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I will talk about four or five different things.
First the causes of financial innovation and second the managerial setting in which it occurred, third the reaction of the constituance to financial innovation and fourth what a poor borrower might do and is likely to do.

Well, let's talk a little bit about volatility in the passed in a little bit longer perspective than perhaps just the last few months. If you just think for a moment what kind of stress or volatility the world financial system has seen, let's say over the last decade or so. Just think about exchange rates. The yen went from 3,60 to 1,70, then it went from 3,20 down to 1,39. That is in ten years. That is a lot of movement. Interest rates. Let's take US Government long term bonds from the early 70-ies to the present. 7 %, 16 %, 7 %. Now they are about 8 1/2 - 8 3/4 % level. For short term paper - 5 % to 20 % back down to 5 % again. All within 15 years.

Another kind of uncertainty - uncertain access to funding - where major institutions and indeed even governments are totally deprived of access to markets. Basic changes in the world patterns of savings and a vehemence of financial savings. And you see the enormous shifts occurring, first OPEC, then no OPEC. You see Japan, the Eurodollar market, you just heard about the enormous liquidity in the Japanese system, which meant that potential investors, those who control the world savings and wealth changed over a period of a decade or two. Increased government borrowings, restrictions on the flight of capital. Capital flight particularly by developing countries.

We have seen recession and inflation and increased competition amongst intermediaries. Competition amongst investment banks, merchant banks, securities firms, competition between securities firms and commercial banks, and competition between banking institutions and non banking institutions such as for example insurance companies. You've seen deregulation occurring across borders. You have seen an LDC debt crisis, increased communication links. Extremely high material rewards of compensation for getting it right, whether the getting it right was predicting the volatility that world occur or simply protecting oneself. Certainly enough volatility to an enormous change that has occurred over a 10 to 15 years to very much explain the reasons for most financial innovation.

But most of that innovation, I think we might all agree, comes down to perhaps four or five reasons for all of it. The financial community invents and expands the use of instruments such as warrants, futures, options, ROFs and NEFs, extendables, and retractables, and rate caps, and insurance. In response to that environment of the last 15 years, basically to do one of four things: First, not necessarily in this order, to protect or hedge against risk. Second, to do exactly the opposite, to leverage risk. Third, to hide risk, because of accomodating accounting conventions, which let you use certain instruments and pretend that you do not have a risk, and fourth, to provide a certainty of funding irrespective of cost. Unfortunately, however, from an managerial point of view, the objective, which of those four objectives there are, shifts after the fact to justify a particular course of action.

Let me then focus for a moment on what is the managerial setting in which most of this innovation is taking place. The code words are innovation, leverage, liberalization, globalization. But the human psyche, and certainly the byrocratic setting, I would suggest, has not really changed. They remain simply how we cope in a volatile, uncertain financial world.

I think that the first thing that I have seen with respect to the institutions I have been associated with, the institutions that I deal with, is an enormous amount of peer pressure. And the innovation in the peer pressure comes from each source. First it comes from ourselves. An issuer, like the World Bank, someone, is doing a warrant, a retractable, an extendable - should we not also do so? It's the latest game in town, it's the latest way to fool the CEO. The classic example of course is - interest rates are 8 %. Do the bond issue at 7 3/4 %. So the CEO thinks that he is saving you 1/4 %. The option or the warrant is extremely poorly priced. But no one is the wiser. The CFO and the CEO five years later will suffer the consequences. But there is present pleasure.

There is enormous peer pressure also from the part of the customer, the consumer, the buyer of the instrument. Everyone else is buying options or warrants. Everyone else is on the other side of the transaction. I cannot let it be seen that I am starchy or unaware. There is also considerable peer pressure in the investment banking community. Each member of that community looks upon itself as creating a new idea, which perhaps has a short life of two weeks, followed by a variation which has an even shorter, short life, constantly under pressure in each firm and across each firm to bring a transaction to the issuer whether or not it is "fairly priced". I do not mean that these transactions are not market clearing. I mean simply that the component parts are rarely intellectually credible. In terms that their component parts - once broken apart - make sense. That is either the issuer or the customer typically at the time is getting a bad deal. But neither one knows which it is at the time. They usually know a week later even though there is rarely market movement.

Second, there is that pressure beyond peer pressure. Almost as an academic matter, a sort of a challenge to find the world "gestolt" system of finance, to find that perfect transaction so that magic zero-coupon bond, which has, however, a perpetual maturity, so that the borrower neither pay interest nor principle and it can be sold to investors.

There is, third, something which I briefly alluded to - the concept of capturing the rewards very quickly and very visibly related to hiding mistakes by doubling up. There is also the sharing of blame or responsibility. You will see constantly in institutions, and certainly the one that I am associated with is not an exception, not to be identified as the provider of unwisdom. There is also a system that we all, I suspect, operate under which helps the world of financial innovation never to measure an opportunity lost. Only measure, and then punish visible mistakes. Let the world of accountancy control the decision making, never let the world of finance value the credibility of your decisions. Therefore yen borrowed at 300 yen to the dollar revalues to 150 to the dollar. A palpable clear mistake. Investments made in 30 year-bonds at 8 %, yields, then go to 16 %. A clear, palpable mistake. But even there a divided difference of opinion - somebody would even let the mistaken until one sells it. Those of us who are schooled in finance would simply say the mistake has been made whether or not you sold it. All the selling does is let everyone else in the world know you made a mistake. I was going to ask mr. Chino by the way when he talked about the Japanese insurance companies. He mentioned the 20 million dollar loss. The unasked question was how they had taken it? Or is it simply unrealized. Very few institutions will call a loss, particularly insurance companies. Anybody here from insurance companies? Don't be embarrased. Insurance companies sometimes never show those losses.

But let's take the reverse. Because my point is not so much the difference between realized and unrealized losses. My point is the environment which simply says that yen not borrowed at 1,70 and then the yen as it did goes to 3,20 to the dollar. That is not considered a mistake. Because it never appears on the PNL statement, it never appears on a balance sheet. And no one ever says to the CFO or the CEO - you've made a mistake. Because it is an opportunity lost and it is rarely in the world of finance measured. There also therefore remains a very symphatetic alliance on accounting conventions.

And finally I suspect that we live in a world, in a financial community, which considers as acceptable present pleasure for future pain. Warrants insured are permissable if it looks good now. What has been the reaction to most of the innovations that's occurred? And I am sure that all of you have had experience of it in all different ways, some of which you have generated yourself, some of which has been brought to you by investment bankers. And I think it divides up into different kinds of categories. For the most part, and I can talk about the institution with which I am associated with,the World Bank. For most managers, most supervisors, most chief financial officers, the first reaction is fear of a complicated financial instrument. We don't understand it, it is too complex.

The second, a little bit more subtle but palpable, resentment. - who are you to cope with the future. You have a transaction, which is not only complex, but it is one thing to go out and borrow money at 8 % and then forget about it. Don't tell me how I can borrow money at 8 % and if interest rates go up or down I can lay hedges which will make me look good either way. There is a sense that you are too young, because the people who bring these transactions are usually between 25 and 35 years old. You are too smart, too visible, you are too highly paid. And there is a sense of anxiety. I personally think that although that exists, those are all unwize inappropriate behaviours by those of us who have to supervise people who bring those transactions to us. That sense of hostility, or insecurity or anxiety which flows from me to them is not smart, it's not wise. I suspect that they have more good to bring to the transactions than otherwise, even though I certainly and perhaps you have an awfully difficult time keeping up with the speed of those changes.

But from governments there is also a concern. And I will use the word government not to distinguish governments or central banks. They have a different type of concern. They are concerned because some of the instruments, particularly those which have been developed I suspect mostly in the Eurodollar market, have shifted credit risk from banks whom they can control and regulate to non banks, who they cannot control or regulate let alone under a more deregulated national environment. And as a result we see merchant banks, investment banks, securities firms, insurance companies, retail firms in a constant "at the edge conflict" with national authorities as to their taking of credit risk. I speak not of interest rate risk or exchange rate risk, that makes the problem even worse, but credit risk.

Indeed, this question whole is not unrelated to the question of securitization. Because securitization particularly when it is used in the context of the debt crisis often means that the credit exposure will shift from a banking system, where you can put 30 banks in a room and talk to them and reach an accomodation, to creating a security where you can have ten thousand investors none of whom would accept sitting in a room and agreeing that one could not get their principle until the year 2000. And governments and central banks therefore are in fact quite concerned. Not only of securitization but the whole range of instruments which move credit out of banks. Banks can be regulated and controlled in virtually every industrialized country of the world. Pension funds and insurance companies do not have that same control. There is not that same government control over their credit exposure.

The second aspect which is important from a government's point of view or a central bank's is that a number of the new instruments are off balance sheet. For obvious reasons they are off balance sheet. In the United States in particular banking is not all that kind of business. The spreads are narrow and the risks are great. They are long term and its ill-liquid. Better to get fee income with off balance sheet income. That makes regulation difficult. The Bank of England and the Federal Reserve Bank, and I understand a number of European Central Banks, are trying to coordinate effort with respect to a more systematic approach to capital as it applies to off balance sheet transactions, which often are the heart of most pieces of financial innovation. The typical NIF or ROF transaction in the Eurodollar market.

Third, as the bank, a commercial bank begins to take on, particularly a U.S. commercial bank, restricted in the United States to many things that it can do, not restricted in Europe of what it can do because of the freedom permitted by the ....legal act for various operations out of Europe, the bank becomes much more difficult to penetrate. Governments, central banks sense a loss of power. Next, ... complicates the monitoring of money supply not just because it is domiciled outside the borders of a given nation state, but because many of the transactions are in effect lending and borrowing, yet do not show up in the normal statistical evaluation of that society's money supply. Yet a lot of borrowing and lending can occur because of it.

Exchange rate controls will be far more difficult to reestablish once commercial banks begin to engage in cross border, cross currency transactions where they have contractual relationships extant, existing, not easily broken by central bank controls in industrialized countries which have very developed legal systems which will make that quite difficult.

There are too many participants according to central banks and governments. There are too many diverse interests, too many loopholes, too many players, there is too much leverage, they cannot monitor it, they cannot control it. There is the domino syndrome. Too many intermediaries of unknown credit quality, particularly in the swap market between buyers and sellers, between investors and borrowers, making therefore much more difficult and much more leveraged the potential risk to the system, particularly in the context of a world that Henry Kaufman describes as potential increased volatility.

There is also the concern that much financial innovation, particularly that kind of financial innovation which is initiated by commercial banks who hold public deposits in an effort to maintain profitability, and here let me focus mostly on the US, will find themselves as a competitive matter engaging in very complex operations with highly uncertain managerial control. The fact is, that certainly speaking for the United States, not for the United States but about the United States, banks historically train their staff to lend money. It is not clear at all from the regulator's point of view that most senior managers of those banks can cope with the risk taking, not on credit, but with the risk taking related to interest rates and exchange rates the core of most innovation.

At the World Bank we find by far that the most extensive and highest risk profile transactions are brought to us rarely by investment banks with whom we deal, but for the most part by commercial banks. We have no way of knowing whether that is hedged or offset. We know for sure it is not distributed because they do not have a wide distribution network in order to offset the risk that they are taking on both interest rates and exchange rates. Banks, as we know have grown up in a world of matching, certainly on rate of return terms, assets and liabilities either to spread management or certain immaturity management. It would seem that that whole area of prudence does ?

not seem to apply with respect to the innovator transactions that they bring to us on interest rates and exchange rates where we are not a lender or borrower from them but are rather engaged in a rather straight forward swap or warrant or option or futures transaction.

There is also concern with a twin dilemma of banks as to how they are going to cope with a shrinking return on assets because of a) the narrower spreads and b) the credit quality - energy loans, agricultural loans, LDC loans, as the better credits move to the securities markets by issuing commercial paper or fixed rate debt. The banks therefore are either put into the position of having to innovate, or put more risky assets on their box to maintain profitability. And finally there was clearly concern on a much more complex question which I won't to into now as to whether those instruments themselves are in fact to be used as leverage instruments and thereby will even increase further the volatility dr. Kaufman spoke about.

Let me share with you my own views on debt management, certainly from the World Bank's perspective. We do borrow every day of the year. In the last 20 years we have borrowed 100 billion dollars. Rule number one; and I say it is a rule, it is not a rule, it is just my own personal view, but shared by the most of my colleagues, particularly those who are still working for me.

It is very simple. We, they, you cannot predict interest rates at all with any degree of reasonable certainty. One day from now, one week from now or one year from now. I don't think you can predict interest rates or exchange rates with a degree of certainty that would make us comfortable.

Second, there is just as much risk in not borrowing than borrowing at any given point and time, every opportunity loss must be measured. Third, it is of the greatest importance therefore if you put those two things together, to have the maximum out of choice in terms of your credit standing in terms of your relationships with investment bankers in the world's financial community, as to be able to choose when to borrow, where to borrow, what currency to borrow, how to borrow, fixed rate or floating rate, long or short, directly or through swaps, and the flexibility should be maximum. Not because you can predict rates, but because you should have the power to be able to get the resources when you need them, not when the market tells you, not when your internal financial demands require you to borrow. Next: Mistakes always are made, many times in executing any borrowing or investment Programme. Fifth: external forces outside one's control will always limit access at reasonable terms in any particular currency. It might be oil prices, it might be a recession, high interest rates, protectionism, or politics or the weather. Those variables apply to virtually any borrower. The IBM, China, Brazil, Exxon, World Bank, Things are not in your control. We are in a vulnerable fragile environment and the wisest, the most rational and the luckiest will be but a small amount of variation compared to the damage that can be done by things outside one's control. So the basic underpinning of certainly our philosophy is stay very, very flexible and don't be too smart by half.

I also suggest that borrowers totally ignore all concepts such as the Eurodollar market, the Asian dollar market, the Yankee dollar market - I don't have any idea what those terms mean after twenty years. Ask only one question, where are the buyers. The actual envire. The domicile of the bond issue only reflects legal, or tax or regulatory considerations and it's usually considerations which apply to the intermediaries no one else. It has little to do with the location of the market. We define market: where are the customers? Not -- where are the bankers. We will build liquidity, basically because we look upon the world as a dangerous place. That would mean borrow now, not later. All the time: manage the result in cash as if you were a pension fund manager. And if you don't need to borrow, borrow it any way and then have active cash management so as to minimize the cost of carry as much as possible. Accelerate the programmes when you think the rates are low, borrow long term. The World Bank has not borrowed as some of you may know ever on a hundred Billion dollar at a LIBOR based instrument. We do not believe that quality borrowers ever should borrow based upon a LIBOR-based instrument.

I hope no one is here from the bank of England, because the U.K. government does borrow based upon LIBOR. The reason is very simple. We do not believe that even those borrowers who need amounts of resources which don't let them borrow in the fixed rate bond market, but have to borrow on the floating rate bond market should ever link for a quality borrower their cost of money to that of a commercial bank, unless they feel that they are of lesser quality than a commercial bank..

But when Herstadt produces 400 basis points over Treasury Bills for Morgan Guaranty and when the Deutsche Bank has to pay 250 basis points over 3-months Treasury Bills because of a crisis in Mexico where they have very little exposure - certainly we do not believe that a quality borrower should link its bench mark to that kind of market hysteria. Therefore to the extent that we do borrow at floating rates we only borrow linked to Treasury Bills.

Do not innovate under stress. By stress I mean obviously financial stress. If the market is tense or nervous or you just have been hit with very bad publicity don't do a transaction which takes advantage of customers or looks seductive because it is different. It is too late then, anyway. Don't surprise markets, don't pick off customers by excessively tight pricing. Do never, never treat bankers as adversaries. They are not adversaries. They have a hugh amount of risk. Don't expect

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pricing that you don't deserve, don't ask/or take suicide bids. Avoid market saturation. You can use enough competition by being in the swap market. Most important: act as if the world is a hostile place out of one's control. Finally pay all your debts on time.

Let me just conclude by putting some of these things together. Given the unpredictability of rates, exchange rates and interest rates, given the clear prospect for substantial volatility and a great amount of peer pressure to follow the herd. Third, given the propensity of most bureaucracies, most corporations, most governments, and most staff - to look good and sometimes be good. Given the development of new hedging and leveraging instruments. Given, let us say a quiescent, flexible, accounting conventions for reporting mistakes and error and last given highly motivated, very bright investment bankers what will my successors and perhaps all of you likely find.

The answer in my mind is deceptively simple to state. I think we are about to enter into something which for one of a better term I am going to call liability management. What of a scope and complexity not easy to acces. It is going to be I think similar to asset management. All of us know that assets are managed. And they are traded, they are securitized, that is the code word, but they are shifted as pension fund managers, and insurance companies and stock brokers and institutional investors and virtually everyone in this room move assets to increase one's rate of return. Buy low, sell high, buy stocks, buy bonds, buy warrants, buy futures, buy options buy real estates. That is what asset management is. It is the deployment across different instruments. It is the moving from one instrument to another. But I would ask you to consider that if an asset portfolio manager can manage an instrument which basically is issued by a corporation or a sovereign government why not can not that issuer, corporation or sovereign government similarily manage the debt the same way that the asset manager manages that same product. My sense is that they are learning very quickly. But one says, you cannot liquidify the liability side. You cannot repay the Deutsch mark, the Yen, the Swiss franc, the Swedish crona or one's issue. The fact is that you can. All of us in this room know a number of ways in which that can be done both in the option market and the swap market for as long as 15 years.

I believe that liabilities will be over the next two decades constantly restructured. Options will permit borrowers to borrow now and set the rate later, or to set the rate now and borrow later. I believe that currency options - long term - will develop over a 10-15 year period - they will develop for the next several years for as long as 10 to 15 years - which will permit issuers to hedge their positions or buy long term insurance or alternatively in a much different fashion do the exact opposite. Not hedge their positions but leverage their views on rates or currencies. Borrowings once entered into I suspect will be reversed. Through non cash instruments - or defeesed - either because they were very profitable and therefore available to be captured or unwise and one wishes to cut future potential losses. The Yen borrowed at 2,50, it drops to 200. The market will soon realize that they must develop and there will be great pressure on the CFO to find a transaction which will get out when it is 200, before it goes to 150. Or transactions will be done to show particular gains or losses in a given year rather than to let those gains or losses be amortized over a period of a decade.

CFOs and corporate treasurers and I think also government debt managers will acquire new skills, new visibility with new accountability. And that will involve an enormous potential for pressure and for management. I suspect that one of the constraints to that happening more quickly is a minor, but rather significant artefact - is the compensation structure.

Typically corporations do not compensate nor certainly do governments compensate their debt manager usually considered to be a middle level manager in that corporation compared to the inventor, the marketer, the producer of the product as compared to what a pension fund or asset manager gets paid for managing that asset that was issued. The debt that was issued that became someone else's asset.

In short: - I do not think that the financial officers will issue debt, then wait and see. There will be great pressures on the liability side to use the new instruments to move from fixed rates to floating rates and back again. To move into and out of and back into Deutsche Mark, Yen, Dollar, Swedish crona, on the liability side of the balance sheet by the corporation and by the government.

There will be pressures in the corporate sector to take gains, to shore up lying performance elsewhere in the company's productivity. If you cannot sell cars, at least be in a position to take the gains that you have on having borrowed wisely in a given year. Conversely there will the opposite pressure. The pressure to - once the borrowing occurs - to hedge it, to protect it, to insure it and stick to selling cars or textiles rather than taking unmatched, uninsured exchange rate exposure. There will be in short pressure to do both, to create profit centers and to constrain risks in the management of the debt structure. I cannot tell certainly whether those developments will be used to look good, or to be good, or to protect, or to hedge, or to leverage. I just do not know. It is simply too early in the process. But the potential is there to think about and measure opportunities lost and for managing the entire balance sheet of the institution.

Let me conclude by simply saying that I suspect for many issuers, perhaps most, their debt will be traded and securitized by the debt manager itself and swapped from fixed to floating and back again into one currency and then to another over the next decade just as effectively or ineffectively and quickly and the portfolio asset managers do the same thing.