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by
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Biographical Sketch

S.P. Kothari is Deputy Dean and Gordon Y Billard Professor of Management at the Sloan School of Management, Massachusetts Institute of Technology (MIT), which now ranks No. 2 nationwide among MBA programs. Previously, he served as global head of equity research at Barclays Global Investors, responsible for research supporting its active equity trading strategies for 2008-2009. He has also been head of the Department of Economics, Finance and Accounting at MIT. Prof. Kothari was the Thomas Henry Carroll-Ford Visiting Professor of Business Administration at The Harvard Business School in 2005-2006. He has been an honorary, distinguished, or endowed visiting professor at Cranfield University, London; the London Business School, the University of Technology, Sydney, Australia; City University Business School, London; and Baruch College, City University of New York. Before joining the Sloan School, he taught at the University of Rochester. He is the author or co-author of 37 articles in the leading research journals; a co-editor of two finance books; and is also the senior editor of the *Journal of Accounting Economics*, one of the leading research journals in the world. His research focuses on mapping financial information into security prices; economic determinants of international accounting practices; accounting for executive stock options; investment performance analysis and test of market efficiency; and corporate uses of derivatives for hedging and speculation. Prof. Kothari has testified before the United States International Trade Commission and various courts in the United States, Australia, and Ireland. He has also acted as a consultant for the U.S. Department of Justice; several well-known international companies, and three of the Big 4 accounting firms. Prof. Kothari earned a bachelor degree in chemical engineering from the Birla Institute of Technology and Science in India; an M.B.A. in accounting and finance from the Indian Institute of Management; and a Ph.D. from the University of Iowa.

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Good evening. It is truly an honor to be invited to give this lecture, considering the pantheon of speakers who have preceded me and I hope I live up to your expectations.

What I want to do is talk a little about the financial crisis that some might say we have gone through already; some might say that we are still going through, and some might say that something worse is yet to come. Wherever you stand, I think we would all agree that we had a financial crisis and we would like to know whether accounting played a role in it. I am certainly not going to say that it was all because of accounting–far from it–there were many reasons why we experienced what we did. My hope is that I can shed some light on the role that accounting played.

Then I would like to take you to thinking in terms of what are some of the lessons that we could learn from the financial crisis.

Genesis of the crisis

I am going to start with the genesis of the current crisis, meaning the 2008-2009 financial crisis, and some of that history. As I go through that history, you might think, “what does that have to do with accounting?” But patience is the word and very soon I will try to explain the link between accounting and the financial crisis. Once again, I want to emphasize that when I say link, it does not mean the only reason why the financial crisis took place.

In my opinion, the seeds of the 2008-2009 crisis were sown in the bad events that unfolded during 2000-2001. First of all, the tech bubble burst. All of a sudden there was, if not a recession, at least a downturn. On top of that, we had 9-11. I certainly don't have to talk about 9-11 in terms of how horrible that event was when we are here in New York City. The combination of those two, the bursting of the tech bubble and 9-11, portended that a severe downturn might be on the way.

So recession was on the horizon, and the newly inaugurated Bush Administration started in January 2001 to take some steps and, at the time, those steps seemed prudent. Most economists, I think, supported those steps. The new administration, along with the Federal Reserve and its Chairman Alan Greenspan, the architect of the monetary policy at the time, attempted to stave off the impending recession with a three-prong strategy. The strategy was first and foremost to lower taxes. The second was to lower interest rates and to make credit more easily available to spur economic growth. The third was to cheapen the currency. Some of that discussion, mind you, is taking place right now as well, so in that sense, history repeats itself. I am not trying to make this into a political debate at all; at the same time, the only point I want to make is that in early 2001, these three things seemed like really good ideas. As a matter of evidence of what seemed to be good ideas, let's look at what happened subsequently.

The three prong strategy – lower taxes, lower interest and easy credit, and cheaper dollars – seemed to work miracles. It sure did. Unemployment was at a record low. The greatest impact of that strategy was to spur demand in the housing sector. The housing sector started to do extremely well because easy credit made it possible for a lot of U.S. individuals and families to purchase homes and, as a result, we started experiencing trickle down effects which were not trivial. Once the housing sector started to do well, the construction industry employed a lot of workers and the construction sector employees started to spend their incomes on other goods–consumption goods, retail goods, consumer durables, as well retail products, and what we experienced was a tremendous amount of economic growth which continued for several years. It wasn't for six months or one year; it continued well into 2006-2007. Only then did we experience some signs that there might be some trouble down the road. But it took quite some time.

Cheap dollar currency was quite helpful in spurring export-oriented growth and also in having a lot more tourists visit to New York and other parts of the United States. As a result, the leisure and entertainment industry, the hospitality industry, and the retail industry, benefited from the cheaper dollar, in addition to American exporters. Once again, look at the discussion going on today in the marketplace. It's the same phenomena discussed in the current environment.

Bush, as well as Greenspan, won a lot of accolades in the marketplace for staving off a recession and making the economy work beautifully for several years. Well, the party didn't last too long. Unfortunately, all those good things had to come to an end. The strategy that seemed to work so beautifully, suddenly has us thinking that there were some serious problems underneath. There were some cracks that were developing in the strategy. What were those precisely? First and foremost, it was indeed the case that a huge number of people bought homes by borrowing money from banks. The question is: Did all the home mortgage borrowers qualify for the mortgages? Did they really qualify for the mortgages? Even though they borrowed money, did they have an income generating capacity to repay those mortgages down the road, especially if interest rates were to rise? It seems at the time, when many of those loans were no down payment and zero-interest type of loans, and the lending standards were relaxed dramatically, that the impression was created that many qualified to borrow. But on a long-term basis, their ability to repay the loan was rather limited. One would have thought that many of those borrowers wouldn't be able to repay those mortgages over a reasonable time frame.

No Document Lending

When you relax the lending standards to the extent that no documents are needed or, whatever documents are supplied, no verification is needed, you can only imagine what would happen. At the time, I was in San Francisco and I would like to tell you one story: There was a cleaning lady employed by my neighbor, and the cleaning lady bought a home with an adjustable rate mortgage. When interest rates went up on the adjustable rate mortgage, she had difficulty paying the mortgage. She asked the neighbor, who was in the financial services industry, what would happen and what should she do. He said, “Well, walk away from that and buy another home.” And that's exactly what she did. So at that time, credit was so easily available and, if you default, you could walk away from it without having any bearing on your other assets. That clause in the mortgage and the law created some perverse incentives. To some extent, we would miss that.

So, no down payment, no employment verification, and interest only mortgages–all of these are recipes for disaster in the sense that many people borrowed and, initially for a year or two or three, they didn't have any problems. Things are moving along, and you would have all the trickle-down benefits, and all the more reason to suspect that the strategy works very well and that you should only double down rather than cut down on those things and that took place. What happened subsequently?

Securitizations

Let us try to understand why lenders were willing to lend. We have to step back and ask, and it doesn't take rocket science to figure out, that if you ask for no documents, no down payment, interest only loans, it's very risky. So what were the lenders thinking? Why were they so eager to lend? There are a couple of factors. Again, none of these things in its entirety explain the phenomena but together they have a lot to do with it. One of those was that Fannie Mae and Freddie Mac bought securitized loan portfolios without asking questions.

First of all, securitization, as we know from finance, is a very desirable phenomena, a very desirable financial engineering invention that is helpful in spreading the risk. I'll always argue that securitization is good. So securitization in itself is hardly the problem. In a well-functioning market, if you allow securitization, that would be only helpful, and overall aggregate risk-bearing capacity in the economy and society will rise. You will have some beneficial effects of securitization. But what was going on in this particular case, when there was a lending bank, such as Countrywide, or Bank of America, that lent money to the borrower? They were able to turn around and say that “these are the papers and this is the amount of money that we can lend,” and Fannie Mae and Freddie Mac would buy them. They were not the only ones, but they were very large players in buying those mortgages from the primary lenders.

Fannie Mae and Freddie Mac

As we know, Fannie Mae and Freddie Mac are quasi-government agencies. If they are buying these loans from banks that means that the banks are only serving as intermediaries. They were not bearing any risk. As we know in lending, there are three elements--loan origination, loan ownership and loan servicing. Loan ownership brings you most of the risk. The origination function is completed after a loan is originated and you get some reward for originating the loan. Loan servicing is the ongoing process, is keeping records and processing documents, and that's not risky, but a fee-based oriented service and function. It is the loan ownership that is risky because there is the chance that the borrower might default and therefore you might lose part of the principal. So it was loan ownership that was being transferred in the securitization from the lending banks to Fannie Mae and Freddie Mac and some others. Naturally that means the risk was being borne by Fannie Mae and Freddie Mac. It was incumbent on them to verify that the lending practices were sound. But once the lenders knew that Fannie Mae and Freddie Mac were not verifying whether or not the lender was following all the lending standards scrupulously, surely the lenders, or those banks, were focusing only on the loan origination fees and servicing fees and not the paying attention to whether or not the borrower qualified for the mortgage. As a result, lending standards were being compromised while banks collected fees for their intermediary role.

What were Fannie Mae and Freddie Mac thinking? Why were they somewhat negligent or hugely negligent, depending upon whom you ask? As quasi-government bodies, they were encouraged to do so by the Federal Reserve, the Administration and by Congress. I would submit that, to a large extent, they were encouraged by Congress, then the Administration, and then the Federal Reserve, in that order, if you will, in my opinion. The reason is pretty straightforward and goes back to the 1990s-i.e., that over the years, it's an excellent social objective that we should promote home ownership.

There are several sound arguments as to what are the benefits of home ownership. People say that neighborhoods are much better. When people have an ownership interest in a home, they maintain that property and the neighborhood much better. Plus historically, home prices have risen quite substantially so home ownership and saving, via home ownership, are good things for individuals to engage in. At the time of retirement, they would have a good amount of savings as a result of home ownership. So there are several very desirable benefits of home ownership and, therefore, home ownership has been encouraged for decades. But we might have gone too far in our desire to stave off the recession. We thought that the route will go through home ownership and we did not pay attention to the downside of promoting home ownership without paying attention to whether or not borrowers qualified for those mortgages. So that was the genesis: home ownership and lending. The banks were happy to lend. The Administration and Congress were keen on promoting home ownership so they were keen that we should compromise some lending standards.

Accounting's Role

Now, who else contributed to the problem? I think there were many cooks in this. It was a big job so nobody could do this alone. There were several others. In my opinion, this is where accounting plays some of the role. Accounting standards and accountants, CEOs, rating agencies and Wall Street were all accessory to the financial crisis. How so? Think about securitization. Wall Street was interested in this because the securitization of loans generated immediate profits. Whenever there is a buying and selling transaction that takes place, the intermediary traders collect some fees, whether a bid-ask spread, a commission, or some other source of income. The trader's goal is to maximize the amount of trading. Now imagine literally trillions of dollars of new securities available for securitization. As a result, the amount of fee income was gigantic.

As I said, some securitization is very desirable because it reallocates risk so you derive the benefit of diversification. Not all of it is bad. It is just that too much of a good thing can be bad too. So that's what was going on here. So what was different here? When many of the lenders sold to Fannie Mae or Freddie Mac, they might have sold the entire mortgage. But when they securitize different tranches, there were different slivers of mortgages that were sold piecemeal and, in many cases, including the bottom-most sliver. The level of these slivers reflects the priority of collecting money from the borrower in the event of default. The highest level has the highest priority, and all the way down. The lenders are in charge of verifying that the lending standards were followed carefully. Traditionally, in the interest of imposing some level of risk on the lender, the lenders retained the riskiest sliver. But somehow in the securitization process, the analysts and Wall Street thought that everything was AAA. Just sheer diversification kind of lulled everyone into the thinking that all of these securitizations are AAA or very highly rated. Hardly any of the securitized debt was rated less than that. This is inexplicable. How could everyone be so lulled--analysts, or Wall Street professionals, or even accountants and auditors?

The reason auditors come into play is that banks were interested in not only laying off the risk but in recording some gain, which is just not possible. If you lend money and you have some asset now, a loan receivable as an asset, and you sell that, or even a portion of it, in the secondary market, that in itself cannot any generate any income because income is earned over time as you collect interest. So the only reason you can generate some income is because of the loan origination fee; that part you can generate. If all those slivers are fairly priced, then you should not be able to generate any interest income because you are securitizing. But if you overestimate the safety of the sold slivers, or underestimate the risk of the slivers you have retained, then because auditors and the corporation are required to calculate the discounted present value, you have the potential to record an accounting income. That was what was going on. So in many of the banks, the CEOs were saying, “In securitization, not only am I laying off the risk, but I'm also reporting some income. Since it is accounting income, you qualify for a bonus. The amount of stock options that are given to you are also increasing the amount of income that you receive." So there were many people who had a vested interest in securitization beyond for reasons other than risk reallocation. So that's what was going on: The immediate gain was a big incentive to the banks and senior management to maximize the number and the amount of mortgages, especially because you could sell them in the secondary market.

Auditors seem to have turned a blind eye to the false information in loan applications and helped to compromise lending standards in assessing the risk of the loans. Some of that litigation is now taking place. The primary role of auditors is to verify whether the information that is supplied is accurate or not. If an employment record is missing, it's hard to imagine that the auditor can say, "This meets the conditions that underlie lending." So in that sense, it is difficult for me to imagine that, with the amount of lending that took place, and how it took place in certain parts of the United States and the world, that auditors were diligent in verifying the information that was presented on those loan applications.

Rating Agencies

The same is true of the rating agencies. Most of the securitized loan tranches were AAA rated. Of all the people, I find the role here of the rating agencies the most perplexing. I have looked at, in some other work as an expert witness, how the rating agencies behave. Frequently, they are just following the stock price so they rate high or low depending upon the stock price. Occasionally, there are some bold ones and we hear about them a fair bit, but most of them are simply following. They are not colluding, I don't think, as there are 10, 20, 30 of them, and there are tremendous incentives for them to be the first one and to be accurate. So here in rating these debts, either they didn't quite fully understand or something else was going on. It is quite perplexing that so many of these securitizations were rated so highly, especially given that it was well known who the borrowers were.

One could justify the thinking of the rating on the basis that all these analysts thought that the stock market, and especially the housing market, could go only up and that it has never discovered gravity. So, in that sense, that could explain their AAA ratings. Rating agencies didn't carefully examine whether borrowers were in a position to repay the loans, especially if you take into account the yield curve. Many of these were adjustable rate loans, and the yield curve tells you what the expected future, or forward, rating, is likely to be, and therefore what is the expected adjustment to the interest rate on those loans. To the extent that the payments could easily double or triple, I think it is pretty clear that rating agencies should have factored that in, at least with some 10, 20, 30 percent probability that there could be large scale loan defaults. To me at least, that is quite puzzling. In my opinion, and not just with hindsight, the rating agencies grossly underestimated the default risk on all this lending that was taking place.

The Bubble Bursts

So what triggered the bursting of this bubble in 2007 and 2008? Robust economic growth means that low interest rates were no longer necessary. Interest rates are pro-cyclical in the sense that when the economy does well, the short term rates start to rise, and when the economy is doing poorly, the interest rates are low. That's why, if you look at the rates for the past couple of years, interest rates have been at record lows, not just here, but in Europe as well. That's an indication that the economy hasn't quite yet gotten out of the recession, even though technically, it is not in a recession, but it is not growly robustly either. But that was not the case in 2004-2005-2006. During that time, when the economy was doing very well, interest rates rose like a phoenix. As I said, this rise in the rates was predicted because of the yield curve. As they started rising, what we had very quickly was a spate of sub-prime homeowners who quickly started to default. That default rate was dramatic. Their mortgage payments often times doubled or tripled. Again, as I have said, there wasn't a lot of surprise there because one would have predicted, given their income levels and the yield curve, that this was expected or likely to happen.

The effects were rather dramatic. They were particularly severe in certain parts of the country. We can link it to lending as otherwise it is difficult to understand why the financial crisis had so much more effect in California, Nevada, and Florida. Internationally, which countries suffered the most? In England, there was a lot of lending that took place. The problem was severe in California, Nevada and Florida because that's where sub-prime lending was most prevalent. Just as construction led the way in the boom time, the severe stoppage in the construction industry had a reverse trickle- down effect, if you will. As construction demand tanked, mortgage brokers and realtors were hurting; banking services were hurting because of losses on the loans that they had retained, as well as a lack of demand for their financial services. For goods and services, the retail, manufacturing and the service sectors started to slow down, and job losses started to mount. One of the most dramatic rises in unemployment took place in the period from 2008 and 2009; when unemployment rose from five percent to almost ten percent.

The ripple effects are best characterized as a global tsunami, to use the cliché. Weaknesses in the economies of those initially worse hit began to spread and led to more defaults and slowdowns. So now we are in a bad equilibrium. Some people default, and because of their defaulting, there are some knockoff effects, and as a result of that, an additional set of individuals start to default, and pricing in the neighborhoods get depressed, and that's what we were experiencing. The banks started to suffer catastrophic losses from mortgage and loan defaults. Citigroup, Bank of America and others had market caps of more than a $100 billion and all of that got wiped out virtually in a matter of months; not to mention Bear Stearns and Morgan Stanley and some other firms. As a result, the stock market dropped precipitously, as we well know. The international effects, as I have said, were quite visible.

Accounting's Role

How did accounting play a role in this? There are two elements. One is the role of accounting standards. Standards matter. The second is that you can have a set of standards, but how they are implemented, and what were managers doing, and how did incentives contribute? As I have said, this is only part of the story. We are not talking at this stage about what did Congress do, and what did other parties do. We are focusing somewhat narrowly on accounting and the role that management might have played. Again, in my opinion, both of these factors contributed to the crisis. There were other factors, perhaps more important, that were at play.

I'm going to talk about financial information for a few well-known firms. It's very simple information that is provided here. The key element is that accounting is about the past. Valuation is about the future. That tension has been the source of many problems, especially when accounting has attempted to disguise itself as having something to do with valuation, difficult in itself, and trying to provide some information in financial reports about the future. Let us take a look at some of these things. Apple has 34,000 employees. Would you believe that their revenue per employee is almost $1.9 million? Their market cap is 7.8 billion; their p/e ratio is 24 and market to book is 6.4. So the market value is six times their book value, so naturally the market is expecting a lot of income in the future, and continued growth. That's why the p/e ratio is so high as well. Microsoft, a giant today, but truly a super- giant in the past, has 93,000 employees, their revenue per employee is $690,000; their market cap is $2 billion, their p/e ratio is a modest 12, somewhat below the market average. Market to book is still pretty high, 4.7, but not in the stratosphere. So what this means is that for Microsoft, unlike Apple, most of its glory has been in the past; even now it is a great company in terms of generating income, a lot of revenue, but that kind of steep, upward sloping trajectory, at least in the market's assessment, doesn't exist with a firm like Microsoft. HP is similar to Microsoft. Then there is Starbucks, with 142,000 employees, $72,000 revenue per employee, and their p/e ratio is 26; market to book is almost six, meaning thereby that a lot of growth is expected.

What does this have to do with what we are talking about? The point is that accounting standards have a potential to play a role because we have recognized that for high p/e ratio and high market to book firms, the value is in anticipated revenues and profits and growth rate in both of those variables. So the implication is that in accounting standards, we want to stay away from fair value type of accounting that would make it easier for firms to recognize income by anticipating revenues and profits that are not yet earned. So to the extent that we try to masquerade accounting as valuation, which means to try to anticipate future performance, we are likely to run into problems. One is from standards but I will talk about incentives as well.

On the other hand, we do want to continue with accounting standards that recognize losses on a timely basis. In fair value accounting, we are relying on fair value, but on the lower of cost to market variety, meaning thereby on the downside we think that accounting information provided by management is credible. We would like to require them to report bad news so that if they fail to report that bad news we can hold them accountable *ex post.*

It might become a little bit clearer, especially on the upside, why we want to be careful. Part of that is the role of managerial incentives. Imagine that you have standards that allow you to record anticipated revenues or anticipated income as income today. It would provide perverse incentives to management because you can increase market value. You can increase it by reporting superior performance. And if you report superior performance by anticipating future earnings, then all the more potential, whether it is real or not, because it would be judgmental to some extent. In order to generate that future income, you actually have to work to deliver some effort in the future. But if you have already anticipated that income, and report it as income today, you might get paid, and then there is no guarantee that you would actually deliver the food needed to generate that future income.

Going back to some of the lending that took place, when income was generated by merely lending some money to borrowers and selling those mortgages in the secondary market, what was going on? Other than origination fees, some of the future income was being recognized too soon, or some of the income that didn't exist was being recognized because of underestimation of risk of the tranches of the debt that was sold versus the tranches of the debt that was retained. Again, to the extent that standard accounting rules made it a little bit easier for managers to recognize income that they hadn't earned yet, that created a situation that was ripe for misuse. From the stand point of accounting standards, it would be wise to recognize that accounting standards should focus on what had happened, rather than be in the business of anticipation. You could provide some of that anticipation in the Management Discussion and Analysis section, or some other place, such as the analysts' conferences, that management might have.

The other thing that managers might be keen on doing is to avoid a decline in the firm's market value. Recognizing bad loans would have adverse effects on the stock price and it would have an adverse effect on the amount of banking business that they do. So naturally, managers resist recognition of that bad news. Therefore, accounting rules have to be such that they require them to recognize bad news. Still, they may not do that, but then you have an avenue to litigate and hold them accountable for their actions after the fact at least.

Finally, with all those things, still what it implies is that we certainly don't want to lose sight of the fact that high-fee firms and high-market-to-book firms are the engines of growth. We can't sacrifice that engine of growth because we don't know how to account for it. We have to devise ways around it. We have to promote economic growth and yet accounting has to recognize that it has certain limitations. It also implies that, in addition to standards, we have to have rigorous enforcement, sound auditing, and great vigilance.