

**Our guiding principles:**

- Transparency & alignment of best interests with our fellow shareholders
- Adherence to our investment philosophy and process
- Independence of thought in order to avoid the market herd
- Focus on costs: management fees capped, low stock turnover

**Investing using Mental Models:**

*“All models are wrong, but some are useful”* George Box

*“The Map is not the Territory”* Alfred Korzybski

Dear fellow shareholders,

As a starting point, when considering mental models and financial models it is worth noting what we are trying to accomplish when using them. Models in effect provide a map through which we can navigate, using a set of assumptions, in trying to make sense of the world and make decisions. However, it is vital to understand that these ‘maps’ do not unfailingly represent the reality they are trying to describe. In short the ‘**map is not the territory**’, it represents a reduction or abstraction of reality. As such they have their limitations.

This point can be illustrated, in extremis. Imagine we had a map of Glasgow city centre and were trying to find the way from Queen St. Station to the offices of Castlebay. We need to be able to take the map with us on our journey and so it must reduce the actual route so it can be described on an A4 sized piece of paper. If we started increasing the scale of the map, covering the same route, we would start to see more and more detail of our journey. However, we would pay a price. The map would start to grow in size. Soon, if this rise in scale were to continue, the map would be unmanageable in size. At its most extreme, if the map were to represent the territory with perfect fidelity on a scale of 1:1, it would no longer be a reduction and therefore be of no use to us!

At the heart of this example comes the realisation that we must not blindly apply our mental models to investing. As George Box said, ‘all models are wrong, but some are useful.’ This appears to strike a good balance between using models to aid our analysis, but not become slavishly reliant upon them. Instead, we need to acknowledge their natural limitations, be prepared for them to be wrong and adjust our assumptions accordingly. We construct financial models for each of the 64 companies in our investment universe. Yet what makes them different from the models that most of our peers use, is how they are constructed. We understand the limitations we have in forecasting the future cash generation of these companies, in what is an uncertain world. Our main focus then becomes using these models to understand the shape of our businesses—the returns they make, how much debt is used to generate these returns, etc. We are constantly trying to build up a picture to understand the direction in which current management is taking these businesses. Crucially, we need to determine if these directions are consistent with our own investment objectives.

Company accounts, produced for each of the businesses in which we invest, are a good example of such ‘reductionist maps’. The revenue figures produced at the top of profit & loss statements, are abstractions of all the transactions generated over respective accounting periods. We must not blindly assume that these figures—the largest and most influential figures which determine companies’ profits, are accurate. Accounting shenanigans can often misrepresent the operations of a business, through aggressive revenue recognition. We must be aware that a company’s single revenue figure reflects thousands, if not tens of thousands, of underlying transactions made during the company’s reporting period.

So what happens when we forget the map is not the territory? In the lead up to the global financial crisis of 2008, Banks became far too reliant on risk models, such as Value At Risk (VAR). Such over-reliance nearly brought down the financial system! Even today, what people think these risk models provide and what they actually deliver remain at odds. We have talked before of our view of ‘risk’ in investment. For us it represents the permanent impairment of capital. We don’t try to predict the probability of a temporary loss of capital on any given day, using an inappropriate historical dataset, as many financial risk managers continue to employ. We endeavour to invest with a margin of safety, both from a valuation and operational perspective.

So how have we tried to strike a balance at Castlebay? Financial models are created for each of our stocks and we utilise mind maps and investment notes to create an overall picture of our companies. Investment checklists are used, which contain both my past investing mistakes and those of investment managers whom we rate—learning vicariously can avoid a lot of investment pain. We also constantly try to test ‘the investment story’ against ‘the figures’, not leaving a qualitative statement hanging, without testing it quantitatively.

In conclusion, we live in a complex dynamic and uncertain world. Understanding our mental maps and their limitations does not cure all ills. However, an awareness of the dangers of over-confidence and mis-application, helps guide us along the right investing path. So too our desire to continue improving what we do, which has been one of the most exciting aspects of our journey so far since we started Castlebay.

Thank you for your continued interest and support.



**The value of investments can fall as well as rise & you may not get back what you invest.**

**Past performance cannot be relied upon as a guide to future returns. This newsletter should not be construed as investment advice.**

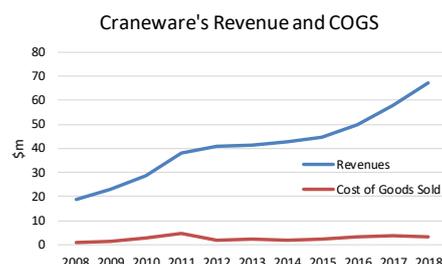


**It's the guy selling the spades that makes the money!**

Craneware is the leader in 'automated value cycle solutions' that help US Hospitals discover, convert and optimise assets to achieve the best clinical outcomes and financial performance for all stakeholders. In short, Craneware's whole business model centres around saving money for Hospitals and patients alike. As a general rule we like this type of business. The American saying comes to mind— 'in the gold rush it's the guy selling spades that makes the money'. Towards the end of last year we sold our position in AstraZeneca, which we talked about in our December 2018 Investor letter. Craneware and AstraZeneca are both involved in the provision of healthcare, but in very different ways. Interestingly, this difference was reflected in the position sizes that we held in both companies. Whilst one might expect Astra to be the larger position, as a multi-national company generating over \$20bn in revenue, this was not the case. The AIM (Alternative Investment Market) listed Craneware had and continues to maintain a larger position than AstraZeneca had before its sale. Why is this the case? Well, Craneware sells its software as a service in 1 in 3 US hospitals. Its award winning products are well integrated into the systems of these institutions, creating high switching costs and a strong business moat. Unlike AstraZeneca, it does not have to spend billions of dollars developing new drugs that may or may not reach full commercialisation. Also, under the regulatory regime in the US, Craneware will go on saving money for hospitals irrespective of whether President Trump repeals the Affordable Care Act of 2010 (Obamacare), or not. These are some of the main reasons why we maintain a larger position in the stock.

Turning to its finances, Craneware has generated good growth in its revenues over the last five years. Deducting the cost of goods sold (COGS) from revenues, creates gross profits for a business. If this gross profit is looked at in relation to revenues, the gross profit margin can be calculated. Craneware last year made revenues of \$67m and incurred \$3m of costs in providing its goods and services. Gross profits were therefore \$64m. So if we divide this \$64m in gross profit by the \$67m of revenues we can calculate the gross profit margin of 95%. There are not many businesses out there which are so profitable.

What's even more impressive is that Craneware has consistently earned this level of profitability over the last decade. We often highlight the advantages in investing in highly profitable businesses, but why is it so important? Craneware helps illustrate the point. Over the last decade it has grown its revenues by over 10% each year. Its costs of goods sold have grown in line with these revenues. As the graph below illustrates, this growth in expenses has occurred from a much lower base in comparison to revenues. So by 2018, yearly revenues had grown by \$48m, whilst COGS had grown by \$2.5m. The widening gap between the blue and red lines on the graph shows the growth in gross profits over this same time period. This helps the business generate lots of cashflow for its shareholders.



If the gross profit margin had been lower, say at 50% (still impressive by normal standards), in order to generate the same amount of gross profits, revenues would have had to have grown by a further 50% over ten years! This brings home how much easier life is when we can identify businesses, that offer something different and can price accordingly, thus generating high returns. Higher returns also mean that as investors we can put less capital at risk for a given level of profits and cashflows.

Craneware does all this whilst not carrying any debt on its balance sheet. It is a conservatively financed business that continues to invest in its product set whilst generating strong cashflows and reinvesting its capital at high incremental rates of return. The CEO, Keith Neilson, also has lots of 'skin in the game' as he personally owns 13% of the business. As a postscript, Craneware's shares have been weak following a lack of revenue growth in the second half of their financial year. The share price decline appears an over-reaction and so we will assess how to allocate further capital in light of this recent news, but as always with an eye to the long term.

**Portfolio activity & Quality table**

In April we reduced Dunelm Group, following an increase of share price of over 70% since the start of the year. Whilst we still believe in the longer term prospects of the business, the share price strength following strong trading updates meant the valuation had become more expensive. At the beginning of June, positions in Victrex and Burberry were increased in the fund as valuations became more attractive. The quality table continues to reflect a significant premium in returns of our companies in aggregate compared to the broad market, excluding financials. The free cash flow yield of our fund highlights that our portfolio of higher quality businesses is also more attractively valued than the market.

Quality Table	Castlebay Fund	Market
Return on Equity	43%	24%
Op profit margin	24%	15%
Net debt to equity	56%	88%
Cash conversion	105%	100%
Free Cash Flow yield	4.1%	4.0%

Source: Bloomberg as at 30/06/2019

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