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Herald Investment Trust

Investing in the future

Herald Investment Trust (Herald) is a major investor in the small-cap technology sector, especially in the UK. It is the only listed investment trust with a focus on this space. In recent times, small-cap technology stocks have become cheaper relative to both the broader market and large-cap technology stocks. Relative valuations are now close to five-year lows. Current uncertainties may have unnerved many investors, but the manager is looking ahead and believes that there is considerable latent value in Herald's portfolio. Furthermore, despite an uptick in share buy-back activity, Herald's discount has widened in recent months, to levels that the manager feels represent an attractive entry point for long-term investors; she has just invested personally c £300,000 in Herald.

Small-cap technology, communications and multi-media

Herald seeks to achieve capital appreciation through investments in smaller quoted companies, in the areas of technology, communications and multimedia. Investments will be made throughout the world, although the portfolio has a strong weighting to the UK.

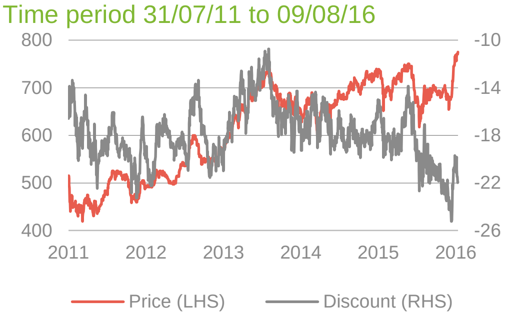
Year ended	Share price total return (%)	NAV total return (%)	Russell 2000 Tech. TR. (%)	Numis ex IC plus AIM TR (%)	Russell 1000 Tech. TR (%)
31/07/12	(3.7)	(0.4)	(2.1)	(7.0)	15.8
31/07/13	14.5	16.7	39.2	31.1	13.5
31/07/14	15.3	10.9	(2.8)	10.4	16.1
31/07/15	14.5	11.5	28.1	7.8	19.9
31/07/16	2.8	10.1	24.0	(0.6)	28.3

Source: Morningstar, Marten & Co

Sector	Small media, comms and IT
Ticker	HRI LN
Base currency	GBP
Price	775.0
NAV	992.6
Premium/(discount)	(21.9%)
Yield (%)	Nil

Share price and discount

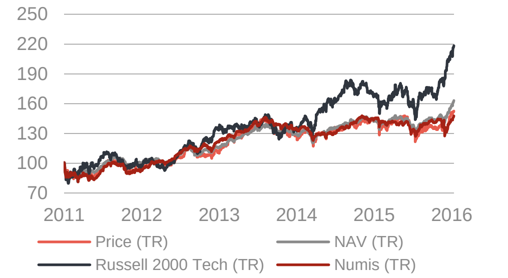
Time period 31/07/11 to 09/08/16



Source: Morningstar, Marten & Co

Performance over five years

Time period 31/07/11 to 09/08/16



Source: Morningstar, Marten & Co

Domicile	UK
Inception date	21 February 1994
Manager	Katie Potts
Market cap (GBP)	578.1m
Shares outstanding	74.593m
Daily vol. (1-yr avg.)	65.7k shares
Net cash	6.4%

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Fund profile

A large global, small-cap technology fund, unique in the listed investment company sector

Herald Investment Trust (Herald) invests globally in small technology, communications and multimedia companies and is the only listed fund of its type. New investments in the fund will typically have a market capitalisation of $2bn or less but, if successful, can grow to be a multiple of their original valuation.

Consistent management and approach

A consistent management approach since launch

Herald has had the same lead fund manager since launch: Katie Potts (the manager or Katie). She was a highly regarded technology analyst at Warburg (later UBS) prior to launching the fund.

Herald is, in many ways, one of the investment trust market's great success stories. It launched in 1994 with £65m and topped that up with a further £30m in 1996. Today Herald has a market capitalisation of £578m and net assets of £740m. Investors at launch have seen the NAV multiply more than nine times (a return of 976%). Over the same period, the MSCI World Index has returned just 358%.

Katie is still excited about the ability of the sector to outperform the wider market. In her view, successful technology companies have the ability to extract very high margins by exploiting the intellectual property they create while, at the same, time, putting pressure on the margins of companies in other sectors, as they disrupt old-fashioned business models.

With its global remit and strong allocation to the UK, there is no perfect benchmark index that matches its spread of investments, so the manager uses the, US focused, Russell 2000 Technology Index and the, UK focused, Numis Smaller Companies (ex Investment Companies) plus AIM Index as comparators. The same approach has been adopted throughout this note.

A major player in an ever-changing environment

An important and influential backer of companies looking to expand

The investment universe has changed almost beyond recognition over the fund's 22-year life. Over this time Herald has weathered the "technology bubble" at the turn of the millennium and the global financial crisis of 2007/8. Katie has noticed a sizeable reduction in the number of mainstream investment managers covering the sector over the years, reflecting, perhaps, the complexities of covering adequately such a large and diverse part of the market. As these managers have withdrawn from the sector, so liquidity has been affected adversely, but Herald remains an important player in this market. As Figure 1 shows, since launch Herald has invested £350m in over 600 placings, providing much-needed capital to growing businesses, sometimes on terms dictated by Herald.

Herald is a significant beneficiary of takeover activity.

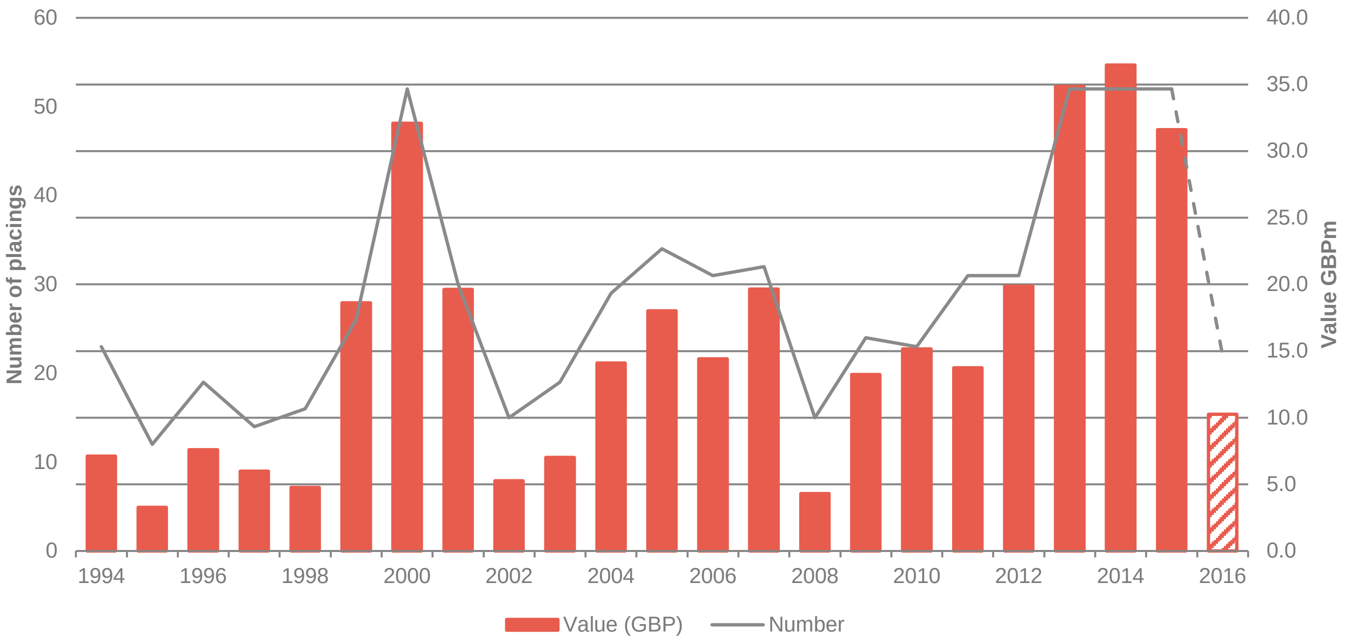
As companies in the sector start to mature and/or their intellectual property becomes attractive to rivals, so they become takeover targets. The premiums paid for control of these companies have been an important source of return for Herald.

Figure 2 shows takeover activity within Herald's portfolio from the start of 2007 until the end of the first half of 2016. Over that period, Herald has realised (or looks set to realise, as three of these deals are still pending) £405m from 128 deals.

Takeovers are not always good news in the manager's view, however. There have been occasions, when investor sentiment was against the sector, when she felt companies were being taken over too cheaply.

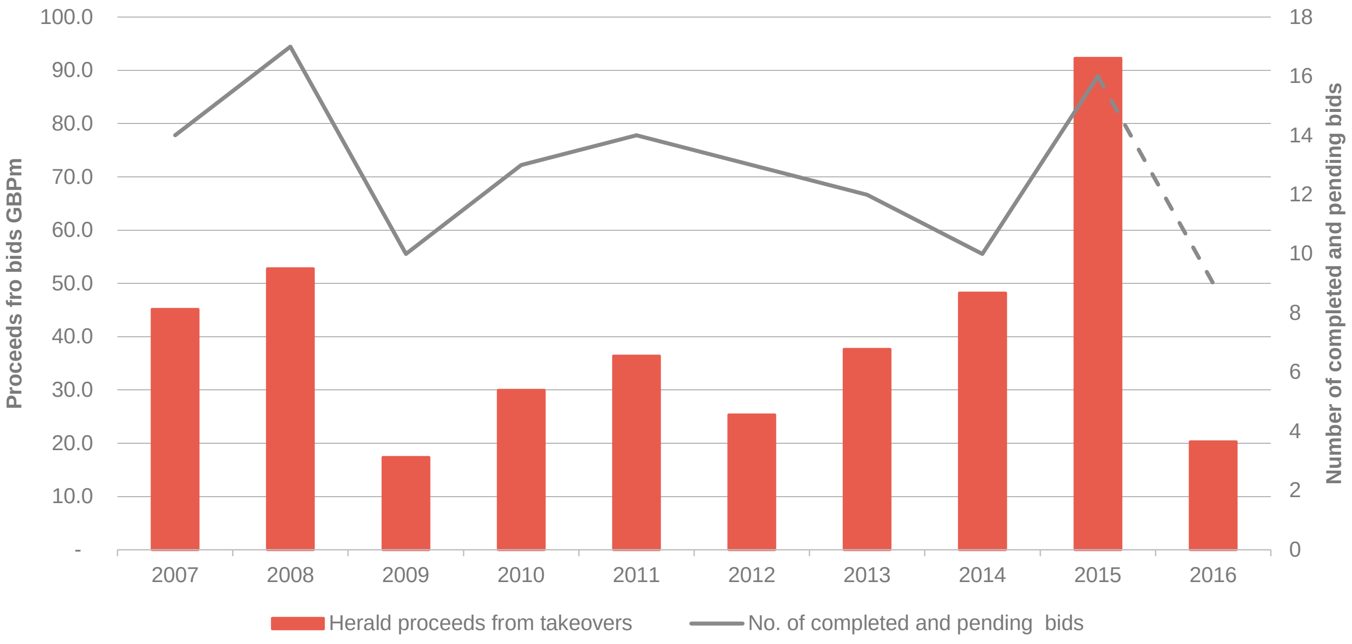
Today, given the size of the fund and the expertise of the management team, Herald offers a liquid way of accessing this part of the market.

Figure 1: Herald's investment through placings of investee companies' stock – from launch to end June 2016



Source: Herald Investment Trust, Marten & Co

Figure 2: Herald takeovers since 2007



Source: Herald Investment Trust, Marten & Co

Management arrangements

You can access the fund's website at www.heralduk.com

Herald owns a 15.4% stake in the management company, Herald Investment Management Limited (HIML). HIML manages an OEIC with assets under management of c£20m and a venture capital fund (held, in part, in Herald's portfolio), but Herald is its most significant client by some margin.

HIML has seven investment professionals dedicated to identifying suitable investments including a manager that is incentivised to make the fund work

Katie leads a team of six analysts, five of whom are based in London with the other in New York. The HIML team can also draw on the knowledge of three consultants. Some biographical details on the team are included at the end of this note. Research responsibilities are organised along sector lines but Katie has also delegated responsibility for managing the Asian portfolio to Fraser Elms, the deputy manager, and Hao Luo.

Katie owns a substantial stake in the company (384,164 shares, increased from 330,448 shares on 31 December 2015) and a significant minority stake of HIML and, clearly therefore, is motivated to ensure the success of the fund.

The state of the technology market

Lack of research may affect liquidity, but creates opportunities for longer-term investors

Dearth of research creates opportunities for well-resourced teams such as HIML

Increasing regulation, notably the advent of MiFID II, is exacerbating a situation where small-cap stocks are covered by fewer research teams. Companies have reacted by hiring third-party investor relations firms but the general dearth of research creates opportunities to add value for well-resourced teams such as HIML's. However, the manager believes these challenges reinforce the need to outsource investment in this area to a specialist.

Shrinking institutional investor base in the UK

The small cap US technology sector, and its investor base, has been shrinking in recent years, but this has been much more extreme in the UK. This, combined with increasing pressures on brokers' finances, has meant that it is increasingly unprofitable for overseas brokers to come to London and NASDAQ IPOs no longer do a London roadshow. The manager says that this has become a vicious circle and that ensuring the continuation of a good flow of primary contact with investee companies, and potential investee companies, was one of the main reasons for opening a HIML office in New York.

Venture capital bubble?

A possible bubble in the unlisted sector did not spill over into Herald 's part of the market

The venture capital market, in the US and London in particular, has been very buoyant in recent years. This has been evidenced by the high number of, so called, "unicorns" – unlisted companies with an implied valuation in excess of $1bn. Articles were being written suggesting that the best opportunities in the sector were unquoted companies. HIML is very sceptical of this view and thinks that we may have been experiencing a bubble in the venture capital sector. One example it points to is Powa Technologies, a company that received many tens of millions in funding and was hailed as a unicorn but went into administration in February 2016.

In contrast, HIML says that those companies that have actually come to the market, in the UK at least, include some high-quality companies and they have been much less prone to being priced on unrealistic valuations. Most of the IPOs in the US last year were down rounds (priced below the level at which the company last raised money), which the HIML team says suggests that the listed market has been less prone to such exuberance. Furthermore, there is some evidence that things have been cooling on the venture capital side. Research company, Pitchbook Data, says that the level of venture funding in Europe fell to $2.8bn in Q2 2016, compared with $4.3bn for the equivalent period in 2015. There has been speculation that this might have reflected nervousness ahead of the UK's referendum on EU membership.

Brexit

It is hard to gauge the full impact of the UK's exit from the EU but the manager sees some positives

The result of the referendum sideswiped markets initially. The uncertainty around the UK's future relationship with Europe has undoubtedly contributed to an increase in volatility, but HIML says that there was no sign of panic selling. In fact, the team is enthused about the potential for the UK technology sector. They see that the UK has an entrepreneurial culture that leads to many start-ups and they believe this will continue. Sterling weakness has also made the sector more competitive overseas. Katie says the majority of Herald's UK holdings are not that heavily exposed to the domestic UK economy but, for those that service government departments, the process of extricating the UK from EU could create a significant opportunity. Katie also thinks that the investment market in the UK has been onerously burdened in the UK with regulation, which has deterred investors from the riskier small cap end of the market. She is hopeful that, going forward, the regulatory environment will improve to the benefit of both the tech sector and investors.

UK plc for sale?

There has been some discussion as to whether the weaker currency might encourage a flurry of takeover activity of UK companies by overseas buyers able to purchase them at lower prices. HIML believes that the portfolio could benefit in the longer term if the currency remains weaker, but that overseas investors are nervous about the potential impact of Brexit and so, for now, a takeover boom is unlikely. However, the recent purchase of British technology company, ARM, by the Japanese multinational telecommunications and internet company, Softbank, has created some excitement. The impact on the wider European economy is another unknown. However, Herald does not have much European exposure, (6.9% at the end of June 2016).

Restricted movement on Silicon Roundabout?

Some commentators are concerned about the UK technology sector's ability to recruit staff if free movement of labour is disrupted. There is also a concern about the loss of passporting rights for the UK fintech sector. Germany, Berlin in particular, has been cited as a potential destination for companies looking to relocate and has already been reaching out to start-up companies, but HIML believes that London has the critical mass needed to fight off the challenge and work permits will be made available for necessary skills.

Paying staff with stock distorts profitability and may not be sustainable in the long run

Staff retention and remuneration

The volume of money that has poured into the venture capital sector has created problems for some companies in the areas of staff retention and remuneration. Katie has noted a surge in the number of companies paying staff in the form of nil cost options or restrictive stock units in the US. This is a development that she is strongly opposed to, particularly when management try to focus attention to an adjusted earnings per share, which excludes the cost of share based payments. These schemes create a cost to these businesses that does not go through the cash flow statement and this distorts perceptions of their profitability. In addition, she has even seen an instance of a company quickly running into problems when its staff, possibly concerned about the company's ongoing prospects, asked to be paid in cash rather than shares. As part of its due diligence process, the HIML team investigate a company's accounts in detail to identify any such issues.

Small cap versus large cap – performance and valuations

As Figure 3 shows, US small-cap technology stocks, as represented by the Russell 2000 Technology Index, have been underperforming large-cap technology stocks, as represented by the Russell 1000 technology Index, for some time. A small relative improvement this year has not made up for previous underperformance.

Figure 3: Small cap relative to large cap – Russell 2000 Technology Index relative to Russell 1000 Technology Index

Source: Morningstar, Marten & Co

Looking at forward price/earnings (P/E) ratios for the Russell indices, it can be seen in Figure 5 that both small-cap and large-cap technology stocks, as represented by the Russell 1000 and Russell 2000 technology indices respectively, have become broadly more expensive during the last five years. Small-cap valuations have been noticeably more volatile but, as illustrated in Figure 4, have become cheaper relative to the large caps such that, on a relative basis, they are trading close to five-year lows.

Figure 4: Russell 2000 forward P/E relative to Russell 1000 forward P/E ratio over five years

Source: Bloomberg, Marten & Co

Figure 5: Russell 1000 and Russell 2000 P/E ratios over five years

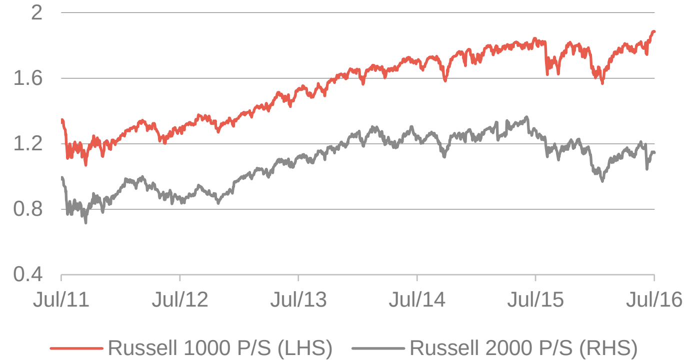
Source: Bloomberg, Marten & Co

Figures 6 and 7, which look at price/sales ratios for the two indices, show a similar pattern, with both small and large caps becoming more expensive, relative to sales, during the last five years. However, the small caps have, on average, become cheaper during the last two years, so that they are trading close to five-year lows relative to the large caps. We think this could represent an attractive entry point for small-cap investors that are prepared to take a longer term view.

Figure 6: Russell 2000 P/S ratio relative to Russell 1000 P/S ratio over five years

Source: Bloomberg, Marten & Co

Figure 7: Russell 1000 P/S ratio and Russell 2000 P/S ratio over five years



Source: Bloomberg, Marten & Co

In summary, the manager thinks that recent market moves have been overdone and she is positive on the outlook for the sector. Although the HIML team does not like to discuss publicly its views on individual positions, overall, it is positive about the prospects for Herald's portfolio and sees a lot of latent value therein.

Investment process

Extensive fundamental research

Bottom-up stock selection based on fundamental analysis. Herald's universe is vast with over 5,000 listed companies

HIML's investment process is driven by bottom-stock selection, based on extensive fundamental research of the universe of smaller companies that make up the telecommunications, multimedia, and technology sectors. The listed universe within this space includes more than 5,000 quoted companies but, in their respective markets, these companies also compete against many more unquoted companies and the HIML team believes it important to get to know as many of these as possible. This is not just because unquoted companies may eventually list, but because the information the HIML team gleans from competitors, customers and suppliers can be: a useful source of ideas; valuable in evaluating how sustainable a company's competitive position is, assessing the risks within a business; as well as providing a useful means of cross-referencing the information provided by another company's management.

Idea generation

In terms of idea generation, HIML benefits from being a major player in the UK and companies will routinely make the effort to present to the team. The US is a very important market and the managers say that, increasingly, small-cap technology companies are not visiting London. However, Katie has always travelled to the US for around five weeks a year to meet companies, the wider HIML team also travels extensively and HIML now benefits from having a satellite office in New York, which gives it access to the important US market.

Searching for companies with sustainable advantages

The team is looking for stocks that can achieve high returns on capital and/or will trade on single digit P/Es within an acceptable timeframe

At heart, the members of HIML's team are value investors. Rather than just looking to identify companies with the capacity to grow, they are looking for companies that are capable of making decent returns on capital or those with earnings growth which will propel them to a single digit P/E within a reasonable period of time. This requires an analysis of a company's products, markets and competitive position. In this regard, the HIML team is looking for companies where it can see clear markets for its products and where it has advantages over the competition that mean it is more likely to succeed. These come in a range of forms but could include superior technology, network effects or barriers to entry such as specific intellectual property, patents and the like.

Reflecting the benefits that can be accrued from making early-stage investments in technology companies, loss-making companies are considered for the portfolio. However, the team needs to be able to see both a significant market opportunity and a clear path to profitability. The team tends to avoid companies that are trading on large multiples of sales and prefers not to own stocks trading on what it describes as 'concept valuations'.

HIML says that it does not attempt to model companies' cash flows in any great detail and that, for the types of companies in which it is investing, there is usually far too much uncertainty to make this a useful exercise. However, it does spend considerable time analysing companies' accounts to gain an understanding of how a business works and the robustness or otherwise of its earnings.

Safety in numbers

A high degree of stock-specific risk necessitates that Herald's portfolio is diversified

The nature of smaller technology, multimedia and telecommunications (TMT) companies is that they are often dependent on a single product or service and, while success can propel share prices many times higher, failure can mean bankruptcy. The high degree of stock-specific risk that this entails is countered by having a high degree of diversification within the portfolio.

Liquidity considerations also play a part. On average, Herald holds 4.2% of the share capital of the companies in its UK portfolio. These small-cap positions tend to be less liquid and, from a risk management perspective, this, inherently, places a limit on the amount of a company that the team will wish to hold, as larger positions are harder to buy and sell and are more likely to move the market. Therefore, as Herald has grown, the number of holdings has risen a little too (257 as at the end of June 2016). The handful of companies it holds with a larger percentage of ownership are often those that needed to raise cash but there were insufficient other large investors willing or able to invest. Stocks that are held in large size by other investors can make HIML nervous, in case these shareholders ever become forced sellers.

The HIML team is conscious that, in some investors' eyes, this is a large number of positions to follow but it counters that the small companies in which it is investing have far simpler business models than most large-cap companies, and that this makes them much easier to follow in detail. An alternative strategy could be to move up the market-cap scale to find greater liquidity, which would allow the team to increase the average position size and, in the manager's view, necessitate a migration to a much heavier US weighting. However, the team believes that it is crucial that Herald maintains exposure to micro caps. HIML says that this is where Herald's best returns have originated, with many stocks rising by more than 10 times and it also believes that smaller cap stocks are generally better value as this segment of the market is less efficient.

Portfolio construction

Portfolio construction is driven by stock selection

HIML makes no attempt to manage sector or country weightings within the portfolio: the investment process is driven entirely by stock selection. The portfolio has long had a bias to the UK. This reflects Katie's belief that the UK technology sector is more vibrant than Europe's; UK stocks are, generally, more reasonably valued than US ones; and Asian stocks generally have inferior business models (frequently they are providing outsourced manufacturing services to larger tech companies and often have little pricing power).

Liquidity is an important driver of position size

Higher conviction ideas form the core of the portfolio (the top 10 holdings were 20.3% of the fund at the end of June 2016 and, as illustrated in Figures 11 and 12 on page 15, there is a substantial tail of smaller positions (the bottom 57 positions account for 3.9%). Herald's larger positions tend to be smaller positions that have experienced strong growth over time although, reflecting their less liquid nature, the relative rankings can shift around with market moves.

Herald's portfolio has some exposure to unquoted companies, including its stake in HIML. This is not an area that Herald is focused on and no more unquoted investments are planned currently. The HIML team believes that it is useful that Herald retains the flexibility to hold unquoted investments, however, as this gives it the opportunity to retain attractive companies that choose to delist.

Sell discipline

Sell discipline is driven by valuation and the viability/maturity of the business model

Stocks are sold when valuations no longer reflect the growth prospects of the company, their margins start to normalise relative to the wider market (an indication that the company's intellectual property is no longer capable of supporting superior returns) or when there is a clear deterioration in the business model. Companies that have grown larger are typically top-sliced to fund new investments and provide further capital to the earlier stage smaller companies.

Asset allocation

Herald's portfolio is well diversified by stocks and has a very overweight exposure to the UK, at the expense of the US, in particular

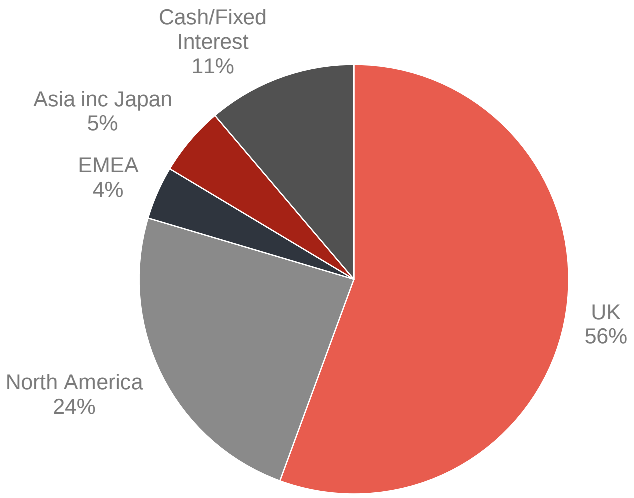
As at 30 June 2016, Herald had 257 holdings (137 in the UK; 16 in EMEA; 65 in the US; and 39 in Asia). This makes Herald considerably more concentrated than the technology performance indices used in this note, but is a relatively high level of diversification when compared to most investment companies. However, the manager says that the large number of holdings is a reflection of the space in which Herald invests and that the portfolio is perhaps more concentrated than it first appears. Specifically, holdings will typically start as small positions, but if their business models work they can experience significant growth and become much larger positions. In contrast, other positions will not experience this success and will either be disposed of or, in very rare instances may become worthless (the managers say that this in HIML's 22 years of investing and holding positions in over 1,500 companies that this has only occurred on a handful of occasions). However, to have tomorrow's winners, the manager says that it is important to 'replenish the hopper' and hence the tail of small positions. The average position size is 0.4% but position size is not evenly distributed (the manager tends to run her winners) and so there is more concentration at the top end of the portfolio with the top 10 holdings accounting for approximately 20% of the portfolio, as illustrated in Figure 10.

The portfolio's bias to UK stocks in obvious in Figure 8. The cash weighting was increased in advance of the UK's EU referendum. At the end of June, Herald had cash of £71m, offset by £43m of debt and interest rate swap liability, equivalent to net cash of 4.3%. By the end of July this had risen to 6.4%.

It is anomalous for a technology fund, such as Herald, to have such a high neutral weighting to the UK (2/3 UK and 1/3 US). This allocation was originally put in place to make the trust suitable for PEPs (Personal Equity Plans) and, whilst this legislation is no longer relevant, the managers continue to see no reason to change the strong bias to the UK. This is an area where they generally see better value opportunities and Katie thinks that many IPOs in the US are priced too richly.

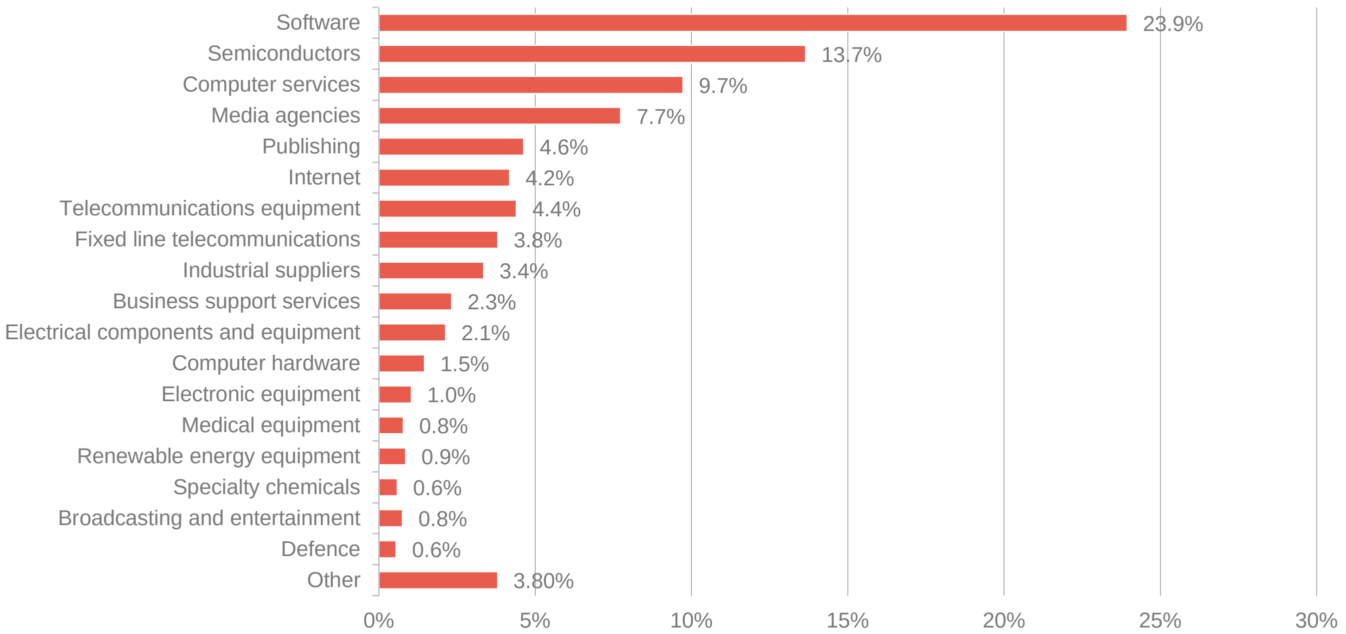
There has been a spate of takeovers, which has been used to pay down debt and fund share buybacks. The relatively low weighting in Europe is, says the manager, the consequence of there being a small pool of quality stocks to choose from in this region. The weighting in Asia has been falling, but this reflects stock-specific moves rather than sales of companies. The weighting in Asia is constrained by the manager's belief that many small caps in Asia are hamstrung by being suppliers to much larger companies. This restricts pricing power and means that their margins are squeezed.

Figure 8: Geographic breakdown of Herald's gross assets at 30 June 2016



Source: Herald Investment Trust, Marten & Co

Figure 9: Sector breakdown of Herald's portfolio at 30 June 2016



Source: Herald Investment Trust, Marten & Co

Figure 9 shows the breakdown of Herald's portfolio by sector. As stated above, the manager makes no attempt to target sector weightings and so the shape of the portfolio reflects the manager's stock selection decisions.

The portfolio has large exposures to the software, semiconductors and computer services sectors. Between them, these account for 46.3% of gross assets.

Figure 10 shows Herald's top 10 holdings as at 30 June 2016.

Figure 10: Top 10 holdings at 30 June 2016

Stock	% weight 30/06/16	% weight 31/12/15	Change %	Sector	Country
Diploma	2.7	2.5	0.2	Industrial suppliers	UK
Imagination Technologies	2.7	1.8	0.9	Semiconductors	UK
GB Group	2.6	2.6	0.0	Computer services	UK
Idox	2.5	2.1	0.4	Computer services	UK
Silicon Motion Technology	2.5	1.6	0.9	Semiconductors	US
Next Fifteen Communications	1.8	1.9	(0.1)	Media agencies	UK
M&C Saatchi	1.6	1.9	(0.3)	Media agencies	UK
Wilmington Group	1.5	1.5	0.0	Publishing	UK
Telit Communications	1.3	1.1	0.2	Telecom equipment	Italy
Eckoh	1.3	1.3	0.0	Software	UK
Total of top 10	20.3	19.1	1.2		

Source: Herald Investment Trust, Marten & Co

The top 10 holdings all featured in the top 20 holdings at the end of December 2015. This reflects the manager's tendency to run winners to the extent she feels the risk/reward, for doing so, is justified.

Diploma

Diploma operates in three business segments – life sciences, seals and controls. The life sciences segment supplies medical devices and related consumables and services to pathology laboratories, operating rooms and gastrointestinal endoscopy suites and clinics. In the seals division it sells to original equipment manufacturers (OEMs), supplying sealing products and custom moulded and machined parts supplied to manufacturers of specialised industrial equipment. In the aftermarket, Diploma offers next day delivery of seals, sealing products, filters and cylinder components for the repair and maintenance of heavy mobile machinery and industrial equipment. In the controls division it sells wiring, harness components and fasteners used in specialised applications in the aerospace, defence, motorsport, energy, medical and industrial sectors. This division also supplies temperature, pressure and fluid control products used in food, beverage and catering industries. 77% of sales are made outside the UK.

Imagination Technologies

Imagination Technologies (Imagination) is a position that started life in the portfolio as a micro-cap holding. Over the years, Herald has taken profits and topped up its holding and has made more than 10 times the capital invested. Imagination has a broad range of silicon-based intellectual property, including processors used in the mobile communications; consumer; automotive; enterprise; infrastructure; internet of things and embedded electronics industries. Imagination's licensees include many of the world's leading semiconductor manufacturers, network operators and OEMs/original design manufacturers (ODMs). Its shares have risen by more than 40% this year.

GB Group

GB Group is focused on identity intelligence solutions used by its customers to help protect their reputations; manage risk; prevent fraud; locate people; enable compliance; interpret data; improve their customers' experience; reduce operational costs; and identify who their customers are. GB Group is growing its international customer base

(19% of revenues last year), but the perception of it as a largely domestically-focused business has seen its share price fall in recent weeks.

Idox

Idox provides software and service solutions to local government customers in the UK; information service and consultancy services to a range of customers across both the private and public sectors; and recruitment services, providing candidates with information, knowledge, records and content-management expertise. Although its share price has reduced a little over the past month, it has predominantly a UK customer base and this is one of the companies that Katie believes could actually be a Brexit beneficiary, at the margin. They expect UK government demand to at least hold up, and in some areas expand, as departments have to invest in new systems to cope with the changes that Brexit will bring.

Silicon Motion Technology

Silicon Motion Technology is a leading maker of NAND (negative+AND) flash controller integrated circuits for solid state storage devices and speciality radio frequency integrated circuits for mobile devices. Its products are used in smartphones, tablets and PCs. Its share price has, more or less, doubled so far this year.

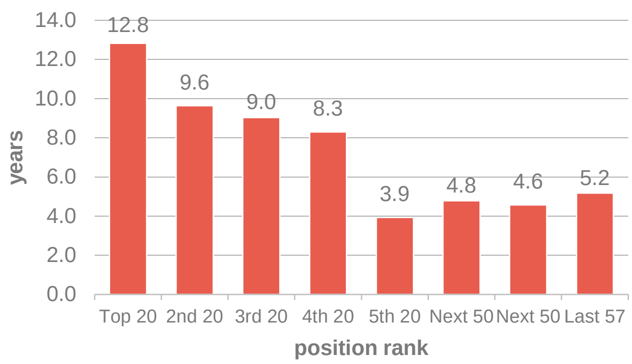
Figures 11 and 12 show, on average, how long stocks have been held by the fund contrasted by the size of the position in the portfolio. There is a clear pattern in that, for the 100 largest stocks which make up 78% of the portfolio, the larger positions are stocks that have been held longer. At the bottom end of the portfolio, which will include most of the more recent investments, the average holding period is about four-to-five years.

Figure 11: Length of holding by size of position (table)

Number of holdings	Value 30 June 2016 (GBPm)	% of gross assets	Average holding period (years)
Top 20	216.80	34.5	12.8
2nd 20	102.46	16.3	9.6
3rd 20	76.04	12.1	9.0
4th 20	54.20	8.6	8.3
5th 20	41.08	6.5	3.9
Next 50	68.88	11.0	4.8
Next 50	44.97	7.2	4.6
Last 57	24.38	3.9	5.2

Source: Herald Investment Trust, Marten & Co

Figure 12: Length of holding by size of position (chart)



Source: Herald Investment Trust, Marten & Co

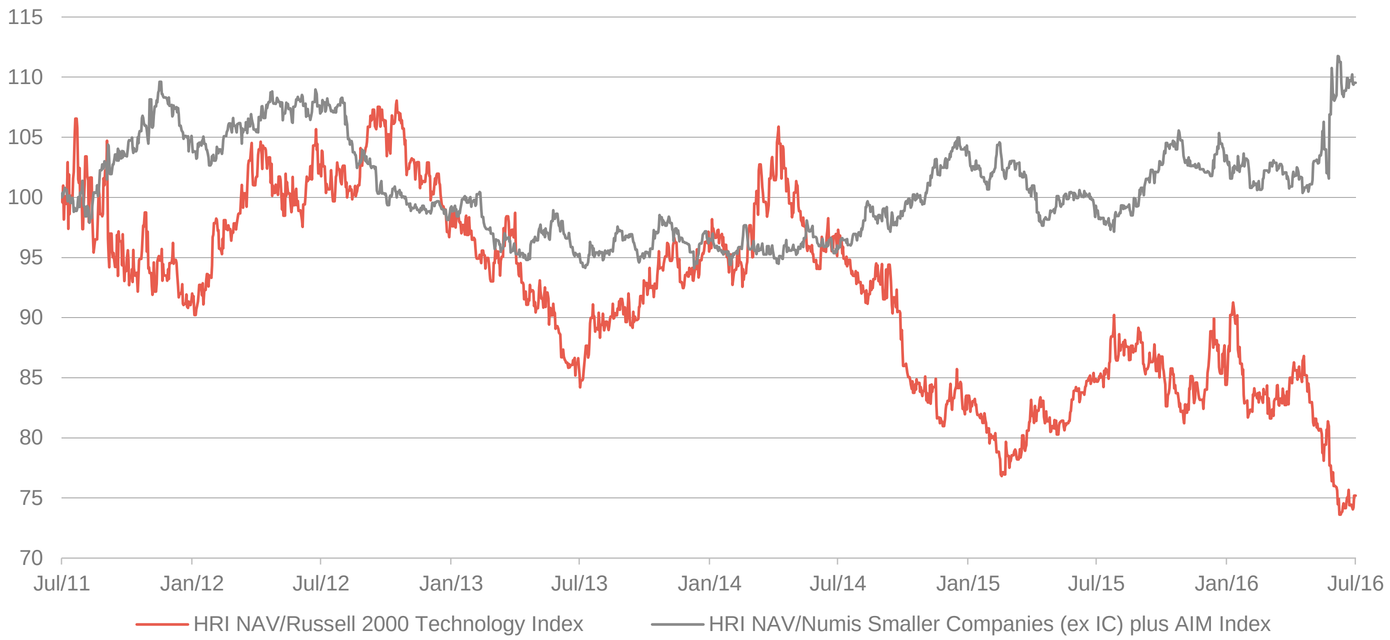
Unquoted investments were valued at £12.4m at the end of December 2015. The largest of these were an investment in Ten Alps (valued at £3.9m), the stake in HIML (valued at £3.0m) and an investment in Herald Ventures II (valued at £1.8m).

Performance

Figure 13, which shows how Herald's NAV has been performing relative to the two comparator indices, shows that the portfolio has been lagging the US technology market over the past couple of years, a reflection of the portfolio's large allocation to the UK market and the outperformance of US technology stocks relative to UK technology stocks during the period. The manager highlights that, relative to the Russell 2000 Technology Index, Herald, with its significant UK exposure, will tend to underperform this index during periods of sterling weakness relative to the US dollar. Similarly, during periods of sterling strength, relative to the US dollar, Herald will tend to outperform the Russell 2000 Technology Index.

With regard to the Numis Smaller Companies (ex Investment Companies) Plus Aim Index (Numis Index), the manager comments that this index has significant allocations to cyclical sectors, such as construction and commodities, and that small technology companies, and thus the performance of Herald's NAV, will tend to lag that of the index during strong cyclical rallies.

Figure 13: Herald's NAV relative to Russell 2000 Technology Index and Numis Smaller Companies (ex IC) plus AIM Index over five years to 31 July 2016



Source: Morningstar, Marten & Co

The impact of the collapse of sterling, post the referendum result, shows up in the sharp relative moves at the end of the period. Katie believes that, once markets settle down, there will be catch up of the UK technology market relative to the US market, as the benefits of weak sterling on the competitiveness of UK technology companies are better factored into valuations.

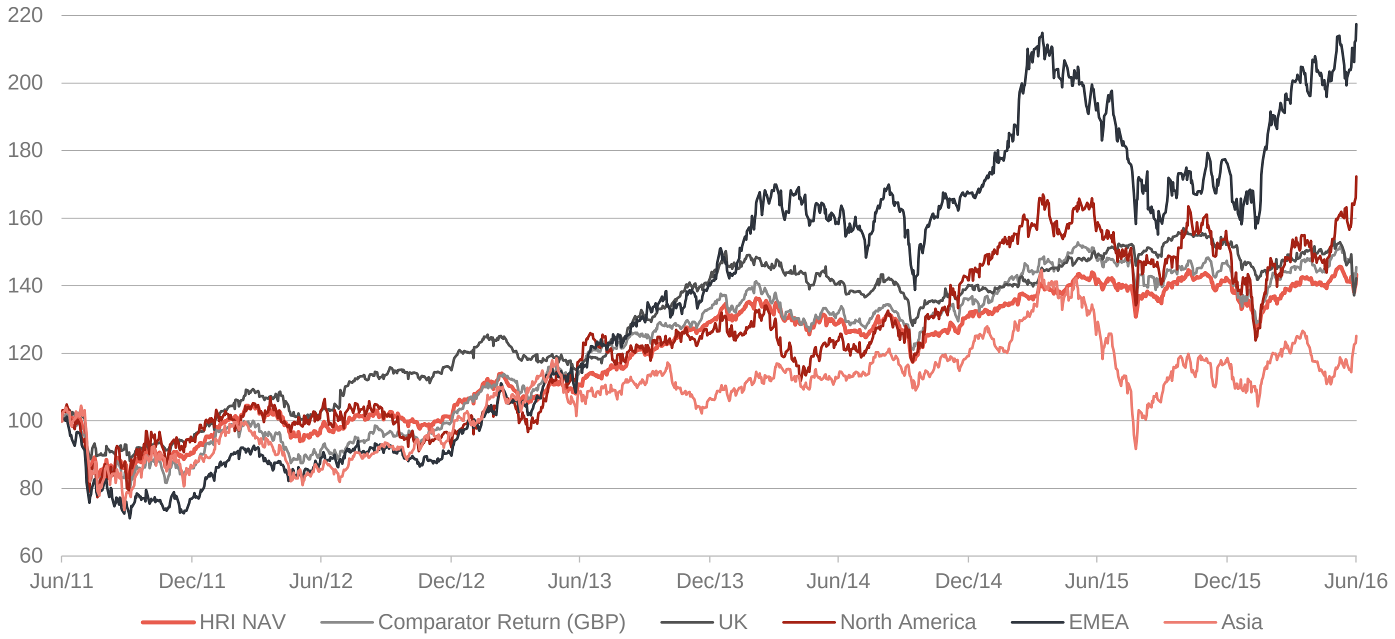
The post-Brexit moves were cushioned by the higher cash and fixed interest weighting that Katie built up in the portfolio ahead of the referendum.

There has been a long-term drag on performance from Herald's interest-rate swap (see the capital structure section for more information). The 30-year swap was taken out in 2008 to protect against potential interest-rate rises. In the intervening period, LIBOR has declined markedly and has remained low with the consequence that the swap has imposed a cost on the trust.

Over the long term, the internal rates of return (IRR) of the regional portfolios have exceeded the time weighted returns, particularly in the UK, suggesting that asset allocation, including allocations to cash, has contributed positively to returns.

Figure 14 shows how Herald's NAV has performed over the past five years; the performance of the various regional portfolios; and a comparison with Herald's favoured performance comparator (a blend of the Russell 2000 Technology Index and the Numis Smaller Companies (ex Investment Companies) plus AIM Index in a ratio of 30:70). On the whole, every region has done well and contributed positively to Herald's performance except for Asia. A comparison of the performance of Herald's NAV, its sub portfolios and the indices is also provided in Figure 15 below.

Figure 14: Herald performance by region over five years – rebased to 100 over five years to 30 June 2016



Source: Herald Investment Trust, Marten & Co

Figure 15: Herald NAV performance and regional portfolio performance since inception

	Time weighted return (%)	Time weighted return annualised (%)	IRR annualised (%)
Asian portfolio	402.7	8.6	5.9
EMEA portfolio	1,188.3	13.7	9.8
North American portfolio	299.0	6.3	7.0
UK Portfolio	1,132.9	13.5	17.7
Herald NAV	848.3		
Numis Smaller Co.s plus AIM ex IC Index	380.7	8.2	8.2
Russell 2000 Technology	119.8	4.1	4.1

Source: Herald Investment Management

When looking at Herald's performance, it should be noted that its bias to the UK and towards small caps means that there is no ideal comparator, which is why we have provided a number of indices here. As illustrated in Figure 16, Herald's NAV total return has beaten that of the Numis Index over all the time periods provided. In contrast, the trend has been one of underperformance relative to both the Russell 1000 and Russell 2000. In the case of both indices, this arguably reflects the stronger performance of the US technology sector in recent years, a market to which Herald has been underweight reflecting its strong allocation to the UK, and in the case of the Russell 1000 the performance of the big technology names (Apple, Google and the like) in which Herald, with its small-cap focus, will not participate. As illustrated in Figure 16, Herald's NAV has beaten its favoured performance comparator over all of the periods provided bar six months and five years. The recent widening of the discount has also meant that Herald's share price has generally underperformed its NAV over the periods provided.

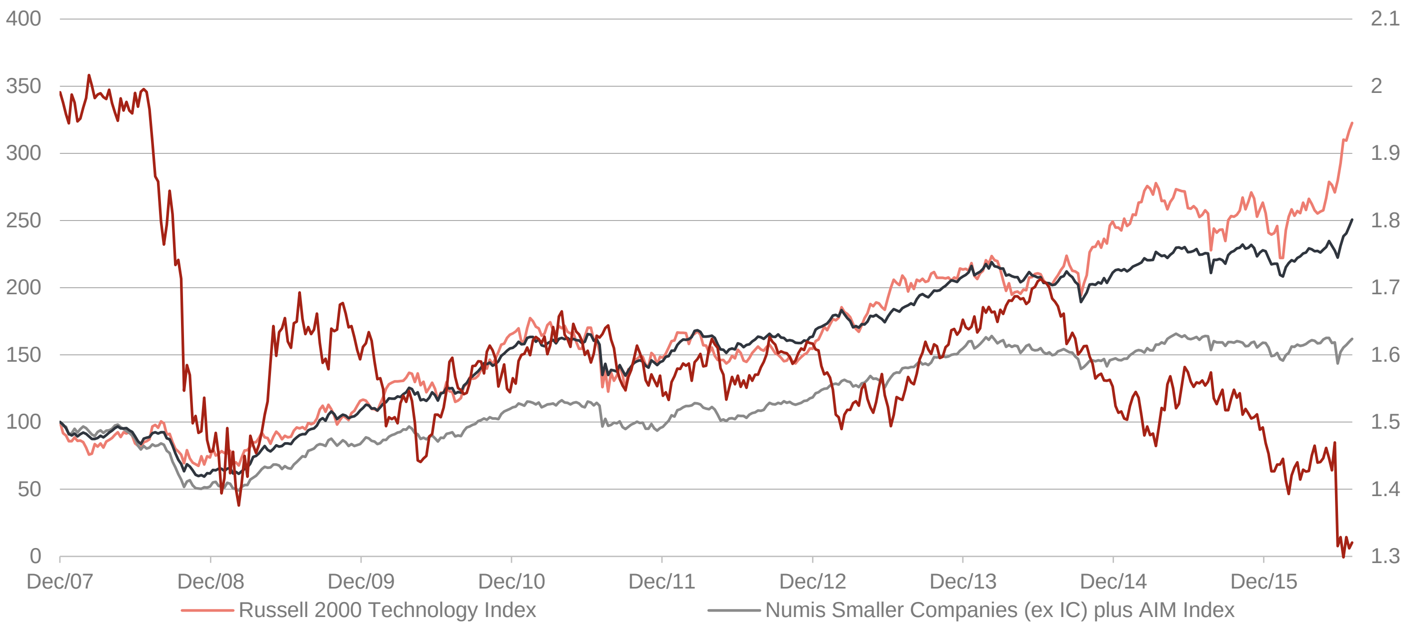
Figure 16: Cumulative total return performance to 31 July 2016

	1 month (%)	3 months (%)	6 months (%)	1 year (%)	3 years (%)	5 years (%)
Herald NAV	8.1	10.0	13.9	10.1	36.0	58.0
Herald share price	11.8	9.7	11.6	2.8	35.7	49.6
Russell 2000 Technology Index	9.3	24.3	27.9	24.0	54.3	110.2
Numis Smaller Co.s plus AIM ex IC Index	7.1	1.3	7.6	-0.6	18.3	44.3
Russell 1000 Technology Index	8.9	23.7	21.6	28.3	78.5	134.6
Blended index*	8.0	9.1	14.6	7.6	30.0	64.0

Source: Morningstar, Marten & Co *Note: a blended return of 30% of the Russell 2000 Technology Index and 70% of the Numis Smaller Companies (ex Investment Companies) Plus AIM Index.

In managing Herald's portfolio the manager is looking to invest to generate absolute (positive only) returns. However, it is interesting that, as illustrated in Figure 17, over the time period approaching the financial crisis and since, that Herald has outperformed the broader Numis Index. The manager says that, in her view, this provides a good illustration of the resilience of the approach and that, unlike many other small caps, technology is much less prone to the swings of the economic cycle.

Figure 17: Herald NAV total performance versus indices and US-dollar/sterling exchange rate since 31 December 2007*



Source: Herald Investment Trust, Marten & Co *Note: Performance rebased to 100 at 31 December 2007. All in total return, sterling equivalent terms.

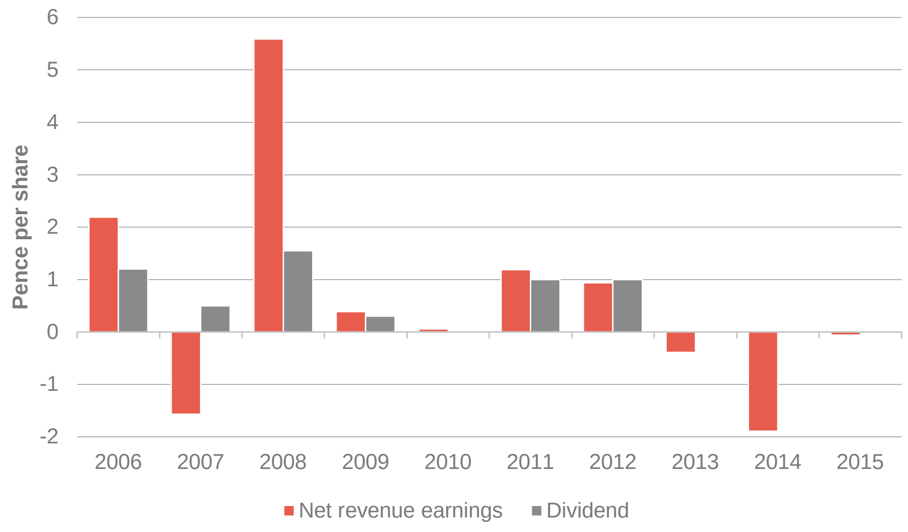
Katie believes that small cap technology will likely underperform a booming market, but still generate strong returns, and will outperform in a cyclical downturn, allowing it to provide marked outperformance over the longer term. The manager believes that, given current economic uncertainty and the prospect of a more challenging economic environment ahead, if cyclical sectors start to come under pressure, Herald's outperformance of the Numis Index in recent months could accelerate.

Dividend

Herald is focused primarily on providing capital growth and investors should not expect dividends to be a significant component of their returns. However, whilst Herald has not paid a dividend for the last three years, it has paid dividends in six of the last 10 years (see Figure 18). These are made, where necessary, to maintain Herald's status as an investment trust and, when a dividend payment is made, there is one distribution, which usually occurs in late April or early May following the financial year end on 31 December.

The fact that Herald tends to pay relatively small dividends, or makes no dividend payment at all, is, in our view, a direct reflection of the types of companies it invests in. These are generally in a growth phase, or positioning themselves for such growth and will tend to be reinvesting all or a significant proportion of their earnings to fund that growth (as discussed on page 10, a key strand of Katie's approach is to identify companies where earnings growth will propel them to a single digit P/E within a reasonable period of time). The consequence is that Herald receives a relatively low level of dividend income, compared to funds investing in companies that have more mature growth profiles, and as Herald charges all of its expenses to revenue (other than these directly related to the acquisition or disposal of an investment) its net revenue earnings tend to either be negative or quite small.

Figure 18: Revenue earnings and dividends (pence per share) over 10 years



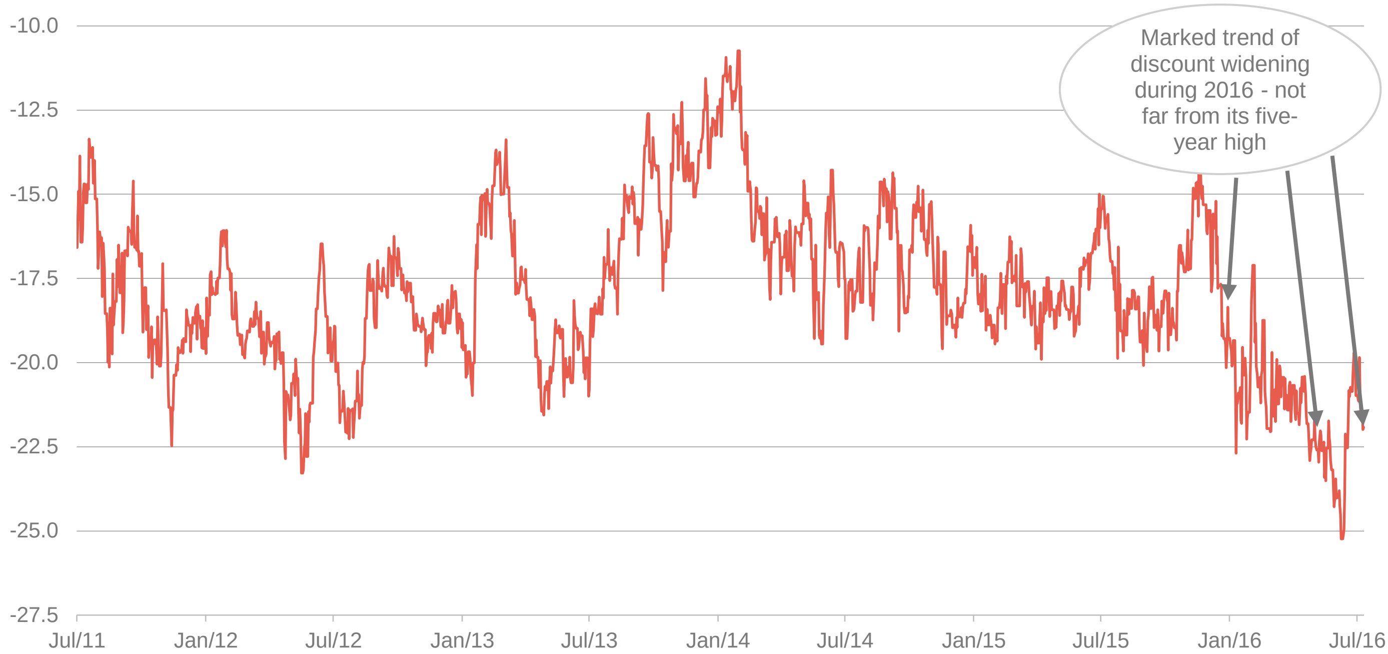
Source: Herald Investment Trust Note: the 2008 dividend excludes a special dividend of 3.45p per ordinary share which was paid in relation to the recovery of VAT on management fees.

Discount

Herald traded at or above asset value early in its life and over the period of the technology bubble. However, the trust has traded at a discount in recent years and, as illustrated in Figure 19, this has widened over the course of 2016 such that Herald is trading at discounts that are towards the widest end of its five-year range. Herald's current discount is 21.9%, which is above its five-year average of 17.9%. Over the year to the end of July 2016 the discount moved within a range of 13.9% and 25.2%.

Herald saw its discount widen during the market sell off in January and February, which was in common with the broader investment trust sector. The sector as a whole then saw some reversion of this trend, although discounts subsequently saw some widening again in the run up to the EU referendum, Herald being no exception. However, Herald's move would seem to have been wider than most. This may be because its focus on small-cap earlier stage companies made investors relatively more nervous about its prospects and it could also reflect its UK bias as investors grew nervous ahead of the referendum. The managers think that this concern is largely unwarranted for two reasons. Firstly, they say that Herald's holdings generally benefit from having global income streams, for which they see limited impact from Brexit. Secondly, with 56% of the portfolio comprising UK companies (see Figure 8 on page 13) a significant proportion of costs are denominated in sterling, which has depreciated in the wake of the vote to leave the EU, thereby making many of Herald's companies more competitive. Overall, the managers think that this could be beneficial to the portfolio's valuation. They also say that, for earlier stage companies, their returns will be a function of whether their technology proves to be successful and that this is also largely unaffected by the outcome of the referendum.

Figure 19: Herald share price percentage discount to NAV over five years



Source: Morningstar, Marten & Co

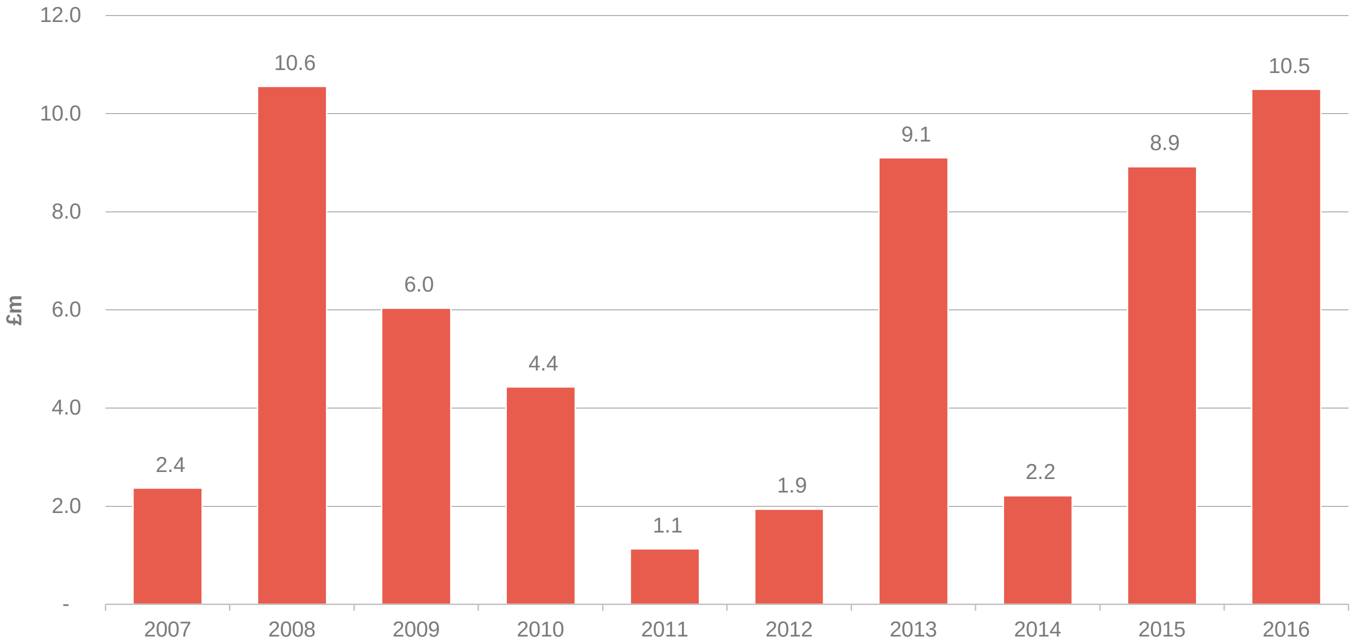
Herald has a substantial allocation to the UK and, whilst it has outperformed its blended index, as illustrated in Figure 13, it has underperformed the US-focused Russell Indices, which are seen by many technology investors as a bellwether for the space.

This may have been a contributory factor in the widening of its discount in the post-technology bubble era. However, the manager believes that, in the absence of further changes in the exchange rate, there should be an improvement in the profitability of many UK domiciled investee companies, as sterling weakness come through to improved trading performance. It is often the case in the investment companies market that an improvement in relative performance is accompanied by a narrowing discount.

Discount management

Herald uses buy-backs primarily to provide liquidity and hopefully moderate the level and volatility of the discount. There is no formal discount target, although for a trust such as Herald, whose underlying assets are relatively illiquid and throw off low levels of cash, such an approach would be hard to implement. Most commentators would agree that, for a formal target to work effectively, a trust must be assured that it will always have the necessary liquidity to fund repurchases. However, rather than commit to a rigid target, the board uses its share repurchase authority opportunistically, when it has the necessary cash flow and is also able to find sufficient liquidity in Herald's own shares to effect value-adding repurchases.

Figure 20: Herald share repurchases since 2007



Source: Herald Investment Trust, Marten & Co

Figure 20 shows Herald's share repurchases since 1 January 2007. Over this period, Herald has repurchased over 12.8m shares or 14.4% of its issued share capital at the start of the period. The level of buy-backs in 2016 has already exceeded those of previous years even though we are only halfway through the period. The board say that it is keen to utilise the trust's repurchase authority, but cautions that it is not without costs (both transactions and the administration costs) and says that dealing in sizes below 30,000 shares is not efficient for the trust. It would therefore like to deal in transaction sizes of 30,000 shares and above, but says that, despite the prevailing discount, which appears to be predicated on low volumes, it has struggled to find sufficient shares available to repurchase and this has thwarted its repurchase attempts.

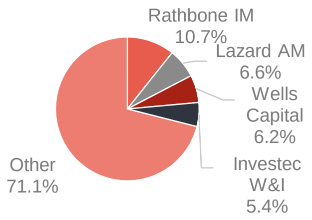
Fees and costs

HIML's management fee is 1% of net assets where the NAV is calculated on mid-market prices. This is somewhat unusual in the investment trust space, where NAVs are usually calculated at bid prices, but, given the nature of Herald's underlying holdings, whose small-cap nature suggests their spreads will be wider than the market average, the Board felt that this approach was appropriate. The management fee is levied on all assets except the holding in Herald Ventures II Limited Partnership, which is also managed by HMIL, thereby avoiding any double counting of fees. There is no performance fee. The management fee also covers the cost of company secretarial services, which HIML has delegated to Law Debenture Corporate Services.

In the year to the end of December 2015, Herald's ongoing charges ratio was 1.08%, marginally up on the figure for the year before which was 1.07%. The asset management contract is subject to 12 months' notice.

Capital structure and life

Figure 21: Shareholder base



Source: Herald Investment Trust

Herald has 74,593,701 ordinary shares in issue and no other classes of share capital. As illustrated in Figure 21, Herald's shareholder register, somewhat unsurprisingly, has some large institutional investors at the top. However, with the largest of these being Rathbone Investment Management (10.7%), there is a good degree of diversity within the shareholder base.

The company has a multicurrency variable rate loan facility with RBS which includes a sterling term loan facility of £25m, all of which was drawn down on 31 December 2015, and a multicurrency revolving loan facility up to £25m: no drawdowns have been made from this to date. These facilities mature on 31 December 2017. Herald has a maximum gearing level of 50% of net assets but, in reality, the board expects gearing levels to be considerably below the maximum. As at 30 June 2016 Herald had gross gearing of 6.6% and net cash of 4.3%. By 31 July net cash had risen to 6.4%.

The interest-rate swap

During 2008, the trust entered into a 30-year swap arrangement to hedge the cash flow risk arising from interest-rate fluctuations. The swap effectively fixed the interest rate, payable on the trust's debt facilities, to 4.9% plus margin cost per annum. However, in the period since the swap was put in place, interest rates have moved considerably lower and so the swap has been a drag on the trust's performance. The fair value of the contract, at 31 December 2015, was an estimated liability of £13.0m. This was £17.8m at the end of June 2016.

Life

Herald does not have a fixed life but a continuation vote was held at the AGM in April 2016. Another is scheduled for the AGM in 2019 and every third year thereafter.

The company's year end is 31 December and AGMs are normally held in April.

Board

Herald's compact board helps to keep its ongoing charges low.

Herald's board comprises four non-executive independent directors. This is a relatively compact board, for a company of its size, helping to keep the ongoing charges ratio down. Figure 22 shows the composition of the board and provides some information on members' length of service and shareholdings in the company. It is board policy that all serving directors retire and offer themselves for re-election annually.

All of Herald's directors have made significant personal investments in Herald , which helps to align the board's interests with those of ordinary shareholders.

As illustrated in Figure 22, all of the directors have made significant personal investments in Herald's ordinary shares. The last column on the table compares the value of their shareholding with the value of their annual director's fee. Even the two most recently appointed board members, Karl Stenberg and James Will, who have been on the board for about 15 months, have shares valued in excess of their annual fee.

Figure 22: Board member - length of service and shareholdings

Director	Position	Appointed	Length of service (years)	Annual director's fee (GBP)	Share-holding*	Years of fee invested*
Julian Cazalet	Chairman	18/01/08	8.5	31,500	150,000	35.3
Tom Black	Senior Independent Director	01/05/13	3.2	23,000	6,900	2.2
Karl Sternberg	Director	21/04/15	1.2	21,000	3,578	1.3
James Will	Director	21/04/15	1.2	21,000	6,000	2.1

Source: Herald Investment Trust, Bloomberg, Marten & Co. *Note: shareholdings as per most recent company announcements as at 19 July 2016. Julian Cazalet's holding of 150,000 shares comprises 100,000 shares held beneficially and 50,000 shares held non-beneficially. Years of fee invested based on Herald ordinary share price of 742.0p as at 19 July 2016.

Management team

Katie is supported in managing the funds by a team of six other investment professionals and three consultants.

Katie Potts is the managing director and also the lead fund manager for HIML. She established HIML in December 1993 to manage Herald, which was launched in February 1994. Katie read Engineering Science on a GKN Group scholarship at Lady Margaret Hall, University of Oxford. She worked for five years in investment management at Baring Investment Management Limited, before joining S.G. Warburg Securities' UK electronics research team in 1988. The team was consistently voted top team in the Extel survey of analysts in the sector, and she was voted top analyst by finance directors of electronics companies canvassed by *The Treasurer* magazine. In addition, Katie had responsibility within S.G. Warburg's UK research department for commenting on accounting issues.

Fraser Elms joined HIML in May 2000. He is the deputy manager of Herald and has lead responsibility for managing HIML's Asian portfolios. Prior to joining HIML, Fraser was a technology analyst with Dresdner Kleinwort Benson, where he covered the European technology sector. Before this he worked at Prudential for three years as member of a team of three UK unit trust fund managers that managed £5bn in equities, with Fraser having lead responsibility for three funds collectively worth £400m. He graduated from Lancaster University with a degree in Economics and initially joined Prudential as a product manager for their unit trusts, before completing an MSc in Investment Analysis at the University of Stirling and re-joining Prudential in an investment role. Fraser covers the semiconductor sector.

Taymour Ezzat joined HIML in November 2004. He is a portfolio manager on the venture funds, sitting on the venture committee, and taking lead responsibility for a number of the investments in the venture portfolios. He also has analytical responsibility for the media sector across all HIML's quoted and unquoted portfolios. Previously he spent a year appraising a number of venture capital opportunities for E.D. Capital Partners. Prior to that, Taymour had spent six years at Northcliffe Newspapers, the regional newspapers division of Daily Mail and General Trust (DMGT), latterly as finance director of its electronics publishing arm. Beforehand, Taymour worked for Reuters in London and Eastern Europe for four years. He qualified as an accountant with Price Waterhouse, and studied Economic History at the London School of Economics and Political Science.

Hao Luo joined HIML in 2004 and works with Fraser Elms on managing the Far East portfolios. He also has analytical responsibility for the manufacturing sector globally. He obtained a BA in Economics from Hunan University in China and a Masters degree in Finance from Manchester University. He worked for J&A Securities in Shanghai from 2000-2002. Hao is a CFA charterholder.

John Gulian joined HIML as an analyst in 2010, and covers the green technologies and consumer electronics sectors, as well as dealing. He studied Engineering at the University of Warwick.

Peter Jenkin joined HIML as an analyst in 2015. Peter covers the software sector and contributes to the overall investment selection. Before joining HIML he studied Construction Engineering Management at Loughborough University.

Bob Johnston has recently been recruited to establish a US office. He has more than 20 years' experience in the technology sector on the sell-side, and he has worked with the HIML team for roughly 15 years. Most recently, Bob was with the technology specialist Pacific Crest. He previously also worked for Hambrecht & Quist and SoundView Technology Group. Bob has taken responsibility for telecommunications, networking and security analysis.

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