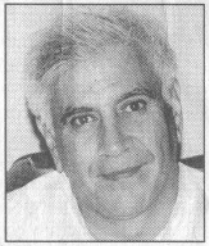
DT. Europe. 24/07/04.

On knowing and improv

COMMENT



MUNIR ATTAULLAH

The Wall Street Journal once had a column that compared the choice of professional mutual fund pickers against stocks chosen by throwing darts at a stock listing. Amazingly, the latter procedure won out many a time! Is there a moral there, I wonder?

WALK INTO ANY LONDON CASINO AND THE first thing that strikes you is who the punters are. You will not see many Americans or Europeans. Overwhelmingly they are Indians, Pakistanis, Iranians, Arabs, Chinese and South-East Asians, doing what new money does best: throw it around as if there was no tomorrow (for further confirmation that they are doing the sensible thing because there are not many tomorrows left anyway tune in to Dr Shahid Masood's extravaganza on ARY, The End of Time). Globalisation, market economies, and crony capitalism have spawned a new breed of successful expatriate with money to burn. Good luck to him, I say. Not in the sense of beating the casino (which he cannot), but in the sense that don't count me among those who disapprove of his crass flaunting of wealth. I have little patience for middle-class envy, dressed as some specious moral or social principle.

You cannot beat the casino (with a few exceptions, which I will come to later) and let no one tell you otherwise. And yet, all the time, I am told by someone or the other how so and so is a very lucky player, or how X or Y is a regular winner. All I can say is show me that person and I will show you a liar. For no one — absolutely no one — can get the better of the iron laws of probability.

By that I do not mean that a winning streak is not possible. It certainly is. You can emerge a winner on any given day, or even over some slightly longer period. The shorter the time span, or smaller the sample, the greater the possible deviation from predictions based on probability theory: cricket captains have been known to win five or more consecutive tosses. But the longer you play, the tighter and more certain the vice like grip of these iron laws. Thus, if you played a sufficient number of hours every day for a year, your fate is not even worth discussing. For, in essence, what a casino does is to invite you to toss a coin on the following terms: if you call incorrectly you give the casino Rs 100; if you win it will give you Rs 97. Now tell me, how can anyone be a long-term winner under such conditions?

The coin tossing case is easy to understand but in general, when it comes to judging probabilities, human intuition is notoriously inept — as compared to mathematics — at reaching the right conclusions. Let us start with the simplest possible case: suppose Inzi has won ten consecutive tosses; is he a favourite then, to lose the next one? The answer is NO. It is exactly even money, no more, no less. Every toss is a completely new case, and what has happened before has no bearing on the present. A coin has no memory. At a party of say 60 complete strangers, suppose I said "I bet my $100 against yours that there are at least two people in this room who share the same birthday." Should you accept? You may think you are on to a winner here (after all, there are 365 possible birthdays etc), but you would be wrong. A little calculation shows that in a group of only 23 people there is a 50 per cent chance of that happening. In a group of about 60 people that probability is over 90 per cent! In a similar vein, suppose I offered you the following proposition: pay me Rs100 and roll two dice; if you roll a double six (or any other double you care to nominate beforehand) I will pay you Rs 3,000. Should you accept? Don't. If you rolled the dice 1,000 times, I can virtually guarantee you will lose around Rs.14,000 or so.

The lure of easy money is hard to resist. Many a fortune has been lost at the alter of an 'unbeatable' system. When asked by his anxious financiers how the 'system' was faring, one such genius wired back:

ying the odds

"System doing great. But send more money." No one seems to notice that many a punter ends up losing his shirt, but no casino — or bookie — ever goes bust.

Remember I am not talking here of gambling games with a large skill element, but only of casino games. However, *it is* possible to beat even the casino if you set about it scientifically. Some 40 years ago, the mathematician, Edward Thorpe, wrote a best-seller called *Beat the Dealer*. He showed that by playing blackjack in a certain way it was possible not only to reduce the casino's edge to less than 1 per cent most of the time, but on occasions to actually have the odds slightly in your favour. Essentially, his method, known as 'counting', works by the punter keeping track of the number of aces and picture cards left in the deck. But beware! casinos can spot a 'counter' a mile away, and in general they are not welcome.

A more ingenious scheme than that was conjured up by the physicist, J Doyne Farmer, and some friends, in the early eighties, to beat the roulette wheel. They used tiny purpose-built computers hidden in their shoes, to calculate — given instant input data on the speeds of rotation of the wheel and the ball etc — the approximate slot where the ball would finally end up. Then they would bet on the cluster of numbers on either side of the predicted slot. The results were definitely favourable, but it was a hopelessly cumbersome exercise given the then primitive state of micro-computer technology.

So Farmer and his colleagues decided to apply their knowledge of the mathematics of 'chaos theory', to play in the biggest casino of all: the financial markets. It remains to be seen if their non-linear dynamical model, using a sophisticated 'time-series analysis' of pricing data, will succeed, where others have failed. I am thinking here of the LTCM hedge fund saga. The sharpest traders on Wall Street had joined hands with Nobel Laureate economists Myron Scholes and Robert Merton, to develop a sophisticated computer based model for arbitrage trading, based on their theories that worldwide markets naturally make errors in pricing similar assets differently. On a $4 billion equity base they built up $1.25 trillion of leveraged debt in financial derivatives! But 'leverage', as Galbraith gleefully pointed out in his delightful book on the Great Crash of 1929, works its magic both ways. When the Asian crisis hit the markets in 1997, LTCM simply imploded. And the US Federal Reserve had to mobilise an expensive bail out to protect the banking system from the reverberations.

The *Wall Street Journal* once had a column that compared the choice of professional mutual fund pickers against stocks chosen by throwing darts at a stock listing. Amazingly, the latter procedure won out many a time! Is there a moral there, I wonder?

Maybe, and maybe not. If gambling in its widest sense is about decision making based on an appreciation of the odds then, in a real sense, we gamble all the time at the game called 'Life' in this magnificent casino run by the Almighty. It would be presumptuous of me indeed to discuss the merits of various strategies here, for I cannot say if this is a game of skill or not. But I will say this: our behaviour patterns even at this game are not noticeably different from those of gamblers of the more obvious kind.

Munir Attaullah is a businessman