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- To Aggregate Risk or Not? Should that be the Question?

The Myth about Exchange Traded Derivatives
Risk management still remains top of the agenda for banks, regulators and politicians in the global market. We expect further regulatory and economic changes to occur throughout 2012. We anticipate 2012 will be another difficult year. There are a range of new regulations that have been issued where, in many cases, the detailed analysis of the impact on individual institutions is still required. Where there is greater clarification on individual bank or regulator expectations we will address this in future Global Risk Updates and also on the Risk Reward Global Risk Forum on Linkedin.

In this issue we focus on both regulation and the international markets. In terms of regulation and its impact on global banking activity we have three articles for your enjoyment. Sophie Dupree debunks the myth of exchange traded derivatives highlighting the problems that are likely to occur in the future. Michael Dorval provides an insight into the credit value adjustment that arises through implementation of Basel 3 whilst I have addressed another area of Basel 3 – dangerous contingent capital instruments.

How are the international markets managing? Read about the state of Islamic risk management, and the piece by Risk Reward’s own Africa Specialist, Tony Williams who has looked at the emerging nature of the African economy. Charles Stevens addresses the risk that exists in risk management in emerging markets and you will want to catch up on the risks of Islamic finance in the changing economic environment written by yours truly.

Also in this edition, Peter Hughes offers his take on the Jungle Bank and Rohan Badenhorst on risk aggregation. We think these are issues of timely, major concern to you and your firms. Have we got it right? If there are specific issues you would like us to address in future issues, do get in touch. In the meantime, all of us here at Risk Reward Limited wish you a prosperous and risk reduced 2012!
The Myth about Exchange Traded Derivatives

As Head of Investment Risk Framework at Schroders (London), Sophie Dupree is an experienced risk manager in operational, investment, counterparty and liquidity risks with debunking a myth? Here’s her view.

If you are not an investment risk expert, you would be forgiven to think that exchange traded derivatives are far safer than OTC (‘over the counter’) derivatives. If not, why would all the major regulators around the world be working together to force most of the OTC derivatives to be centrally cleared (i.e. cleared through an exchange), which is the key feature of an exchange traded derivative?

But as ever life is not that simple for players who are not direct members of exchanges, due to the high costs associated with membership, either in capital required but more importantly because of the associated back office costs. There are only a few buy-side (asset managers) institutions currently direct members of exchanges. Most of us have to make do with accessing the exchanges through a clearing broker. And that makes a big difference with regards to the attached counterparty risk.

Let me explain why
The exchange requests an initial margin for each new contract traded. Then it requires some additional margin if the price moves against the buyer, i.e. the marked to market (‘MtM’) is negative.

If the MtM is positive, the Exchange credits the MtM to the derivatives’ buyer.

The clearer has to place all the initial margins with the exchange. The counterparty risk associated with the initial margin is therefore with the exchange, and could be deemed negligible, thanks to all the controls and safety measures surrounding the exchanges.

However, under most clearing contracts, the clearing broker has the right to net all the positions of his clients before calculating the amount of additional margin required. That means that on any one day the clients of a typical asset manager have got an undefined (although capped) exposure to the clearing broker chosen by their asset manager. The exposure is between 0 (if the mark to market of their position is positive) and the negative MtM of the instrument. Note that clients can also choose their own clearing broker.

The clearing broker generally deposits the cash with their parent bank. It is clearly labeled as client money but that does not mean that it would be readily available if the parent bank or the broker went bankrupt.

Definitions:
Exchange-traded derivative contracts are standardized derivative contracts (e.g. futures contracts and options) that are transacted on an organized futures exchange.
Exchange – Any organization, association or group which provides or maintains a marketplace where securities, options, futures, or commodities can be traded; or the marketplace itself.
Counterparty risk – The risk that the other party in an agreement will default. In an option contract, the risk to the option buyer that the writer will not buy or sell the underlying as agreed. In general, counterparty risk can be reduced by having an organization with extremely good credit act as an intermediary between the two parties.
Building CVA on Top of an Existing Risk Infrastructure

Michel Dorval is a respected financial services risk management and compliance specialist at Thomson Reuters Risk Management. In this article he offers practical help whilst explaining the ‘CVA landscape’ drivers and the different approaches that banks can adopt in response to these drivers as well as how banks can implement CVA projects effectively taking into account the implications of each of these strategies.

The potential cost of doing business with certain counterparties is now a significant concern for anyone trading in the financial markets. In the past, the valuation of counterparty credit risk (CCR) was largely ignored, thanks to the relatively small size of derivatives exposures and the high credit rating of the counterparties involved, in general, other highly rated financial institutions. As the size of derivatives exposure increased and the credit quality of the counterparties fell in the wake of the 2008 crisis, however, the valuation of counterparty credit risk could no longer be assumed to be negligible and had to be priced in, more in particular credit value adjustment (CVA).

CVA captures the counterparty default risk inherent in over-the-counter derivatives portfolios. In a sense, the CVA is similar to loss reserves made on loan portfolios; on the other hand CVA is a highly volatile figure that depends directly on fluctuating daily market prices.

CVA appears in several different contexts. The original context was in managing P&L volatility arising from counterparty default risk in large OTC books. Since then, the CVA concept has been taken up by accounting standards organizations (specifically, with the development of IFRS 9 and ASC820 standards for fair value), as well as forming part of the requirements for additional regulatory capital, as put forward in the Basel III framework.

Since the current Basel II counterparty credit risk rules cover only default risk and no CVA risk, the Basel Committee on Banking Supervision introduced in the Basel III framework a new capital charge for potential mark-to-market losses associated with any deterioration in the creditworthiness of a counterparty. These new guidelines put forward both a standardized and advanced CVA charge.

Following the 2008 credit crunch, front offices realized that better quantification, pricing, and management of their counterparty credit risk was crucial because CVA losses dominated default losses during the crisis. Some banks created specific CVA desks that managed CVA P&L and collected charges from the originating desks in return for insulating them against counterparty default losses.

The total CVA book may represent a very large part of the bank’s P&L, making it important to hedge the overall CVA and so avoid CVA uncertainty having a negative impact on bank profitability.

It is up to each bank to decide the level of CVA management it will try to attain in both short and long term.

To this end, it may be helpful to categorize a bank’s CVA strategy into four broad stages, with the sophistication and cost increasing at each stage.
Building CVA on Top of an Existing Risk Infrastructure

Measure: A CVA measuring capability is created to calculate and aggregate CVA risks. Accounting and risk management departments will be the principal users of this function. This stage fulfils compliance obligations under accounting and regulatory standards.

Advise: In addition to measuring CVA, the bank will advise its trading departments on CVA-related risks. For example, position limits may be set to include CVA, or traders may be given minimum spreads to charge on a counterparty by counterparty basis.

Hedge: At this level the CVA is transferred from the trading desks to a CVA desk, perhaps through a one-time charge to the trading desk. The CVA desk is then responsible for managing the CVA P&L and, for example, for hedging it through the CDS market.

Trade: Here the CVA desk becomes a profit centre. The bank is not only hedging its own CVA risks but is also actively taking CVA positions.

The choice will depend on the size of the bank and the scope of its derivatives book; the strategic direction the bank is following; and the regulatory and accounting standards in place. So banks with only limited derivatives activity may opt to stay at a compliance level and restrict investment in CVA measurement to whatever is required to be in line with the accounting and supervisory regime in place. A larger derivatives player on the other hand will transfer CVAs from individual trading departments to a consolidated CVA desk that will hedge or even trade CVA.

Having previously invested in the capabilities necessary for calculating economic and regulatory capital, most banks will already have in place all, or at least parts, of the different elements required to build a CVA solution. Unfortunately, these elements might be (and usually are) dispersed across different departments, where they serve specific purposes. A more consolidated approach is required for CVA. These elements can be broadly grouped under the headings of data, analytics and reporting.

Data
Most of the data will already be present in the bank as it is standard input to current platforms used to calculate market and counterparty credit risk. The challenge, however, lies in consolidating and normalizing this data so that it can be used for a centralized CVA computation.

- **The securities data** is usually available from the front-office trade capture and pricing systems and may already have been consolidated into risk management systems to calculate Value-at-Risk (VaR) for market risk or Potential Future Exposure (PFE) for credit risk.

- **The static data** required is generally the same as that used by limit management solutions. Market data, such as yield curves, equity prices, FX rates and volatilities, can be sourced from trading and risk management systems.

- **Credit risk data**, such as loss given default or recovery rates, ratings and probability of defaults, is entered into systems for the calculation of economic or regulatory capital, particularly if the bank is already using an internal ratings approach for regulatory capital.

Analytics
In terms of analytics a complete CVA solution could potentially cover different functions like beside an EPE engine also components like calibration, wrong way risk and calculation of sensitivities to support hedging.

In terms of methodology, the requirements of CVA overlap with those required to estimate PFE in many respects. CVA also entails a simulation of the future evolution of market data, deal pricing on future dates along these paths and aggregation, while incorporating the effects of netting and collateral agreements. Many of the challenges are the same: the performance of portfolio simulation, portfolio netting and collateral agreements modeling, a need for aging and reinvestment strategies, provision for the rapid pricing of complex structured derivatives, and so on.

The common use of PFE is to compute exposures that feed into limit management systems and regulatory capital calculations, where the bank has approval for the Internal Model Method (IMM)\(^1\). Calibration for PFE is therefore performed principally on historical market data to capture through-the-cycle risk. Regulatory requirements specify three years of past history, with an additional calibration over a period of significant stress for the bank\(^2\). The same calibration could arguably be applied to compute CVA in the context of risk management. If, on the other hand, the purpose is to calculate CVA for trading and hedging or fair value accounting, then calibration needs to be implied from current market data (also referred to as risk-neutral pricing).

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\(^2\) BIS, Basel III: A global regulatory framework for more resilient banks and banking systems – December 2010 (rev June 2011)
The CVA function is generally also tasked with checking for wrong way risk. Wrong way risk occurs when the exposure to the counterparty increases at the same time as the counterparty’s credit quality deteriorates. This correlation between exposure and credit quality is difficult to express as a model. Academics and practitioners have proposed various models for wrong way risk, but while these papers explain interesting relationships they are not general enough; hence, a common practice does not yet exist for detecting wrong way risk.

The CVA function also needs to support pre-trade CVA inquiries. This may be handled in different ways: approximated and delivered as guidance or by means of an exact computation. The latter needs to be performed rapidly, but it is worth noting that only the simulation of the new deal and aggregation with the previous deals in the same netting set need to be performed. All other values can be reused from a larger overnight batch.

While CVA is computed on a netting set by netting set basis and the CVA contribution of different netting sets is additive, CVA must also be allocated back to the transaction level. The contribution of a granular level to the total CVA can be based on different mathematical definitions (marginal, incremental, component, etc.). Note that this is generally different from the additional CVA that the counterparty would be charged at the time the deal was done.

Hedging requires a vast number of sensitivities covering credit risk, other underlying market variables, volatilities, and correlations. While the credit calculations may be quite inexpensive to calculate, most other sensitivities will require multiple Monte Carlo simulations to be run. The efficient generation of Monte Carlo-based sensitivities is therefore critical to this process.

The following table summarizes the links between the four broad stages and the functionalities discussed.

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<th>ANALYTICS REQUIRED</th>
<th>STAGE 1 MEASURE</th>
<th>STAGE 2 ADVISE</th>
<th>STAGE 3 HEDGE</th>
<th>STAGE 4 TRADE</th>
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<td>EPE engine for CVA and DVA</td>
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<td>Wrong Way Risk</td>
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<td>Sensitivities for hedging</td>
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| Analytics required as per CVA strategy                   |                  |                |               |              |

**Reporting**

Any decision on reporting capabilities must be made with user profiles in mind. A CVA desk or Risk Management team would tend to be primarily interested in aggregated CVA figures. They would, however, also need drilldown capabilities to support the validation of the figures and to enable them to answer requests from the trading desks to approve new deals.

Aggregated views usually follow counterparty and instrument hierarchies and must show the netting and collateral agreements that are in place in a transparent manner. Traders are focused on their desk’s activity and are primarily interested in pricing (which also means knowing how much to add as CVA), in current CVA amounts, in details of any defined limits, in receiving guidance about which counterparties are favored or to be avoided and in whether or not a new transaction will ‘pass’.

Technical requirements depend on the size of the bank’s OTC derivatives operation and the scope of its CVA strategy. The number of prices that need to be simulated and the consequent amount of data that needs to be handled depends on the number of Monte Carlo paths, the number of simulation time steps and the number of transactions. If CVA is calculated purely for compliance with accounting and supervisory requirements, then a regular daily batch simulation is sufficient. Should the bank require fast, intra-day simulations to quantify the impact of new deals, then it needs to bring the CVA computation closer to the front office. A solution to deliver this capability could mean having separate engines and data stores, fed with overnight results from a centralized CVA computation, but additionally allowing quick incremental CVA calculations and re-aggregations on netting set basis.

In conclusion, existing risk infrastructures will be a good starting point on which to build a CVA capability. What this article has aimed to show, however, is where the gaps may be and where additional work will need to be done, in line with the stance adopted by each bank towards CVA, as compliance necessity or potential profit generator.

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Contingent Capital Instruments – What is the future likely to hold?

In this article, Dennis Cox, CEO, Risk Reward Ltd, asks if bond issuance, its high regulatory and financial costs, and impact on economic stability ultimately makes sense as Tier 1 or Tier 2 Capital equivalents.

At present there is a trend operating within the banking community to develop new types of capital instrument to meet the demands of regulators. Of course the objective is to design instruments that would count as Tier 1 capital – that is would be considered akin to equity capital.

Contingent capital instruments act as bonds for the majority of their life but transform into equity instruments upon the occurrence of a trigger event. They are described within Basel 3 documentation and are already being issued by prominent institutions.

The Regulatory Environment
The final regulations which will specify what will be required of a contingent capital instrument to ensure that it counts as Tier 1 for capital purposes has not at this stage been finalised. In Europe you start with the Bank for International Settlements Basel 3 guidance and then look towards CRD4. After this you need to consider whether the European Banking Authority (EBA) might wish to provide greater clarity and then finally the guidance needs to be transposed into local regulation and legislation in compliance with taxation rules.

We do not have the final rules for any country so at this stage it would be brave to judge that any of the instruments currently issued would actually meet the detailed requirements of a set of rules which at present have not been produced. However it is possible to think through whether such an instrument could actually be effective and what the impacts are likely to be.

If the objective is for the banks to have capital that is both robust and provides customers and other institutions with confidence will contingent capital instruments meet this challenge?

The Problem with the Instrument
The idea is that the contingent capital instrument will become an equity instrument if a trigger event occurs. Such a trigger event needs to be ahead of any action that might potentially be taken by a regulator and therefore becomes difficult to set within the Basel 3 environment. That is because that capital requirements set within Basel 3 at present change every year. Accordingly the actual conversion trigger would be likely to vary over the life of an instrument if it were based on these capital rules. But this is perhaps the least of the problems. To understand the real concerns you need to start to consider investor impacts and the nature of the media.

How will the Instrument Operate?
Initially the intention is that the contingent capital instrument would operate as a bond. In common with all bonds it will have tenure and a coupon. However due to the uncertainty resulting from the potential for a conversion into equity the return that will be requested by the investor community will be higher than that for an equivalent bond. Therefore contingent capital instruments will be an expensive source of funding for the issuing firm.

This margin looks like it could be in the region of 3% to 5% but we will need to monitor this as more instruments are issued.

From a regulatory point of view things are even worse. Remember that these instruments have the right to be converted in an equity instrument – and they will not return to being bonds. If you are the holder of such an investment taking the enhanced returns that will exist prior to conversion, would you be happy to have these instruments convert into equities without any return? Our expectation is that the holder of such an investment will seek to unload the instrument if there is any increased likelihood of conversion. So just as the CDS rate increasing can cause a concern on a firm you will now also have bonds which are being sold en masse causing a transparent problem for the firm.

Rather than creating stability in the market these instruments could actually cause instability exacerbating what is in effect a worsening situation and causing a sell-off in all bond markets resulting in the firm effectively being excluded from funding markets. This is of course the effect that is intended to be avoided by the new rules.

Many countries will prohibit the use of contingent capital instruments as Tier 1 or Tier 2 capital. That does not result in the conclusion that they should not be issued by firms if there is an appetite for such an instrument then they will achieve liquidity objectives. However we believe that such instruments will be both expensive and potentially dangerous and therefore that firms should think twice before deciding that such bond issuance makes sense.

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Africa: The Last Emerging Market

Tony Williams, ACIB, is a well-known banker making his mark in Africa for most of his long career. He worked in Sudan and Cameroun for Barclays International before moving to Midland/HSBC, where he was Regional Manager (Africa) for almost 18 years, having earned the moniker ‘Mr Africa’. He is currently CEO, Pan African Associates Ltd., specializing in consultancy, and also holds a Non-Executive Directorship of FBN Bank (UK) Ltd.

As the world struggles to overcome the latest financial crisis it is becoming increasingly clear that it is likely to be the “emerging” economies which will have the capacity to drag the developed world out of their difficulties. At the G20 meeting in Paris in October, the President of the African Development Bank, Donald Kaberuka, said that Africa – the land of opportunity and growth – had left behind the stagnation of the past 40 years and over the past decade had made a great leap forward, with many countries posting enviable GDP growth rates.

The recent accession of South Africa to the BRICs group (Brazil, Russia, India and China) now means that Africa is represented at the top table and bears witness to the progress the continent has made. It is, of course, important to remember that Africa is a continent and not a country and the north African nations – now enjoying their ‘Arab spring’ revolution – lag in some ways behind their sub-Saharan neighbours in terms of democratic progress. The legacy of the colonial era and the “Scramble for Africa” of the 19th century left an enduring effect on the continent. Only now are some hangovers from those years are being unwound with, for example, new nations being created like Southern Sudan and Eritrea. However, laws, commercial practice and language have been imported, adopted and adapted by the many diverse populations and cultures of the continent. Arguably, this background should give the European traders and entrepreneurs an advantage over rivals from elsewhere (further East?), nevertheless it is necessary for the newly arrived to take time to attempt to understand this historical background.

Africa – the so-called dark continent - was not fully explored until relatively recently. When Cecil Rhodes died in 1902 Britain’s empire dominated Africa. Two global conflicts hastened independence but then the new African nations were embroiled in the cold war power play between the USA, China and Russia. Capitalism was often identified with colonialism and many of Africa’s new nation were attracted to socialist ideas.

Centralised government control suited the new rulers very well and decades of growth and progress were lost as corrupt dictators looted the...
wealth of the nations. Army coups, civil wars, tribal clashes and massacres plagued the continent.

Military regimes and one party states proliferated.

Although Africans, in my experience, seem often like natural entrepreneurs and traders (with notably women often far ahead of their male counterparts) for many years the dynamism inherent in the continent was held back. Economic growth lagged behind the global economy.

Investment in infrastructure, education, communications, health was neglected. Most nations, although endowed with land and resources could not even feed themselves.

Natural disasters (drought, floods) and famine, epidemics (HIV Aids, malaria etc) all gave the impression of a “lost continent”. Africa was written off. Everlasting aid flows and the work of an army of newly arrived “Non-governmental organisations” seemed to have little impact. Leadership and governance through the Organisation of African Unity (OAU) was lacking and ineffective. The world looked away.

It was, perhaps the unpredicted and unexpectedly calm end of the apartheid era in South Africa which was a major catalyst in the transformation of the continent.

However, the massacres in Rwanda and the failure of the world to react brought Africa to the attention of the world. To Britain’s credit they did react in order to bring to an end Sierra Leone’s long running civil war. The USA had a less happy experience in Somalia and has for the most part avoided involvement in the conflicts in the Horn of Africa and Darfur.

The emergence of successful democracies in Latin America and former USSR states, coupled with the rapid economic progress in the East spearheaded by China and India have also impacted upon Africa. The insatiable demand for raw materials, minerals, oil and food of, in particular, China and India has pushed Africa into the limelight.

Africa is a huge land mass yet only 20% of its cultivatable land is being used.

In a world facing increasing food shortages, Africa, with a workforce rising by 4% annually could be the solution if this workforce can be enticed to stay on the land and not be drawn to the cities. There is huge unexploited potential for hydro-power to avoid dependence on fossil fuels.

The continent’s abundance of mineral resources is well known. China has moved in early to secure supplies and in competition with the USA and India strengthened ties with oil producers (eg Angola and Nigeria). Nevertheless the USA expects to obtain over 25% of its oil imports from West Africa by 2015. Besides being a supplier Africa is also a buyer – with 500 million consumers (200 million aged under 24) and a burgeoning middle class – this is a market to be cultivated (mobile phones are a prime example. And let us not forget what the Kenyan mobile phone latest ‘banking systems’ will end up teaching the West.) Why did China have a 120-strong delegation at the recent Commonwealth Heads of Government Meeting in Australia. Which is the country with the fastest growth rate in the world this year? Ghana, with 13.8% growth.

Of course there are risks – piracy and terrorism come to mind – but African Commonwealth countries regularly complain at the lack of interest shown by Britain in the continent’s opportunities. The country which knows Africa best and speaks the same language as much of the continent is in pole position. By 2040 the world’s biggest market will be Africa. China has chosen where it will be. The future is Africa and the future is now.

NB. The opinions expressed in this article are the sole responsibility of the author and do not represent the views of any of the legal entities.
There has always been certain magnetism about the continent of Africa, with its 54 nation states, its multitudes of peoples and languages. How is this defined in our consciousness? How has the world’s media managed our knowledge and views about Africa? Do we have a balanced view?

From a business perspective should we be accepting this way about thinking of Africa in the 21st century? It seems that too often our view may be more based on emotion than based in fact or reality. We believe that it is useful to explore the current situation, especially as we are advised that the newly emerged powers of Brazil, Russia, India and especially China, appear to be taking, accepting and dealing with the hazards we appear to be shying away from.

Is our view of Africa, that the animals are the “good guys” and the people are the “bad guys”?

Our positive exposure to Africa has tended to be through the leisure industry, trips to antiquities in Egypt, safaris to South Africa, Kenya and Tanzania, the wonderful expanses of deserts, mountains, lakes, and tropical forests, either by experiencing these for ourselves or through the media.

The other side of the coin is the exposure to the negative and extreme hazardous news of wars, famine, disease, dictatorships and the poor if not fraudulent management of economies. We have therefore tended to see the answers to these difficulties in terms of giving by way of development and charitable funds.

Investing in Africa

Whether we explore the African potential from a commercial and banking perspective, or from a capital market development perspective, some of the facts about Africa ought to mean that we should, once again, be considering Africa as a place of investment potential. We have the risk management skills and so should be able to reap the rewards.

Key information

• Population, urbanisation and growing middle classes: As of 2009 only China and India have larger populations and Africa’s is growing (nearly 1 billion). There is increasing urbanisation and increasingly there is a fast growing middle class and therefore a market for consumer goods. Significant examples are found in South Africa, Botswana, Nigeria, Ghana and in Kenya.

• Reforms: In recent years a number of countries have introduced significant reforms both in the political and economic arenas. The most recent events in North Africa would seem to be pointing in a reformist direction. Of course one can also give examples of no change but the general trend is an improvement.
Government Debt, current account surpluses, GDP growth: it was not more than 5 years ago western countries were writing off sovereign debt in Nigeria, Ghana, Zambia and many others. Many of these nations are now in surplus, and we are looking at our own very real lack of growth, debt and balance of payments difficulties. The core reason for the change is the demand by the emerging powers of China, India and Brazil for Africa’s resources.

Resources: Much has been written about China’s huge resource needs and their activities in Africa. We should not forget that India has similar needs and is actively looking to invest in Africa. Let us not assume that Africa is only interested in supplying oil, gas and minerals. There are opportunities in the more sustainable production of solar and hydro electric power.

Agriculture: There is also large potential for development. Countries such as Zambia and Mozambique have particular attraction. Zambeef is a company which is about to be listed on the UK’s AIM market.

IT & Communications: Less well known is the impressive growth and innovation in the use of mobile phones right across the continent. Additionally the digital information demand is booming and in response to this need for additional cable infrastructure WASACE has just announced the construction of a new submarine fibre-optic cable network that will link Africa, North America, South America and Europe.

Capital markets development: as the middle class grows there is also potential to capture local capital flows as well as for foreign investment flows. The capital markets need to develop in a properly regulated and controlled way. Whilst South Africa is well catered for, elsewhere, this will necessitate the development of further local long term savings legislation and regulation to include pension funds, mutual funds and insurance products.

Education: in many countries schooling has been improving in that the average time spent in school across the region is getting closer to the global average. In many countries, especially those who are part of the Commonwealth, English is well understood and spoken.

Health & Housing: these are areas which leave much to be desired but as the middle classes grow there will be natural improvement.

Investors in Africa
Who are the well known, experienced companies who are already reaping the benefits and managing the risks in Africa?

Here are some examples:

In the resource sector there are oil and gas companies such as Shell, Mobil Exxon, Total, Tullow mining companies such as BHP Billiton, Anglo American.

In the banking and financial arena: Barclays, Standard Chartered, HSBC, Société Générale, BNP Paribas, Prudential and the main accountancy firms PWC, KPMG and Ernst & Young.

Telecomms & Infrastructure: There are many others such as Vodafone, Unilever, WSP (the property services company), and the large construction companies.

Many of the risk issues are still very much in evidence but with a changing environment they also seem to be much more manageable.

Finally, the question might simply be “can portfolio management investors afford not to have a proportion of their funds invested in Africa not just the BRIC countries?”

The risk and reward profile for African investment would seem to be changing.

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Because you deserve better risk management.
For more info please call Risk Reward on +44 (0)20 7638 5558
Politicians seem to favour the term ‘casino’ when referring to the more risky activities undertaken by investment banks. But investment banking is vastly more serious and complicated than the casino metaphor implies. A better one is ‘jungle’.

The Banking Revolution

In the 1990s a revolution in banking was underway. New frontiers were being explored in an area of endeavour dubbed ‘financial innovation’. Up to that point, bankers who had successfully globalised their businesses were thriving on unusually fat credit spreads earned primarily through lending the petrodollars channelled through the Middle Eastern oil trade to so-called less developed countries (LDCs). But as these countries defaulted or announced their moratoriums the fat spreads came under pressure and began to evaporate.

Around this time regulators were flexing their muscles. In 1988 the Basel Committee on Banking Supervision published its first capital accord that introduced minimum capital requirements leading to heightened focus on the cost of capital when pricing credit products. It was also at this point that LDCs became financially savvier and this, combined with their greater political stability and accelerated investment in their own infrastructures, allowed them to go to work on removing the ‘L’ from their ‘LDC’ label.

As credit spreads dwindled, banks whose business was biased towards the depositor / borrower dynamic became unsustainable. New directions were called for. Mechanisms were needed that allowed banks to channel financial resources according to the needs of clients and national and global economies but in a way that avoided occupying banks’ balance sheets and incurring the concomitant regulatory capital charges. The new direction that was found involved repositioning clients as issuers and investors of capital rather than the more traditional depositors and borrowers.

With this newly found plethora of innovative financial instruments and trading schemes at their fingertips, banks found new ways to perform financial wizardry both for their clients’ and their own accounts. Such wizardry was more than a means to an end. It became an end in itself as bankers applied it in the creation of increasingly sophisticated and complex forms of financial instruments, risk intermediation and trading schemes. It was not long before the burgeoning complexity of these new directions started to outrun the ability of regulators to regulate it, the accountants to control and account for it and boards of directors to understand it.

Our jungle bank had been created.

The Jungle Bank

‘Jungle’ implies a vast area that is undeveloped and uncivilised and full of threats that are both known and unknown. The security of a village in the middle of a jungle can be enhanced by clearing an area around it and constructing a perimeter fence from which it can monitor and control threats emanating from the jungle. The village’s defences can be progressively improved by dimensioning them according to the threats observed over time. But the fact remains that risk management can only operate from within the perimeter fence... it is not possible to risk manage the jungle.
In order to survive the village needed food so, once in a while, its hunters went deep into the jungle where they set their traps and captured and slaughtered the animals and brought them back to the village. Once they were beyond the perimeter fence they became exposed to threats not previously observed.

In our jungle metaphor, the village’s hunters represent capital which is put at risk to ensure survival.

But the hunters provided more than just food when they returned with treasures beyond everybody’s wildest imagination for which they were richly rewarded. There was limited interest in knowing where these treasures came from or what risks the hunters took to obtain them. For their part, the hunters preferred to maintain a shroud of mystery over their activities.

And then disaster struck. After many years of providing the village with food and fabulous wealth the day came when the hunters went into the jungle and didn’t return.

**Value-at-Risk (VaR)**

As investment banking flourished in the 1990s bank executives awoke to the realisation that conventional accounting systems were simply not designed to account for and report the loss potential inherent in these new risk management products, deals and trading schemes that accumulated and redistributed financial risks among issuers, investors and trading counterparties. After all, accounting focuses primarily on valuation and, consequently, produces an inherently static representation of financial condition.

A common measurement framework was required that, when applied to a diverse set of risk positions, was able to produce consistent, comparable and dynamic measurements of exposure to risk. The answer was Value-at-Risk (VaR). VaR applies statistical theory in the dynamic modelling of current risk positions, historical data and macro-economic factors to determine the probability and severity of likely future loss experience. VaR was applied not only in the day-to-day management of risks it was also adopted by the regulators under the auspices of Basel II to provide the basis on which minimum capital requirements and corresponding capital adequacy were determined.

The language of VaR in a trading environment is typically that of statistically modelling to a 99 percent confidence interval over a one-day horizon. In other words, financial modellers were asked to look for the largest loss that is likely to occur over 100 trading days in the belief that trading positions typically have a one-day duration and a 99 percent confidence interval would provide a sufficiently representative data set to arrive at statistically valid conclusions.

**Flawed Thinking**

But this thinking has a major flaw as VaR is only valid relative to observed threats. It didn’t consider the unknown, unobserved threats that hunters were exposed to when they were in the jungle. In retrospect there is a realisation that bank executives were being given false comfort in the belief that VaR was advising them of the largest likely loss that could occur in 100 trading days when a more appropriate interpretation would be precisely the opposite. VaR represented the minimum likely loss.

It is true that risk managers and regulators require VaR models to be complemented by programmes of stress testing and scenario analysis with a view to dimensioning additional capital buffers to protect against any unobserved threats. But if over many years hunters returned with ample food and riches the conclusion tended to be that the jungle must be an unthreatening and friendly place.

**But now we know differently.**

The author invites readers’ comments and feedback pjh@riskrewardlimited.com
The Future of Islamic Risk Management

Global Risk Update Editor-in-Chief, Dennis Cox (BSc, FCA, FCSI), is an international expert in risk management and more recently Islamic bank risk management. Recent work includes having restructured the risk management of the largest Islamic bank in the Gulf and advising a central bank on Islamic liquidity risk in southern Asia. In this article he looks at the risks that are facing the industry and the actions that need to be taken to ensure its long term survival with a focus on the liquidity issues and the impact that a failure of an Islamic bank would have on the industry as a whole and considering Islamic risk management and the differences between what might be called traditional risk management and Islamic risk management.

Risk management is a developing science throughout the financial services sector. The changing regulatory environment and expectations set firms challenges both in terms of the way they manage their business but also in the ways that they are governed. Islamic financial institutions have all of these concerns to deal with combined with additional concerns. While Islamic finance is a growing segment of the financial services arena it needs to deal with the risk management conundrum needing to solve the questions that all firms are facing.

But there is an additional concern. Islamic finance is much like traditional banking some of the time yet entirely different at other times. It is these differences which need to be addressed in addition to the normal concerns to ensure that robust Islamic financial institutions continue to thrive in the future.

The Growth of Islamic Finance and its Impact on Risk Management

Many books have been written on the growth of Islamic finance and the reasons for its emergence. These will not be rehashed here rather we will applaud the success of Islamic finance over the last 20 or so years and consider why risk management has perhaps not reached the level of sophistication that has in theory been achieved by traditional financial institutions.

With any new industry there are always issues that need to be addressed. In the early 1980s derivative instruments were in their infancy. Individual risk managers had to understand the risks inherent in these instruments without the assistance of detailed research and publications. They had to appreciate how such instruments should be priced and valued without agreed valuation methodologies. They had to grapple with counterparty credit risk and collateral implications when these were also developing areas of the industry. They had to review documentation and regulation when neither had fully kept up to date with the industry. Did risk managers make mistakes? Certainly, but they learnt how to deal with the issues developed standardisation and attempted to develop solutions that whilst not solving all of the problems at least assisted with addressing such issues. Roles of bodies such as the International Swap Dealers association (ISDA) provided the clarity and certainty that was required and their leadership certainly led to improved risk management understanding.

Islamic finance has not developed in the same way. From the earliest days it was always recognised that for derivatives to achieve their potential it was necessary for there to be standardisation in terms of documentation and understanding, enabling transactions to take place internationally. As those of you involved with Islamic finance are only too painfully aware such standardisation does not exist within Islamic finance. The structure of the industry varies considerably between jurisdictions. Even the largest markets for Islamic finance are quite different with perhaps Saudi Arabia and Malaysia representing the line opposites. The failure to achieve consistency globally regardless of the worthy efforts of AAOIFI in Bahrain and the IFSB in Malaysia has represented a barrier to the international cross border development of Islamic finance but even a greater challenge for risk management.

Clearly if an industry is developing there would not be a talented pool of risk managers available with expertise in the instruments that are being traded. To solve this conundrum most Islamic institutions have sought to recruit professionals from the traditional banking market. The majority of these people have no real experience of Islamic finance or the
basis on which it is formed. Few have sat the Islamic exam qualifications promulgated by bodies such as the UK Chartered Institute of Securities and Investment CSI). Indeed in many cases the risk management function looks identical to the risk management function that would operate in a traditional bank.

**Risk Management and Shariah Compliance**

Islamic risk management is different in some specific areas. There is one major additional key risk to which the institution remains shariah compliant. For any Islamic institution the risk that a competitor would seek to publicise their concerns over the Shariah credentials of an Islamic institution could be extremely damaging.

Islamic banks have Shariah boards to confirm that the business conducted by the firm is Shariah compliant and in accordance with their interpretation of the relevant rulings. In doing this they are likely (in most countries) to take account of the materials produced by the IFSB but they are not in any way bound to follow them. Under the structure of Islamic finance it is generally accepted that the Shariah board must maintain their independence and cannot be challenged. They are experts and as such hard to question even if it were acceptable to do so.

They are backed up by a Shariah audit team, normally independent of the regular internal audit team and tasked with reviewing Shariah compliance. The effect of this is that the risk management function often ignores Shariah issues as indeed do the internal audit function. Effectively a division exists within the institution which is at best unhelpful and at worst could become catastrophic.

The Shariah boards’ objective is to ensure compliance with relevant rulings at all cost. They are not for example charged with ensuring shareholder value is achieved, or that fiduciary responsibilities are understood and monitored. They are also not generally experts in local regulation or indeed the general banking market itself. What effectively this means is that they are able to make their judgements based solely on their views of Shariah compliance. As we shall see this could represent one of the greatest challenges the industry has had to face.

**The Changing Global Market and its Impact on Risk in Islamic Finance**

Islamic finance has generally coped extremely well with the recent financial turbulence. Since Islamic institutions avoid explicit interest-based products they did not get involved with the instruments that were at the heart of the problem. They also had another trend which caused significant benefits to them – declining global interest rates. In such markets and particularly when deposit interest rates in traditional banking fell to little more than nominal levels the differential of return achieved between traditional and Islamic firms was significantly reduced.

At a time when investors were seeking a home for their funds which would be safe and secure, Islamic banks appeared to be a refuge from turbulence. The concern does exist that a level of complacency has developed within Islamic finance risk management which future events will disturb. A structure and system that operates effectively in one market may need to develop and reinvent it to be fit for purpose in a changed environment.

At the heart of the concern is likely to be how Islamic finance and the customers that use this service react to changes in the global financial environment. This suggests that a major change to some of the Islamic finance drivers could require changes in the market and its structure. The issue of increased consistency within Islamic finance already having been raised, this time the focus needs to be on the tenets that are at the heart of Islamic finance and how they will cope with such major change.

**The Changing Economic Cycle and Islamic Finance**

The growth of Islamic finance has occurred during a period of reducing interest rates with only limited interest rate volatility. The question to answer is how will Islamic finance cope with what could be the future business paradigm? The peak of interest rates in the last economic cycle was in the period 1980 to 1982. Not only did this period demonstrate the impact of high interest rates but it also resulted in significantly volatile interest rates. Rates varied significantly week to week and the weak could not survive.

We are now leaving what has been a declining interest rate scenario which has operated effectively since 1982 that is throughout the entire period during which Islamic finance has actually been developed. This produces a combined series of problems. Clearly nobody can be sure that a business model that operates effectively during one part of the business cycle will be effective in another part. Secondly the risk managers will be faced with a paucity of information to enable them to calibrate and assess the risks within the Islamic institution.

They will also be burdened with the consequences of the limited vision of the Shariah committees at certain institutions This could inhibit the ability of some institutions to deal effectively and quickly with the issues that are likely to be faced.

Let us first consider the impact of increasing interest rates. Most customers of Islamic institutions also maintain relationships with non-Islamic institutions. Of course Islamic institutions cannot be seen to be changing the return on deposits in the light of changing interest rates. Solutions to such repricing could be devised but these will take time to design and to be accepted. The differential between the return that is
The Future of Islamic Risk Management

received from an Islamic institution and from a traditional institution is likely to increase. This raises a series of questions and again there is a shortage of information on which to base judgements.

If you are a customer of an Islamic institution what is the differential at which you will start to question the level of reserves you will leave with the Islamic firm? This will not be a single move causing a large removal of liquidity from the Islamic market rather it is a trend that is likely to accelerate. The question is what level of differential would cause such a movement and what would be the impact on the core/volatile deposit analysis? It is hard to provide guidance but a customer that is willing to accept a 2% differential may have real concerns over a 10% differential.

So there is likely to be some element of deposit erosion for Islamic institutions which are unable to increase depositor returns in line with market forces. However there is a second concern for the Islamic bank. If interest rates increase the customer who has a fixed interest rate loan will be extremely comfortable – as interest rates rise it is the bank that fails not the customer. Traditional banks will have this problem but the issue faced by the Islamic bank and its risk management team is the limited solutions available. The inability of the Islamic bank to reprice a facility without offending the Shariah committee is likely to cause them to be slower in ensuring that there is an adequate loan/deposit rate margin available to them.

But it could be worse. In the period 1980 – 1982 we had a period of extreme interest rate volatility. Interest rate volatility is perhaps the greatest risk that Islamic institutions face since it is likely to result in requests to the Shariah Board which will show interest rate transparency and therefore cause problems.

So the Islamic institution will be potentially confronted by declining deposits and unprofitable loans since Islamic institutions loans are generally effectively fixed with the confines of the specific instruments.

The Challenge of Declining GDP

The deficit reduction programmes that will of necessity be implemented globally will certainly impact global GDP. How can China continue a growth pattern when there is a paucity of customers available? How can the oil and copper price continue to increase as global demand reduces?

Declining GDP will put pressure on financial institutions as the expected repayments from customers slowly decrease, bad debts increase and corporate deposits are withdrawn. This will be the case for all institutions, not just Islamic firms. However Islamic firms have an additional problem: their inability to charge penalties on a customer without such a penalty being given to charity. This tends to make the Islamic firm slower to react to the changing financial stability of their customer resulting in them being paid out last. The customer which has a series of relationships will pay off first those that chase the hardest or charge the most. The Islamic firm rarely achieves this.

So apart from the declining liquidity position discussed above the Islamic firm could also suffer from increased bad debts.

Taking Action

It is no longer acceptable for the risk management function of an Islamic bank to pretend that it is not in an Islamic bank. The challenge for many of these firms is to develop a risk management capacity which understands all of the new risk management requirements associated with for example model risk and stress testing while at the same time also taking Islamic finance principles into account. This requires both training and the hiring of relevant experience. Most of all it requires leadership from the top and vision.

The risk management functions need to look closely at the nature of the customer base of the firm and then undertake stress tests. These will not be based upon historic information since as we have discussed such data is unlikely to be relevant. They need to understand the implications of plausible scenarios on the business model of the firm and design solutions to meet such requirements. These need to be discussed with the Shariah Board such that the firm has solutions developed and approved for scenarios that could develop in the short to medium term.

The Boards of Islamic institutions need to fully appreciate the impact of changing business environments on their business models. Through careful development of appropriate scenario analysis the risk managers will be in a position to both inform and educate the governance team to enable them to deal with what is likely to be a difficult environment.

The current financial crisis has raised the profile of “too big to fail”. Our concern is that this is likely to be replaced by “too small to succeed” in the short to medium term. Rules developed to support the majority of institutions are unlikely to fit the demands of the Islamic firm so it is incumbent on the risk managers and governance committees to engage early in the process and ensure that their regulatory environment continues to meet their needs.

Most importantly understanding of Islamic risk management needs to increase with teams developed that truly appreciate the consequences of applying risk management principles to a developing industry. If this transition is properly managed that then industry will be successful but the level of divergence between Islamic markets will continue to be a barrier. Increased convergence of ideas and principles and effectively a reduction in the overarching ability of Shariah Boards to overturn globally accepted Islamic principles will form a barrier to the ability of some firms to achieve their objectives. The concern is that failure of a few could cause concerns over the industry in its entirety impacting the industry as whole.

Islamic risk management is advised to ‘wake up’. Islamic finance is different and risk managers will need to look forward at these challenges seeking to inform current governance structures without causing unnecessary concern. The industry is currently robust and well managed and the objective is to keep it so in order to achieve its potential.

Send your comments and feedback
dwc@riskrewardlimited.com
To Aggregate Risk or Not? (Should that be the Question?)

Rohan Badenhorst (CIMA) is a financial services professional and thought leader specialising in ‘the big picture’, systemic and structural relationships within and among financial organisations. Focusing his attention on risk management and recently IFRS, he contributes this article on the merits (or not) of risk aggregation.

We seem to have fairly mature Risk Management frameworks today, such as COSO to mention one amongst others, including Enterprise Risk Management (ERM) as accepted valid and reliable risk management methodologies. The Chief Risk Officer (CRO) might now have his or her seat on the Board, but are we managing the Enterprise Risk effectively?

Without a doubt it must be more effective to have a formal Risk Management process in place in your organisation than not at all, but are we not just aggregating and therefore increasing our risk profiles unnecessarily?

Recent crises like the BP Gulf of Mexico oil spill, the global Financial Crisis of 2008, the credit and Sovereign Debt Crisis of 2011 and credit rating downgrades are all phenomenon that demonstrates the enormous cost associated with Aggregated Risk factors, both externally and internally to our organisations. But what is the alternative? Leave Risk Management to the invisible forces of spontaneous order or self-organisation?

Let’s face it, some events or inflection points are just so great and unpredictable that no matter which Risk Management Framework you adopt, your Risk Management strategy will just not cope with the aggregated circumstances.

Therefore a framework, whatever it is, is better than none.

Arguably part of the under estimation of risk is weak or ineffective corporate planning systems, coupled with gaps in the cost control and understanding of the inherent product risks of goods and the services we ‘manufacture’ and sell.

In this article the focus will only be on the former, namely ‘planning risk’ and not the cost control factors imbedded in operational processes. (Agile or Adaptive planning techniques are not hard-wired into our corporate psyches yet.)

The Current State

Generally we tend to stick to rigid Annual Operating Plans and 3-Year Strategic Reviews and then overlay the two over each other to come up with some sort of short-term versus medium-term view of the direction we are going to head in, and more importantly, how we are going to reward the people who will help us along the path (and perpetuate this corporate planning and performance management life-cycle). By doing this, we just never get to the nub of the planning and risk management intersection.

Weak and ineffective planning systems lead to weak risk management and scenario planning outcomes.

The fact is that:

• Budgeting (including operational planning) takes much too long to complete and takes up too much valuable management time
• Does not add significant value in terms of cash and cash flow management, together with funding and treasury activities
• Is an annual process and not built into the DNA of being adaptable and agile in taking a dynamic external environment into account

Therefore, as far as operations are concerned, by not having a flexible and agile planning and forecasting process in place, organisations are both aggregating their disruption and transitional risks as part of the process of ‘just keeping the lights on’.

Risks to Consider

What we mean by disruption risk is the rapid deployment of new technologies that makes communications, analytics and decision support a more dynamic and fluid process. As far as transitional risk is concerned, here we refer to the slightly longer time frame issues of moving through the product development life-cycle from bespoke, to customised and finally to commoditised products or services.

These two risks run along different ‘time horizons’, yet their interaction and...
aggregation effects could be catastrophic, if the management and leadership in organisations do not have the ability to spot the trends and / or the tools to help then frame the right questions to ask in order to mitigate these risk factors.

Therefore, we need to take heed of these additional market and process risks which adds to the risk appetite and aggregated risk profile of the organisation.

Some Possible Solutions
Having identified planning risk as one of the components of the total risk envelope of the enterprise, what strategies and tactics can we now deploy in order to lower the risk properties inherent in this important corporate financial activity?

We would suggest a move to more adaptable and agile planning frameworks, such as more frequent forecasting and re-forecasting, coupled with the brave move to implement a rolling forecasting systems and process, would be a very pragmatic and effective first step in overhauling the financial planning system and lower our aggregate organisational risk profile.

The steps involved in moving from traditional budgeting systems towards a more agile planning system have a few ‘friction’ elements to it, principal amongst them being:

  • The Personnel Performance Management system
  • The ‘motivational’ budget / target culture in the organisation

What we need to realise is that moving from established practices or rather implementing any form of change into a routine and institutionalised process will naturally meet with resistance, scepticism and distrust, especially when personal reward and bonuses might be at stake.

Therefore, realising that a more agile planning framework has at its core a fundamental cultural change dynamic inherent in the effort, we help frame the conversations and change effort required.

We will refrain from offering specific best practice and checklist change process guidelines, as the focus is on identifying the risk factors involved in traditional financial planning and analysis processes.

The following graphic, illustrates the Effort (and risk) dynamics versus the Business Value. As can be seen, the higher we move up the value chain in terms of sophisticated budgeting, planning and forecasting processes, then more effort is require, at the cost of adding significant business value, including information and strategies to nimbly and swiftly adjust to shocks to the external and internal organisational environments.

So what are the advantages associated with adopting and implementing more flexible and agile planning processes?

  • Decision Support mechanisms that adapt to the fluid external environment
  • Quicker responses by the entire organisational ecosystem to business cycle changes and other unforeseen risks and shocks
  • Decoupling the personnel performance management system from the planning system. Here we are not asserting the fact that we abandon targets, incentives and bonuses as part of the annual financial and personnel performance management system, merely the fact that planning, should never have been coupled and aligned to outcome performance measurement

Conclusion
As part of assessing our overall enterprise risk appetite we need to aggregate many different risk items into the overall risk profile. Financial Planning and Analysis risk should not add a significant factor into the mix, but should rather contribute towards better understanding and gearing or leveraging action triggers to mitigate the uncertainty and responsiveness of the organisation to the myriad of shocks and risks we are currently facing.

Rohan Badenhorst Email: RB@riskrewardlimited.com
The author welcomes feedback and comments
Public Training Courses

APRM Risk Management Certificate and Training

This learning programme is at an introductory to intermediate level designed to expose candidates to the key components of risk management and provide practical examples and tools. This classroom course is designed to provide a broad overview of risk management for the financial services sector from experienced Risk Reward risk management professionals who offer essential, practical advice gained in international financial markets and major institutions.

At the end of this course delegates will gain an understanding of: Familiarity with the concept of risk management and its place in the business, organisation or system; Concepts of risk management techniques in a non-quantitative framework; How ‘governance’ fits into the concept of risk management; The concepts of risk and return; familiarity with the financial instruments used in risk management; Interest rate risk and hedging; Asset-liability management; Enterprise, Credit, Market, Liquidity and Operational Risk Management; How performance can be measured; Industry standards and best practices of financial risk management; The positive role that risk management can play.

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Chartered Institute for Securities & Investment (CISI)

Formed in 1992 by London Stock Exchange practitioners, the CISI now has more than 40,000 members in 89 countries. More than 40,000 examinations have been sat in 49 countries, covering a range of vocational qualifications. Increasingly regulators, banks, stock exchanges, and brokerage houses are seeking qualifications among to deal effectively with stresses and pressures to maintain high levels of professionalism, integrity and competence especially when interacting with retail consumers. Training to internationally recognised and respected standards is among those responses, whether seasoned professionals, recent market entrants or new graduates.

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The CISI is the UK’s largest and most widely respected professional body for the Securities and Investment industry. CISI Diplomas and Certificates are included in the UK’s Financial Services Skills Council’s list of Appropriate Examinations and are recognised for all major activities.

For more information about training to PRMIA or CISI qualifications, certificates and Diplomas or to book or ask for an in-house quote please email Denbert White at DTW@riskrewardlimited.com or telephone +44 (0) 20 7638 5558.

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