on a portfolio of 51 leading international banks globally to study the consistency of RWA computation, found the following RWA% across different approaches[8]. (Figure 5)

Although the AIRB approach is the most sophisticated approach as it allows banks to

[6] *A short crop loan is the credit extended for agricultural activity for a short-term which could vary from 12 month to 18 months.*

[7] *A medium crop loan or a long crop loan is credit extended for agricultural activity for a period of 3 to 5 years and 7 to 10 years respectively. However, the definitions of crop loan duration may vary across different countries.*

[8] *Vanessa Le Leslé and Sofiya Avramova, "Why Do RWAs Differ Across Countries and What Can Be Done About It?", IMF Working Paper, March 2012.*

develop their internal models to more accurately represent the credit risk of their portfolios, it has been subject of severe criticism with the request for an overhaul of the advanced approaches. The RWA computation under AIRB hinges on several assumptions used in the estimation of PD and LGD modeling. Different policies across banks in terms of credit analysis, monitoring and recovery, and tools for discriminating clients according to risk appetite have an impact on significant risk parameters, and, particularly on PD and LGD, thereby playing a crucial role in the assessment of RWA.

PD is an essential input in the calculation of Credit VaR. Given that it is exponentially related to capital requirement, any significant changes in PD could have a big impact on capital requirements. In its research note, Barclays has demonstrated how the relationship between PD and capital requirement is not proportional for a given LGD. For instance, assuming an LGD of 45%, a PD of 126 basis points (bps) generates a risk weighting of 100%, whilst a PD of 500 bps generates a risk weighting of 150 %. One of the primary reasons for variations in credit RWA is the estimation of PD on the basis of 'point in time' (PIT) as opposed to 'Through the cycle' (TTC). Speaking on this issue, Mr. Manoj Nayak Subject Matter Expert with Aptivaa explained that "PIT based estimation of PD is prone to pro-cyclicality which also explains the inflated RWA after the financial crisis". Currently, central banks have not explicitly asked banks to estimate PD on the basis of TTC. "Given that the Basel committee has proposed definitive steps to counter pro-cyclicality (countercyclical buffer and dynamic provisioning) to address fluctuations in Tier 1 and Tier II capital requirement of CAR, making PD estimation through TTC mandatory would go a long way in countering cyclical variations in RWA and ensure that the fat tail risks are adequately accounted for" said Manoj.

**"PIT based estimation of PD is prone to pro-cyclicality which also explains the inflated RWA during the financial crisis".**

This leads us to the next and the most important reason for difference in PD estimation. PDs may also vary because of the differences in historical data used in estimation. Although the Basel Committee has proposed a minimum of 5 years as the estimation period, the requirement is not standard across all countries and several banks receive exemptions due to limited data availability leading to wide variations in the estimate. In addition, different frequency of data used could also lead to variations in estimated PD for the same customer across different banks. Frequency of the data should be determined such that it accounts for all the defaulted accounts. For instance, using annual data could result in loss of information about defaulted accounts. Including the restructured and cured cases may help banks bringing down the dispersions in PDs. Manoj has suggested "As it might be difficult to eliminate model risk completely, the best way forward is to further strengthen the supervisory framework wherein the supervisor should actively validate the models and strengthen the Pillar 3 norms which would lead to greater transparency in disclosures related to the methodology, data requirements and assumptions used in arriving at the final outcome." He also points out that at present there is also a lack of transparency in the methodology used by external rating agencies. Hence, there is a need for regulators to push them for more disclosures more so because past evidence has shown us that default rates reported by several rating agencies are not consistent for the same region. Basel

Committee does not define any minimum accepted threshold of the accuracy ratio based on which the PD model can be approved. At present, this accuracy ratio can differ across regions and also within the same region.

Loss Given Default (LGD) is the most influential parameter in capital computation and has a bigger impact than PD; it is linearly related to the capital requirement. LGD estimates are primarily influenced by the recovery process and methodology adopted. The recovery process is likely to be different under different jurisdictions due to the local legal framework. Availability of data is usually a huge challenge in case of LGD modeling. It determines the methodology used in parameter estimation of a LGD model. A greater supervisory role in evaluation and validation of the LGD model is required to achieve a higher degree of consistency in the final outcomes.

According to the Basel II guidelines, banks' estimated LGDs should reflect economic downturn conditions necessary to capture relevant risks. This LGD cannot be less than the long-run default-weighted average LGD based on the average economic loss of all observed defaults. The calculation of downturn LGD possesses a challenge for most financial institutions and supervisors. Multiple approaches have been put in place using different cyclical indicators as reference (e.g GDP and output gap). For a mortgage portfolio, different variables could be used in order to gauge the downturn in the housing market.

**The divergence in RWA within and across countries due to the use of internal models for capital estimation has deeply affected the confidence of analysts and investors.**

**3) Business Mix**

Historically retail banks have reported much higher RWA% compared to the investment and universal banks due to the lower risk weight applied to the trading portfolio. Within the banking book, the approach used for credit RWA calculation also influences the business strategy. For instance, banks using IRB approaches may opt for mortgage and Commercial Real Estate (CRE) rather than corporate or retail loans which attract higher LGD.

Portfolio maturity also has an impact on the RWA as longer dated assets attract higher RWA.

**Our Recommendations**

In order to address the issue of variations in RWA within the same regions, central banks need to play a more pro-active role by regularly

1) Reviewing the methodologies and validate the internally built models;
2) Ensuring their compliance with international standards;
3) Setting floors on RWA% across different asset category;
4) Disclosing more granular information including the data and methodology to foster greater market discipline; and
5) Enhancing the roles of the independent third parties to conduct risk audit and include the qualitative and quantitative aspects of risk-taking, risk appetite and risk management in their report.

To bring about greater harmonization of RWA% across different geographical regions, all supervisors of the Basel Committee should combine forces to examine the RWA% of banks at an individual level which in turn will promote a more consistent implementation of Basel guidelines across jurisdictions.

***Conclusion:***

*The divergence in RWA within and across countries due to the use of internal models for capital estimation has deeply affected the confidence of analysts and investors. In the light of this development, talks of moving back to the standardized approach have gathered momentum. Although Mr Ryozo Himino, chairman of Basel Committee's SIG which is leading the investigation into RWAs stated that the SIG does not endorse this extreme viewpoint as the Basel Committee focuses on combining regulatory capital with economic capital to encourage better risk measurement, the confidence of the financial market cannot be ignored. The findings of the SIG investigation are keenly awaited as the process is expected to be completed by the end of 2012. Speaking on the issue, the new Basel chief suspected that the investigation may lead to lower modeling flexibilities. This investigation has become all the more important as banks will have to maintain higher equity capital going forward. It will be nearly impossible to achieve absolute harmonization and convergence of RWA practices globally in a short period of time, but a greater supervisory role can help achieve a greater level of consistency.*



[9] *Risk.net,http://www.risk.net/riskmagazine/news/2153994/rwa-probe-cut-modelling-flexibility-basel-chief*

# The Art of Recovery: Loss Given Default Modelling

Given the multiple dimensions through which offering credit affects a bank's performance, effective risk management of credit involves a comprehensive and thorough understanding and active analysis of a multitude of factors linked to each particular credit offering.

The several factors that are an inherent component of a specific loan, including the nature of the customer and the nature of the loan, contribute to risks that can only be satisfactorily addressed through the monitoring of a combination of risk metrics. Globally, the adoption of prudential risk management regulations as prescribed by the BIS (Bank of International Settlements, Basel) have forced three of these most prominent credit risk factors to come to the fore – Probability of Default (PD), Loss Given Default (LGD) and Exposure At Default (EAD) – with each risk metric, in its most advanced form, measured and monitored by the development and maintenance of sophisticated credit risk models.

Loss Given Default, as a concept, is most typically agreed to be the amount that a bank stands to lose once a customer defaults on a loan, even after compensating for the shortfall with the presence of any collateral. Given the several possible combinations of options for each of the components that make up this definition, LGD models can vary in complexity from bank to bank, based on the availability of data to build sophisticated advanced statistical models, to models that are based on expert judgement (but still backed by sound alternate statistical frameworks) for banks with either very low data availability or for portfolios where defaults are hard to observe (Low Default Portfolios).

Most commonly, LGD models are built to emulate (as closely as possible) the recovery processes banks follow, to predict the potential recoveries from a particular loan. Clearly, LGD is a risk factor that incorporates the time-value of money into core calculations due to the sheer nature of expected costs and payments in the future.

**When it comes to modelling credit metrics, recovery rates are often considered an afterthought, prioritizing the main pillar of credit risk management – default rate.**

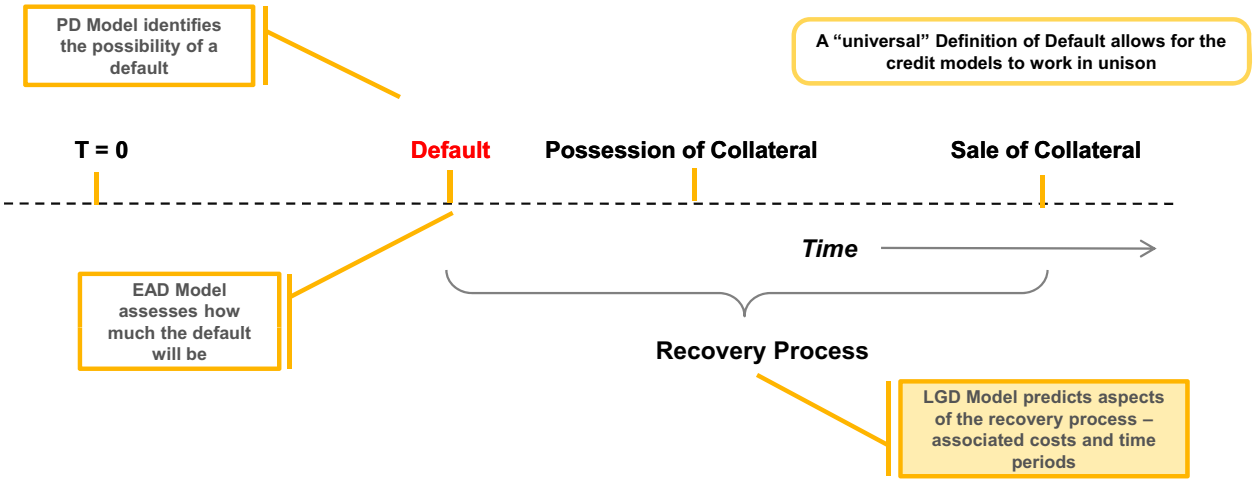



*Figure 1: Default & Recovery Across Time*

As a loan moves through several phases of default and recovery (Figure 1), the LGD model (when used anywhere across the 'dotted-line' representing time) tries to measure the loss that cannot be covered by the recovery process.

**The Three Wise Men of Credit Risk**

When it comes to modelling credit metrics, recovery rates are often considered an afterthought, prioritizing the main pillar of credit risk management – default rate. This leads to situations where recovery is modelled independently; in many cases they are even assumed constant. Accurate estimation of potential losses associated with a credit transaction is essential for:

- Efficiently pricing credit
- Economic Capital and RAROC (Risk Adjusted Return on Capital) calculations
- Regulatory Capital computations
- Impairment calculations
- Effective portfolio risk management

Clearly, banks stand to gain a competitive advantage by improving their internal LGD forecasts. The use of an Integrated PD - LGD Framework is currently non-existent in credit modelling at several banks. PD & LGD models are 'calibrated' on a standalone basis. However, work on co-dependency between PD & LGD has focused on statistical relationships between default and recovery rates. This interdependence of default and recovery rates has a crucial influence on large credit losses.

An LGD model can be decomposed into a mix of explicit calculation steps and parameters, and implicit issues associated with LGD-to-EAD alignment. The former includes aspects that are mostly related to the assigned collateral – liquidity, volatility, valuation cycle, realisation rates among others – while the latter comprises of elements such as borrower attributes, indirect costs, definition of default, security allocation – critical components that overlap with the corresponding EAD model. These implicit, fundamental factors are the basis for deciding the LGD/EAD model landscape, as they are deeply embedded within the (largely invisible) linkages between LGD and EAD models. Given the obvious 'synergies' between LGD and EAD models, in an ideal credit model landscape, LGD and EAD models are paired together in 'suites'.

***The reasons for developing and implementing a suite-based structure for LGD and EAD models are:***

1. *Robustness of the collateral-to-facility mapping*
2. *EAD models provide an input to LGD models (and therefore create a key, one-way dependency that affects everything associated with these two models)*
3. *Automatic harmonisation of the definition of default*
4. *Recovery behaviours and policies are segment/portfolio-driven*
5. *Security allocation issues are partitioned at a high level (avoiding the need for complex cross-referencing, or multi-site implementation of the same LGD model)*
6. *Clear separation of individual risk elements (e.g. avoidance of double-counting fees and double-estimation of risks such as currency issues)*
7. *Scenario trees within the model are based on the same assumptions, allowing for the correct calculation of scenario probabilities (and therefore the conditioning of recovery estimates/probabilities)*
8. *Simplification of run-time considerations (guaranteed access to current information necessary for simultaneous calculations)*

**Lookup LGDs vs. Modelled LGDs**

Globally, banks are currently in various phases of this transition to more advanced approaches of Credit Risk regulatory capital calculation. Depending on regional central banks, while some banks struggle with demystifying LGD, some others are developing advanced statistical models that compute LGD and integrating these results for capital planning and credit decisioning.

The most basic approach to credit risk regulatory capital calculations, as per Basel II norms, do not require banks to model any of the credit metrics, calculating risk capital mostly based on external ratings of borrowers and the presence of eligible collateral. The more advanced approach of internal rating based capital calculations(Foundation IRB - FIRB) require banks to only compute PD, and 'look up' LGDs based on the broad nature of the credit transaction. This leads to a situation where LGDs are not accurately representative of the bank's credit portfolio, and often over-stating risk.

The most sophisticated of the Basel credit risk approaches (Advanced IRB - AIRB) addresses this 'gap' by letting banks develop models to measure LGD. Shifting to the more advanced approaches of capital calculations is a decision that several banks have made typically because of these reasons:

- Regulatory Pressure: Local regulators may issue guidelines that enforce strict timelines for banks in the region to shift to the advanced approaches
- Potential Capital Gains: A move away from the Standardized Approach could potentially translate to regulatory capital gains through lower Risk Weighted Assets.
- Strategic Decision-Making: The integration of credit models in the bank's risk-pricing and capital budgeting frameworks would lead to more informed strategic decisions
- Advanced Risk Management: Banks tend to forget that the move to more advanced approaches should not be forced only because of regulatory guidelines; the benefits of such a move are evident from the perspective of prudential risk management practices

Although FIRB is a far more advanced approach compared to the Standardized Approach, the benefits of investing in a shift to complex approaches is most evident with a shift to AIRB. The bank-specific RWA savings that may be realized with the use of internal rating models will be complemented with the use of portfolio-specific LGD and EAD estimation.

**The bank-specific RWA savings that may be realized with the use of internal rating models will be complemented with the use of portfolio-specific LGD and EAD estimation.**

Empirical studies have proven that recovery as a percentage of exposure is either relatively high (around 70- 80%) or low (around 20 -30%). The recovery (or loss) distribution is said to be "bimodal" (two-humped). Hence thinking about an "average" recovery or loss given default can be very misleading – which is the overarching assumption used in the FIRB approach. The use of the FIRB prescribed LGDs that only account for variations in the LGD estimate for secured exposures seemingly under / over-estimate actual LGDs.

Studies have also indicated that the industry of the obligor seems to matter: tangible asset-intensive industries, especially utilities, have higher recovery rates than service sector firms, with some exceptions such as high tech and telecom. Integrating PD and LGD models could help address this observation under AIRB.

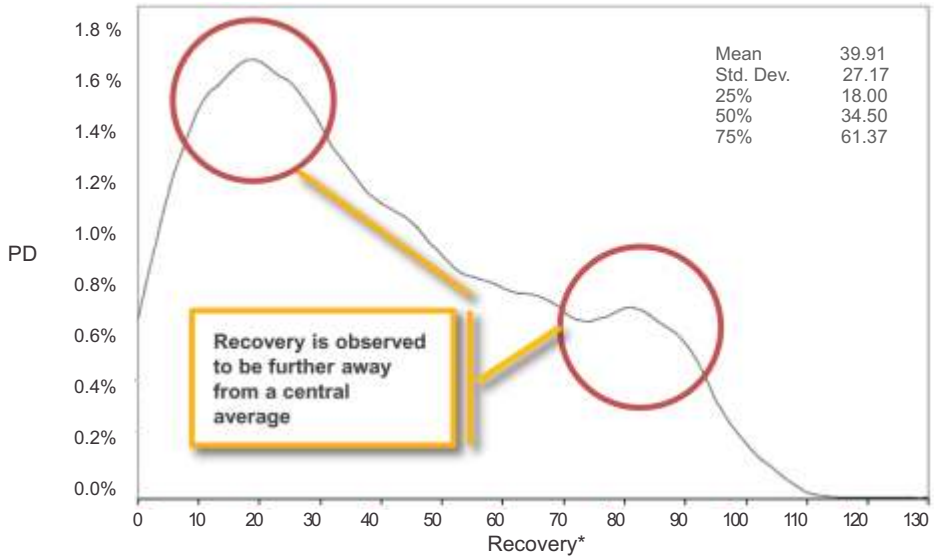



*Figure 2 : Recovery Distribution*

**Much Ado about LGD**

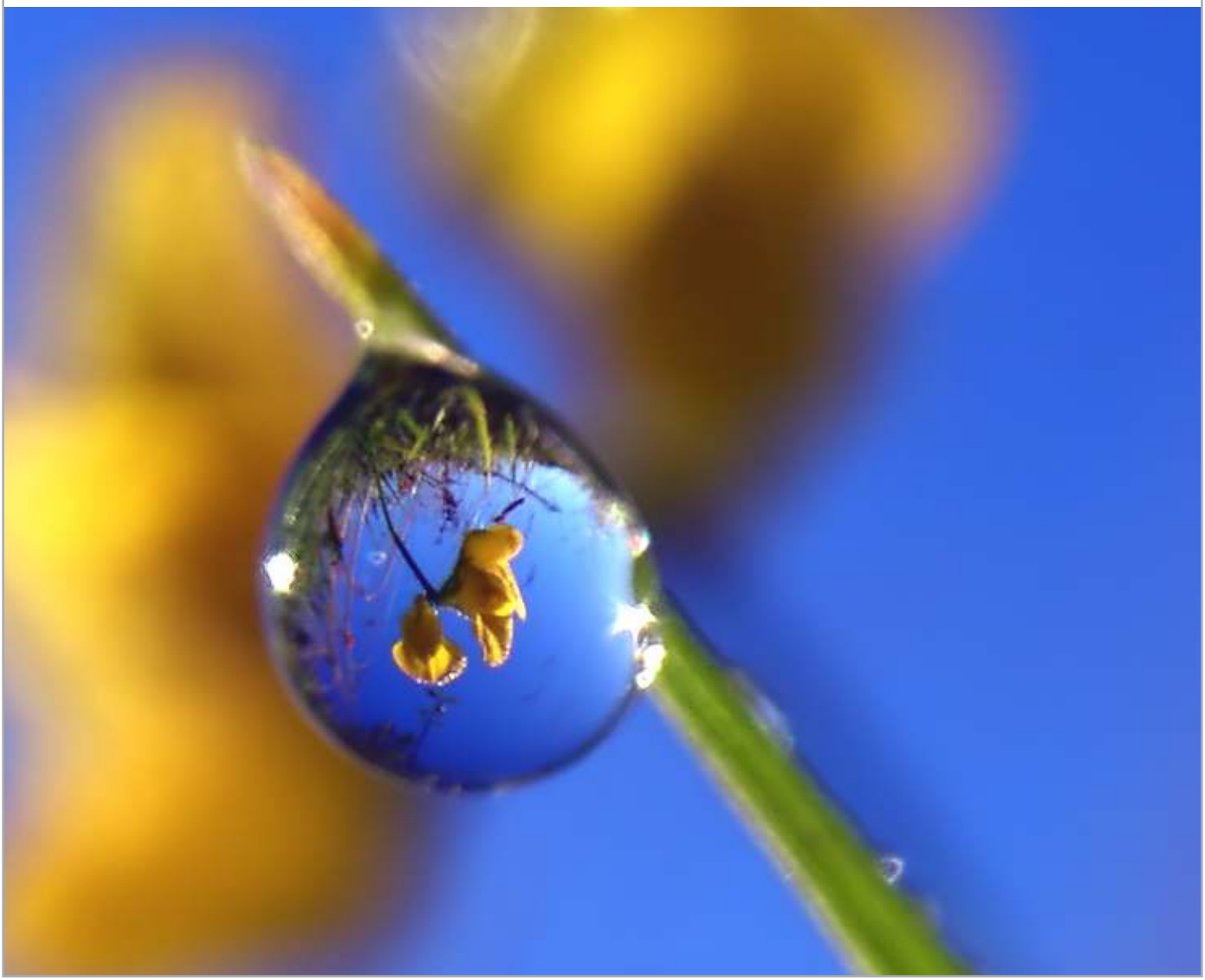
Typical issues that banks encounter during LGD modeling are highlighted below along with their level of criticality:

| | |
|---|---|
| **Insufficient Data** | Quality and quantity of data: Data covering all possible economic conditions is difficult to source. Handing missing data points through statistical methods is complicated; needs to build conservatism |
| **Model Structure Identification** | For efficient workout LGD modeling, model structure should represent the actual recovery process. Critical to 'mirror' reality as much as possible through iterative candidate model structures |
| **Parameter Estimation** | The parameter estimation strategy is selected based on various portfolio aspects. The use of a more advanced framework may not always be the most appropriate decision |
| **Model Validation** | Quantitative validation of LGD models is more complex than that of PD models. Identifying validation strategies that account for the relevant data history available is important |
| **Bi-model Nature of Recoveries** | Due to the restricted observation period of recovery cash flows the problem of length-biased sampling occurs, where long workout processes are underrepresented in the sample, leading to an underestimation of LGDs |
| **Systems & Resources** | The data requirements in terms of default, recovery and collateral cost information may need the implementation of more comprehensive risk data warehouses. LGD modeling would need the involvement of efforts from credit experts that include research and model build |
| **Planning** | Deciding to build LGD models without a proper modeling plan across portfolios leads to issues that may de-rail IRB aspirations. |

LGD modeling is still in a nascent stage. However banks are increasingly facing pressure to optimize their regulatory capital. So as the default rates continue to rise across various regions, banks are now turning their attention to this risk parameter in order to optimize their capital.

# Risk Culture

Risk Culture has become a hot topic of debate in the financial world. This article attempts to find out why and then lays out a framework for creating a robust and resilient Risk Culture at a financial services organization.



The latest spate of crisis that has beset the banking world encompasses a wide variety of banking activities and is thus, very different in nature from the crisis that unfolded in 2008. On the surface, the LIBOR fixing scandal, the derivative losses at JP Morgan, the money laundering issues at HSBC and Standard Chartered do not seem to have anything in common. However, on a deeper analysis, they all seem to be cases of a failing of the 'risk culture' at some of the largest and most complex financial services organizations in the world. Interestingly, these new sets of crises have gripped organizations that had come out of the 2008 crisis more or less unscathed and hence, were seen as organizations with a strong risk culture.

Risk culture, similar to all concepts that have the word 'culture' in them, is a very amorphous and abstract entity. It is hard to define and it is daunting to pin down its exact contours. One of the generally accepted definitionsput forward by the Institute of International Finance (IIF) is:

> *"Risk culture can be defined as the norms and traditions of behavior of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes."*

The 2008 financial crisis started requiring the focusing of attention of various stakeholders of financial services firms like shareholders, regulators, rating agencies, governments, employees, customers on the risk culture of these firms. Most of the major banking regulators initiated publishing guidelines and policy statements geared towards improving the risk culture. These regulatory pronouncements were either entirely new or improvements on existing guidelines and covered, among other things, Corporate Governance, compensation practices, risk appetite and enhanced capital levels. However, this attention on risk culture was diluted somewhere down the line by the focus on hard figures like capital levels, risk exposures, MTM losses and liquidity buffers. The recent crises have brought risk culture back to the top of the agenda as most stakeholders have realized that just adding extra capital or having lower risk limits without looking at the entire risk culture of firms is not very useful for ensuring the soundness of firms.

All these crises in banks have led to rapidly diminishing trust in bankers among the general public who have increasingly come to perceive them as greedy and self-serving. Some customers have even started moving towards alternative forms of banking such as co-operatives.The so-called divide between Wall Street and Main Street is growing day by day. Now, the governments which had bailed out banks in 2008 and were seen to be supportive of the bankers have subtly started changing their stances. They do not want to be seen as favoring bankers at the cost of the wider population. The elected representatives are no longer afraid to take on banks and even their regulators and have become very strident in their criticisms. For example, the U.K. Parliaments' Treasury Select Committee probing the LIBOR scandal called forhigher fines for firms that fail to co-operate with regulators, the need to examine gaps in the criminal law, and a much stronger governance framework at the Bank of England. It said that*"urgent improvements, both to the way banks are run, and the way they are regulated, are needed if public and market confidence are to be restored."*

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All the above instances lead one to believe that, in the short-term, financial services firms will undergo intense scrutiny of their risk culture from all stakeholders. To face this rigorous test and come out of it successfully, senior management will have to start by assessing where the organization stands at the present moment with respect to the basic building blocks of a robust risk culture framework. A typical risk culture framework would have both the 'hard' or infrastructural elements such as policies and procedures, systems, reports and the 'soft' or behavioral elements such as 'the tone at the top', humility and transparency.

**'Hard'or Infrastructural Elements**

**a) Risk Strategy**

Financial services firms are in the business of taking risk and making profits by doing so. Hence, they require a well-defined risk strategy that clearly identifies what risks the firm is willing to take and up to what levels. A well thought-out long-term risk strategy defined by the management sets the tone at the top and needs to be broken down to discrete risk limits which different levels within the organization can work within for their daily business activities.

**b) Risk Measurement**

Once a risk strategy is in place, the firm needs to measure the risks it takes. Nowadays, this is typically done with the help of risk models which are mostly based on quantitative factors. As these models are generally built using historical data, relying entirely on these models may lead to distorted outcomes. The organization should encourage supplementing these risk models with human intervention as and when required and deemed fit. Importantly, the staff should not be afraid to question the results of the models.


**c) Risk-based Compensation**

Most studies conducted after the financial crisis concluded that one of the driving factors for the excessive risks that organizations took then was the absence of compensation structures that were tied to the amount and horizon of these risks. This evident lack of long-term thinking in the incentive structures led to a weakening of the organizations' risk culture. Firms which want to foster a strong risk culture would do well to include a clear link to the long-term risk adjusted returns generated by a person when assessing the performance and the consequent incentives to be provided.

**'Soft' or Behavioral Elements**

**a) Tone at the top**

One of the most important elements to build a positive risk culture is setting the tone at the top. Senior management and the Board have to clearly demonstrate that all their decisions and actions are taken after due considerations of relevant risks and satisfy not just the narrower legal definitions of 'what is acceptable' and 'what is not' but also the wider ethical values. Unless this is done, the rank and file of the organization is not going to share in the positive risk culture and ignore all management pronouncements on building a robust risk culture.

**b) Humility**

The financial services industry has become synonymous with overconfidence, hubris, arrogance and overwhelming faith in its own abilities. There is an undisputable agreement that a little bit of humility is much required in the financial world. Organizations should encourage the acceptance of honest mistakes; if anything goes wrong, concerned employees should not be afraid to admit that they were wrong.

**c) Openness**

Over the years, financial Services firms have become very complex and difficult to manage. Senior Management is buffeted by a lot of levels of hierarchy and thus, may not be receiving warning signals and alarming triggers as soon as they should ideally. They also may not be getting all

the relevant information about risk before they make important decisions. Formal reporting systems, however robust do not always provide the required information. A lot of times, these reports only contain those elements that employees believe the management wants to see. Firms should not be afraid of employees communicating warning signals or bad news and constructively challenging views of the management. This openness should also extend to the reporting of activities that cannot be defined as ethical. Only then will the firm be able to have a shared sense of a strong risk culture.

**The financial services industry has become synonymous with over-confidence, hubris, arrogance and overwhelming faith in its own abilities.**

**Risk Culture Assessment Process**

The assessment is typically based on discussions, workshops and structured interviews with the different levels of the organization, starting with the Board of Directors and the Senior Management and covering the entire hierarchy till the junior level frontline staff who deals with customers. This ensures that all the varying perceptions of risk culture within the organization can be captured.

One aspect which has typically been neglected while formulating the risk culture is the assessment of the perceptions of external stakeholders. Supplementing the internal assessments with external inputs such as regulatory feedback given to the organization either formally or informally during on-site and off-site supervisions, rating agency assessments, shareholder surveys provide a useful well-rounded look at one's self.

***Conclusion:***

*The risk culture assessment can provide Senior Management of the firm with an insight into both the strong points and the weak areas in its existing risk culture. The surveys signal to the internal and external stakeholders the desire of the management to set the tone at the top and also to enable them to assess whether the right message is filtering down through the organization. It provides a point of reference for dialogues with external stakeholders like regulators and rating agencies, and also for internal communications with employees. These assessments over a period of time will also help to measure the actual progress of the organization against the desired levels of robustness of the risk culture.*

*If we look at the broader picture of financial stability and trust in the financial sector, we realize that we cannot avoid focusing our energies on improving the risk culture of the firms in the sector. Most stakeholders realize that the risk culture at a firm cannot be changed overnight or even in the short-term. It is a long-term journey in which the senior management has to take the first step by assessing the current risk culture from all perspectives, identifying gaps and drawing up an action plan to close those gaps.*

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# @ Risk Culture

"We can see what has gone wrong. The idea that the culture of investment banking is the same as the culture of basic banking, I think it is very clear now that those two cultures are completely different, and they need to be separated."
~ **Sir Mervyn King, Bank of England Governor**

"I don't think there is anything wrong with the culture at Standard Chartered … We are about trying to do the right thing and run a good bank well."
~ **Peter Sands, Chief Executive of Standard Chartered Bank**

"The evidence of culture is how people behave when no one is watching."
~ **Bob Diamond, Barclays' former Chief Executive**

"Everyone is talking about the culture, the culture, and all that, and it's just not true… Most bankers are decent, honorable people. We're wrapped up in all this crap right now. We made a mistake. We're sorry. It doesn't detract from all the good things we've done."
~ **Jamie Dimon, Chairman & CEO, JPMorgan Chase & Co.**

# Regulatory Updates

**Fundamental review of trading book capital requirements: consultation by the Basel Committee - 3 May 2012**

The Basel Committee on Banking Supervision issued revisions to the market risk framework as a part of Basel 2.5 issued in July 2009. The key elements of this proposal include 1 A tight limit on the banks ability to shift its instruments between trading and banking book following the initial classification; 2 Moving from value-at-risk to expected shortfall, a risk measure that better captures "tail risk; 3 Calibrating the revised framework in both the standardised and internal models-based approaches to a period of significant financial stress, consistent with the stressed value-at-risk approach adopted in Basel 2.5; 4 Measures to reduce model risk in the internal models-based approach, including a more granular models approval process and constraints on diversification; 5. Revision to the standarised approach to make it more risk-sensitive and a credible fall back for the internal rating approaches.

http://www.bis.org/publ/bcbs219.htm

**MAS Consults on Technology Risk Management Guidelines and Notice - May 13, 2012**

The MAS released two consultation papers on Technology Risk Management (TRM). The first paper is a set of enhanced guidelines on technology risk management and the adoption of sound security practices. The second paper is a Notice on Technology Risk Management which sets out the legal requirements for financial institutions.

http://www.mas.gov.sg/News-and-Publications/Press-Releases/2012/MAS-Consults-on-Technology-Risk-Management-Guidelines-and-Notice.aspx

**Agencies Finalize Large Bank Stress Testing Guidance - May 14, 2012**

The Federal Reserve Board, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation on Monday issued final supervisory guidance regarding stress-testing practices at banking organizations with total consolidated assets of more than $10 billion.The guidance outlines general principles for a satisfactory stress testing framework and describes various stress testing approaches and how stress testing should be used at various levels within an organization. The guidance also discusses the importance of stress testing in capital and liquidity planning and the importance of strong internal governance and controls as part of an effective stress-testing framework.

http://www.fdic.gov/news/news/press/2012/pr12053.html

**Guidelines on Stressed Value-At-Risk (Stressed VaR) and on the Incremental Default & Migration Risk Charge (IRC) - May 16, 2012**

The EBA published two sets of Guidelines on Stressed Value-At-Risk (Stressed VaR) and on the Incremental Default and Migration Risk Charge (IRC) modelling approaches employed by credit institutions using the Internal Model Approach (IMA).These Guidelines are seen as an important means of addressing weaknesses in the regulatory capital framework and in the risk management of financial institutions. National competent authorities are expected to implement the provisions set out in the Guidelines within six months after their publication. After that date, the competent authorities must ensure that institutions comply with the Guidelines effectively.

http://www.eba.europa.eu/News--Communications/Year/2012/Guidelines-on-Stressed-Value-At-Risk--Stressed-VaR.aspx

**Agencies Seek Comment on Regulatory Capital Rules and Finalize Market Risk Rule - June 12, 2012**

The Office of the Comptroller of the Currency (OCC), Board of Governors of the Federal Reserve System (Board), and the Federal Deposit Insurance Corporation (FDIC) are seeking comment on three notices of proposed rulemaking (NPRs) that would revise and replace the agencies' current capital rules. The agencies also announced the finalization of the market risk capital rule that was proposed in 2011. The three NPRs are as follows (1) Basel III NPR (2) Advanced approaches and Market Risk and (3) Standardised Approach NPR.

http://www.fdic.gov/news/news/press/2012/pr12068.html

**Federal Reserve Board and Federal Deposit Insurance Corporation announce process for receiving and evaluating initial resolution plans, also known as living wills - 29 June 2012**

The Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve Board on Friday announced the process for receiving and evaluating the initial resolution plans--also known as living wills-from the largest banking organizations operating in the United States. The Dodd-Frank Wall Street Reform and Consumer Protection Act requires that bank holding companies with total consolidated assets of $50 billion or more and nonbank financial companies designated by the Financial Stability Oversight Council for supervision by the Federal Reserve submit resolution plans annually to the FDIC and the Federal Reserve. Each plan must describe the company's strategy for rapid and orderly resolution under the Bankruptcy Code in the event of material financial distress or failure of the company. The FDIC and Federal Reserve must review each resolution plan and jointly may determine that a resolution plan is not credible or would not facilitate an orderly resolution of the company in bankruptcy.

Following submission of a resolution plan, the FDIC and Federal Reserve will—

- Release the public section of the resolution plans;
- Preliminarily review the plan for informational completeness; and
- Review each plan for its compliance with the requirements of the rule.

http://www.federalreserve.gov/newsevents/press/bcreg/20120629b.htm

**Regulatory treatment of valuation adjustments to derivative liabilities: final rule issued by the Basel Committee - 25 July 2012**

The Basel Committee on Banking Supervision revised paragraph 75 of Basel III guidelines extending its application to derivatives. Paragraph 75 required banks to "derecognise in the calculation of Common Equity Tier 1, all unrealised gains and losses that have resulted from changes in the fair value of liabilities that are due to changes in the bank's own credit risk." While this rule was originally developed in the context of debt instruments issued by banks, the principle extends also to fair valued OTC derivatives. Hence, the offsetting between valuation adjustments arising from the bank's own credit risk and those arising from its counterparties' credit risk is not allowed.

http://www.bis.org/press/p120725b.htm

**Basel III counterparty credit risk - Frequently asked questions (update of FAQs published in November 2011) - 25 July 2012**

The Basel Committee on Banking Supervision received a number of interpretation questions related to the December 2010 publication of the Basel III regulatory frameworks for capital and liquidity and the 13 January 2011 press release on the loss absorbency of capital at the point of non-viability. This publication sets out the second set of frequently asked questions (FAQs) that relate to counterparty credit risk, including the default counterparty credit risk charge, the credit valuation adjustment (CVA) capital charge and asset value correlations.

http://www.bis.org/publ/bcbs228.htm

**FSA statement regarding CRD IV implementation - 01 August 2012**

The draft European Union legislation to update the capital requirements framework, known as CRD IV, has been under discussion between the European Parliament, European Commission and Council of Ministers. These discussions originally aimed to finalize an agreed position by end June 2012 enabling adoption by the European Parliament plenary in early July 2012.Following the delay of the Parliament's plenary vote and the recent statement by the Rapporteur of the European Parliament and the discussion of the Council of Economic and Finance Ministers, it is clear the legislation will not be adopted earlier than autumn 2012. Following adoption it is necessary for verification, translation and signature of the EU legislation to take place before it can be published in the Official Journal of the European Union. Publication in the Official Journal is a necessary pre-cursor of EU legislation entering into force.

http://www.fsa.gov.uk/library/communication/statements/2012/crd-iv.shtml

**Supervisory guidance for managing risks associated with the settlement of foreign exchange transactions - consultative document - 17 August 2012**

The consultative document aims to review and update the last supervisory guidance in order to ensure that such risks are properly managed:it will provide a more comprehensive and detailed view on governance arrangements and the management of principal risk, replacement cost risk and all other FX settlement-related risks. In addition, it promotes the use of payment-versus-payment arrangements, where practicable, to reduce principal risk.

The guidance is organised into seven "guidelines" that address governance, principal risk, replacement cost risk, liquidity risk, operational risk, legal risk, and capital for FX transactions. The key recommendations emphasise the following:

- A bank should ensure that all FX settlement-related risks are effectively managed and that its practices are consistent with those used for managing other counterparty exposures of similar size and duration.
- A bank should reduce its principal risk as much as practicable by settling FX transactions through the use of FMIs that provide PVP arrangements. Where PVP settlement is not practicable, a bank should properly identify, measure, control and reduce the size and duration of its remaining principal risk.
- A bank should ensure that when analysing capital needs, all FX settlement-related risks should be considered, including principal risk and replacement cost risk and that sufficient capital is held against these potential exposures, as appropriate.

http://www.bis.org/publ/bcbs229.htm

With our growing clientele and array of new engagements in the region, our American horizon was recently expanded with new office space in the Big Apple.

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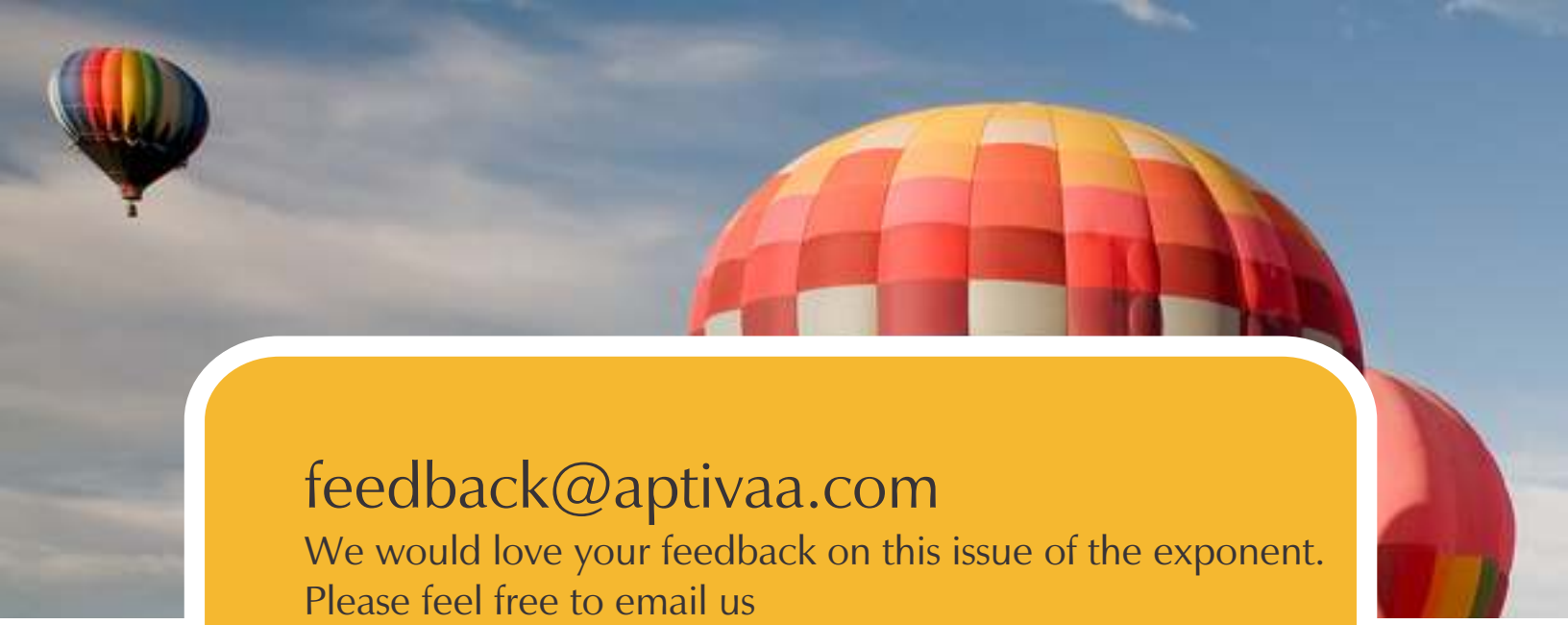

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