



## **Reforming Auditing - Incremental change or radical action?**

**Professor Michael Mainelli, Professor Joshua Ronen, and**

**Isobel Sharp**

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### Introduction by Lord Sutherland of Houndwood KT FBA

Welcome to the Museum of London and to this event, jointly sponsored by New York University in London and Gresham College. My name is Sutherland. I am the Provost of Gresham College, and it is my delight to welcome you. It is very appropriate that we meet in the Museum of London because it is a place dedicated to education. Gresham College was set up more than 400 years ago by Sir Thomas Gresham, a financier extraordinaire who made a lot of money. As a result of that, he was able to leave money for the education of those who live and work in the City of London, and it is from that source that the activities of Gresham College are funded.

When I became Provost of Gresham College, it was a great delight to find good friend and colleague David Ruben, also a philosopher, running New York University in London. We thought there was a synergy here to be exploited. London is the great financial centre on the eastern board of the Atlantic, and of course New York is the great financial centre, one would say in the world, but certainly on the western board of the Atlantic. Sir Thomas' interest in matters of finance and accounting have led to the creation of a Gresham Chair of Commerce, and Michael Mainelli, who currently holds that, will be speaking to us later on. This synergy between potentially two great financial centres and two educational institutions, has something of the giant and the minnow about it, because we are a very small organisation, whereas New York University is one of the great 'first division' universities in the USA, with a magnificent outreach. But we were both founded on very common principles. NYU was to provide education for those who in New York were looking for a means of moving up the ladder. They wanted to be educated, and NYU delivered that magnificently, and of course it is now, as I say, one of the great universities in the USA. One of the gems in its crown is the Stern Business School, and I am especially delighted to welcome Professor Joshua Ronen, who will be speaking, and who will be introduced formally in just a moment. This link with NYU is important for us, and this is another extension of its potential.

I will now hand over to Isobel Sharp, who will chair the session tonight. She is Chairman of the Accounting Standards Board, ASB, committee on accounting for smaller entities, a member of the Professional Oversight Board for Accountancy, serves on an IASB advisory panel, has been on the Financial Reporting Review panel, and is currently Vice-President of the Institute of Chartered Accountants for Scotland. What's more, and I say this declaring an interest, she is a graduate of another great university, Edinburgh University, which delights me immensely.

Just before I hand over to Isabel, I must just tell you one story about Scots accountants. Do you know how copper wire was invented? It was two Scots accountants arguing over a penny!

## Isobel Sharp

Thank you, my Lord. Good evening everybody. My principal qualification for acting as chairman tonight is, as you can see, I have got the brightest jacket in the room. That is because I was teaching CA students this morning, and I thought they might require a bit of wakening up at nine o'clock!

Professor Michael Mainelli, as Gresham expert, has advised me that there is no need to embarrass myself by reading out the long and distinguished CVs of our two speakers here this evening. He knew that I would struggle with some of the bigger words. So therefore, to talk first about the topic of reforming auditing, incremental change or radical action, I welcome Professor Michael Mainelli.

## Professor Michael Mainelli, Gresham College

I am very pleased that Professor Joshua Ronen has taken the time to come to London to promote his reforms. I am also pleased to have the opportunity tonight to put forward some of my thoughts on the future of audit, but I am most pleased to see so many other people here tonight interested in improving one of the most important elements of commerce and one of the most frequently denigrated, the audit, so thank you for coming.

The trust that audits give to investors and other stakeholders such as employees, creditors, banks, governments and the general public is crucial to the functioning of modern commerce. If we believe that we have a true and fair view of our economic entities, then we can better understand them, better contract with them and better manage them, yet we know the trust is ebbing away. Audits are now more seen as a process one goes through, rather than a process that adds value. Public confidence in audits is low. It is easy to open a lecture on audits with a reminder of the high profile failures of the profession – Enron, WorldCom, etc – but the problems with audit preceded these headline collapses, as bad diet precedes symptoms of illness. The problems in the audit industry were noticeable much, much earlier, as companies themselves moved towards automated accounting systems in a rapidly moving, real-time world, which was fairly evident by the mid-1980s, but the Dickensian practices of auditors inspired less and less confidence about their relevancy and their value.

By the late 1980s, we were clearly heading, for a variety of reasons, towards an oligopoly in the provision of audits. The coalescing of this oligopoly was due to a number of factors, such as regulation and economies of scale, but also low differential added value, and this would make an interesting lecture in its own right. By 1970, we had the Big 10, fusing to the Big 8 during the 1970s up until about 1989, the Big 6 from '89 to '98, the Big 5 from '98 to 2002, and the Big 4 from 2002 to the present time. As we moved to a more restricted list of audit firms, we created an increasing number of conflicts of interest as audit firms branched out into numerous business lines, most notably consulting and IT outsourcing, again very evident by the late 1980s. As Anglo-Saxon societies, naturally we moved towards litigation to solve the problems of poor quality and conflicts of interest, again very evident by the late 1980s. Litigation generated predictable changes in the risk profile of auditors and their firms, not least of which were attempts to circumscribe liability, pretending to be one-stop international shops while collapsing nationally, or threatening to collapse and create less so-called competition. The decline in confidence in audit has been going apace for some while. If anything, the recent Public Company Accounting Oversight Board assessments show that the loss of confidence may well have some justification.

This evening is about reforming auditing: incremental change or radical action? I think that radical surgery is required at the heart of auditing and accounting, and I will make a few bold statements to get the blood up: one, the typical financial audit process is one of throwing away information as early as possible rather than using it; two, the typical financial audit presents information that is precisely wrong; and three, the typical financial audit environment hides information that others need to spend time wastefully recovering. Now, I happen to support a number of other measures for reforming auditing. People are trying to remove conflicts of interest and bring clearer accountability and liability, such as Professor Ronen tonight, people are trying to bring more transparency to the processes of appointment and oversight, and people are trying to bring more competition to an oligopolist audit industry, but I contend that the way we present accounts itself is flawed and therefore our audits are flawed.

In the past few years, we have not so much put confidence back into accounting as much as we have put the "con" into confidence game. I would like to show how putting uncertainty back into audits can put the

confidence back into accountancy – confidence auditing. Is that radical enough for you tonight?!

I came to accountancy late in life, after a period in science and technology. I found myself in the late 1980s as the only non-accounting partner in a 2,200 person firm with over 200 partners who were qualified accountants. I decided that in order to beat them, I had to join them, possibly a too accurate view of the old style partnerships. I took my first examinations well into my thirties. Having had what I thought was a fairly intensive education, I thought these examinations would be straightforward, so in accord with ancient academic tradition, I left everything to the last minute. The first basic examinations were on financial accounting, management accounting, general business and law, and having cracked the course books a bit earlier, that is the night before the exam, by around 10pm, I found myself in a sweat over two items.

The first panic item was of course double-entry book-keeping. Just think about having your first encounter with double-entry while an examination ticks 10 hours away... So I phoned a friend, Ian Harris by name, who happens to be in the audience tonight. Ian had qualified years ago, and in a few minutes, we concluded that double-entry was definitely what you needed before you had computers and the problem largely evaporated, and Ian went to sleep.

The second panic item was the theory of audit. Audit is all about measurement and, as a former scientist, I could not understand why the course books seemed to be bereft of all the usual terminology one finds around measurement – confidence intervals, range estimates, sampling techniques, probability distributions, all the measures of uncertainty one would expect to see. The course books had a lot of verbiage but not a lot of science.

Now, the purists among you will say, yeah, sure they touched on estimation, but this was largely under areas like stock control, and the entire process cried out for statistical process measurement. So I called Ian again. No one likes getting calls around midnight from a student in a panic, so he took the perfect position: Ian calmly concluded I had a point and went back to sleep.

I took the exam, and didn't even do that badly, but I called Ian again and again over the months towards qualification, and we both agreed, not just for the sake of a quiet night, that financial audits needed to be more scientific. If auditors practice risk-based auditing, then why can't we see the odds they face? This simple question raises a number of concerns about the approach to financial statements in auditing by today's accountants. Balancing the odds might well give a truer and fairer picture of accounting than traditional ways of balancing the books. To be fair, it is interesting to note that accountancy arose as a profession during the 1800s, somewhat before the 1900s movement towards statistical measurement as the foundation of metrics in numerous UK and US standards organisations.

There is a surfeit of old jokes in which an accountant delivers the punch line, "What do you want the number to be?" The uncomfortable truth is that accountants have quite a bit of influence over the final number. When Global Megacorp states its turnover as 71,393,224,326.73, we know this number is a fiction! This is typically an estimate of the mean of turnover, but we don't actually have the distribution of values to know more. Accountants grapple with significant uncertainties when computing turnover. Auditors have materiality issues with the consequences of that uncertainty. Realising the obvious absurdity and statistical improbability of purporting to know a huge corporation's turnover, to the penny, accountants laugh, and happily round things off, but still neglect to give us any idea of the range of the distribution. One number alone is sought to describe complex distributions, and typically the mean.

I am going to show you three charts. All of them provide the same mean turnover – 71 billion etc – under today's deterministic one number paradigm. However, that mean turnover has a very different meaning in each case.

The first chart demonstrates an unbelievably large range – 50 billion to 90 billion, normally distributed around the mean of 71 billion. There is a 90% likelihood that the turnover falls within the range of 61 to 84.

The second chart is vastly different. The distribution is heavily skewed, with the most likely outcomes being significantly lower turnover than the mean outcome. The median turnover here is about 50 billion. There are possible outcomes with significantly higher turnover than the mean. All you can say, with 90% likelihood, is that turnover falls within the range of zero to 172 billion.

The third chart has an insignificant range of possible outcomes. The accountant is here clearly grappling with rounding differences of pennies, and the auditor probably couldn't care less.

Now, all of this is a nightmare. Today, I was down at BP. They are announcing their results tomorrow, so these are the real things that they grapple with. It is a nightmare for an accountant who is being asked “Just give me the figure!” It is also a nightmare for the auditor trying to work out whether the figure is justifiable. In the above cases, auditors and accountants will seek guidance from accounting standards, sometimes conflicting guidance, all in pursuit of a single number to describe the distribution. I recognise and understand the distinction between the roles of accountants and auditors, but I also recognise that both draw on virtually the same intellectual frameworks and regulations, as well as sometimes being employed by the same organisations.

So let’s return to my three assertions: the typical financial audit process is one of throwing information away as early as possible rather than losing it. Well, in this case, the annual report would state 71 billion, and then add 62 explanatory footnotes. The second point: the typical financial audit presents information that is precisely wrong. It is fairly obvious from these charts that as things unwind, the probability that last year’s turnover is 71 billion and a bit is darn close to zero, but we laugh that off, as professionals. Thirdly, the typical financial audit environment hides information that others need to spend time wastefully recovering. Well, look at the process that is going to kick in when these results are presented to the analysts. First, the analysts question the management about the figures, desperately trying to get some feel for what the ranges are beneath all of this. Then the analysts start comparing lots of figures with other companies and suppliers, etc. to try and establish some ranges, resulting in some distributions that then become the ranges they use to recommend buy, sell or hold. The accountants and the auditors are throwing away tremendous amounts of information as they principally use fixed numbers in almost all their calculations. The financial community knows that the annual report is subject to tremendous uncertainty, but will find little evidence therein. The key community for the annual report, investors, spend more of their time on reconstruction of the underlying ranges or guessing other investors’ sentiments than worrying about the annual report’s singular guess at what reality just might be. A lot of effort is wasted, and surely no theory of measurement has wasted so much effort ignoring the real world.

So what theoretical issues do cause real world problems? Well, the capitalisation of research and development, where assessments do need to be made on the likelihood of a future revenue stream; intangible assets, whose future value may fluctuate markedly, such as long-term contracts, patents, trademarks, licensing agreements; the handling of pensions and healthcare obligations, very topical, but where actuarial assumptions become crucial and do vary significantly year on year; executive stock options, which may or may not be exercised under certain conditions; off-balance sheet items, which may have some effect but which are mostly off-balance sheet; and lots of reserves and provisions, for instance, bad debts, which require estimates of future outcomes.

We could even get on to just insurance in general. Even Sir David Tweedy admits that the ISB and others really still have not got to grips with insurance. The common thread is that the asset value and revenue implications require an assessment of future probabilities, not certainties. Even aspects of accounting which we believe to be less contentious, where we are mainly using hindsight, raise similar concerns. For example, inventory valuation relies on estimates of future sales and prices. Work in progress needs careful handling of divergent assumptions of earned value. Numerous measures are marked to market, but through devices such as an annual average, for instance interest calculations or foreign exchange movements, which could have different results under different assumptions. Finally, asset valuation every few years on big ticket items sounds sensible, such as property, but it assumes an inherent underlying stability in prices, yet we know that ever super tanker prices can fluctuate wildly and rapidly.

The search for a single number is intertwined with debates of historic, current or fair value. Accountancy’s theoretical framework assumes a deterministic system which outputs a single number. In book-keeping, the focus on an exact single number is important. After all, what is the point in trying to balance the books if close enough is adequate? Without the discipline of balancing the books, it is true lower level mistakes would be missed and misunderstandings would not be cleared up. However, higher level interpretations are, of necessity, probabilistic, that is the inputs into a higher level figure, such as turnover, include many sorts of estimates. Not everything can or will balance. Accountants need to move to a new theoretical framework where inputs are probabilities and outputs are distributions. At a very low level, book-keeping skills remain, but the interpretation and presentation of financial information needs to shift to distributions.

For want of a phrase for this theoretical framework, let’s call it confidence accounting. If every output is a probability distribution, we need to have statements of the confidence that the accountant and auditor have of the range. I contend that a single number for accounting terms such as turnover is clear and simple and wrong. As long as accountants continue to indulge this false simplicity, they leave themselves exposed to

misunderstandings of what they said, and consequent misunderstandings of their role.

Now, if outputs from confidence accounting are distributions, then they should materially affect the way financial statements look and feel. The structure of the financial statements might well remain similar to the three current primary statements, that is the income statement or P&L, the balance sheet, and the cash flow, but the accountant would present three distributions as histograms for profit and assets and cash. The auditor would ensure that the distribution functions presented are not materially misleading, and would perform sensitivity analysis on the distributions to determine where greater investigation would narrow the range at the same confidence level. Let me give you an example of how this might work in practice.

Let's take a professional services firm, not unlike an accountancy practice. Here is a slide showing typical ranges of estimates for income, staff costs, other costs, and depreciation. All of these are estimates. These estimates result in the following slide, showing a range of estimates for the various figures. Some are inputs and some are outputs. The key outputs on this slide are income, and then finally profit. Looking at a traditional P&L, we see that everything is very straightforward and fairly simple. Now hold on to the idea of income being 2.187 million. We have no notion here that five key contracts are in trouble, and yet possibly hold out very good returns, amongst other things. This calculated distribution shows how the various assumptions about the range of income might turn out. The income here ranges from 2.1 to 2.4 million, but interestingly, seems conservative in total, as we can see that the higher figure of perhaps 2.24 million better fits the likely outcome rather than the 2.187 I asked you to try and keep your eye on. Naturally, this leads potentially to a better figure focused around 2.24 million. What we see is the flaw of averages. These averages are concealing more than they reveal, and the distribution functions help to open them up.

Now, quite rightly, it is important to see what may be contributing to this uncertainty. In this case, there are income uncertainties about the extent to which projects are complete, the extent to which profit might be taken at given stages, or the likely out-turns on opportunities. There are also cost uncertainties, as some staff are rewarded on income that depends on income generated. Other expenditure uncertainties include accruals methods and contingencies as well as fixed asset valuation uncertainties due to estimates of longevity or changing market values.

So we now start to turn to the balance sheet, and we can see that it does not reflect the P&L uncertainty in its traditional state. Stochastic effects on the balance sheet do flow from the P&L though. Things such as project completeness affects credits for advanced sales, or profit taken as work in progress, or expenditure uncertainties affecting accruals. A handful of large assets might typically represent most of the asset valuation uncertainty – property or major IT systems. Cash flow statements are unchanged, as they already incorporate the idea of probabilistic flows, so we can turn to profit and see a reasonable range of estimates.

Here we see that the deterministic accounts showing a profit of 248,000 were too conservative. A better estimate might be 290,000, as shown here.

So we have found that real ranges indicate a better fit of income, some £53,000 higher, and a profit some £42,000 higher than a standard P&L. I would contend that these ranges could be presented alongside traditional statements to give a genuine, true and fair view, leading to my phrase “confidence accounting”, basically presenting the distribution function results alongside the traditional account. I believe that published accounts could well be made much more understandable using these simple illustrations of reasonable distributions to permit some of these variations and estimates to be made clear with fewer footnotes.

Auditors and accountants have to address whether they wish to be an art or a science. During the dotcom era, accountants subjected themselves to needless criticism, in my opinion, by endorsing business plans based on deterministic numbers which were incapable of showing the all too frequent reality, that is, investors had a very small chance to make money and lots of chances to lose it. Had accountants submitted audited plans which showed the distributions, they may well have served investors better, reduced unreasonable expectations and minimised subsequent criticism of the auditor's role, but instead, they presented single numbers or played with high, medium or low forecasts to calculate average forecasts, none of which contained the possibility of winding up the business or wild success.

Some accountants would claim that things have moved on. Auditors will point out that they already use probabilistic techniques in establishing sample sizes. Without getting into too detailed a debate on the evidence in their working practices, the crucial evidence to me of successful confidence accounting would be the presentation of auditing accounts in a probabilistic manner. Beneath that evidence, we would expect

to see further evidence of the methods which established the distributions, determined their interactions, the sensitivity analysis, Monte Carlo simulations and whatever, and presented their impact into meaningful statements.

There are some obvious complications that many of you will have already identified, as there are with any proposal for change. Standard representations of distribution diagrams would have to be specified. They would be far too open to abuse in the presentation. Distribution function measures would also have to be specified to ensure accurate presentation, alongside some of the existing numerical descriptions of shape, such as kurtosis or skewness. People will seek single number measures for comparison regardless.

Many people will claim that this is all too complicated, that the mythical Aunt Agatha cannot understand all this. Life is complicated. While I would support more research on how presentation of these distributions could be improved and made more readily readable by the lay person, I would contend that Aunt Agatha today cannot understand all the footnotes that only help the sophisticated financial analyst partially reconstruct these probabilities.

You might also say that many firms have too little data to give any statistical validity to these distributions. However, much could be done to provide data through intra-firm comparisons, benchmarking, or even auditor input. Perhaps the auditor should help provide standard actuarial curves for bad debts in a given business sector. As the directors are the people who must prepare annual financial statements that give a true and fair view of the state of affairs, in many cases they will have to provide a qualitative distribution curve. If all this seems artificial, in fact it is quite the opposite. Which is worse: forcing directors to a single number, such as a guesstimated mean when none exists, or asking them to specify their views on the likely range of outcomes?

Some organisations will also want to provide extremely wide ranges in their distributions, and where this reflects reality, so be it. In other cases, managers will hope that a wide range removes some responsibility of meeting targets, but markets will punish these managers who have not invested enough in gathering information to reduce uncertainty. I would expect to see phrases in the Financial Times such as “Global Megacorp was punished today on release of its results with a range for return on assets of over 15% in an industry where 5% is the norm, much of this attributed to overseas licence problems.” Further, managers will be forced to, in Brook Left’s terms, true up. If they are consistently providing silly future estimates, and these are now recorded in the financial accounts, they are there for investors to judge. There will also be a competitive force on auditors, both from an increased ability to compare their previous year’s approvals with outcomes, and also from being known to be prone to wild ranges. Markets will transparently price the value of tighter distribution ranges.

If accountants are to move from a deterministic single number towards a stochastic paradigm, much work needs to be done, largely in three areas: commitment from the accounting establishment to reform; restructuring of accounting training; and better communication to users of financial information. The starting point is an open debate about extending the conceptual framework of accounting to include stochastic concepts. This debate ought to lead to commitment from the accounting establishment for something like confidence accounting, and recognition that deterministic accounting is actually the route of many current problems with standards. Confidence accounting should be a change of perspective that helps to resolve many of today’s inconsistencies, and evidence of that commitment would be more presentations incorporating distributions rather than single points.

Financial information is evaluated by its usefulness in making financial decisions. Moving to confidence accounting improves several characteristics of accounting information. I would ask you to imagine the following snippet of dialogue from an accountant to finance director and their auditor. The accountant is presenting the draft accounts to the auditor and the finance director accountant.

“Well, here they are. I’m 95% confident that Global Megacorp’s profit is somewhere between losing 5 billion and making 20 billion.”

The Finance Director, spluttering: “What? Is that the best we can do?!”

The Accountant: “Hey, that’s not so bad! You should have seen the numbers before I re-checked our fleet inventory!”

Auditor, calming the situation down: “How tight do you need the numbers to be?”

Finance Director: “Well, the analysts will expect us to have no greater than a £3 billion range, assuming we’re confidently into profit, say over 7 billion.”

Auditor: “That’ll cost, but we’ll get cracking.”

Three weeks later, the auditor comes. Auditor: “I’ve managed to tighten the range to your required 3 billion, giving an estimated profit of 6.5. Unfortunately, that has meant quite a bit of overspend on the audit, about 2 million. If you could in future live with, say, a £5 billion range, we might be able to keep the costs down.”

Finance Director: “A wide range this year will be a hard sell to the analysts, but we can probably do it for next year. Next year’s profit looks to be much better, so this might be the time to start selling the analysts on accepting a wider range.”

As in so many areas of measurement, I believe that we should ask for four basic numbers: bottom, expected, top and the percentage of things being in that range, or bet percentage as I coin it. As I said last year in a lecture on measurement, we don’t follow through on the obvious implication. A specific number is the wrong measure. Too many things in profit, as in all accounting statements, are ranges, from the estimate of gains in freehold land value to the likely profit on individual contracts to the value of insurances. To ensure total clarity, we litter the financial accounts with explanatory footnotes, to the point that only sophisticated analysts can understand them. When the accounts are presented, these analysts tear them apart in order to try and rebuild estimates based on ranges. Intriguingly, the auditors get off very, very lightly, practically skipping away. How do you hold an auditor to account? Is being off by £1 enough to claim the accounts are invalid? Certainly not. £2? Well, then? In fact, auditors have cleverly avoided giving us anything substantive to go on, such as “We are 95% certain that profits were between X and Y.” Let’s think about forcing auditors to lay these ranges out clearly. In fact, let’s pin down all commercial measures to their estimates using that percentage.

The public are sceptical of the state of financial information produced by auditors and accountants, and by implication, the accounting techniques upon which their work is based. Before accountants indulge in trendy ideas such as triple-bottom line reporting, it might be better to straighten out the way in which they currently report good old financial information, or risk further loss of public confidence. I believe that users of financial statements are ready to handle confidence accounting. I believe that by presenting a true and fair view of distributions, accountants will gain respect by showing the complexity of the situation and the way the world really is, rather than losing respect when a single point number turns out to be either ridiculous or wildly inaccurate.

There are a number of old jokes that an actuary is someone who couldn’t handle the excitement of accountancy. Until accountants adopt confidence accounting, perhaps a more accurate paraphrase is that an accountant is someone who couldn’t handle the honesty of being an actuary. So let’s take the “con” out of accounting, put the uncertainty back in, and help the confidence increase. Thank you.

Professor Joshua Ronen, Stern Business School, New York University

I am very honoured and happy to be here. I must admit that when David Ruben invited me, I was very tempted, and as your own Oscar Wilde had said, I can resist anything but temptation. It is very difficult, and a great challenge, to proceed with the idea I wish to present to you coming after Michael’s fascinating presentation, and I somewhat face the kind of problem that he addressed, that is how to make it simple. I had always thought, like Michael, that you cannot make a complex world simple by describing it simply, but in this case, I think I have to.

Let me just proceed by saying how this idea germinated. I have been thinking about it for years, as a matter of fact, but what made this idea really happen was Enron and WorldCom. I was present in a round table with accountants, regulators, economists and, most importantly, press. There was Floyd Norris, who is a columnist in the New York Times, and we talked about corporate governance, we talked about the audit failures, we talked about Enron and WorldCom, and then when I presented this idea, he liked it very much, and then I got an invitation from the New York Times to write a page, which I did. After that, things started rolling. I got a call from one of the members of the editorial board of the Wall Street Journal, Susan Lee, an economist, and she published a column about it, after which I got a call from Senator Bob Dole. He asked me if his wife could call me in half an hour, and she did, and she invited me to North Carolina. It turned out that she had already issued a press release about the idea before talking to me, and she made

it a major campaign theme for her run for the North Carolina senate seat, which she has won of course, as you know. She invited me to North Carolina, we presented the idea, and she was even tempted after a while, even though she's a Republican, to say that if the Private Secretary will not buy it, she may consider lobbying for a government corporation that would undertake the kind of insurance I want to talk about.

I was surprised myself at the great deal of interest. For me, it was a simple academic idea which become something of interest to the public at large. What the idea addresses is basically how to reform the audit profession. As we know, even though there may be many culprits, one of the main culprits in what happened in the big scandals was basically that auditors have failed their gate keeping function. The gate keeping function as we know, is one aspect where the failures – which was responsible for the failures. Now, who are the gate keepers? The auditors are the main gate keepers. Of course, analysts are gate keepers, the rating agencies are gate keepers. The SEC is a gate keeper, but to me, the audit failure was one of the most important reasons why the scandals and the failures occurred.

Now, the main reason for this failure of the auditors' gate keeping function is, I believe, the inherent conflict of interest that exists because of the cosy relations between auditors and the managements of their clients who hire their services. While it is shareholders who nominally are supposed to appoint auditors, it is effectively management that in diffused ownership companies ends up hiring the auditors and structuring their fees and assignments, so as to induce them to do management's bidding.

The Sarbanes-Oxley Act of 2002 sought to offer a partial remedy by prohibiting some non-audit services, but my claim is that an indefinite stream of future audit engagement is a potent temptation, so we don't really need consulting services to tempt the auditor. It suffices that, for example, the Houston office of Arthur Andersen are getting \$25 million a year of fee from auditing alone, and if you look at the present value of an indefinite stream of 25 and increasing audit fees over the indefinite horizon, you get a very large number that would be extremely tempting for a Houston office of the Arthur Andersen firm.

The argument here is that the conflict of interest is endemic to the relations between management, acting as a principal, and the auditor, acting as an agent. The principal structures the contractual relation so that the agent does what the principal wishes, and this is basically what is happening in the audit relationship today. The principal's management interests, however, we know are not aligned with those of the shareholders in today's diffused ownership of corporations. We know all about the conflict between management and owners. Management wishes to maximise the value of its options and other compensation derived wealth rather than shareholders' wealth or stakeholders' wealth.

So what is the proposal? The proposal is to change the identity of the principal that basically dictates to the agent what the principal wants to do, change the identity of the principal from the client's management to a principal whose interest would be aligned with those of shareholders, because of the institutional arrangement that I will discuss in more detail. My claim is a good candidate for such a role would be an insuring body. It could be an existing insurance corporation, the auditor himself, an investment bank or a government corporation, like Elizabeth Dole suggested.

So let me just emphasise again, we are looking at a client's management that effectively hires the auditor, structures the auditor's compensation in such a way that the auditor would do management's bidding. Now, if management itself is not, does not have interests that are aligned with those of the shareholders, what management induces the auditor to do would be basically congruent with management's interest, which is in conflict with the shareholders' interest. So what we need to do, we need somebody to hire the auditor and structure his compensation in a way to be aligned with the interests of the shareholders. That body that would hire the auditor should be such that has its own interests aligned with the shareholders' interest, as a result of the institutional arrangement that I'm going to suggest.

So, let me talk about the proposal, and we will see how it would work. My proposal starts with the company, and my proposal is that the company seeks insurance of its financial statements. What do we mean by insurance of its financial statements? FSI stands for Financial Statements Insurance. We are suggesting that the company solicits from insurance companies proposals for insurance, insurance of financial statements that inures directly to the benefit of shareholders. What this insurance would do is to insure shareholders against losses that they would incur as a result of omissions or misrepresentations in financial statements. The process would start by the company soliciting proposals from potential carriers. The carrier, who are the insurer, before he submits a proposal, would undertake an underwriting review, a very careful and thorough underwriting review. The underwriting review would consist of independent experts that are agents of the insurance carrier, who would consist probably of retired audit partners of major firms, or small sized firms, and risk management experts, and there are such organisations that



would like very much to offer their services. After my article was published, I had three such organisations, or representatives of organisations, coming to my office to discuss the idea and to offer their services in case the idea comes to light. What these would do is to go to the company, examine the internal auditing, internal control system, look at the management compensation structure, analyse management's incentives, look at historical occurrences of earning or negative earning surprises and the market's response to these negative earning surprises, and in general look at the corporate governance mechanism that exists in the company.

As a result of all that, they would submit a detailed report to the carrier, on the basis of which the insurance carrier would be able to assess the risk and hence price the insurance, first determine whether the insurance carrier would be willing to provide any coverage for this company, for these financial statements, and second, if he's willing, if the carrier is willing to offer the insurance, to determine what is your appropriate commensurate premium that is commensurate with the risk involved. So having done this, the carrier would basically submit a proposal to the company that solicited the proposal, and the carrier would suggest what his maximum coverage that he's willing to provide as well as the premium associated with that coverage.

These proposals from the different carriers would be submitted to the insured's management. They in turn would make disclosures in the proxy, and by the way, these disclosures in the proxy and the mandating of these disclosures was sanctioned by the SEC in the United States. The SEC likes the idea, especially certain commissioners. The management would make disclosures in the proxy, and in the proxy, it would basically make its own proposal to the shareholders that is up for the shareholders' vote. These proposals would consist either of shareholders voting on the maximum coverage and the associated premium, or the management may choose no insurance at all, or management would recommend the coverage or the premium that it feels is appropriate, which is less than the maximum coverage. Having done that, the shareholders would vote, and a decision, whether it's no insurance or maximum coverage or something in between, the decision would be publicised, and this is a very important ingredient in the proposal.

At the same time – this, let's say, happens in year T and in preparation for the audit of year T+1, so let's say in May or June in year T, let's say 2005, the process would start. It would be brought up for the shareholders' voting sometime in, let's say, towards the year end, September or October, and then the shareholders vote, and that's all basically is for the insurance of the financial statements of 2006.

After the shareholders vote, assuming that they voted on some insurance, then the report of the underwriting reviewers – and the underwriting reviewers themselves will coordinate with the external auditor the audit plan. So the auditor would coordinate the plan with the risk assessor or the underwriting reviewers. Contingent on the findings of the underwriting review which assesses the risk of omission or misrepresentation, the plan of the auditor would be accordingly drawn.

What happens next is that the auditor will audit the books of 2006. Ultimately, if he offers a clean opinion, then the voted on coverage would become effective. If the opinion is qualified, there would be one of three things happening, one of two things happening: either the insurance would not go into effect and therefore there would be no insurance, or the policy terms would be renegotiated and whatever the renegotiation results in, whatever new terms result, these terms would also be publicised. So essentially, the premium and the coverage would be public information, in the public domain.

Let's see why this would work and what this would do, and let's look at the different parties, or the relationship among the parties of this rather interesting game. Well, first we have the insured, we have the insurer, who basically hires a team of risk assessors that do the risk assessment, we have the insurer paying the risk assessors for their services, we have the insured paying the insurance premium to the insurer, and as we shall see, this premium will include the audit fee that the insurer would pay the auditor because the insurer now will hire the auditor. The coverage that the insurer would provide, as we said, as well as the premium, would be publicised so there would be basically public information available to capital market participants.

Just consider what happens when the company that is insured issues equity or debt instrument to the capital markets. Now consider the following. The insurer, having underwritten the policy, okay, and the coverage is publicised, one thing is clear: if the capital markets, for the same coverage, see a higher premium, they would infer lower quality financial statements. So consider two companies, Company A and Company B. Company A and Company B were able to obtain the same coverage from some insurance carrier. By the way, the insurance carrier's rating – identity and rating would also become public information, so that if they insured with AIG, which is rated AAA+, or whatever, then that would be

publicised, and companies obviously would like to publicise the fact that they were ensured by a higher rated insurance carrier. So the carrier, after having underwritten the policy and conducted the underwriting review and assessed the risk of omission and misrepresentation through the underwriter review report, that underwriter, for a given coverage, will insist on a higher premium if he assesses higher risk of omission and misrepresentation. So if I am an investor, and I see Companies A and B having the same coverage, Company A has a higher premium, that means that the carrier, in a competitive equilibrium, insisted on a higher premium because the carrier, after a thorough review, assessed higher risk of omission and misrepresentation. So with a higher premium, investors or the capital market would be willing to buy the stock or the debt only if they pay lower prices, because with a higher premium, that implies higher risk, so they would pay lower prices for the securities of that company. Conversely, if Company B with the same coverage has a lower premium, the capital market would infer that the underwriters found lesser risk of omission and misrepresentation. For a given coverage, the lower premium would basically trigger or invite investors to pay a higher price; they would be willing to pay a higher price because of the higher quality of the financial statements, because remember investors are not only subjected to the risk of business or business failures, they are also subjected to the risk of information, that is the unreliability of the information provided in the financial statements, and they would demand a premium for that.

So let's see what goes on from here. What happens is that the company that is insured anticipates in advance and it knows that if the publicised coverage or the premium are such that it has low coverage, high premium, its securities will fetch lower prices, and that would increase the cost of capital for this company. Conversely, they know that if their coverage is high and the premium is low, then the securities would fetch higher prices and that would lower their cost of capital. As a result, in anticipation of this, the insured would have an incentive to improve the quality of its financial statements so that the underwriting reviewers would assess lower risk, so that the insurance carrier would be willing to provide higher coverage at lower premium, that are publicised. The incentives therefore of the insured would be to improve the quality of their financial statements. But that is not all, because we also have an auditor. The auditor would not be hired by the company, but would be hired by the insurer, and he would provide the audit report to the insurer, and in turn would be paid by the insurer. However, the insurer would be reimbursed for the fee as part of the premium, and by the way, the premium would be disclosed separately, so that if you have two companies that are disclosed by the insurer, there is a premium and the audit fee have to disclose separately.

Let's talk about the insurer, what about the interests of the insurer? The insurer's interests would be automatically aligned with the interests of shareholders, because once having underwritten the policy, the insurer's objective would be to minimise the cost of claims submitted against him to recover damages under the policy. So the insurer would be interested in minimising omissions and misrepresentations that cause the losses to shareholders that would be the basis for claims that they submit against the insurer. So the insurer would put his money where his mouth is: he has underwritten the policy, he is committed to pay. There is a real liability, real money at stake. Because the insurer, who now would be the new principal, if you recall the previous slide, now the insurer, having aligned his interests with the shareholders, would be hiring the auditors. Because the insurer is the principal, the auditor is the agent of the insurer, then the insurer will structure the compensation of the rewards and penalties of the auditor in such a fashion that the auditor would basically perform his audit to meet the objectives of his principal, which is the insurer. That means that the auditor would have to increase the audit effort such that he would strive as best he can, given the skills and given the competence that are available to him, to do as best as he can to minimise the probability of omissions and misrepresentations. So the auditor's incentives now of course would be aligned with the insurer's incentives, the insurer's incentives would be aligned with the shareholders' objective, and so basically, in this step, by making the insurer hire the auditor, we have removed the conflict of interest of the auditor. This is one major ingredient of this proposal. The other, as I said, is the publicisation of the coverage and the premium that basically perform as a credible signal on the underlying quality of the financial statements.

Let me just address the issue of visibility of quality a little bit more. Much has been said about concentration in the audit profession. By the way, auditors don't like to call it an industry, so they like to call it a profession – concentration in the audit profession. Now, to me, one of the reasons for this concentration, one of the reasons that small firms or medium size firms cannot effectively compete with the big firms, is that there are no visible, credible signal on the quality of the audit, no credible, visible signal. If there were visible, credible signals on the quality of the audit, then medium sized firms or small firms would strive for higher quality that would be revealed through these signals. Once they have this higher quality,

then the underwriters, investment bankers and the companies, would not shy away from hiring those middle size firms or small firms. The argument that the big firms are big and favoured and audit most of the companies because of their deep pockets is somewhat fallacious because the big firms get reimbursed for the litigation costs, of what they call practice protection costs, from the firms they audit, so deep pockets is not the issue. If deep pockets cause inference of higher quality, then we're talking about perceived quality of the big firms that is not really tested, that is not really auditable. So because of the invisibility of the quality, we have this concentration, because no company would like to hire a small firm or a medium size firm – no big company would like to hire a small size or medium size firm because they do not believe that it has credibility with the capital markets, but if the quality were visible, then auditors would compete on the dimension of quality and not on fees or who would be more able to please the clients by doing their bidding.

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