Waste makes haste

Sarbanes-Oxley, competitiveness and the subprime crisis

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By Donald Nordberg¹

Abstract: Passage of the Sarbanes-Oxley Act of 2002 followed hard on the collapses of Enron and WorldCom. Waste makes haste. It was legislation drafted in anger. Five years later, and after three official reports, US government agencies and financial market participants worry that the New York may have lost competitiveness as a venue for international capital transactions. Then came the subprime shakeout and resulting crisis of confidence in credit markets. These combined lecture notes and discussion paper raise questions about many of the assumptions made in the discourse about the relative competitiveness of US and European capital markets. It suggests that the remedies in Sarbox² didn't entirely match the ailments in evidence in the Enron and WorldCom cases. But the costs and resulting loss of competitiveness may be overstated in many popular accounts of the effects of the legislation. And there is something to be said for the view that New York missed out on business that it could well afford to miss. But did the haste of making Sarbox lead to us to waste an opportunity to prevent the subprime débâcle?

Keywords: Corporate governance, Sarbanes-Oxley, subprime, capital markets, competitiveness

Competitiveness

US Senator Charles Schumer of New York State and Mayor Michael Bloomberg of New York City saw the situation like this: “Traditionally, London was our chief competitor in the financial services industry,” they wrote in the introduction to a report from the consultants McKinsey & Co., challenging the competitiveness of New York as a global financial hub. "But as technology has virtually eliminated barriers to the flow of capital, it now freely flows to the most efficient markets, in all corners of the globe. Today, in addition to London, we’re increasingly competing with cities like Dubai, Hong Kong, and Tokyo." They claimed that New York is still – in some sense – in the lead, whatever that means, but warned not to

¹ Donald Nordberg is Senior Lecturer in Strategy at London Metropolitan Business School. He edits and publishes the newsletter The BoardAgenda (www.boardagenda.com).
² The Sarbanes-Oxley Act has acquired a number of nicknames; "Sarbox" was quickly joined by "SOx" and "SOX" in the Washington nomenclature. We will use the first of these, except in direct citations from other writers.
take the lead for granted. "In fact, the report contains a chilling fact that if we do nothing, within ten years while we will remain a leading regional financial center; we will no longer be the financial capital of the world," they said (McKinsey & Co. 2007:i).

The main body of the report said that "in looking at several of the critical contested investment banking and sales and trading markets – initial public offerings (IPOs), over-the-counter (OTC) derivatives, and debt - it's clear that the declining position of the US goes beyond this natural market evolution to more controllable, intrinsic issues of US competitiveness." Why? Part of the answer lies in the Sarbanes-Oxley Act of 2002, which Schumer, a Democrat, might well want to use this report to alter now that his party has won control of both houses of Congress. But there's more than that: "The more lenient immigration environment London also makes it easier to recruit and retain international professionals with the requisite quantitative skills," McKinsey wrote. "Finally, the FSA's [the UK Financial Services Authority]'s greater historical willingness to net outstanding derivatives positions before applying capital charges has also yielded a major competitive advantage for London" (McKinsey & Co. 2007:13).

The McKinsey report for New York State and City was one of the reports that raised issues about the competitiveness of America's capital markets, including another commissioned by US Treasury Secretary Hank Paulson, and a third giving a blueprint for a new regulatory environment, penned in part by the Treasury Secretary himself (Paulson et al. 2008). They traced the roots of the problems to the HR.3762 The Corporate Responsibility Act (Library of Congress 2002), more widely known by the combined surnames of its main sponsors in the US Senate (Paul Sarbanes) and House of Representatives (Michael Oxley). Indeed, so prominent did the legislation become that Oxley would tell jokes about the people he met who would insist that his first name couldn't possibly be Michael (Oxley 2005).

An interim report commissioned by the US Treasury Department, entitled "The Competitive Position of the U.S. Public Equity Market", was published about the same time as McKinsey's. The final version, completed towards the end of 2007, said the first had stimulated much discussion, but added: "Not nearly enough has been done. What is still lacking is commitment and political leadership. This Report, therefore, is a second wake-up call" (Committee on Capital Markets Regulation 2007:v). "By any meaningful measure, the competitiveness of the U.S. public equity market has deteriorated significantly in recent years," it added (2007:1). Since 1996, the US share of global initial public offerings had "dramatically dropped". Between January and September 2007, only just over 10 per cent of
new international equity offerings were made on US-based exchange. The level had been 44.5 per cent in 1996 and averaged 21.2 per cent for the decade from then until 2005, it said. The picture was even more dire if you looked at the value of those new issues. US exchanges raised just 7.7 per cent of the total value of global IPOs through the first nine months of 2007, compared to 58.8 per cent in 1996 and an average of 30.9 per cent in the period from 1996 to 2005. It was small consolation that the US share in 2007 was a bit higher than in 2006, when US exchanges captured 8.9 per cent of global IPOs by number and 6.6 per cent, measured by value. In 1996, eight of the 20 largest global IPOs were conducted in the US. A decade later only one was. To make matters worse, US companies in increasing numbers were going overseas to raise capital, eschewing US exchange listings. "The percentage of IPOs by U.S. companies that listed only on a non-U.S. exchange has increased from an average of 0.8% in the period 1996 to 2005 to 9.2% through Q3 2007. The figure was 6.3% in 2006. By value, the percentage of IPOs by U.S. companies listing only on a foreign exchange averaged 0.1% in the period 1996 to 2005. The figure shot up to 4.3% in the first three quarters of 2007, up from 1.1% in 2006," it said (Committee on Capital Markets Regulation 2007:2).

The message coming from these drums was loud and clear: The Sarbanes-Oxley Act was too much of a straightjacket. A lighter-touch regime would make American equity capital markets more competitive. But towards the end of 2007, US capital markets weren't really listening. Credit markets had seized up in fear of defaults and insolvencies that might arise from distressed selling of mortgage-backed securities issued by US investment banks on the back of lending in what had been fierce competition for customers in Florida, California and a few others states where household incomes weren't really high enough to afford the houses they aspired to hold. Unlike previous property booms, this one had been conducted increasingly by mortgage brokers. The originators might have been banks themselves, but they were working under the guidance of the big investment banks on Wall Street, which, under guidance of the credit rating agencies, then packaged the mortgages into tranches, and using derivatives built credit default protection around them, making the new "collateralised debt obligations" worthy of Triple A credit ratings and investment-grade status. These instruments found their way in the billions into the portfolio of banks and investment institutions around the world. "Originate to distribute" became the buzzword to easy money.

Moreover, the "originate-to-distribute" model created what some bankers called a "third bite at the cherry". Not only were there fees for originating and a second set for distributing.
By getting the loans off their balance sheets, they had freed up capital to lend even more. It is easy to see, in hindsight, how the bubble inflated almost all by itself. US capital markets had begun to look worse than merely accident-prone. They began to feel lethal.

**Waste …**

The roots of the problem can be traced to the dot-com bubble of the second half of the 1990s, when technology stocks pushed higher on a speculative wave looking for new methods of consumption and new economies in operations from the productivity advances offered by fast computing and cheap telecommunications. Combined with hyperactive investment banking, the mix grew toxic.

Enron Corp. became an unlikely emblem of the boom. With its core business in gas transmission networks, it didn't look like a dot-com technology stock. But with the acquisition of gas pipelines in the American northwest came fibre-optic telecommunications capacity. Enron had already leveraged its gas network into a resource for trading natural gas futures and options, becoming in effect an investment bank with a small gas distribution business attached. With the addition of telecommunications capacity and the prospect that derivatives markets in bandwidth would develop soon, it was well placed to ride the dot-com wave further into bank-like activities. Rapid expansion fuelled expectations of even higher profitability in the future. Executive incentives built around stock options set management on a course that seemed unstoppable – until the dot-com crash led everyone to question how the business model could succeed. Moreover, closer scrutiny of the accounts showed that bad business had been pushed off the balance sheet into special purposes entities in which the chief financial officer of Enron was the principal owner, with quiet guarantees of assistance. The bad business was forgotten but not gone. Towards the end of 2001, Enron went spectacularly bust (Wearing 2005 gives a good account of the case).

Several months later accounting fraud brought down WorldCom, an even bigger player in the US telecommunications market (see Wearing 2005 for details). Both firms had been advised and audited by Arthur Andersen. As lawsuits mounted – and other financial problems came to light, especially among Andersen clients – the firm imploded, leaving just four major accounting practices with an obvious capability of auditing the accounts of major multinational corporations.
The outrage, including from among the workforce of Enron who had been encouraged to invest their pensions in Enron stock, led to switch government action.

... makes haste

The Sarbanes-Oxley Act was introduced in Congress in June 2002, within days of discovery of the problems at WorldCom. It passed swiftly and was signed into law in early August. A short, clear and remarkably jargon-free piece of legislation, it set in motion the latest change in law affecting US corporations since the Securities Act of 1933 and the Securities and Exchange Act of 1934. Those Acts arose – after four years and a change in President – from the ashes of the Wall Street Crash of 1929, the resulting Great Depression and the loss of confidence in American capital markets and, for many, in capitalism itself.

Waste makes haste?

<table>
<thead>
<tr>
<th>Waste ...</th>
<th>... makes haste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive faith in numbers: accounting lapses, fraud</td>
<td>CEO, CFO certification, with criminal penalties</td>
</tr>
<tr>
<td>Special purpose entities, or SPEs</td>
<td>New oversight board for audit, accounting</td>
</tr>
<tr>
<td>Off-balance sheet losses</td>
<td>Internal control</td>
</tr>
<tr>
<td>Related party transactions</td>
<td>New NYSE, Nasdaq listing rules</td>
</tr>
<tr>
<td>Audit fees dwarfed by consulting income</td>
<td>Board independence boosted</td>
</tr>
<tr>
<td></td>
<td>Compliance costs mount</td>
</tr>
</tbody>
</table>

Figure 1 - Waste makes haste

The provisions of Sarbox brought greater accountability for corporate officers and greater supervision for auditors. Under Section 302 chief executive and chief financial officers were required, under threat of criminal prosecutions, to attest to the accuracy of their financial statements, both audited annual accounts and quarterly, unaudited reports to shareholders. Section 201 forbade the audit firm from engaging in a number of activities – including installing financial reporting systems, advising on asset valuations or provided internal audit assistance – things that might compromise the integrity of the external audit.
The act also created a new government agency, the Public Company Accounting Oversight Board working under the direction of the Securities and Exchange Commission, to oversee the accounting and audit professions, which had been largely self-regulating under rather looser oversight of the SEC.

New listing rules introduced in parallel by the New York Stock Exchange (New York Stock Exchange 2003) and Nasdaq (Nasdaq 2008) demanded greater board independence, financial expertise independent of the CFO on the audit committee, and an independent chairman or senior outside director to whom investors could vent their issues with senior management.

Sarbox, sectioned

<table>
<thead>
<tr>
<th>Section 201</th>
<th>Section 302</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditors of public companies prohibited from providing non audit services to their clients...</td>
<td>CEO, CFO, and other responsible officers of the company must submit a certified statement accompanying each annual and quarterly report, stating:</td>
</tr>
<tr>
<td>Bookkeeping or services related to the accounting; financial information systems design and implementation</td>
<td>The report does not misstate any facts</td>
</tr>
<tr>
<td>Appraisal services, fairness opinions; actuarial services, internal audit</td>
<td>The financial statements and related disclosures are fairly presented</td>
</tr>
<tr>
<td>Management functions or HR</td>
<td>They are responsible for the establishment, maintenance, and effectiveness of internal controls</td>
</tr>
<tr>
<td>Broker, dealer or investment banking services</td>
<td>Auditors and audit committee made been told of any instances of fraud or internal control deficiencies</td>
</tr>
<tr>
<td>Legal and expert services unrelated to audit</td>
<td>Any other service that the PCAOB determines, by regulation, is impermissible</td>
</tr>
</tbody>
</table>


Figure 2 - Sarbox, sectioned

The biggest changes came, somewhat surprisingly, from the short, concise part of the act known infamously now as Section 404. It demanded that issuer create and report on their systems of internal control. Top management would be held accountable for them and would have to report on their effectiveness. Accounting firms conducting audits of financial statements would have to attest to those assessments.
Section 404

- **Issuers**: SEC to set rules requiring each annual report to contain an internal control report, which shall
  - State responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting; and
  - Contain assessment of the effectiveness of internal control for financial reporting

- **Accounting firms**: Each registered public accounting firm that prepares or issues the audit report for the issuer shall attest to the assessment made by management of the issuer


Figure 3 - Section 404

The rush to do something after Enron, WorldCom, Adelphia, Tyco and the other cases of corporate governance failures in the US was understandable but not without critics. Even inside the SEC doubts emerges. Paul Atkins, one of its five commissioners and its longest serving one said: "The experience with Section 404 is a reminder that it is better to get things right the first time around," he told a group of lawyers. "In the face of uncertainty, the SEC too often has exhibited a determination to move forward with extreme haste. Not surprisingly, this course of action only invites trouble." Look at all the work the SEC did on corporate governance: "All the SEC has to show for its efforts in this area are two adverse court decisions and considerable uncertainty in the industry" (Atkins 2007). Atkins, one of the commission's Republican members, announced his decision to retire from the post in May 2008, with plans to return to the private sector.

Academic studies and opinion also found the measures off-target. Roberta Romano, in two provocatively titled reviews, called Sarbox "quack" governance, saying that mandates passed in Sarbox were not likely to improve audit quality or otherwise enhance firm performance (Romano 2005b; a). She proposed instead that many of its provisions could be made voluntary, on a basis akin to the comply-or-explain regime of corporate governance in the UK and elsewhere:
"The alternative of treating SOX as a set of default rules could be implemented by the SEC under its general exemptive authority, but it is improbable that the agency will do so in a comprehensive way, in part because it is still stinging from being perceived as lagging behind state regulators in finding and prosecuting entire financial industry sectors for alleged misconduct. It is therefore important to work to educate the media, the public, political leaders, and agency personnel regarding the reality that Congress committed a public policy blunder in enacting SOX’s corporate governance mandates and that there is a need to rectify the error" (Romano 2005a:44).

Lawrence Brown and Marcus Caylor (2006) reviewed the Sarbox reforms from the vantage point of the governance metrics developed by Paul Gompers and his colleagues (2003). Brown and Caylor found that between them, Sarbox and the governance reforms at NYSE and Nasdaq addressed only one of the seven measures considered important for corporate valuation. Nor did the Sarbox measures address directly the six factors identified by Lucian Bebchuk and his colleagues as signifying entrenchment of a board and management that would prevent shareholders achieving the greatest possible valuation (Bebchuk et al. 2004).

The political imperative that led to Sarbox wasn't, of course, entirely motivated by the desire to enhance corporate valuation. It was intended as a way to protect both investors and employees (who were also beneficially shareholders, especially at Enron following the urgings of management for the pensioners to invest in the stock). Sarbox was designed as a series of mechanisms to prevent abuse, to put obstacles in the way of management caprice, and to reduce the dangers associated with the conflicts of interest inherent especially in the relationship between auditors and management.

Paul Healy and Krishna Palepu's account of the problems at Enron (Healy and Palepu 2003) shows how the company was able to attract large sums of capital for what they termed a questionable business model and then use accounting and financial manoeuvres to hype its share price, which then fed the incentive plans to which senior management were entitled. Healy and Palepu give the example of one Enron audit committee meeting during the crucial period: it lasted 85 minutes and dealt with an agenda of nine items including internal controls, adequacy of reserves, litigation risks, credit risks, communication with investors and analysts, and management use of company aircraft. Despite a high degree of financial expertise among its members, the audit committee did
not challenge several important transactions that were motivated principally by financial reporting rather than business reasons, they report.

**Table 1 - Enron and Sarbox, comparison of issues**

<table>
<thead>
<tr>
<th>Enron issue</th>
<th>Importance (least 1, greatest 4)</th>
<th>Sarbox response</th>
<th>Match (-, 0, +)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock options-based remuneration</td>
<td>4</td>
<td>Silent (accounting rules later changed to require option expensing)</td>
<td>0</td>
</tr>
<tr>
<td>Marking trading assets to market prices, based on management valuation of price trends, often as far as 20 years into the future</td>
<td>4</td>
<td>Silent (accounting rules now make even wider use of marking-to-market)</td>
<td>-</td>
</tr>
<tr>
<td>Use of derivatives to create structured products</td>
<td>4</td>
<td>Silent</td>
<td>-</td>
</tr>
<tr>
<td>Creation of special purpose vehicles to take structured products off-balance sheet</td>
<td>4</td>
<td>Indirectly through PCOAB actions</td>
<td>0</td>
</tr>
<tr>
<td>Conventions between Enron and SPEs created a divergence between economic reality and accounting numbers</td>
<td>4</td>
<td>Silent</td>
<td>-</td>
</tr>
<tr>
<td>Deceptive reporting of ownership of SPEs, allowing it to avoid consolidation of accounts</td>
<td>4</td>
<td>Silent (but legal action against managers set precedent in law)</td>
<td>0</td>
</tr>
<tr>
<td>Use by SPEs of Enron stock and financial guarantees as collateral for hedges on illiquid investments, thus defeating the purpose of the hedge</td>
<td>4</td>
<td>Silent (but action from PCAOB and FASB)</td>
<td>0</td>
</tr>
<tr>
<td>CFO role as partner in SPEs, raising questions over his fiduciary duties to Enron shareholders</td>
<td>4</td>
<td>Indirectly through Section 302 (legal action against managers also set precedent in law)</td>
<td>0</td>
</tr>
<tr>
<td>Write-downs of other assets, including telecommunications networks</td>
<td>3</td>
<td>Silent (this was a business issue and was disclosed)</td>
<td>0</td>
</tr>
<tr>
<td>Top management’s close involvement with auditors</td>
<td>4</td>
<td>Section 201 addressed auditor independence</td>
<td>+</td>
</tr>
<tr>
<td>Audit committee’s infrequent and short meetings</td>
<td>4</td>
<td>Silent (but best practice and exchange listing rules address)</td>
<td>0</td>
</tr>
<tr>
<td>Audit committee expertise</td>
<td>1</td>
<td>Silent (but best practice and exchange listing rules address)</td>
<td>0</td>
</tr>
<tr>
<td>Related party transactions</td>
<td>4</td>
<td>Silent</td>
<td>-</td>
</tr>
<tr>
<td>Auditor dependence on consulting fees</td>
<td>4</td>
<td>Section 201 addresses conflicts</td>
<td>+</td>
</tr>
<tr>
<td>Fund managers misled by financial statements</td>
<td>2</td>
<td>Silent on fund manager obligations</td>
<td>-</td>
</tr>
<tr>
<td>Fund managers misled by self-serving sell-side analyst reports</td>
<td>2</td>
<td>Silent (addressed obliquely through unrelated cases brought against banks by New York State’s Attorney)</td>
<td>-</td>
</tr>
<tr>
<td>Fund managers lacked incentives to seek out high-quality information about the company (including index-trackers)</td>
<td>3</td>
<td>Silent</td>
<td>-</td>
</tr>
<tr>
<td>Close ties between sell-side analysts and corporate finance departments of investment banks</td>
<td>2</td>
<td>Silent (addressed obliquely through unrelated cases brought against banks by New York State’s Attorney)</td>
<td>-</td>
</tr>
<tr>
<td>Peer pressure among sell-side analysts</td>
<td>3</td>
<td>Silent</td>
<td>-</td>
</tr>
<tr>
<td>Financial Accounting Standards Board inaction over SPE accounting rules</td>
<td>3</td>
<td>Indirectly through PCAOB action</td>
<td>0</td>
</tr>
<tr>
<td>Credit rating agencies’ failure</td>
<td>2</td>
<td>Silent (addressed indirectly by SEC action on agency recognition and IOSCO code of conduct)</td>
<td>-</td>
</tr>
<tr>
<td>Fear of reprisal for whistleblowing</td>
<td>3</td>
<td>Indirectly through SEC action</td>
<td>+</td>
</tr>
<tr>
<td>Weakness of internal controls</td>
<td>1, perhaps even 0</td>
<td>Section 404</td>
<td>Sledgehammer to crack nut?</td>
</tr>
</tbody>
</table>
Drawing in part on their analysis and on other accounts of Enron's issues, we can construct a comparison (see Table 1) with the Sarbox provisions that suggests that the legislation swept a variety of governance concerns into the legislation and left outside elements that were central to the company's governance failure.

To be fair, internal controls were laxer in the other cases of accounting and governance malfeasance at the time, and especially at WorldCom, which was the case that led Congress to "step on the gas" of governance reform in the middle of 2002. But apart from these, this analysis suggests, albeit tentatively, that Congress rather missed the mark. To extend the shooting metaphor, it was using something of a shotgun rather than a rifle, and the Sarbox legislation may well have been a sawn-off one at that. Aiming at the wrong target with one may mean you still get a kill, but with a lot of unintended collateral damage. Having left so many of the issues unaddressed or only indirectly treated, Congress may well have been inviting the devious to try again to shoot at the centre of the target while everyone was distracted by repairs to those elements of corporate life perforated by the misdirected blast from Section 404.

**International reaction**

Sarbanes-Oxley mandated that the new rules should apply to all issuers of securities in US capital markets, not just issuers domiciled in the United States. Moreover, audit firms based outside the US would have to register with the PCAOB if they worked on the accounts of any companies with securities listed in the US. The reaction was intense. Looking at his 2002 accounts, the finance director of the German-American carmaker DaimlerChrysler said compliance with Sarbox would cost the company at least $10 million, and that was even before the full implications of Section 404 came to be understood (Nordberg 2003). Daimler would have faced something on the scale even if it had not acquired Chrysler Corp. in 1998, as it had listed on the New York Stock Exchange as Daimler Benz AG four years earlier. His was only one in a wave of protests about the heavy-handed and extraterritorial nature of the legislation and resulting regulatory changes. Shortly thereafter, a group of eleven business organizations, led by the European Association of Listed Companies, appealed to the SEC to modify its rules and make it easier for companies to delist their securities and deregister with the SEC (EALIC 2004). The rules, designed for a period when US institutional investors had much less ability to invest using overseas exchanges, seemed anachronistic in increasingly global capital markets. Indeed,
any companies that might manage to comply with the letter of the law could still run afoul of the rules accidentally – merely because a few more US-based investors had purchased some stock (Nordberg 2004). The SEC, chastened by such a huge market failure under its watch, became uncharacteristically open to suggestions from beyond US shores. The process took time, but eventually the SEC agreed to accept most of the EALIC suggestions with effect from mid-2007 (SEC 2007a).

The result was a move by some foreign issuers to delist in the US and thus escape the obligation to comply with the strictures of Sarbanes-Oxley. The New York Stock Exchange reported in its 10-K filing for 2007 that 49 companies from abroad had either delisted or announced their intention to do so (NYSE 2008). This outcome – much anticipated as the SEC slowly moved towards its decision – lay at the core of the fears about the future competitiveness of US capital markets, as evidenced in the Schumer-Bloomberg statement (McKinsey & Co. 2007) and the US Treasury Department report (Committee on Capital Markets Regulation 2007).

Delisting obviously saves costs and aggravation, as well as the need for companies to reconcile their accounts to US generally accepted accounting principles. But in parallel, the SEC had invited comment on a proposal to end the reconciliation requirement for issuers using international financial reporting standards (SEC 2007b), as European firms were, another sign of the changes in the financial climate in the US. Convergence of US accounting rules and IFRS was also underway with the aim of achieving a common standard that went beyond the mere mutual recognition of equivalence.

The change raises several questions, however:

- To what extent were US exchanges themselves made less competitive by the measured that cascaded from Sarbanes-Oxley?
- To what extent was the advantage that other markets may have achieved sustainable and of real value?
- To what extent did the perceived lack of competitiveness of US exchanges reflect a lack of competitiveness of US capital markets generally?
- In what ways might Sarbanes-Oxley have brought benefits to US competitiveness and the foreign issuers who choose to stay, or indeed to join?
- To what extent was the failure of Sarbanes-Oxley to deal with the real issues in Enron a factor in the perceived loss of competitiveness of US capital markets?
Cause and effect?

Competitiveness of US exchanges

Exchanges have long been symbols of capital markets. "Wall Street" means the US; "The City" means the UK; the "Frankfurt Bourse" (almost) means Germany, and so on. In a time of immobile capital and domestic markets, this was entirely appropriate. But as capital markets integrate, how much sense does that still make? Moreover, demutualization of stock exchanges stripped most of them of their regulatory and therefore policy-making roles, making them less symbolic of the country in which they happen to reside. One consequence that faced these newly listed corporations whose business happened to be running stock exchanges was the need to make profits through innovation and the type of cost reductions that would arise from consolidating the increasing technology-led back offices.

If the measure is, then, the competitiveness of the exchange, perhaps it would help to look at the exchange's business model. The viability of, say, the New York Stock Exchange depends less on its foreign listings than on 1) the total number of listed entities (ongoing fees from listed entities), 2) the number of new listings (the joining fees, which are one-offs and bring with them a temporary surge in trading), and 3) the volume of transactions. Transactions income is the largest, which in turn depends on liquidity and depth of the order book.

As the issues over the competitiveness of US capital markets have been couched by the reports in terms of number of listings, however, let's consider NYSE's performance. According to its 10-K filing for 2007, NYSE Euronext reported a surge of new listings in 2007, both in terms of number of issues and volume of money raised (see Table 2). The NYSE figures include listed operating companies, closed-end funds, and exchange traded funds, but do not include NYSE Arca or structured products listed on the NYSE. These figures include but are not exclusively foreign issuers, of course.

Table 2 - New listings on NYSE

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>282</td>
<td>199</td>
<td>192</td>
</tr>
<tr>
<td>Capital raised ($m)</td>
<td>$34,231</td>
<td>$25,853</td>
<td>$21,305</td>
</tr>
</tbody>
</table>

But if the strength of the exchange is the indicator of the strength of competitiveness of US capital markets, then NYSE doesn't seem to be in particular trouble on the new issues.
side. One might argue that having liquid, sought-after ETFs would auger better for NYSE future profitability than an equal number or volume of illiquid foreign stocks where the bulk of trading occurs on the company’s home-market exchange.

How is Europe faring by comparison? What better place to look than in same document, for Euronext's performance on the same criteria? Euronext, which merger with NYSE in 2007, embraces the stock exchanges in France, Belgium, the Netherlands and Portugal, as well as the derivatives exchange in London known as Euronext Liffe.

Table 3 - New listings on Euronext

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>140</td>
<td>142</td>
<td>178</td>
</tr>
<tr>
<td>Capital raised ($m)</td>
<td>$13,286</td>
<td>$26,862</td>
<td>$21,438</td>
</tr>
</tbody>
</table>

Table 3 shows us that Euronext's share of the new issues business was quite lackluster, perhaps even pathetic in 2007. Perhaps the people at Euronext's branches were distracted more than their US counterparts by the convulsions associated with the merger. This shows the NYSE Euronext company facing operational issues, but it also underscores perhaps how the health of the exchange company is losing its symbolism for the strength of a domestic capital market.

And in London...

- Primary market “very strong”
- 503 new issues
- Total money raised by new and further issues up 57 per cent to £53.7 billion
- Number of international companies joining the main market almost doubled
- 139 international companies from 25 countries joined the exchange’s markets

Source: London Stock Exchange 2007 annual report (year ended March 31)
http://www.londonstockexchange-ir.com/see/finperformance/reports/results/ar07/ar07a.pdf

Figure 4 - Listings in London
London was, along with Hong Kong, the major beneficiary of the supposed exodus from New York and wariness about new listings in US. Comparable figures aren’t published routinely by the London Stock Exchange, but its annual report, for the year ended March 31, 2007, indicates a sizeable volume and number of new issues. Its fiscal year 2007 saw 503 new issues come to market, and the total number of companies quoted either on the Main Market or on the "junior" platform known as AIM rise to 3,245. The capital raised in new and secondary placements jumped 57 per cent to £53.7 billion. The exchange was especially proud to trumpet that 26 US companies had chosen to use the AIM market to raise funds, raising the total to 67. Twenty-five Chinese joined AIM as well, for a total of 46.

LSE new listings

- AIM dominates number of IPOs
  - 23 US companies came to AIM, for total 67
  - 25 from China, for total 46
- Main market dominates funds raised
  - Standard Life £2.2bln
  - Debenhams £950m
  - Rosneft £3.6bln

Source: London Stock Exchange 2007 annual report (year ended March 31)
http://www.londonstockexchange-ir.com/lse/finperformance/reports/results/ar07/ar07a.pdf

Figure 5 - New listings in London FY2006-07

Sustainable competitive advantage

What these figures mask, however, is the shift in composition of the London exchange’s mix of listed companies. The number of shares listed on the Main Market has now fallen five years in a row to 1,608, down by 464 or more than a fifth in that period. The Main Market is where the larger and more liquid shares trade, the ones that are targets of the large asset management firms that trade large blocks. AIM, by contrast, has much wider bid-ask spreads and many stocks simply don’t trade because of the lack of liquidity, the absence of investment research coverage, and their narrow appeal. For the future
profitability of the exchange company, this shift in balance from the Main Market towards AIM may prove counterproductive. The decline in Main Market listings can be attributed to takeover activity, through both mergers and private equity withdrawals of companies from the market. The latter take companies away for extended purposes, after which they may return to listing, as the retailer Debenhams did in the exchange's 2007 fiscal year, raising £950 million. But the former have recently involved bids from foreign companies with their primary listings on other exchanges. These can involve a long-term impairment to trading volumes in London, and therefore to transaction-fee revenue.

The principal differences between AIM and the Main Market underscore another potential source of future problems. AIM is a lightly regulated market. It is not recognized as an exchange by the European Union, and its trading isn't overseen by the Financial Services Authority in the UK. Instead, the London Stock Exchange acts as regulator as well as exchange owner. It works through investment banks and brokers to enforce standards, which sponsor and are supposed to guide companies in their disclosure and reporting practice. Moreover, companies quoted on AIM are not expected to meet the even the comply-or-explain strictures of the standards Combined Code of corporate governance that form part of the listing requirement for companies on the Main Market. Compared with the US regime of quarterly filings with the SEC, Sarbanes-Oxley and NYSE or Nasdaq listing rules, what's surprising is that even more companies haven't gone to AIM.

The strain was evident in the controversy that surrounded a visit to London in early 2007 by Roel Campos, then one of the commissioners of the SEC, when he likened the AIM market to a casino. John Thain, then CEO of the New York Stock Exchange, followed up with statement criticizing the lax corporate governance standards on AIM. Writing in The Guardian newspaper, Marianne Barriaux commented: "There are plenty of examples to back up the criticism" (2007).

Exchanges as symbols of national advantage

New listings on markets like AIM get a high level of exposure, partly due to the publicity machine of the exchanges that support them. A study by scholars at the London School of Economics, commissioned by the London Stock Exchange, defended the market's role showing that although large proportion were early-stage businesses operating in high-risk sectors, the failure rate on AIM was low, less than three per cent in four years (Arcot et al. 2007). But that isn't the only view of these types of markets. A 2006 survey of users
showed that 41 per cent of investors claim AIM’s performance was “due to the poorer quality of companies coming to market” (Baker Tilly and Faegre & Benson 2007).

Differing views of life on AIM

- AIM’s performance “was mixed” in 2006
- Funds raised hit a new high
- Number of new offerings also remained at very high level, though down on 2005’s record
- 41% of investors claim AIM’s performance was “due to the poorer quality of companies coming to market”
- Low failure rates – although large proportion are early-stage businesses operating in high-risk sectors, the failure rate on AIM is low, less than 3% in the last four years
- Strong liquidity for larger securities
  - Average monthly trading volume over 20 million shares
  - Liquidity comparable to similar-sized companies on Main Market

Baker Tilly and Faegre & Benson’s Taking AIM Survey, 2007

London School of Economics study, Sept. 2007

Figure 6 - Life on AIM

Market for new companies serve a valuable economic purpose, giving growing companies a chance to accelerate their growth through the access to external capital, taking advantage of the transparency that a "listing" gives to reduce the risk to investors and therefore, so the theory goes, the cost of capital to the company. That encourages entrepreneurship and stimulates job creation, innovation and eventually profitability and tax revenues. For a while, we live with a regime of transparency, regulation and corporate governance that's less strict than we demand of larger companies which are better able to bear the costs of compliance. It worth it because the small companies of today, so the theory goes, are the big companies of the future - some of them, at least.

It's less clear that facilitating access to capital for foreign issuers has quite the same beneficial effects for the listing venue. Financial services are clearly a strong point of the economies of both New York and London, something that Michael Porter noted as a source of national competitiveness (Porter 1990). But Britain benefits from a Russian company coming to the AIM market to the extent of investment banking fees, listing fees and transaction fees associated with trading the in stock, which in turn pay salaries and bonuses to City workers and generate tax receipts on any surplus. Benefits to the real economy are
less obvious, though it's conceivable that company executives, visiting the UK for investor relations purposes, might become familiar with UK companies in related businesses and strike up joint ventures or supply contracts whose effects would boost the exchange's home country.

Indeed, as stock exchanges become more like ordinary companies, the link between the exchange company and national competitiveness get more tenuous. Trading itself is dematerializing as it moves to electronic platforms accessed from anywhere in the world (except perhaps the US; institutional investors can, however, still trade, though perhaps by placing a long-distance telephone call, or by using email). Moreover, regulatory changes like the adoption in the European Union of the Markets in Financial Instruments Directive, known as MiFID, have increased the scope and scale of competition for financial transactions. Electronic trading platforms almost devoid of nationality are now free to compete for transactions services, and investment banks, in Europe at least, may now match orders internally without going to the exchange at all. The London Stock Exchange may still be a UK company despite having acquired Borsa Italiana, and NYSE Euronext may feel much more like a US company than a French one. But it's less than clear the Euronext-Amsterdam is really very Dutch or that any of these will stay that way as trading fragments across a wide variety of platforms. It is materially different now that exchanges have largely lost their policy-making and regulatory roles.

Benefits from Sarbox

If the benefits of markets to national competitiveness may be in question, perhaps there's a benefit of companies from associating themselves with national regulatory regimes that are perceived to offer a higher standard of investor protection. A reason often cited for why companies list on capital markets outside their home countries is to gain easier access to investors. But what makes that access "easier" is that it means achieving a lower cost of capital. The Russian company, for example, that is "good enough" to list in London is presumed to have demonstrated a quality of transparency and accountability sufficiently high to reduce any stigma there is from being based in a country without a long history of property rights or commitment to capital markets or indeed the market economy in general.

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3 At the time of writing, one such new trading platform, called Turquoise and owned by a consortium of French, Swiss, German and American investment banks, has a "contact" page on its website giving a London address with a photograph of a high-speed ICE train on a platform somewhere in Germany (www.tradeturquoise.com).
The issue surrounding the quality of listings is, therefore, important for the reputation of national capital markets. The perceived excessive regulation in the US that followed the passage of Sarbanes-Oxley raised questions in the opposite direction: was the net economic benefit of such a heavy-handed approach to regulation still positive?

The value to a non-US company of a listing on US capital markets has been demonstrated on several occasions. In the face of pressure from Sarbanes-Oxley, a study commissioned by the Bank of New York, the leading sponsor of American Depositary Receipts, through which most foreign listings in the US are achieved, showed benefits for companies’ cost of capital. The work, conducted by the consultancy Oxford Metrica, showed that having depositary receipts trading on markets other than the home country added on average up to 10 per cent to shareholder value in the first year of listing. But taking up a US listing added a further 15 per cent. Moreover, terminating a DR programme destroyed 20 per cent of value (Knight and Pretty 2003).

The timing of the research – before the full impact of Sarbanes-Oxley was being felt by issuers – more than its sponsorship raised some doubt about how relevant its conclusion might be for future decisions, especially in view of the competition for new listing coming from London and the increasing irrelevance of national borders for investment decisions by large asset management firms. Since then, however, new studies have emerged revisiting these themes. Joseph Piotroski and Suraj Srinivasan found that US capital markets mattered for smaller companies with perceived lower governance standards. After controlling for company characteristics and other determinants of these their exchange choice, they found that the listing preferences of large foreign firms choosing between US exchanges and the London Stock Exchange’s Main Market did not change following Sarbox. But the choice for a smaller company of listing on Nasdaq or on the AIM market in London showed rather different results. “The screening of smaller firms with weaker governance attributes from U.S. exchanges is consistent with the heightened governance costs imposed by the [Sarbanes-Oxley] Act increasing the bonding-related benefits of a U.S. listing” (Piotroski and Srinivasan 2008).

Another study found a two per cent gain in foreign companies’ value from being subject to the rigours of Sarbox. “This suggests that minority investors regard SOX as providing them with benefits in excess of the costs of complying with the regulation,” the authors wrote (Duarte et al. 2007). US-based companies fared even better: Sarbox increased the value of medium-sized ones by between six and 11 per cent.
Failures of Sarbox and their impact on capital markets

These findings suggest we ought to take a nuanced view of the value and drawbacks that arose from enactment of the Sarbanes-Oxley legislation. Costs of compliance certainly were great and fell perhaps disproportionately on medium-sized companies that may have lacked the accounting and compliance infrastructure to cope with the additional data collection and analysis but were too large to escape into the category of "small" companies granted exceptions from Sarbox in terms of both its effective date and the extent of the reporting requirements. The legislation brought benefits in terms of restoring investor confidence in US capital markets and asserting a higher level of corporate governance and accountability than had previously been the case.

Figure 7 - Revisiting "waste makes haste"

Sarbanes-Oxley, without doubt, prompted a number of foreign issuers to abandon their US listings. They might have done anyway, as the cost of listings on any foreign market has been thrown increasingly into question over recent years as institutional investors learned to use markets other than their home country ones, and as transactions came to be concentrated on markets with the greater liquidity rather than the greater proximity to the trader.

But let's recall that the legislation, whatever its virtues and vices, had failed to address in any significant way several of the most important failings at Enron, the case that was most centrally responsible for the loss of confidence in US markets as well as for the losses...
investors and employees suffered in the wake of its collapse. Would this missed opportunity – this opportunity cost – come back to haunt us?

The subprime link

On August 9, 2007, trading in many credit markets around the world came suddenly to what seemed a complete halt. The Frankfurt-based European Central Bank injected nearly €100 million into money markets (FT.com 2007). It was the first public sign of a problem that had been growing for months, perhaps even a year or two, as the US housing market suffered a downturn after several years of heady growth in both prices and new building. The boom in activity was funded by cheap credit coupled with the development of wholesale markets for collateralized debt obligations all around the world. Two banks in Germany, the state-owned Sachsen LB in Leipzig and Industrie Kredit-Bank in Düsseldorf, suffered severe liquidity crises brought on by their exposure through "conduits" to the credit default risk that arose from the looming possibility of mortgage foreclosures on parts of the portfolio of assets bundled into the CDOs they had purchased.

The infection was global, and over the next six months banks around the world would report losses and impairments of assets. It is still early for academic or regulatory research to trace and evaluate all the causes for this sudden market failure. But the price tag – perhaps a trillion dollars – dwarfed Enron and WorldCom and all the other failings that had given rise to the previous financial crisis just a few years before. US capital market practice was, once again, under serious question. Indeed, some questioned the integrity of the financial system as a whole, with calls for new approaches to governance of financial firms and higher standards of personal ethics (for an example, see de Rothschild 2008).

The credit squeeze became a crunch before the media and many market participants settled on "crisis" as the correct description. There were significant differences, of course, from the previous crisis, set off by Enron. This one started in and affected many credit markets, not equities. The proximate cause was the busting of an asset bubble inflated by years of low real interest rates causing housing prices to escalate beyond the means of ordinary workers – the so-called "subprime" borrowers – to pay for them. Enron's fall, too, stemmed from an asset bubble, but it was a bubble largely of the company's own making, aided or abetted by its auditors.

Despite the differences, there are some eerie similarities. Both involved hyperactive financial intermediaries. Both involved use of new instruments of finance to offload risk,
and in particular the use of off-balance sheet entities to disguise (in the case of Enron) or just "distribute" (in the case of subprime CDOs) the risk. The accountants at Arthur Andersen, like others in the profession, pursued a business model using one set of fees – audit – to accelerate another – consultancy. The subprime crisis involved banks using one set of fees – mortgage origination – to accelerate another – distribution – and with the added element that their capital would then be free to originate again, and distribute again, and again and again.

**Haste makes waste?**

<table>
<thead>
<tr>
<th>Haste ...</th>
<th>... makes waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarbanes-Oxley Act 2002</td>
<td>Subprime débâcle 2007</td>
</tr>
<tr>
<td>CEO, CFO certification, with criminal penalties</td>
<td>Excessive faith in numbers: derivatives modelling, credit ratings</td>
</tr>
<tr>
<td>New oversight board for audit, accounting</td>
<td>Special purpose entities, now called SIVs</td>
</tr>
<tr>
<td>Internal control</td>
<td>Off-balance sheet losses, now called conduits</td>
</tr>
<tr>
<td>New NYSE, Nasdaq listing rules</td>
<td>Related party transactions</td>
</tr>
<tr>
<td>Board independence boosted</td>
<td>Origination income now dwarfed by investment banking “distribution” fees</td>
</tr>
<tr>
<td>Compliance costs mount</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 8 - Haste makes waste**

Enron’s collapse was also brought about by excessive trust in numbers and the experts who created them. Derivatives modelling taught both Enron and the investment banks that packaged up mortgages into CDOs that it was possible to do something no one had been able to do before – eliminate risk. In both cases, the credit ratings agencies agreed, and in the case of the subprime industry they actively participated in the development of the market but modelling the business idea ahead of time, and then validating the model after the fact. But let’s remember: without a fundamental shift in the economic background, risk doesn’t go away – it just goes into hiding.

If we compare Enron and the Sarbox response with the root causes of the subprime crisis, interesting lessons emerge (see Table 4). Many of the failings that we saw in Enron – the use of creative accounting through off-balance vehicles and the excessive faith in the
modelling of market responses to complex financial instruments – recur in the subprime world.

Table 4 - Enron and subprime compared

<table>
<thead>
<tr>
<th>Enron issue</th>
<th>Importance (least 1, greatest 4)</th>
<th>Sarbox response</th>
<th>Subprime issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock options-based remuneration</td>
<td>4</td>
<td>Silent</td>
<td>Bonus-led remuneration of investment bankers; option-based for managers</td>
</tr>
<tr>
<td>Marking trading assets to market prices, based on management valuation of price trends, often as far as 20 years into the future</td>
<td>4</td>
<td>Silent</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Use of derivatives to create structured products</td>
<td>4</td>
<td>Silent</td>
<td>Creation of CDOs and other structured finance instruments</td>
</tr>
<tr>
<td>Creation of special purpose vehicles to take structured products off-balance sheet</td>
<td>4</td>
<td>Indirect</td>
<td>Creation of Structure Investment Vehicles and “conduits” to take risk off-balance sheet</td>
</tr>
<tr>
<td>Conventions between Enron and SPEs created a divergence between economic reality and accounting numbers</td>
<td>4</td>
<td>Silent</td>
<td>Lack of consolidation of SIVs within Basel II</td>
</tr>
<tr>
<td>Deceptive reporting of ownership of SPEs, allowing it to avoid consolidation of accounts</td>
<td>4</td>
<td>Silent</td>
<td>Deception or self-deception?</td>
</tr>
<tr>
<td>Use by SPEs of Enron stock and financial guarantees as collateral for hedges on illiquid investments, thus defeating the purpose of the hedge</td>
<td>4</td>
<td>Silent</td>
<td>Distribution of debt instruments freed capital for repeated lending</td>
</tr>
<tr>
<td>CFO role as partner in SPEs, raising questions over his fiduciary duties to Enron shareholders</td>
<td>4</td>
<td>Indirect through Section 302</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Write-downs of other assets, including telecommunications networks</td>
<td>3</td>
<td>Silent</td>
<td>Write-downs eventually forced the collapse of Bear Stearns, need for recapitalization among other investment banks</td>
</tr>
<tr>
<td>Top management’s close involvement with auditors</td>
<td>4</td>
<td>Section 201</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Audit committee’s infrequent and short meetings</td>
<td>4</td>
<td>Silent</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Audit committee expertise</td>
<td>1</td>
<td>Silent</td>
<td>Probably not an issue</td>
</tr>
<tr>
<td>Related party transactions</td>
<td>4</td>
<td>Silent</td>
<td>Were SIVs and conduits “related parties”?</td>
</tr>
<tr>
<td>Auditor dependence on consulting fees</td>
<td>4</td>
<td>Section 201</td>
<td>Intermediaries dependence on distribution fees on top of origination fees</td>
</tr>
<tr>
<td>Fund managers misled by financial statements</td>
<td>2</td>
<td>Silent</td>
<td>Fund managers misled by expert guidance on risk modelling</td>
</tr>
<tr>
<td>Fund managers misled by self-serving sell-side analyst reports</td>
<td>2</td>
<td>Silent</td>
<td>Aggressive sell-side sales activity</td>
</tr>
<tr>
<td>Fund managers lacked incentives to seek out high-quality information about the company (including index-trackers)</td>
<td>3</td>
<td>Silent</td>
<td>Fund managers lacked incentive to question modelling</td>
</tr>
<tr>
<td>Close ties between sell-side analysts and corporate finance departments of investment banks</td>
<td>2</td>
<td>Silent</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Peer pressure among sell-side analysts</td>
<td>3</td>
<td>Silent</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Financial Accounting Standards Board inaction over SPE accounting rules</td>
<td>3</td>
<td>Indirect</td>
<td>Banking supervisors, Basel Committee silent on SIVs, conduits</td>
</tr>
<tr>
<td>Credit rating agencies’ failure</td>
<td>2</td>
<td>Silent</td>
<td>IOSCO code, SEC recognition brought only nominal changes to agency practices</td>
</tr>
<tr>
<td>Fear of reprisal for whistleblowing</td>
<td>3</td>
<td>Indirect</td>
<td>Perhaps not an issue</td>
</tr>
<tr>
<td>Weakness of internal controls</td>
<td>1, perhaps even 0</td>
<td>Section 404</td>
<td>Internal controls strong, self-control lacking</td>
</tr>
</tbody>
</table>
Importantly, internal controls – over which so much ink was spilled and money was spent in Sarbanes-Oxley's infamous Section 404 – weren't particularly a problem at Enron. Management knew what it was doing. But during the subprime crisis, one bank – Société Générale – showed a spectacular lack of attention to internal control. But the problem had nothing to do with the subprime mortgage market.

Reflections and further questions

The dust hasn't settled on the subprime mess and how it grew to infect banks and asset management firms so widely around the world. Bear Stearns faced a liquidity crisis leading to a fire sale to J.P. Morgan-Chase, orchestrated by the US Federal Reserve Board and funded, at least temporarily, by US taxpayers to the tune of $50 billion. Northern Rock, a UK mortgage lender that didn't engage much in subprime lending but got caught in the crossfire because it relied on interbank loans to finance its lending, ended up nationalized by the Bank of England. Perhaps £100 billion of taxpayer money is at risk, with the potential to distort the UK retail banking market for years. Sachsen LB and IKB both required intensive care from state-run institutions. The CEOs and chairmen of banks ranging from Merrill Lynch, Citigroup and UBS lost their jobs, though none seems particularly short of funds themselves.

This analysis is perforce quite preliminary. But it suggests that the opportunities we missed after Enron – that the Sarbanes-Oxley Act and the attendant regulatory measures that it directly engendered missed, too – may have entailed a massive opportunity cost. We spent too much time and money looking at internal controls – and especially the bottom-up documentation that the lawyers and accountants pushed on corporate management despite the SEC's attempts, as early as 2005, to warn against excessive effort in complying with Section 404 (Nordberg 2005).

And what of Sarbox Section 405? "Nothing in section 401, 402, or 404, the amendments made by those sections, or the rules of the Commission under those sections shall apply to any investment company registered under section 8 of the Investment Company Act of 1940," it reads (Library of Congress 2002). Investment companies registered under the 1940 Act are mainly the mutual fund companies, but perhaps it created an air that financial institutions were, in some ways, exempt from learning its lessons.
The answers to many of the questions must await research, though some deserve contemplation even before the data arrive:

- How can we regulate the use of off-balance sheet vehicles to forestall another crash? "Regulate" is the appropriate word: What Britons call a gas "regulator" turns the pressure in the pipes up and down. It slows and accelerates the flow of fuel to the flame.
- How should credit ratings work? The issuer-pays model is clearly broken. The user-pays model suffers from a deep-seated problem of free-riders.
- How can we structure the oversight by boards of directors of the activities of investment banks that are now so complex that even the originators of the business cannot understand it, and the distributors cannot really get it off the books?
- In global financial markets, how can we keep a connection between stewardship of assets and the liabilities they incur, whether on or off the balance sheet?
- Now that western financial institutions may become deeply dependent upon equity capital from non-traditional sources, what changes do bank supervisors face? How should they play their new foreign-policy role?
- How can we change the remuneration structures so that incentives remain, but without poisoning their purpose?

**Postscript**

On the first anniversary of passage of the Sarbanes-Oxley Act, Cynthia Glassman, then a Securities and Exchange Commissioner, reflected on life in the world of financial regulation (Glassman 2003). It is a statute, she said, "that demonstrates how complex and expensive the job of cleaning up Wall Street has become. Consider, in simpler times, that the mayor of New York City was able – quite literally – to clean up the street for 7 pounds, 11 shillings, and one penny. That is how much it cost in 1788 to clean and repair the Wall Street sewer system. And, according to Financial History magazine, '[a]s late as the 1840s, thousands of pigs roamed the streets of New York. Their job was garbage consumption'."

Waste makes haste. Haste makes waste.
References


