

We have seen in recent decades, and indeed even in recent years, remarkable innovations in financial capital markets. We will see more in the future. Innovations bring risk because innovation always precedes liquidity—a dangerous circumstance when things go wrong, arbitrage and hedging possibilities are—at the inception of any innovation—quite limited, and, generally, accounting rules lag reality and innovation. Innovation usually is off-balance sheet, leverage is rarely constrained, and the more sophisticated the innovation, the less senior management really knows what is going on.

Twenty years ago, I wrote in an article entitled, *Be On Guard in the Glittery World of Financial Innovation*, the following:

“Essentially, innovation reflects the ingenuity to finish the sentence, “I promise to pay you...” in a multiplicity of ways; e.g.:

- Who are you?
- What will you pay?
- Is it unknown or known, fixed or floating, or indexed?
- When are you paying it?
- To whom are you paying it?
- Under what circumstances will you pay?
- With what kind of extra rights or penalties?

I do not believe matters have changed much. We have been seduced by the assumption that mathematical models can predict the probability of a default on, say, a credit derivative. We read the sentence, “assuming the probability of default is known,” as if the sentence reads “we know the probability of default” even though we know, subliminally, that there are few defaults—not enough “points” to test our models. We assume that there is a correlation which can be acted upon between, say, the rating of a bond issuer and the probability of a default and that ratings predict when spreads will narrow or widen before it occurs. But there is good news. We assume, with much more justification, that a pool of securities will give us more certainty and better pricing than an individual ad hoc pricing for a single issuer. There is also good news in that risks have been spread because of massive securitization which reduces the risk to an individual bank or insurance company. That means that systemic trauma is reduced. Loss is shared by many.

But, we must keep in mind that derivatives in general and credit derivatives in particular have exploded during a period of relative stability in the spreads of corporate and emerging market debt compared to AAA government obligations. And we have been in a period of relatively low interest rates. If spreads widen substantially, even if there are no defaults, there are likely to be significant financial consequences.

But my role as the moderator of this meeting is not to lay out the risks or advantages of credit derivatives. Let me, therefore, only summarize my sense of what will happen over the next five to ten years in a more general fashion without either the time or the necessity (fortunately) to prove my case for each of the following propositions:

1. As I indicated, there will be losses in financial institutions as markets become more volatile. Innovation will outspeed liquidity. Regulatory authorities will fall further behind in their understanding of what is happening in the market. But, unlike the past, the damage will be widely spread and not concentrated in a few banks or insurance companies. Unless, of course, they decide to become greedy and hold all the risk themselves.
2. There will be increasing pressure for new inflation linked securities as energy costs begin to be systemically imbedded in the world economy.
3. We will see in response to the demand for housing – mortgage-backed securities – pools, particularly in Europe in an attempt to spread the risks.
4. Banks will securitize both their commercial loans and credit cards throughout the world in an effort to liquefy their balance sheets and spread the risk to persons other than Bank shareholders.
5. Emerging Market debt increasingly will be in their own currencies and become fairly typical particularly when combined with inflation linked bonds and the increasing use of credit derivatives. Packages and pools will be created which include synthetic debt of many countries which will be hedged by real debt of those same countries.
6. Bond issuers will provide a fixed interest rate return – a floor, and currency protection and an equity kicker based on published indices and even total return protection including payment for rising interest rates and loss of principal value – all in an effort to attract buyers and raise capital. And, this, in turn, will provide risks and opportunities for issuers, intermediaries, and buyers to either hedge or leverage the component parts of the contract.
7. The insurance industry and banks will continue to innovate as pooling and new products will require sophisticated actuarial assumptions which previously was only the province of securities firms' expertise and experience.
8. All securities firms will need substantial capital either through affiliation with banks or insurance companies in order to meet the demands of customers— whether speculators or hedgers—to take risk positions. And they will try quickly to sell off their positions to end buyers – pension funds, insurance companies, and other institutional investors and profit from arbitrage or a hopefully superior model which produces more profit.

Permit me to conclude by quoting from another article I wrote twenty years ago:

“Communications now permit buyers and sellers to respond to each other virtually instantly, while simultaneously aware of competing financial opportunities throughout the world. National savings and markets are increasingly freed from legal, regulatory, and practical constraints that were designed to inhibit the transfer of capital across domestic borders. Financial engineering permits mistakes once made from getting worse; wise decisions to be captured; the hedging of risks attributed to currency, interest rates, and spreads; and the leveraging of financial decisions through options and warrants.

“The “integration of markets” makes the valuation of credit more difficult, links together virtually all important players in the world’s financial system, and makes virtually impossible any “orderly” market response or regulation by domestic monetary authorities.

“It would seem reasonable to conclude, therefore, that we are in the midst of a fundamental restructuring of how savings move worldwide as well as an opening up of a whole range of possibilities—extending from disaster scenarios to explosive and exciting implications for growth in both the industrialized and developing world. Indeed, issues involving national sovereignty and the political economy are likely to confront us with as much drama as the industrial and managerial revolutions.

“Everyone seems to be writing and talking about pieces of the picture. The political and social implications, however, are illusive. I suspect that one of the reasons for the lack of focused public-policy attention is that, when one is in the midst of a structural change, it is hard to notice and harder yet to resolve the political implications. These may be outside the expertise—or interest—of the participants who have the technical familiarity with what is going on. A logical conclusion: Learn Chinese!

“Even the Chinese will become interdependent—through finance, not politics. And private capital from outside their own country will increasingly become available to meet their saving requirements. And wealth will concentrate in relatively few pockets where immediate returns are deemed highest and safest—and savings essentially will be outside the control of national authorities. But the key question in all this, of course, cannot be avoided—what is the overall supply of wealth in the world economy? For the intermediaries can run havoc with velocity and the multipliers, but only growth and a constraint on inflation can lead to an increased supply of resources in real terms. And so let me pass the ball back to the economists—with a little help from the regulators and a little hindrance from the accountants, or is it vice versa?”