INVESTING IN A VOLATILE ENVIRONMENT: A RANDOM WALK AMONG DERIVATIVES *

Great writers – and speculators – from Keynes to Soros have analysed markets in goods and money. More often than generally realised, these are really markets in contracts or derivatives markets. Markets are driven by expectations and vice versa. The wonder of observing and investing in the market is that such observation and investment itself changes the market.

First of all, I would like to thank Regina Ip for inviting me to address this distinguished audience. When Regina asked me to talk about investing in a volatile environment, I was initially very reluctant for very obvious reasons. However, on reflection, I thought I could do so only under two important Health Warnings: first, investing today is like smoking – hazardous to your health. Markets go up and down and you invest at your own risk. It is generally accepted that any advice, opinions, suggestions or hints of mine, or indeed, any so-called market experts, would be totally spurious and cannot by definition be better than your own, and therefore should not be believed or construed in any manner for the purposes of investment. In other words, I advise you to totally disregard what I have to say. Second, whatever I say here today is my personal opinion and cannot be construed as the views of the HKMA. You have been warned: do you still wish me to proceed?

Let me start with a random walk around the concepts and principles of investment. I shall look at the general principles of the market and end with a view of the derivatives market. Since I have only 20 minutes to give you this tour d'horizon, let me give you immediately the secret of success in investing, which every child knows is very simple. It can be embodied in the word BLASH, that is: Buy Low and Sell High. I recently read a Chinese magazine's interview with the Chinese entrepreneur, Larry Yung, and his philosophy is to BHASH, which is to Buy High and Sell Higher! On the other hand, there are the Nickel and Dime stores of this world that trade on volume, in other words, Buy Low and Sell Low, but at High Volume. There you are, you have the secrets of making money all in a few words.

On closer examination, the simple secrets are not so simple after all. BLASH concentrates only on price, but does not say enough about three other important aspects of the investment market: the choice of the product (i.e. the stock pick), the timing and the expectations of the market.

I must confess that I was so worried about this talk today that I spent the last few months ploughing through all the great books on investments, ranging from Bill Sharpe's textbook on investment, the Modigliani-Miller Theory on Asset Diversification and the Efficient Market Hypothesis to the Black-Scholes Pricing Model for Options. I am not a rocket scientist. The nearest thing I got to this point was when, as a young articled clerk, my audit partner gave me a rocket for not making sure that 2+2 equals 4. Eventually, however, I settled on two of the best books on investment you will ever find, both written by speculators par excellence.

The first book is the *General Theory of Employment, Money and Interest* by John Maynard Keynes, first published around 60 years ago in 1936. Keynes was the greatest economist in the pre-war period, and he was reputed to have won three fortunes and lost two, trading in commodity futures, which is a better record than most economists today. The second book is George Soros's *The Alchemy of Finance* subtitled, "Reading the Mind of the Market", first published in 1986, exactly 50 years after Keynes. George Soros is of course the most famous speculator of all time, known more for how he bet and won £1 billion against the Bank of England in the 1992 ERM crisis than for his philanthropic activities in helping to transform the state-planned economies of Central and Eastern Europe.

Before I launch into their insights, I want to give you a potted survey of the current theory of markets. All markets have a natural sequence of development: in the beginning there is the barter market, then the spot or cash market appears,

* This is the text of a luncheon talk given by Andrew Sheng, Deputy Chief Executive (Monetary) of the HKMA to the Zonta Club of Hong Kong East on 21 September 1995.

followed by a forward market, and eventually a futures or options market. The market comprises of a number of players; buyers, sellers, brokers, lawyers, accountants and investment advisers, all involved in the trading of goods, services or even information. Now, the textbooks would like us to believe that the typical physical market is a trade between goods and cash. But in reality, the market is a market of contracts. When we buy a TV for cash, we are actually exchanging two contracts – one contract for a TV with some warranty that it works as promised and another contract for value as promised by the government, i.e. our currency note. In other words, both contracts are **derivatives** of the underlying value – values to the buyer and seller, which converge at the agreed price.

In essence, what I am saying is that the derivative market is not a new animal invented by the rocket scientists. It has been with us all along. The cash market is a derivative of the barter market, the spot market is a derivative of the cash market that trades on T+2, the forward market trades on T+ a forward date as agreed, and the options market trades on the right to buy or sell at certain agreed prices. What has made markets more efficient, but unfortunately more volatile, is that we can almost derive property rights indefinitely. A share is a derivative of the underlying assets of a company. An index is the second order derivative of a basket of shares. A stock index option is the third order derivative and so forth. We can create derivatives ad infinitum as long as there are enough persons (some people are tempted to say suckers) who can be persuaded to buy such derivatives.

What is particularly interesting about the market is that it is both a digester and deliverer of information. Both buyers and sellers of product need information of all kinds that they extract from the market. Each have imperfect information, but each time a deal is struck, the market delivers a new piece of information. Thus, one of the major reasons why the market has become so global, efficient and also volatile is the vast improvement in technology, telecommunications and the media. Each investor approaches the market with limited information, different levels of risk appetite and different scale of resources. Those who are optimistic we call bulls, those who are pessimistic we call bears and those who get slaughtered we call sheep. Is investing in the market truly a random walk, no better than throwing darts at the dart board? Are the professionals really better than the amateur investor? These are the real questions you would like to ask.

Now let's hear what the experts really have to say. The most observant, but today most politically incorrect, was Keynes. I do not wish to get into a Carlsberg controversy here, but would like to quote Keynes, who said that:

> "professional investment may be likened to those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole... It is not a case of choosing those which, to the best of one's judgment, are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we devote our intelligences to anticipating what average opinion expects the average opinion to be."

Ergo, investment has moved away from first derivative expectations into second, third or fourth degree derivatives of expectations of future prices. In this new world of derivative markets, we are helped by the complex mathematics, but the markets today have evolved into a much more complex and volatile environment because of the improved mathematics, computer analytics and the degree of leveraging.

Let me now move on to Mr. George Soros, whose book I must confess is not the easiest to read, and I apologise if I paraphrase him incorrectly. Like Keynes, Mr. Soros starts his book by railing against perfect competition. He then adapts the Heisenberg uncertainty principle to market theory: that is, the act of observation interferes with the observed phenomenon. His variant is that the act of investment by the investors changes the market, but the element of uncertainty is caused by the investors (or market participants) themselves. If we

accept the fact that, in the real world, there is no perfect market and perfect information, then we have to recognise that all investors are biased one way or the other. Mr. Soros's true contribution to investment theory is the introduction of the theory of relativity or mutual interaction between the investors and the market into the previous static analysis. However, his concept of reflexivity is not easy to summarise and I think it is best done in his own words (I have only changed the words – participants to investors):

> "The connection between the [investors]' thinking and the [market] situation in which they participate can be broken up into two functional relationships. I call the participants' efforts to understand the situation the cognitive or **passive** function and the impact of their thinking on the real world the participating or **active** function.
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> When both functions operate at the same time, they interfere with each other...Instead of a determinate result, we have an interplay in which both the situation and the participants' views are dependent variables so that an initial change precipitates further changes both in the situation and in the participants' views. I call this interaction "reflexivity" (pp. 41-42).

The acid test of Mr. Soros's theory of reflexivity is his own success. There is today not only a crowd of investors following what he does in the market, but also another crowd anticipating what he tries to do. Indeed, both what he does, and what other people think he does and what he thinks other people think he does, will change the market. Have I confused you enough?

In fact, even though Mr. Soros is not easy to understand, this inscrutable Oriental had no problems recognising the philosophy behind his theory. Indeed, if you simply change the word "passive function" to **Yin**, and the "active function" to **Yang**, you would quickly recognise that George Soros has re-invented the **Tao** of modern investment. I am tempted to recommend to Mr. Soros to change the title of the next edition of his book from the "Alchemy of Finance" which is not so respectable a science to "The Tao of Finance" or the "Zen of Selling Sterling, Buying Yen and Winning Dollars".

Let me close by saying that I am not being flippant in trying to belittle Mr. Keynes or Mr. Soros's insights into the market. On the contrary, I consider both persons great visionaries of how the market functions. The wonder of the market is that it never ceases to change, and the act of observation and investment actually changes the market. If we accept this fundamental truth, we have to appreciate our own limitations with some humility. The market is very complex and constantly evolving. Derivatives are in essence both simple and complex. Investing in this volatile environment is therefore no easy task. What we need to be very clear about is the objectives of our investment and our own risk appetite. To me, the most important money in the world is not my money, but other people's money, for that places a tremendous burden of trust and responsibility on our judgment.

The HKMA's approach to investments is in essence very simple and can be summarised in one sentence:–

> The Monetary Authority manages the Exchange Fund with the objective of maximising the long term return on the Fund, subject to ensuring that there is always adequate security of the assets of the Fund and sufficient liquidity to meet the various calls that may be placed on the Fund."

With these objectives in mind, it is no surprise that we manage the Fund very, very conservatively and cautiously. I can advise you no less.