

Patterns in Markets, Coincidence?

Contributed by Ben
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I started writing my second article about support and resistance, intending to talk about cognitive biases, self fulfilling prophecies and the like. Then, while writing a fairly simple Excel simulation to illustrate a point I was making, I came across something quite odd. Read on to find out more.

The simulation was simple, a completely random 'market' in which at the end of each interval, the price moves up or down by a random amount. The point I was hoping to illustrate was that given a random collection of data that we do not know is random, we will tend to find patterns in it.

Almost every time I re-ran my simulation, I was presented with a chart which, had I been given it and told it was a FOREX pair, I would confidently have drawn in the support and resistance areas and, given sufficient confluence with other factors, made trading decision based on. Below are a couple of the charts generated.

Eventually I'll publish my original spreadsheet but in the meantime I'd be very interested to see if anyone reading this has similar or different results when writing such a simulation; please email any interesting results to ben.dixon@moneywhatmoney.co.uk and I'll try to publish them here (giving you credit of course).

Each chart is made up

of thirty two thousand data points, each point can represent the price based on any unit you may choose; hours, minutes, days...it makes no difference. Below are the same two charts marked up as I would the charts for a market I was planning on trading.

On the above charts the blue lines are where I would have marked an approximate support and resistance levels and the red lines are ascending trend lines.

This got me thinking about the reasons I was about to give for support and resistance occurring and whether, if the same patterns occurred in random data, need any further explanation need exist?

At this point I should admit that I'm biased, I want the patterns to be there for a reason, because this is what makes them predictable and that is what makes it possible to consistently make money from the markets.

This was particularly interesting because people are always telling me that trading, in particularly foreign exchange, is nothing but gambling. If the patterns I was 'betting' on were really nothing but the by-products of a random process, then these people were right.

On the one hand, the markets are quite similar to the pseudo-random data generated by a computer. When a computer generates a random number, it does so using various equations to generate a sequence of numbers that appear random to us (like someone reading of a list of number previously obtained by rolling a dice). Whilst the numbers appear random, they are actually pre-determined by the underlying process and if all of the information about the underlying system was available, the next number in the sequence could be predicted.

A market is similar, there is an underlying process at work, the buying and selling of market participants moves the price up and down, if we knew the way in which these people would behave then we could predict where the market would move to. Unfortunately the amount of information and the accuracy required is so great that we cannot accurately predict what will happen.

On the other hand it is inaccurate to move from the statement 'I am observing the same output from two processes' to the proposition 'these two processes are the same or very similar because they give the same output.' This would be similar to saying 'the sun is yellow, corn is yellow, and therefore corn is a burning ball of gas.'

That said, it may be fair to conclude that the two processes have some element in common, corn isn't yellow because it's a ball of burning gas, but both the corn and sun are yellow because of the way in which light hitting them is reflected. At this point the philosophical part of me is tempted to turn this into an article about consciousness and the Turing Test, this is however meant to be an article about trading so I'll save that for a rainy day and stick to things I think might be useful when trading.

From a practical point of view, I have no idea what the common element is between the markets and my randomly generated markets so, I compromise. I accept that there probably is some element in common, but I don't know what it is, so I make decisions based on what I've observed to work in the past, based on explanations I think work, and keep in the back of my mind at all times that this element exists, just to stop myself being too sure I'm right.

This article is fairly inconclusive because if there is one then I don't know what it is. I wrote it about two months before I published it and then stalled because I couldn't think of one, if anyone else can it'd be great to hear it.

For a more general look at the problems with making predictions within financial markets please [Click Here](#).

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