

Herald Investment Trust

From small acorns....

Herald Investment Trust (HRI) provided very strong returns during 2017 (NAV and share-price total returns of 26.9% and 32.7% respectively) with strong absolute returns coming from all of its regional portfolios.

During 2017, a significant proportion of HRI's NAV performance was driven by 24 holdings that more than doubled during the year. These stocks, which accounted for 8.2% of the portfolio at the beginning of 2017, contributed 63% of HRI's aggregate return for the year and illustrate neatly that, in this space, a holding that appears insignificant can very quickly become important once it starts to move. This also validates the manager's strategy of maintaining an extensively diversified portfolio.

Despite HRI's strong performance, and that of the broader technology sector, valuations have broadly been on an improving trend during the last 18 months as earnings growth has outpaced price rises. The manager continues to think that the TMT space offers an attractive source of growth in a low-GDP-growth world and that small caps continue to offer interesting investment opportunities.

Small-cap technology, communications and multi-media

HRI seeks to achieve capital appreciation through investments in smaller quoted companies, in the areas of technology, communications and multimedia. Investments will be made globally, although the portfolio has a strong position in UK stocks.

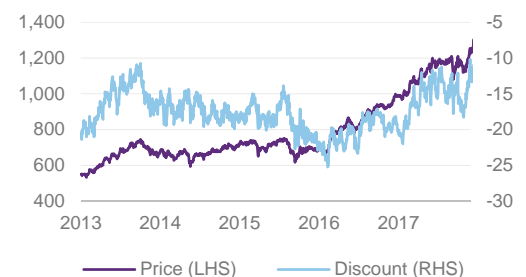
Year ended	Share price total return (%)	NAV total return (%)	Numis ex IC plus AIM (%)	B'berg World Tech TR (%)	MSCI World Index TR (%)
31/05/14	23.3	16.6	17.5	8.8	7.4
31/05/15	6.2	9.2	5.6	34.0	16.2
31/05/16	(3.3)	0.9	(1.6)	(2.5)	0.7
31/05/17	42.4	39.4	26.4	51.0	31.3
31/05/18	31.7	20.3	6.3	23.2	8.2

Source: Morningstar, Marten & Co

Sector	Small cap TMT
Ticker	HRI LN
Base currency	GBP
Price	1,365.00p
NAV	1,515.76p
Premium/(discount)	(9.9%)
Yield	Nil

Share price and discount

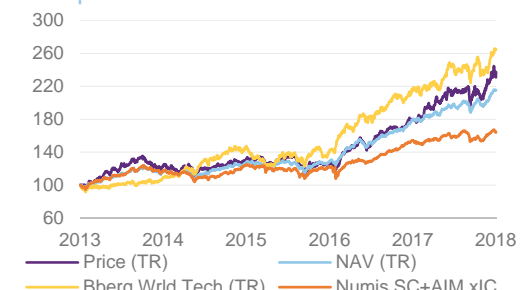
Time period 31/05/2013 to 08/06/2018



Source: Morningstar, Marten & Co

Performance over five years

Time period 31/05/2013 to 31/05/2018



Source Morningstar, Marten & Co

Domicile	United Kingdom
Inception date	21 February 1994
Manager	Katie Potts
Market cap	948.5m
Shares outstanding	69.5m
Daily vol. (1-yr. avg.)	96.0k shares
Net cash	9.5%

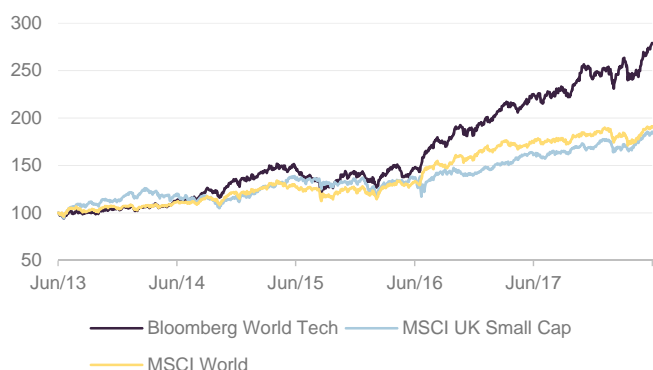
[Click here for our Annual overview note](#)

Market valuations

The recent strong performance of the technology sector has not been driven by multiple expansion.

Figure 1 provides an illustration as to why investors may wish to consider having an allocation to technology companies. As shown in Figure 1, the global technology sector has provided marked outperformance of global equities as measured by the MSCI World Index (all in sterling terms) during the last five years and particularly during the last two years (a similar pattern is seen if a 10-year horizon is taken with global technology providing a marked outperformance). However, this performance has not come at the cost of continually rising valuations. As illustrated in Figure 2, during the last 18 months both global technology and global equities in general have become cheaper arguably reflecting an improving earnings outlook.

Figure 1: Index total return performance over five years, rebased to 100



Source: Bloomberg, Marten & Co

Figure 2: Index P/E ratios over five years



Source: Bloomberg

It should be noted that global technology is trading currently at a premium to global equities, having previously traded at a discount for a number of years. However, while the global tech sector's valuation (it is currently trading at a P/E of 20.7x) is above its five-year average (17.9x) it is still comfortably below its five-year high (22.2x), leaving the potential for some expansion. In comparison, the MSCI World Index, at a P/E of 19.0x is below its five-year average (19.4x) and noticeably below its five-year high of 22.6x.

Manager's view

The manager advises us that little has changed, in terms of her outlook, since we published our update note in July 2017 and our annual overview note in December 2017, and so we suggest that readers who require more detail should review these notes. However, Katie thinks that the technology sector is having a good run because investors are attracted to the growth potential of the underlying stocks and that performance is being driven from bottom-up fundamental value considerations rather than a top-down rush to embrace the sector.

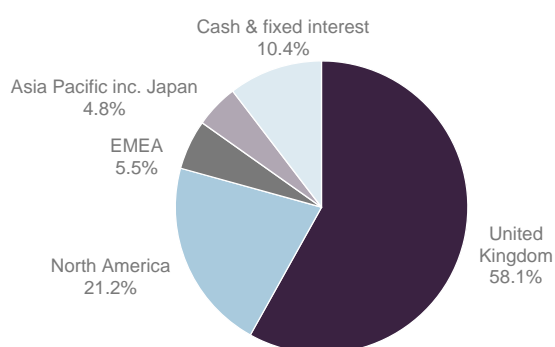
Katie thinks that the TMT space continues to be attractive as a source of growth in a low GDP-growth world. In a climate of low interest rates, cheap financing allows for higher margins and pricing power. In addition, Katie takes the view that small caps can

continue to provide interesting opportunities that exceed available capital supply. The portfolio continues to include the following themes:

- Smartphones;
- Productivity enhancements;
- Security and identity management;
- Online/digital economy;
- Fintech;
- Internet of things;
- Healthcare;
- Clean energy;
- IP telephony and call centre solutions;
- Big data and cloud computing; and
- Semiconductors, equipment and tools.

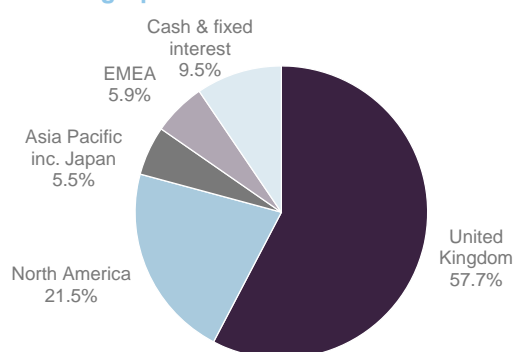
Asset Allocation

Figure 3: Geographic allocation as at 30 April 2018*



Source: Herald Investment Management *Note: as a proportion of gross assets

Figure 4: Geographic allocation as at 31 October 2017*



Source: Herald Investment Management *Note: as a proportion of gross assets

Figure 5: Top 10 holdings as at 30 April 2018

Holding	Sector	Geography	Allocation 30 April 2018 (%)	Allocation 31 Oct 2017 (%)	Percentage point change
GB Group	Software & computer services	UK	2.9	3.1	(0.2)
Diploma	Support services	UK	2.3	2.0	0.3
Next Fifteen Communication	Media	UK	1.9	1.7	0.2
IQE	Technology hardware & equip.	UK	1.7	3.0	(1.3)
M&C Saatchi	Media	UK	1.5	1.3	0.2
Pegasystems	Software & computer services	US	1.4	1.4	0.0
YouGov	Media	UK	1.4	1.0	0.4
Bango	Media	UK	1.4	1.8	(0.4)
Statpro	Software & computer services	UK	1.3	1.2	0.1
Silicon Motion Technol. ADR	Technology hardware & equip.	US	1.3	1.4	(0.1)
Total of top 10 holdings			17.1	19.1	(2.0)

Source: Herald Investment Management, Marten & Co.

The changes to HRI's asset allocation have been minor since we last published. The exposure to Asia Pacific and cash have both risen at the marginal expense of North America and the UK. The cash weighting has crept up as takeover proceeds have come in. Katie referred to the cash weighting as a detractor to recent performance. The North American weighting reflects Katie's ongoing caution over US valuations.

Since we last published, YouGov has entered the top 10 holdings at the expense of Idox; the manager has also sold HRI's position in Ring Central; and eg Solutions and SQS have been taken over. We discuss some of these developments in more detail below but would also recommend that readers see our previous notes for discussion of other portfolio companies.

YouGov

Figure 6: YouGov share price



Source: Bloomberg, Marten & Co

YouGov (YOU – www.yougov.co.uk) is an international data and analytics group. The core offering of opinion data is derived from a participative panel of five million people worldwide. This continuous stream of data is combined with deep research expertise and broad industry experience into a systematic research and marketing platform. The suite of syndicated, proprietary data products includes YouGov BrandIndex, the daily brand perception tracker and YouGov Profiles, a planning and segmentation tool. YouGov Omnibus provides a fast and cost-effective service for obtaining answers to research questions from both national and selected samples. With 30 offices in 20 countries and panel members in 38 countries, YouGov has one of the world's top 10 international market research networks.

Idox

Figure 7: Idox share price



Source: Bloomberg, Marten & Co

Idox (IDOX – www.idoxgroup.com) 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. Its share price suffered heavily following a profits warning in November (down 19.4% on the day), which was followed by an even sharper fall in December when it issued a second profits warning. Katie felt that the market's reaction had been overdone and took the opportunity to add to HRI's position. Katie has previously said that it has predominantly a UK customer base and is one of the companies she believes could actually be a Brexit beneficiary, at the margin. She expects 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.

Ring Central – sold out in its entirety

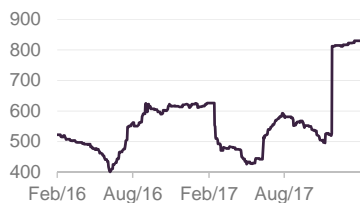
Figure 8: RingCentral share price (US\$)



Source: Bloomberg, Marten & Co

As illustrated in Figure 13, RingCentral (RNG - www.ringcentral.co.uk) was one of HRI's non-UK listed holdings that more than doubled during 2017 (it increased by 114% in sterling total return terms). The company is focused on VOIP telephony and, while it has performed well, it is operating in an increasingly crowded space. Katie feels that VOIP has become quite mature as a technology and now has low barriers to entry. There is also talk that Microsoft and Google are looking more closely at the space and Katie feels that it is only a matter of time before the company faces strong competition from a very serious rival and it was difficult to justify continuing to hold the stock on what had become an elevated valuation.

Figure 9: SQS share price – two years to 20 February 2018



Source: Bloomberg, Marten & Co

SQS –acquired by Assystem Technologies

SQS Group (SQS – www.sqs.com) is a provider of software quality and testing services that provided exposure to the theme of security (see our July 2011 note for more discussion). SQS was a long-time constituent of HRI’s portfolio (it featured in HRI’s top 20 holding during 2008 for example) with the manager adjusting the position over time (trimming where the valuation became extended and adding on weakness).

We commented in our December 2016 note that Katie maintained the holding when SQS had a difficult year during 2016 and actually added to the position close to the market low. This strategy would appear to have served HRI well. In December 2017, France based Assystem Technologies acquired SQS for approximately £281.3m. The company delisted from the London Stock Exchange on 20 February 2018.

Performance

Figure 10: HRI’s NAV relative to Bloomberg World Tech Index and Numis Smaller Companies Plus AIM ex Investment Companies Index over five years to 31 May 2018



Source: Bloomberg, Morningstar, Marten & Co

Figure 11: Cumulative total return performance to 31 May 2018

	1 month (%)	3 months (%)	6 months (%)	1 year (%)	3 years (%)	5 years (%)	10 years (%)
HRI NAV	5.9	7.8	9.8	20.3	69.1	115.2	304.0
HRI share price	5.7	11.1	10.3	31.7	81.3	137.3	330.8
Numis Smaller Cos. plus AIM ex IC	1.2	5.0	2.9	6.3	32.2	64.1	128.7
Bloomberg World Tech	9.1	7.0	11.7	23.2	81.5	164.5	358.7
MSCI World	4.2	3.1	3.6	8.2	43.1	78.6	150.9

Source: Morningstar, Bloomberg, Marten & Co

Up-to-date performance information is available on the [QuotedData website](http://QuotedData.com).

When we last published we commented that HRI had delivered a run of outperformance relative to the Numis Smaller Companies plus Aim ex investment companies index since 2014 - a trend that has broadly continued (see Figure 10). Over the last five years, the trend has been one of underperformance against the Bloomberg World Tech Index (as illustrated in figures 10 and 11) although, over the last six months, HRI has outperformed by a margin.

All of the regions in which HRI invests posted positive absolute returns during 2017.

The primary drag on HRI's performance came from its net cash position, which was mainly held in US dollars.

24 of HRI's holdings more than doubled during 2017, contributing 63% of HRI's aggregate return.

2017 – a very strong year of performance

During 2017, HRI provided NAV and share-price total returns of 26.9% and 32.7% respectively. These are ahead of the Numis Smaller Companies plus AIM ex Investment Companies Index, which returned 21.9% and significantly ahead of the broader MSCI World Index, which returned 11.0%. HRI's NAV is also in line with the Bloomberg World Tech Index's return of 27.0% while discount narrowing saw HRI's share price outperform. All of the regions in which HRI invests posted positive absolute returns during 2017.

Strong performance from UK and European portfolios

HRI's UK portfolio had a strong performance during 2017, providing a 35.2% total return, which was markedly ahead of the trust's comparative indices. Performance of the European portfolio was even stronger with a 52.1% total return (in sterling terms). Asia and the US also provided strong absolute performances (total returns of 24.3% and 18.2% respectively in sterling terms) while the primary drag on the portfolio came from HRI's net cash position. This was mainly held in US dollars and suffered as sterling strengthened.

2017's strong performance was driven by a relatively small number of holdings

During 2017, a significant proportion of HRI's NAV performance was driven by 24 holdings that more than doubled during the year. These stocks, which accounted for 8.2% of the portfolio at the beginning of 2017, contributed 63% of HRI's aggregate return for the year. Figure 12 lists HRI's UK portfolio companies that more than doubled during 2017; top of the list is Zoo Digital, which returned 550%. Figure 13 lists the non-UK companies that more than doubled; top of this list is Adesto which returned 218% in sterling terms. The manager highlights that many of these companies have looked irrelevant for some time but have then provided dramatic performance. Katie says that it is crucial to hold them in advance of these moves as firstly, it is impossible to know when they will move and secondly, even if you could predict when a stock will run, it would be difficult to get the necessary liquidity; these positions need to be built up over time.

Figure 12: HRI UK portfolio companies returning more than 100% total return during 2017

Company	2017 Total return (%)	Company	2017 Total return (%)
1 Zoo Digital	550	10 eg Solutions	177
2 Versarien	442	11 Taptica	173
3 Frontier Developments	342	12 Microgen	157
4 Bango	286	13 XLMedia	123
5 IQE	261	14 Sophos	119
6 Spectra Systems	246	15 Cloudcall	115
7 LoopUp	195	16 Frontier Smart Technologies	107
8 Wandisco	186	17 XP Power	103
9 Blue Prism	183		

Source: Herald Investment Trust

Figure 13: HRI non-UK portfolio companies returning more than 100% total return during 2017 (Sterling terms)

Company	2017 Total return (%)	Company	2017 Total return (%)
1 Adesto	218	5 RingCentral	114
2 BE Semiconductor	138	6 Pixelworks	106
3 Hydrogenics	130	7 Hanmi Semiconductor	100
4 Isra Vision	120	6	

Source: Herald Investment Trust, Marten & Co

Largest positive contributors to HRI's performance

Figure 14 shows the largest positive contributors to HRI's performance over the history of the fund. The three largest contributors are discussed in further detail below.

Figure 14: HRI total return over history of fund to 31 December 2017

	Company	2017 Total return (£m)		Company	2017 Total return (£m)
1	IQE	37	11	Admiral	16
2	Imagination Technologies	33	12	Detica	16
3	Diploma	30	13	Bango	15
4	GB	27	14	Euromoney	15
5	Telecom Plus	23	15	M&C Saatchi	14
6	BE Semiconductor	21	16	Advent Software	13
7	Silicon Motion Technologies	21	17	ARM	13
8	Next Fifteen Communications	19	18	Amstrad	13
9	SDL	18	19	Northgate Information Solutions	13
10	Avesco	17	20	SQS Software Quality Systems	12

Source: Herald Investment Trust

IQE

Figure 15: IQE share price

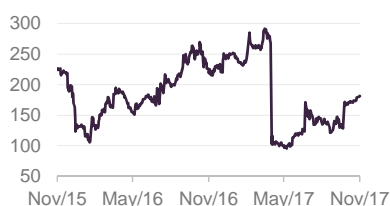


Source: Bloomberg, Marten & Co

IQE (IQE - www.iqep.com) develops, manufactures and sells advanced semiconductor materials worldwide. HRI has been a long-time investor in the company, having owned it when it was a microcap stock; first between 1999 and 2002, and then again from 2006. We highlighted its strong performance in our December 2017 note (it had doubled between July and December, having already more than quadrupled over the previous 12 months), which has moved it up HRI's portfolio rankings (it was HRI's fourth-largest holding as at 30 April 2018). IQE has grown from a single manufacturing operation into a world-class platform with a global footprint spanning Europe, Asia and the US. It raised £95m in November which it is using to expand its production capability and its ability to meet demand for its VCSEL wafers. (A vertical-cavity surface-emitting laser (VCSEL) is a type of semiconductor laser diode that has laser beam emission that is perpendicular from the top surface. This is in contrast to a conventional edge-emitting semiconductor laser, also referred to as an in-plane laser, which emits from surfaces formed by cleaving the individual chip from the wafer.) HRI fully participated in the placing with the manager having previously top-sliced to allow HRI to do so.

Imagination Technologies

Figure 16: Imagination Technologies share price - price – two years to 2 November 2017



Source: Bloomberg, Marten & Co

Imagination Technologies (www.imgtec.com) is a stock that we have discussed in our previous two notes. In April 2017, Imagination's share price tumbled from around 270p to around 100p, when Apple abruptly removed its processors from future versions of the iPhone. The company was then taken over by Cannon Bridge in November 2017. Cannon Bridge is based in Palo Alto, California, and backed by a state-owned Chinese fund, Yitai Capital. The deal valued the company at £550m, although its market capitalisation had peaked in 2012 at over £2bn. Katie says that this "is a rather sad end for a highly innovative company because the loss of the Apple contract led to a sale from a position of weakness". Prior to the loss of the Apple contract, Imagination Technologies had been one of HRI's largest holdings, but the manager had been regularly taking profits as its value had climbed and made £33m for HRI.

Diploma

Diploma (DPLM - www.diplomaplc.com) operates in three business segments – life sciences, seals and controls (more detail is included in our August 2016 note). The company has a good track record of growing its sales, around 77% of which are outside the UK, and it has performed well post Brexit.

Figure 17: Diploma share price



Source: Bloomberg, Marten & Co

The company released an upbeat trading statement in March saying that the company has continued to trade robustly in the first half of its financial year with revenues around 8% ahead of the prior year, despite a 4% currency headwind from appreciating sterling. It said that trading has been supported by strong market conditions in many of its key markets and geographies. The company also said that, on a constant exchange-rate basis, group revenues are expected to increase by 12%, with acquisitions completed during the previous year contributing 5% and underlying growth contributing 7%.

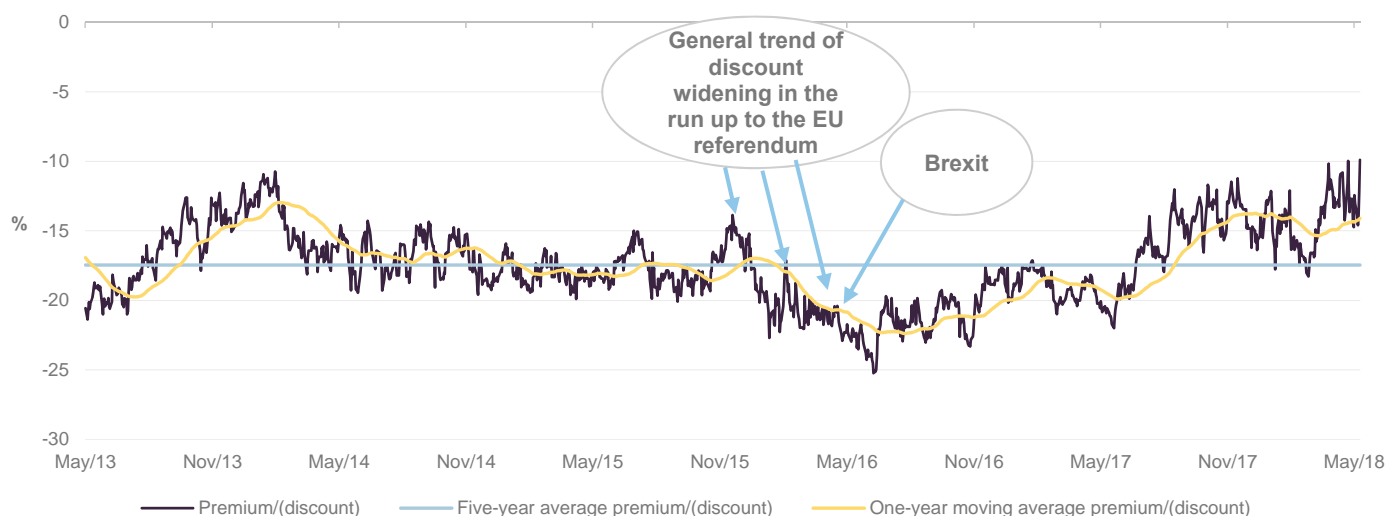
Discount

HRI's discount has been on a narrowing trend since mid-2016.

As Figure 18 shows, HRI's discount has been on a narrowing trend since mid-2016. This coincides with an improvement both in HRI's relative performance and, particularly during 2017, a marked revival in the performance of the global technology sector, which has increased investors' appetite as a result. This has also been a period during which HRI has put an increased emphasis on shareholder communications (it was commended in the AIC's shareholder communication awards in the category for 'Best report and accounts – specialist' for 2018), which would also appear to be having a positive impact.

Furthermore, during a period where HRI has benefitted from strong cash inflows from portfolio realisations, some of these proceeds have been used to repurchase shares (£27.6m was spent on share buybacks during 2017 for example). Over the past year, the discount has moved within a range of 9.9% to 22.0% with an average of 17.5%.

Figure 18: Premium/(discount) over five years



Source: Morningstar, Marten & Co

As discussed in our December 2016 note, HRI, along with the broader investment trust sector, saw its discount widen in the run-up to the EU referendum. HRI's was wider than most, which saw a step increase in its trading range, possibly because of its UK

bias amplifying investors' nerves. We previously said that as greater clarity emerged on the outlook for HRI's underlying companies that HRI could also see a reversion in its discount, which appears to have come through.

Fund profile

More information can be found at the trust's website: www.heralduk.com

Established in 1994, HRI invests globally in small technology, communications and multimedia companies with the aim of achieving capital growth. It is the only listed fund of its type. The trust invests globally, but has a strong bias towards the UK, which further distinguishes it from other global technology funds, that tend to be biased towards the US.

New investments in the fund will typically have a market capitalisation of \$3bn or less but are generally much smaller when the first investment is made. If successful, these can grow to be a multiple of their original valuation. This type of investing is inherently longer term in nature and so the trust tends to have low turnover. Reflecting the risks inherent in this type of investing, the trust maintains a highly diverse portfolio of investments (typically in excess of 250) to help mitigate this risk.

HRI has had the same lead fund manager since launch: Katie Potts. She was a highly regarded technology analyst at SG Warburg (later UBS) prior to launching the fund. Katie owns a substantial stake in the company and a significant minority stake in the management company and, clearly therefore, is motivated to ensure the success of the fund.

Investee company target size limit raised to US\$3bn

HRI's board has decided to increase the target size limit of investee companies from US\$2bn to US\$3bn. The limit has not been changed for a number of years and the board says that it offers more flexibility as HRI grows.

Previous publications

Readers interested in further information about HRI, such as investment process, fees, capital structure, trust life and the board, may wish to read our annual overview note, *Who wants to be a billionaire?*, published on 7 December 2017, as well as our other previous notes. These are detailed in Figure 19 below. You can read the notes by clicking on them in Figure 19 or by visiting our website, www.martenandco.com.

Figure 19: Marten & Co. previously published notes on HRI

Title	Note type	Date
Invest in the future	Initiation	16-Aug-16
Tech bids demonstrate value	Update	20-Dec-16
Backing growing businesses	Update	11-Jul-17
Who wants to be a billionaire?	Annual overview	07-Dec-17

Source: Marten & Co.

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