

Remarks by Leo Melamed
China International Derivatives Forum
Shenzhen, China

December 4, 2015

During the last century computer technology moved mankind from the vast to the infinitesimal. This fact is of great relevance in understanding the growth of derivatives.

In the physical sciences, at the outset of the century, Albert Einstein's theory of General Relativity dealt with the universe—the very big. As the century progressed we journeyed to quantum physics—the very little. As a result of this process civilization gained the ability to produce the transistor which gave us the ability to create the personal computer and a myriad of technologies which define our every-day lives today.

Similarly, in biological sciences, we moved from macro to micro— from the discovery of individual cells to DNA. As a consequence, we learned about genetic diseases and our immune systems. It allowed scientists to find medications and cures for a host of human disorders.

And correspondingly, in financial sciences when computer technology was applied to established investment strategies, the evolution from the big to the little was strikingly similar. With computer science, the most complicated risk management structure could be broken down into its separate components. In other words: derivatives were born—the financial equivalents to particle physics and molecular biology.

Technology enabled investment science to uncover the basic components of financial risk. Financial engineers were able to disaggregate, repackage, and redistribute risks and their corresponding rewards, exchanging one set of risks and rewards for another that responded better to investors' preferences.

It is therefore little wonder that the invention of financial futures was so successful. Beginning with its launch of the International Monetary Market (IMM) in 1972, the evolution of instruments of finance to manage risk was dramatic. In simple language futures markets worked to efficiently allocate financial risk from those who desire protection to those who can afford to carry additional risk.

In the beginning there were those who considered futures markets in an unfavorable light, that they were no more than gambling dens. In every instance, after a great deal of academic and government analysis, just the opposite opinion was reached. Futures and options markets, it was determined, are of undeniable value in the management of complex business risks and imperative in the development of capital markets. During the last four decades, financial futures became a worldwide phenomenon. Nations around the globe embraced the idea and followed the Chicago blueprint. Today there are developed financial futures markets aside from the US, in Australia, Brazil, Canada, France, Germany, India, Japan, S. Korea, Mexico, Singapore, United Kingdom, and of course China. Most of them have equity futures.

This fact is of vital importance to China as it takes its place and competes with the world of developed capital markets. According to Robert C. Merton, the 1997 Nobel Prize winner in Economics and Professor of Finance at MIT:

“The enormous increases we have seen in derivative-trading volume are the vast savings in transaction costs from their use. The costs of implementing financial strategies for institutions using derivatives can be a tenth to a twentieth of the cost of using underlying cash market securities. Looking to the future with such cost savings, we are not going back. Derivatives are a permanent part of the main stream global financial system.”

These instruments of finance are used by the largest and most sophisticated financial institutions in the world—domestic and international banks, public and private pension funds, investment companies, mutual funds, hedge funds, energy providers, asset and liability managers, mortgage companies, swap dealers, and insurance companies. About 83% of companies that use derivatives do so to curb the risk of foreign currencies, 76% of firms use derivatives to hedge against changes in interest rates, 56% seek to protect themselves against commodity-price fluctuations, and 34% use derivatives that are based on equity or stock markets.

By the beginning of the 21st century, the creation of the CSRC served to establish the following futures markets in China: The Shanghai Futures Exchange, (SHFE), The Dalian Commodity Exchange, (DCE), and the Zhengzhou Commodity Exchange, (ZCE), each restructured with accepted regulations and each trading in a different class of commodities. China’s entry into finance however did not occur until 2006 with the launch of the China Financial Futures Exchange, (CFFEX) to trade in the popular Shanghai Stock Index, the CSI 300. The CFFEX was an instant success, with an overwhelming volume from the very first day.

However, all four Chinese futures markets, while successful, suffer from the same flaw. They are primarily domestic and nearly without any global participation. I have often commented on this, stating that it was imperative for China to be more open to international investors. As the world’s largest importer of many commodities, Chinese futures markets should be playing a major role in global price discovery and they are not. I cautioned that until Chinese futures markets become subject to cross-border interaction, the full value of futures to the Chinese economy will continue to be limited. That suggestion is still valid. By opening its markets to global participation, China will strengthen the domestic markets, deepen the liquidity of underlying cash markets, and enhance the price discovery process of its commodity products to the benefit of the Chinese real economy. I have spoken of this at every opportunity both publicly and privately.

The CFFEX had an additional well-known problem recognized by both the exchange leadership and the CSRC. More than 80 percent of its volume was from retail participation and dominated by speculation. That is not the constructive ratio of commercial versus speculative participation. The CFFEX, of course, came into focus as a consequence of the stock market volatility experienced during the recent July-September period which rattled China and markets around the globe. Traders at CFFEX were considered as the main cause of the market crash. I do not agree.

Futures markets are always the leader, first to sound the alarm. It is their primary trait. It is their duty to be first with news, good or bad. Their transparent structure, their broad availability, their accessibility, their efficiency, always makes them the first responder to news.

The cash markets are much slower to respond. So it always looks like futures caused the problem.

Futures are like a good fireman, the first responder as soon as there is even a sign of smoke. Or like a good doctor, the first to say the patient is ill. And because they are the first with information, sometimes with bad news, they often get the blame. “Behead the messenger of bad news” was an ancient custom.

But if you close them, or allow government to artificially hinder their ability to function, you will not save the burning house or save a sick patient. It will be like throwing out the thermometer because you do not like what it saying. That will not stop the fire or cure the patient.

Without this mechanism, China will have a difficult time creating liquid and strong capital markets in order to reach its goal for the RMB to become a reserve currency.

This same conclusion was just published on “We-Chat” after the crash, by the respected Tsinghua University, under the guiding hands of former PBOC vice president Wu Xiao Ling, and Li Jiange, the former deputy director of the research center of the state council. It states emphatically the equity index market is not the cause of the stock market turmoil and it encourages making them stronger.

The Tsinghua study also reached the same recommendations that I have proposed.

First, institute a strong educational effort with focus on the Chinese commercial world; Second, adopt regulatory incentives for Chinese commercial institutions, securities companies, fund and trust managers to encourage them to utilize the hedging capabilities of stock index futures; Third, although QFII rules allow qualified foreign institutional investors access to CFFEX, the rules are restrictive and do not sufficiently open the market to off-shore participation; Fourth, adopt rational position limits on speculative trading; Fifth, adopt reasonable constraints on excessive leverage, and finally; Sixth, advance every avenue that will promote cross-border trade.

Allow me to make the following observations. During the year leading up to the crash, stocks seemed to become a sure bet for Chinese investors. The markets promised a much higher rate of return than traditional low-interest bank savings accounts which offered annual yields of less than 2 percent. More and more small and unsophisticated investors flocked to the thousands of brokerage houses in every Chinese city in order to buy as they watched the electronic data boards which were available to them. Individual investors thus inflated the stock market values through massive amounts of investments in stocks.

Last summer, the market took off, rising in straight-line fashion. The bubble grew and grew. Price-to-earnings ratios for some Chinese stocks averaged a 70-to-1 ratio, compared with a worldwide average of 18.5-to-1. For some companies, the value of their A-shares on Chinese national exchanges rose to be nearly double the equivalent shares of the same companies on the Hong Kong exchange. In less than a year, the Shanghai exchange gained some 135 percent, and the Shenzhen exchange went even higher with a 150 percent rise.

Allow me to state the obvious: Any market that rises to the extent and in the rapid fashion as did the Chinese stock market, becomes a certain candidate for some form of a precipitous and rapid decline—in other words, a crash. The CFFEX is not to blame for the bubble created by a multitude of investors. The CSI 300 index is an instrument of finance; it too cannot be viewed as the cause.

I know this for certain and I have very good company. Many highly regarded academics and global experts fully agree with the view I have offered. And so does the prestigious Tsinghua University in the report which I previously mentioned. It states emphatically its conclusion that the equity index market is not the cause of the stock market turmoil. It also notes that some of the restrictive measures taken caused some investors to turn to the offshore A-share market.

I experienced a nearly identical phenomenon in the United States stock market in 1987. On October 19, 1987 the S&P 500 futures index market plunged 22 percent on that single day. The similarities between that experience and the one in China are striking. It is therefore instructive to examine how we in the U.S. overcame that crash and what measures were taken and not taken going forward. It represents a very important blueprint. What did we in the U.S. learn? The principle lesson we learned from the crash of 1987 was that when market mania supplants good sense—rocketing stock prices to levels far beyond the rational---brutal market punishment is inevitable.

During the horrifying trading day of October 19, 1987—the scariest day of my entire life—I had a multitude of conversations with Alan Greenspan, Chairman of the Federal Reserve, with Beryl Sprinkel, Chairman of the Council of Economic Advisors to President Reagan, with John Phelan, Chairman of the NYSE, with a number of very influential U.S. Senators and Congressmen, and with officials of other exchanges. The one thing we all agreed upon, including President Reagan, that we should not close the market (except if necessary for a few minutes as a “breather.”) Everyone understood that closing the market would remove the most important tool in determining what the market was telling us. It would be like throwing out the thermometer which tells you whether a patient is still sick or is getting better. In the final analysis, this proved to be the most critical decision in preserving the values provided by futures markets.

However, then as now in China, a belief arose that the crash must have resulted from a specific cause. So, despite an abundance of evidence pointing to fundamental economic and psychological factors, an exhaustive search was launched. Some government officials as well some influential market observers offered a belief that the 1987 stock market crash was caused by a specific villain, namely U.S. futures index markets. Never mind that in the words of Fed Chairman Alan Greenspan, "Stock prices finally reached levels which stretched to incredulity expectations of rising real earnings and falling discount factors ... something had to snap ... if it didn't happen in October, it would have happened soon thereafter ... the market plunge was an accident waiting to happen.”

Does that not have a familiar ring? The main measure sought was to raise the margin requirement on futures to, say, 50 percent instead of their traditional around five percent. Fortunately, this proposition was discarded in the U.S. since it was recognized that “margin” in futures was to protect the financial integrity of the FCM and not to encourage or discourage customers or traders. As Nobel Laureate, Merton Miller stated, “The margin issue is a code-word for killing the U.S. futures markets.”

Ultimately, a compromise of about 10 percent was reached. A requirement of anything higher was rejected since that would impair the liquidity of futures; a loss of liquidity would obstruct futures use as a risk-management tool, debilitating their enormous contribution to the strength of the American capital market. It would also drive the index business to offshore competitors. It was a case where the cure would kill the patient.

Another accusation was that program trading on computers caused the crash. That was disproved. Program trading allows a computer to execute someone's stock market strategy. It is primarily used by institutional traders because it is more efficient and less costly. While we can put some restrictions on it, technology progression will continue to advance and often take the place of human endeavor. You can sooner stop the earth from going around the sun than stop technology from moving forward. Today, we are online with the world 24-7-365. We text, we Twitter, we email, we Google, we Yahoo, we Facebook, we iPad, we iPhone, we YouTube, we We-Chat, and now we even Alibaba. We cannot go back to the way it was.

Finally, discussions led to an idea that I had strongly promoted— "Circuit Breakers." The idea was to have in place equity-index price limits at which point the market would be put on "hold" for a specified small period of time before trading is resumed. These circuit breakers would be in place as part of the rules of the market and they would be coordinated with the NYSE and other equity exchanges. These were instituted and are in force to this day.

What followed over the next year or two were some 77 different reports and studies about the 1987 crash. The "official" one, "The Presidential Task Force on Market Mechanisms," commonly referred to as the "Brady Report," (published in January 1988) exonerated futures as the cause of the crash but did recommend a single regulatory agency and "consistent" margin requirements.

For me the most telling study was the "Findings of the Committee of Inquiry," an examination of the events surrounding October 19, 1987, and authored by four premier market experts, Nobel Laureate, Merton Miller, John D. Hawke of Arnold & Porter, Burton Malkiel of Yale University, and Nobel Laureate, Myron Scholes of the University of Chicago. Their unqualified conclusion was that futures were not the cause of the crash. Indeed, their study indicated that futures actually absorbed selling pressure on balance. One must remember that futures are a sum zero game, for every seller there must be a buyer.

The result, aside from circuit breakers and an adjustment in margin, no other changes or laws were adopted. And the U.S. equity market applauded. It soon began a new bull run which lasted for the next thirteen years.

Allow me to conclude on this note: Financial futures have been accepted by all major nations as an exceptional instrument of finance, one that is vital in the development of capital markets. I repeat what Professor Robert Merton stated, "The costs of implementing financial strategies for institutions using derivatives can be a tenth to a twentieth of the cost of using underlying cash market securities." That is a most powerful argument for their continued viability.

Will the recent stock market volatility cause China to disregard this global experience and blueprint? Will it inhibit index markets' continued growth? Or will it instead follow the dictum of President Xi Jinping when he stated, "Let the market play a decisive role," and, by extension, adopt a path to keep its financial futures market viable and strong? I trust China will follow the advice of its President.

* * *