

Remarks by
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Let me extend a warm personal welcome to all of you, and a special note of appreciation to those who have traveled great distances to join us. Anyone who doubted that this is the Era of the Modeler in risk management need only look at the response to the announcement of this conference, and the great outpouring of interest we have here today. Your participation not only furthers the discussion on how to develop and implement methods for validating, tracking, and testing the performance of rating and scoring models. It also furthers the public interest in a stable and healthy global financial system.

But it occurred to me that as leading practitioners in this relatively young and exciting field, some of you may be more familiar with the specialized work of your OCC colleagues – work that I’m delighted to say will be on prominent display over the next couple of days – than with the core mission of the OCC itself: the crucial mission of ensuring the safety and soundness of the national banking system of the United States.

The OCC was entrusted with this mission more than 140 years ago, back in the days of Lincoln. And for most of the period since then, it was a mission we pursued with a singular constancy of technique and purpose.

As recently as a long generation ago, the OCC was an organization of traditional bank examiners, a scattering of attorneys, along with clerks and a few others. It reflected

the one-dimensional nature of the industry we supervised. But over the past four decades, bank supervision has been changing at a breathtaking pace – mirroring the evolution of the financial services industry itself. This conference, bringing together experts with specialties that fall far outside the mainstream of traditional bank supervision, is a further sign of how far this change has come.

In light of all this, I thought it would be useful to talk about how this change came about – how it happened, in other words, that we and other financial regulators now depend so heavily on the unique skills of quantitative analysts, modelers, and a host of other specialists, as members of a diverse team that works together to ensure the safety and soundness of our financial system.

We can start this little historical excursion about a century ago. Before going on to become one of the greatest American men of letters, William Sydney Porter, better known as O. Henry, spent several years toiling as a clerk at a national bank – experience he put to good use as the setting for a tale – called “Friends in San Rosario” -- in which an OCC national bank examiner is one of the chief protagonists. At the OCC, we’ve been cringing at O. Henry’s characterization ever since. His examiner went by the name of Nettlewick, and he just oozed brusque bureaucratic officiousness. In the story, and without so much as a nod of greeting, he storms into the bank, counts the cash, adds up the deposits, looks at a sampling of the loans, and pronounces the work done. O. Henry wrote short stories, of course, but short shrift is what most examiners of those early days made of the typical national bank.

I would like to tell you that O. Henry took vast liberties with his facts, but alas, he knew whereof he spoke. An experienced examiner in those days could wrap up the exam

at a fair sized national bank in half a day or less and move on to the next, not to be seen nor heard from again for a year or two or even longer. In those days examiners were paid a fee for each bank they reviewed, so they had a material incentive to hasten things along, perhaps subordinating their governmental interest to their own pecuniary one, even if the result was a superficial exam. Nettleswick did just what examiners in those days did: examined banks, one after the other, without pause, and collected a fee from each.

Contrast this, however, with the account of an actual OCC examiner, reflecting on his 40-year career, which ended in the 1970s, and it turns out that there's not as much contrast as one might expect – or hope:

“We tried to take charge of all the records and inspect them. Cash was counted, ledgers were balanced, loans were balanced then appraised, and bonds were verified and priced. Invoices on bonds purchased since the preceding examination were verified. Correspondent bank accounts were reconciled. Time certificates, cashiers checks, and certified checks were balanced, and a numerical list made for the next examination.”

It sounded much the same.

One thing did change much for the better over the years. Once examiners were placed on salary in 1914, examiners stopped fixating on railroad timetables and started taking the time they needed to get to know – really know -- their banks and the bankers who managed them. Good examiners develop a sixth sense about a troubled bank – something they can almost sniff out before they sit down and start reviewing the records.

But examiners don't have mystical powers. Their effectiveness comes from training and experience – in classrooms, through on-the-job analysis and interaction with more seasoned colleagues. Not until the 1960s did the OCC require that new examiners

have college degrees, although most did anyway. Of course, bankers of the World War II era were not always college-trained, either. It was one more way that bank supervision mirrored the industry.

Until fairly recently the mechanics of bank examination remained almost as simple and straightforward as they were in O. Henry's time, and so was the psychology of the banker-examiner relationship. Sometimes it seemed as though terrorizing bankers was almost a requirement of the examiner's job. When O. Henry's Nettlewick showed up and demanded that the chief teller turn over the cash, that conscientious bank official did so with a trembling hand, even though he knew that it was "right to a cent, and he had nothing to fear." Even so, the banker "was nervous and flustered. So was every one in the bank. There was something so icy and swift, so impersonal and uncompromising about this [examiner] that his very presence seemed an accusation. He looked to be a man who would never make nor overlook an error."

And more than half a century later, in the official instructions issued to national bank examiners, it was thus stated flatly: "The examination of a bank is always begun without prior notice and in a manner that will preserve the element of surprise. Hotel or other accommodations should be arranged so that advance notice of the examination will be avoided. Personal mail should not be directed to the bank. The element of surprise is an important factor contributing to a successful and effective examination. The examination staff should assemble near the bank briefly and as inconspicuously as possible. Greetings [to bank personnel] should be courteous but brief in order that assets and records may be taken under control as soon as possible."

One could almost see our friend Nettlewick writing these instructions himself.

But beginning the 1970s, the OCC's whole approach to examination – the mechanics of the process as well as the relationships that a good bank examination entails -- began to change. It had become clear that the by-the-numbers, one-size-fits-all approach left a lot to be desired, especially as the risks banks faced became more esoteric and sophisticated. Interest rate risk, liquidity risk, risks associated with off balance sheet transactions, and risks arising from bad strategic decisions required more imagination on the part of bank supervisors. They required examiners who could think and act critically, who knew how to ask the right questions and who had the patience and good manners to listen to the answers, and who were as sophisticated and knowledgeable when it came to modern methods as the bankers themselves.

By the 1970s, it was also becoming increasingly clear to the OCC that the old approach -- with its repetitive, labor-intensive emphasis on checking individual loans and validating routine transactions, and guns-blazing skepticism -- was becoming increasingly untenable, from both a methodological and resource standpoint.

In the 1970s it was also becoming more apparent that the banking business was undergoing major change. Those changes reflected the combined impact of changes in demand for banking services and the supply of those services. On the demand side, the primary driver of change has been increased competition. While banks once operated in a somewhat segmented market, providing transactions and savings services to households and lending to businesses, nonbanks were beginning to compete in virtually all dimensions. Of course laws against the combination of commercial and investment banking and against interstate branching reinforced the segmentation of the U.S. banking business against the growing competition. But when those legal constraints eventually

fell, the resulting increase in competition merely confirmed the trend, apparent decades earlier, toward a more vibrant and competitive banking system.

The upshot of growing competition is that banks have found that they must be responsive to customer demands for services, or risk losing those customers. Of course, this change in competitiveness in banking has happened against a backdrop of changing customer appetites for financial services products. Both household and business customers have responded to the advances in financial technology and have profoundly changed the way they use financial assets. The post-World-War-Two advances in financial economics that gave us Markowitz portfolio theory, options pricing and derivatives trading have touched all bank customers. For example, while they may not realize it, even relatively less sophisticated U.S. households use “structured finance.” If you need to be convinced of that point, consider the impressive array of mortgage products available today, reflecting different combinations of cash flow structures and options, to accomplish what is basically the same secured borrowing transaction.

The factors affecting banking from the supply side are, if anything, more dramatic than the drivers of changing demand. The same advances in financial economics that touched businesses and households have swept over banking. Derivatives trading, hedging, securitization, credit scoring, and structured finance, which are all routine parts of banking today, were exotic or nonexistent 30 years ago. Credit risk management on a portfolio basis was conducted implicitly 30 years ago, through crude limit setting devices that attempted to avoid concentrations to single borrowers, single industries, or geographic regions. And interest rate risk was only beginning to be addressed systematically with the wider recognition of concepts such as “duration.”

The advances in, and dissemination of, financial technology cannot be separated from advances in computer and telecommunications technology used by banks. The advances in the technology are well known to the people in this audience. That these advances have had profound impacts on every aspect of banking is, perhaps, taken for granted.

In the fourth quarter of 2003, the notional values of derivatives contracts traded by U.S. commercial banks was \$71.1 trillion; 30 years ago, it was virtually zero. With today's vast ATM network, it's easy to lose sight of the fact that it was only 35 years ago that the first ATM was installed in a bank lobby. And while lending is now conducted over vast distances, it was once a local activity. Mortgage lending provides an obvious example of the role of non-local lenders. But even small business lending, which was once the province of the local community bank, is being influenced by the wider availability of credit scoring and easier telecommunications. Preliminary research by economists at the OCC, collaborating with economists from outside the agency, demonstrates that trend. Using data from the Small Business Administration, they have shown that the average physical distance between SBA borrowers and their lenders has increased fivefold over a decade, from five miles to 25 miles. There is little doubt that the way in which banking is conducted has changed.

The results of the changes I have highlighted were industry upheaval and phenomenal industry growth. In 1960, there were nearly 13,000 commercial banking organizations in the U.S., and 91 percent of them had real assets – in terms of 1996 dollars – of under \$100 million. By the year 2000, there were fewer than 7,000 commercial banking organizations, and 60 percent of them had real assets under \$100

million. While those numbers give the general impression of a consolidating industry, they do not reveal the true extent of the change. In 1960, there were only three banks with real assets of \$25 billion or more; in 2000 that number had risen to 34.

But even those numbers do not give an adequate sense of the magnitude of the change. After the most recent mergers, the U.S. now has three banking companies with over one trillion in assets. There is little doubt that today's banking industry is much different—and more complex—than it was decades ago.

Those changes in business activities, size, and complexity have required U.S. regulators to adopt an entirely different approach to supervision. I would like to claim that we made these changes in a perfectly anticipatory fashion, recognizing the changing risks and market pressures. However, we all know such proactive change is rare. Instead, a succession of highly public bank failures in the 1970s and the systemic threats of the 1980s demonstrated to us that we had to change the way that we conducted bank supervision.

From these needs emerged the OCC's risk-based approach to supervision – an approach predicated on spending more time analyzing the quality of bank systems and controls and leaving the business of bean-counting to the auditors. This shift has literally transformed bank supervision -- not only in the United States, but, in large part because the OCC, with its reputation for pioneering excellence, has adopted it -- also around the world. It has, furthermore, transformed the OCC and its people: today our examiners hold advanced degrees and certifications, are encouraged to continue their professional educations throughout their careers, and are recognized as some of the leading experts in the most esoteric financial fields. And the generalist examiner ranks are augmented with

specialists who also participate in bank supervision. Most relevant for this conference are the specialists in risk modeling who are housed in our Economics department, and who are the organizers of this conference.

The basic premise of risk-based supervision is that supervisory resources should be brought to bear where they are needed – and preferably, before they’re needed -- based on the bank’s condition and on the potential systemic consequences should its condition deteriorate. This approach seeks to determine whether banks have identified and controlled the risks they have assumed; it seeks to validate the quality of a bank’s internal risk management systems. And it rejects the logic of a purely calendar-driven, episodic examination regime of what seems like long ago, in which a bank may be forgotten until it shows up again on the examination calendar 18 months after the last. Instead, we now conceive of supervision as ongoing process, in which examiners are responsible for both on- and off-site monitoring the condition of the institutions within their portfolios, on a continuous basis.

It was in the early 1990s that quantitative economists began participating more directly in the examination process itself. At first their role in examinations was mostly limited to interpreting for examiners who found themselves baffled by the quantitative methods increasingly in vogue in the banking industry. Over time, however, many of our quantitative economists have become full-fledged members of the examination team, integrated not only into our Large Bank program, but in our Mid-Size and Community Bank examinations, as well.

Increasingly, our quantitative economists are joining examiners on the scene to offer crucial assessments on whether banks, having chosen to rely on advanced models to manage their various risk exposures, understand the limitations of those models.

If industry developments over the past decade have elevated the importance within bank supervision of the ability to evaluate quantitative models, the immediate future portends even heavier burdens as Basel II nears completion. As many of you know, the updated rule will place tremendous emphasis on banks' own internal risk models to determine how much capital they will have to hold, and in both the rule-making process and once the rule goes into operation, U.S. bank supervisors will face an enormous challenge in validating models, especially during the period when the rules are being phased in. Examiners will need to be trained in the new methodologies, and we will be relying heavily on the men and women who already possess that expertise. The challenges will be enormous.

Yet while the role that quantitative economists play in the examination process is large and growing, we have not by any means abandoned the fundamental set of skills that has distinguished OCC supervision for nearly all of our organizational life. Banking is still a business involving people as well as numbers; and as long as it remains so, judgment and expertise – the so-called “soft skills” -- will weigh preponderantly in the assessments that examiners are called upon to make. We have found over time that the key to effective supervision is being open to new tools and methodologies and integrating those that work into our established processes. Over the years, our goals and objectives have not changed, but our approaches have constantly evolved. That flexibility has made it possible for the OCC to stay current with a rapidly changing financial services

environment and to continue to be effective as we carry out the mission entrusted to us back in the days of Lincoln.