ISSA 12
Operational Risk and Basel II

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Thank you for inviting me. To quote a long ago political candidate, "I'm here to speak; you're here to listen; and hopefully you won't be done before I am".

It seems to me to be of limited utility to this assembly for me to offer a lengthy review of Basel II or to develop estimated timelines and guesses about adoption and implementation.

It may be helpful, however, to make a few introductory comments about the New Accord, which will be replacing the 1988 Basel Capital Accord. My purpose is not to teach you all the basic facts of the New Accord; there's no time for that today. But for those of you without knowledge of the basic framework, I'll try only to provide a sense of purpose and overall structure. The top level objectives of Basel II are improved alignment of regulatory capital with underlying economic risks, better risk management, and – consistent with Basel's internationalist charter – encouraging international consistency in regulatory approaches and standards. Basel II is an important step in the transition of "rule based" capital into "risk based" capital; put another way, to progress towards the equivalency of regulatory capital and economic risk capital.

Basel II has importantly changed measurement of *Credit Risk*. It has not significantly changed *Market Risk* measurement. And today I will focus on the fact that it has "invented", for regulatory capital purposes, *Operational Risk*. More exactly, it has established a separate, analytically based, capital requirement related to operational risk, and attempted to invest the charge with "risk sensitivity". To meet the needs of the variety of banking companies Basel has specified three approaches:

(1) **a "Basic" approach** where the capital charge is based on a regulator specified blended risk factor, assuming a well diversified product mix;

(2) **a "Standardized" approach** where it is based on regulator specified risk factors for each major line of business, applied in the proportion that fits the profile of a particular bank. The basis for the risk factors in these first two approaches comes from several studies called Quantitative Information Study (QIS), and several more such studies are planned before Basel II is implemented.

(3) The third approach is the **"Advanced Measurement" – or AMA – approach**, where banks use their own operational risk models to determine their capital needs. To balance the boldness of the AMA, regulators require that a bank consider not only its own "internal" experience, but also relevant "external" experience, "scenarios", and the bank's own "business environment and internal control factors". In other words, banks that elect or are mandated to use the most sophisticated approach must demonstrate that they have used it in an appropriately sophisticated way. The model must "validate".

All this, in Basel language, is Pillar I. Pillar II sets out, to put it simplistically, the regulators' right and responsibility to adjust Pillar I if in the regulators' opinion the Pillar I capital requires adjustment. Hopefully Pillar II will not be used to arbitrarily adjust models to, for example, increase conservatism, but will be utilized when specific circumstances indicate a bank has unusual control problems, a discontinuity in profile that can't be captured in the validated model, or similar unusual problems. Pillar III is "transparency", representing a basic belief in the markets' power to evaluate capital adequacy and appropriateness if given the information upon which to base an evaluation. The product of all this measurement, calculation, and judgment is a capital charge for operational risk – a requirement for capital based on a mostly quantitative evaluation of the firm's own business profile and experience, set in the context of the experience of the financial services industry, and benchmarked, under the watchful eye of regulators, to other internationally active banks.

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What I've said up to now could easily be gleaned and synthesized from numerous sources easily available to you, although in order to add value I've tried to add to the factual material some of my own views. What I will talk about now is a few, select, operational risk issues in the context of the New Basel Accord, and the New Accord in the context of Securities Services. I am comfortable with that as my subject matter, having been co-representative for Citigroup to the Institute of International Finance's (the IIF's) Working Group on Operational Risk, which I see as a key Basel Risk Management Group influencer, and now I chair the Risk Management Association's Operational Risk Committee. For the past several years I've been a Managing Director and coordinated the operational risk activities of Citigroup's Global Corporate and Investment Bank and Citigroup International. While I needn't recite my resume – after all, I'm already invited and I'm here at the podium – there is a reason I was thought appropriate for appointment to these operational risk jobs. After learning the custody and clearing businesses from your board member Ray Parodi, I was, for about a decade, the line risk manager for Citigroup's Transaction Services, incorporating Securities Services, Cash Management, and Trade.

It is interesting how the "risk mind" works. For that decade in Transaction Services I was seen as a peculiar credit-credentialed risk manager who didn't do much in the way of credit approvals. Traditional credit seniors saw tenor, or the length of a commitment, as all-important, and my arena of daylight and overnight credit risk – albeit for multiple billions of euros, dollars, and yen – was by a loan equivalent standard low risk. Even with Drexel, Barings, Peregrine, and other recent market traumas, the credit risk for transaction processing was seen as very low. And anyway, the corporate tenor clock ran from long tenor down to short, and mine, running from short to long – from before-settlement risk to daylight to overnight to a short temporary overdraft – was incomprehensible to the risk systems. Compounding the risk cultural divide, I thought of myself as a risk manager – not a credit manager – hard at work on operational risk. As with operational risk capital in Basel I, operational risk as a recognized risk discipline didn't exist. To the extent it got recognition, operational risk was itself peculiar. Most thought it was back-office "operations" risk; it had no definition, no event type classification, no loss database, and required no capital. Later on the regulatory community has said it was capitalized in Basel I's "top up" – the extra capital required, without specific justification, in addition to credit and market price risk capital – but clear evidence of consideration or mathematics aren't apparent. It was a hidden discipline. Has anyone ever met a Chief Risk Officer who had been selected from amongst the ranks of Operational Risk Managers and placed atop the "real risk professionals", the Credit and Market Risk Managers?

One day along came a request from the Risk Management Association, or RMA, for Citigroup participation in a joint RMA, ISDA and British Bankers' Association study (plus a request for $25,000 for a seat at the table). Citi's Chair of Credit Policy cast her eye about and basically said: Stein – he does "that stuff". Thus was Op Risk formally birthed at our firm in an informal way. Reflecting the absence of a recognized operational risk function or profession in major banks, I was and I remain the sole bank representative at the IIF's Working Group on Operational Risk who concurrently held a line operational risk management role. In honor of this heritage, I'm frequently typecast as the spokesman and advocate for Op Risk Management in a world still dominated by Op Risk Measurement specialists.

So far – casting levity and storytelling aside – I've attempted to make three serious points:

- The *Risk Culture* at large financial institutions is dominated by a *Credit Culture*, with the addition of a *Price Risk Culture* established over the past decade or so. Operational Risk Management, perhaps the oldest risk profession, is just now beginning to be recognized as a third major *risk discipline*.

- The beginning steps were in Risk Measurement rather than Risk Management. There is an old adage that "we manage what we measure". Only under the impetus of Basel II has the industry settled on definitions; organized a taxonomy – a classification – of loss event types; begun to collect loss data for internal use; seen the beginnings of industry-wide data collection and categorization; broadly installed the risk self assessment work-product of the COSO (Committee of Sponsoring Organizations of the Treadway Commission) framework promulgated long ago; coherently identified the most important operational risks facing our businesses, and addressed them in an open forum. Isn't it amazing that these obvious opportunities to better measure what we do, and don't do, weren't embraced earlier?

- Third, we are addressing Operational Risk not Operations Risk. Operational Risk is a front, middle, and back office phenomenon. While perhaps in Securities Servicing and Transaction Services in general the back office oriented Execution, Delivery and Process Management cause remains the largest loss category, in the past several years Business Practices events – Front Office events – have shown themselves to be by far the largest loss generators – at least for the U.S.-based large, internationally active, financial institutions that Basel focuses on with its Advanced approach.

To elaborate for a moment on the late identification and recognition of the operational risk discipline I mentioned above: Interestingly, Securities Services businesses, where operational risk and the expertise in operational risk management was concentrated, were co-conspirators in down-playing the risk level and risk type. These business activities enjoyed what a person less interested in "risk sensitivity" than I am could think of as an ideal capital requirements structure. Regulatory capital was not required for operational risk (or for daylight credit exposure). Economic Capital (the internal measure of capital at risk) as an allocation and analytic framework was not yet in vogue. So if you had enough liquidity to support processing, and enough credit capital to support fails, you didn't need capital – economic or regulatory – for the substantial operational and intraday credit risks being taken. Throughout the Basel II development process Securities Servicing "monoline" banks (or those with some diversification, but with securities servicing as a very major component) have strongly resisted the operational risk elements of the New Accord, and some continue to work the political process today. I would like to suggest that, having shined a bright light on all this now, there is no going back! The mantra must favor "appropriate capital", not "lowest capital".

Before I travel further, I want to make another point about operational risks in the real world of Securities Services and Transaction Services. Audiences gravitate towards exciting stories, so in addition to the mundane but substantial losses experienced in the normal course of business and the occasional larger but non-catastrophic unexpected loss, the focus has been on fines, penalties and litigation reserves for such as Enron and WorldCom, insurance mitigation disputes such as affected JPMorgan's Enron claim and more recently the World Trade Center loss; and similar events. However, from my perspective the two largest operational risk scenarios of recent times were the Year 2000 calendar change and the national currency to Euro conversions. In other words, successes! This was bedrock risk for the community of people assembled here. We all recognized this risk, managed it, some of us tried to mitigate it, but as recently as the millennium we didn't have the language and the risk structure to address these issues with the clarity we enjoy today. Think of it – Year 2000 was only four and half years ago, and the Industry's Basel related operational risk work was in its infancy, and these situations were generally thought of in terms of operations rather than risk management.

So where are we now, five or so years into Policy Development with the regulatory community and, in actuality, several years into Implementation?

First, we are waging a war between the forces of "flexibility" and those of "prescriptiveness". For the large, internationally active, banks, the essence of Basel II's Advanced, or AMA, approach is "flexibility". What could be more flexible than to "allow", should I say "encourage", or more rightly "mandate", that banks use their own, most relevant, models for regulatory capital. In addition, by mandating a "use test", that these models be the ones the bank itself thinks most useful for its actual risk profile. For sure there were compromises to be made. In this newly measured area of risk the regulatory community felt the need to measure the banks' own models by arranging for industry-wide data to be available for benchmarking, which led to a more or less adequate loss event classification and standardized lines of business. However, in the final analysis "flexibility" prevailed, because Basel only requires mapping to the standard categories, not actual use of them. The issue now arises from within. Implementers, who gain enormous influence once the policy analysts and policy developers have completed their work, love standardization. The same bankers that vigorously argued that each of our banks is sufficiently different from others that regulators shouldn't promulgate detailed standardized processes, seem to have no hesitancy in requiring all their lines of business – which on a standalone basis would be some of the

largest financial companies in the world – to homogenize their management styles, the attributes of their businesses, their policies, and their process templates in order to provide corporate-wide standardized reports. And risk managers and internal auditors are mandating standardized processes for businesses they so recently deemed vastly different. The proof of difference is in the dispersal of the empirically based, regulatory specified, capital requirements: a 50% difference from 12% to 18% of gross revenue. Whether attributable to inherent characteristics or exogenous variables, such a wide variation in standard operational loss expectations is testimony to the vast differences between lines of business, and to argue that these diverse products should be managed by one single set of processes just can't be right.

Second, the industry has made enormous progress in a very short time. A nanosecond in regulatory terms. Rather than being lined up behind credit techniques, we have leapfrogged credit to allow, for regulatory capital purposes, use of firm-specific Risk Sensitive modeling techniques for operational risk capital requirements. Citigroup applauds this "risk sensitivity" that lies at the heart of the AMA approach. We expect that it will lead to lower capital requirements for us (and our best competitors), but our endorsement doesn't rest on this expectation of lower regulatory capital requirements. We believe the Industry's and our own best interest lies in having the "right" amount of capital, and AMA through its flexibility and its risk sensitivity, have these two characteristics working together, despite their imperfections, and serving as bedrock.

Recently I have seen some comments referring to a comparison of Basel II's Advanced approach without diversification factors with the Standardized approach. I must say this, to me, is an oxymoron. AMA should take account of all significant, relevant, factors. It seems clear to me that diversification – across products, across geographies, perhaps in the future across other characteristics – has an important impact on operational risk capital requirements (and that diversification across risk types has an important impact on risk capital). I would argue that so does "scale"; that risk doesn't increase linearly with revenue. So I argue for its identification and inclusion as a factor in setting capital requirements, with the direction and magnitude of its impact to be determined and supported by model constructors and verifiers.

Third, let me also put in a word for Risk Mitigation. So far, it appears that insurance products in the market are traditional and mundane. When asked to participate in the Basel process, I would say that the insurance industry answered with a "sales call", and not with a client focused response. It appears we will have to wait for comprehensive coverage, for "good product". There is also another problem. In several recent high profile losses, including those involving banks and/or resulting from the highest profile operational risk event of this millennium, bank regulators have come to question what a banker would call insurers' "willingness to pay". This apparently has little to do with "ability to pay". Regulators, and many bankers, have determined that there is an operational risk embedded in the insurance contract, whereby the insured's expectations of coverage for large or non-routine events have a reasonable probability of not being met. Finally, add to this the lack of clear understanding of the difference between a credit rating and claims paying ability. But fortunately, in Basel II the idea of insurance has gotten its "nose under the tent" and hopefully we will be able to build from there. Hopefully, also, the creative creators of capital markets instruments will develop instruments for transferring, sharing, and participating in operational risks. This is an opportunity for banks to reduce risk, to benefit from the law of large numbers, in sum, to let risk travel to the least expensive capital willing to accept the risk. Better use of risk mitigants is an opportunity that neither the banks nor the regulators capitalized on well in the Basel II process, but we should have expectations of further progress here because the benefits of excellence in risk transference mechanisms is so great.

I'll offer another reason to support risk mitigation. Because, you see, a "portfolio approach" requires it. "Portfolio Approach?" Next thing you know we'll be talking about "limits".

That's the **fourth** point I'd like to make. We are coming back full circle to the pragmatic life of a Transaction Services line risk manager. I am suggesting that Operational Risk management is a Risk Discipline, with risk appetites; limits; an influence in defining target markets; a portfolio approach; etc. – all the paraphernalia of risk. Now you can make fun of me; what – you may ask -- is our tolerance for money laundering, for discriminatory behavior, for other such operational risk events? For a lay audience I need to remind them, but for you I need not, that "zero is a limit, not the absence of a limit". However,

in many banking businesses such as Securities Services we are service manufacturers – service providers, if you prefer – consciously embracing several of the operational risk event types identified in our classification and hopefully being paid for our risk taking. For several lines of business, the taking of operational risk is a core attribute of our product offering. We get paid for taking risks. We are in business to accept prudent risks that we get compensated for taking. We are not in the business of avoiding risk. We are also not in the business of Internal Control. Controls, conceptually, mitigate Inherent Risks so as to reduce them to low Residual Risks, leaving us vulnerable only to control failures or management's failure to identify or understand an Inherent Risk. But the importance of "controls" doesn't put us in the business of Internal Control. Operational risk taking can be a revenue generator. Internal Control excellence is an expense reducer (and, I do take note, a reputation protector). Driven by Sarbanes and other factors reflecting the low/no trust environment we currently work in, I am both proud and troubled that operational risk management in practice has become first and foremost an Internal Control technique rather than a risk discipline. We need to rebalance this. We are in the business of accepting risk and there is great opportunity in businesses like Transaction Services in understanding and properly pricing operational risk.

When I got done preparing these comments I observed that I hadn't directly addressed the question of "how this is going to change the world". I would hate to disappoint; to paraphrase Neil Armstrong as he stepped on the moon, Basel II is indeed one small step for man, but is it one giant leap for mankind? Basel II is important to our industry; it changes thinking and approaches from rules based to risk based; it looks to real life experience, but adjusts this lagging indicator, as best it can through leading indicators, as the basis for regulatory capital; it explicitly recognizes a new type of risk and thereby dramatically credentialed a new type of risk manager; it dramatically changes how capital requirements are measured in certain lines of business; it sets out some protocols for how regulators should regulate and relate to each other. But important as it is, and it is very important, Basel II is incremental – it is a prologue to Basel III whose development will start the moment Basel II is bedded down, if not before. Basel II far better than Basel I embraces the large scale, diversified nature, complexity, and sensitivity of modern financial institutions, but there is as much road ahead as there is behind us. So while Basel is one not-so-small step for bank regulation, it really is only one step on a much longer journey.

In closing, the New Basel Accord is *bank* regulation. However, the evidence is already clear that the Basel-related operational risk concepts and techniques will permeate other financial institution categories as well. This is not new knowledge; it is new articulation of common sense principles of risk and control. It's already pervading the investment banking "monolines", the broker/dealers, the financial service providing industrial conglomerates. Sometimes this is because these companies own banks – for deposit gathering or for access to payments and settlements infrastructure. Sometimes it's driven by "level playing field" issues. Sometimes, particularly with evolution in the regulatory community and theories about consolidated regulation, it's driven by competition between regulators. Even amongst regulators cooperating under the "hybrid" home/host proposals of most recent Basel thinking. As we embrace the principles of risk sensitivity and the right level of capital rather than least capital, we will reduce capital arbitrage, level the terrain of the playing field, and provide better services for our clients. I am hopeful the late adopters now recognize that sophisticated operational risk management techniques and op risk capital, for what was capital free before, are now requirements. Service providers and regulators aside, the Basel debates have educated our best clients and the rating agencies (who are enormously influential as to what capital we need), and there is no going back from our now more enlightened state. In that way, it has indeed changed the world.

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