Reflections

Governance and Corporate Finance: Changing Dynamics

Financial markets continue to witness unending turmoil. The economic recession has taught great lessons to the corporate world and the way corporate conduct themselves. The general public outcry on the massive salary differential in the corporations is justified. Theorists and practitioners are trying to come with new models of executive compensation which are more acceptable to the society. In this article, we present excerpts from our interviews with the following panel of scholars who debated on some burning issues that confront the financial world.

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1. M. Suresh Sundaresan (**SS**) is the Chase Manhattan Bank Professor of Economics and Finance at Columbia University. He has published in the areas of Treasury auctions, bidding, default risk, habit formation, term structure of interest rates, asset pricing, investment theory, pension asset allocation, swaps, options, forwards, futures, fixed-income securities markets and risk management. His research papers have appeared in major journals such as the Journal of Finance, Review of Financial Studies, Journal of Business, Journal of Financial and Quantitative Analysis, European Economic Review, Journal of Banking and Finance, Journal of Political Economy, etc. He has also contributed articles in Financial Times, and World Bank Conferences. He is an associate editor of Journal of Finance and Review of Derivatives Research.

2. Thomas Noe (**TN**) is Ernest Butten Professor of Management Studies at the Saïd Business School, Oxford University. Prior to joining the School, he held the A. B. Freeman Chair in Finance at Tulane University. He is one of the 20 most prolific researchers in elite finance journals since the turn of the century, appearing in journals such as the American Economic Review, Journal of Finance, Journal of Financial Economics, Review of Economic Studies, and Review of Financial Studies. Currently, he is a co-editor of the Journal of Economics and Management Strategy. In addition, he has served on numerous panels, programme committees, and editorial boards, including the board of the Review of Financial Studies.

3. Jeffrey Wurgler (**JW**) is Nomura Professor of Finance at the Stern School of Business, NYU. His research and teaching interests include corporate finance and behavioral finance. Before joining Stern in 2001, Professor Wurgler was the Robert B. and Candice J. Haas Assistant Professor of Corporate Finance at Yale School of Management. He has also been a Visiting Fellow at the University of Oxford Said Business School. Professor Wurgler received a Bachelor of Arts and Sciences degree from Stanford University and a PhD in Business Economics from Harvard University. He is currently a Research Associate in Corporate Finance in NBER. He is the Associate Editor of Management Science and the Review of Asset Pricing Studies.

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4. Gautam Mitra (**GM**), obtained a Ph. D. in Computational Methods in Operational Research from Institute of Computer Science, University of London, and is an internationally renowned research scientist in the field of Operational Research. He was Head of the Department of Mathematical Sciences, Brunel University, between 1990 and 2001. In 2001 he established CARISMA: The Centre for the Analysis of Risk and Optimisation Modeling Applications, which specializes in the research of Risk and Optimisation and their combined paradigm in decision modeling. Professor Mitra is also a Director of UNICOM Consultants (trading as OptiRisk Systems Ltd).

The panel was interviewed by a group of doctoral students at Indian Institute of Management Calcutta (IIMC) on topics of news analytics, financial crisis, executive compensation, corporate finance, corporate governance and research in finance.

News Analytics

IIMC: *Can you tell us a little bit about news analytics and give an introduction of the field for someone who has not heard about it?*

GM: News is an event, and news analytics is a analytical tool to evaluate the impact of the event in financial assets which are of interest. Hence, if the event or news is about a particular company, then, (a) is it relevant, (b) whether it is positive or negative i.e. whether it has an implication on the direction of movement of stock price of that company. In that case, one needs to find out about what you can do with that particular stock and its return. But in general, when you have a large number of assets and events are taking place for those assets like commodities or FX, then one needs to look at how it is really going to affect the market and then have a model which will give us a reasonable way of predicting the market sentiment or market return.

IIMC: *Does news analytics have an application only in high frequency finance? Who should be interested in it, is it all participants of financial markets or some specific category?*

GM: That's a good question. There are essentially three types of participants: (1) Traders, high frequency or intra-day (2) Low frequency investors like fund managers and (3) People who are interested simply in risk management or risk control. Looking at the third type first, risk control people should have some interest since news is an indication of the volatility or which ways the risk is going. In terms of low frequency investors, they should have a strong interest. Many quant teams are involved in analyzing news and its impact on asset prices. For high frequency traders, they use automated trading which is a black box. Given that many of them already take news feeds from companies like Thomson Reuters and news scores from Raven Pack, it is obvious that they are one way or the other, trying to use news to gain an advantage.

Financial Crisis

IIMC: *Do you see the reason for the recent financial crisis as excessive deregulation or poor risk management practices by financial institutions? In other words, do you think, it was on the oversight on the part of the regulators or on the part of the financial institutions?*

SS: It is a very interesting question. My view is that, it was more about the enforcement of the existing regulations. In other words, all the right regulations were already in place, but not enforced properly. For example, if you ask for the source of the crisis, one big part of the crisis was housing, and specifically, excessive house construction. Loans were given with very light underwriting standards. Federal Reserve had considerable influence if not direct authority on setting these underwriting standards and enforcing them. Likewise, there is a bank supervisory staff in the Federal Reserve. They could have supervised the banks. So, all the institutional arrangements were in place, but enforcement and execution was very poor. Secondly, the incentive structure was a very big part of the problem. For example, the investment banks and commercial banks could take a lot of risk and if the risks paid off, they could pay themselves enormous amount of bonuses. They didn't have to retain anything on their books. But if the risks didn't pay off and they got into trouble, they could go to the Federal Reserve for discount of borrowings. So it was a very bad arrangement. The Federal Reserve or the regulators could have said that in good times when you make a lot of money you are required to keep a part of that money, so that you can use that reserve during bad states. The only way you could do that is by cutting the bonus and keeping the money inside, but they were not willing to go that far. So if you look at the average bonus pool in the investment banks, they were c.US$20 billion every quarter, and the party was going on between 2000 and 2007, where the bonus pool was growing year on year. If they kept a fraction of the bonus pool inside, things could have been very different. So, I would argue again that the right incentives were not in place and government did nothing about it. One final comment would be, if you do a smell test, the smell was not good in the sense that all the key positions in the Treasury department and the Federal Reserve were occupied by ex-bankers. That's not to say that they were not doing their jobs right. It just didn't smell right. I think what was happening was that both the Treasury and the Federal Reserve were populated by banking interests. Now I don't know whether that played into the crisis or not, and it is very hard to prove that. But nevertheless, it just didn't pass the smell test. So that was also another contributing factor.

GM: That's a tough question to answer. In some sense I am not really an economist, but have gained some information about the topic. I think we all know that the sub-prime lending caused the crisis. But I think one of the reasons for the crisis was that banks were operating recklessly across countries like US, UK and although regulators had brought in Basel I and Basel II, they were not looking at risk exposures in a wholesome way. Hence, the role of quant models in working out the actual risks and identifying the risks became important. Although regulators did not think that they were being lax, that's how it turned out to be. Another issue was that of insurance. Banks were taking these big bets and they thought they were properly insured. However, insurance companies like AIG themselves had enormous exposure across countries and sectors. Thus, there was absence of observers who were looking at the big picture.

IIMC: *The Indian banking system has not been affected by the recent financial crisis as much as the US banking system. What would be your comments on that? Is it because of conservative Indian banking policies, or is it due to better risk management practices or is it because Indian markets were immature and just did not have sufficient depth or maturity,* *and hence enough exposure to such risky exotic derivative products to get affected in a big way?*

SS: I think, both the points have some merit. I think, Reserve Bank of India is a very conservative institution, and when Mr. Y. V. Reddy was the Reserve Bank governor during the peak of the crisis, he took really good measures that kept the banking sector out of the trouble. Real estate loans were only extendable, if the companies had very large reserves. He was also very proactive and conservative. And of course, with the exception of ICICI Bank, not too many Indian banks got into sub-prime and other investments, so the second part is also true. But remember that banks are viewed in India to be more or less at a very short distance from the government. So generally it is understood that if banks got into trouble, the government would stand behind them. In a way, I view Indian banking institutions by and large like how I would view Royal Bank of Scotland, or as in few months ago, Citibank. Basically, 50% to 70% are owned by the respective governments, so there is no risk as you are essentially dealing with the sovereign. So is that good? I am not too sure if it is a good thing, but I would give a lot of credit to Mr. Reddy. I think, Dr. Reddy was really an excellent Reserve Bank governor, and he steered the banking sector away from a lot of trouble. And the fact that Reserve Bank of India is by and large a very conservative institution also helped a lot.

IIMC: *After the crisis, especially, after the Dodd-Frank Act has come out, do you still see any weaknesses in the system that you believe have not been addressed well, and can be a potential cause of concern going ahead?*

SS: I think, the Dodd-Frank Bill never touched Government Sponsored Enterprises (GSEs) like Fannie Mae and Freddie Mac. They are basically bankrupt institutions under conservatorship by US Treasury. The Bill had nothing to say about that. I think it is a deliberate decision first to solve everything else since these are very big problems, and therefore left to be dealt with at the end. But nonetheless, that's a glaring omission, because if you are going to do a financial reform Bill, here are the two main culprits who are funding the mortgage market including the sub-prime mortgage market and you don't even say a word about them. So in that sense, the Dodd-Frank Bill had glaring omissions. Then, I would also say that if you look at the provisions, for example, moving OTC Derivatives to Exchange Traded markets with Clearinghouse guarantees and so forth, it looks very good on paper, but it turns out that most of the Clearinghouse members are OTC dealers. They have the monopoly rights to be the clearing members which mean that they still are going to collect some monopoly rents. You will definitely see greater transparency because OTC market is opaque in many aspects - you cannot see what's the total amount of credit default swaps traded, what is the open interest, the volume of trading, etc which you can see when you go to an exchange, but still the clearinghouse members are same guys as the OTC dealers. So, it is good in a way that it is incremental, but it does not translate to a quantum leap or anything like that. Again, when you look at some of the proposals about the credit rating agencies reforms, they are anemic in nature. For example, the credit rating agencies cannot be hired by the issuers. The SEC will tell the issuers that they are going to assign Moody's. The issuers still have to pay for their services, but the issuers don't get to pick them. That way, Moody's don't have to worry about the conflicts of interest. That's a good move. So SEC gets to decide and pick the credit rating agency, while the payment is still made by the issuer. But if you look at the record of the rating agencies in structured credits, it was abysmal. They were rating subprime backed CDOs at AAA ratings, and it was transparent that some people could have concluded that it was really not AAA. Given the track record, they never changed the internal dynamics of the rating agencies. For example, they could have said that part of the compensation that rating agencies get could be in the rated debt itself. If the rating agencies were to be paid US$10 million, US$2 million could be paid by the AAA bonds that they have rated. That could have given them the proper incentives to look at it more carefully, because their skin is in the game. So, it is an anemic reform in that sense. They went in the right direction, but they didn't go far enough. Part of the reason for all this is of course the political dynamics and the political action committees at work. So, there is a political economy problem here.

IIMC: *In the aftermath of the recent financial crisis, do you see the emerging economies, especially India and China, playing a bigger role in the world economy vis-à-vis the developed economies of US and the Europe? Also, how would you compare and contrast the India story with the China story?*

SS: It is true that US and most of the European countries, with the possible exception of Germany and some Scandinavian economies like Norway and Netherlands, have huge deficits and most of their pension plans are unfunded and the social programs are quite generous. Same is also true for many US states. Working population is a smaller fraction of the whole population, which means that very small percentage is working very hard to fund these benefits. If you put these two things together, these two economies - Western Europe and Northern America - have to first do lot of re-contracting. Otherwise, these social benefits cannot be sustained, which means, they have to go back to the retiring baby boomers and basically say, we cannot pay you the benefits. Alternatively, they have to change the way in which the pensions are organized by moving from defined benefits to contribution plans. That would be politically a very hard thing for politicians to implement but they have to do it. This is already happening in US, but it is a long process. So, for the foreseeable future, with these economies sorting out their problems, you cannot expect a very high growth rate, especially given the deficit that they have to overcome. Now can this slack be picked up by China and India? I doubt that, because if you look at the base of these economies, they are too huge. Even if they grow at 2%, it is much bigger than India and China growing at 10%. So, it is not a counter-weight the way it is portrayed. The second problem is that there are several investors and hedge fund managers who are heavily short on China. There are rows and rows of shopping malls in China with 1% occupancy rates, rows and rows of apartment complexes with zero occupancy rates. So what is going on is, huge infrastructure development is taking place in China which is fueling a lot of employment because social unrest is a big concern for China. So they are keeping everybody busy. But the problem is that lot of these buildings are under-occupied. So how far can it go? Well, one good thing about China is that investors who buy these houses have to actually put in one-third of the value of the house in the form of equity. So their skin is into the game. They are not the same as the underwriting standards in US. So they take a relatively smaller loan from the banks. Therefore, if the housing prices were to go down, as it cannot perennially go up, value of all these unoccupied houses which are owned by various households in China will fall and the households are suddenly going to realize that their wealth has disappeared. It will be a similar crisis to US but with less leverage. Banking sector is not going to be as much affected, but lot of households will be left holding the bag. That can produce undesirable outcomes like social unrest and China not being able to deliver the growth rate that rest of the world is expecting it to deliver. I see that as a potential tail event for the global economy. Demographics in China are also not good because of their one child policy. With respect to India, my view is that internally there is a great deal of optimism, but from the outside the optimism is not shared. In terms of infrastructure, India is 50 to 100 years behind, China and there is no other way to put it. So, is that bad? I am not too sure. To some extent, it is bad because we should not be so far behind. There is no denying that. On the other hand, for a rural country, if I had a dollar to allocate between health, education and infrastructure, it is not clear that it should go to infrastructure. In some ways, one could argue that human capital that we invested in various central universities has paid this off in some ways, whether or not that was the intention of the political leaders in the first place. So it is not obvious to me that this is bad, but I agree that we need some incremental investment there. We are definitely lagging behind in infrastructure development, but I think, the bigger problem in India is political corruption, instances of which were evident in the 2G spectrum allocation scam recently. The level of corruption is also very high in China, and it is also a problem for us. So, there, we just have a huge governance problem.

Executive Compensation

IIMC: *There have been reforms in executive compensation post the recent financial crisis. The compensation policies that are in use today were not the same a decade ago. What according to you have these changes been, are they effective and how do they affect the companies?*

TN: Well certainly I think generally the changes in regulations have a huge effect on compensation and not just the recent changes but if we go back to the changes in the expensing of options around the turn of the century had a large effect on compensation. The introduction of option compensation itself, at least in the US and the UK had a lot to do with the changes in the Tax laws in the 1960s. So the reformed compensation is certainly influenced a lot by these decisions but the question really is whether the influence is for the good, for the bad. For instance the US when they imposed the sovereignty restrictions in the 1996 that restricted CEO salary compensation, the aim of that was to lower CEO compensation. They probably ended up increasing it because it forced firms to give CEOs compensation in a risky form which means you also had to give them a risk premium, which means you have to give them a reward for taking up risk as well. Now the compensation actually shot right up after the reforms. Now it needs to be seen what effect this reform would have. Historically most reforms rarely have the consequences that they were intended to have.

IIMC: *Can you shed some light on what we mean by the optimal corporate governance design and optimal CEO compensation in dynamic context.*

TN: I guess the way I am using the word optimal is the contracts are designed by the firm in order to maximize its welfare. So the firm given whatever bargaining power it has, given the conditions in the labor market, it's actually is picking the contract which will maximize the reward to the owners of the firm, so that would be an optimal contract from my perspective. The governance is intimately related to that because the amount you pay a manager has a big effect on how much you trust them with making decisions. If you pay them a lot you are giving them a very large stake in the firm, if you give them little they have a smaller stake in the firm. You also have the effect that the higher the compensation the more rewards you give the manager for performance the less you need to monitor his performance. So the two are very closely related, you can't pick one without picking the other.

In a dynamic context, the dynamics works two ways. We can look at the dynamics of compensation simply from the perspective of long term contracting. Let's say the world lasts for more than one period, may be it lasts for 20 period and we design a contract which bases the manager's future payments on his current performance. So his rewards in year twenty depend on how well he did in year one, so we have long term contracts. I think what's more important is the fact, is he going to revise the terms of the contract based on information revelation? So that's the key change that the dynamics makes. Because the terms of the contract change when the information comes out so I realize that if I am the CEO and I am doing well, my reservation value, my labour market value is going to rise. So the incentives for the firm for monitoring are going to fall. So I know that the terms of my contract are going to be revised in the future and that provides a lot of first line incentives. Conversely, if I am doing poorly then I may get fired and drop my value and when I am closer to being fired then I may be more willing to take negative performance shots. This also has a big effect.

There are also cases in the model where CEO compensation falls but his welfare rises, although it takes very unusual parameters because what happens is in the CEO's job, he makes a decision, and the decision generates a positive shock to the firm, and the positive shock has a huge effect on his ability to keep his job. So the firm recognizes that even if it lowers his salary his actual gain is going to be very large from the right optimal career because he is so much more secure in the future design. In cases of a negative effect on the company, there's unusual numbers you have to pick to make that happen. So the effects of such dynamics are very large and it would be wrong if you can't see the period effect.

IIMC: *There have been a lot of corporate scandals in the US and recently, in India also. How do you think unearthing of such scandals affects the compensation?*

TN: I think the classic example of the scandal in the US, the biggest documented effect was the scandals that occurred around the time of the collapse of Enron and had a very big effect on the form of compensation. And the way they did that was that led large number of firms switch from option compensation to restricted stock compensation. So we can directly say that scandals have an effect. But I guess the point is that, that I make and I guess some others make, not just me for example Kevin Murphy, it's not clear that the option compensation was ever really picked because of some optimal incentive characteristics, they may have been originally introduced because of a very specific legislation that's favored options and option pay outs, as far as their tax treatment in the US, when they were first introduced. The treatment was withdrawn later, but the options kept being issued even after the treatment was eliminated and they could establish that as a pattern. So when the firms saw these scandals and they saw the stigma associated options they probably thought that it really didn't make too much difference whether you pay with options or use restricted stocks, they may have actually thought of them as a form of very easy shares that were being sold. What causes a possible shift is basically the question that, how much of a difference that really made, in some sense.

IIMC: *In the recent financial crisis there was a lot of hue and cry about the compensation that was paid by some companies, Citibank for example, but that didn't really translate into a lot of changes being made in the CEO compensation structure. Is it because the companies don't really react to what the market is saying or they let their CEO salary hang for a while because it means getting out crisis faster, or is there something else to it?*

TN: In banking sector, compensation is a further unusual problem because if you believe you are too big to fail then actually you want your CEOs to take risk if you are a shareholder. You are obviously very upset if the bad state occurs but ex-ante it's a good gamble to make. So you are playing it in that way, you are obviously upset when the roll comes out against you, but the wheel is stacked in your favor because of the Bernanke put concept. So you want your CEO to throw the money down and if that's the case you really don't want to tear them. It doesn't make much sense to make your CEOs gamble and then to penalize them horribly when they fail, so if you do that they won't gamble and you actually want them to gamble, not you as a society but if shareholders are acting in their economic self interest, they would actually want to encourage risk taking behavior.

The two questions that are confused frequently: Are these contracts in some sense optimal for society or for everyone involved, including the government, or are they optimal for the shareholders. I don't think there is a lot of evidence that they are not optimal for shareholders. If risk taking in banks was caused by the manager-shareholder conflict of interest you would see publicly held banks having a radically different capital structures than hedge funds, but that doesn't seem empirically to be the case. What we see is that almost all of these firms who just operate at the risk margin seek the highest out risk margin they can get, whether or not they are a hedge fund or a bank. So I really don't think that the crisis had too much to do with the conflicts of interest between managers and shareholders of the banks, but probably has more to do with the conflicts that both had with the society.

IIMC: *Lot of the studies in executive compensation is happening in the emerging economies, particularly in India. Given the concept of family owned businesses, which is really huge here, studies do no tells us much about executive compensation in the family owned business context. Some papers tell us that there is higher compensation paid to the executives of family owned firms. What do you think is the difference between the compensation paid to the executives in a family owned business and the non-family owned business, and how can the same be captured?*

TN: I think the family owned business is a very interesting area that has been very much under research. If you look at not just the developing economies but even in the Western Europe you find the vast majority of firms are run on family basis. And the exceptions are usually the denationalized state firms for most of the Europe where you can't find any family history. So outside of these, family businesses seem to be the norm. I think one angle I am thinking a lot about is looking at it from the point of view of simple co-altruism within the families. So we can either use psychological theories of affection between family members, or we can use the genetic theories about the inclusive fitness. It's like it's worth giving up fifty cents to give a dollar to your brother.

So I think that it's an interesting issue and if you think about it, family nepotism also makes a lot of sense in a world where there aren't too many legal enforcements and because of these connections, family members will cheat each other but they are less likely to cheat each other in the matters that involve very large amount of dissipation. So if you expect a brother to cheat his own brother then it's to be a one to one transfer. Every dollar that he steals from his brother he can put in his own pocket, but if to sneak a dollar from his brother, he has to make his brother lose a thousand dollars then you can expect that he is less likely to do that than an outsider. Of course there are offsets too. For example, there could be a case when you don't want to hire a relative because you won't ever fire him. So ex-ante you want to threaten to fire him but since you know you won't do it, and he knows that you won't do it, he actually won't work, which means you won't hire him in the first place. It's kind of complicated and it's a very unexplored area. Literature has talked a lot about closely held firms, but they have never tried to compare a closely held non-family firm vis-a-vis a closely held family firm to see how it deals with the issue.

IIMC: *Can you tell us about reputation reformation through executive compensation? Reputation formation is one thing, but reputation reformation is required after a scandal.*

TN: I think it's an interesting area of research, and I've tried to work out the cases where you can actually reform your reputation. It's actually more difficult than you might think. The problem is that if you try to reform it completely with contracts instead of the problem of dynamic inconsistency, which is fairly easy to explain. If I want to reform your behavior after you cheat and I have to pay you based on your performance, well if your cheating is not immediately observed, the performance I have to pay you on is going to be at least one period in the future because we can't observe if you did something naughty in this period so I can't observe it till one period in the future and let's suppose that's optimal to do. If you actually do cheat, what I'm going to do is, I'm going to make sure you don't cheat in the future by giving you compensation in the future one period ahead. Well, the problem then is, you, the agent are going to recognize that if I cheat again, I'm also going to be reformed again, which means you don't have any incentive not to cheat at the start. So what you get is the result that if all the firm has are carrots, it can't ever actually redeem the lost reputation. The only way the incentive scheme will work is in the case, when it is optimal ex-post that is when it actually happens that after cheating, the firm either shuts down or fires the manager in which case the manager will care about his executive compensation. But if it is in fact optimal to do that in the future, then he won't stop sending it in the present period. Now that can change if you have a control mechanism choice as well. So if you have sticks as well as carrots, and so it might be the case, that after the manager cheats, you now realize that he's a crook, which you didn't earlier. If you do retain him, you will watch him more carefully, which you didn't before, and in which case then, you can make redemption work. You don't even need to impose the watching, he hasn't seen the effects, he just needs to know that you could do it and now, he recognizes that the world's going to be different after I cheat. If I only have carrots, he figures that it's optimal for him to do it again, why can't I cheat again. Now, he knows that if I cheat with sticks in place, they'll try to reform me, they may impose new restrictions on my behavior, so maybe I don't want to cheat them now, maybe I want to wait. But if I am crooked they can actually change my incentives. So it's a balance between reforms and compensation as optimal controls of managers.

Corporate Governance

IIMC: *In one of your papers you have shown that there are certain kinds of board structures that work in the favor of shareholders. Could you tell us about the different types of board structures you have looked at and the experimental investigation carried out in that paper?*

TN: What's interesting is that the papers show that sometimes it is very advantageous to include an un-informed third party in the decision making process even if they don't have very strong incentives and are not very well informed and it's not because of anything they actually do. It's because the presence of the un-informed party ensures that the informed part won't do something that they would have done had the un-informed party not been there. So we look at the uninformed party, technically that is uninformed outside directors and you say that they seem useless, because they never do anything. But actually the point is because they are there that things don't happen, that doesn't mean they don't have any effect. It's like US and Russia both have hydrogen bombs but neither has used it on the other but that doesn't mean it doesn't have an impact on the way the two countries behave. So the question is that if you have these outside directors, where do you want to put them and how many of them do you want to have. And what we showed is that in theory they would need to have majority power but in the actual laboratory experiments, they had a large effect but not a complete effect, even if they were a minority. And we showed that if you set up a separate board structure, so that you isolate the outsiders from the insiders, you get a large benefit from it but a different pattern of errors. When you have insiders and outsiders combined, with outsiders holding a majority on boards as in the US model, you get more acceptances of their projects. On the other hand when you separate them like in the German model, then experimentally and behaviorally, what you get is more rejection of good projects. But both have their pluses and minuses but in both cases you largely benefit having outsiders.

IIMC: *Please tell us about the role of investor activism in corporate governance.*

TN: Investor activism has a really important role to play. It has two roles. One is the informative role. If we have investor activists involved with the firm and if these activists have private information and they sell their shares, that's going to cause an adverse price reaction and that's going to have an impact on manager's behavior if managers care about stock prices and for lot of reasons you expect they would. That is sort of passive informational role. And if the activist decides not to run but to fight, they decide to intervene, then they have a direct role in changing the governance. And the important thing there is not how many times the activists intervened but the fact that they could intervene. I think with different governance regimes you get different degrees of effectiveness. In the US governance regime, where shareholders have power but it's indirect and it's through the board, where you have to elect the board members and the board exercise their power, so there is a two step process in changing the firm, first you change the board and then that board changes the firm. It's probably less effective than in the UK where you have direct shareholder democracy. If you get fifty percent plus among shareholders they can virtually, together, at any one time, do anything they want with the firm. I think that leads to much more credible threats to management because the transaction cost involved are smaller than in the long drawn public proxy fights. But I think it has a very large effect and that has been documented in the data in a paper with Prof. Sheri Tice, where we look at operating performance and not the stock performance, which you can very well argue have other reasons as to why activism would be related to actual stock performance. Actual operating performance is strongly related to activist activity. Firms with large activism tend to have higher profitability. So when you have higher activism you have higher number of informed traders who give the signals through their trades. And the other reason is it helps discipline the management. So the information is also useful to managers, because managers may not know as much as outsiders sometimes about the value of some projects; managers have some information, outsiders may have some other information, so the stock prices pushing that in at the hand of these very informed investors and the other hand receives that. So for instance, a management announces their decision of starting a new line of cars, and the stock price crashes, and especially if they realize that the stocks are being dumped by the very informed investors then they may reconsider their decision.

IIMC: *There are many factors that determine the choice of a corporate governance structure. What according to you are these different factors and how do they differ in the US, the Europe and the emerging world?*

TN: I think you have to distinguish between formal differentia and the actual differentia because legal systems are different. I think you find some pretty large apparent differences based on that, because it is usually not so much emerging economies versus first world economies, they are basically civil versus common law countries. There are various historical reasons and we still have wars, whether they are developed, underdeveloped or emerging economies and common line countries have military duels. These are however surface differences, it's not very clear of they do function very differently. As far as the developing world goes, I would say the firms may face different environments; because their environments are different their boards may be different. So if you have an economy where there is lot of state intervention then you see lot of ex-bureaucrats on the boards, that is people with lot of government experience, if you have less state intervention, you can expect less of that. One function of the board is expertise, so if the expertise required is different, you get a different board. For instance, say India's one of those countries with a history of state intervention in the economy, the Indian board may not be similar to the average US board and no where similar to an US defense firm, as the incentives for structuring are different. And as far as the monitoring role is concerned, that's pretty homogenous because roughly most or almost all legal systems temporarily form restrictions on the board to control managers. There may be more restrictions on the company as a whole as they generally don't really entrench managers as they have the legal rights to keep their jobs as CEOs. So I think you can monitor them anywhere and that's pretty much similar across structures. We also see formal convergence that is the actual number of directors. The firms with unitary boards have similar numbers of directors because of dual listings across different exchanges. They get these ratings from corporate governance agencies and thus, you see a lot of convergence. In the US, maybe not so much in India but in the US, there is a lot of convergence, differences are becoming smaller and smaller and things have observable characteristics of both.

Microfinance

IIMC: *The Indian microfinance industry has seen a lot of turmoil recently. With the interest rates going up, the default rates have also increased. What are your observations and suggestions for the Indian microfinance sector?*

SS: I think, the microfinance industry could learn from this crisis, and the regulators could learn from this crisis as well. There is a bit of political economy problem here. For-profit microfinance institutions are competing with the rural branches of the state bank institutions. They are competing with the self-help groups in Andhra Pradesh where the government is involved. The government believes that the self-help group is a better way to go, as it has more humane and more compassionate way of reaching out to poor borrowers. On the other hand, the microfinance institutions go to the door steps and deliver the loans, and they have to enforce the loan collection methods, and substitute social collateral for physical collateral. So, we need to take a hard look at the subsidies that are given to these microfinance institutions. Many of them initially started as NGOs, got converted into NBFCs and during that part of its life, they received a lot of tax credits. So they relied on government support in between, and then finally spun themselves into an IPO, but the upside didn't come to any of the tax payers. So, this is a good crisis in the sense that we can learn few things from this, like how we should be regulating microfinance institutions. You don't have to put a ceiling on the interest rates, but you could set some governance principles. After the Krishna crisis, there is a self-assessment that was taking place, and they came with a code of conduct as to how they should conduct themselves, what should be the loan collection practices, etc. Another interesting development is that now we have credit bureaus. Part of the problem in US was that Lehman Brothers borrowed from many institutions, and then they were using one loan to pay off the other and then, they got into trouble. So, if right at the outset, the credit bureau is there, the problem is already minimized by that. So it points to the development of some institutions. It is therefore suggestive that there are credit bureaus, there is a code of conduct in place and then, there is some reporting mechanism. Government has to hear from microfinance institutions periodically about what their loan collection methods are, how they are collecting their loans and whether or not they are using money lenders to obtain local knowledge about their lenders, etc. I think, in terms of transparency, reporting, credit bureaus, if these things come about, that will make the microfinance infrastructure a whole lot stronger. There is an enormous scope for banking services to grow. We have c.400 million people without a bank account. With the mobile phone banking taking such a strong precedence in Kenya, I see a great potential for that in India. I was told that problem is, Reserve Bank of India is very uncomfortable in giving banking licenses to telecom providers. Question is, who is going to do the mobile banking, because if the mobile banking comes, and we have the national IDs, and we have biometric technology, then with banking services and corresponding banking facilities, every kiosk is a branch. Then you have money reaching out to many more people and credit constraints would be much lesser of a problem. So, I think, there is a great potential here, and the lessons learnt from the crisis situations can make the infrastructure even stronger.

Corporate Finance

IIMC: *Can you explain the Market timing theory of capital structure that you had posited in your Journal of Finance Paper in 2002?*

JW: Sure. Capital structure refers to how a company finances its assets. There are a variety of theories that explain how different companies that have similar assets have chosen different financial structures. It is a sort of puzzle and the explanation that we are proposing is that in a given period of time, a firm may need to raise some money to undertake a large investment and the firm raises that money by going to the capital markets and selecting what is at that moment, for that company, its lowest risk-adjusted form of capital. So that may sound trivial but under the traditional Modigliani Miller view of things and the efficient market view of things, there is no such possible difference between the risk-adjusted cost of debt and the risk-adjusted cost of equity , both are priced the same way. There is no advantage to financing one versus the other, but in real markets sometimes the equity is overpriced or underpriced, debt is overpriced or underpriced and it is advantageous at that time to issue debt or equity. So our idea is that market timing is about going to the market for equity or debt that is primarily offering you the best terms and raising the money in that market. If that happens to be equity at that point in time then you just reduced your leverage ratios slightly and more the equity that you issue the more you reduced your leverage ratio. Your equity shows up on the balance sheet and it is just there essentially for ever although you can rebalance away from it, but as a mechanical accounting matter the company's financial structure is the cumulative outcome of all of its past financial structure related decisions. Two companies with similar assets will have different financial structures, how the market timing theory would explain that is that firm with low leverage happened to be the one that needed funds when the equity market offered relatively attractive terms. The other firm shows more debt because they raised money when the equity market offered less attractive terms. A kind of corollary or I should say requirement of the theory is that firms do not subsequently rebalance away from that legacy capital structure that they have just created. So that's an assumption of the theory that is required to time the current financial structure properly to historical decisions. Basically it's a theory that says capital structure today is a coincidence, a result of historical coincidence between the timing of need for investment funds and the market that happened to be offering the best terms at point in time.

IIMC: *Does the theory posit an optimal capital structure?*

JW: No. Not in the standard sense. It proposes that from the existing shareholders perspective it is best that existing shareholders allows the firm to find for itself in future the lowest risk-adjusted capital structure. From that firms perspective the optimal capital structure varies over time. When equity is really cheap for the firm, it is short hand for saying that equity is overvalued so the existing shareholder if he was really smart, he would just sell the shares. But if he is willing to do that then his optimal decision is to allow the firm to finance itself all through equity and buyback all the debt. Basically the firm would have raised more than what it is worth and would have extra cash. When equity markets are very cold and equity is undervalued from the existing shareholder's perspective, the optimal policy is to buyback all the undervalued equity and issue debt. Basically you are paying $5 for shares that are worth 10$.So there is optimal capital structure in the extreme time-varying sense in which in one period its all equity and in another period its all debt. In practice there are certain transaction costs to such extreme flipping and you see firms moving a little bit in each direction. That combined with transaction costs of undoing old decisions means that today's capital structure could be traced to a path dependent history.

IIMC: *What is interesting is that there are implications for valuation. Most financial economists would like to take the opportunity cost, replacement cost if you will. The accountant's craft is to take the historical values. What valuation implications does this approach have?*

JW: You are saying that valuation is not a well defined concept. At any point in time you can think of at least two valuations. You can think of a theoretical true valuation and the current observable market valuation. You can think of a long term value and a short term value. These are distinctions that don't exist in the Modigliani Miller efficient markets model. But, they do exist like you said in the real world. So how would one design an accounting system to incorporate that? In US and probably in India you have the historical cost accounting statements, statements for tax purposes, you can have a third set of statements for true market value , you can have a fourth set of statements for contemporaneous market value. The implications are that it makes the world even messier rather than clarifying.

IIMC: *Can you explain to us the catering theory of dividends you proposed?*

JW: Dividends are another firm policy like capital structure. It is supposed to be irrelevant to firm value under the Modigliani Miller theorem. They say that you cannot change the firm value by changing how the firm is financed or changing its dividend policy. Each of these theories relies on the same set of assumptions and when these are violated for one, they are violated for the other too. In the market timing theory the Modigliani Miller assumption that is violated is the assumption of market efficiency. In other words sometimes there is a good time to raise equity and sometime there is a good time to raise debt. There are also deviations from the securities being priced at the risk-adjusted rate of returns. In the case of dividend policy the very simplest violation of market efficiency you can think of is that at a given point in time shareholders might just like firms that pay dividends for whatever reason. May be they like firms that have dot com in their names, firms that have headquarters at New Jersey, all sort of ridiculous things. Just imagine a less ridiculous situation wherein there has just been a financial crisis and everyone is very nervous about the value of their shares and I think bond markets are less risky and may be I should invest some of my money in bonds. But I would like to retain some equity exposure so I buy stocks that kind of look like bonds - those that pay dividends. In that situation you can imagine that lots of people who were indifferent to different types of shares will flock to dividend paying shares and drive the price up. Then you have a firm that is sitting on the sideline that is deciding whether to pay dividends now or not. This firm on the margin looks around and sees that firms are getting higher valuation when they pay dividends. To the firm it would seem that investors like dividend paying firms. Everything else being equal I should probably pay dividends because I would like to maximize the share price as my compensation is explicitly tied to the share price. Or I may be a big shareholder myself in which case I like a higher share price. Basically we are taking decisions that cater to current market sentiment. If the sentiment is pro-dividend we pay dividends, if the sentiment is away from dividends then investors are exuberant about maximizing growth and that would be a good time not to pay dividends. Historically a firm can get locked into a dividend policy and a firm that has been paying dividends for it to stop paying dividends it needs to have a good reason for doing so. Otherwise shareholders will get nervous and think the worst that the firm cannot pay the dividends. For the CEO to say that I am not paying dividends as firms that are not paying dividends are getting higher valuations would be harder to do. But doing this would be the like extreme form of the market timing theory wherein the capital structure of firms flip between all equity to all debt. Similarly according the extreme form of the catering theory of dividends the firm would pay lots of dividends and then no dividends just in accordance with market sentiment. There are restrictions in the form of transaction costs associated with frequent changes that explains the differences. And if you want to take it back to the cross-section of dividend policy you have 2 firms of similar assets paying different dividends, why is that? Then you can apply the same kind of historical coincidence rationale as the market timing theory has said wherein the firm that is paying dividends lived through a period where dividend payers are very highly valued. So the firm decides I am going to join the group and hope for the best. There are firms that do not take the decision and simply live through the period with their decision. This accounts for different dividend policies of firms that have similar assets. So catering to shareholders means giving them what they want just like you go and ask for pizza you get pizza delivered,

IIMC: *Have we got empirical evidence of this across markets?*

JW: Across markets? The best evidence of this is from the US markets and there is little evidence from Europe as I recall. There is a paper in JFE that I can't recall. There are lots of theories of dividends and no one theory is dominant or explains everything. Of course capital structure and dividend policy theories are polar theories; they look at what happens when you relax just one of the Modigliani Miller assumptions. All theories are true but only one or two of the theories might shine through the data. Right now I am not aware of good evidence outside the US. There are lots of countries around the world where dividends are not thought of in the same way as in the US.

IIMC: *How do firms understand what investors want at a point in time? How good is the transmission from investor preferences to firm decisions?*

JW: That's a good question. For us as empirical economists it is easy to analyze the valuation of thousands of companies at once and say that these are the characteristics that are highly valued. But it is unrealistic to say that the CEO of some medium size company is doing the same thing. The kind of noisiness in their perception may be one reason why the empirical evidence isn't stronger than it is. If all companies knew that dividend payers were selling 20% premium all else equal then you might see stronger evidence. One transmission mechanism in the case of dividend policy would be the shareholders meeting and shareholders might say you have loads of cash and might as well pay dividends. My other cash holding company does the same. In the case of capital structure it could be the investment bankers saying these are terms in which you can get billion dollars in equity these are the terms in which you can get billion dollars in debt, clearly the first is better than the second, we have done our own market research and we do similar analytical work as empirical economists do. By the way the investment bankers have a better market sense. Investment bankers could be a channel of transmission, market specialists could be another channel. Then there are cases where it is obvious. In the internet boom there were lots of dotcom companies that had high valuation. Some firms that were not internet related realized that dot com companies were trading at a higher multiple and went from Wurgler Incorporated to Wurgler.com. The shocking and not so shocking thing about it was that the market reacted very favorably to such announcements and increased the value of those firms by an enormous percentage -10, 20, 30%. I am not talking about huge firms but mid caps at best. So there are cases where the times are such that the particular characteristics investors are asking for is obvious. On average it is not always clear what investors want and there is merely some shift of what they want over time. One out of 10 firms that has to make a decision bases it on this particular consideration and the other 9 just base it on the usual considerations. So you won't see overwhelming shifts in the data but patterns in a big sample.

IIMC: *Can you elaborate on the "Economic consequences of index linked investing", a paper published as part of the NBER working paper series.*

JW: By index linked investing we mean money that is implicitly or explicitly affected by value of a price index such as S&P500. Index funds have to by definition track the index. They do so by buying all of the shares in the index exactly in the right cap-weighted proportion. If many retirees decide that index investing is the way to go then they would put their money in index funds. This gives a special boost in demand to those 500 lucky companies. The 501st company is a different company from the index investor's perspective. 30 years ago when index investing was not important and the only index followed was the Dow Jones and there were no index funds there was no tight balance between being in the club and out of the club. However over time index linked investing has grown a lot and at this point in time there are trillions of dollars linked to indexes especially S&P500. With all this money you might expect some valuation implications for being in the S&P 500. If you are "in" when indexing is hot , you get special price boost .Many investors want to invest in you to the exclusion of a variety of other companies in your industry who are just not fortunate to be in the index. That's a source of economic distortion when you have share prices being arbitrarily set depending on whether indexing is hot or not. You have a number of real decisions tied to share prices and then you have a mechanism that ties investor sentiment to real decisions. The paper is about the economic consequences of index linked investing.

IIMC: *Are you suggesting an alternative to index linked investing?*

JW: No. The paper just talks of the consequences. I am talking only about the negative consequences. All the positives of indexing are well understood. The negatives are that the allocation of capital becomes somewhat arbitrary depending on whether the company is in or out of the index. There could also be distortions in the performance evaluation of fund managers. All else equal they like to track the index closely, and if two companies are mispriced by say 5%, they would prefer the company that is in the index because that would reduce their tracking error. That introduces certain distortions and the paper goes through several cases like that. As far as the alternatives are concerned the natural view is that index linked investing is not going anywhere. The best that one could do is to spread the consequences from 500 firms to thin them out over 5000 firms. There wouldn't be arbitrary distinction between one and another company.

Research in Finance

IIMC: *You have published a lot of papers in the area of Operations Research. What advantages do you see of applying OR techniques in finance? Also, are there any pitfalls which researchers should try to avoid when applying these techniques in finance?*

GM: Interesting question. OR models or neo-classical econometric models are being progressively accepted since they address some of the leadings questions in finance. So understanding those models is important and doing research to improve those models is also necessary. For example, in portfolio planning, the model which became important was the 'Markowitz Mean-Variance Model' where risk was quantified using variance, but there have been improvements made to the model by introducing tail-risk and therefore by controlling both the variance and tail-risk or by simply using things like second order stochastic dominance by which we make choices for portfolio planning. So, we can achieve improvements in models and model results by applying OR techniques. However, you asked about the downside. The downside is that, most of these models assume rational investors, but in reality a lot of impact from behavior of traders can be seen and hence people who quantify the behavioral patterns and take into account those patterns can benefit enormously.

IIMC: *Your PhD was in Operations Research and have published extensively in top tier OR journals. When did you decide to focus on finance and what were the reasons for the shift from core OR to finance?*

GM: There were many reasons actually. We used to be optimization specialists i.e. we were dealing with deterministic models, but over time we got involved more and more with stochastic programming. At the same time, we found that in finance, people were not making use of some of the well established discrete optimization models like quadratic mixed integer programs which are useful in making realistic portfolio choices with threshold constraints or using long/short techniques. Hence, we were invited to work with some of these techniques and that's how we got involved. Also, the major contributions in financial modeling have come from people in OR like Markowitz himself was an OR specialist.

IIMC: *Any advice/guidelines for young researchers in India on how to publish our work or proceed with certain areas?*

TN: The general guideline for all researchers, all students is that you need to really write a paper about a topic, and not a paper about a paper. You really increase your chances of being published if it's something you can explain to an MBA student in about five minutes, what you're trying to do and why it matters. You want a clear focus. Make it an interesting topic and you want to work well within your own zone of competency. The positive gain from doing something sophisticated correctly is less than the harm of doing something incorrectly. If you're not sure you understand the topic, stay well within your zone of competency and make it interesting topic. The comparative advantage in India is that if you have a better understanding of the way the Indian institutions work, then the better way to go is to get Indian data, so I think you can have an advantage in the empirical research. India's a great place to do research as it has an active stock market and it's an emerging market and it has family businesses. So you have combined in one country what you won't usually find in other countries. And India's the only country you can say that about. There are lots of countries with family businesses, developed and underdeveloped, but they don't generally have a very active stock market. There are countries that are emerging but don't have very active stock market. So the three together in one country is sort of interesting and you've got a lot of material to tap in India.

IIMC: *Can you give us some tips on ways of writing papers and getting them published in some of the top quality journals?*

SS: What I have discovered is that when you have written a first draft and circulated it internally, you want to get some feedback and it can be a very tricky process. You come up with an idea, you do not want to release it prematurely because it is a property rights question. You want to protect your idea, but at the same time, because it is a peers review process, you want others input on that before you send it for publication to fix things you have not seen which an extra couple of pairs of eyes might see and you want to take that into account. So I think there is a balance you want to draw. So the way it works for example in Columbia, is that, we encourage our assistant professors to meet for discussion every week. So, we have a brown bag forum. It is called a free lunch seminar. We get lots of ideas internally, but we are not even putting a paper down. We are not even distributing the slides to anybody. The idea is, when you have some research idea and you have thought through a little bit, you have some preliminary research and you want to develop it into a full fledged paper, at that time you want lots of ideas from your colleagues. Then you go back and you have a draft of a paper. Then what you do is, you go and give those papers in various universities and conferences. The advantage is, potential referees are probably in the audiences who are raising all kinds of objections. Then you go back and fix or at least qualify some of the conclusion, so your odds of the paper getting published in top quality journals improve significantly.

IIMC: *You are a great inspiration for the younger researchers like us. What are your thoughts and words of advice for the young, Indian PhD scholars who are keen on research work and aspiring to publish in International journals?*

SS: I think you have excellent advice that you could get from your own faculty members. My own view is, the whole apparatus is set up very differently abroad. You have the notion of a tenure which means that in six years time, you have to produce a certain set of publications of acceptable quality for even to be considered for tenure. So, in six years time either you are going to make it or you are going to do something else with your life. So that set up is there. Then, there is a peer review system and although it is not perfect, you still have to cross the hurdles. The Indian system does not have that kind of infrastructure in place. It does not have journals that are already very well recognized or a peer review system in place. So research work and publication is not as much relevant for your tenure and internal visibility here. Those are some of the considerations that you have to take into account. Primarily, you should also derive lot of pleasure in teaching. Otherwise you should not be in this business. I think, it is sort of a two way street. Teaching involves interacting with inquisitive mind and coming across ideas that may not be formal, may not be very well thought out but worth digging a little bit deeper and over a period of time, they can get developed into a journal paper. I think, ultimately we want to publish and see our paper read by others. It is much better than no body noticing you. So that's what we want.

IIMC: *You have been an extremely active researcher, a passionate teacher as well as an expert practitioner and an industry consultant to almost all the top global investment banks. In Indian context, there is a lack of such active interaction between industry and academia. Especially, there is a lack of funding and sponsorship of research projects from the industry. Your suggestion on connecting these two spheres of industry and academia.*

SS: I think, there is a flip side to it. I think, the connection may be bad, because in academia, you want to be independent and when you are funded by a bank, you cannot really be independent. So, it is not necessarily bad that industry is not funding research. Infact, it could be good. But I do think, there is a positive aspect to it in terms of access to data and access to do research. I teach a fixed income course, and I was talking about auctions. We were discussing about how a government should sell its debt, whether it should use discriminatory auction or dutch auction, when a student raised his hand and said that it is all good in theory, but there is hardly any data and little evidence on them. It turned out that the student who asked the question used to work for a firm which used to help government auction bonds, and within that summer, he got me data on million transactions of all the auctions that was done by that firm for government bonds and we ended up writing a paper that got eventually published in Journal of Financial Economics which showed that dutch auction is superior to discriminatory auction. Then Solomon Brothers manipulated a discriminatory auction, and Secretary of Treasury invited a bunch of academics to fix this. I was invited because of the research that I did, and very quickly all the academicians said that dutch auction is the way to go. Treasury experimented with dutch auctions for two years and then moved to dutch auctions. So this was an example where the interaction was very beneficial for the public policy. It was beneficial for the academicians, and everybody benefited from it. But then, you also want independence. So the best kind of funding that you want is an endowment cheque. In that case, they do not have any ability to extract any rent. The professors can still do pretty much what they want. Likewise, the industry can fund a seminar series. We can have ICICI finance seminar series funded by the ICICI Bank, and practitioners can come and give a talk. These kind of interactions are quite helpful. Similarly, endowment to build a building or set up a lab can also be quite useful. On the other side, Fannie Mae and Freddie Mac in US often sponsors faculty members to do research in housing and finally when you see the conclusions of those research, they are usually favorable to Fannie Mae and Freddie Mac. So, that is not the kind of interaction you want to see between the industry and the academia.

IIMC: *Apart from research, you also run your own company. Can you tell us a little bit about your business venture and reasons why you felt like starting a company of your own being in academics?*

GM: Having done an engineering degree first and then having moved to an analytical subject like math and OR, I have always believed in practicing what you preach. So if you are teaching or building models from a scholarly point of view, then it should also have applications. It's quite exciting to apply the mathematics in the real world. Then we found that if you are only an academic who doesn't want to apply what you do, it doesn't quite work. So, if you have a company which can do contract work, its good. For example, many a times the university will decline projects which involve downside risk, but as a company you are ok with them. What we found that quite regularly university declined projects which had downside side risk and industry was happy to give such projects to us.

IIMC: *Interesting that you mentioned about the interaction of industry and academia because I was going to come to that. Since you have been involved in projects in the UK and in India, do you feel that industry-academia interaction is much less in India than in UK? If so, how do you think that we could increase that interaction in India?*

GM: In the domain of finance or in general application of IT, until about 50 years ago, everything came from the west i.e. US or UK and although the services sector is being built here, the running of these outsourced organizations comes from the west. Thus, I see a gap in connecting the Indian academics with the people who are providing R&D services in the industry since they look to the US and European universities for their academics models and other R&D work, although the work force might come from here. So, I think one way of doing this would be to actually increase the research base of Indian universities and then to engage with the industry by taking sponsored research for PhD work and proving that it works.

IIMC: *According to you what are certain exciting areas of research in Corporate Finance?*

JW: I think behavioral corporate finance is under researched. There are certain low hanging fruits in the sense that no one has really thought of dividends from the behavioral perspective. Basic aspects of corporate governance haven't been thought of much and there is no behavioral contract theory. The ground work about lot of this is mispricing in the capital markets which is a highly developed idea on the asset pricing side. The field has moved towards behavioral research. There are several other threads in financial economics but this I think is the most exciting.

IIMC: *In general, would you like to share any thoughts or advice for young researchers from your experience for their careers and life ahead?*

GM: What I would say is, research on its own is very valuable for the forthcoming decades because knowledge is the most important commodity which will elevate people. Gaining knowledge and creating knowledge is extremely important. For the young researchers, there are many opportunities, may be in existing multi-national corporations, but also in universities and small companies. They should keep in mind that there are huge learning opportunities in working with small organizations and at the same time partnering with large corporations by selling them the idea that knowledge of the specific type which they have developed is useful. So I think the young researcher needs to know the value of his research results, but the ability to sell the idea is also important.