How I became a quantitative investor

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Editor's note: although Amin is a member of UKSA's Policy Team, he is writing in a personal capacity.

There are two very different ways of investing in individual shares: qualitative and quantitative.

A. Qualitative

I have been doing this for about 45 years.

A company comes to mind. I might see its shops or factories or read about it in a news story or a computer magazine. It might be recommended in an investment magazine.

My next step is always to read its accounts. That is essential for understanding how the company does business and understanding its strategy. The figures allow me to form some kind of view on its relative cheapness or expensiveness.

However, the fundamental decision to invest (or not) relies upon answering one very difficult question: "How will the company's business fare in the future?"

Will it maintain its current profitability level? That might be fine provided the shares are cheap enough. Will its business decline? Will its business grow spectacularly? The future is hard to predict. Sometimes I have been right, but often I have been extremely wrong.

Until about six years ago, that was the only way that I selected individual shares. Indeed, it was the only way available to me to select individual shares.

B. Quantitative

Decide what numerical criteria a desirable company should have. Run a filter over the entire universe of listed companies in which you could invest. Running the filter results in a list of companies, which the process may rank, depending on your filtering criteria.

Invest in the highest ranked companies diversifying by allocating roughly equal amounts of money to each.

With this approach, there is no attempt to assess a company's business strategy or future prospects. All of the intellectual effort goes into deciding the rules that comprise the filter for buying and the rules for selling.

C. My personal history with quantitative investing

Until about six years ago, I had no access to technology that would allow me to run a filter over the universe of investable shares.

The falling cost of technology has made all the difference. At the end of 2014 I subscribed to the online Stockopedia service. The company buys in stock market data and provides online tools for processing that data. You can access calculations already made by Stockopedia as well as designing your own filters, graphs etc.

I was led to that decision by some of my investment reading. In particular the book "The Little Book That Still Beats the Market" by Joel Greenblatt and "Quantitative Value: A Practitioner's Guide to Automating Intelligent Investment and Eliminating Behavioral Errors" by Wesley R. Gray and Tobias E. Carlisle.

Since then, I have bought very few shares on a qualitative basis. Instead, starting small, I have been

gradually expanding my quantitative portfolio as I tested out the process and became more confident with it.

D. Why did I change?

As an investor, I am probably not too bad when it comes to deciding on shares to buy. However, I have always struggled with selling.

The selling problem applies both with companies which increase in price after purchase, and companies where the share price declines. As someone who has read a great deal about behavioural finance, I recognise that I suffer from "the disposition effect" whereby you get attached to something simply because you own it.

The investment maxim of course is: "Don't fall in love with your shares, because they will never fall in love with you!" However, it is very difficult to apply in practice.

Within my quantitative portfolio, I have never had the slightest psychological problem with selling. If the rules say "Sell", then I sell without the slightest trace of regret, regardless of whether the price has gone up or down. I no longer feel the slightest tinge of regret selling shares at a loss, which in my qualitative portfolio I have always found very difficult to do.

E. What have been the results?

As a chartered accountant and mathematician, the one thing I am good at is computing the score! The table below is extracted from a spreadsheet that I update every six months (after a delayed beginning, since I created it 2½ years after my quantitative portfolio started.)

That spreadsheet looks at the total return (change in capital value + dividends received) in each period, and computes two things:

1. The internal rate of return during that period.
2. The cumulative internal rate of return on the portfolio from 1 July 2015 to the end date of the period.

For the avoidance of doubt, there is no way for readers to check the cumulative IRR against the periodic IRR figures, because one needs the actual portfolio cash flows to do that.

Period start	Period end	Current period length (days)	Current period IRR	Cumulative IRR from 1 July 2015 to the end of the current period
01/07/2015	31/07/2017	761	27.68%	27.68%
01/08/2017	31/12/2017	153	55.14%	35.71%
01/01/2018	30/06/2018	181	30.93%	34.23%
01/07/2018	31/12/2018	184	-31.63%	6.59%
01/01/2019	30/06/2019	181	6.62%	6.60%
01/07/2019	31/12/2019	184	22.33%	10.40%
01/01/2020	30/06/2020	182	-1.18%	7.62%
01/07/2020	31/12/2020	184	36.85%	12.79%
01/01/2021	30/06/2021	181	46.96%	18.44%

When the quantitative portfolio started in July 2015, it represented only 0.38% of my family's total

equity portfolio. (That is almost certainly why I did not bother with the spreadsheet initially.) The quantitative portfolio has grown steadily as I have transferred money to it from the sale of previously held shares which had been purchased qualitatively. By the end of June 2021, it had become 15.69% of the family portfolio.

That 41-fold increase (overwhelmingly from transferring in money from selling qualitative shares) demonstrates my growing personal confidence in the quantitative approach.

It is not easy to be certain whether the results are good or not. I always say that in the right environment any idiot can look like a good investor!

However, as time goes on, and the period during which I have been investing quantitatively includes more difficult stock market conditions (the second half of 2018 and the first half of 2020 were certainly very difficult environments), the more confidence I have that there really is something in the methodology.

My ambition is simply to do 2% per year better on average than investing in an index fund. Until now, I have never tried comparing my quantitative portfolio's results with an index, because I expected the calculations to be too difficult.

However, while writing the article, I thought of a methodology, by replicating what would have happened if each monthly cash flow had been invested in, or withdrawn from, a holding in an index. The index I used was the MSCI AWCI in GBP, which "captures large and mid-cap representation across 23 Developed Markets and 27 Emerging Markets".

My calculations show an IRR of 14.48% from investing in the index during the period from 1 July 2015 to 30 June 2020, compared with my quantitative result of 18.44%, in my favour by 3.96%. However, the index concerned is a net index, without reinvestment of income, whereas my quantitative portfolio results include dividends. The current index dividend yield is 1.74% and deducting that reduces my outperformance to 2.22%. (In practice, a real ETF would entail some charges.) What this exercise shows yet again is how much effort it takes to outperform the market, even if you succeed in doing it.

F. Concluding comments

I have deliberately not mentioned any specific rules that I apply because I believe it is important to develop the rules yourself.

However, I believe that if you take your investing seriously, you should allocate a personal budget for money to spend on information resources. Once I decided to do that, it no longer felt expensive paying for Stockopedia.

In my opinion the great advantage of the quantitative approach is that it puts your focus on trying to devise better rules, which I think is easier than evaluating individual companies' business strategies and forecasting their prospects. Ed Croft of Stockopedia has compared quantitative investing to farming, while qualitative investing is like hunting.

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