THE CHANGING FACE OF RISK MANAGMENT

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Thank you very much for inviting me. I want to talk about "The Changing Face of Risk Management". Before I start let me ask a couple of questions:

First, how many of you were in Risk Management 10 years ago?

Second, for those of you who put up your hand, how many actually called their job Risk Management?

I almost feel that I can sit down now and just let all of you talk to each other. There is no doubt that what we have here is a microcosm of what is happening in Risk Management in general. This includes the fact that ten years ago most of us wouldn't have been exchanging ideas with risk managers in other industries - much less have a forum for doing so.

I would argue that while the face of business is changing, the fundamentals of our businesses really are not. It's still about

delivering a product or service and taking and managing the associated risks. What is changing is the complexity of the products and services companies provide… the range of risks that we have taken on in the process… the complexity of assessing risk given the new products in the market…the analytical tools to more accurately measure these risks…and the range of options we now have in place for mitigating and managing them.

First, let me talk more specifically about the drivers of change.

- **Market pressure. There is no doubt that the market's unwillingness to tolerate the kinds of mistakes that companies, and particularly banks, were known for in the past put pressure on all of us to improve the outcome of our risk management decisions. While we all knew that the market rewarded the consistent earners, many of us were shocked by how badly it reacted to mistakes that looked as though we were taking on a risk profile different from what we had been telling the analysts. Unfortunately, these mistakes stay with us even when the markets recover. Let me give you an example of what I mean by that. The most discouraging conversation I had with an analyst came about after what we viewed as an outstanding year from a**

risk management perspective – that was the year we went through the telecom debacle with minimal losses. The analyst said that he had looked at 25 years of our results and we had a track record of doing worse than our peers in every credit down cycle except the last one. He asked: "How do I know this isn't just a flash in the pan?"

- **The newest pressure on companies is around reputational risk. No industry has been immune to either Mr. Spitzer, the SEC or other regulatory bodies. Whether it be accounting practices, misleading selling practices or poor quality assurance more and more companies are being pulled into the regulatory net.**

- **The rating agencies are also less forgiving. I was looking back at RBC's ratings and noticed that in 1992 they had loan losses of $2 billion and close to the same amount in 1993. They marginally broke even in both years. While they were on negative watch they were not downgraded. I don't think you can count on being that fortunate today. And if you want evidence, just look at the number of downgrades of banks for credit reasons in 2001 and**

2002 when the capital bases of most banks were considerably stronger than they were in the early 90s.

The rating agencies are also far more thorough than before. The amount of detail they now ask for and the range of areas they focus on has increased substantially in the past two years.

- **Regulatory pressure. It may be my bias as a former regulator but I am convinced that Basel I and the subsequent market risk capital measures profoundly changed the behaviour of the financial services firms. By clearly linking capital to credit quality – albeit very crudely – Basel I forced banks to look at risk return. The impetus for improving the measurement of market risk came from the acceptance of models for determining capital against these risks. And there is no doubt that Basel II has accelerated changes in credit risk measurement and forced us to think through a whole slew of operational risk issues. But more about that later.**

- **Analytics and technology. Without the new analytical tools and the computing power to drive them, many of the advances in the** measurement and understanding of risk would not have occurred. We have spawned a whole new vocabulary. I would doubt if 20 years ago anyone in the risk business had heard about probability of default, Loss Given Default, Value at Risk and fat tails. I know I hadn't and I doubt that these terms were part of anyone's normal business vocabulary. We worked with all of these elements intuitively but the fact that we can now measure each item more accurately and determine the impact of each variable on our portfolios has moved us a long way forward in understanding risk.

I thought I would use my time with you to talk about the changes in Risk Management and I would like to do this by looking at it from three perspectives:

- What we do
- How we do it, and
- Who does it.

I am going to use ten years as my time horizon but my sense is that for most institutions real change began in the early-nineties. I have no doubt that Risk Management has changed more in the last 10 years

than in the previous 50. I am also going to use RBC as my proxy for change. First, because I know it so well, but also it is not leading edge in Risk Management but rather an avid follower of good practices. I expect that many of you are in a similar situation.

If I chart what we do now as compared to 10 years ago the shift is massive – we just didn't see it as we were going through the metamorphosis. Ten years ago risk managers in banks approved credits. They might ask for more security or additional covenants but essentially it was either yes or no. And that was the extent of what they did – Risk Management was still called the Credit department. Credit was the backbone of the bank -- and the major source of losses as the business cycle soured.

By 1995 RBC had set up a market risk group, driven by the requirements of the Basel Accord. It started in Corporate Treasury and only migrated to Risk Management once it was fully operational. The thinking was that the credit people had enough on their plate cleaning up the portfolio and, as a result, had little expertise to call on to provide the proper oversight.

From 1995-1998 we spent a lot of time developing a risk framework and trying to incorporate an analysis of the broad range of risks into the product approval process.

1998 was pivotal for Risk Management at RBC. That was the year the CEO not only decided that Risk should be part of the executive management team, but also gave us a specific mandate to go beyond credit and market risk and renamed the job to Chief Risk Officer.

But being anointed and getting organizational buy-in are two different things. It took a minor but mishandled compliance breach that led to a large reputational issue to get the organization to agree that operational risk did matter. Operational risk became a significant part of the risk management focus.

To summarize what is different about what Risk Management does - ten years ago they approved credits and wrote credit policies. Today they have truly embraced enterprise wide risk management. They not only approve credits they do portfolio management. There is a strong market risk group. Compliance is part of Risk. They develop and monitor the operational risk framework. Finally and perhaps most

importantly, they are involved in the strategic decisions of the businesses and the organization. This involvement helps to ensure that all the risks are being identified, measured and managed and that the appropriate amount of capital is assigned to these risks.

The change in how banks do things is equally significant. Ten years ago we were what we ate – our balance sheet was nothing more than the sum of the credits we approved. Today, with the focus on portfolio management bankers look equally as hard at sector concentrations as at single name concentrations. Large institutions have moved to a more granular risk rating that really helps focus on the correct issues. Economic capital is used not only to arrive at portfolio management decisions but also to establish single name exposure limits and increasingly for managing sector concentrations.

Most importantly it is used to evaluate client profitability and most risk managers now actually get to discuss the question of risk/return with the business. I used to say that the days of $500 million loans with an ROE of 2% are long gone but looking at the market today I am not at all sure. But there is no doubt that plain vanilla loans are no longer the flavour of the day. Unfortunately, what has replaced plain

vanilla lending is even more challenging. We are seeing highly structured products where we add an added complexity to risk. Often we add reputational risk – do either we or the client really understand the nature of the product? Does it pass the smell test? Inevitably we add operational risk – largely because of the legal documentation that is required to paper the transactions. Interestingly enough, legal documents are negotiated as tightly as loan covenants and there are times that if you don't have the right people at the table – the transaction as documented may not reflect the transaction you thought you agreed to.

Even the retail business is getting more complex. When I first became Chief Risk Officer, I had a debate with my counterpart in our retail banking business. The debate was about whether or not our retail lending products actually contributed to shareholder return. Now, as you can well imagine, this was heresy to a retail banker. As a result of our conversation, we proceeded with the exercise of actually calculating the ROE on his products. In the process, we discovered that although his business was extremely successful, his lending products were actually destroying shareholder value. Furthermore, he couldn't determine whether or not individual relationships were

profitable or, if good clients were subsidizing higher risk clients. We worked together to rebuild our scoring models and the business unit reworked its client relationship models so that those questions could be answered. As a result, the business increased overall profitability and learned to better price for risk.

RBC has learned how to better integrate risk technology with businesses technology. A few years ago there were credit scoring tools and CRM. Separate groups managed them and the bank ended up with different views of the same client. Today RBC has CRI – Customer Risk Index – which overlays the clients cash flow patterns with the product credit score to provide a much more predictive tool. This is then incorporated into the CRM analysis to ensure the right products are being marketed to the right people.

On the market risk side financial institutions have come even further but then they were at a very low base to start with! Last year I did a presentation to the Board on the changes in the balance sheet over the past decade. Ten years ago securities and derivative related amounts – a good reflection of trading activities – made up 12% of the balance sheet. Today it is 43%. The range of products in trading

rooms is increasingly complex. Many of these transactions are highly structured and often illiquid. Being able to model and understand these becomes the foundation of managing these risks. Any institution involved in trading has to invest heavily in market risk systems to deal both with the additional trading volumes as well as the number of new products introduced by traders.

Also, not only do banks use models to measure their risks they use them to stress test their portfolios. They now know which positions could cause the most problems and even which trading desk is holding them.

Again operational risk as a discipline is a relatively recent development. While most companies have always considered the management of operational risk as a major activity few had approached it in a systematic way across the organization. Many companies found themselves forced into greater discipline from some factor internal to their organization. It could have been a series of poor internal audit reports, a fraud or other unfavourable event that reflected poorly on the quality of their operational controls. I have learned to appreciate Risk Control and Self Assessment processes

that are standard across the organization. And as a firm believer in that what is measured gets managed I like the use of Loss Event databases.

But the big difference isn't in how risk managers approach the individual risks it is how we work within the organization. Aligning risk appetite and business strategy at all levels has become an enterprise-wide priority.

It seems appropriate to comment here about Basel II. First of all, for those who dislike it – and there are a large number of us who see its flaws – remember that it was the large banks who asked for it and drove it in its current direction. Second, I firmly believe that the threat of Basel II has provided much of the impetus to improving our understanding and management of all types of risk within our institutions. It has also finally forced us to focus on risk/return.

My normal comment to regulators when I am asked about my views of Basel II is that the threat of its being implemented has had an invaluable impact on risk management practices but that its

implementation risks creating more problems than they had anticipated.

Let me talk for a moment about the good stuff! As the various drafts came out from Basel industry working groups were created to look at the implications of the accord. These groups allowed practitioners within the industry to not only discuss the intellectual theories that underpinned the document but to share the practical realities of applying the theory to real portfolios. As an aside some of the discussions reminded me of the discussions around applying the GST to financial services in the 1980's. … One of the brighter junior officers came up with what he felt was a perfect way to calculate the tax. He kept arguing that it was theoretically perfect. More senior people had to tell him that unfortunately it wouldn't work in practice. I often feel that way about Basel II! But it did force us all to understand the complexity of the project, the incredible need for data and the need for far more discipline in how we dealt with risk. It helped a large number of institutions realize that the techniques they were using were not best practice and encouraged them to put them in place for reasons other than just capital relief.

I know that in most organizations there are several valuable risk management systems that might not have seen the light of day if Basel hadn't shifted the risk/return equation. There were others that became high priority, as we understood how what we were doing for risk purposes could also add enormous value to the businesses we supported.

Much of the recent focus on operational risk wouldn't have happened without Basel. We were all very concerned about managing operational risk but we had no real framework for managing it and certainly had never thought of measuring it, much less modelling it. The gathering of data for our loss event databases has been invaluable. Apart from forcing us to define what an operational loss really is the gathering of data showed us that these losses were coming from root causes that management had overlooked. Given the old adage that what get measures gets managed this was good news for most risk managers. It also gave us a head start on what would have been needed anyway given some of the industry's high profile mistakes most of which were caused by a lack of focus on operational risk other than processing risks.

Another surprising benefit is that the very public discussion of the various types of risks raised the risk management bar at other institutions. Enterprise-wide risk management started in banks as an offshoot of the Basel discussions but is now considered best-practice for both financial and non-financial firms.

Given all of these positives why am I less enthusiastic about its application? The challenges are huge:

- **Complexity**

  The very complexity of the accord makes it susceptible to manipulation. It gives the illusion of accuracy while being subject to innumerable assumptions that are not readily apparent. The main complaint about Basel I was that it was arbitraged by the banking system. First, I am ready to bet that there are some incredibly creative individuals at the investment banks who have poured through this document and found new ways of structuring deals that will allow banks to reduce the risks that are measured and increase the ones that are not. Of even more concern is that people within our own organizations are doing the same thing and we may not be aware of it. Given competitive pressures Chief Risk Officers will be under

enormous pressure to minimize regulatory capital even if they are not convinced they have reduced economic risk.

- **Simplicity**

  Despite my earlier comments, one flaw in the agreement is that it does not cover all risks. By creating the silos of credit, market and operational risk and different measurement techniques for each one, we will fail to deal well with the convergence of these risks or underestimate the risks where we have transformed one risk, usually credit, into another.

- **Possible rigidity**

  At the moment the document states that you must manage and measure your risks internally the same way you report them. First, this does not recognize that the document itself is a series of political compromises that leaves its intellectual underpinnings in doubt. More importantly, it risks discouraging the development of new and better risk management techniques.

- **Implementation**

  My observation would suggest that we are all finding this far more difficult and expensive to implement than we had anticipated. Most of this seems to relate to the difficulty in gathering the data required by Basel. Anyone who has been through a merger is unlikely to have consistent or meaningful historical data. Few have collateral management systems that provide the level of granularity required. Most institutions with multiple locations and systems will even have trouble aggregating single name exposure information. Finally, no institution that I know has cracked the challenge of gathering complete loss event data on operational risks. Managing the complexity of the new systems, trying to ensure the time lines are met and managing the cost of something this complex is a major task.

I have to say that after being involved in Basel 1 and the market risk capital rules one of the major advantages of retirement is that the rest of you get to implement Basel II!

Given all of the changes we have been through and will continue to go through, there is now a real difference in who we have in risk management. The scope of what we do today requires a far broader range of skills than in the past. Among our ranks today you will find PhDs in Math and Physics – I even met someone who appropriately specialized in black holes – not only to help in market risk but also in portfolio management. Risk has become a group of highly qualified professionals. MBAs, CAs and CFAs make up a large part of risk management staff. Despite all the emphasis on technical skills, we can't forget that risk management is an art as much as a science and although we have expanded the science side of the equation, the need for solid judgement and a perspective on the longer term ramifications of our decisions remains equally important. This means that we still need a solid core of experienced risk people who have seen just how bad things can get if not controlled.

Risk used to be a weigh station populated by people working their way up through the organization. All too frequently, it was also a place where someone who couldn't make it in a line function got buried. No longer! Risk management has the pick of the best people in the organization. There are people who want to make Risk

Management a career and those who view it as an important step in their career path.

On a closing note I want to explain why we haven't stopped evolving and why we must not. The increasing complexity of our businesses, the transformation of risks and the increased emphasis on transparency means that what we do and how we do it will be open to increased scrutiny. We are facing increasing convergence between various types of risk that none of us have totally come to grips with yet. Accounting rules have the unfortunate tendency to complicate risk management tools. Reputational risk is now something that all of us have to deal with. It is an offshoot of a mismanaged operational risk but again the increased transparency means that you can't hide your mistakes.

So if any of you was worried about getting bored – forget it. My sense is that there is more change coming down the road bringing with it increased expectations about the role of risk managers. The good news for all risk managers is that our business partners have begun to realize that we can and do add value. The challenge you face is how to define your organization's risk appetite, how to communicate

it to all interested stakeholders and then how to help the organization ensure that its business strategies and risk appetite are aligned. No small task but one that I am convinced that those in Risk Management are increasingly up to the challenge.