Back to Broadside Two

July 2018

Existentialism
& Equity
Research*

This is not a promotional document

MARGIN OF SAFETY

Seth A. Klarman

with apologies to Jean-Paul Sartre

ARTIFICIAL INTELLIGENCE
AND MACHINE LEARNING
FOR BUSINESS

A No-Nonsense...

...las Taloo...

BENOIT MANDELBROT
AUTHOR OF THE FRACTAL GEOMETRY OF NATURE
AND RICHARD L. HUDSON

THE
(MIS)B...HAVIOR

THE (MIS)B...
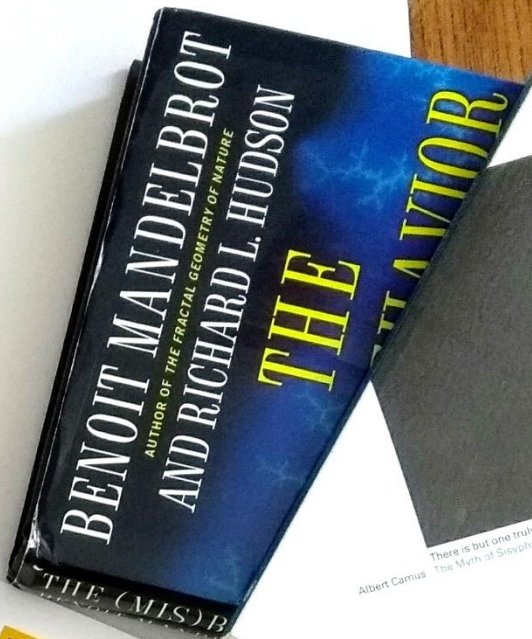
There is but one truly serious philosoph...

Albert Camus   The Myth of Sisyphus

Penguin Books Great Ideas

DECISION DEBRIEF SHEET: PEARSON

| RETURN: | 43.1% /
10 months | | | |
|---|---|---|---|---|

THESIS

➢ Leadership in the attractive and growing OPM (Online
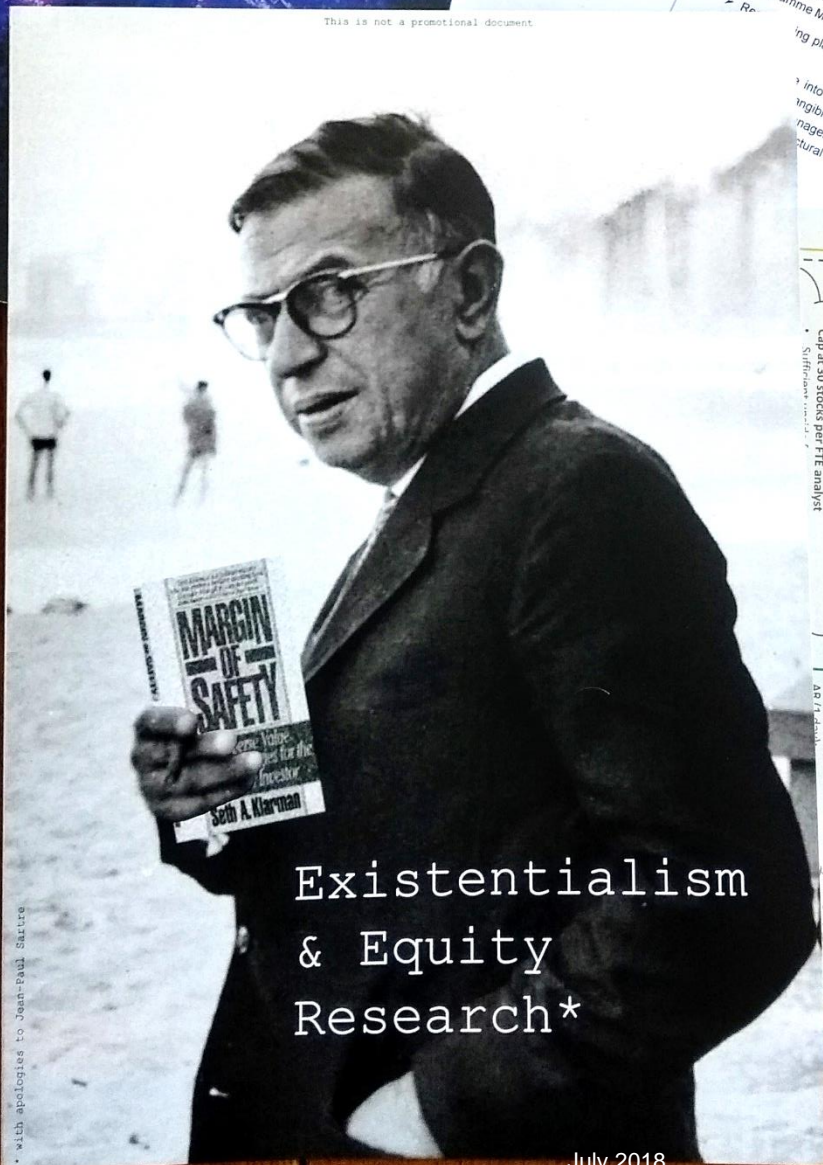Programme Management) market

➢ R...

...ing plan is aligned with structural changes in

...into BUY territory after: 50% dividend
...ngible asset write-downs and further
...anagement change / acceptance of
...uctural vs. cyclical factors

| POTENTIAL
RETURN: | 63.2% /
8 months | INITIATION NOTE: 29/10/16 | |
|---|---|---|---|
| | SPR*: 68.2% | LAST REVIEW: 11/06/18 | |

RISK FACTORS

➢ 50% of revenues are in the challenging cours...
market where OERs (Open Education...
increasing student use of rental...
cut-price imports are imp...

➢ Strategic re-a...
capital ...

EPISODE*: 20 months

BUILDING A BETTER NET

June 18

Alpha 2 - BAIT One

Alpha 1 - SmartScreen

WATCHLIST
'Feedstock' for research process
Try to push Watchlist stocks to next
stage within defined timeframe
Opportunities 'decay' over time –
cut stale ideas from Watchlist

UNIVERSE
Around 1,500 companies
UK listed companies
>£50m MCAP

APPROVED LIST
Cap at 30 stocks per FTE analyst
Sufficient...

SmartScreen
Pure quant...
Lun...
...a Lea...

BAIT One
AI & AR processes in parallel ex risk narrative
AI (3-X days): 4-Sor.
NewsFlow
Historic financials
B...One

...registers?

+ Pears list...
...onfused
...narrative is
...key so fixes

...asing a
...t warning, and

BACK TO BROADSIDE TWO

In October 2016 we put Pearson through our research process and decided not to invest. We documented this decision in 'Broadside Two – Existentialism & Equity Research', which was published in April 2017, and which is available on our website. Companies in which we decide, after due diligence, not to invest, reside on a Watchlist, where we monitor the news flow and update our target price accordingly. So it was with Pearson. In August 2017 the share price dropped below our initial target entry price, which had been gradually rising, and we bought an initial tranche. We exited Pearson ten months later when the share price rose beyond our assessment of approximate value.

If you have discussed process with us, you will know that the debrief and feedback loop is an important part of what we do. 'Broadside Six – Back to Broadside Two' wraps up the Pearson case study by documenting that debrief process.

The 'Decision debrief sheet' on the following page is produced as an internal document, and so is best read in conjunction with the 'Commentary' opposite, and the 'Acronyms and terminology' sheet on the final page.

Adam Rackley

Cape Wrath Capital

July 2018

COMMENTARY

Pearson came onto our radar having halved over 18-months from a high of 1508p.

The 'Thesis and Risk Factors' are cut and paste from our original Initiation note. These are our thoughts at the time without the benefit of hindsight.

We entered and exited the position in single tranches, so the initial entry is the same as the average purchase price, and the final exit is the same as the average sale price.

●	Exit points
●	Entry points
---	Approximate Value, which changes over time as we update our valuation model
---	Target Entry Price 1, which is calculated at a discount to the Approximate Value

Our conclusion is a reflection on the importance of following the model, versus having the flexibility to apply judgement in making a decision.

While the Pearson debrief has not suggested any tangible improvements to our process, some of our debriefs do. For example, our investment in NCC delivered a return of 42% versus a potential return of 171% (i.e. a 25% Share of Potential Returns), with most of the potential return lost on our entry price. As a result, we made a number of improvements (and more are underway), to reflect the fact that behaviourally focused value opportunities can 'decay' quickly over time. The debrief on our investment in AA has led us to broaden our valuation approach and improve our risk management tools.

DECISION DEBRIEF SHEET: PEARSON		INITIATION NOTE: 29/10/16		LAST REVIEW: 11/06/18	
RETURN:	43.1% / 10 months	POTENTIAL RETURN:	63.2% / 8 months	SPR[1]: **68.2%**	EPISODE[2]: **20 months**

THESIS

➢ Leadership in the attractive and growing OPM (Online Programme Management) market

➢ Restructuring plan is aligned with structural changes in the industry

➢ Stock to move into BUY territory after: 50% dividend cut; £2-3bn intangible asset write-downs and further restructuring; management change / acceptance of significance of structural vs. cyclical factors

RISK FACTORS

➢ 50% of revenues are in the challenging courseware market where OERs (Open Education Resources), increasing student use of rental, growth in digital, and cut-price imports are impacting on revenues & margins

➢ Strategic re-alignment with growth markets will be capital intensive and may offer sub-economic ROI

➢ Management quality is suspect. 2018 targets of £800m+ EBIT may be achievable, but only with short-term fixes

SPR ANALYSIS

EPISODE: 29/10/16 – 11/06/18	INITIAL ENTRY: 617p @ 14/08/17	FINAL EXIT: 883p @ 11/06/18

AVERAGE PURCHASE	617p
AVERAGE SALE	883p
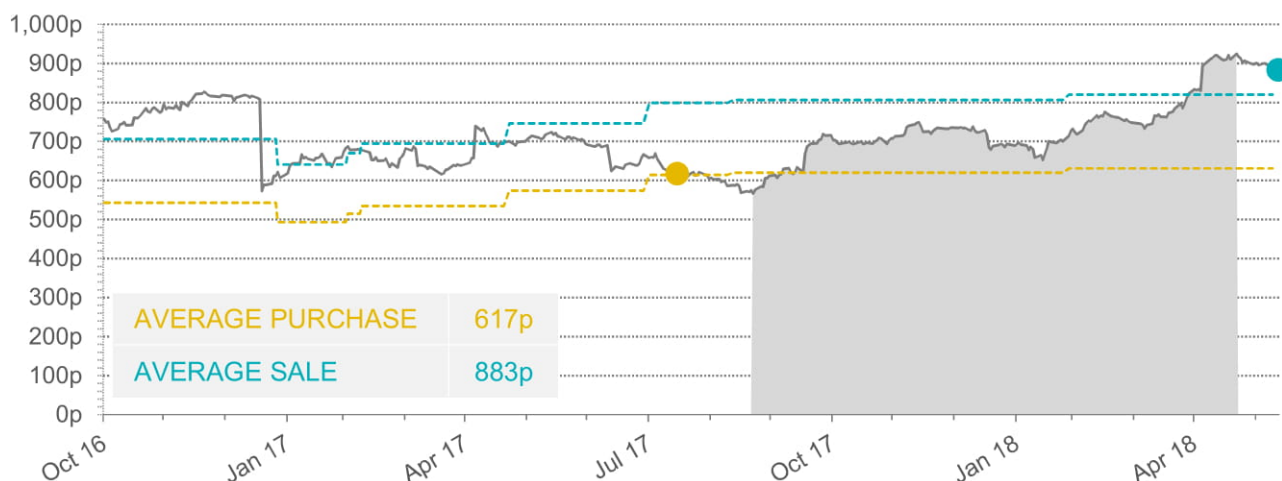
DECISION ANALYSIS

We bought PSON around ten months after initiating. PSON initially traded above AV[3], before falling on a profit warning and dividend cut on 18/01/17 to a low of 552p (573p close on the day). At its low on the day, PSON traded marginally above our TE1[4] of 543p and we narrowly missed taking a position. At the 24/02/17 results, $2.55bn of goodwill was impaired and the digital transition was accelerated, completing our three negative catalysts, however the results coincided with a period of strong share price performance. After a temporary recovery (including a 12% jump on 05/05/17 to 740p, versus 695p AV), the share price began to fall again, while our AV increased, providing a buying opportunity, and on 14/08/17 we took a 3.0% tranche at 617p, versus 615p TE1. The closest we got to a second tranche was on 21/09/17, when the stock hit a closing low of 566p, 5.4% above our TE2 of 537p. **In sticking to our TE1, and in limiting our investment to a single tranche, we adhered strictly to the model.** Our Low MoS[5] was appropriate. The shares were not impacted by any unexpected risk factors during the holding period.

Over the ten month holding period we took a 43.1% return, versus a 63.2% potential return (respectable 68.2% SPR). **Our entry (8.9% above episode low) and exit (4.5% below episode high) were both good. With positive momentum around our AV, we chose to defer our exit, finally selling six weeks later at 7.7% above AV.**

CONCLUSION

Although the entry and exit points delivered good returns, if we had viewed the 18/01/17 profit warning as a **capitulation event**, and applied JvM[6], there may have been **opportunities to double the position by purchasing a second tranche just above TE2, and also to trade in & out of PSON twice, first following the profit warning, and later at our actual entry point. Applying JvM at exit delivered a 7.7% incremental return.**

ACRONYMS AND TERMINOLOGY

(1) SPR
Share of Potential Returns = actual return over the holding period / maximum potential return during the Episode

With the Episode start and end points, and our trading data, the performance model calculates the maximum potential share price return during the Episode, our actual share price return, and our SPR. Another model collects the changes in AV for each holding over time and updates the chart with the AV (blue dotted line) and TE1 (orange dotted line).

(2) Episode
The period from when we first considered the stock as a potential investment, to when the investment thesis has run its course. Sometimes the Episode is simply the period from when we started researching the company (we often use the date of the Initiation note as a proxy for this), to when we exited the position. In these cases, the Episode might coincide closely with our holding period. At other times the stock might sit on a new ideas list for a number of weeks or months before we come to look at it, or the thesis may continue to play out after we have exited the position. In these cases, the Episode might be much longer than our holding period.

(3) AV
Approximate Value. Our Valuation Matrix includes up to 33 different valuation metrics which we blend to produce the AV. We prefer AV to the more commonly used 'Fair Value' or 'Target Price' because it reminds us that precision is not the same as accuracy. We cannot know what a stock is worth. At best we can estimate a likely range of value. The AV is simply the mid-point in a range of possible values for the stock. We illustrate this graphically in our Valuation Distribution, which plots possible values on a Gaussian distribution. Whatever the criticisms of the Gaussian distribution when measuring volatility / VAR, we feel that it is a simple but effective way to look at equity valuation risk. The standard deviation of our valuation distribution (which we scale to a 0-3 range and simply call 'valuation range') is thus one of the factors that we consider when calculating our Margin of Safety.

(4) TE1, TE2, TE3
Target Entry (price) 1, 2, 3. We look to build a position in three tranches, with each Target Entry triggered by a price level. The exact price which triggers an entry is calculated based on a required % upside to our AV. Where a share has a Low MoS, our TE1 is set at 30% upside, a Medium MoS implies a TE1 at 50% upside and High MoS suggests TE1 at 70% upside. TE2 and TE3 are then triggered by further share price falls (or AV increases). With a High MoS share, TE3 will only be triggered when we see 110% upside, which means a share worth 100p must trade below 48p before we will add a third tranche. Each tranche is around a 2.5% position, which means that after three tranches a stock will be 6.0% - 6.5% of the portfolio.

(5) MoS
Margin of Safety. This the penultimate stage in our research process. Having arrived at an AV, we need to determine what discount to that AV we should aim to buy at to compensate for the riskiness of the investment. We calculate a score across four risk factors (including valuation range) to determine whether we need to make a purchase with a Low, Medium or High MoS.

(6) JvM
Judgement versus Model. We believe that investing is part art, part science. A robust and quantifiable process helps us to deliver repeatable decision-making and enables an effective feedback loop. However, we must not be slaves to our models. They are just tools to support human decision making, and there are factors that our model cannot quantify. For example, we might view a piece of news flow and subsequent share price reaction as a 'capitulation' event. Under such circumstances, we would be inclined to buy, even if the shares had not hit TE1, on the basis that all of the bad news is now 'in the price'. Alternatively, we might see changes in the shareholder register, or short-selling disclosures, that incline us to trade, despite the model. Whether we should follow the model or exercise judgement to over-ride it is a continual source of healthy tension within our process.