BACK TESTING DELTA HEDGING HINTS

In the FM06 classes we produced a histogram showing the expected profit / loss that would result from following a delta hedging strategy. What would happen if you pursued this strategy in practice?

You should be able to obtain historic data of stock prices You can then back test what would have happened if you had sold a call option and then delta hedged it until maturity.

One question you will need to answer is what volatility and risk free rate to use to calculate the delta at each time. There's no "right" answer — the choice of delta calculation is just part of the strategy.

If you repeat lots of runs of the back test for your strategy you should be able to get some statistical information on how well you strategy works. ~~It would be~~ You could then compare this with the expected results. However, this is a little fiddly — each back test you run will have different spot price, volatility etc. so you'll need to give some thought to how to compare actual/expected results.

Some issues that I would expect to arise are

- Transaction costs: the bid and ask prices are different
- Interest rates aren't constant
- The "volatility" of the market isn't really known

How important are these issues? Can you improve the performance of your strategy?

~~If you de~~ This is a very open ended question — you could think about gamma hedging, hedging against interest rate risk, ~~selling options~~ ~~bef~~ closing your position before maturity etc. etc.