

Re-thinking Enterprise Risk Management

This edition explores how banks can re-focus their ERM programs on the really big risks

During the boom years, enterprise risk management sounded worthy but dull. Investors seemed more interested in the quarterly performance of banks than in the sustainability of bank profits and there was little applause for executives who thought long and deep.

That changed very fast last year as it became clear that many banks had wrongly measured or missed entirely the risks that were about to kill them. But the pace of events has meant that for many months there's been little time to do anything but fight fires.

Things are now changing again as the first shock of the crisis subsides and the Western world sets to work to redesign its temporarily shored-up banking system and cope with economic recession. For the next few years, shareholders, investors, regulators and even customers will be fixated on bank stability and on whether a bank's returns are real or might be swept away by unexpected losses.

This change of heart on the importance of long-term risk management is something executives can turn to their advantage. Now is the best time in a generation to build an ERM strategy that balances risk and reward from a fundamental economic, rather than an accounting or regulatory rules, perspective.

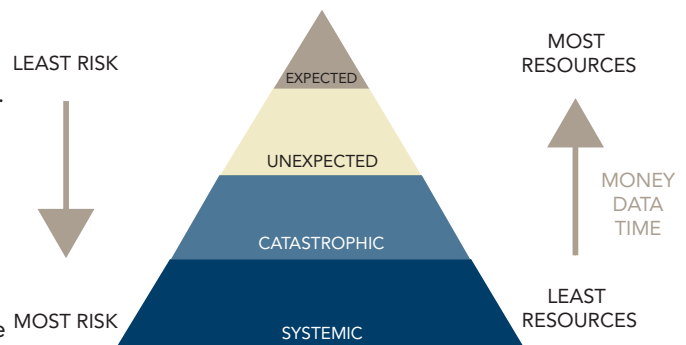
The challenge will be to do this in a credible and practical way that learns from the 2007-8 crisis without continually trying to fight the last war.

One pitfall banks should avoid is the 'laundry list' approach to risk management so common before the banking crisis, in which the bank gets its ERM initiative mixed up with an audit-style attempt to list all the possible risks the bank faces. Where useful at all, such programs ironed out minor operational mishaps and inefficiencies – cost management – rather than tackling the big liquidity and credit risks inherent to particular bank business models.

This points to a more general problem: at the moment, banks devote most of their 'risk

management' resources to planning for losses they largely expect, or a mild variation on these, rather than hunting out and preparing for the truly unexpected (see Figure 1).

Figure 1: Are your resources following your risks?



ERM must instead be a forward-looking process for managing the big risks that threaten solvency and making sure that businesses help the institution achieve its profitability goals after factoring in the economic cost of risk and uncertainty. Approaching ERM in this way requires a change of mindset, so here are four warm-up exercises for banks as they begin to re-think enterprise risk management.

Are we forging a dynamic link between risk and business decisions?

Somewhere out there is an executive watching their institution struggle for solvency and thinking, "but we knew about this risk trend, how could we not have done anything about it as a company until it was too late?"

They know the answer. The knowledge about the risk never got factored into day-to-day business decisions, which were aimed at growing volume,

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and the extent of the longer-term solvency implications was never properly understood at the enterprise level.

Cynics will say this kind of oversight happens in the banking industry because it's in everyone's short-term interests, but there are also two structural reasons. The first is that bank risk measurement is often treated as a backroom number-crunching activity quite distinct from the business (Figure 2).

Figure 2: Will business and risk management ever meet up?



Subprime securitization provides an object lesson in how dangerous this is at the extreme. Originating subprime volume without regard for risk, and then hoping to 'manage' this risk as an entirely separate activity through financial engineering techniques, was a terrible idea. The risk modeling never got to grips with the correlation risks that drive losses to truly unexpected levels in large portfolios or kept up with changes in mortgage origination practices.

To understand what drives risk - and what may cause it to grow exponentially when a market reaches a particular tipping point - risk managers need to understand the nature of the risks created, how risk factors interact, and how business creates risk in the pursuit of profit. For example, how is volume generated by relaxing underwriting standards or altering product structures (e.g., teaser rates) and how might this bring revenue forward while temporarily masking risk costs?

This means that risk management must continually track how changes in business practice are shaping the bank's risk profile. Executives can apply a simple test here: are risk managers spending more time with their risk models, or with their business units?

The second problem is that even if risk is properly assessed there is often no practical mechanism through which this improved knowledge can shape business decisions.

The answer lies in discussions we've had before in this report about economic capital allocation, risk-adjusted pricing and risk-adjusted incentivization for bankers - as well as the backpage commentary in this edition about profitability analysis.

Is our bank focusing on easy-to-measure risks at the expense of easy-to-miss risks?

The banking industry has for years focused its investment in risk management on the wrong risks from an ERM perspective. The risk types that are rich in data, such as market risk, and more generally the 'expected loss' part of any loss distribution, get all the resources, while the periodic and strategic risks that are difficult to measure but that are the real threats to the bank receive sketchy attention.

This neglect has been particularly true for contingent liquidity risk¹. Prior to the subprime crisis, various kinds of banking institution had spent half a decade improving returns by swapping uncosted contingent liquidity risks for the upfront benefit of cheaper funding through a host of mechanisms (e.g., wholesale market funding; overnight repos; shadow banking system).

Important but data-poor risks are often sidelined within each risk category, too. Banks pay a lot of attention to the default

component of credit risk, for example. But 'loss given default' and its interaction with default rates is 'data poor' and messy to deal with, so it is often measured using some placeholder statistic (e.g., 40% LGD, or downturn LGD) that can't hope to capture the real risk dynamic. For similar reasons, banks have also tended to ignore second-order risks, such as counterparty credit risks, even though in our increasingly interconnected financial world these risks have become much more important.

The answer is not to throw more statistical-historical modeling resources at hard-to-model risks but to apply other kinds of approach. For example, the bank can analyze risk through looking at the fundamental risk drivers², by examining the capital implications of worst-case scenarios and risk parameter uncertainties³, and by making sure that executives use risk metrics as one component of considered management judgments. Risks that are important but hard to measure can still often be managed, and the costs attributed back to business lines.

Table 1: What Might Indicate a Lending Bubble?

- Spread compression
- Trends in underwriting standards (e.g., LTV, documentation)
- Trends in product structures (e.g., balloon mortgages)
- Nature of customers (intention, experience)
- Rate of market growth
- 'Near miss' early warnings (e.g., the problems in manufactured home lending before the subprime crisis)
- Trends in underlying risk drivers (e.g., occupancy rates in the CRE sector)

The key here is curiosity at a senior level. Rather than simply asking whether a particular risk has been stress tested and checking the results, senior managers must build a process for investigating the choice of analysis, the key assumptions, how the risk dynamics relate to each level of loss, and how this all relates to the bank's business model.

Are we seeing the big picture across the bank?

One of the most striking things about the subprime crisis is that the originate-to-distribute model didn't end up doing that much distribution.

Risky subprime assets began life with originating banks and brokers and then stayed for a period with arrangers as 'securitization pipeline' assets, before often re-entering the banking system as retained investments, new investments, or fuel for the so-called shadow banking system.

The idea that banks as enterprises could play pass-the-parcel with risk was anyway misleading. Even if securitizing banks and arrangers had succeeded in passing all the subprime credit risk to insurers and pension funds, they would have retained tremendous business model and funding strategy risks.

There are three lessons here that apply well beyond subprime. First, recognize the degree to which risk changes shape, rather than disappears, and search hard for enterprise-significant concentrations of the same fundamental economic risk across business lines and investment portfolios. Where these exist, do not outsource the risk analysis to anyone, let alone rating agencies.

Second, manage contingent risks such as funding risks conservatively and pass on the cost to the businesses concerned; when business lines complain that it is uncertain the risk will ever manifest itself,

remind them how much investors charged for uncertainty during the 2007-8 crisis.

Third, like auditors checking up on rogue traders, keep a look out for 'risk free' arbitrage-style business activities that make a good margin over an extended period. There will be a longer-term, uncosted risk of indeterminate size in your business model somewhere.

What's the driving like out there?

For careful drivers, the roads are dangerous mainly because of other road users. That's why driving instructors place so much emphasis on anticipation.

Likewise, banks are part of a wider financial system. Pretending to manage the risk of the bank without looking at conditions in banking markets and the overall financial system is like trying to drive by looking only at the speedometer and the brake pedal.

Consider the risk of a subprime borrower in 2001 compared to a similar borrower in 2006, even for the rare bank that did not relax its own lending standards. By 2006, the risk would have grown because other banks standards had eroded, inflating the house price bubble further and ensuring a stampede of forced sales and declining collateral values as soon as confidence ebbed.

Strangely, perhaps, this kind of environmental risk monitoring is largely foreign to formal bank risk management systems and is often introduced to risk committee discussions only through some one-dimensional risk indicator such as trends in house prices. Table 1 (see pg. 2) offers typical areas that might be formally tracked to capture interacting trends in both peer bank and customer behavior.

This kind of analysis will also help executives understand how investors might view their bank in an industry

downturn, e.g., is it an outlier among its peers with respect to underwriting behavior or risk concentrations?

Similarly, few banks explore formally how macroeconomic trends drive their credit risk exposures, even though our research suggests that macroeconomic modeling can forecast credit loss trends in, for example, commercial real estate portfolios up to two years into the future⁴.

Conclusion

As the subprime crisis has made clear, timing is important in risk management. It's one thing to be seen as an aggressive leader in developing a new market with high spreads when the environmental risk indicators are ticking green; quite another to be the bank most concentrated in subprime when the market is overheated, spreads are compressed, and indicators are ticking red.

Timing is also important when launching ERM initiatives or renewing them through ERM 'gap analysis' programs. It's only at this present moment in the economic cycle that the power and cost of periodic risk interactions are fully apparent to everyone in the institution. Banks that are serious about using ERM programs to improve corporate decisions must ask, if not now, when?

This article was contributed by Jonathan York, vice president, Ambit ERisk, who welcomes your comments at jonathan.york@sungard.com

¹ See Jonathan York, 'Enterprise-wide Liquidity Risk Management: Still Slipping Through Our Fingers?', The RMA Journal, September 2008

² As an example of fundamental analysis, see 'How Real is Your CRE Risk?', BancWare ERisk Report, February/March, 2007

³ See 'Piling the Stress on Economic Capital,' SunGard Ambit Risk Report, Summer 2008

⁴ See 'Taking Account of the Economic Cycle in ALLL,' Shahram Elghanayan, The RMA Journal February 2006



AMBIT RISK COMMENTARY

Jonathan York, Vice President, Ambit ERisk

From the Frying Pan to the Fire?

The credit and liquidity shocks of the last year have brought home to executives the pressing need to work out which products, activities and relationships are generating sustainable profits.

As a result, at SunGard, we are seeing the biggest wave of interest in profitability and pricing systems for some years. There's a problem, though, in how many banks are approaching this issue.

It's tempting for banks to think that profitability can be estimated by bringing together all sorts of accounting-style information on revenues and expenses from around the bank. But this dodges the biggest problem banks must face if they are to avoid jumping from the frying pan into the fire in their profitability analysis – the cost of risk and uncertainty.

Don't ignore uncertainty

Profitability is a function of the balance between costs and revenues. At the moment, banks estimate the funding and operating costs associated with a particular product and then compare this to the contractual revenues flowing from the product. Banks know that revenues flowing from credit products aren't entirely solid, so all banks adjust these revenues in line with their estimates of expected loss.

The problem with this simple approach is that it does not capture the chance of something unexpected happening that ruins the revenue estimates. These shocks can arrive from a number of directions including product portfolio concentrations and risk factor correlations, e.g., a spike in default rates at the same time that recovery rates fall. For some products the chance of the unexpected is quite high – witness subprime and concentrated

commercial real estate portfolios – while for others it is quite low. Wherever the chance is high, any profitability analysis based on expected estimates may look reasonable over the short-term but will inevitably prove to be wide of the mark in the longer term. Simply adding a safety margin to the expected loss estimate won't work, as it's impossible to guess how fat the margin should be.

Uncertainty isn't about averages

In business areas where product revenues are known to be volatile across the economic cycle, like commercial banking, some banks try to overcome this problem by using 'capital factors' in their profitability analysis that attach some kind of average risk capital cost to a product class or segment (e.g., based on the loss experience of other banks).

Unfortunately, because capital factors are based on historical averages rather than on the risk drivers in the bank's particular portfolio, they are a dangerous proxy for the true cost of uncertainty.

Using regulatory capital as a proxy is also a mistake because regulatory capital also fails to capture accurately the economic cost of risk. For example, Basel I capital fails to capture borrower risk in any realistic way, and Basel II may not properly capture portfolio concentration risks, risk factor correlations or uncertainties about risk measurements.

What banks really need to do is to estimate how much losses might depart from expected levels by looking at the multiple risk factors that drive risk at the transaction and portfolio level. In the case of loan credit risk, these might include risk rating, collateral, exposure, maturity, name and industry concentrations,

and risk factor interactions – as well as judgments about the level of uncertainty in estimating all of the above.

What we're describing here is really an extension of economic capital analysis to improve profitability analyses by accurately allocating capital to products, depending on their risk characteristics. Using granular risk drivers rather than broadbrush capital factors not only improves accuracy, but means banks can explore how to increase the profitability of potential transactions by reducing the potential for extreme losses, e.g., by altering the structure of the product. At the same time, the bank should analyse the cost of the non-credit risks associated with products, notably contingent liquidity risks. Rather than statistical analysis, the bank here needs to apply scenario analysis and expert judgment to build a strategy for mitigating contingent liquidity risks – and then attribute the cost of this back to products.

Conclusion

The failure of profitability analysis to take proper account of risk has driven the banking system to the edge of disaster, because banks are continually tempted to push into markets that offer short-term volume growth and attractive spreads but that destroy profits over longer periods.

In the new world order of banking, institutions will have to create a much better balance between the twin goals of growing volume and ensuring sustainable risk-adjusted profitability. Improved product profitability analysis taking account of uncertainty is one of the building blocks for this endeavor.

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