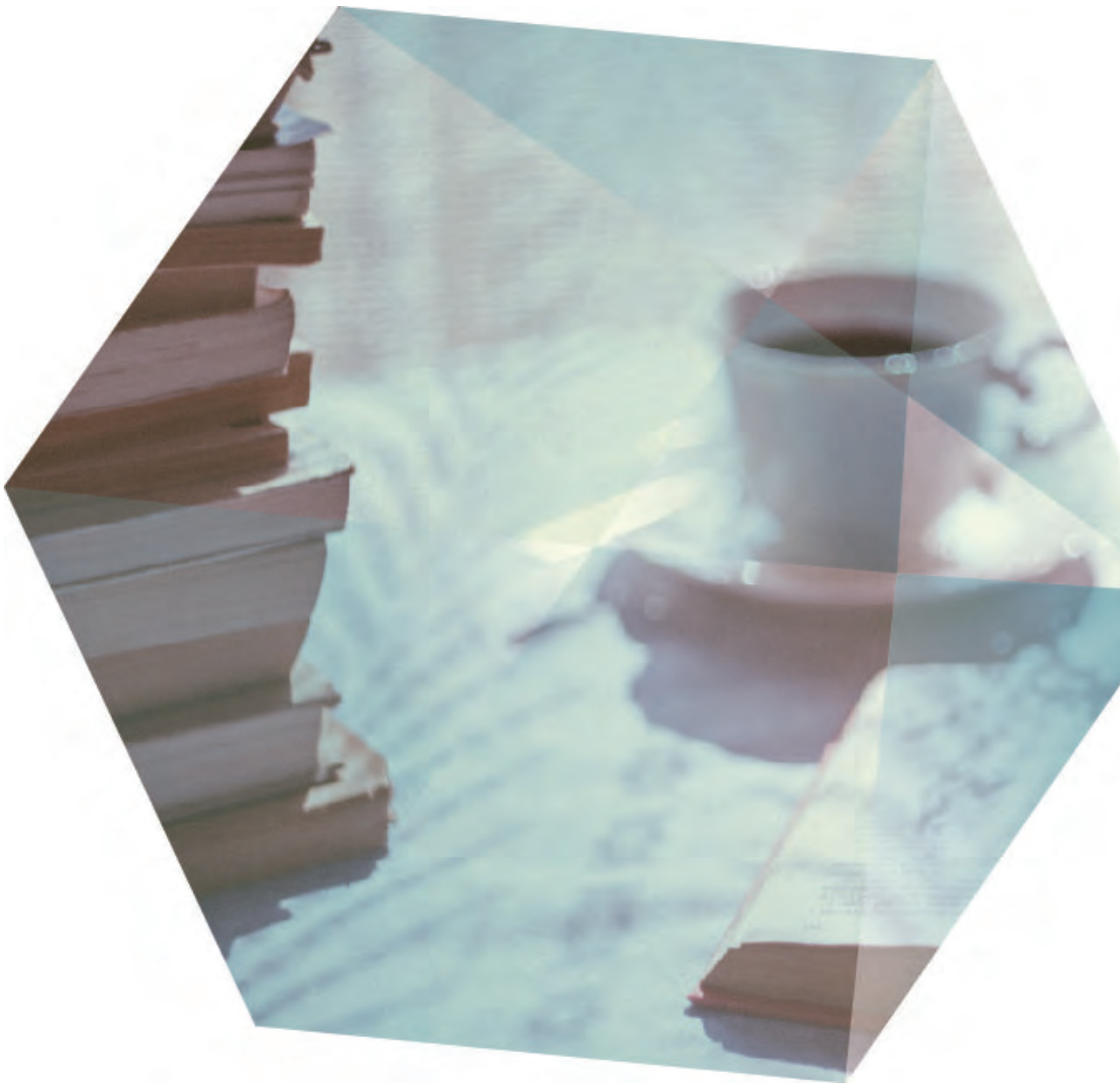




HARDMAN & CO.



The Hardman & Co Lockdown Compendium

A selection of articles from Hardman & Co analysts

The Hardman & Co Lockdown Compendium

We live in truly unprecedented times, and it remains unclear when, or how, we will return to what will be the new normality. 2020 marks the 41st year of my career in the stock market. I have seen several meltdowns during that time (I am one of the few people still working who lived through Big Bang in 1986), but even I have never experienced such a comprehensive market collapse caused by a pandemic, accompanied by such a virtually total shutdown of economies across the world. I have learnt, however, that it is especially important at times of crisis to avoid being sucked into short-termism, to which the sheer onslaught of news lures investors.

Many people have a little more time on their hands now to reflect, and we thought it might be useful to collate some of the papers we have published in the past year that have a long shelf life. This compendium covers a variety of issues from a number of authors, ranging from the disappearance of a market consensus to understanding the biggest discounts in the investment company sector.

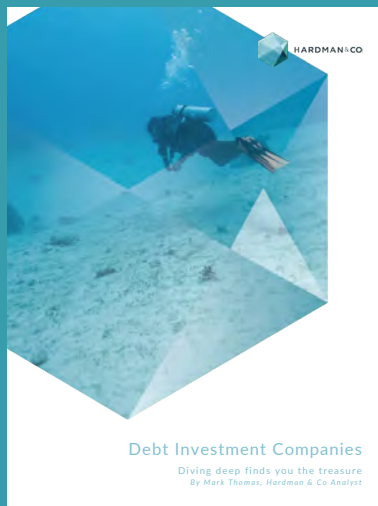
Please keep in mind that, when the articles mention a share price, it will be the price at the time of publication. We have not revised the prices to today's date. Similarly, the price-related ratios, such as dividend yield, price/earnings or discount to net asset value, have not been adjusted.

We will return to normality one day, although it may look different from the past. These articles should help you take a longer view of events – never a bad thing for investors! In the meantime, I wish all our readers, and their families and colleagues, all the best health, and I hope you enjoy this collection.

Keith Hiscock
Chief Executive Officer

Take your chance to
dive deep and explore
some of the finest
Insights from our
experienced analysts.

Choose a cover to
start reading.



Finished already?

There's more! Keep
up to date with all our
latest research online
at hardmanandco.com





HARDMAN & CO.

Debt Investment Companies

Diving deep finds you the treasure

By Mark Thomas, Hardman & Co Analyst

Table of contents

Executive summary	3
Sector overview	7
Attractions	7
Risks	9
Understanding credit risk.....	11
Direct investments.....	11
Indirect investments	13
Where are we in the credit cycle?	14
Accounting	15
Mark-to-model or mark-to-market	15
IFRS9.....	17
Hardman & Co adjusted accounts	18
Valuation	19
Yield.....	19
Discount/premium to NAV.....	19
Gordon Growth Model	21
NAV returns.....	22
Hardman & Co basis	22
Dividends on a reinvested basis	22
Sub-sector: specialist lenders.....	23
Case study: non-mainstream lending.....	26
Case study: early repayment premium	26
Sub-sector: secured lenders	27
Attractions of secured lenders.....	30
Risks for secured lenders	30
Sub-sector: Collateralised Loan Obligation (CLO)	31
What is a CLO? – simplified example	32
CLO opportunities in the real world.....	34
Factors concerning the discount to NAV	36
Other companies	37
Sub-sector: peer-to-peer/platform.....	38
Opportunities from peer-to-peer.....	40
Factors regarding above-average NAV discount.....	40
Sub-sector: mixed assets.....	42
Sub-sector: leasing companies.....	44
Sub-sector: wind-down/harvesting.....	46
Appendix 1: Hardman & Co tick-sheets.....	47
Appendix 2: current NAVs.....	51
Disclaimer.....	53
Status of Hardman & Co's research under MiFID II.....	53

Executive summary

We believe that to properly understand debt investment companies, they need to be analysed as lenders first, and investment companies second. To understand their specific credit, business model, accounting and growth characteristics requires detailed expertise in lending. This report employs the analyst's experience of researching debt vehicles and lending businesses for more than 30 years to tease out the investment-critical characteristics.

The debt investors category has grown exponentially in recent years. The Association of Investment Company classification of this sub-sector encompasses 38 'investments' with a further 5 in its leasing sector. We believe that the time has now come to recognise that a broad-brush categorisation is no longer appropriate, and this large diverse sector should be split into more focussed constituents. The companies are facing fundamentally different risk profiles and have a range of accounting policies, making NAV comparisons fraught with danger. They also report their NAVs at diverse intervals, further complicating comparisons across the sector. Our analysis results in the following sub-sectors: specialist lenders, secured lenders, Collateralised Loan Obligation (CLO) vehicles, peer-to-peer/platform lenders, mixed asset and leasing companies. Such an approach allows the discount/premium to NAV to be considered in its proper context rather than a muddy pool of non-comparable businesses. Given we are including leasing, we will refer to the sector going forward as credit investment companies (CIC)

In this report, we provide investors with our thoughts on the key issues for CICs. We start with thematic considerations that apply across all types of the company (understanding credit risk, the outlook at this stage of the cycle, accounting and valuation), before deep-diving into each of the sub-sectors. We have also provided investors with a simple tick-list of questions to ask each different type of company.

Attractions of CIC: high yield (7.1%); improving competitive environment, giving structural growth; specialist skills, adding value; selective stocks, trading below NAV; low correlation with other investment classes

The attractions for the sector are as follows.

- ▶ A high yield – on average 7.1%. The highest-yielding companies are Blackstone/GSO Loan Financing 12.2%, Fair Oaks Income 12.2%, Chenavari Toro Income Fund 10.1%, Doric Nimrod Air Two 9.2% and Volta Finance (herein referred to as Volta) 9.1%. The only companies yielding below 5% are NB Global Floating Rate Income (4.4%) and Alcentra European Floating Rate Income (4.6%). Such yields are likely to be attractive to income-focused investors, and dividend cover is supported, in many cases, by long-term cashflows.
- ▶ Mainstream competition from banks has reduced because of their incremental capital requirements. This has created a structural growth opportunity for the CICs, which currently have a tiny market share.
- ▶ Specialist skills allow the generation of superior returns from niche markets.
- ▶ The sector trades at a 4% discount to the December NAVs. The largest discounts among continuing companies are Chenavari Toro Income Fund 19.5%, P2P Global Investments 14.1%, Funding Circle SME Income Fund 11.5% and Volta 11.2%). On January NAVs (see Appendix 2) Volta's discount is 13.8% and Funding Circle SME Income Fund 10.3%. (the others have yet to report their January numbers).
- ▶ Given the underlying economic exposure, we would expect most of the sector to have a low correlation with equities and commodities investments.

Credit Investment Companies

Risks of CIC: credit is key. Greatest volatility is likely in mark-to-market (rather than mark-to-model) businesses and those with illiquid/complex investments, or in untested markets.

Understanding credit risk: for direct lenders, the CAMPARI and ICE analysis is invaluable. We also consider governance, security and collections.

For indirect lenders, it is important to manage the intermediaries, including understanding the real underlying risks

We also explore where we are in the credit cycle

Accounting: mark-to-model (including IFR 9) vs. mark-to-market is an important distinction, with the latter likely to show increased volatility. IFRS9 has accelerated the recognition of losses, although underlying economics are unchanged. Hardman & Co's approach to adjusted accounting is outlined.

Three approaches to valuation

NAV total return – sector average on Hardman & Co basis: 15.3% p.a.

The main risk is credit deterioration. A gentle deterioration could be a positive, as reinvestment will be at higher spreads than the current low levels. Additionally, volumes may increase as banks' appetite to lend wanes further. These factors could offset a modest rise in provisioning. However, a rapid and sharp economic contraction will see NAVs drop in the short term, as impairments/mark-to-market losses exceed these positive trends. In the long term, cashflows could improve, but there will be short-term losses. Those companies with market-price-driven NAVs, illiquid or complex investments and those in untested markets are likely to show the greatest volatility, as we believe adverse sentiment will compound actual losses.

Exposure to interest rates (other than their impact on credit) is mixed. Funding risk is low. The sector is net long US dollars, although currency risk is company-specific.

We review how investors should consider credit for companies investing, both directly and indirectly, in debt. For direct investors, we focus on the basic canons of lending – the CAMPARI and ICE (character, ability, means, purpose, amount, repayment and interest, and insurance, commissions and extras) analysis. We emphasise the importance of the character of the borrower and how lenders can establish a view on that. For direct lenders, we also note the importance of governance (i.e. independent credit sanctioning function), the value of different types of security, the importance of effective execution of security, monitoring and, critically, collections once an account is in arrears. For indirect lenders, we note the importance of assessing the character and ability of the introducer of business, statistical portfolio techniques and the issues looking through to underlying exposures. Additionally, diversification benefits, the process by which recoveries are managed and the option of sale are important issues. We also consider where we are in the credit cycle, and the impact on the bottom line of changes in spreads, volumes and credit impairment.

On accounting, the key distinction we draw is between companies that are required to adopt mark-to-model methodologies, as opposed to using mark-to-market approaches. We include IFRS9 as a mark-to-model approach, as impairments are assessed using management expectations of future losses based off modelled outcomes. Both mark-to-model and mark-to-market methodologies have merits, but the mark-to-market approaches are likely to lead to more NAV volatility, as they will reflect sentiment-driven changes, as well as cashflow expectations. We also give a brief review of the move to IFRS9 accounting and the associated recognition of impairments on an expected loss, rather than incurred loss, basis. This has accelerated when losses have been incurred, thus reducing near-term profits. The underlying economics, cashflows and total profit are all unchanged. We also show our "Hardman & Co adjusted accounts" to better reflect dividend cover. The impact of foreign exchange on the NAV/profit for leasing companies is also highlighted.

We have undertaken three approaches to valuation: i) yield, ii) discount/premium to NAV, and iii) Gordon Growth Model (GGM). Given the high yield of the sector, we believe the yield approach is likely to be given a significant weight by investors. We note the range of premia/discounts to NAV and comment on these in detail in each of the sub-sector sections later in the report. There is an argument that, as financing companies, the GGM best reflects the value added by management, especially where intellectual capital is being deployed.

We have adopted an approach based off the dividend being withdrawn, rather than the industry standard dividend reinvested basis, to reflect the attractive yield, making the sector an income, rather than a capital, play. On this basis, the sector has an average NAV return of 15.6% over three years, with the highest growth being shown by Fair Oaks at 43.4%, followed by Volta at 22.4%, GCP Asset Backed Income at 21.9%, Starwood European Real Estate Finance at 21.7% and Real Estate Credit Investments at 20.6%.

Credit Investment Companies

Specialist lenders can exploit market opportunities in niche areas and illiquid debt, which require sector-specific skills, where markets are non-core or uneconomic for banks. The sector can be a rewarding space for those with specialist skills to identify such opportunities.

The average specialist lender is trading close to par to December 2018 NAV (ranging from BioPharma Credit, at a 5.5% premium, to JPMorgan Global Convertibles Income, at a 5.5% discount). They have an average yield of 5.5% (highest: TwentyFour Select Monthly Income at 7.2%). We detail in the company description table on p25 each specialist lender's specific focus and the associated unique portfolio characteristics. For the sub-sector as a whole, UK exposure is relatively limited. We also note that the companies in this sub-sector, on average, have more concentrated portfolios than the total sector average. The key to understanding this sub-sector is to appreciate how the use of specialist skills/intellectual capital can add value by identifying when pricing does not reflect risk. Such opportunities arise where i) the borrower's economic sector requires specific skills to be understood properly, ii) the size of the market is unattractive for mainstream lenders to compete, iii) the market is illiquid, iv) the risk/capital profile is unattractive for a bank, v) the area is seen as strategically non-core to competitors, and vi) the potential returns for the individuals making that assessment are higher in an investment company than a mainstream lender. We also note the opportunity to add value through specialised deal structures, including early repayment penalties.

Secured lenders: we explore the nature of security and how it impacts on NAV calculations, as well as the importance of proper execution and monitoring.

The average UK property-secured CIC is trading at a premium of 1.4% to December 2018 NAV (highest: Real Estate Credit Investments at 5.2%), while the average for other secured lenders is a 1% discount. The average property-secured CIC has a yield of ca.6.6%, while the average for other secured lenders is 7.0% (highest: SQN Asset Finance C shares at 7.9%). We highlight the attractions of security in realisation values, its underpinning of mark-to-model valuations (real estate being the most secure) and the lower risk profile for invoice finance businesses. We also note the importance of execution and ongoing monitoring to security values and how the basis of valuation (e.g. open market vs. forced sale) can impact on value. We also note that the change in Crown Preference should have no effect on fixed security holders, but could impact those with UK floating charges. This change in Crown Preference could have an impact on borrowers if their customers are likely to default.

CLO sub-sector: among the highest yields and discounts to NAV, despite superior three-year returns. Perceived complexity for a relatively simple underlying risk is an issue.

The CLO sub-sector has among the highest yields and the highest discounts to NAV, despite generally generating superior three-year NAV returns. We discuss in detail the factors that may be driving the anomaly, including i) the perceived complexity of relatively simple underlying cashflows, ii) valuation methodologies that mainly have external verification, and iii) potential sentiment-driven NAV volatility, which could mask long-term cashflow opportunities. We have included sections describing the market and showing that the exposure is to a broad portfolio of loans. CLO is simply a wrapper to get that exposure. We also highlight the opportunities in this market and how investment in different tranches of CLO securities carry different risks.

Peer-to-peer/platforms: structural growth from dis-intermediating banks and technology. Risks are credit management, collection and, especially, an unproven model in a recession.

This sub-sector has diverse valuations, with a range of a 14% discount to December 2018 NAV (P2P Global Investments) to a 13% premium (Honeycomb). The yields range from 5.3% (Funding Circle SME Income Fund) to nearly double this level (VPC Speciality Lending). We discuss the opportunities, as capital requirements increase the relative attractiveness from dis-intermediating banks and technology facilities' platform developments. On the risk side, we note that this is a rapidly evolving market, with credit losses above like-for-like lenders, and one that is untested through a recession. Developments across the globe are not universally positive for the market outlook.

Mixed asset debt companies are diverse

The three companies in the mixed asset sub-sector are, by their nature, diverse. Chenavari Toro Income Fund and TwentyFour Income Fund have some similarities to our CLO sub-sector, but we believe the underlying asset class (notably investments in residential mortgage-related securities) has the potential to make comparisons misleading. Chenavari Toro Income Fund has the highest discount to December 2018 NAV (19.5%) and one of the highest yields (10.1%) in the sector.

Credit Investment Companies

Leasing companies: attractive yield but accounting makes NAV comparisons meaningless

The leasing sub-sector has an above-average yield (8.4%), with all the companies yielding over 6.7% and a high of 9.2% (Doric Nimrod Air Two). It is a very focused sector (aircraft or shipping), with highly concentrated portfolios that are dependent on niche skills. We note that the accounting makes NAV comparisons with other debt companies meaningless and introduces significant profit volatility that bears no resemblance to underlying cashflows. For example, there are major timing differences in the recognition of foreign exchange movements, with lease receivables only recognised over the period of the lease.

Wind-down/harvesting

Another specialist sub-sector contains companies that are in wind-down/harvesting phases. The market's expectations of realisation values over the near term make these companies non-comparable with the others in the debt sector, and valuations are driven by company-specific issues, not sub-sector dynamics.

Hardman & Co tick-lists

In Appendix 1 in this report, we have provided investors with a standard simple tick-list of questions to ask companies in the different sub-sectors. Clearly, there will be company-specific questions, but these lists are intended to remind investors of some over-arching sub-sector issues.

Current NAV: for comparability, we have used December NAV wherever possible. In Appendix 2, we show the latest NAVs.

In order to enhance comparability, we have, throughout the report, used end-December 2018 NAVs and portfolio concentrations. While some companies provide NAVs daily and some provide early monthly updates, others do not. We have included, in Appendix 2, the latest NAV updates, how these differ from the December year-end, and the dates of the NAV. We do not believe they change the business messages through the report, as none of the movements are material and the average change across the whole sector is 0.6%. The outlying largest single movements have been in JGCI (+4.2%), BPCR (3.8%), Volta (+3.1%) swing in January and Fair Oaks -3.1%.

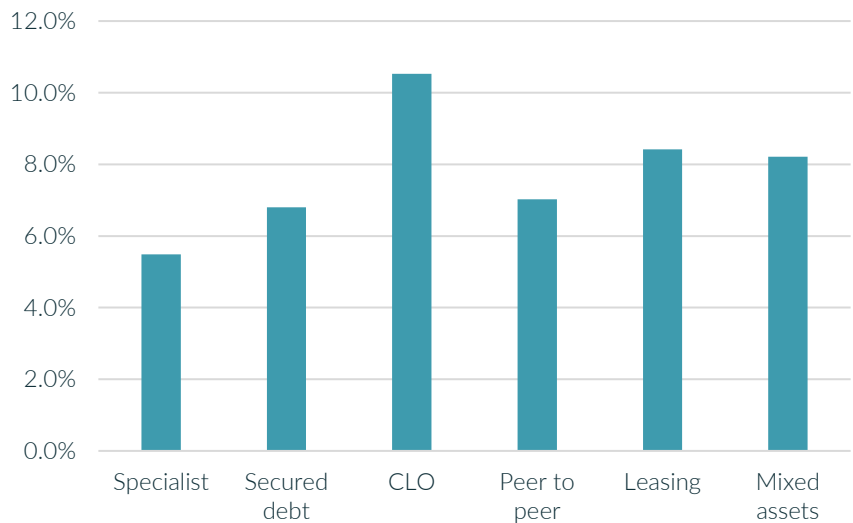
Sector overview

Attractions

High yield in the main, generated from predictable income streams, many from multi-year commitments

The historical average annual yield is high across all of our sub-sectors. As can be seen in the first chart below, all sub-sectors 12-month historic yield is over 5.5%, which is comfortably more than the FTSE 100 projected yield for 2019. In the main, these dividends are generated from predictable interest income streams, rather than being dependent on potentially volatile capital gains or losses. For many of the funds, the underlying lending is multi-year.

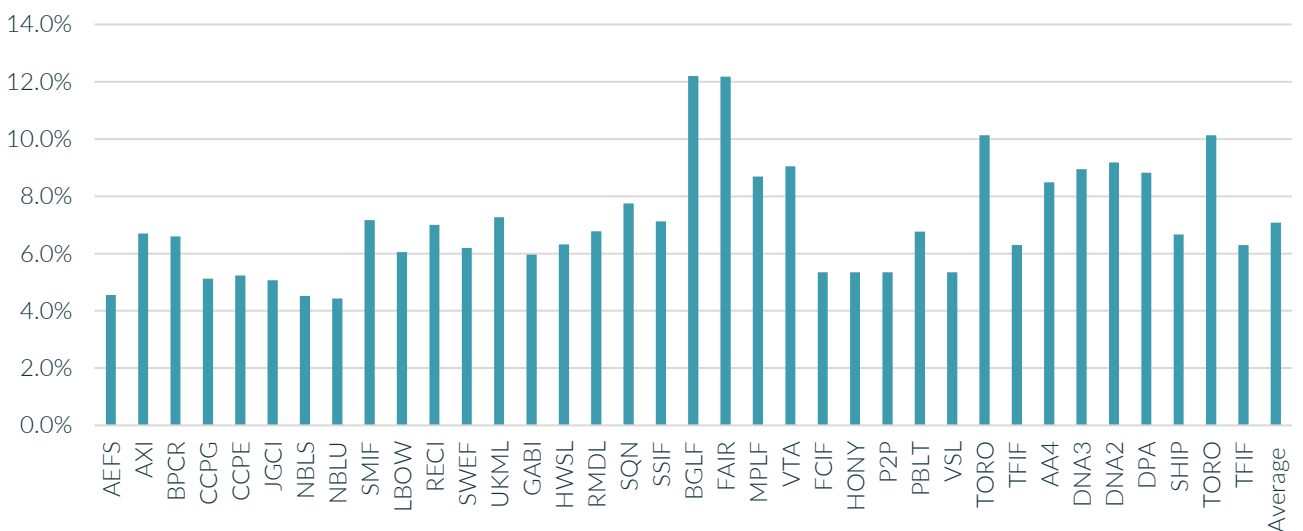
Average yield by sub-sector (%)



Source: Hardman & Co Research; wind-down sector excluded; prices as at 21 February

As can be seen in the following chart, all the stocks invested in CLOs and most leasing-asset businesses exceed the sector average.

Historical 12-month yield by company (%)



Source: Hardman & Co Research; prices as at 21 February

Credit Investment Companies

Structural growth, as mainstream banks squeezed out by capital requirements or specific skill requirements. Technology also supports structural growth for some.

Mainstream competition from banks has been severely affected by incremental capital requirements, and they have significantly retrenched to commodity products in large-scale markets. This focus has created opportunities in more specialist markets that require tailored underwriting, specialist knowledge and, often, human skill or bespoke IT and/or data analytics. We believe there is a structural growth opportunity for specialist lenders, secured lenders (especially property) and CLO funds. In the platform space, technology gives access to information and customer bases that was unthinkable a few years ago, again potentially creating structural growth.

Structural growth from low market share

The total assets in CICs, including leasing ones, are under £15bn. While materially larger than the peer-to-peer sector, this is a tiny part of the overall lending market. By way of comparison, according to UK Finance, UK banks provide total commercial lending facilities of £263bn, and the market for gross residential mortgage lending was £21bn in December 2018 alone. We also note that many of the lenders are focused on SMEs, and we believe this is likely to be a structural growth market in the UK, driven by socio-economic trends such as greater self-employment.

Specialist skills paid more in investment companies than mainstream lenders

Most of the CICs exploit intellectual capital, especially in niche areas such as sector-specific lending, creditworthiness or product structuring. The potential rewards for individuals with those skills is materially higher in a CIC than in a mainstream bank.

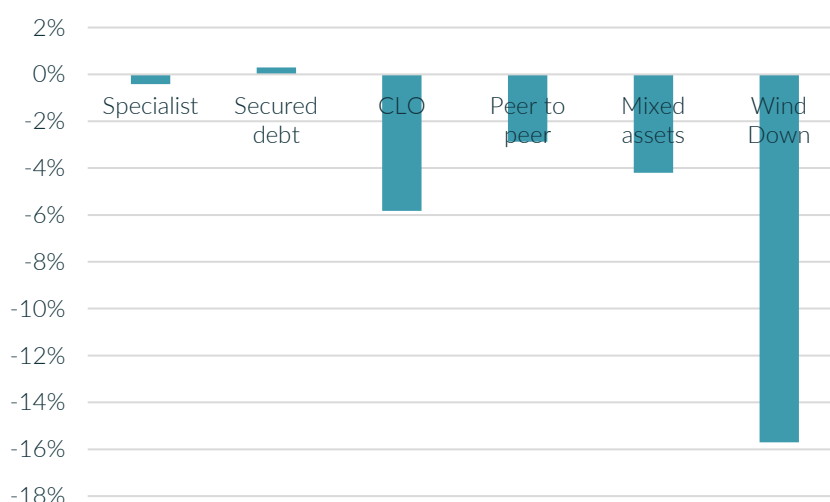
Uncorrelated to stocks, bonds, real estate and commodities markets

We also note that the sector's cashflows have a different economic sensitivity from equities/commodities, and thus create an asset class that should have a low correlation to those investments. This will particularly be the case for lenders who are marking to model rather than marking to market (in our classification, this applies to most specialist and secured lenders whose accounting for impairments is the standard adopted by banks and lenders, i.e. IFRS9).

Many companies at a material discount to NAV

There is quite a range of premium/discounts to the accounting NAV. We note that the leasing NAVs reflect unrealised (and, in our view, massively overstated) foreign exchange losses – so we have excluded them from the chart. The sub-sectors with the highest discounts are the CLO and wind-down sectors.

Sub-sector average discount/premium to December 2018 NAV (%)

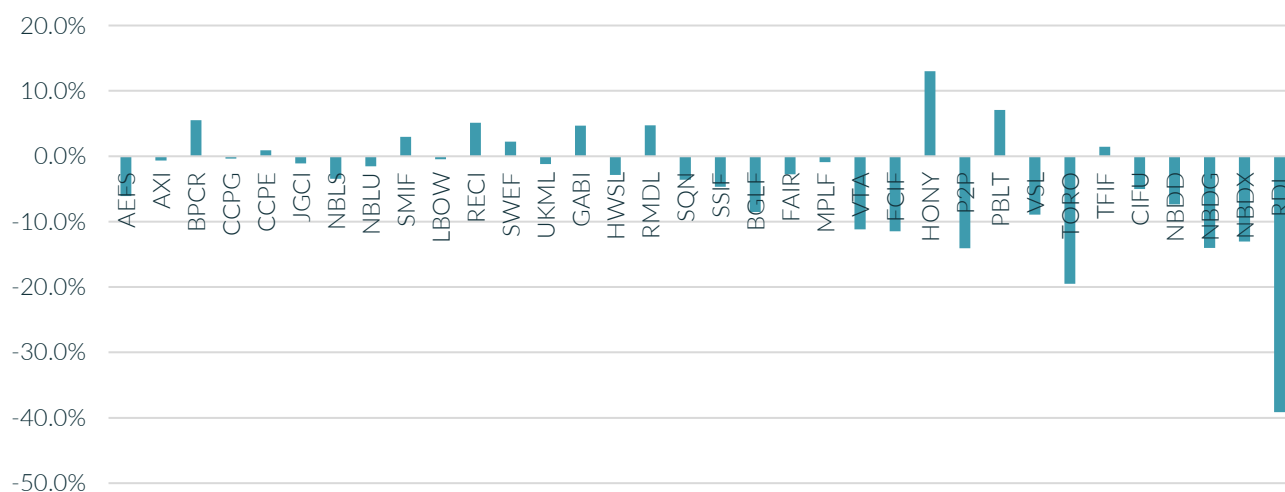


Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

As can be seen in the chart below, all the wind-down companies are at a discount to NAV, as are most of the CLO companies. The peer-to-peer sub-sector has a diverse mix between a large discount and a large premium.

Credit Investment Companies

Company share price discount/premium to December 2018 NAV (%)



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

Risks

Credit risk a key issue. Sharp deterioration will see near-term NAV reduction but may create good reinvestment opportunities for long-term profit growth.

Credit risk is the key risk. We believe impairments are very likely to rise from current low levels, but it is important to understand all the underlying dynamics of the profit and loss impact. Spread widening and higher volumes are both likely, and these create positive long-term earnings potential.

- ▶ If the environment sees a gentle credit deterioration, the positive factors may outweigh the negative ones. If the credit deterioration is sharp, then impairments and mark-to-market losses will exceed any income and volume benefits. The likely speed and scale of worsening credit should be considered by investors. It is worth noting that, in the long term, the benefit from widening spreads can be material, as they get locked into portfolios that, in due course, see improving credit again.

Non-standard lenders likely to see greater volatility

- ▶ Non-standard businesses are likely to see more benefit from wider spreads (customers are less sensitive to an extra 1% to loans being charged at 15% than ones at 5%), and they are likely to see a greater benefit to volumes as mainstream lenders withdraw. However, non-prime, non-standard lenders are also likely to see a worse-than-average credit deterioration.

Market risk: companies subject to mark-to-market valuations likely to see more NAV volatility in short term

For those companies with market-priced investments, the sentiment effect is likely to exaggerate underlying cashflow expectations. We expect greater NAV volatility in businesses whose assets are marked to market than those whose NAV is driven by mark-to-model valuations. We include lenders using IFRS9 impairment methodology as marking to model for this purpose.

Interest rate risk

The sector's exposure to rising interest rates is mixed. Perhaps the biggest element is the macroeconomic effect that rising rates may have on asset quality. The direct income effect for some reflects a focus on floating rate notes or derivatives. We also note that a number have invested in equity securities where, again, the effect of rising rates is mixed (we detail the key sensitivities to the CLO sub-sector in the section below).

Credit Investment Companies

Funding risk very modest

One of the key features of the sector is that gearing in the investment companies themselves is generally very low (although there may be gearing in some of their investments). Where there is gearing, it has i) been kept very modest by the standards of finance companies, let alone banks, or ii) been structured to minimise the risk of the forced sales of assets at distressed prices. The issue for us is not 'do these companies face a liquidity crunch?' but more 'would they be able to access equity funding to take advantage of repricing opportunities?' At the time when they would be most wanting to raise funds, the underlying markets could appear most vulnerable.

Incremental regulatory risk modest

We note that these investment companies are subject to the same regulatory environment as other investment companies, including producing Key Information Documents (KIDs) and, where appropriate, requiring potential users of their websites to go through a compliance procedure before getting access to information. The former is subject to market-wide concerns and, while the latter may limit potential investors, it also reduces the risk of mis-selling claims/post-event regulation in due course.

Where we do see some risk of regulation is to underlying markets. For example, lending to SME is currently unregulated in the UK, but this could change. We believe that, in the event of material numbers of retail investors losing money on peer-to-peer platforms, that market could become subject to materially tighter regulation and potentially mis-selling claims. The effect of this secondary regulation could be to disrupt the origination of new business and management of existing portfolios/collection processes.

Currency risk

Many of the companies have non-sterling investments and thus generate currency exposure. This is managed through funding hedging (i.e. matching liabilities to the asset, as seen in the aircraft leasing sub-sector), derivatives and running open exposure. We believe the sector overall has a net long US dollar position and would be a beneficiary if sterling were to weaken against the dollar – but it is very stock-specific. We detail the currency mix for each company in the sections below.

Understanding credit risk

Impairment recognition is art, not science

Before diving into the detail, we highlight that the recognition of losses reflects managements' views and assumptions overseen by auditors within accounting rules. Provisioning is an art, not a science, and investors should recognise this and give credit to managements that are conservative in other areas of their business, as they are also likely to be conservative in impairments.

Direct investments

Losses can never be excluded, but following the canons of lending reduces the probability of a loss event and its severity should default occur

We review the "cradle to grave" process by which the loan funds that are directly investing in loans should manage credit risk (portfolio investor considerations are given in the section below). While losses can never be excluded, where an investment company adopts sensible practices in assessing credit, monitoring positions once a loan has been made and taking appropriate security, they can be reduced. These processes should moderate both the probability of default and the severity of loss should a default occur.

Assessing credit

We believe that the basic principles of lending apply just as much to a debt fund as they do to any other balance sheet lender. They are sometimes called the "Canons of Lending" or the "CAMPARI and ICE" analysis, as detailed below.

CAMPARI and ICE: The canons of lending

Requirement	Hardman & Co Comment
Character	The background and experience of the individuals or businesses is essential to determining future success. There is a material element of subjective assessment of the borrowers, and includes whether the borrowers will be willing to make repayments if they have the ability to do so. Character can apply to both corporates and individuals – so, for example, a company with a rapid growth culture is likely to be more at risk of over-trading than a company with a conservative growth culture. We believe that the closer lenders are to customers (both physically and in terms of relationship), the better they are able to assess the borrowers' character. "Kicking the tyres" can be invaluable.
Ability	What kinds of skills does the personal borrower have and, for corporates, what are their sustainable competitive advantages? Does the borrower have the right management experience and skills? Quantitative measures include past performance and evidence of financial acumen.
Means	This focuses on the resources of the borrowers to make repayments. We believe the key measure should be cashflow. Having security is a useful backstop but can be expensive and time-consuming to enforce.
Purpose	Is the loan appropriate for the purpose for which it is being used, and to what extent does the nature of the borrowers change if they get the loan? A loan for an investment that itself generates returns is a different risk from, say, debt consolidation.
Amount	Is the amount of the loan proportionate to the purpose, and to what extent are the borrowers putting their own resources at risk, as well as those of the lenders? A 100% loan to value proposition is not only higher-risk because there is more debt, but also because the borrowers have nothing financially to lose if they cannot make payments.
Repayment	What sources of income are being used to repay the debt? A single source is higher-risk than diversified income streams. A corporate borrower with one major client is much more at risk than one with dozens. This also ties into the purpose requirement, in that the business development funded by the borrowing may generate incremental income (or cost).
Interest	Does the interest rate reflect the risk – both now but also the probable volatility of risk through the duration of the debt? The risk-adjusted return is more important than the rate alone (like-for-like loans with 20% interest and 5% loss rates are more profitable than ones with a 1% loss rate that charge 5%).
Insurance	Security is important, but we believe should not, in isolation, be the basis for lending, except in very exceptional circumstances. Investors need to be aware of the priority of the security in the event of claims. It is also worth noting that the execution of security is very important (see section below).
Commissions	Investors need to not only consider the interest rate, but also other income generated from the loans, including fees and commissions for things like arrangement, monitoring, insurance, etc.
Extras	In some cases, the nature of facilities generates significant extras. For example, we believe BioPharma Credit's niche is highly likely to see early redemptions. The make-good and penalty clauses built into its documentation mean that, when there is an early repayment, BioPharma Credit effectively receives income for a period when it is not actually lending.

Source: Hardman & Co Research

Credit Investment Companies

Risk decision should be separate from origination

Value of security is only what it can be sold for, often in forced sale conditions

Properly executing security is vital. This sounds simple and basic but, for example, in HBOS case, ca. 52% of cases had issues.

Both customers and value of security need to be monitored regularly. You cannot just do it when the loan is originated.

Collections vital to level of end loss

Diversification is an important risk management tool

Governance

An important governance point is that loans should be sanctioned by an investment committee – not by the team that originates and assesses the loan. In small lenders, this is not always possible, but an independent risk control process is important. Security values should ideally also have external valuers' support and be stress-tested in different scenarios.

Value of security

Investors should appreciate that the nature of security materially affects its value to a lender. For example, there is likely to be a lower realisation if the assets i) have limited secondary markets, e.g. specialist equipment of highly regulated assets, ii) are subject to technological obsolescence, iii) are leveraged tax leases, or iv) are highly mobile and so may be "lost" in the collection process.

Execution of security

One further consideration investors need to make is that execution risk is a material issue. By way of example, we highlight s344 p88 of the *FCA "the Failure of HBOS PLC A report by the FCA and PRA"* (Hardman & Co emphasis), where over half of the security HBOS has taken may not have been effective.

"The risk was increased by failures to perfect the security arrangements. In a meeting with the FSA it was reported that following a sample check of security 52% had issues. Similarly, the Bank of England, when reviewing a pool of property loans put forward as collateral, noted that HBOS had not registered its security interest on the property for a third of the loans. However, risks to the adequacy of security had been known: the CCRC recorded that valuation clauses were often negotiated out of contracts, or that clients would only accept a valuation every seven years, and that in practice it was difficult to get valuations. In February 2007, it had been discovered that almost 20% of valuations recorded in the division's systems were unattributed and therefore could not be relied upon. In effect HBOS had no or very weak security against a significant proportion of commercial property loans and was aware its security cover was potentially ineffective."

Monitoring and review once a loan has been made

The early identification of accounts at risk is crucial to limiting credit losses. This means that lenders need to have effective monitoring of, and to establish a close working relationship with, their borrowers. Where ongoing control is simply left to waiting to see if payments are made, and then chasing at a later stage, the probability of loss will be higher.

Collection process

Collecting debts can be just as important to ultimate returns as the initial lending decision. For some CICs, the outsourcing of collections under experienced supervision may be the only practical option. Such an approach should ensure that appropriate and experienced expertise is brought to bear and moderates ongoing costs. However, there are likely to be higher charges in the event of default, and these may not be recoverable from the borrower. We are not unduly concerned if a company uses outsourcing arrangements, as long as there is an effective process in place.

Portfolio management

Even specialist managers with a small number of borrowers should aim to have diversification of risk. This may be by geography, product or end-customer base. We note, for example, that BioPharma Credit is financing a range of life science products and is not dependent on just one. In contrast, we note that most of the aircraft leasing companies are concentrated primarily on three airlines.

Indirect investments

The underlying “CAMPARI and ICE” principles still apply to those companies making indirect investments (such as CLOs), but their execution is different, and such companies also need to adopt incremental portfolio techniques.

Need to know introducer

- ▶ The investment company needs to assess how the introducer/manager of loans is applying the CAMPARI & ICE principles. They need to judge the character and ability of the intermediary and how they are managing credit.

Need to look through to underlying assets. For some, this is complicated by seniority of underlying and seniority of debt in intermediary

- ▶ In addition, there is a need to look through the intermediaries to be able to assess the underlying exposure, which may be complicated by the fact that the vehicle in which they are investing is churning its portfolio. The investment company needs to know not only who the counterparty is, but also the seniority of debt that is being held. A CLO holding an AAA security may lose nothing in a default, while, for the same counterparty, investors in lower tranches may lose their whole investment.

Statistical modelling and technology important

- ▶ There tends to be greater dependence on statistical modelling, rather than subjective opinion. This has advantages (e.g. removing personal biases) but also disadvantages (e.g. a reliance on historical behaviour).

Tend to be more diversified

- ▶ Traditional diversification approaches tend to have more weight. By their nature, these companies have more underlying counterparties; this, in itself, generates diversification. However, portfolios are also typically modelled to achieve a sector/geographical/duration diversification that is simply not possible with, say, many specialist lenders. The dangers of being highly concentrated direct lenders can be seen in the ca.10% share price falls of several leasing companies when Airbus announced it would no longer make A380s in mid-February 2019.

May have more data, and so more input into IFRS9 calculations

- ▶ Impairment calculations for those using IFRS9 can often be based off a broader experience, and so may rely less on management judgement than more focused portfolios. It does not mean all companies are directly comparable, but there should be less volatility than where individual losses in specialist situations are trying to be judged.

Recovery of underlying not always in control of lender

- ▶ The recovery of debt is typically not under the direct control of the investment company. It is undertaken by the intermediary (say the peer-to-peer platform or CLO) and so assessing the recovery procedures of these intermediaries is an important element of credit control for portfolio lenders.

Option of sale

- ▶ CLO investment companies have the option of selling their investments in the CLO instrument if there is concern about underlying losses. A company could report zero credit losses if it sold all positions early in arrears. There will still be an economic loss, but it will not be reported as a default.

Where are we in the credit cycle?

Upside opportunities

Potential for spreads to widen and income to increase

For several years, credit spreads have been tightening and covenants on new loans have been weakening (anecdotally to a level of enforceability in some areas that is weaker than in 2007). While this has created some capital gains, it has overall been a challenging reinvestment environment. Concern about credit is likely to see wider spreads, meaning that the underlying income on reinvestment is likely to improve. The balance of increased income against increased credit loss will be dependent on the speed of credit deterioration and the duration of loans (and hence their rollover to higher rates). A slow, steady decline could see greater bottom-line profitability.

More mis-pricing opportunities

Not all assets are likely to show the same rate of deterioration and, in particular, sentiment towards specific sectors/sub-sectors is likely to create mis-pricing opportunities. Non-mainstream investments, such as CLOs, are likely to see more volatility (and so short-term NAV volatility). However, such conditions also create a significant long-term value creation opportunity.

In its equity raise at end-November, TFIF specifically highlighted opportunities from market disruption

We note that, in its 26 November 2018 [*Market update and intention to issue new ordinary shares*](#) statement, Twenty-Four Income Fund stated, "The recent volatility in equity and credit markets has, however, finally spilled over into the European ABS market, pushing spreads in some parts of the market to levels that we have not seen since 2016. We strongly believe that the market is now mispricing risk in this sector, as it has many times before, presenting an excellent opportunity to issue further capital to the benefit of both existing and new shareholders. Fundamental performance in the underlying loan pools remains stable, and within expectations, indicating that the derating of the sector is due to risk sentiment across all markets, driven mainly by geopolitical events. Typically, such instances offer a short-lived opportunity to access significant value." In its 12 January 2019 conference call, CVC Credit Partners European Opportunities fund also noted that it was seeing price differentials and dislocated assets.

Volume upside as mainstream lenders withdraw

There may be volume upsides for alternative financiers as mainstream lender appetite to lend reduces. For example, historically, banks' willingness to lend to commercial property has significantly weakened in downturns, and current capital regulations may exacerbate this historical trend. Borrowers may look to alternative financiers for their facilities.

Downside risk

Rising defaults likely to see MTM losses and IFRS9 impairments

The speed of any deterioration in credit will be critical to losses relative to reinvestment opportunities. Increased defaults are likely to see falling capital values (for those marking to market) and increased impairments (for those using IFRS9/markings to model).

Effect on sentiment-driven MTM hard to predict but highly probable market will over-react

In addition to likely actual losses, a potentially more important unknown for those marking to market is the effect on sentiment and the degree to which market prices are likely to over-react relative to long-term value. The uncertainty when credit losses are rising means that the market applies a higher discount rate than it might be expected to apply over a whole cycle, and consequently market prices might be expected to fall below long-term values.

We also note that some sectors are untested in a recession and their losses are unclear

The relative immaturity of some sectors means that most of its business models have yet to be tested in a serious downturn, especially in terms of collections. We also note that some underlying markets, such as peer-to-peer lending, are untested. The uncertainty created by this lack of track record may compound any falls in NAV.

Accounting

Management culture important

As we noted earlier, accounting is a science, not an art, and an important factor is management culture. As significant elements of management judgement are used in reaching accounting conclusions, if a management is generally conservative in its approach across its business, it is also likely to be so in its accounting assumptions. This is a subjective but important assessment. There are certain specific issues that then apply to CICs, which we detail below.

Mark-to-model or mark-to-market

Investors need to clearly understand how the basis of accounting impacts the valuation of the fund, especially given the focus on NAV discount/premium adopted for many investment companies. Some of the key considerations include the following.

Merits in both approaches

- ▶ We see merits in both marking to market and marking to model. The latter better reflects the expected long-term cashflows that the investment company may expect to earn. It is free from the potentially extreme sentiment-driven price movements that create unnecessary and unrealistic NAV volatility. However, such an approach does not reflect the likely value of assets if the investment company becomes a forced seller.

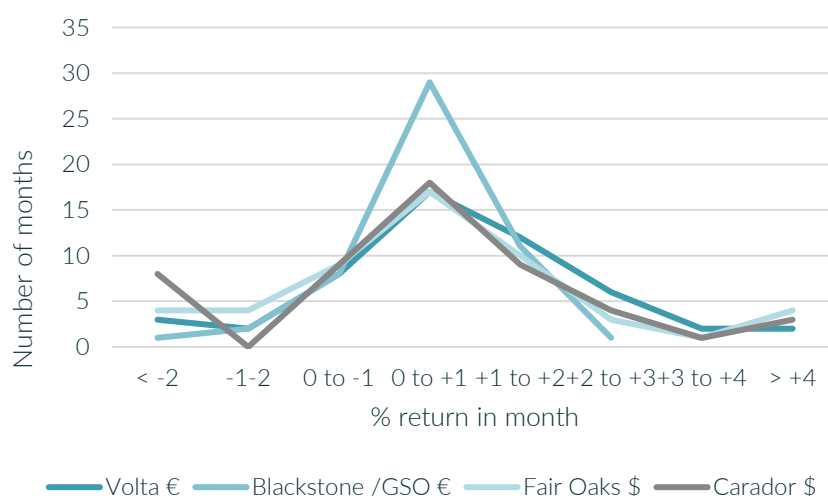
IFRS9 is a form of marking to model

- ▶ Conceptually, IFRS9 is form of marking to model, in that it reflects the expected loss based off a range of management expectations (and the probability assigned to each). IFRS9 is a hybrid, in the sense that the starting point is the gross loan value, which is a known, hard, fact. The IFRS9 impairment modelled calculations are then based off experience and, for large portfolios, with a long credit history, are likely to show with some confidence the expected credit outcome. They are, of course, dependent on customers continuing to behave as they have historically (and changes to bankruptcy laws can affect this dramatically). While it is not the same as some mark-to-model approaches, it is still likely to show less NAV volatility than mark-to-market approaches, which reflect investor sentiment as well as expected changes to cashflows.

Marking to market companies likely to see more volatility

- ▶ NAV returns on marking to model are likely to be significantly less volatile than returns on marking to market. Taking the CLO funds by way of example, Blackstone GSO is the only one that marks to model and, as can be seen in the chart below, it has had twice the number of months when it has delivered monthly returns in the range of 0%-1% compared with the other CLO companies. It does not have the same outliers, so in periods when markets are scared and writing down assets, its NAV does not show the same drop as those marking to market. Also, in periods when markets are scared, its discount to NAV may be expected to rise relative to peers (as its NAV will not have fallen to the same degree). We believe the current relative discount is illustrative of this.

CLO companies: number of months with different returns over past five



Source: Company Factsheets, Hardman & Co Research

Some CIC accounting is mark-to-model, others mark-to-market. Our sub-sector allocations bring greater accounting compatibility than the broad "debt investment companies".

The table below summarises the predominant basis for accounting for each company. We note that each methodology is not totally exclusive – a company that primarily marks to market may have some illiquid assets that have been marked to model.

Primary basis of accounting (LSE ticker)

Sub-sector	Mark-to-model (incl. IFRS9)	Mark-to-market
Specialist	BPCR, LBOW, RECI, SWEF, UKML, GABI,	AEFS, AXI, JGCI, NBLU, SMIF, CCPE,
Secured debt	HWSL, SSIF, SQN	RMDL,
CLO	BGLF	FAIR, MPLF, VTA
Peer-to-peer	FCIF, HONY, P2P, PBLT, VSL	
Mixed assets		TORO, TFIF, MGCI

Source: Hardman & Co Research, Company report and accounts

To be clear, the accounting basis a company adopts is significantly determined by its assets. We do not believe it is a choice as such, but investors should be aware of the impact it has.

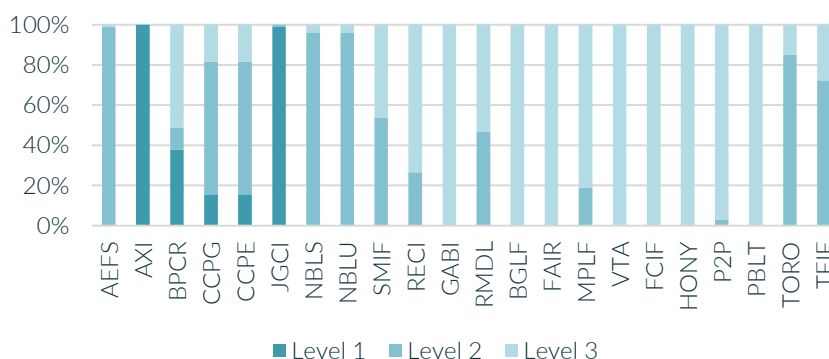
We also note that for many companies the accounting for its loans is at amortised costs. For those that account on a fair value basis there is disclosure on where the inputs to valuation have come from.

- ▶ Level 1 – quoted prices (unadjusted) in active markets for identical assets or liabilities. Investments, whose values are based on quoted market prices in active markets and are therefore classified within Level 1, include active listed equities. The quoted price for these instruments is not adjusted;
- ▶ Level 2 – inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices). Financial instruments that trade in markets that are not considered to be active but are valued based on quoted market prices, dealer quotations or alternative pricing sources supported by observable inputs are classified within Level 2. As Level 2 investments include positions that are not traded in active markets and/or are subject to transfer restrictions, valuations may be adjusted to reflect illiquidity and/or non-transferability, which are generally based on available market information; and
- ▶ Level 3 – inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs).

Credit Investment Companies

The figure below shows the range of these companies from those whose inputs are totally liquid market price driven (AXI, JCGI) to those where there is no observable market data.

Source of inputs for those companies with material fair value estimates



Source: Company Annual Report and Accounts, Hardman & Co Research

IFRS9

New accounting standard recognises losses earlier, and so defers profits. The underlying cashflows and economics are unchanged – so purely an accounting timing issue.

Many lenders have been subject to the recent change in accounting standards. The key to the new approach is that it brings forward the recognition of impairments from when the loan becomes distressed to when it is originated. It moves the recognition from an incurred loss to an expected loss basis. There is no change in underlying cashflows or in the ultimate profit, but by recognising impairments earlier, there is less profit upfront and more later. The effect can be material – for the Funding Circle SME income fund, the unaudited 2018 interim profit was £677k after the impairment charge had been increased by £3.7m due to IFRS9.

The IFRS9 calculation of impairments takes a range of possible outcomes and assigns a probability to each.

Range of outcomes reflects management view

- ▶ Anecdotally, we understand that the range of outcomes has been broad (with, for example, significant differences between the worst and base-case assumptions), making precise comparisons between companies difficult. Accordingly, we revert to our opening comment about provisioning being an art, not a science, and recommend investors recognise that companies whose culture is more aggressive are likely to show this trait in their provisioning calculations too.

Provisioning pro-cyclical

- ▶ If a recession becomes more likely, a higher weighting is applied to the worst outcomes, and this introduces cyclicity into the calculation. As a new standard, it is currently unclear how this cyclicity will compare with the historical approach of recognising impairments when a loan is in distress.

Lower-risk businesses less of an impact on transition

- ▶ Lower-risk businesses are likely to be less affected by IFRS9 than higher-risk ones. We note, for example, that UK Mortgage Limited advises that it believes the transition to IFRS9 will reduce its NAV by only a minimal 0.2%.

Numerous quoted companies have given detailed presentations on the effect of IFRS9 – with varying degrees of complexity. For those wanting more detail than our brief commentary above, we believe the [International Personal Finance IFRS9 presentation](#) is helpful, not least because it has a range of businesses with differing effects. High-growth businesses (such as IPF Digital) have a greater transition effect than slower-growth ones. This presentation also shows the impact on revenue.

Hardman & Co adjusted accounts

Getting to real dividend cover

Statutory accounts for mark-to-market companies need adjusting to see real dividend cover

We would typically strip out i) unrealised gains/losses, ii) FX movements, and iii) net gain of IR derivatives, and adjust management fees to the new level of profitability

The statutory accounts for some companies are not helpful in that they mix volatile, mark-to-market capital movements into the income statement. This creates not only a lack of visibility for each company but also makes comparisons between companies less robust. It may, therefore, be appropriate to consider creating adjusted accounts that strip out these anomalies and get a better perspective of the underlying profitability and dividend cover.

By way of example, on page 41 of our report on Volta, "*Delivering the structured finance opportunity*", published on 5 September 2018, we outlined the adjustments we made to get a clearer view. We stripped out i) unrealised gains/losses, ii) FX movements and iii) net gain of IR derivatives. We left in realised gains, which, although volatile, have been converted into cash, and some capital gains may be expected to form part of the normal course of business. We also backdated the current management fee structure and adjusted it to the new level of profitability. We believe that, after these adjustments, investors have a much clearer view on the real extent to which the dividend is covered.

Impact of Hardman & Co adjustments on Volta Finance dividend cover, 2014-2020E							
€	2014	2015	2016	2017	2018E	2019E	2020E
Dividend	0.60	0.62	0.62	0.62	0.62	0.62	0.62
Statutory EPS	1.22	1.31	0.34	1.06	0.62	0.90	0.92
Statutory div. cover (x)	2.0	2.1	0.5	1.7	1.0	1.5	1.5
Hardman & Co adj. EPS	0.82	0.98	0.80	0.77	0.84	0.90	0.92
Hardman & Co div. cov. (x)	1.36	1.58	1.29	1.24	1.36	1.45	1.49

Source: Hardman & Co Research, Volta Finance

Leasing accounting totally different and includes unrealised foreign exchange gains/losses that may never be realised

Leasing: accounting for foreign exchange

Investors should also be aware that accounting for foreign exchange for leasing companies leads to distortions when comparing NAV. We consider that there is an artificial variance, as the accounting does not capture all cashflows at the same exchange rate (see leasing section in this report for more detail). The effect can be highly significant. By way of example, the Amedeo Air Four Plus (ticker: AA4) September 2018 interim accounts reported that the group saw a £116m unrealised foreign exchange loss. This can be compared with:

- ▶ a £110m unrealised gain in the prior year comparative;
- ▶ post-finance-cost, pre-tax profits of £33m; or
- ▶ period-end net assets of £593m.

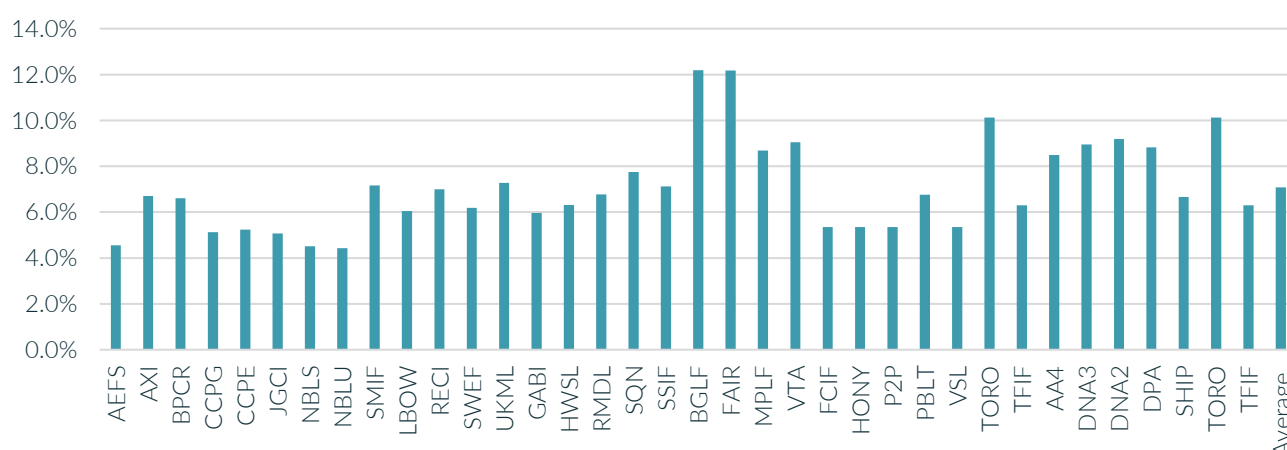
Valuation

Yield

Sector average 7.1%

We believe this sector can be compared with REITS in that earnings are largely paid away to shareholders. One of the key attractions for the whole sector is its yield (with an average of 7.1%). The individual company yields are given in the chart below (we have excluded companies in wind-down phase). As can be seen, the highest-yielding companies are concentrated in the CLO and leasing space.

Historical 12-month yield (%)



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

We detailed, in the section on accounting above, how we believe that, when considering dividend cover, investors should focus on adjusted accounts to get a better reflection of the cash generated. This is especially the case for companies marking to market their assets.

Discount/premium to NAV

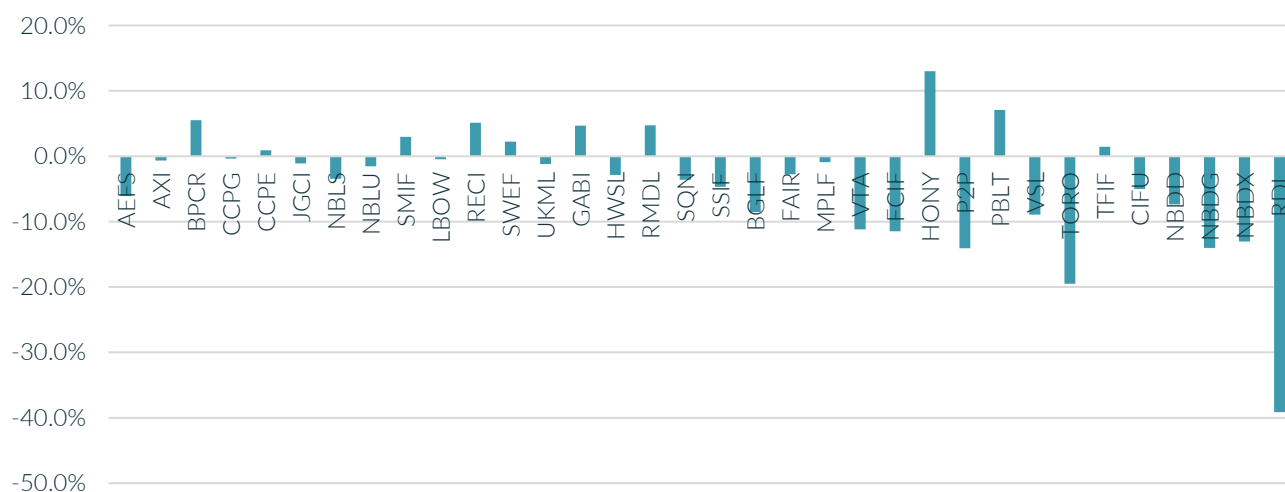
Distribution of discount/premium to NAV reflects i) accounting basis, ii) security, iii) complexity, and iv) uncertainty

Like other investment companies, it is fair to consider the premium/discount to NAV. For consistency, we have applied the current price to the end-December 2018 NAV (details of more recent NAV announcements are given in Appendix 2). As can be seen in the chart below, most debt funds trade at premiums/discounts of +/-5% of NAV, with secured funds generally at small premia. The greatest discounts are in CLO, peer-to-peer and investment companies in wind-down. While individual discounts are clearly open to debate and company-specific issues, we believe this distribution reflects:

- ▶ Companies using IFRS9 have an NAV that includes anticipated losses (but not future income) and, as such, trading at a premium is not unreasonable.
- ▶ Marking-to-market companies are likely to have more NAV volatility than marking to model, and appear to be generally trading at a discount.
- ▶ Secured lending is likely to have less volatility than unsecured income.
- ▶ Companies that are perceived to be complex, even if the underlying cashflows are relatively simple, appear to be trading at a discount.
- ▶ Where there is more uncertainty (e.g. the realisable value in a wind-down), the companies are trading at a discount.

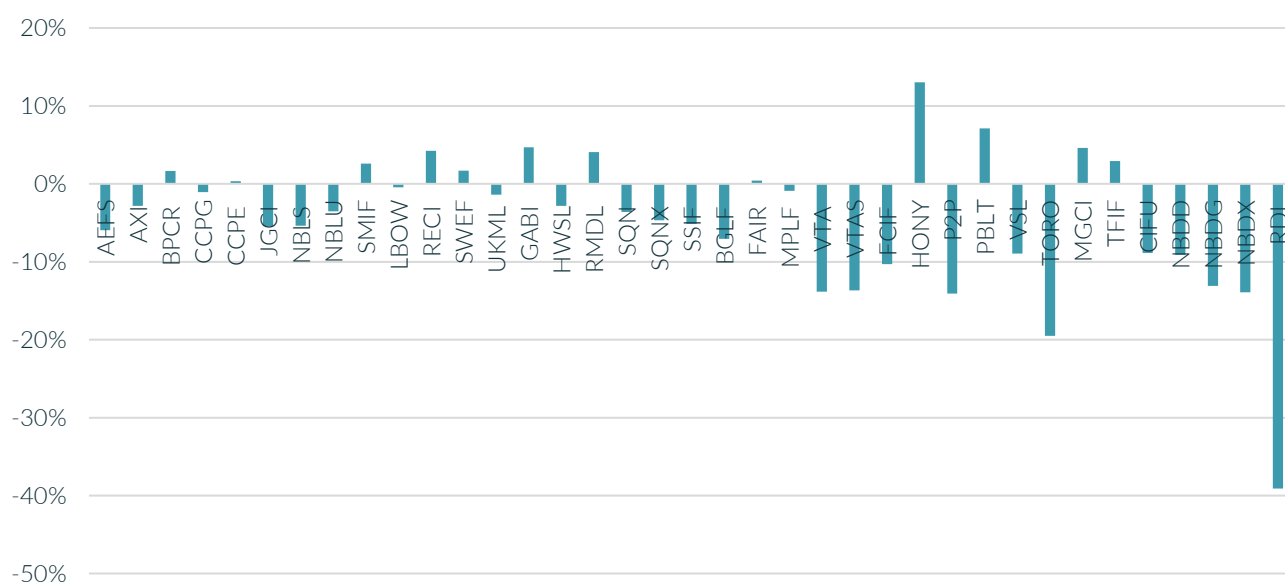
Credit Investment Companies

Company share price discount/premium to December 2018 NAV (%)



Source: Company Factsheets mainly for December, Hardman & Co Research; prices as at 21 February

Company share price discount/premium to latest NAV (%)



Source: Company latest NAV announcements (see Appendix 2), Hardman & Co Research prices as at 21 February

We have provided the current discounts above but investors should note the varying dates for NAV as detailed in Appendix 2.

Discount management

There are a number of tools that can be used to manage the discount. Many companies have policies that allow them to buy back shares if the discount is above a certain level for a specified time. Others use intermittent tender offers. We believe the key considerations are as follows.

- ▶ On the upside, it creates a buyer for the shares. It may be perceived as putting a cap on the discount, which the market might then close itself. It is likely to reduce the discount in the short term.
- ▶ On the downside, it could create liquidity problems, the capital can be better deployed in the fund (subject to the level of discount), it shrinks the business and so worsens the total expense ratio, and it sends a very mixed message,

Discount can be helped by buy-backs, but this can create liquidity issues; it also worsens expense ratios and can send mixed messages re growth prospects.

Credit Investment Companies

especially if, over the medium term, there are new investment opportunities, which would see the company come back to the market for further equity funding.

- Investors should be aware that IFRS9 penalises growing companies compared with the previous accounting approach as it takes impairments on origination of the loan. The flipside is that shrinking companies do better under the new approach. We do not believe this is a reason to do a buy-back but investors should be aware it is a consequence of doing so.

GGM reflects value added by a business and its growth prospects. Methodology supports premia to NAV for businesses delivering superior returns.

Gordon Growth Model

It may be argued that the CIC's business is the same as that for quoted speciality finance companies. One approach to valuing the latter companies is to use the Gordon Growth Model (GGM). This approach considers the value added by the company, whether its sustainable return on equity is above its sustainable cost of equity, and how the business is growing. The formula is:

$$\text{Price/book value} = (\text{Return on equity} - \text{growth in equity}) / (\text{Cost of equity} - \text{growth}).$$

Thus, a company with a 20% ROE and a 10% COE, but no growth, should trade at 2x book value $((20-0)/(10-0))$, while a business with a 15% ROE and a 10% COE, but growing at 7.5%, should trade at the higher rating of 3x book value $(15-7.5)/(10-7.5)$.

Adopting such an approach would suggest that those companies with a clear competitive advantage, and so sustainable returns above cost of capital, should trade at a premium to NAV.

NAV returns

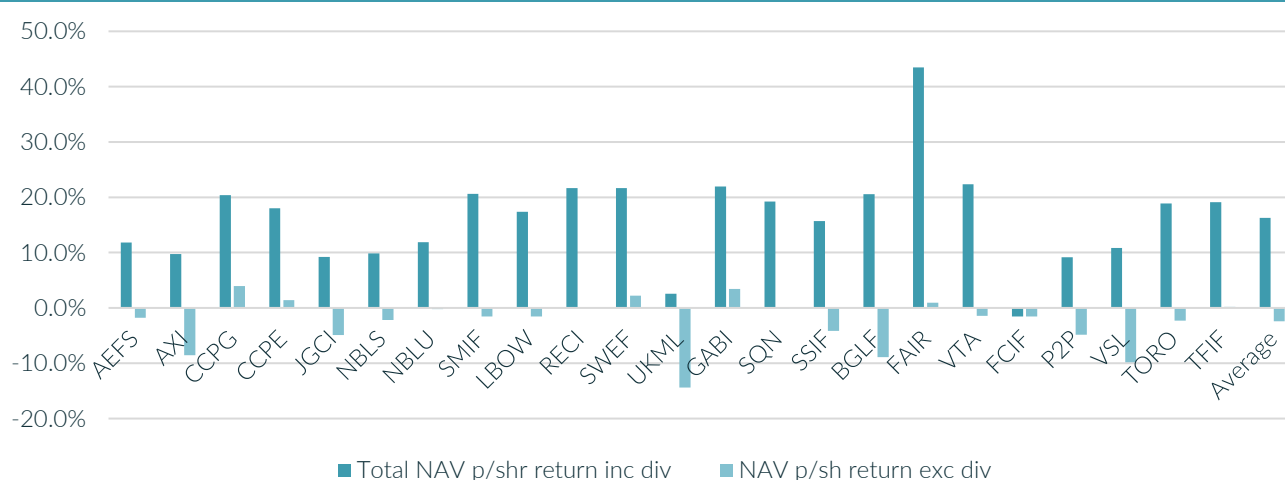
Hardman & Co basis

Six companies delivered 20% returns over three years (dividend extracted basis)

Taking a three-year perspective, the average total NAV return (defined as end-2015 NAV per share to end-2018 NAV per share, plus any dividends) for companies in the sector has been 15.3% (i.e. ca.5% p.a.). There are six companies that have delivered in excess of 20% over this period (Fair Oaks being the highest, at 43.4% with Volta second, at 22.4 %), while the lowest level has been ca.1% p.a. over the period. Two others have seen ca.2% p.a. returns.

We note that, like REITS, this return is driven by dividend income, with most of the earnings over the period being paid out to shareholders. Indeed, we note that, on average, the NAV return for the sector, excluding dividends paid, has averaged -3%.

Three-year NAV per share growth, including and excluding dividends (%)



Source: Company Factsheets, Hardman & Co Research

Dividends on a reinvested basis

We note that the standard basis quoted by companies reflects dividends on a reinvested basis, as is common across investment companies. Such an approach compounds returns relative to the approach we have adopted through this report. We assume that, as one of the key attractions in the sector is its yield, income is likely to be withdrawn, rather than reinvested. The differences are not generally material, even for high dividend stocks (e.g. Volta's company basis return is ca.0.2% p.a. higher than our own, at 0.7% over the three years). The exception is peer-to-peer CIC where the accounting change to IFRS9 saw NAVs decline and company performance reports look through the accounting change while we have focused on stated NAVs.

The methodology of calculating the dividend re-invested basis is important. Volta's April 2018 factsheet reported the return since inception at 9.6% p.a. against March's 11.2% p.a. despite the actual performance in April being +0.9%. We understand the drop was due to a change in approach at Bloomberg.

Sub-sector: specialist lenders

We have identified seven investment companies (some with multiple security classes) for which there is a specific market with clearly defined characteristics. Some of these characteristics are the nature of the loans, while others are the origination source.

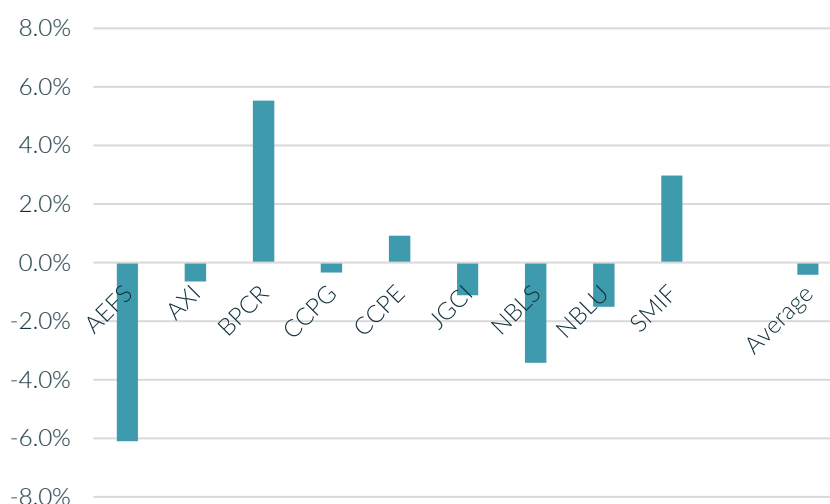
Specialist lenders – summary

Name	Ticker	Currency	Net assets (m)	NAV 1-year growth*	NAV 3-year growth*	NAV 5-year growth*
Alcentra European Floating Rate Income	AEFS	£	147	2.3%	11.8%	19.9%
Axiom European Financial Debt	AXI	£	77	-8.0%	9.7%	n/m
BioPharma Credit	BPCR	\$	1,380	7.4%	n/m	n/m
CVC Credit Partners European Opps	CCPG	£	367	1.1%	20.4%	29.2%
CVC Credit Partners European Opps	CCPE	€	131	0.2%	18.0%	25.9%
JPMorgan Global Convertibles Income	JGCI	£	122	-5.5%	9.2%	7.8%
NB Global Floating Rate Income	NBLU	\$	55	-1.2%	9.8%	10.7%
NB Global Floating Rate Income	NBLS	£	673	-0.5%	11.9%	12.5%
TwentyFour Select Monthly Income	SMIF	£	164	-1.3%	20.6%	n/m

Source: Company December 2018 portfolio reports (or latest before that), Hardman & Co Research; *Growth in NAV calculated as change in reported NAV + reported dividends

The average specialist lender is trading close to par to NAV, with the highest being BioPharma Credit (at a 5.5% premium) and the lowest Alcentra European Floating Rate Income (at a 6.1% discount).

Discount to December NAV for specialist lenders (%)



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

The average specialist lender yield is 5.5%, slightly below the average for debt companies as a whole. The lender with the highest yield is TwentyFour Select Monthly Income (at 7.2%) and the lowest NB Global Floating Rate Income (at 4.4%). TwentyFour Select Monthly Income, as the name implies, makes steady monthly distributions (recently 0.5p per month), with a slightly larger payment in October (2018: 1.05p).

12-month historical yield (%)



Source: Hardman & Co Research Prices as at 21 February

As we detail in the company description table on the next page, each of the specialist lenders has a particular focus, and this has created unique portfolio characteristics. For the group as a whole, UK exposure is limited. We also note that the companies in this sub-sector, on average, are more concentrated than the sector average. There are also selective companies with illiquid or lowly-rated/unrated securities.

Some key portfolio highlights

Ticker	Currency/country / region	Asset mix (% GAV)	Largest exposures	Rating split
AEFS	€ 73%, £ 21%, \$ 5% UK 22%, France 19%, Germany 14%, Netherlands 11%, Luxembourg 6%, US 6%, Spain 4%	Senior secured loans 87%, Senior secured bonds 4% Second lien loans 4%	Stada 2.45% NAV Oberthur Technologies 2.4% Cabot Financial 2.1% 104 issuers in total.	n/a
AXI	€ 59%, £ 29%, \$ 11%, DKK 1% UK 31%, France 13%, Spain 13%, Italy 9%, N/lands 9%	Liquid relative value 17%, less liquid relative value 28% Restructuring 16%, special situations 16%, mid-cap 21%	Achmea 6.7% NAV, BNP Paribas 6.5%, Shawbrook 5.8% Casars 3.3%	A 5.7%, BBB 34.1%, BB 39.1%, B 14.6%, below B 6.4%
BPCR	n/d	n/a	Cash \$364m, Tesaro \$322m (repaid Jan 2019), Sebela \$189m, Novocure \$150m Amicus \$150m	n/a
CCPE/CCPG	€ 57%, £ 14% \$ 29% UK 23%, US 17%, Germany 12%, France 12%	Loans 62%, Senior secured bonds 15%, 2 nd lien loans 6% structured 2%	Dubai World (2.8% GAV), Civica 2.7%, Celsa 2.6%	BB4%, B61%, CCC9%, Not Rated 26%
JGCI	Americas 54%, Asia 23%, Europe 23%	n/a	Banks 17%, Real Estate 15%, Consumer Non-cyclical 13%, Industrial 13% Other fin 12%	Investment grade 25%, Sub-investment grade 30%, Not Rated 46%
NBLU/NBL5	€ 15%, £ 2%, \$ 83%	Secured loans 91%, Secured Bonds 8%, Unsecured bonds 1%	Largest 1.6%. Sector: Bus Equip & Services 10% Electronics 8% Tel 7% Health Care 7% Hotels & Casinos 7% Financial Intermediaries 5%	BBB 4%, BB 36%, B 56%, CCC & below 3%, Not Rated 1%
SMIF	Europe 51%, UK 39%, N America 5%, S America 2%, Asia 1%	Banks 34%, ABS 32%, High-yield EU 13%, Insurance 10%	Nationwide Perp 3.5% Coventry Perp 3.1% Shawbrook 2.2%	AAA/cash 2%, BBB 11%, BB24%, B43%, Not rated 20%

Source: Company December Monthly reports, Hardman & Co Research;

Credit Investment Companies

Summary company descriptions	
Ticker	Company description
AEFS	<p>Alcentra European Floating Rate Income's investment objective is to provide its shareholders with regular quarterly dividends and the opportunity for capital growth. The Company invests either directly or, through sub-participation, indirectly in floating rate, secured loans or high-yield bonds issued by European and US corporate entities predominantly rated below investment grade or deemed by the investment manager to be of a corresponding credit quality</p> <p>www.aefrif.com Manager: Alcentra</p>
AXI	<p>Axiom European Financial Debt's investment objective is to provide shareholders with an attractive return, while limiting downside risk, through investment in the following financial institution investment instruments: (i) Regulatory capital instruments, being financial instruments issued by a European financial institution which constitute regulatory capital for the purposes of Basel I, Basel II or Basel III or Solvency I or Solvency II; (ii) Other financial institution investment instruments, being financial instruments issued by a European financial institution, including without limitation senior debt, which do not constitute regulatory capital instruments; and (iii) Derivative instruments, being CDOs, securitisations or derivatives, whether funded or unfunded, linked or referenced to regulatory capital instruments or other financial institution investment instruments.</p> <p>http://axiom-ai.com/web/en/axiom-european-financial-debt-fund-limited-2/#1470484204012-f0d260c2-b9cf Manager: Axiom Alternative Investments SARL</p>
BPCR	<p>BioPharma Credit's objective is to generate long-term shareholder returns, predominantly in the form of sustainable distributions from exposure to the life sciences industry. The Company primarily invests in corporate and royalty debt secured by cash flows derived from sales of approved life sciences products. The Investment Manager will select investment opportunities based upon in-depth, rigorous analysis of the life sciences products backing an investment as well as the legal structure of the investment. A key component of this process is to examine future sales potential of the relevant product which is affected by several factors, including but not limited to; clinical utility, competition, patent estate, pricing, reimbursement (insurance coverage), marketer strength, track record of safety, physician adoption and sales history.</p> <p>http://bpcruk.com Manager: Pharmakon Advisors</p>
CCPE / CCPG	<p>CVC Credit Partners European Opportunities Fund's investment policy is to invest predominantly in companies domiciled, or with material operations, in Western Europe across various industries. The company's investments are focused on Senior Secured Obligations of such companies, but investments are also made across the capital structure of such borrowers. The Company invests through Compartment A of CVC European Credit Opportunities S.à r.l. (the "Investment Vehicle"),</p> <p>https://www.ccpeol.com/about-us/our-overview/ Manager: CVC Credit Partners Investment Management Limited.</p>
JGCI	<p>JPMorgan Global Convertibles Income aims to provide investors with a dividend income, combined with the potential for long term capital growth, from investing in a globally diversified portfolio of convertible securities.</p> <p>https://am.jpmorgan.com/gb/en/asset-management/gim/per/products/d/jpmorgan-global-convertibles-income-fund-ltd-ordinary-shares-gg00b96sw597#/overview Manager: JP Morgan</p>
NBLU / NBLS	<p>The NB Global Floating Rate Income Fund Limited ("the Fund") targets income generation whilst seeking to preserve investors' capital and give protection against rising interest rates. The Fund's managers seek to generate this yield by investing in a global portfolio of below investment grade senior secured corporate loans with selective use of senior secured bonds, diversified by both borrower and industry.</p> <p>www.nbgfrif.com Manager: Neuberger Berman</p>
SMIF	<p>The Fund aims to generate attractive risk-adjusted returns, principally through monthly income distributions, by investing in a diversified portfolio of fixed income credit securities. The Fund will invest in a diversified portfolio of fixed income credit securities that exhibit an illiquidity premium, and which the Portfolio Managers believe represent attractive relative value. These securities will include (but are not limited to): corporate bonds, asset-backed securities, high yield bonds, bank capital, Additional Tier 1 securities, payment-in-kind notes and leveraged loans. Uninvested cash or surplus capital or assets may be invested on a temporary basis in cash and/or a range of assets including money market instruments and government bonds. The Fund may also use derivatives.</p> <p>https://twentyfouram.com/funds/twentyfour-select-monthly-income-fund/ Manager: TwentyFour Asset Management LLP</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

Value creation opportunities in non-mainstream lending. May reflect sector-specialist skills, size of market, illiquidity, bank capital requirements and the relative pay for staff, in addition to credit quality.

Complexity creates opportunity but may not be immediately valued by investors

If loan book likely to churn, superior returns can be generated from make-whole/pre-payment penalties built into product offering

Case study: non-mainstream lending

Non-mainstream lending can take many forms, including sector specialism (BPCR in pharmaceuticals, AXI in financials), non-investment credit ratings (AEFS, NBLU/NBLS) and product specialism (JGCI, SQN/SQNX). The key commonality is the use of specialist skills/intellectual capital to exploit pricing, which does not reflect the real underlying risk. Such opportunities may arise for a range of reasons, including:

- ▶ specialist skills to understand borrowers' market;
- ▶ the size of the market is unattractive for mainstream lenders;
- ▶ the market may be illiquid;
- ▶ the risk/capital profile is unattractive for a bank;
- ▶ the area may be seen as strategically non-core to mainstream lenders; and
- ▶ the potential returns for the individuals with the right skills are higher working in an investment company than a mainstream lender.

The important issue is to identify what skills are required and how sustainable an advantage is being created. Being involved in non-standard markets has opportunities, but it can also lead to illiquidity and the associated questions over the realisable NAV.

Case study: early repayment premium

Specialist lenders use their intellectual capital and niche market positioning to earn superior returns. An example of this is BioPharma Credit, which lends to life science companies that have developed products for which forward sales have been agreed. Its target companies are ones at relatively early stages of development, where these forward sales have yet to show in cashflows. Consequently, most banks are uncomfortable with their limited financial track record. Over time, as the borrowers establish proven track records, they can refinance at lower rates than they pay BioPharma Credit. To offset this risk, the documentation includes "make-whole" and "pre-payment penalty" clauses, which means that BioPharma generates an income even when a loan is repaid. Taking the example of its largest loan to Tesaro, which was repaid in January 2019, BioPharma Credit will receive \$45.7m as make-whole and pre-payment. This represents 14.2% of the \$322.0m principal advanced or the equivalent of what the company would have received had the loan remained outstanding for another 15 months or so. BioPharma can now redeploy the proceeds in new loans and it has the potential to generate two sets of income from the same commitment.

Payments received by BioPharma Credit on its Tesaro loan			
Value (\$m)	Tranche A	Tranche B	Total
Principal amount	222.0	100.0	322.0
Accrued interest	1.5	0.7	2.2
Make-whole amount	21.1	14.9	36.0
Pre-payment premium	6.7	3.0	9.7
Pay-off amount	251.3	118.6	369.9

Source: Hardman & Co Research

Such a model has the advantage of earning returns even when the lender is repaid, but comes with the downside that, as the portfolio churns, new loans continually have to be originated.

Secured lenders can be split into property
secured and those backed by other assets

Sub-sector: secured lenders

We have split the secured lenders into two further sub-categories: those secured on property (four companies) and those secured on other assets (another five companies). Looking across the sub-sector, its key advantages include predictable income streams (many multi-year) and multiple levels of security often in business-essential assets. Property-backed lenders have the advantages of high-quality security, while the other asset-backed lenders typically have broad portfolio diversification. The sector largely adopts IFRS9 accounting.

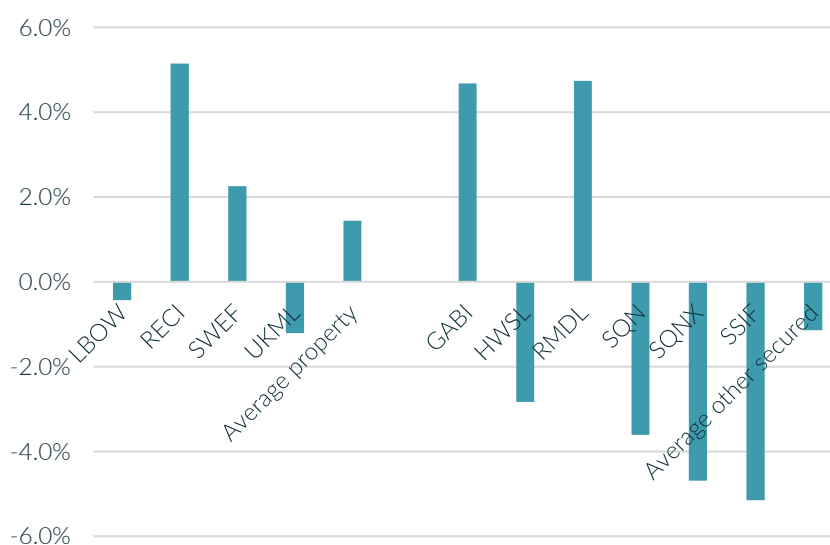
Secured lenders – summary

Name	Ticker	Currency	Net assets (m)	NAV 1-year growth***	NAV 3-year growth***	NAV 5-year growth***
Property-backed						
ICG-Longbow Senior Secured UK Prop. Debt Inv *	LBOW	£	121	4.5%	17.4%	28.3%
Real Estate Credit Investments	RECI	£	250	7.2%	21.6%	44.5%
Starwood European Real Estate Finance	SWEF	£	385	6.9%	21.7%	36.2%
UK Mortgages **	UKML	£	228	2.4%	2.5%	n/a
Other asset-backed						
GCP Asset Backed Income	GABI	£	387	7.2%	21.9%	n/a
Hadrian's Wall Secured Investments	HWSL	£	142	4.7%	n/a	n/a
RM Secured Direct Lending	RMDL	£	107	5.3%	n/a	n/a
SQN Asset Finance	SQN	£	484	5.4%	19.3%	n/a
SQN Asset Finance Income C shares	SQNX	£	484	7.7%	22.0%	n/a
SQN Secured Income	SSIF	£	51	4.9%	15.7%	n/a

Source: Company latest portfolio reports, Hardman & Co Research; * October report **November report ***Growth in NAV calculated as change in reported NAV + reported dividends

The average UK property-backed debt investment company is trading at a premium of 1.4% to December 2018 NAV, while the average for other secured lenders is a discount of 1%. The highest premium for a property-backed company is Real Estate Credit Investments (at 5.2%). The notable discount is SQN Secured Income, which trades at a discount of 5.1%, despite its middle- of-the-range NAV return performance over one and three years.

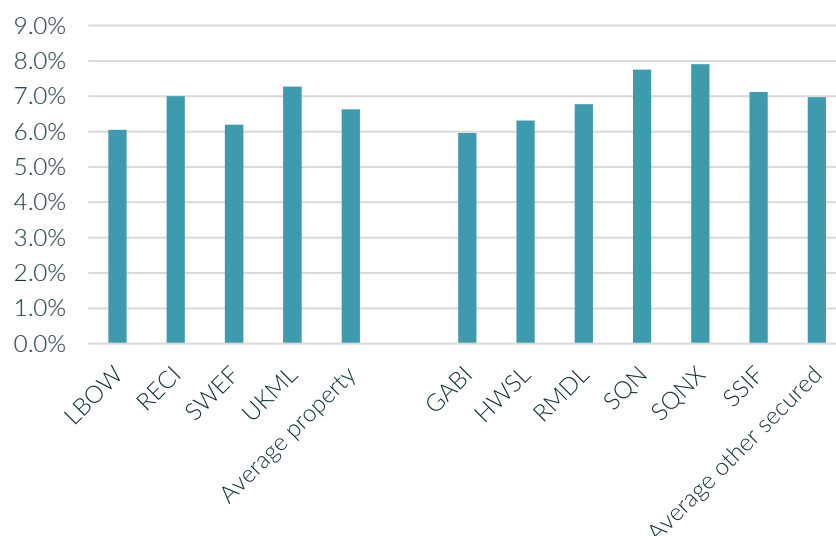
Discount/premium to December 2018 NAV for secured lenders (%)



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

The average UK property-backed debt investment company has a yield of 6.6%, while the average for other secured lenders is 7.0%. The highest premium-yield-backed company is SQN Asset Finance (C shares at 7.9%).

12-month historical yield (%)



Source: Hardman & Co Research; prices as at 21 February

As can be seen in the table below, the UK forms a much higher proportion of this sub-sector than specialist lenders. There is typically much more concentration in the property-backed companies (not surprising given that the average deal size is materially higher than other asset-backed lenders).

Some key portfolio highlights

Ticker	Asset mix (% GAV)	Largest exposures	Regional/rating split
LBOW*	Retail 19%, Industrial/Distribution 27%, Mixed use 31%, Office 15%	£22.4m (51% LTV), £20m (69% LTV)	London 27%, South East 9%, North West 21%, National 21%, South West 13%
RECI	52% loans, 48% bonds Loans: 38% Mixed use, 32% Residential	Lisbon £35.2m (60% LTV) London £30.4m (45% LTV)	UK 70%, France 11%, Germany 9%, Italy 5%
SWEF	Hospitality 41%, Retail 13%, Light Indl. 11%, Res for sale 9%, Office 8%	£54.1m (Dublin hotel) £45.9m (UK regional hotels)	Spain 30%, Ireland 23%, UK 33%, Hungary 10%, France 3%
UKML	Buy to let (purchased) 78%, fwd. flow BTL 4%, fwd. flow owner-occupied 17%	8,855 underlying borrowers, average loan size £157k	National coverage
GABI	Social Infrastructure 39%, Property 41%, Energy and Infrastructure 14%, Asset Finance 6%	Portfolios: Residential (9.6%), Buy to let (5.6%) Student accommodation (5.4%)	National Coverage Senior debt 63%, Mezzanine 37%
HWSL	Manufacturing 25%, Professional 16%, Admin. & Support 14%, Prop. & Const. 17%, Retail 6%	Property Trading (£10.5m) Manufacturing (£8.4m) Engineering (£8.0m)	n/d
RMDL	Corporate loans 56%, Project Finance 20%, Asset Finance 24%	Forecourt operator (£8.7m), Business Services (£7m)	n/d 35 loans in fund
SQN / SQNX	Agriculture 19%, Waste Processing 14%, Transportation 12%	Vehicles & helicopters (£39m) Anaerobic digestion (£34m)	UK 69%, US 16%, France 6%, Ireland 3%
SSIF	11 direct loans, 72 platform loans	UK name 9.6% portfolio European name 5.1% portfolio	UK 75%, US 12%, Europe 12%, UK offshore 2%

Source: Company December Monthly reports, Hardman & Co Research; * LBOW October Factsheet

Credit Investment Companies

Summary company descriptions	
Ticker	Company description
LBOW	<p>The objective of the Company is to construct a portfolio of UK real estate debt related investments predominantly comprising loans secured by first ranking fixed charges against Commercial Property investments, with the aim of providing Shareholders with attractive, quarterly dividends, capital preservation and, over the longer term, a degree of capital appreciation.</p> <p>https://www.lbow.co.uk/</p> <p>Manager: CG-Longbow, the real estate debt division of Intermediate Capital Group plc.</p>
RECI	<p>RECI's investment objective is to provide shareholders with a levered exposure to a portfolio of Real Estate Credit Investments with stable returns in the form of quarterly dividends.the Company invests and will continue to invest in real estate credit secured by commercial or residential properties in Western Europe, primarily in the UK, France and Germany. Assets include i) secured real estate loans, debentures or any other forms of debt instruments. (ii) listed debt securities and securitised tranches of real estate related debt securities, (iii) other direct or indirect opportunities, including equity participations in real estate.</p> <p>http://www.recreditinvest.com</p> <p>Manager: Cheyne Capital Management (UK) LLP</p>
SWEF	<p>The investment objective of Starwood European Real Estate Finance Limited is to provide Shareholders with regular dividends and an attractive total return while limiting downside risk, through the origination, execution, acquisition and servicing of a diversified portfolio of real estate debt investments (including debt instruments) in liquid markets in the UK and the wider European Union's internal market.</p> <p>http://www.starwoodeuropeanfinance.com</p> <p>Manager: Starwood European Finance Partners Limited, an indirect wholly-owned subsidiary of the Starwood Capital Group.</p>
UKML	<p>UK Mortgages is a listed closed-ended investment fund which invests in a diversified portfolio of good quality UK residential mortgages. The fund has nearly 9,000 underlying borrowers with buy to let and owner-occupied loans.</p> <p>https://twentyfouram.com/funds/uk-mortgages-fund/</p> <p>Manager: TwentyFour Asset Management LLP.</p>
GABI	<p>The Company's investment objective is to generate attractive risk-adjusted returns primarily through regular, growing distributions and modest capital appreciation over the long term. The Company seeks to meet its investment objective through a diversified portfolio of investments which are secured against, or comprise, contracted, predictable medium to long term cash flows and/or physical assets. The Company's investments will predominantly be in the form of medium to long term fixed or floating rate loans which are secured against cash flows and/or physical assets which are predominantly UK based. The Company's investments will typically be unquoted and will include, but not be limited to, senior loans, subordinated loans, mezzanine loans, bridge loans and other debt instruments. The Company may also make limited investments in equities, equity-related derivative instruments such as warrants, controlling equity positions (directly or indirectly) and/or directly in physical assets.</p> <p>https://www.graviscapital.com/funds/gcp-asset-backed/about</p> <p>Manager: Gravis Capital Management Ltd</p>
HWSL	<p>The Company's investment objective is to provide Shareholders with regular, sustainable dividends and to generate capital appreciation through exposure, directly or indirectly, to primarily secured loans originated across a variety of channels, assets and industry segments. The Company targets an annualised dividend of at least 6 pence per Ordinary Share, which is expected to grow over time. The Company invests in loans, which are predominantly secured upon a variety of asset types. The types of loans that the Company targets includes the following: General commercial Loans to businesses; Equipment finance; Specialised Financial Services (Specialised financial services companies provide finance to SMEs in the form of loans, leases or other financial contracts).</p> <p>https://hadrianswallcapital.com/</p> <p>Manager: Hadrian's Wall Capital Limited</p>
RMDL	<p>The Company aims to generate attractive and regular dividends through investment in secured debt instruments of UK SMEs and mid-market corporates and/or individuals including any loan, promissory notes, lease, bond, or preference share (such debt instruments, as further described below, being "Loans") sourced or originated by the Investment Manager with a degree of inflation protection through index-linked returns where appropriate loans in which the Company invests will be predominantly secured against assets such as real estate or plant and machinery and/or income streams such as account receivables.</p> <p>https://rmdl.co.uk/</p> <p>Manager: RM Capital,</p>
SSIF	<p>The SQN Secured Income Fund is designed to provide shareholders with attractive risk-adjusted returns predominantly through investment in a range of SME loan assets and secured lending opportunities, diversified by way of asset class, geography and structure. Whereas the SQN Asset Finance Income Fund is focused on hard assets, the SQN Secured Income Fund seeks investment opportunities collateralized by a broader range of assets such as, but not limited to, receivables, real property, tax credits, and loan portfolios and other pools of financial assets. Investments are originated directly and through third-party alternative finance platforms addressing underserved segments of the market.</p> <p>http://www.sqncapital.com/managed-funds/sqn-secured-income-fund/about/</p> <p>Manager: SQN Capital Management, LLC</p>
SQN / SQNX	<p>SQN Asset Finance's objective is to provide its Shareholders with regular, sustainable dividends and to generate capital appreciation through investment, directly or indirectly, in business-essential, revenue-producing (or cost-saving) equipment and other physical assets.</p> <p>http://www.sqncapital.com/managed-funds/sqn-asset-finance-income-fund/about/</p> <p>Manager: SQN Capital Management</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

Attractions of secured lenders

Security can reduce probability of loss, as well as loss in the event of default

The loss in the event of default for secured lenders is materially lower than that for unsecured lenders. The willingness and ability to provide security are also evidence of character per our CAMPARI analysis above. Real estate property as security is especially valuable, in that the asset cannot be removed.

Should underpin accounting

Security not only has a realisation value, but it is also likely to underpin mark-to-model (including IFRS9) valuations. Compared with unsecured lending, we would expect i) a lower assumed loss rate, ii) lower stress case loss rates, iii) a lower probability of worst-case loss scenarios, and iv) greater confidence in loss numbers. All these factors are also likely to benefit investor sentiment.

Nature of security critical to its value

The nature of the security affects these values. A large portfolio of residential mortgage debt is likely to see more benefit than a concentrated portfolio of specialist developer borrowers. The premium attributed to UK Mortgages may, in part, reflect this relative benefit.

Invoice financing should be low-risk business

A well-managed factoring/invoice finance business can rely on the income stream from the borrower, but also from the end invoice payer. In most cases, the invoice payer has a very different credit risk profile from the borrower. This may be in the form of scale (SME borrowers may have large corporate clients), sector (a manufacturer may have retail clients) or geography (e.g. exporters). The benefit for investors is that having two diversified cashflow streams to repay debt is materially lower-risk than relying on one.

Risks for secured lenders

Managing security is important to its value

As we noted earlier, the execution of security documents, regular independent valuations, security that is unlikely to move during borrower distress and security that can be sold in liquid markets are all important to the scale of benefit received from being secured.

Multiple valuations for same assets, depending on how they are to be sold. Forced sales in distressed markets can easily be 30% below open market valuation.

It is also worth noting that there can be several valuations for the same property. The current, well maintained value, with a seller that is willing to wait some time, will be materially higher than the forced sale of an asset that has fallen into disrepair, as the borrower can no longer afford to maintain it. Historically, such a valuation would, for bank credit purposes, be taken at 70% of the market value (and banks still incurred material losses on, say, commercial real estate).

Change in UK crown preference likely to be adverse for floating charge holders. Unlikely to affect property secured, but could have an impact on other asset-backed.

From 6 April 2020 in the UK, HMRC will become a secondary preferential creditor. This claim will rank in priority to floating charge holders and unsecured creditors, but not certain primary preferential creditors, such as employees. Floating charge holders and unsecured creditors could see increased losses, as the prior ranking of HMRC's claim will dilute the realisations available to pay their claims. HMRC's claim will still rank behind lenders' fixed charges, but this could have an indirect impact on borrowers if their customers then default. An example could be a property company whose retail customers fail to see less of a recovery, and this could, in turn, have an impact on lenders to the property company.

Need to be sure borrower is with alternative lender for the right reason and not adverse credit selection

As with all non-mainstream lenders, one key consideration is why borrowers would choose to use them rather than their own bank. There are many good reasons for this (service levels, depth of relationship, certainty of finance, dissatisfaction with banks' overall offering, rates and charges, level of security required, limited bank lending appetite for that sector), but investors need to be confident that it is not an issue of adverse selection, i.e. that the borrowers could not get finance on the same terms from their bank, and went to the alternative provider as a last resort.

Sub-sector: Collateralised Loan Obligation (CLO)

CLO lenders – summary

Name	Ticker	Currency	Net assets (m)	NAV 1-year return*	NAV 3-year return*	NAV 5-year return*
Blackstone/GSO Loan Financing	BGLF	€	363	6.2%	20.6%	n/a
Fair Oaks Income	FAIR	\$	384	0.6%	43.4%	n/a
Marble Point Loan Finance	MPLF	\$	168	-12.3%**	n/a	n/a
Volta Finance	VTA	€	282	0.1%	22.4%	46.6%

Source: Company December Monthly reports, Hardman & Co Research; *Growth in NAV calculated as change in reported NAV + reported dividends; ** since inception in February 2018

In our sub-sector allocation, there are four CLO-focused funds. We have allocated the Chenavari Toro Income Fund (CIFU) to mixed assets, as that business has a significant residential mortgage underlying exposure, which is not present in our sub-sector. In addition, CIFU was put into a managed run-off in December 2018, and so is in our wind-down sub-sector.

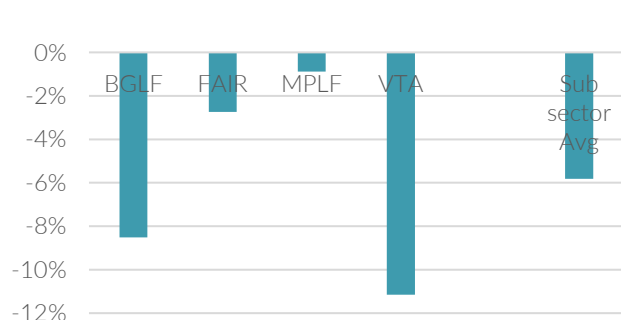
High yield – all companies above debt sector average

The sector yield is high. Most of the companies are targeting returns on equity in excess of 10%, reflecting the niche focus of this sub-sector and these returns are largely paid away in dividends. We explored, in the accounting section above, how investors could look through the accounting and focus on the long-term interest and coupon income, which supports these dividend payments.

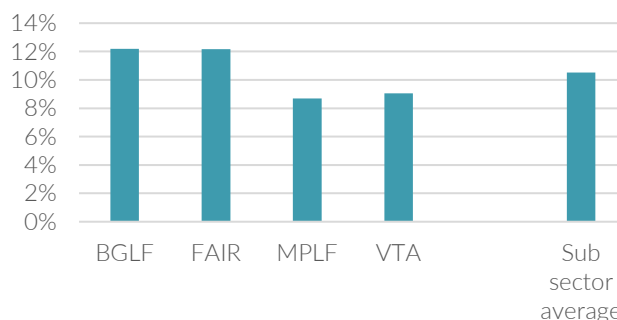
BGLF only one to mark to model => need to factor this into its discount to NAV

In measuring the NAV discount, it must be noted that BGLF's accounting is marked to model, while the others are primarily marked to market. In 4Q'18, the others saw their NAVs fall, as market sentiment saw volatile underlying prices. On a like-for-like basis, it is probable that BGLF's NAV is higher than would be reported by peers, and its discount to NAV reflects this (i.e. it is higher than that of its peers).

Current share price discount to December NAV (%)



12-month trailing yield (%)



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

Some key portfolio highlights

Name	Currency/Country Mix	Asset mix (% GAV)	Largest exposures	Credit ratings
BGLF	USA 57%, France 8%, Luxembourg 7.5%, N/lands 5.6%	US CLO equity 43%, Euro CLO equity 37%, loans 18%	Largest 1.1% portfolio, top 5 5%	Moody's: BA 19.2%, B 78.1%, C 2.3%, Not rated 0.4%
FAIR	\$ 99%, € 1%, USA 91%, Canada 2%	Primarily CLO equity	Largest 0.68% gross assets, top 5 3.29%	BBB- 1%, BB+ 3%, BB 7% BB- 11%, B+ 20%, B 42%, B- 14%
MPLF	\$ 100%	CLO equity 63%, CLO debt 8%, Fee partic. 3%, NAV fund sub. 18%, LAF equity 8%	Largest 1.2% portfolio, top 5 5.2%	Baa 1%, Ba 20%, B 75%, Caa and below 4%
VTA	€ 72%, \$ 27%, CHF 1%	CLO debt 39%, CLO equity 33%, Bank Bal sht. Trans. 15%	Largest 0.65% NAV, top 5 2.5%, top 10 3.38%	BB 36%, B 2%, CC 1%, Not rated 61%

Source: Company December Monthly reports, Hardman & Co Research

Credit Investment Companies

Largest exposure analysis is complicated by level of CLO seniority in which the investment company has invested and the level of seniority of the underlying debt

The largest exposures need to be treated with a degree of caution for CLOs. The investment company is trying to look through the CLO structure to get to the underlying risk. However, the type of both the CLO and the borrower instruments affects the real risk. A holder of a highly-rated borrower instrument may incur no loss, while one holding a lower-rated one may incur losses. Similarly, if the investment company holds CLO equity, it will bear the first loss of the CLO, but if an AAA debt is held from the same CLO, there may be no loss.

Need to manage cov-lite and "adjusted earnings" structures in underlying debt

Recent market trends have seen lending covenants weaken. One senior credit manager advised that, in his view, the get-out clauses in many instruments were now such that enforceability was weaker than in 2007. Managing cov-lite exposures is also important in considering the largest exposure risk. We note that there has been an increasing tendency to use adjusted earnings in many covenants, making them less strong than prior documentation.

Summary company descriptions

Ticker	Company description
BGLF	<p>The Company's investment objective is to provide Shareholders with stable and growing income returns, and to grow the capital value of the investment portfolio by exposure predominantly to floating rate senior secured loans directly and indirectly through CLO Securities and investments in Loan Warehouses. The Company seeks to achieve its investment objective through exposure (directly or indirectly) to one or more risk retention companies or entities established from time to time ("Risk Retention Companies").</p> <p>https://www.blackstone.com/the-firm/asset-management/registered-funds#c=blackstone-gso-loan-financing-limited</p> <p>Manager: Blackstone GSO</p>
FAIR	<p>Fair Oaks Income Ltd is an investor in US and European CLOs or other vehicles and structures which provide diversified exposure to high-yielding, floating-rate senior-secured loans and which may include non-recourse financing. Enhanced returns are achieved through our active involvement in deal origination and ability to exercise control rights as an independent investor.</p> <p>https://www.fairoaksincome.com/</p> <p>Manager: Fair Oaks Capital</p>
MPLF	<p>MPLF's investment objective is to generate stable current income and grow net asset value by earning a return on equity in excess of the amount distributed as dividends. MPLF is invested in a diversified portfolio of US dollar denominated, broadly syndicated floating rate senior secured corporate loans owned via collateralised loan obligations ("CLOs") and related vehicles</p> <p>http://www.mplflimited.com/</p> <p>Manager: Marble Point Credit Management LLC ("Marble Point").</p>
VT A	<p>Volta's investment objectives are to seek to preserve capital across the credit cycle and to provide a stable stream of income to its Shareholders through dividends that it expects to distribute on a quarterly basis. ... it seeks to attain its investment objectives predominantly through investment in a diversified portfolio of structured finance assets. Volta's investment strategy focuses on direct and indirect investments in, and exposures to, a variety of assets selected for the purpose of generating cash flows for the Company. The assets that Volta may invest in either directly or indirectly include but are not limited to: corporate credits; sovereign and quasi-sovereign debt; residential mortgage loans; commercial mortgage loans; automobile loans; student loans; credit card receivables; leases; and debt and equity interests in infrastructure projects (the "Underlying Assets").</p> <p>http://www.voltafinance.com/</p> <p>Manager AXA IM</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

What is a CLO? – simplified example

CLOs are just portfolios of loans

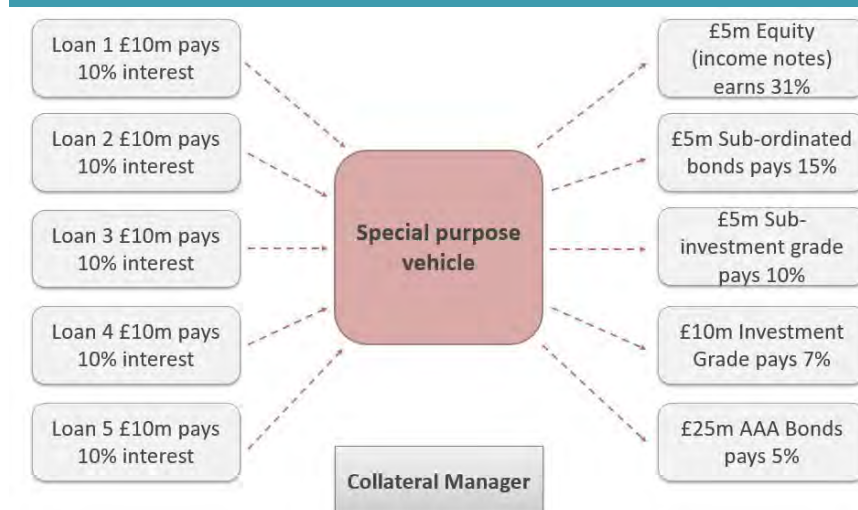
As illustrated in the figure below, a CLO structure is, at its heart, very simple. A portfolio of loans is acquired by a company (a special-purpose vehicle) that funds the purchase by issuing a mix of different tranches of bonds (CLO debt tranches) and "income notes" (CLO Equity tranche). The interest received from the loan portfolio is used to pay, firstly, the coupons on the CLO debt tranches, and then all the excess cashflow is for the profit of the "equity" tranche.

Credit Investment Companies

Individual loans are pooled, and different tranches of debt at different interest costs are issued as funding

The example below is simplified to illustrate how a CLO works. If we take five individual loans of £10m, each of which pays an interest rate of 10%, driven by the market perception of the risk of loss, these loans generate total interest of £5m. The SPV issues tranches of bonds, some of which are repaid ahead of others in bankruptcy. As the probability of all five loans simultaneously going into default is low, such bonds carry a lower coupon than each of the individual loans. In the example below, we assume that £25m of bonds could be perceived as at low risk of loss, and so pay only 5% coupons. With different tranches of bonds carrying a different risk of loss, they each carry a different coupon, with any residual profit attributable to the equity holders. In principle, the structure of a CLO SPV is exactly the same as that for a bank that takes a broad portfolio of credit risk and funds itself from a broad range of sources, each of which carries a different interest cost.

Simplified example of CLO structure



Source: Hardman & Co Research

Such a structure has advantages for all the interested parties:

Loan originators have additional source of funding

► The originators of the loans (usually, but not necessarily, banks) have access to different sources of finance and can manage the credit risk on their books. They will often service the loans in the SPV (for a fee) and keep their relationship with the borrowing customer. It is capital-efficient for the originators, as they do not need to hold capital against the loans sold to the SPV – but still earn origination fees.

Different tranches meet different investor appetites

► By pooling multiple loans and dividing them into tranches, relatively safe ones can be created, which pay lower interest rates and are designed to appeal to conservative investors. The structure also creates higher-risk tranches, which appeal to higher-risk investors by offering a higher interest rate.

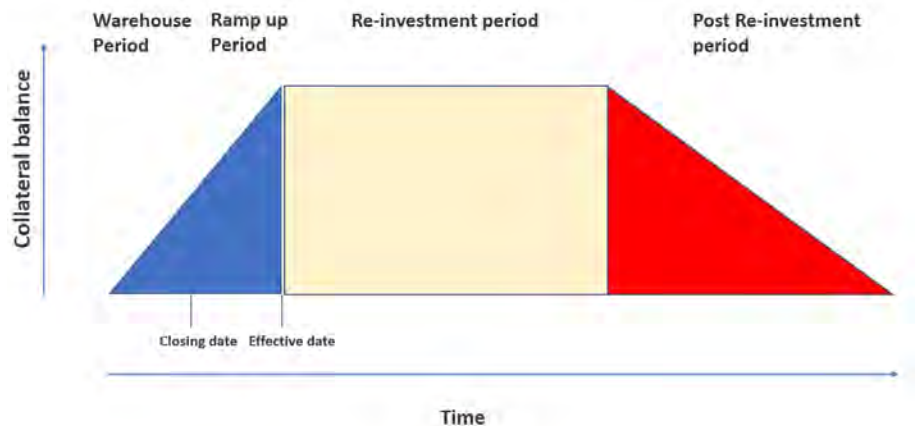
Lower overall funding cost

► The overall cost of money to businesses should be reduced as the CLO structure increases the supply of lenders (attracting both conservative and risk-taking lenders).

Loans initially go into a warehouse as the CLO pool of loans is built up

A typical lifecycle for a CLO is shown in the figure below. In the initial stages, the collateral manager acquires assets on behalf of the CLO using a warehouse facility financed by a bank. Once a closing date has been reached, loans previously warehoused are transferred to the CLO, and the CLO moves into the “ramp-up period, when further assets are acquired. The size of the CLO is set shortly after. For a set period, the cash generated from the borrower may be reinvested in new loans, with the collateral manager trading assets on behalf of the CLO. After a set period, the CLO goes into a wind-down phase and any cash is no longer reinvested but used to repay the CLO debts and, ultimately, the equity holders.

Simplified example of CLO lifecycle



Source: Hardman & Co Research

CLOs build in a number of tests and covenants to ensure that all investors know the risks they face

To ensure that potential investors in CLO securities know the risks they are taking, and also to ensure consistency over time, CLO structures build in a series of tests for the portfolio of underlying loans. Inter alia, these include:

- ▶ over-collateralisation: the market value of outstanding loans has to exceed the value of non-equity liabilities;
- ▶ interest coverage;
- ▶ weighted average spreads (WAS);
- ▶ lifetime of loans (WAL); and
- ▶ credit rating factor (WARF).

While the terminology might appear somewhat unfriendly for generalist investors, we believe it provides a useful trend analysis for the underlying market. In particular, the rating agencies provide regular updates using such measures and commenting on the associated risk.

CLO opportunities in the real world

Risk/reward optimisation

The different tranches of CLO debt mean that investors can select how much risk they want and for what reward from a portfolio of CLO securities with distinct risk/reward characteristics. This also creates arbitrage opportunities, where specific tranches of loans might be mis-priced for the reasons identified in the section below.

Mis-pricing opportunities in CLO market

In a world with perfect information and transparency, each tranche of CLO funding would price perfectly to reflect the risk in the underlying assets. In the real world, this is not the case, and we highlight below several potential sources of mis-pricing. We do not believe investors should be concerned about these issues. In principle, they are identical to most other (non-CLO) investments, and they create the opportunities for CLO investment companies to earn superior returns.

Different tranches of CLO instruments provide varying opportunities for those with flexible mandates

Credit Investment Companies

Lack of understanding of real credit exposure	<ul style="list-style-type: none"> Some in the market focus on the gross exposure of a credit, not the real risk. Where a borrower has a loan of 100, the amount at risk will be somewhere between 0 and 100, depending on things like the collateral. Where investors focus on the gross 100 at risk, they will materially undervalue a well-secured loan. Investors need to appreciate both the probability of default and the degree of recovery in the event of default.
Lack of understanding often related to sentiment	<ul style="list-style-type: none"> The lack of understanding of a specific credit risk is often related to sentiment towards a broader sector or market. A current example would be the view that retail is having a bad time, so all retailers are marked down. In the CLO market, there are the same opportunities to identify specific companies/borrowers, which might do well in a challenging market.
Rating constraints can affect investor behaviour and, with it, pricing	<ul style="list-style-type: none"> Rating constraints can distort some investor behaviours. Insurance companies generally cannot buy tranches below BBB, and this creates a mis-pricing between BBB and BB tranches. While investors try to anticipate rating changes, significant pricing mis-matches might occur when a rating rapidly changes[?], and some investors become forced sellers.
Uncertain economic outlook could lead to flight to safety	<ul style="list-style-type: none"> Sentiment can be both positive and negative. For credit markets where there is an uncertain economic outlook, there could be a flight to safety, creating a potential investment opportunity where real risk has not been priced.
Illiquidity-driven price opportunities	<ul style="list-style-type: none"> Trading in many CLO instruments is generally thin, creating illiquidity-driven price opportunities. In its 2017 Report and Accounts, Volta noted that non-mainstream structured credit investments, like warehouse and capitalised manager vehicles, offered a higher return, due partially to their illiquidity. A forced seller may well have to take a material discount to the real value. Similarly, a large seller may have few buyers to match its scale (another example of a competitive advantage from being part of the larger AXA IM). It is also worth noting that illiquidity will affect different markets to varying degrees over time.

Characteristics of CLO equity vs. debt

As noted above, CLOs give an end-investor a wide choice of risk/return options from low- yielding, low-risk debt, through higher-risk tranches of loans to equity-like instruments. CLOs operate as financing companies: every quarter, the CLO receives income from the loan portfolio, pays the interest due on the financing and expenses, and pays any remaining available cash (effectively its funding margin) over time to investors in its equity. CLO equity can take the form of preference shares, income notes or subordinated bonds. CLO equity gives investors a different risk profile. In particular, we note:

CLO equity takes upside if credit losses are below expectations, but bears first losses in downside	<ul style="list-style-type: none"> It sees the upside from CLO structures being more profitable than expected. Current credit losses are below those built into initial pricing assumptions, and it is the equity elements that capture this benefit. CLO equity bears the first risk of loss, and so is more sensitive to credit deterioration should that happen.
Equity benefits when underlying loans are reset	<ul style="list-style-type: none"> In favourable economic conditions, underlying loans may reset (i.e. keep the same terms but extend the duration). The overall profitability of the CLO rises, to the benefit of the equity holders.
Active refinancing can be a mixed bag. Refinancing of underlying loans reduces CLO profitability...but CLOs can refinance their own debt. Key is to identify which specific vehicles will see a net benefit.	<ul style="list-style-type: none"> In good economic conditions, the underlying assets might see greater repayments, with limited opportunity for the CLO to invest. However, such strong markets also mean that CLO debt tranches might also be refinanced, improving the CLO profitability. Volta mentioned in 1H'FY18 that "Another reason to purchase more CLO equity tranches is the fact that the strong appetite that currently exists for CLO debt, especially on the senior tranches, means that new CLO documentation incorporates much more favourable terms for equity tranches than previously as senior debt holders are more flexible than

Credit Investment Companies

before. These terms mainly concern the provision of more flexibility in terms of reinvestment capabilities and a greater ability to pay to the equity tranche the capital gains that could be generated by the CLO manager.”

Interest rate sensitivity

Rising rates help income from floating rate underlying loans in due course; many have “floors”, so will not see benefit from initial rate increases.

Defaults likely to rise with rising rates, and this will affect sentiment

Rising rates might see more refinancing with mixed effects

Basis risk between one- to three-month LIBOR could be an issue

Trading spread on CLO equity above debt

- ▶ The underlying floating rate loans held by the CLO should generate more income. However, we understand that many underlying loans are currently subject to floors (for example, a loan might pay 2% over three-month LIBOR with a floor of 4%, which means it pays 4% if LIBOR is at 0%, 1% or 2%). Initial rises in rates might not lift the underlying loans off their floor rates, and the CLO residual profit will fall if it has floating rate debt. This reduces the value of CLO equity.
- ▶ Higher defaults will initially be borne by the CLO equity. The debt elements might see falls in price well beyond the likely economic loss (driven by illiquidity, uncertainty and negative sentiment), but the equity will take the bigger hit.
- ▶ Refinancing activity triggered by rate moves can be mixed. Refinancing, which is beneficial to the underlying borrowers, is initially adverse for CLO equity holders, although resets, by extending the duration of cashflows, might see some long-term benefit. Restructuring by CLOs of their debt is generally beneficial to the equity holders, with improved terms/cheaper rates.
- ▶ The difference between one-month and three-month \$LIBOR (basis risk) was an average of 15bps during 2017, but it widened sharply in 1Q'18 (end of April 2018 47bps), although it fell back somewhat in 2Q'18, to 27bp by end-July. A bigger gap is negative for CLO equity investors, as loan borrowers can typically opt to switch from three-month to one-month LIBOR (and ca.60% of the US broadly syndicated loan market has done so, vs. 25% two years ago). CLOs' liabilities typically do not have this flexibility and continue to pay interest based on three-month LIBOR.
- ▶ The trading spread on equity is somewhat higher. We understand that, in normal trading, the bid-ask spread is 0.2%-0.4% on best-quality debt, ranging up to 1%-1.5% on CLO equity. In a stress scenario, these increase to 1%-2% and 4%-6%, respectively.

Factors concerning the discount to NAV

The sector has an above-average discount to NAV and is offering an above-average yield. We discussed these issues in great detail in our reports on Volta ([*Delivering the structured finance opportunity*](#), published on 5 September 2018, and [*Investment opportunities at this point of the cycle*](#), published on 14 January 2019). We believe the key issues are:

Perceived complexity could be issue. Real exposure is highly diverse portfolios of largely corporate debt.

- ▶ The complexity of the terminology masks the relatively simple underlying risk. These businesses ultimately earn cash from large portfolios of primarily corporate loans. Several boards have taken several steps to broaden knowledge of the market and so ensure that there is a better understanding of the real (NAV) volatility. Part of this has involved engaging sponsored research houses to distribute the message to the widest possible audience. Further listings (such as Volta's sterling listing on the LSE) have been made to facilitate more trading/awareness.

Credit Investment Companies

Checks and balances are in place to ensure valuations reflect real prices

- ▶ The discount could reflect concerns that the NAV is not truly representative of the value of the business, because the modelling/valuation assumptions do not reflect a realisable value. We detailed in our September report why we believe Volta adopts appropriate valuation techniques and that the approach of its peers is similar.

Mark-to-market will introduce volatility in uncertain times

- ▶ There is the potential for MTM volatility in periods of uncertainty. We note, for example, that Volta reported a -4.8% NAV move in December 2018, but its early January NAV estimate shows a +3% move that month. In our January note we explored, in some detail, how sentiment could see market price movements well beyond likely changes in cashflow. Trying to precisely time the best possible entry point could miss the underlying long-term opportunity.

Other companies

We note there are some other companies active in CLOs, which are quoted but which do not fall into the CIC space.

- ▶ Tetragon Financial Group (ticker TFG, website: www.tetragoninv.com, End December 2018 NAV \$2,189m (\$22.48 p/share), share price \$11.65). This business is classified as a flexible investment under the AIC categorisation but started life as a CLO investor. It now, as the categorisation implies, has a broad portfolio with ca.30% in private equity in asset managers, 20% in event-driven equities, convertibles and quantitative strategies, and just 13% in bank loans via CLOs.
- ▶ Livermore (ticker LIV, website: <http://www.livermore-inv.com>, market cap £68m, latest NAV (June 2018) \$175m). This company is classified as being in financial services. The company's investment strategy is described on its website as: "The Company's primary investment objective is to generate high current income and regular cash flows. The financial portfolio is constructed around fixed income instruments such as Collateralized Loan Obligations ("CLOs") and other securities or instruments with exposure primarily to senior secured and usually broadly syndicated US loans. The Company has a long-term oriented investment philosophy and invests primarily with a buy-and-hold mentality, though from time to time the Company will sell investments to realize gains or for risk management purposes. Strong emphasis is given to maintaining sufficient liquidity and low leverage at the overall portfolio level and to re-invest in existing and new investments along the economic cycle."

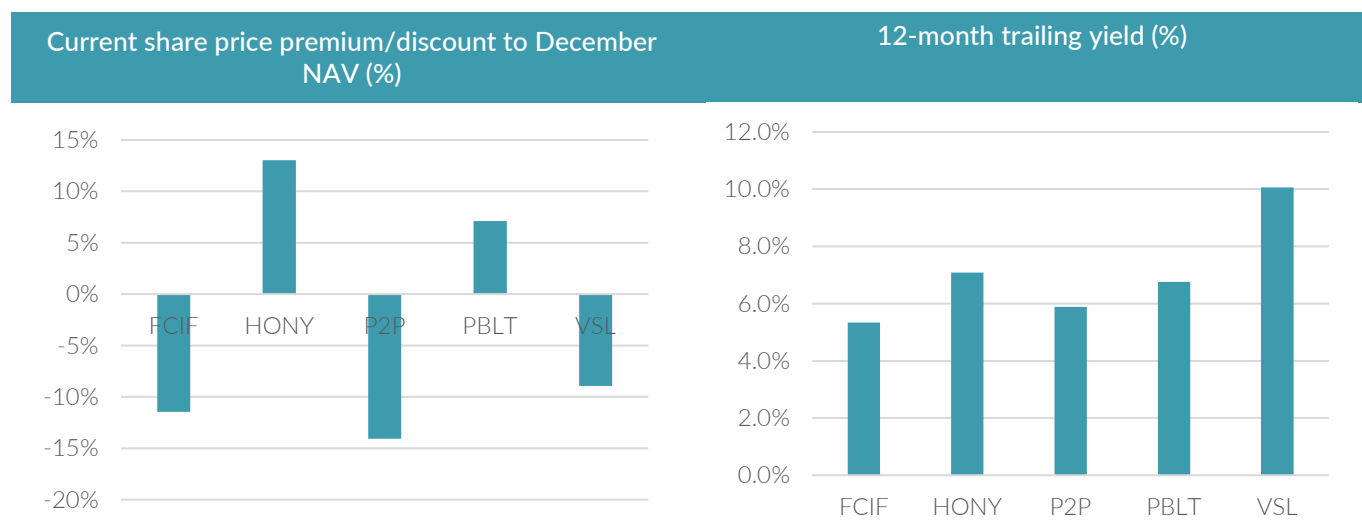
Sub-sector: peer-to-peer/platform

Peer-to-peer/platform lenders – summary

Name	Ticker	Currency	Net assets (m)	NAV 1-year growth*	NAV 3-year growth*	NAV 5-year growth*
Funding Circle SME Income Fund	FCIF	£	322	0.8%	-1.5%	n/m
Honeycomb	HONY	£	401	7.6%	n/m	n/m
P2P Global Investments	P2P	£	733	2.3%	9.2%	n/m
TOC Property Backed Lending	PBLT	£	n/a	n/a	n/a	n/a
VPC Speciality Lending	VSL	£	307	7.8%	10.8%	n/m

Source: Company December 2018 portfolio reports (or latest before that), Hardman & Co Research; *Growth in NAV calculated as change in reported NAV + reported dividends

The NAV growth, we quote in the table above includes the change in accounting to IFRS9, which reduces the NAV (our calculations look at the reported NAV at end-2018 on prior years). We note that P2P Global Investments, for example, quotes a one-year NAV return of 5.2% to end-December 2018 (Hardman basis 0.7%), which reflects the performance in the year excluding this accounting effect.



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

Some key portfolio highlights

Ticker	Country/Currency	Asset mix (% GAV)	Largest exposures	Regional/rating split
FCIF	UK: Prop. & Construction 18%, Wholesale/Retail 18% Profess 11%, Manufact 11%	US: Prof., Scientific & Tech 17%, Retail 15%, Healthcare 12%, Accom & food 10% Consumer 49%, Property 39%, SME 11%	9,302 loans Largest 0.2% NAV	UK 64%, USA 19%, Cont. Europe 11%, cash 6%
HONY			76,500 loans (average ca.£5k). Loans > £0.5m, 9% GAV	National
P2P	£746m continuing portfolio: SME 34%, Real Estate 49%, Consumer 16%	£231m run-off portfolio: 96% consumer, 4% SME	Australian Auto loans £27m, UK property £20m US Rapid Fin. Serv. £20m	n/d
PBLT	n/d	n/d	n/d	n/d
VSL	USA 74%, UK 9%, Caribbean 12%, Europe 2%, Mexico 2%, Kenya 1%	Consumer 91%, SME 9%	Balance sheet loans 85%, Equity 8%, Securitisation residual 3%, Marketplace loans 2%	n/m

Source: Company December Monthly reports, Hardman & Co Research;

Summary company descriptions

Ticker	Company description
FCIF	<p>Funding Circle SME Income Fund's objective is to provide shareholders with a sustainable and attractive level of dividend income by lending to small businesses. It has raised over £300 million, to provide investors with access to a diversified pool of loans originated through Funding Circle's marketplaces in the UK, US, Germany and the Netherlands, and an attractive level of dividend income. There are no fund management or performance fees charged at the Company level.</p> <p>http://fcincomefund.com/ Manager: Self-managed by Board</p>
HONY	<p>Honeycomb Investment Trust plc (the "Company") is a specialist lending fund whose investment objective is to provide shareholders with an attractive level of dividend income and capital growth through the acquisition of interests in loans made to consumers and small business as well as other counterparties. The Company may also make investments in selected equity securities that are aligned with the Company's strategy and that present opportunities to enhance the Company's returns from its investments. The Company believes that consumer and SME loans are an asset class that has the potential to provide active returns for investors on a risk-adjusted basis, and that changes in the focus of mainstream lenders together with the implementation of new models that make the best use of data, analytics and technology, provide an opportunity to deliver attractive products to borrowers while generating attractive returns for the Company. The Company and the Investment Manager seek to acquire credit assets which meet the specified underwriting criteria through three routes; (1) organically originate and acquire through referral partners which source opportunities; (2) acquiring seasoned portfolios; and (3) providing senior and mezzanine structured loans secured on portfolios of consumer and SME loans. Partners include the UK's largest unsecured loan broker; a UK retail point of sale finance broker; and a number of financial institutions.</p> <p>https://www.honeycombpplc.com/ Manager: Pollen Street Capital Limited</p>
P2P	<p>P2P Global Investments PLC is a UK listed investment trust. The company is dedicated to investing in credit assets originated by non-bank lending platforms and other originators of specialist lending assets globally. The Company partners with specialist lenders who offer attractive products based upon understanding of particular sectors and target customer groups. These players are often better at serving these markets based upon focus, expertise, efficiency and entrepreneurialism. The Company specialises in investing in small size private credit assets across SME, consumer (secured and unsecured), real estate and trade finance asset classes through strategic partnerships which encompass marketplace lending platforms, balance sheet lenders and other non-bank loan originators. The Company invests in the USA, Europe and Australasia and actively seeks opportunities in other markets.</p> <p>https://www.p2pgi.com/ Manager: PSC Eaglewood Europe LLP. The Investment Manager has delegated certain of its responsibilities and functions, including its discretionary management of the Company's portfolio of credit assets, to Pollen Street Capital</p>
PBLT	<p>TOC Property Backed Lending Trust PLC investment objective is to provide shareholders with a consistent and stable income and the potential for an attractive total return over the medium to long term while managing downside risk through: (i) a diversified portfolio of fixed rate loans predominantly secured over land and/or property in the UK; and (ii) in many cases, receiving the benefit of an associated profit share usually obtained by acquiring (at nil cost) a minority equity stake (usually 25%) in the relevant borrower project development vehicle. The direct lending portfolio is centrally focused on short to medium term debt obligations (principally property backed loans) that have been originated or issued by Tier One Capital and other direct lending platforms.</p> <p>http://www.tocpropertybackedlendingtrust.co.uk/ Manager: Tier One Capital Limited ("Tier One" or the "Investment Adviser"). Tier One has developed a direct lending offering that provides an opportunity which sits between conventional lending and the emerging peer-to-peer platform market. Tier One uses its direct lending and credit expertise to source funds for borrowers, broker facility agreements and then offer continued support and guidance to borrowers through the lifespan of their loan.</p>
VSL	<p>The Company seeks to generate an attractive total return for shareholders consisting of dividend income and capital growth via investments across a diverse portfolio of various online lending providers, asset classes, geographies (primarily U.S. U.K., Europe and Australia) and credit bands. The Company generates investment income from exposure to Portfolio Company originated consumer and small business loans including corporate and trade receivables in accordance with certain investment limits and restrictions to ensure diversification of the Company's portfolio is maintained and that concentration risk and credit exposure is mitigated. In addition, the Company may also make direct equity investments, or receive warrants to purchase equity stakes in such Portfolio Companies.</p> <p>https://vpcspecialtylending.com/ Manager: Victory Park Capital Advisors, LLC.</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

Strong growth in market peer-to-peer lending (outstanding loans up a third in 12 months to end-September 2018), driven by bank capital requirements and technology. Investment company growth provides diversified funding for the platforms.

Three-year return below peers, but bigger IFRS9 effect

Peer-to-peer untested in recession

Starts with above-average credit losses

Opportunities from peer-to-peer

Total lending facilitated by Peer2Peer Finance Association (P2PFA) was approaching nearly £11bn by the end of September 2018, with the most pronounced growth continuing to be found in lending to small businesses (cumulative lending £7.2bn). The end-September loan book was £4bn (3Q'17 £3.0bn), with £934m of gross new lending in 3Q'18. There are ca.281k borrowers (234k individuals) and 149k lenders. Peer-to-peer platforms have been trying to smooth demand for loans, with people willing to invest in the platforms by diversifying their funding sources and accessing semi-institutional money. This has fuelled the growth of investment companies to take their share of this structural growth.

We believe a key driver to the growth in peer-to-peer has been the increase in bank capital requirements, which means that, like for like, there is an increased financial benefit in dis-intermediation. This has been alongside the development of technology, which allows investors better access to information, risk control and portfolio management tools. As peer-to-peer achieves greater scale, it is likely to see increased credibility, as well as the opportunity for lenders on the platforms to diversify portfolios.

Relative to other debt companies, the platform lenders are trading at significant discounts. While, on headlines, this may appear partially justified by historical performance (sub-sector average three-year NAV growth ca.11%, vs. sector at 15), we note that the implementation of IFRS9 is likely to have had a more adverse effect on peer-to-peers than other lenders.

Factors regarding above-average NAV discount

Peer-to-peer market untested through a recession

We note that retail investors using the platforms have yet to experience a serious economic downturn. It is unclear what their behaviour will be; nor is it certain how the politicians/regulators may respond to significant numbers of retail investors losing money. Some in the market have concerns that the platforms are driven by technology, rather than credit controls, and this could have adverse effects in a downturn. Should the platforms have an adverse performance in a downturn, this would impact on those funds that have invested in platform loans and on sentiment to these names.

Above-average credit losses

Remote lenders typically incur higher like-for-like losses than local lenders (by way of example, a remote lender cannot hear of a likely factory closure in the way a local lender can), and peer-to-peer is no different in this regard. Taking Funding Circle as an example, we note from the [statistics](#) tab of its webpage that the expected annual losses on the 2018 cohort is 3.0% to 3.8%. Funding Circle's losses and yields of just under 10% can be compared with a lender such as 1pm, which has losses of ca1% and yields in the mid-teens, and with mainstream SME bank lenders reporting minimal losses. There has also been a deterioration in recent credit (2014 cohort 1.8% to 2.1%). The sharp fall in the Funding Circle Holdings and the Funding Circle Income Fund share prices in early December, after Funding Circle warned of credit deterioration in specific cohorts of lending, shows how investor sentiment was affected.

Credit Investment Companies

Funding Circle stress test surprisingly low

We also note the *stress test* conducted by Funding Circle in late 2017, which indicated that it expected returns to fall by between 1.7% and 2.4% in a recessionary scenario. Bearing in mind that the platform losses are already significantly above mainstream lenders (indicative of above-average risk), we were surprised that the increase in losses would be so much less than the increase experienced by banks in historical recessions.

International concerns

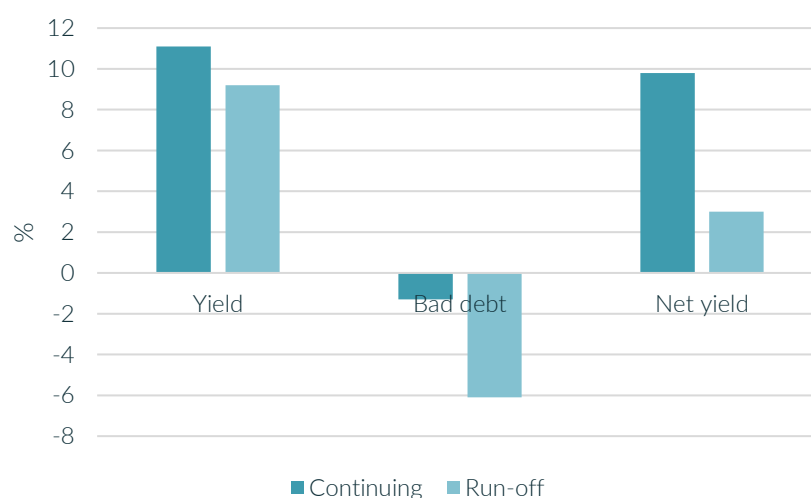
We note that the press coverage on an international basis could raise concerns. *Bloomberg* reported on 3 January 2019 that, in China, the number of operators fell by 50% in 2018, and speculated that there could be a further reduction to as few as 300 by the end of 2019. Sector net monthly lending growth is now under 100bn yuan, against ca.250bn yuan at the peak. Lending Club in the US has seen its share price fall from \$27.9 in December 2014 to a current level of \$3.37.

Rapidly evolving market, which creates uncertainty and potential for material changes in direction/portfolio mix

Rapidly evolving market

As noted in the table on page 38, all the companies in this sub-sector have been quoted for less than five years. The platform market is evolving rapidly in distribution, product and customer focus. P2P hosted an investor day on 16 January 2019 (*presentation*), which highlighted the changes it had made. Its historical focus on consumers has reduced sharply (16% of continuing portfolio against 96% of the run-off portfolio). With such a dramatic shift, there is a risk that investors will take time to focus on the opportunity from the new model, rather than the risks from the old model.

Comparison of continuing and run-off portfolios in P2P (%)



Source: P2P Global Investments, Hardman & Co Research

Sub-sector: mixed assets

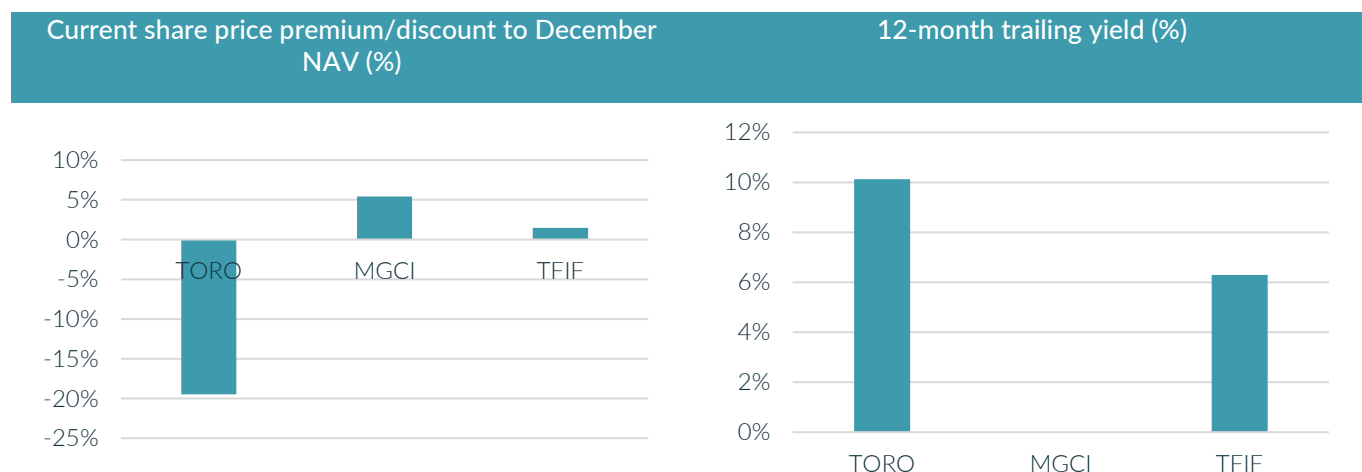
We have three companies (shown in the table below) with relatively broad mandates, which do not easily fit into our other sub-sectors. Arguably, Chenavari Toro Income Fund could be in the CLO sub-sector, but its weighting to residential underlying assets is a differentiator.

Mixed-asset lenders – summary

Name	Ticker	Currency	Net assets (m)	NAV 1-year growth*	NAV 3-year growth*	NAV 5-year growth*
Chenavari Toro Income Fund	TORO	€	321	6.5%	18.9%	n/d
M&G Credit Income Investment Trust	MGCI	£	122	n/a	n/a	n/a
TwentyFour Income Fund	TFIF	£	470	2.4%	19.1%	31.2%

Source: Company December 2018 portfolio reports (or latest before that), Hardman & Co Research; *Growth in NAV calculated as change in reported NAV + reported dividends

As can be seen in the chart below, Chenavari Toro Income Fund is trading at a material discount to NAV (the largest in the whole debt company space), and its yield of 10.1% is one of the highest.



Source: Company Factsheets, Hardman & Co Research; prices as at 21 February

Some key portfolio highlights

Ticker	Country/Currency	Asset mix (% GAV)	Largest exposures	Regional/rating split
TORO	€ 94%, £ 6%	Corporate 59%, Residential	Top 1 7.37%	Spain 20%, UK 11%, Ireland
		Subordinate 60%, Mezzanine	Top 5 31.7%	10%, France 10%, Germany
		19%, Senior 11%		10%, USA 9%, N/lands 5%
MGCI	UK 73%, Ireland 12%, US 5%, Germany 4%, Italy 2%, Sweden 2%, N/lands 2%, Luxem. 1%	Private funds and bonds 8%	58 holdings. M&G European	AAA 12%, AA+/AA 5%,
		Public ABS 20%,	Loan GBP C-H 7.1%	A+/A/A- 4%, BBB+ 10%, BBB
		Public bonds 33%, cash 39%	BRASS_6 A RegS 2.5%	9%, BBB- 9%, Non-Investment
TFIF	UK 45%, Netherlands 15%, Germany 12%, France 8%	Residential MBS 48%,	WARW_1 B RegS 2.0%	grade 5%, Not rated 7%
		CLO 37%,	n/d	A or better 13.5%,
		Consumer ABS 10%		BBB 18%, BB 18%, B 29%, CCC/UR 22%

Source: Company December Monthly reports, Hardman & Co Research

Credit Investment Companies

Summary company descriptions	
Ticker	Company description
TORO	<p>The investment objective of Chenavari Toro Income Fund Limited (the "Company" or "Toro") is to generate an absolute return through credit or loan investments, direct or indirect, in diversified sectors of the economy, and through the origination of credit portfolios. The investment strategy has three arms to it: (i) Public ABS Strategy (21% portfolio): Picking securities primarily backed by loans to companies and consumers that appear mispriced by the market. (ii) Private Asset Backed Finance Strategy (10% portfolio): Through the Portfolio Manager, the Company will leverage on the extensive relationships it has with European Banks and retail credit firms in order to gain access and invest in private asset backed finance transactions that are otherwise unlisted and difficult to source. (iii) Direct Origination Strategy (59% portfolio): The Company will primarily invest in potentially attractive opportunities arising from newly introduced EU/US regulations that require originators to retain economic interest in their own transactions. This strategy benefits from the team's sourcing and structuring capabilities. As a result, the Company receives enhanced economics on the retained interest.</p> <p>https://www.chenavaritoroincomefund.com Manager: Chenavari Investment Managers</p>
MGCI	<p>Launched 14 November 2018. The Company aims to generate a regular and attractive level of income with low asset value volatility. The Company seeks to achieve its investment objective by investing in a diversified portfolio of public and private debt and debt-like instruments ("Debt Instruments"). Over the longer term, it is expected that the Company will be mainly invested in private Debt Instruments, which are those instruments not quoted on a stock exchange.</p> <p>https://www.mandg.co.uk/adviser/funds/credit-income-investment-trust/gb00bfyy1325/ Manager M&G</p>
TFIF	<p>The fund aims to generate attractive risk-adjusted returns, principally through income distributions by investing in a diversified portfolio of UK and European asset backed securities. These securities, whilst fundamentally robust, do not offer enough liquidity for daily priced OEICs, but are well suited to a traded closed-ended vehicle, where investors can obtain liquidity via the exchange.</p> <p>https://twentyfouram.com/funds/twentyfour-income-fund/ Manager: TwentyFour Asset Management</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

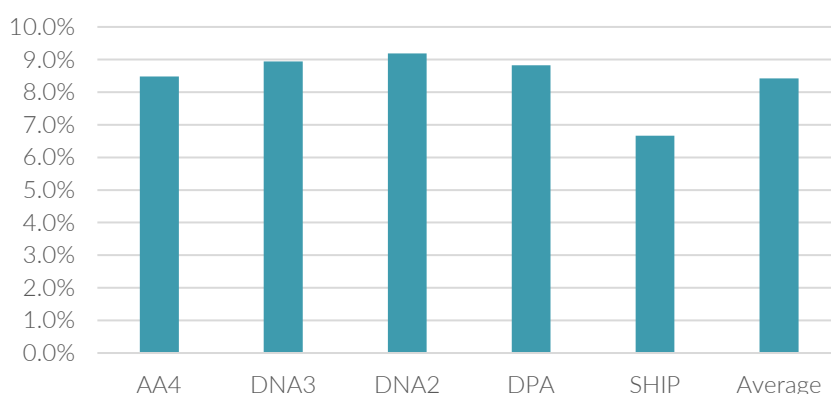
Sub-sector: leasing companies

A very specialist sub-sector of financing investment companies is the leasing businesses. Given the difference in accounting (assets booked at cost), concentration risk (typically very few customers and assets) and transport focus (mainly airlines and ships), we believe that trying to review them in the same way as the other sub-sectors would add little value.

The concentration risk means that announcements by specific airlines/manufacturers can have a material effect. For example, Amedeo Air Four Plus and Doric Nimrod Air Two & Three share prices all fell ca.10% when Airbus announced in mid-February that it will no longer produce A380s, a core part of their portfolios.

The sector has an above-average yield (8.4%), with all the companies yielding over 6.7% and a high of 9.2%.

Yield for leasing companies (%)



Source: Hardman & Co Research; prices as at 21 February

Accounting: sensitivity to foreign exchange

We do not believe that it is fair to compare the discount to NAV for this sub-sector with the other debt businesses, because of the significant accounting differences in calculating the NAV. IFRS accounting requires the use of a sterling historical cost of the assets, and the value of the US dollar debt is translated at the spot exchange rate on every statement of the financial position date. In addition, US dollar operating lease receivables are not immediately recognised, but are accrued over the period of the leases. In actuality, the US dollar operating leases should offset the US dollar payables on amortising loans. The foreign exchange exposure in relation to the loans is thus almost entirely hedged by the funding, but this is not reflected in the accounts. We believe that this introduces an artificial variance between what the accounts show, and that the effect is so material as to undermine comparisons.

Impact of unrealised foreign exchange movements on profit and loss

£m	AA4	DNA2	DNA 3
1H'FY19			
Profit pre Fx	32.7	26.2	13.7
Unrealised Fx	-116.4	-33.0	-24.0
% of profit	-356%	-126%	-176%
1H'FY18			
Profit pre Fx	32.0	35.4	18.6
Unrealised Fx	110.7	35.2	25.1
% of profit	346%	99%	134%

Source: Company report and accounts, Hardman & Co Research

Foreign exchange accounting does not reflect likely cashflows

Credit Investment Companies

Summary company descriptions	
Ticker	Company description
Amedeo Air Four Plus (ticker AA4)	<p>The company's investment objective is to obtain income returns and a capital return for its shareholders by acquiring, leasing and then selling aircraft. The Company currently has a Portfolio of eight A380, two B777-300ER and four A350-900 aircraft, all on long-term leases to either Emirates, Etihad or Thai. The Company will consider investment opportunities and will potentially raise additional equity capital through the issuance of shares to purchase A380s, B777s, A350s and other aircraft types.</p> <p>http://www.aa4plus.com/ Manager: Amedeo Limited</p>
Doric Nimrod Air Two and Three Tickers DNA2 and DNA3)	<p>DNA2 has purchased seven Airbus A380-861 aircraft, which it is leasing to Emirates Airlines, the national carrier owned by the Investment Corporation of Dubai, based in Dubai, United Arab Emirates. DNA2 will seek to provide investors with income and capital returns through investment in assets. DNA2 is receiving income from the leases and its directors intend to target a gross distribution to shareholders of 4.5 pence per Share per quarter (after costs and payment of any fees) after all seven aircraft have been purchased, amounting to a yearly distribution of 9% based on the initial placing price of 200 pence per share.</p> <p>http://www.dnairtwo.com/home.html</p> <p>DNA3's investment objective is to obtain income returns and a capital return for its Shareholders by acquiring, leasing and then selling aircraft. To pursue its investment objective, DNA3 will seek to use the net proceeds of placings and other equity capital raisings, together with debt facilities (or instruments), to initially acquire Airbus A380 aircraft which will be leased to one or more major airlines. The Company will have the ability to acquire additional aircraft if, in the view of the Board the acquisition of such additional aircraft would not have an adverse material effect on the Company's target income distributions. DNA3 aims to provide Shareholders with an attractive total return comprising income, from distributions through the period of the Company's ownership of the Assets, and capital, upon the sale of the Assets.</p> <p>http://www.dnairthree.com/home.html Manager: Amedeo Limited (formerly Doric Lease Corporation)</p>
DP Aircraft (ticker DPA)	<p>The Company's investment objective is to obtain income returns and a capital return for its Shareholders by acquiring, leasing and then, when the Board considers it is appropriate, selling aircraft. DP Aircraft I Limited, a Guernsey based company, was launched in October 2013. To date the Company has acquired four Boeing 787-8 aircraft, with two leased to Norwegian Air Shuttle ASA and two leased to Thai Airways International PCL. The Company took over the Norwegian aircraft, LN-LNA (previously EI-LNA) and LN-LNB (previously EI-LNB), on 9 October 2013 and the Thai aircraft, HS-TQC and HSTQD, on 18 June 2015. Since these dates all lease obligations have been met in full by Norwegian and Thai and no incidents of note concerning operations of the aircraft have occurred.</p> <p>http://www.dpaircraft.com/home.htm Manager: DS Aviation GmbH & Co. KG,</p>
STufton Oceanic Assets (ticker SHIP)	<p>Tufton Oceanic Ltd has been a specialist fund manager in the maritime and energy markets since 2000 and has been focused on financial services to these industries since its inception in 1985. Since 2013, the Investment Manager has invested c. US\$1.1 billion of capital in 70 vessels.</p> <p>http://www.tuftonoceanicassets.com/</p>

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

Sub-sector: wind-down/harvesting

A number of companies are now in wind-down/harvesting mode. Their valuations are driven by likely sale realisations and costs of closure, rather than the underlying assets. We note that, as the business shrinks, its expense ratio worsens and, as a known seller of assets, it may not achieve the same price as a "normal" seller. That said, the managements are fully aware of these issues, and take action to mitigate them. This may include holding assets to maturity, rather than forced sales or, as in the case of CIFU, giving investors the opportunity to roll over their investment into an alternative (in this case Blackstone/GSO Loan Financing Limited).

Some key portfolio highlights				
Ticker	Country/Currency	Asset mix (% GAV)	Largest exposures	Regional/rating split
Carador Income Fund (CIFU)	n/d	CLO equity 84%, mezz. notes 6%, cash 10%	Largest 0.76% (CLO investments), top 5 3.49% U/L 1,226 corporates	NR 84%, BB/B 6%, cash 10%
NB Distressed Debt (NBDD) *	\$ 75%, BRL 13%, €12%	PE 38%, Public equity 23%, Private notes 14%, Trade claims 13%	Lodgings & casino 27% surface transportation 13%,	US 76%, Brazil 13%, Lux 9%, Germany 2%
NB Distressed Debt New Global shares (NBDG) *	\$ 77%, € 19%, DKK 4%	PE 41%, Bank debt 23% Public equity 22% Private notes 11%	Lodgings & casino 19% (sector 38%), Shipping 15%Auto comp 9% (sector 9%), Com real estate 7% (sector 7%)	US 73%, Spain 11%, N/lands 7%, Marshall Islands 5%, Denmark 4%
NB Distressed Debt Extended Life shares (NBDX) *	\$ 82%, € 11%, BRL 5%	PE 33%, Bank debt 19%, Private notes 19%, Public equity 18% Trade claim 5%	Lodgings & casino 11% (sector 23%), Auto comp 9% (sector 9%), Shipping 8% (sector 14%),	US 74%, Marshall Islands 8%, Brazil 5%, N/lands 4%, Lux 4%
Ranger Direct (RDL) **	n/d	Platform debt 39%, Commercial real estate 20%, Business loans 17%	Secured 98%, unsecured 2%	USA 77%, UK 10%, Australia 7%, Canada 6%

Source: Company December Monthly reports, * September 2018 ** November 2018, Hardman & Co Research

Summary company descriptions	
Ticker	Company description
CIFU	The Company's investment objective is to produce attractive and stable returns with low volatility compared to equity markets, by investing in a diversified portfolio of equity and mezzanine tranches of CLOs and senior tranches of cashflow CLO transactions backed by senior secured leveraged loans. A managed wind down was approved in December 2019. http://www.carador.co.uk/ Manager: Blackstone GSO
NBDD / NBDG / NBDX	NB Distressed Debt Investment Fund Limited's ("NBDDIF") primary objective is to provide investors with attractive risk-adjusted returns through long-biased, opportunistic stressed, distressed and special situation credit-related investments while seeking to limit downside risk. NBDDIF's holdings are diversified across distressed, stressed and special situations investments, with a focus on senior debt backed by hard assets. The Ordinary Share Class was subject to an investment period which ended on 10 June 2013 and the Extended Life Share Class was subject to an investment period which ended on 31 March 2015. The New Global Share Class ("NBDG") was created in March 2014 in order to capture the growing opportunity in distressed debt globally. NBDG's investment period ended on 31 March 2017, https://www.nbddif.com/ Manager: Distressed Debt team at Neuberger Berman:
RDL	RDL will pursue a managed wind-down of investments. As part of the realisation process, the Company may exchange existing Debt Instruments issued for equity securities in the lending platform where, it is unlikely to be able to otherwise realise such Debt Instruments. http://www.rangerdirectlending.uk/ Ranger Alternative Management II, LP

Source: Descriptions taken directly from company websites accessed February 2019, Hardman & Co Research

Appendix 1: Hardman & Co tick-sheets

Hardman & Co – specific questions for specialised lenders	
Question	Management response
Strategic	
What are your competitive advantages creating barriers to entry and so superior returns?	
Are there particular aspects of your product offering that generate incremental returns (e.g. early repayment penalties)?	
How large a market share do you have in your chosen niche?	
How liquid would the market be if you tried to on-sell any positions, and what would be the cost in doing so?	
To what extent do you earn higher returns by being willing to accept more (leveraged) risk and to what extent is it about exploiting opportunities where a lack of understanding means risk may have been mis-priced?	
What competitive advantage does the asset manager have to deliver superior returns?	
What discount management programmes are in place?	
Valuation	
Can you give details of how you get to your IFRS9 impairment calculation?	
What external verification (other than auditors), if any, is there to verify valuations?	
Do you have any measure of the credit volatility seen by your niche in a range of economic scenarios?	
Risk	
What are the major economic/regulatory/competitive risks that would change the market dynamic?	
What is the process by which you assess counterparty creditworthiness?	
How do you monitor ongoing creditworthiness of counterparties?	
In the event of a borrower getting into arrears, how is this managed?	
How would the collection of debt be enforced in the event of the counterparty defaulting? What expertise does the team have in collections?	
How many staff have left in the past three years, and how is the risk of key personnel leaving managed?	
How is currency exposure managed?	
What is the overall interest rate sensitivity and what are the key dynamics driving it?	
Where the business has a broad geographical spread, what is the expertise in some of the smaller jurisdictions?	
Reinvestment	
How can we be confident that there will be material reinvestment opportunities to deploy maturing debt?	

Source: Hardman & Co Research

Credit Investment Companies

Hardman & Co – specific questions for secured lenders	
Question	Management response
Strategic	
To what extent do you earn higher returns by being willing to accept more (leveraged) risk, and to what extent is it about exploiting opportunities where a lack of understanding means risk may have been mis-priced?	
What competitive advantage does the asset manager have to deliver superior returns?	
How broad a range of asset classes does the mandate/managers' expertise allow?	
What discount management programmes are in place?	
What is the portfolio approach to managing risk – are there elements in the portfolio that have materially different risks from others, and how is this managed?	
Why would borrowers come to you, rather than to their bank?	
For property lenders, do you see yourself as a property company that happens to invest in debt, or are you a debt company that specialises in real estate?	
Valuation	
Can you give details of how you get to your IFRS9 impairment calculation?	
What external verification (other than auditors), if any, is there to verify valuations?	
Do you have any measure of the credit volatility seen by your niche in a range of economic scenarios?	
What would the value of security be on a forced sale basis?	
Risk	
What evidence can you provide that security has been effectively executed?	
What measures are in place to ensure security is effectively monitored, and to what extent is this external?	
What has been the historical recovery rate on the security taken?	
How would the collection of debt be enforced in the event of the counterparty defaulting? What expertise does the team have in collections?	
What is the overall interest rate sensitivity and what are the key dynamics driving it?	
Does the change in Crown Preference have any direct or indirect effects, and what is its likely impact on borrowers?	
What is the exposure to high-risk sectors (such as retail) and how is this risk managed? Have CVAs had a material effect?	
What are the resale market conditions should the security need to be realised? How specific are the assets that form the security to the borrower, or is there general demand for them?	
For invoice finance providers, what are the characteristics of the end-invoice payers compared with the borrowers?	
Reinvestment	
How can we be confident that there will be material reinvestment opportunities to deploy maturing debt?	

Source: Hardman & Co Research

Credit Investment Companies

Hardman & Co – specific questions for CLO lenders	
Question	Management response
Strategic	
To what extent do you earn higher returns by being willing to accept more (leveraged) risk and to what extent is it about exploiting opportunities, where a lack of understanding means risk may have been mis-priced/above expected yields earned?	
To what extent is income generated from trading assets, as opposed to coupon/interest/ dividend receipts?	
How broad a range of asset classes (CLO equity, debt, warehouse facilities, CLO-like structures) does the mandate/managers' expertise allow?	
What discount management programmes are in place?	
What competitive advantage does the asset manager have to deliver superior returns?	
What is the portfolio approach to managing risk – are there elements in the portfolio that have materially different risks from others, and how is this managed?	
Valuation	
Can you outline the independence of the valuation methodology, including what external checks are put in place?	
Where external market prices have been taken for illiquid instruments, how do you ensure that the price is a realistic one and not one reflecting the market-maker's book?	
Have there been any realisations close to valuation dates, and have these been at a premium/discount to the reported valuation?	
Risk	
How are the largest exposures calculated? Can you provide details if you adopt a weighting by type of security?	
How are the sector exposures calculated? To what extent are gross exposures weighted by the seniority of the security?	
What proof do you have that your investments have delivered lower defaults/losses than the market as a whole?	
How do you manage covenant-lite/adjusted earnings exposure in underlying loans?	
How would the fund cope with a financial crisis like 2008/2009?	
How is currency exposure managed?	
How do you monitor the performance of specific CLO managers? How is the manager risk perceived relative to the portfolio risk? Would you invest in a median manager but with a sectoral exposure that you want?	
What is total number of underlying loans?	
What is the overall interest rate sensitivity and what are the key dynamics driving it?	
Reinvestment	
What is the process by which new investments are identified?	

Source: Hardman & Co Research

Credit Investment Companies

Hardman & Co – specific questions for peer-to-peer/platform lenders

Question	Management response
Strategic	
To what extent do you earn higher returns by being willing to accept more (leveraged) risk, and to what extent is it about exploiting opportunities where a lack of understanding means risk may have been mis-priced/above expected yields earned?	
How big a market do you see peer-to-peer becoming, and what is both your current market share and share of that ultimate pot?	
What arrangements are in place to manage the assets should a platform get into difficulties?	
What is your view on the risk that regulators may impose penal restrictions on all platforms if one platform sees a material number of retail investors lose money?	
Once bank capital requirements stabilise, to what extent are they likely to become more aggressive competitors?	
How do you assure investors that the platforms have the appropriate credit culture and are not driven by technology?	
How will peer-to-peer markets evolve if alternative assets start to reprice (e.g. bank deposit rate rising with market increases)?	
Valuation	
Can you give details of how you get to your IFRS9 impairment calculation?	
What external verification (other than auditors), if any, is there to verify valuations?	
What is the likely scale of the impact on the valuation of assets if the platform faces difficulties?	
Risk	
What confidence do you have that the platform has the systems in place to manage a recession when none of them have been through that economic outlook?	
What are the credit losses incurred by the platforms compared with like-for-like lenders?	
How does a platform assess the character of borrowers when they are remote? To what extent is being remote, and so unaware of, say, a local factory closure, an impediment?	
To what extent are there international problems with peer-to-peer read-across for the markets you are in?	
On an ongoing basis, what is the recovery rate, and how does it compare like-for-like with other lenders? How are collections managed on a day-to-day basis?	
P2P Global Investments went through a major restructuring – what do you believe drove the need for this, and what confidence can we have that you will not need to do the same?	
What is the overall interest rate sensitivity and what are the key dynamics driving it?	
Reinvestment	
What is the process by which new investments are identified?	

Source: Hardman & Co Research

Appendix 2: current NAVs

In order to give the best comparability between companies, we have used throughout this report the end-December 2018 reported NAVs. In the table below, we show the NAV used in our report and the most recent NAV. As can be seen in the table below, our allocation to sub-sectors brings greater comparability in the frequency of NAV reporting than a broad sector view.

Table title – Four columns, five rows						
Ticker	NAV used in report	Most recent NAV	Change	Latest premium/discount (%)	Date of NAV	Frequency
Specialist						
AEFS (p)	103.3	103.1	-0.2%	-6.0%	19-Feb	Daily
AXI (p)	90.08	92.11	2.3%	-2.8%	20-Feb	Daily
BPCR (US\$ c)	100.44	104.27	3.8%	1.7%	31-Jan	Monthly
CCPG (£)	1.0762	1.0839	0.7%	-1.1%	01-Feb	Weekly
CCPE (£)	1.0404	1.0464	0.6%	0.3%	01-Feb	Weekly
JGCI (p)	89.8	93.9	4.6%	-5.4%	20-Feb	Daily
NBLS (p)	92.15	94.05	2.1%	-5.4%	19-Feb	Daily
NBLU (US\$ c)	94.68	96.67	2.1%	-3.5%	19-Feb	Daily
SMIF (p)	88.76	89.1	0.4%	2.6%	20-Feb	Weekly
Secured Property						
LBOW (p)	99.63	99.63	0.0%	-0.4%	31-Oct	Quarterly
RECI (p)	163.1	164.5	0.9%	4.3%	31-Jan	Monthly
SWEF (p)	102.68	103.27	0.6%	1.7%	31-Jan	Monthly
UKML (p)	83.51	83.65	0.2%	-1.4%	31-Dec	Monthly
Secured other assets						
GABI (p)	101.74	101.74	0.0%	4.7%	31-Dec	Quarterly
HWSL (p)	97.77	97.77	0.0%	-2.8%	31-Dec	Monthly
RMDL (p)	96.98	97.62	0.7%	4.1%	31-Jan	Monthly
SQN (p)	97.31	97.31	0.0%	-3.6%	31-Dec	Monthly
SQNX (p)	98.14	98.14	0.0%	-4.7%	31-Dec	Monthly
SSIF (p)	96.73	96.73	0.0%	-5.1%	31-Dec	Monthly
CLO						
BGLF (£)	0.8963	0.8824	-1.6%	-7.1%	31-Jan	Monthly
FAIR (\$)	0.874	0.8465	-3.1%	0.4%	31-Jan	Monthly
MPLF (\$)	0.8172	0.8172	0.0%	-0.9%	31-Dec	Monthly
VTAS (£)	7.71	7.95	3.1%	-13.8%	31-Jan	Monthly
VTAS (£)	N/a	6.903	n/a	-13.7%	31-Jan	Monthly
Peer-to-peer						
FCIF (p)	96.47	95.22	-1.3%	-10.3%	31-Jan	Monthly
HONY (p)	999.8	999.8	0.0%	13.0%	31-Dec	Monthly
P2P (p)	948.52	948.52	0.0%	-14.1%	31-Dec	Monthly
PBLT (p)	96.63	96.63	0.0%	7.1%	31-Aug	Quarterly
VSL (p)	85.1	85.1	0.0%	-8.9%	31-Dec	Monthly
Mixed asset						
TORO (£)	0.9813	0.9813	0.0%	-19.5%	31-Dec	Monthly
MGCI (p)	97.94	98.7	0.8%	4.6%	31-Jan	Monthly
TFIF (p)	113.09	111.49	-1.4%	2.9%	15-Feb	Weekly
Wind-down						
CIFU (\$)	0.6105	0.6364	4.2%	-8.9%	31-Jan	Monthly
NBDD (\$)	0.9824	1.0012	1.9%	-9.1%	19-Feb	Daily
NBDG (£)	0.9244	0.915	-1.0%	-13.1%	19-Feb	Daily
NBDX (\$)	0.9658	0.976	1.1%	-13.9%	19-Feb	Daily
RDL (p)	8.59	8.59	0.0%	-39.1%	30-Nov	Six-monthly

Source: Latest company factsheets, Hardman & Co Research

About the author




Mark Thomas is an analyst in the Financial Stocks and Investment Companies team at Hardman & Co.

He has nearly 30 years' experience in Financial Services. He leveraged his 10 years' direct industry experience within NatWest Group to give investors a better understanding of the business models of the companies he followed. His general business analysis is supplemented with specific experience in balance sheet management, derivatives, tax, pension and accounting issues (invited member of FIAG), combined with considerable board-level liaison across all sizes of companies. He spent more than 10 years as a highly-rated sell-side analyst, primarily with the financial specialists Fox Pitt Kelton and Keefe Bruyette and Woods. His coverage extended beyond banks to a range of financial companies, after which he spent six years with the sponsored research house Edison.

Mark joined Hardman & Co in March 2016. He holds a BA (Hons) in Economics and Law from the University of Durham, and a BA (Hons) in History from the Open University.



HARDMAN & CO.



15,928.00	15,928.00
51,000.00	51,000.00
46,884.00	46,884.00
37,872.00	37,872.00
480,091.00	512,603.00

‘Aaah, we fade to grey’

Visage 1980 or the end of the ‘Age of Consensus’

By Keith Hiscock, CEO, and Yingheng Chen, Hardman & Co Analyst

'Aaah, we fade to grey'

Visage 1980 or the end of the 'Age of Consensus'

By Keith Hiscock, CEO, and Yingheng Chen, Hardman & Co Analyst

Transparency in forecasts has disappeared

In the investment world, before MiFID II, essentially every institution talked to every broker, and the whole, professional market could see every research note and the forecasts in detail. This was the 'Age of Consensus'. Everyone had the same information (well, everyone except retail investors), and this transparency helped share price formation and liquidity.

Today is very different. Company managements may not appreciate that institutions have typically halved their broker list. As management, you may feel comfortable that you have, for example, eight analysts writing about you – you should feel less so if many of them are not visible to anyone! This article shows how transparency in forecasts has disappeared. Our work shows that, for a typical company with eight analysts, only four forecasts are visible. This demonstrates the risk of confusing coverage with distribution.

MiFID II changes everything, including broker reach

Many brokers have seen their reach go from universal to 'tight'

Most of what has been written about the new environment for investment research has centred on the number of analysts per stock. Indeed, Hardman & Co has been at the forefront of exploring this impact and any consequent effect on liquidity with our own *MiFID II Monitor*. But the more crushing, and far less appreciated, outcome has been on the broker relationship with institutional clients. Many brokers have seen their reach go from universal to 'tight'.

Quantity and quality of research

Volume doesn't necessarily equal value

Some commentators wonder whether the quality of research has gone down. One way to assess this would be to examine the data for the number of pages published collectively in 2018 versus 2017. Recognising that volume doesn't necessarily equal value, if, say, we found that, on average, the figure had halved, then that would be a strong indicator. Unfortunately, these data do not seem to be available.

We have some qualitative evidence, though. The Quoted Companies Alliance recently published its 'Mid and Small-Cap Investor Survey'¹. 62% of institutions surveyed thought there was less research in 2018, compared with 48% that held that view in 2017. What is particularly interesting is that only 28% of companies have noticed that there is less research. Look forward to the next 12 months and the survey shows 71% of institutions think there will be less research, but only 32% of companies share that view.

Distribution of broker research is key...

Two points should be made about these data.

- Firstly, they are restricted to mid- and small-cap coverage, although there is no reason to believe the large-cap landscape is any different.
- Secondly, there is a significant variance between the views of institutions and companies. Of the two, we would pay more attention to institutions, since they are the audience at which research is targeted. In fact, the difference may be

¹ PP 22 and 33, 'Mid and Small-Cap Investor Survey 2019: MiFID II - The Search for Research', QCA/Peel Hunt, February 2019

explained by distribution. If you have cut the number of brokers you deal with, of course you're going to see less research.

Companies may not realise this change in broker distribution. In fact, 42% of institutions surveyed would recommend companies change to brokers whose research is more widely distributed². When asked, 'what are the most important questions mid- and small-cap companies should be asking of their brokers or investors in relation to MiFID II', 38% of investors answered, 'How widely does my broker distribute research?'³

The QCA/Peel Hunt survey also focused directly on quality. 37% of institutions felt the quality of research had declined and 35% thought it would get worse in 2019⁴.

Of course, simply measuring the number of analysts is crude – it does not address the issue of length and depth of analysis. Company A might have 10 analysts who wrote a total of 40 pages about it in 2018 – i.e. the notes were largely a cut and paste of the results statements – while company B had only five analysts with a total page count of 100. This suggests that the analysts of B put in more effort to help investors understand the investment case and went beyond repetition. It would be entirely possible that more activity was generated in Company B as a result. Whether or not this is the case, the point is that looking only at the number of analysts might not be a good enough measure.

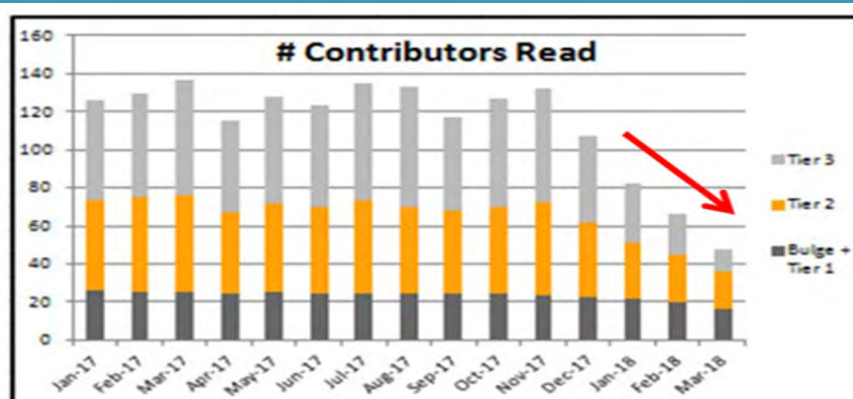
Collapsing distribution of broker research

...and ignoring this can produce misleading conclusions

Ignoring the distribution of broker research can produce misleading conclusions. We have heard many company managements refer to the number of analysts following them and feeling comforted by this. But if it turned out, for example, that of the eight analysts covering a stock, only four had wide distribution, that management confidence would be misplaced.

So how can we judge distribution? One way is to simply ask a broker who pays for the broker's research. Some brokers seem too shy to answer this question. One way to reach an approximate answer is to consider a chart Thomson Reuters Eikon published last summer (see below).

Thomson Reuters: decline in entitled sell-side contributors



Source: Thomson Reuters Eikon

² PP 27, 'Mid and Small-Cap Investor Survey 2019: MiFID II - The Search for Research', QCA/Peel Hunt, February 2019

³ PP 28, 'Mid and Small-Cap Investor Survey 2019: MiFID II - The Search for Research', QCA/Peel Hunt, February 2019

⁴ PP 24, 'Mid and Small-Cap Investor Survey 2019: MiFID II - The Search for Research', QCA/Peel Hunt, February 2019

Briefly explained, this shows that the average top 12 institutional clients of Thomson Reuters Eikon had access to the research and forecasts of 130 brokers (on a pan-European basis) before MiFID II, and that list has been cut by those institutions to about 50. This confirms the dramatic change in the audience for broker research.

Forecasts in the 'Age of Consensus'

Before MiFID II, all professional investors
saw the same number

Another way to judge the decline of distribution is to look at forecasts. This report focuses on this as a way of demonstrating that looking at the number of analysts per company on its own will be misleading.

Before MiFID II came into force, institutional brokers and investment banks bombarded professional investors with research, forecasts and service. Institutions were happy to receive all of this because it was free! Well, not quite. In return, institutions dealt with their favourite brokers (who might even be the ones that produced the best research, the most accurate forecasts and the best service). The commission on that dealing came from the institutions' underlying clients – perhaps the pensioners and unit trust holders. It certainly didn't come from the pocket of the fund manager. The only problem an institutional fund manager had was coping with the volume of calls and the massive post bag.

In terms of forecasts, it meant that these fund managers were all looking at the same screen. Every professional could see every forecast for every company, including the date the analyst's forecast was made, whether it had gone up or down, and how it compared with the peer group, i.e. the consensus. More than that, clever investors realised a forecast made six months ago was not as valid as one made yesterday, and that not all analysts were created equal. A few analysts built reputations for being the most accurate forecasters on a particular stock or sector, while others were always too optimistic or pessimistic. Good fund managers knew that analyst A was brilliant at identifying investment themes early, but hopeless at forecasting profits, while analyst B was good on forecasts, but always got the recommendation wrong. There were even services launched to monitor forecasts, to scientifically prove who was always looking at a glass half full, for example.

The new world of non-consensus

End of transparency...

MiFID II has destroyed the concept of a common consensus. Institutions can now see only the research that they have paid for (with two exceptions). If they have not paid for that research, they will be committing an offence to receive it or even talk about it with the broker. Generally, the compliance officers of institutions have taken that to mean stopping seeing everything from a broker with whom they don't have a commercial relationship, including viewing the broker's forecasts. This means, for example, that the forecasts Fidelity can see might be completely different from those seen by BlackRock. The average of these forecasts could be different too. Thus, there is no longer a consensus. We have seen a growth in 'hidden forecasts', i.e. forecasts that only a select few can see.

What are the two exceptions referred to above, when research can be received for free?

- ▶ The first is a trial period: an institution can have one three-month free trial period in any 12-month period.
- ▶ The second is research that has already been paid for by the company that is being written about. This is covered by clause 12.3 of MiFID II, and such research is considered a 'minor, non-monetary benefit in the hands of the recipient'; generally, this covers research written by the house broker and by a sponsored research house, such as Hardman & Co.

'Aaah, we fade to grey'

...leading to weakening in broker relationship with institutions

Why does this matter?

The end of the transparency that existed in the Age of Consensus is important for two reasons.

- ▶ First, it means that investors have to make decisions with different sets of data. This undermines investor confidence and, ultimately, that impacts liquidity.
- ▶ The second effect is on companies themselves. Yes, weakened investor confidence and lower liquidity are unhelpful. But, more importantly, the loss of visibility of analyst forecasts is one outcome of the weakening in the broker relationship with institutions.

Today, brokers do not have the universal distribution among institutions that they had before MiFID II. A company management may comfort itself that it has eight brokers covering it, but if, on average, institutions can see only four forecasts, the reality is that the effective analyst count is four.

And retail investors never saw consensus, anyway

Before MiFID II came into force, professional investors enjoyed a massive information advantage over retail investors. While an institution could see all research, and every forecast, the retail investor was a second-class citizen. He was not allowed to receive institutional research, he didn't get badgered for a meeting with the analyst, and nor did anyone bother to call him. No, the retail investor had to rely on bulletin boards, blogs and chatrooms, and the crumbs from the institutional table – such as when the *Evening Standard* might report that JPMorgan had upgraded its forecast, or moved to a Buy rating on a stock. The only research and forecasts to which he had access came from sponsored research houses, such as Hardman & Co.

With MiFID II, playing field between retail and professional investor has been levelled

One of the unlikely outcomes of MiFID II is that the playing field between retail and professional investor has been levelled in two ways. First, the professional can't access research for free and generally has less of it and, second, more companies are using sponsored research houses. Historically, sponsored research houses published only on small companies, but, today, the more respected ones, such as Hardman & Co and Edison, are retained by very large companies. For example, Hardman & Co's largest client has a market cap approaching £4bn, with several more over £1bn.

Plenty of companies with absolutely no research or forecasts

Let us not forget that there are a number of companies where there are no forecasts. The table below shows that many companies live in a lonely world without any analysts.

LSE quoted companies with no analyst coverage at December 2018				
Mkt. cap. band (£m)	No. of companies	No. with coverage	No. with no coverage	% with no coverage
0-100	947	381	566	59.8%
100-200	208	125	83	39.9%
200-400	211	128	83	39.3%
400-1,000	213	153	60	28.2%
1,000-2,000	113	90	23	20.4%
2,000-5,000	85	80	5	5.9%
>5,000	83	82	1	1.2%
Total	1,860	1,039	821	44.1%

Note: List includes investment companies
Source: Thomson Reuters Eikon, Hardman & Co Research

'Aaah, we fade to grey'

The smaller the market cap, the greater the likelihood that no analyst publishes

It will be no surprise to readers that the smaller the market cap, the greater the likelihood that no analyst publishes (not even the house analyst!). But it is more common up the market cap scale than you might expect. Partly, this is explained by the inclusion of investment companies/trusts, for most of which earnings forecasts aren't relevant. We even have one constituent with a market cap above £5bn with no coverage – Scottish Mortgage, an investment trust.

LSE quoted companies by listing with no analyst coverage at December 2018

Mkt. cap. band (£m)	Main Market			AIM		
	No. of companies	No. with no coverage	% with no coverage	No. of companies	No. with no coverage	Mkt. cap. band (£m)
0-100	148	102	68.9%	672	337	50.1%
100-200	50	8	16.0%	90	9	10.0%
200-400	92	14	15.2%	53	5	9.4%
400-1,000	114	9	7.9%	45	0	0.0%
1,000-2,000	84	2	2.4%	7	0	0.0%
2,000-5,000	74	1	1.4%	5	0	0.0%
>5,000	82	0	0.0%	0		
Total	644	136	21.1%	872	351	40.3%

Note: List excludes investment companies

Source: Thomson Reuters Eikon, Hardman & Co Research

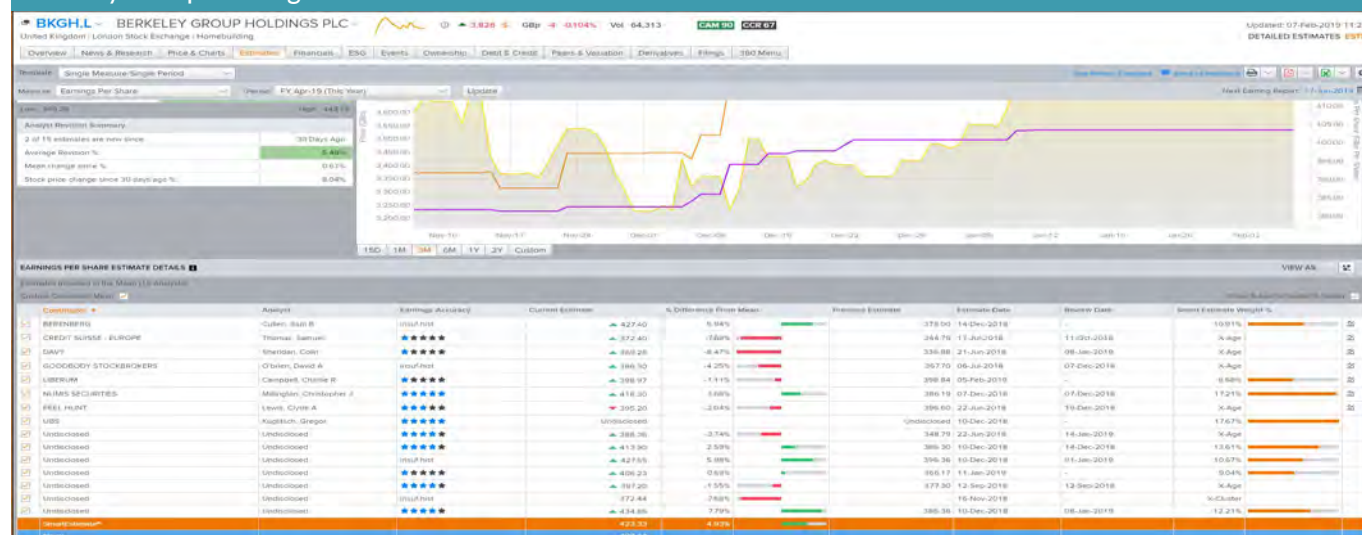
The picture looks dramatically better without investment companies, as the table above shows. Nevertheless, the table does demonstrate the difference in coverage for the same size band companies between Main and AIM. For example, 68.9% of companies in the £0-100m size band on Main have no coverage, compared with 50.1% of AIM-listed. This has always been the case. AIM tends to be attractive to a wider investor audience, such as IHT investors and Venture Capital Trust funds; hence there is more liquidity (for the same size companies) and a better commercial case to write research.

An example of hidden forecasts

How much of a problem is the 'hidden forecast'?

Ideally, we would carry out a survey of institutions and put together a whole series of snapshots of what they can see to gauge the seriousness of the problem. However, we can't do that. So perhaps the next best thing is to look at Hardman & Co's own position. Hardman & Co is a subscriber to the Thomson Reuters Eikon service and, just like institutions and brokers, we have a page of detailed estimates for every company on the market (see example below).

Berkeley Group Holdings forecasts



Source: Thomson Reuters Eikon

'Aaah, we fade to grey'

The above is a typical snapshot of the detailed estimates page from Hardman & Co's Thomson Reuters Eikon screen. It shows the data for Berkeley Group Holdings, a housebuilder with a market capitalisation of just under £5bn. Hardman & Co is not in the position of an institution. We can see any forecast without paying for it. Even so, our view is restricted. Some brokers have chosen to be anonymous to us, either because they have some mistaken notion that they would otherwise be in breach of MiFID II (the truth is the onus is on the receiver of research, not the provider), or because it is part of a policy of monetising research. Unlike an institution, though, we can see all forecasts – we just don't know who made them! Institutions will typically see less than Hardman & Co, with only the data for the brokers they have paid for being visible.

You would expect there to be lots of analysts covering Berkeley. You would be right. At the last count, there were 15 estimates. But on Hardman & Co's screen, seven of them are declared as broker 'undisclosed', and, although we know, for example, that UBS follows the company, we cannot see its forecast. This is critical information. What if, historically, the analyst with the best forecasting record is greyed out? Is his forecast 388.36p for the next EPS number, or 434.86p? That is a difference of 46.5p, or 11%. We simply don't know. Remember, if you are an institution, you would not even know there is a forecast as high as 434.86 – if you were paying the brokers visible on the Hardman & Co screen, you would think the top of the range was 427.40 from Berenberg.

This example demonstrates that, while the management may think that 15 brokers cover Berkeley Group, if Hardman & Co were an institution, in reality, we would think the number was just seven.

The scale of the problem of hidden forecasts

The more analysts that follow a company, the greater the percentage of forecasts is hidden

If we employ the approach used for Berkeley Group for the whole of the market, what do the data show? We have taken a snapshot at 31 December 2018 for every quoted company (less investment companies and international businesses, such as Boeing, where the London quote is a subsidiary one). Our dataset comprises 1,029 companies where there is at least one forecast.

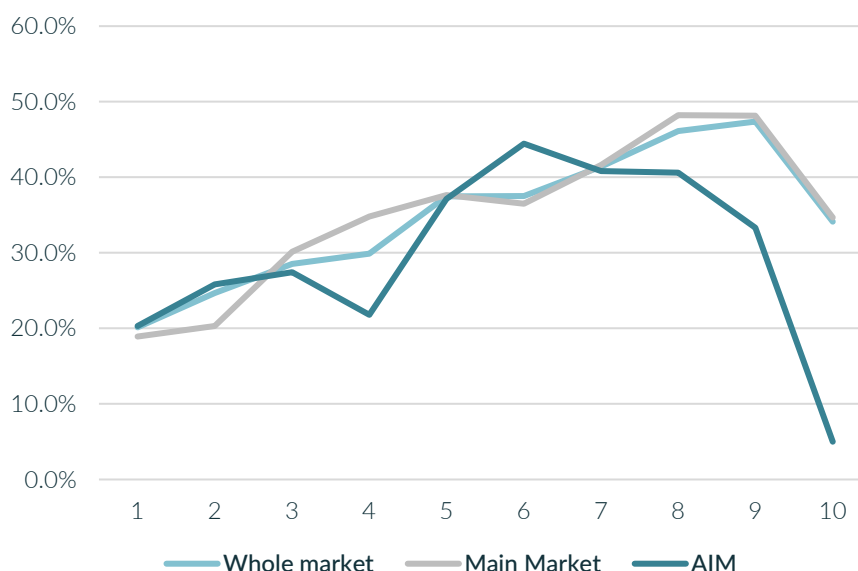
LSE quoted companies by listing with visible analyst coverage at December 2018

Number of analysts	Weighted average of visible estimates				
	Whole market	Main market	No. of companies	AIM	No. of companies
1	0.80	0.81	37	0.80	261
2	1.51	1.59	32	1.48	120
3	2.14	2.10	42	2.18	62
4	2.80	2.61	51	3.13	31
5	3.13	3.12	34	3.14	21
6	3.75	3.81	42	3.33	6
7	4.10	4.09	23	4.14	7
8	4.31	4.14	21	4.75	8
9	4.74	4.67	18	6.00	1
10+	6.59	6.53	208	9.50	4

Source: Hardman & Co Research

The above table shows that, for the typical company with eight analysts showing on the Hardman & Co/Thomson Reuters Eikon screen, only 4.14 forecasts are available for Main-listed companies and 4.75 for AIM.

Percentage of analyst forecasts hidden by number of analysts per company



Source: Thomas Reuters, Hardman & Co Research

The above chart looks at the data another way. It shows what percentage of a company's forecasts are hidden. Broadly, the more analysts that follow a company, the greater the percentage of forecasts is hidden. Some caution should be applied to the figure for 10 analysts, since this includes companies with 10 or more followers. If the chart displayed the results for 11 analysts and above, the chart would peak at 64%.

The conclusion is clear. Managements who are comforted by a reasonable number of analysts covering them, are misleading themselves. The reality for institutional investors is much smaller, often by half.

What can companies do about it?

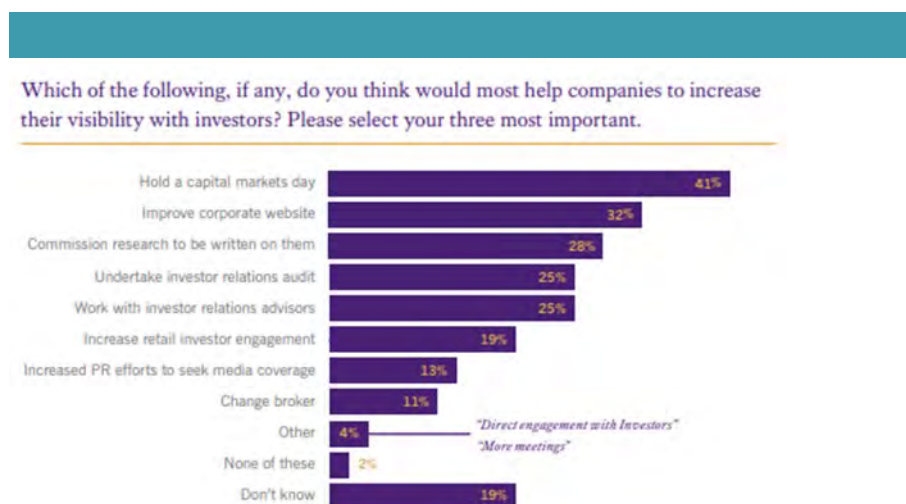
Company managements are beginning to realise that, in the new world post-MiFID II, they will have to do more for themselves to get the attention of investors. In the case of consensus, there are two practical steps to take:

- ▶ Publish the consensus at the time of a trading or results announcement. Even if you just give the middle of the range the night before and the source (e.g. Thomson Reuters Eikon), this improves the market's understanding. Some advisors will be wary that this might end up effectively being a forward-looking forecast; others won't. Seek advice.
- ▶ Appoint a sponsored research house, such as Hardman & Co, to increase the number of forecasts. Importantly, this research will not just be 'available' to every investor, by being posted on a website; it will be actively promulgated. The research and forecasts can be received for free by professional and retail investors alike.

Managements will have to do more to get investor attention

Raising your investor profile in the new world – a tick list

It is worth reiterating the steps companies should be considering in the new world to come to the attention of investors. Again, the QCA/Peel Hunt survey of institutions is helpful:



Source: PP29 of 'Mid and Small-Cap Investor Survey 2019: MiFID II - The Search for Research', QCA/Peel Hunt, February 2019

When thinking about commissioning additional research, either from a sponsored house, such as Hardman & Co, or a second broker, the following issues should be pondered:

- ▶ To whom will the research be available, and how does it get to them? Just hosting it on a website, even if retail can read it, is not enough – it needs to be proactively advertised and pushed.
- ▶ How good is the analyst?
- ▶ How often and how much will be written?
- ▶ Is it respected? What sort of other companies does the house have? If you are a £500m financial services business, for example, employing a house that writes about small-cap miners is unlikely to get the profile you want.

Methodology

Source

Hardman & Co is a subscriber to the Thomson Reuters Eikon market data service. This is one of the most popular services for professional investors; its biggest competitor is Bloomberg. Hardman & Co has access to all the publicly available data on broker forecasts through this service. We collected data for this article from Thomson Reuters Eikon on 31 December 2018.

Dataset and exclusions

Our dataset includes every company listed on the London Stock Exchange's Main and AIM markets. There are approximately 1,937 companies in the complete dataset. However, we decided to exclude two categories of company:

- ▶ Investment companies. Forecasts of future earnings are not really that relevant to most of these vehicles; hence, including them would distort the results of our work. There are more than 343 of these excluded from the list.
- ▶ Companies whose London listing is very much a secondary one. These are typically overseas companies. For example, Boeing is listed on the London market; looking at the London quotation of the company on Thomson Reuters Eikon for the number of analysts is misleading – you should really look at the US listing.

Excluding the two categories above, we were left with 1,029 companies where there is at least one forecast.

Further research

Hardman & Co has produced a series of research pieces on the impact of MiFID II, the relationship between research coverage and liquidity, and the importance of retail investors for liquidity. Publications include:

- ▶ [*After the Love Has Gone – Post-IPO liquidity: how bad is it, does it matter and what can companies do about it? \(Keith Hiscock and Yingheng Chen, July 2018\)*](#)
- ▶ [*The importance of the retail investor \(Keith Hiscock, January 2018\)*](#)
- ▶ [*MiFID II - Impact on research & stock market liquidity \(Keith Hiscock – 2017\)*](#)
- ▶ [*Why broker research coverage of non-clients is collapsing \(Jason Streets – 2016\)*](#)

About the authors



Keith Hiscock is the Chief Executive of Hardman & Co.

He is personally responsible for the firm's relationships with its corporate clients and also for corporate finance. In addition, he is the author of several articles tackling the issues facing companies in today's climate.

Keith has more than 35 years' stockbroking experience and has developed long-standing relationships with many major institutional investors, including Private Client Brokers and Wealth Managers. He started his career at James Capel, at the time the top-ranked research house in London. He was a founding member of Schroder Securities and of Agency Partners, a leading research boutique house, and was a member of the five-man securities board at Evolution. Keith has also advised companies, large and small, on their relationships with the capital markets.



Yingheng Chen is a senior financial analyst at Hardman & Co.

Yingheng has particular experience in the markets for palm oil, cocoa, citrus, coconut, Jatropha and sugar. She worked as a corporate finance analyst at the Agricultural Bank of China, and is fluent in Cantonese and Mandarin. She has a thorough understanding of the Chinese financial and business markets, as well as of those in the UK.

Yingheng joined Hardman & Co in 2008. She holds the Chartered Financial Analyst Level 2 qualification, together with a BSc in Economics from the London School of Economics.



HARDMAN & CO.



How small and mid-cap quoted companies make a substantial contribution to markets, employment and tax revenues

*By Hardman & Co
in collaboration with the Quoted Companies Alliance*

Table of contents

Introduction3

 The landscape of quoted companies3

 Employment5

 Tax paid6

 Our sample8

 Methodology and caveats – employment8

 Methodology and caveats – tax.....9

 About Hardman & Co.....9

 About the Quoted Companies Alliance.....9

Disclaimer 11

Status of Hardman & Co’s research under MiFID II 11

Introduction



SMQC make massive contribution to society
and stock market

Politicians and business leaders often refer to small and mid-size quoted companies (SMQCs) as being pivotal to the future of the British economy. But the definition of “small and mid-size” can cover a huge range of companies, and the difference between the UK’s largest companies and the rest is stark, as we present in this paper.

In particular, we examine the companies quoted on the UK’s public equity markets to highlight the difference in size between the largest 100 companies and the rest.

We also present data that show the massive contribution that SMQC make to our society and to the stock market.

In particular, we note the following for SMQCs.

- ▶ They represent 93% of all the companies quoted on the London Stock Exchange (LSE) by number (when investment companies and certain other categories are excluded – see ‘Our sample’ for more detail).
- ▶ They collectively have a market capitalisation of £428bn by value, representing 20% of the total market capitalisation of the LSE (with the same exclusions)¹.
- ▶ They employ over 3 million workers.
- ▶ They account for a substantial proportion of the workforce of all quoted companies in many regions of the UK.
- ▶ They contributed at least £26.5bn in taxes in 2017/18, we estimate, considering just Corporation Tax, Income Tax and National Insurance (NI), and ignoring VAT and Business Rates.

The landscape of quoted companies

On the last trading day of February 2019, the LSE had a total of 2,068 companies listed on its markets (the Main Market and AIM)². However, this list includes investment companies and international companies whose London quote is a secondary one, and which are not really relevant for this piece of work. Filtering these companies out leaves 1,349 companies.

LSE quoted companies, by number					
	LSE			Hardman/QCA SMQC List	
	All companies	Excluded	Filtered all companies	Small and Mid-cap	%
Main Market	1,156	623	533	433	81%
AIM	912	96	816	816	100%
Total	2,068	719	1,349	1,249	93%

Source: LSE, Hardman & Co, Quoted Companies Alliance

Our ‘Hardman/QCA SMQC List’ excludes the 100 largest companies by market capitalisation, leaving just SMQCs. The table below shows that SMQCs form a critical part of the universe of companies quoted on the LSE. The 433 companies listed on the Main Market represent 81% of all the ‘filtered’ companies listed, while all 816 AIM

¹ As at the close on 28 February 2019

² LSE: ‘Companies defined by mifir identifiers list on LSE’

<https://www.londonstockexchange.com/statistics/companies-and-issuers/companies-and-issuers.htm>

How small and mid-cap quoted companies contribute to markets

companies are SMQCs. Adding the two markets together, we find that 93% of the companies by number in our filtered list are SMQCs.

Using the same criteria to look at market capitalisations, we find that the Hardman/QCA SMQC List accounts for 20% of the entire capitalisation of the filtered list.

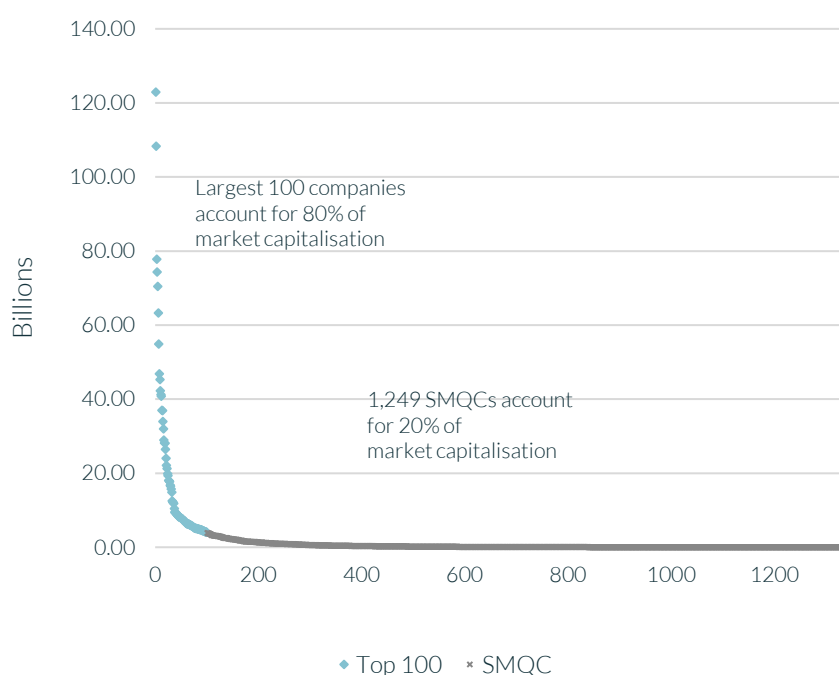
LSE quoted companies by market capitalisation, in £bn

	LSE			Hardman/QCA SMQC List	
	All companies	Excluded	Filtered all companies	Small and Mid-cap	%
Main Market	3,768	1,712	2,056	342	17%
AIM	96	9	87	87	100%
Total	3,864	1,721	2,143	429	20%

Source: LSE, Hardman & Co, Quoted Companies Alliance

Another way to illustrate the distribution of companies is to rank them by market capitalisation, which the following figure does. The blue dots are the 100 largest companies, the grey the SMQCs.

Market capitalisation as at end-February 2019



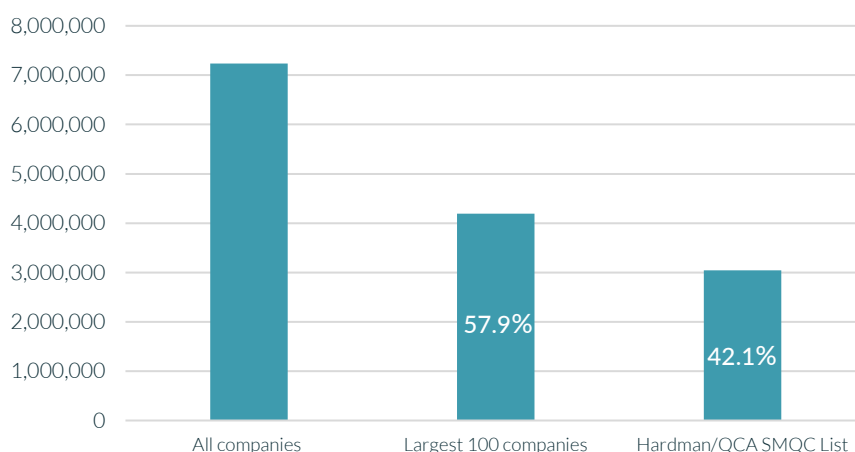
Source: LSE, Hardman & Co, Quoted Companies Alliance

Employment

SMQCs represent 42.1% of all quoted company employees

We have carried out an intensive exercise regarding employment using Thomson Reuters data, with samples of that data cross-checked against published accounts, and the figures from annual accounts used where Thomson Reuters is missing data. We collected data for all companies for their years ending during calendar 2019. For more detail, and the caveats to this data, see our methodology section later.

Employees by quoted company universe



Source: LSE, Hardman & Co, Quoted Companies Alliance, company accounts

Our survey showed that, excluding investment companies and international companies whose London quote is a secondary one, quoted LSE companies had 7,235,156 employees (N.B. we have excluded companies whose registered offices are not in the United Kingdom; these companies employ an additional 642,249 staff, some of whom may be in the United Kingdom).

Clearly, not all these 7.2m employees are in the UK, but, unfortunately, there is no way of getting a definitive answer as to what that proportion might be. Nevertheless, employees in quoted companies must represent a large part of the labour force. Data from the Office for National Statistics show total employment in the United Kingdom at December 2018 of 32,714,000.³ Of these, 83.6% (27,341,000) work in the private sector and 16.4% (5,373,000) in the public sector.

If we exclude the 100 largest companies by market capitalisation and just consider the Hardman/QCA List of SMQCs, we find the number of employees falls to 3,045,747. Again, we cannot know the proportion of these in the UK, but it is likely to be much higher than the figure for the 100 largest companies. It is significant that SMQCs represent 42.1% of all employees in our filtered list.

Employment by region

In many regions, SMQCs account for the bulk of quoted company employees

Understanding how the quoted company labour force is distributed by region in the UK is a difficult exercise, because companies are not required to publish such data. Some do; most do not. Thus, we have used the location of the head office as a proxy. Some companies have workforces spread across the country, while others have a very strong regional bias. We have had to use the location of the headquarter (HQ) as a proxy and assume all employees work in that region. This will inevitably exaggerate the importance of London. For example, Rolls-Royce is headquartered in Buckingham

³ Source: Office for National Statistics, Labour Force Survey

How small and mid-cap quoted companies contribute to markets

Gate, London, but probably only a few hundred of its 23,435 UK workforce are based there.

The table below shows the distribution by region, using the HQ as the locator. Despite all the caveats outlined above, one aspect strikes us: in many regions, SMQCs account for the bulk of quoted company employees.

Quoted company employment by region, 2018					
Region	All companies	% of UK employment	Small- and mid-cap companies	% of UK employment	Small- and mid-cap as % of all companies
Northern Ireland	3,194	0.0%	3,194	0.1%	100.0%
Wales	20,791	0.3%	11,455	0.4%	55.1%
North East	56,632	0.8%	42,972	1.4%	75.9%
North West	128,412	1.8%	90,240	3.0%	70.3%
South West	167,238	2.3%	112,848	3.7%	67.5%
West Midlands	176,902	2.4%	170,637	5.6%	96.5%
East Midlands	194,197	2.7%	109,549	3.6%	56.4%
Yorkshire and The Humber	212,784	2.9%	98,453	3.2%	46.3%
Scotland	330,071	4.6%	220,425	7.2%	66.8%
East of England	795,682	11.0%	199,455	6.5%	25.1%
South East	1,330,994	18.4%	350,993	11.5%	26.4%
London	3,818,259	52.8%	1,635,526	53.7%	42.8%
Sub-total	7,235,156	100.0%	3,045,747	100.0%	42.1%
EMEA	565,109		143,364		
UK Offshore Territories	52,901		52,901		
AMER	18,973		11,285		
APAC	5,266		5,266		
Total	7,877,405		3,258,563		

Source: LSE, Hardman & Co, Quoted Companies Alliance, company accounts

We have also shown the number of employees for quoted companies whose HQ is not in the UK.

Tax paid

SMQCs in UK contributed at least £26.5bn to public purse in 2017/18, we estimate

In 2017/18, we estimate that SMQCs in the UK contributed at least £26.5bn to the public purse – about 5% of the total. This figure includes estimates of Corporation Tax, Income Tax and NI. It does not take into account VAT and Business Rates.

Corporation Tax

In 2017/18, HMRC collected £54.4bn in Corporation Tax⁴. Of this, £1.8bn was paid by offshore companies, leaving a net figure of £52.6bn. Our data suggest that £43.7bn in corporation taxes was paid by the quoted sector. Much of this will not be to HM Treasury, but rather to its overseas equivalents, and companies are not required to disclose the identity of recipients. The figure for SMQCs is probably more reliable, given their UK-centric focus. If we assume all of the tax line was paid in the UK (admittedly a large assumption), then SMQCs contributed £4.8bn in Corporation Tax to the public purse.

To produce our estimates, we collected data for tax paid by every company quoted on the LSE. See our methodology section later for more detail.

Income Tax and NI

Income Tax and NI are the largest generators of tax revenue for HMRC. In 2017/18, Income Tax receipts totalled £180bn⁵, while NI (from employers and employees)

⁴ HMRC TAX & NIC RECEIPTS 21/3/19

⁵ HMRC TAX & NIC RECEIPTS 21/3/19

contributed a further £130.9bn. Data showing what proportion of this is derived from UK quoted companies and, in particular SMQCs, are not available.

Nevertheless, we can make an educated guess:

- ▶ we assume average remuneration is the same for the total UK workforce and quoted companies;
- ▶ we take the total number of employees reported by SMQCs whose HQ is in the UK (3,045,747);
- ▶ we assume only 75% of these employees are in the UK (2,284,310);
- ▶ we divide 2,284,310 into the ONS number for all UK employees (32,714,000, remembering that public and private employees/employers pay Income Tax and NI); and
- ▶ we multiply the ratio generated in the fourth bullet above by the totals for Income Tax and NI collected.

Then, we calculate that SMQCs must generate £12.6bn in Income Tax and £9.1bn in NI, a full 7.0% of those taxes collected.

VAT

Value-added tax (VAT) generated £125.3bn in 2017/18⁶. As it is based on value-added and as tax paid on inputs by a company is deducted from tax collected on sales, it is difficult for us to calculate. Sales by all quoted companies in our survey year amounted to £1,737bn, of which £408bn came from SMQCs. Clearly, a portion of these sales was outside the UK and would not attract UK VAT. The difficulty of estimating is shown if we multiply quoted sales by 20% – the result is £348bn, nearly three times the total VAT generated. Thus, we cannot produce a reliable figure.

Business Rates

Business Rates generated £27.8bn in 2017/18⁷. Quoted companies will pay Business Rates, like every other property occupier in the UK. However, there is, again, no reasonable basis on which to apportion the total figure between quoted and unquoted companies.

Tax paid in summary

£bn UK tax revenue by source 2017/18			
	UK total	SMQC estimate	%
Corporation Tax	54.4	4.8	8.8%
Income Tax	180.0	12.6	7.0%
NI	130.9	9.1	7.0%
VAT	125.3	N/A*	N/A*
Business Rates	27.8	N/A*	N/A*
Total	518.4	26.5	5.1%

Source: Office for National Statistics, Hardman & Co, Quoted Companies Alliance, company accounts
*data not available

⁶ HMRC TAX & NIC RECEIPTS 21/3/19

⁷ HMRC TAX & NIC RECEIPTS 21/3/19

Our sample

1,349 companies in our sample

The LSE's 'Companies defined by MiFIR identifiers list on LSE', published at the end of February 2019, totals 2,068 companies.

For our analysis in this paper, we have excluded the following:

- ▶ Investment companies (equity investment instruments and non-equity investment instruments). They have very few employees, and would probably be excluded by the casual observer.
- ▶ Companies whose main listing is elsewhere, such as Boeing and Honeywell.
- ▶ REITs, for the same reasons as investment companies.
- ▶ Companies that are listed in the 'Admission to trading only' segment.
- ▶ Companies that are suspended.

After applying these filters, we are left with 1,349 companies listed on both the Main Market and AIM.

Methodology and caveats – employment

Quoted companies are required to report employment numbers. Hardman & Co has used a combination of searches on Thomson Reuters (verified by sample cross-references with company accounts) and manual collection where the data are missing, to produce employment numbers.

Not all companies report to the same year-end. To construct our data, we have used annual accounts for the year ending at some month in 2018. Thus, some data will be based on the reports to January 2018, but none will be to January 2019.

Unfortunately, the data produced by the Office for National Statistics (ONS) are not directly comparable with those for quoted companies, for a number of reasons:

- ▶ Quoted companies are not required to specify whether an employee is full- or part-time; some do, but most do not.
- ▶ Quoted companies are not required to specify the geographical location of employees; again, some do, and some do not. We would suggest that the larger the company, the greater the proportion of employees outside the UK.
- ▶ ONS measures employment as the number of people in paid work, which differs from the number of jobs, because some people have more than one job.
- ▶ ONS statisticians survey employees by geographical distribution in the UK. Quoted companies have no requirement to disclose data in this way. Thus, the nearest proxy we can use is to allocate employment to a region based on the location of the head office. This is necessarily arbitrary. It will tend to exaggerate employment in London, since many companies whose workforce is outside London base their HQ there. For example, Rolls-Royce is headquartered at Buckingham Gate, London; it has 54,500 employees, but only 43% are in the UK, and the vast bulk of these are outside London.

Methodology and caveats – tax

- ▶ **Corporation Tax:** to calculate Corporation Tax collected, we used the same data collection methodology as for employee numbers. Companies have no requirement to specify in which country the tax was paid.
- ▶ **Income Tax and NI:** we used the data collected on employees and divided these numbers into total UK employees to produce a ratio to apply to total tax collected. We assumed that only 75% of SMQC employees were based in the UK.

About Hardman & Co

We are a rapidly growing, innovative corporate research & consultancy business, based in London, serving the needs of both public and private companies.

Our expert team of nearly 35 sector analysts and market professionals collectively has over 400 years of experience. This depth of knowledge and a reputation for integrity have built trust with investors. With effective communication and precision distribution, we help companies disseminate their investment message to interested investors, as well as advise them on strategy.

Our smaller, boutique structure allows us to provide first-class customer service and to deliver a wide range of ad-hoc services for multiple clients with different needs.

www.hardmanandco.com

About the Quoted Companies Alliance

The Quoted Companies Alliance is the independent membership organisation that champions the interests of small and mid-size quoted companies (SMQCs).

We campaign: we campaign on issues that matter to small and mid-size quoted companies to influence policy and regulation. We run seven [ExpertGroups](#) that bring together individuals from companies and advisory firms in the market around specific issues to help shape our policy work.

- ▶ **We inform:** through our guides, events, newsletters and other communications, we arm our members with all the information their businesses demand, allowing them to make the best decisions for their companies.
- ▶ **We interact:** we provide a forum for small and mid-size quoted company directors to network and share ideas with other directors, fund managers, brokers and advisors. Through our [events](#), we help put small and mid-size quoted companies in touch with leading players in the market.

www.theqca.com

About the authors

Keith Hiscock is the Chief Executive of Hardman & Co.

He is personally responsible for the firm's relationships with its corporate clients and also for corporate finance. In addition, he is the author of several articles tackling the issues facing companies in today's climate.

Keith has more than 35 years' stockbroking experience and has developed long-standing relationships with many major institutional investors, including Private Client Brokers and Wealth Managers. He started his career at James Capel, at the time the top-ranked research house in London. He was a founding member of Schroder Securities and of Agency Partners, a leading research boutique house, and was a member of the five-man securities board at Evolution. Keith has also advised companies, large and small, on their relationships with the capital markets.



Yingheng Chen is a senior financial analyst at Hardman & Co.

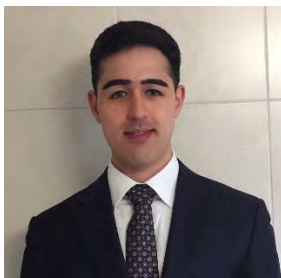
Yingheng has particular experience in the markets for palm oil, cocoa, citrus, coconut, Jatropa and sugar. She worked as a corporate finance analyst at the Agricultural Bank of China, and is fluent in Cantonese and Mandarin. She has a thorough understanding of the Chinese financial and business markets, as well as of those in the UK.

Yingheng joined Hardman & Co in 2008. She holds the Chartered Financial Analyst Level 2 qualification, together with a BSc in Economics from the London School of Economics.



Ben Calvert, intern at Hardman & Co

Ben was awarded a First-Class Honours Maths degree from the University of Warwick in 2018. He made a substantial input to the collection and analysis of data for this report.



Tim Ward, CEO of Quoted Companies Alliance

Tim is CEO of the Quoted Companies Alliance, the independent membership organisation championing the interests of small to mid-size quoted companies. His past roles have included Head of Issuer Services at the London Stock Exchange, Finance Director at FTSE International, the index company, and various management roles at a smaller quoted company. Tim is a Chartered Accountant, has a MBA from Henley Business School and is a qualified executive coach and mentor



Anthony Robinson, Head of Policy & Communications at Quoted Companies Alliance

Anthony is responsible for overseeing policy development, campaigns and stakeholder engagement. He joined the organisation in February 2018. Previously, Anthony worked for the Confederation of British Industry (CBI), covering financial services policy, and was team leader for communications on the organisation's EU referendum campaign. Before that, he was based for six years in Shanghai, China, where he worked with European multinational firms on their Chinese government relations. Anthony has a Bachelor's degree in Politics and a Master's degree in Global Political Economy, both from the University of Sussex.





HARDMAN&CO.



Investment Companies

Understanding the deepest discounts

By Mark Thomas, Hardman & Co Analyst

Table of contents

Executive summary	3
Historical risk: legacy issues	7
Summary	7
Performance: case study PSH	7
Corporate governance: case study OCI	8
Strategic changes: case study LMS	9
New business launch: case study MHN	9
Other legacy issues	9
Prospective risk.....	10
KID stress-test share price risk	10
Cyclicality risk.....	10
Volatility risk	11
Asset illiquidity risk	11
Competition impacting re-investment returns.....	11
Regulatory risk.....	12
Concentration risk by number of investments	12
Diversity risk by asset classes	12
Key staff risk.....	13
Accounting	14
Assumption-driven valuation	14
Impact of mark-to-model or mark-to-market.....	15
Where accounting rules are not helpful	16
Fees	18
Corporate governance.....	19
Majority shareholders	19
Voting structure	19
Related party transactions	21
Discount management	21
Other factors to consider.....	23
Gearing.....	23
Where NAV is the wrong approach	24
KID disclosure.....	24
Sector classification	24
Size	24
Complexity of story.....	27
Appendix 1: company summaries	28
Appendix 2: realisation phase	38
Appendix 3: Hardman & Co tick-sheets.....	40
Disclaimer.....	42
Status of Hardman & Co's research under MiFID II.....	42

Executive summary

At Hardman and Co, we try to answer the questions of why to invest in a company and what the risks are in doing so. For many investors, simply having a deep discount to NAV is a good enough answer to the first question. However, investors need to appreciate the risks and, in particular, the reasons why the shares are at a discount. Having understood those risks, investors need to be convinced that there is a catalyst for change on the part of the manager and how long (if at all) it will take for market sentiment to reflect this in a lower discount. In this report, we examine the companies with the largest discounts and review those very issues.

Our key conclusion are as follows.

Multiple factors compound discount for the companies in this report

- ▶ The largest discounts reflect the compounding effects of multiple factors at play. Indeed, for every company in this report, we have identified more than one issue. While one factor, such as legacy performance, may be the major influence, the discount is materially worsened where other factors, such as corporate governance, play a role. Addressing all the issues is likely to materially accelerate discount reduction.

Legacy issues may have been addressed but investors need convincing

- ▶ In each case where we have identified legacy issues as a factor, the company has either “gone back to basics” or fundamentally restructured – so the outlook is fundamentally different from when the legacy event occurred. As the real risk has changed, the issue for investors is confidence that the manager can improve sentiment and convince potential buyers it will be different going forward.

Other risks include i) asset liquidity, ii) cyclical, iii) competition, iv) regulation

- ▶ There is some correlation between stress-test scenarios disclosed in the Key Information Documents (KIDS), i.e. a prospective share price performance risk measure, and the level of the discount. We caution against over-reliance on this, given the nature of the calculation, and note the many exemptions to this rule. We do believe that some discounts are driven by prospective risks, rather than historical ones. We have identified the following factors: i) illiquid assets; ii) sensitivity of returns to macro drivers, including the cycle; iii) competitive pressures; and iv) regulation. We believe many of these are at least partially built into the valuation of assets.

Company-specific risks in concentration and key staff, which are part of investment case

- ▶ We have identified a range of other prospective issues, including concentration and diversity risk, and key staff dependency. In the main, we believe these reflect the underlying business model of the company and are unlikely to change. While a deterrent to some potential investors, they are also the reason why many of the buyers bought the company in the first place.

Where accounting is driven by assumptions, key considerations are realised prices against last valuation – shows management conservatism

- ▶ We note that the accounting valuation for some of the businesses is driven by assumptions. There are some notable exceptions, such as where the assets are entirely, or nearly entirely, valued off liquid market prices, but several of the companies in this report have illiquid assets valued using models. We believe the key test here is what have been the realised prices relative to recent valuations. This is indicative of management conservatism. It does not mean that future assets will be sold at book, but it is a good indication that there is a cushion should market conditions worsen. It also requires a several disposals to prove consistency in approach.

Understanding the Deepest Discounts

On average, fees higher for companies in this report than for market. However, no correlation between fees and discounts for companies within this report.

Corporate governance an important issue. We estimate non-voting structure could add 5%-10% to discount levels.

Major shareholders and related party transactions also important

Fewer than half the companies in this report used buy-backs in past year

Anecdotally, size important (especially sub- £100m market capitalisation), but no correlation for companies in this report

Only modest gearing in these companies, although likely to be further gearing in underlying investments

Discount to NAV not always best measure when business more of a trading company than investment company

Companies in wind down have very specific features

- ▶ On fees, we note that every company covered in this report has KID-disclosed fee levels that are above the average for investment companies (ICs) as a whole (on average, 3x market levels). However, we also note that there is no correlation between fees and discounts among these companies. KID disclosure is also far from perfect (including, for example, debt financing costs). In addition, we note that the type of asset often requires a higher cost to be managed effectively and gives investors diversified risk. The fees must be considered in the light of risk-adjusted returns, as we believe investors are willing to pay for businesses with a long track record of higher returns, given their superior net return. Overall, we conclude that high fees, in isolation, are unlikely to drive the biggest discounts.
- ▶ We believe corporate governance is an important issue for several companies in our report. In particular, we note situations where the public shareholders do not have controlling votes. We appreciate that, for the companies/management, this could provide further assurance of committed long-term capital, allowing them greater flexibility for conviction investments. However, we note that non-voting shares typically trade at a discount to voting shares. Our analysis indicates that this could account for 5%-10% discounts, compounding the effect of other issues.
- ▶ We also note that major shareholding and related party transactions may have an influence on sentiment, liquidity and potential buybacks – and so on the level of discount.
- ▶ We note that fewer than half of the companies in this report have used buy-back discount-management techniques over the past year. The approaches have varied from single tender offers all the way through to daily dealings. We believe the boards are balancing the obvious advantages of such techniques with the facts that buybacks also i) may not be the best use of capital, ii) worsen expense ratios and leverage, iii) restrict further investments, and iv) send confusing messages to investors and staff. Clearly, the balance is driven by the level of discount.
- ▶ We have also considered, and largely dismissed, a range of other factors, such as:
 - **Size:** Anecdotally, ICs under £100m face greater hurdles, convincing investors of their story. However, we found no correlation between market capitalisation, average deal size or shares traded and the level of discount. We also note that the largest nominal discount is ca.£1bn in a company whose assets are largely valued off liquid market prices.
 - **Gearing:** We note that only a few of the companies in this report have any gearing and only two have debt/preference shares in excess of 80% of equity. More than half have zero leverage. There could, of course, be further gearing within the investments (and this may especially be a factor for private equity) but, at the IC level, we do not believe this is a material factor.
 - **Comparison with accounting NAV:** We note that comparison with an accounting NAV may not be the most appropriate valuation measure, that the KID disclosure may not be helpful, and that sector classification can be issue. We do not believe that these factors are material drivers for all of the ICs' discounts, though.
- ▶ We believe that companies in wind down/harvesting/realisation mode face specific issues around the realisable value of the assets and the likely costs of closure, which can lead to material discounts to NAV. We think these companies should be considered as a specific sub-set given their unique characteristics.

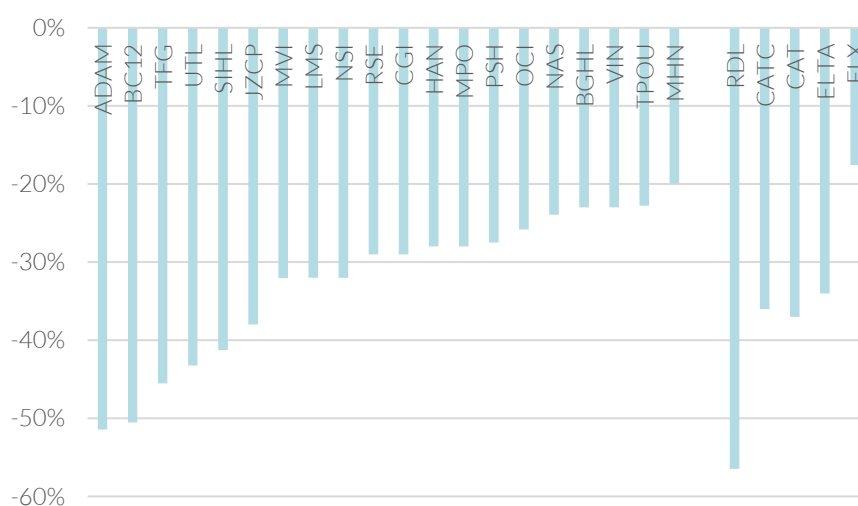
Understanding the Deepest Discounts

Communication hugely important

- For many of the ICs, the investment story has become complicated by the factors above, and historical investors may have suffered the double whammy of falling NAVs and widening discounts. Convincing new investors that it is worthwhile getting to know the details can be challenging. Investors may take time to be persuaded by managers' statements alone. By their nature, some of the issues are complex, and often it is helpful to make cross-party comparisons, which may not be appropriate for only one company. We believe that companies devoting resources to communicating what has been done to the broadest possible audience may be expected to see the reduction in discount significantly accelerated.

The table below shows the discounts for ICs with total assets exceeding £50m. Details of each company, its portfolio and core characteristics are shown in Appendix 1.

Discounts for ICs with gross assets >£50m (%)



Source: Company Report and Accounts, Hardman & Co Research

Understanding the Deepest Discounts

Summary of issues driving discounts	
Issue	Tickers for companies most affected
Historical risk: legacy issues	
Performance, corporate governance, strategic change	ADAM, LMS, MHN, PSH
Other legacy issues (including historically high discount)	CGI, HAN, JZCP, OCI, TFG, VIN
Prospective risk	
Share performance risk (KID stress scenario >60%)	ADAM, BC12, HAN MHN, MPO, NAS PSH, RSE, SIHL, TPOU, MHN
Volatility	
Asset illiquidity	ADAM, BC12, BGHL, JZCP, LMS, MPO, MVI, OCI, RSE, SIHL, TFG, VIN
Cyclical	ADAM, BC12, JZCP, LMS, MPO, MVI, OCI, RSE, SIHL, TFG, VIN
Competition impacting re-investment returns	ADAM, BC12, JZCP, LMS, SIHL, TFG, VIN
Regulatory risk	Mixed
Concentration risk by number of assets	ADAM, BC12, HAN, LMS, MVI, MHN, MPO NAS, OCI, PSH, RSE, UTL
Diversity risk by asset classes	HAN, JZCP, MHN, NSI, TFG, UTL
Key staff	JZCP, PSH, TPOU
Accounting	
Assumption-driven valuation	ADAM, BC12, JZCP, LMS, MPO, OCI, RSE, SIHL, TFG, VIN, TPOU, MHN
Where accounting rules are not helpful	Businesses whose underlying rationale is more operational than investment
Fees	
	ADAM, BGHL, JZCP, LMS, MPO, OCI, PSH, TFG, TPOU, VIN, TPOU, MHN
Corporate governance	
Majority shareholders (top 2 > 50%).	ADAM, HAN LMS, MVI, NSI, UTL
Voting structure	PSH, TFG
Related party transactions	ADAM, NAS
Discount management (programmes executed in past year)	ADAM, JZCP, MVI NAS, PSH, TPOU, TFG, UTL, TPOU, MHN
Other factors to consider	
Gearing (debt/prefs. > 80% NAV)	MPO, UTL
Size (under £100m mkt cap)	ADAM, BC12, LMS, MHN, MPO, MVI, NSI
Where NAV is the wrong approach	Businesses which are really trading rather than investments
KID disclosure	ALL
Sector classification	NAS
Complexity of story	ALL

Source: Hardman & Co Research

Historical risk: legacy issues

Summary

Degree to which legacy issues will impact on discount depends on i) cause of loss, ii) duration of loss, iii) scale of loss, iv) what has changed since, v) churn in shareholder register

We believe investors focus on risk with both a forward-looking perspective and also in the rear-view mirror. The degree to which legacy issues continue to affect the current level of discount will depend on the following.

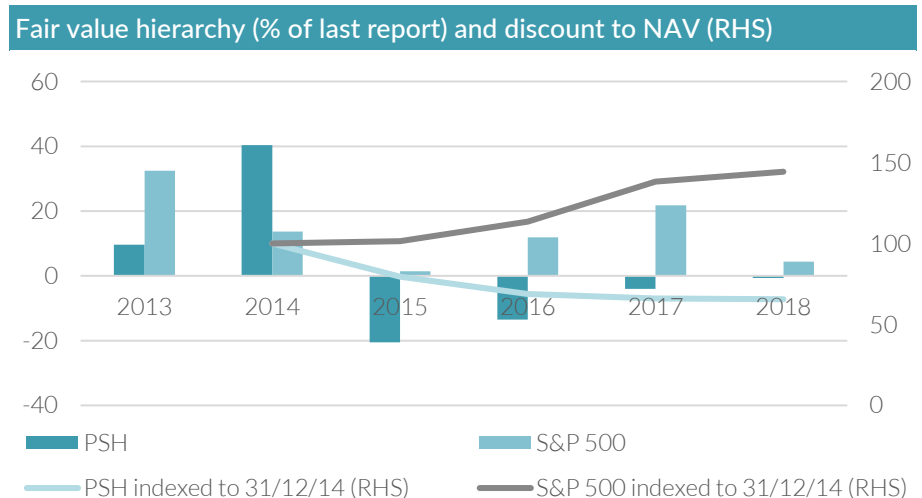
- ▶ The nature of the loss event, and in particular to what extent it was driven by current management action. In many cases, the loss event diverted off the core approach/ principles of the business that may have been re-imposed more recently. Investors need to be convinced that this is the case.
- ▶ The duration of the loss event before corrective action was taken.
- ▶ The scale of the share price correction. Investors will have seen not only a falling NAV but their losses will also have been compounded by a larger discount to NAV.
- ▶ The corporate actions that have been taken post the event.
- ▶ The churn in shareholder register. If there remain significant numbers of shareholders who have suffered the loss, and have been scared by it, there may be more sellers into future share price rallies

Performance: case study PSH

PSH discount ca.£1bn for business where NAV is market price-driven (and so "clean"), the shares are liquid, and long-term performance has been excellent

We see some element re voting structure and a concentrated portfolio, but main driver is poor performance in 2015-17

Pershing Square Holding's (PSH's) market capitalisation is ca.£3bn, but it trades at a discount of 28% to NAV. It has delivered a 40% year-to-date (YTD) to April NAV accretion in 2019 but the discount has been stable – the widest in the company's history. As we note in the section on accounting below, the NAV is market price-driven and not assumption-driven (89% of assets are on a level 1 accounting basis and have open and liquid markets, with the residual 11% on level 2 where there are significant observable inputs). The shares are highly liquid (66 million shares traded on the LSE alone in the year to end-March 2019). So what is driving the discount? We estimate that ca.5%-10% may be attributable to the voting structure (see section on corporate governance below) – and it is a highly concentrated portfolio – but there remains a huge nominal discount, which we believe relates to historical performance under a different investment regime.



Source: Company Report and Accounts, Hardman & Co Research

Understanding the Deepest Discounts

Loss from investments undertaken away from core principles, and, as a long-term investor, positions held over extended period, despite further losses

Changes since i) return to core investing principles, with performance in 2019 YTD 40%, ii) improved corporate governance, iii) tender offer, iv) quarterly dividend

Stellar 2019 performance, given exit option to investors pre-loss, but also led to profit-taking by recent investors

OCI has changed several aspects of its corporate governance, which, over time, has seen the discount partially reduce

As can be seen in the chart above, after a strong 2014 (returns 3x S&P 500), PSH reported significantly weaker returns in 2015 through 2017. PSH's approach had been well established, since it started private funds in 2004, but it has highly concentrated portfolios. Just two positions drove the 2015-17 performance. Closer examination shows that the business had diverted from its historical and successful investment philosophy. One situation was a significant short, while PSH primarily had been long, and the other was where there was a trusted management team, rather than one where PSH would go in with its own form of activism. As a long-term investor, PSH held its positions for an extended period, and the losses were significant. Investors on the share register before this time would have seen not only a significant NAV reduction but also a much-widened discount.

Since then, the group has:

- ▶ delivered a stellar start to 2019 (YTD to end-April +40%);
- ▶ focused its investment style back to its core approach, which had delivered significant outperformance against the S&P since 2004;
- ▶ transformed its board, with two new non-executives recently joining;
- ▶ undertaken a \$300m tender offer and removed ownership limits – allowing management and affiliates of the group to increase their holding (now over 20%); and
- ▶ introduced a quarterly dividend.

Despite these actions, the discount remains at historically high levels. We believe this reflects the facts that i) investors who may have suffered through 2015-17 have sold into the 2019 recovery with a rising share price reducing historical losses, and ii) newer investors who have taken profits have achieved very significant short-term gains. The business message we take from this is that it takes time for legacy issues to be over-turned when losses have been significant and extended. A spectacular performance in the short term may see profit-taking opportunities, rather than be sufficient to re-establish management credibility.

Corporate governance: case study OCI

We note that OCI (current discount 26%) had a number of corporate governance issues, where the outlook is now very different from the past. There has been some progress, with the discount falling from 33% at end-2017 to the current level of 26%. These include:

- ▶ A perceived lack of clarity over the relationship between OCI and other Oakley Capital managed funds. In particular, ca.20% of OCI was at one stage in Time Out, whose value fell by half. While the value was falling, there may have been the perception that OCI was co-investing in the poor performers, while the Oakley Capital funds kept the best. Such a perception may have also reflected the historical position, where Oakley partners were significant investors in the fund but not in OCI. Management believes that Time Out will now start to show operational improvements, which will drive a rising valuation and disprove this point, and it now owns 5% of the stock, more visibly aligning its interest with shareholders.
- ▶ Placing the shares at a discount to NAV (stopped in 2017).
- ▶ A new NED appointment to board (most recently Stewart Porter in September 2019), improving board independence.

Understanding the Deepest Discounts

- Disclosure has improved, with the 2018 results presentation being 46 pages-long, and the report and accounts has doubled in length over 2017. We understand that OCI commenced an investor communication programme in 2017 and, in the last 18 months, has met with more prospective investors than in the previous eight years. OCI has also opened its doors to sponsored research.

A change from realisation to re-investment can take time

Strategic changes: case study LMS

An example of a business that has undergone a major strategic change is LMS. On 27 July 2016, the company announced a change in its investment policy, from a realisation policy to a new policy focused predominantly on private equity. It also appointed a new manager (Gresham House), and made significant tender offers in both August 2016 and August 2017, as it disposed of assets. The sale of some residual assets took some time, with the company only generating material cash resources in 2H'18. At end-2018, it held £17m in cash (current market capitalisation £41m, latest NAV £60m, resulting in an implied discount to non-cash items of ca.45%, rather than the headline 32%). We believe investors are waiting for evidence of deal flow before giving greater credit for the strategy.

Need to establish good track record from start, with clear investment process

New business launch: case study MHN

MHN management will acknowledge that, when the company was originally launched, there was perhaps too much focus on the logistics of establishing the business and rather less on the management of assets. A clear investment objective had been created (investing in businesses, and delivering or benefiting from the efficient use of energy and resources), but the actual asset management was significantly outsourced. This led to investments being made that would not be undertaken with the investment process having been in-sourced. Performance has subsequently improved, but there remains the legacy sentiment around the original performance.

"it's always been at discount and always will be" sentiment may see discount for a while, but we do not believe that, in isolation, this can sustain discounts over the long term

Other legacy issues

Anecdotally, one issue for private equity houses and some specific stocks (e.g. CGI, TFG) is the perception that they have always traded at a discount and therefore will continue to do so. We note a number of reports that make comparisons between the current rating and the average historical level of discount, but we are sceptical of this argument, in isolation, being a cause for sustained discounts over the long run. We acknowledge that investors may take more time to be convinced as to what are the real risks when there has been a large historical discount but, over time, we believe the value will out. By way of example, we note the performance of RIT Capital Partners, which, for most of 2009-14, traded at a discount to NAV (average year-end discount 4.2%), but which has since traded at a premium (average premium 6.9%).

RIT premium/discount to NAV (%)										
Year-end Dec	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Premium/discount	-5.0	-8.3	+1.4	-5.0	-9.0	-5.8	+6.9	+9.0	+6.7	+4.9

Source: Company report and accounts, Hardman & Co Research,

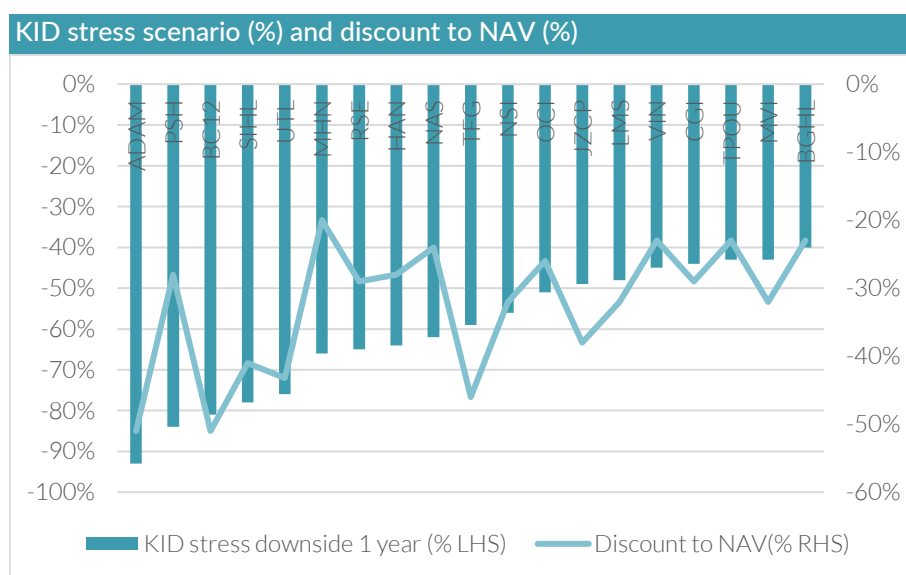
Prospective risk

Where a fund has seen a challenging underlying market or one that is perceived as challenging/uncertain, there will be a higher discount than for more stable businesses. For example, if there were insurance events implying that catastrophe risk claims would be made, CAT Re-insurance Opportunities Fund would be likely to fall and a higher-than-average discount applied to reflect continued uncertainty. In the section below, we examine issues that could drive this risk and what investors should look for to project it.

KID stress-test share price risk

In our group, higher stress test losses broadly see higher discounts

We share many companies' concerns about the direct comparability of KID disclosure. Noting that the scenario tests are based off historical share price movements and not likely NAV changes, it may nonetheless give an indication of how investors may consider prospective risk. The table below suggests broad indications that those with the highest stress downturns are trading at the highest discounts.



Source: Company, Hardman & Co Research

Not a clear relationship, as some companies with large stress downside trade at premia

We caution against over-reliance on this correlation, though. The correlation coefficient, at 0.59, is not statistically significant. We also note that several of the companies in our recent debt IC review, which are trading at a premium to NAV, also have significant stress downsides (e.g. RMDL: stress scenario -54%, premium to NAV 4%, GCP Asset-Backed stress scenario -54%, premium to NAV 7%).

Cyclical risk

Cyclical stocks may trade at discount when economy likely to turn, as future value of assets may be less than current value

A further consideration in terms of outlook can be the perceived sensitivity of the company to macroeconomic cyclical. Private equity business accounts for 24 (i.e. 5%) of the 457 IC instruments listed by the AIC but, in this report, they account for six of the 25 instruments (i.e. 24% of the total, 29% excluding ICs in wind down mode). One factor driving this may be their perceived sensitivity to the economic cycle. We noted in our *debt investment company review*, published on 25 February 2019, that debt ICs, which may also be considered as cyclical, on average trade at only a small discount to NAV (then 4%, now 3%). We believe other considerations, in addition to cyclical, come into play, and these include issues like gearing in the underlying investments (not that gearing at the IC level is low – see section on other issues below). We note that OCI and MVI both believe their portfolios are defensive/non-cyclical

Understanding the Deepest Discounts

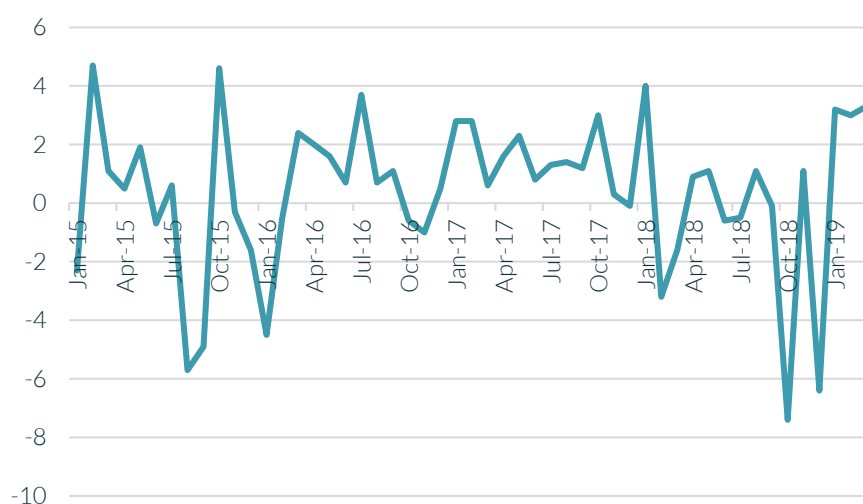
(and MVI notes very low gearing in its underlying investments). The largest PE company (3i) trades at a premium, but we still believe that, for smaller players, there may be sector cyclical sensitivity. This may be addressed by further communication of their own specific portfolios' outlook.

Volatility risk

Monthly volatility may be unwelcome

Company-specific volatility may also be factor. We note that, in just four of the 51 months from January 2015 to March 2019, Third Point Offshore Investors delivered a return of under +/- 0.5%. In contrast, it has had 18 months where its performance has been more than +/- 2% in the month.

Monthly return Third Point Offshore Investors (%)



Source: Company, Hardman & Co Research

Asset illiquidity risk

Illiquid assets harder to value, and uncertainty over their value leads to a discount

While consideration of the liquidity of the asset should be included in its valuation, investors are likely to require a bigger discount with illiquid assets, as the likely bid-offer spreads in a forced sale are likely to be much wider than for liquid assets, and this may not be captured in the ongoing valuation calculation.

Competition impacting re-investment returns

May be some concerns about re-investment opportunities and returns when a sector is seen as highly competitive

A further consideration on future performance is the degree to which returns may be under pressure because of intensified competition. In practice, this will impact on re-investment risk, rather than returns from historical investments, and thus the speed at which a portfolio churns will be an important consideration. We note, by way of example, the comment in SIHL's 2018 report and accounts: "We have paid out attractive dividends in recent years because the deals we were seeing were overpriced and returning excess capital to shareholders seemed the prudent thing to do." These conditions can change – indeed, the 2018 report and accounts went on to say that the conditions had changed in Asia – but investors need to be convinced that the change is real. Investors need to understand the market positioning of each company. While there has been press coverage of competition in the private equity market overall, OCI reports that, in its chosen niches, market conditions remain good.

Understanding the Deepest Discounts

Increased competition may be positive for the current NAV (if it bids up asset prices). However, if investors are worried that the IC will not be able to re-invest and so go into realisation mode, any discount is likely to increase.

Regulatory risk

Regulatory risk may be on assets or the company itself

Regulatory risk, including government policy changes on issues such as nationalisation of utility assets, may apply to the underlying assets or the vehicle itself. One factor underlying the discount at CATCo Reinsurance Opportunities Fund Ltd could be the ongoing US and Bermuda government enquiries into loss reserves recorded in late 2017 and early 2018 by Markel CATCo Investment Management Ltd ("Markel CATCo"), the company's investment manager, and its subsidiaries. While the company states that "the internal review, which was conducted by outside counsel, found no evidence that Markel CATCo personnel acted in bad faith in exercising business judgment in the setting of reserves and making related disclosures during late 2017 and early 2018," investors may consider that an ongoing review of this type introduces an uncertainty that requires a discount. The business is now in run-off.

Concentration risk by number of investments

Highly concentrated portfolios have advantages of specialism, but isolated situations can then have dramatic impact on performance

We see a highly concentrated portfolio as both a positive and negative.

- ▶ On the upside, focus in a narrow field is likely to enhance core competency in that field. In our report, [*debt investment company review*](#), we noted that specialist lenders were at a below-average discount and were delivering lower yields than the average debt investment company.
- ▶ On the downside, concentration within a few assets or on one asset class clearly means that any adverse movement in just one or two names can materially affect overall performance.

Diversity risk by asset classes

Diversity can also be a risk:

- Investors do not know where to place the investment
- Investors can achieve their own diversity if they want to
- Need to ensure investment skills appropriate for each asset

Somewhat ironically, we can also see diversity as being a risk. In particular, where there is a diverse portfolio, it becomes harder for investors to allocate the company into an appropriate bucket. A lack of portfolio focus is especially important, unless the asset manager has significant resources to be deployed across a broad range of assets. We also believe that investors can achieve their own diversity, so that any business claiming this as an advantage needs to prove why there is incremental benefit by the company being diversified.

Some companies are obvious candidates to suffer from diversity risk. Companies in the AIC "Flexible Investments" sub-sector account for a disproportionately high number of companies in this report (HAN, JZCP, NSI, TFG, UTL). We would also argue that a company may have a clear investment vision, but the execution of this vision then creates diversity. For example, MHN is clearly focused on investing in businesses, and delivering or benefiting from the efficient use of energy and resources. The execution of this strategy has led to major investments in such diverse companies as Airbus through to Alphabet, and we believe investors may question the degree to which a small team can appreciate all the investment nuances of such a broad range of companies.

Diversity risk by asset class should be reduced where a company either has the scale to have resources to identify specific issues (e.g. TFG) or where the number of positions is very limited, and so there is more time available for each investment (such as MHN).

Key staff dependency creates operational risk but also, potentially, sentiment risk

Key staff risk

Again, having a star manager is a benefit when times are good, but can be a detriment when not. The Woodford Patient Capital Trust moved from a ca.15% premium to NAV in summer 2015 to broad parity in mid-2017 and to a near 20% discount in March 2019. During this period, the NAV itself was broadly flat, and it was only the rating that changed dramatically. Sentiment to the star manager can be hugely important.

Accounting

The key issue here is whether investors actually believe that the NAV, as reported, is a realistic reflection of the realisable value of the assets. Where there is no market price, and so judgement plays a more material part of valuation, we believe the market is more likely to apply a material discount.

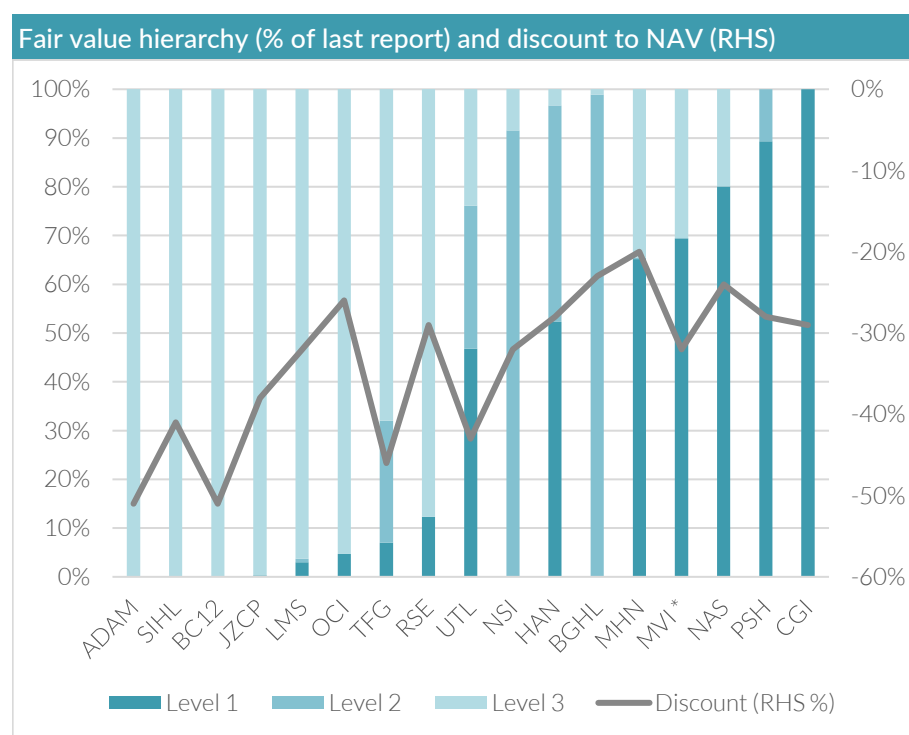
Assumption-driven valuation

One measure of external verification is the fair value hierarchy disclosed under IFRS 13 (Level 1, Level 2 and Level 3):

Level 1 accounting means assets are priced off liquid market prices – may not be actual price achievable, but most comfort in this level of valuation. CGI 100% level, PSH 89% and NAS 80%.

- ▶ Level 1 – quoted prices in active markets for identical investments that BGHL has the ability to access.
- ▶ Level 2 – valuations based on other significant observable inputs (including quoted prices for similar investments, interest rates, prepayment spreads, credit risk, etc.) or quoted prices from inactive exchanges. Forward contracts are valued primarily based on market observable inputs, such as a share price or forward foreign currency curves at the balance sheet date.
- ▶ Level 3 – valuations based on significant unobservable inputs (including a company's own assumptions in determining the fair value of investments).

The chart below indicates this disclosure. Among the companies in this report, there are many with 100%, or close to 100%, Level 3 valued assets (i.e. assumption-driven), but only a few whose assets are either fully or nearly fully priced off quoted market prices in active markets. There is a slight, but not statistically significant, correlation between the proportion of Level 1 accounting and the level of discount, suggesting that investors gain some comfort from market-driven prices.



Source: Company Report and Accounts (*MVI on look-through basis. In the accounts, the holding in the Master Fund (which holds the assets) is treated as a Level 3 investment, even though the majority of underlying assets are based off market prices), Hardman & Co Research

Understanding the Deepest Discounts

Where level 3 used, we recommend investors consider realised prices that have been compared with valuation

May not reflect achievable prices if market conditions change, but does show management conservatism

Each company whose valuations are based off a company's own assumptions asserts the external verification of the values by auditors and other third parties. We believe one key question is 'what is the actual sale value of assets relative to their book value pre-sale?' We note, for example, that OCI's four exits in 2018 were at a 36% premium to the book value. Over the life of the OCI fund, the average premium at exit is 25%. Similarly, slide 21 of [JZCP's 8 May 2019 results presentation](#) shows an average accounting NAV discount to exit price of ca.20%, and we believe this is not an uncommon track record among listed PE peers.

This question's value is in establishing management conservatism. When used to forecast the realisable value, we need to bear in mind that sales conditions may not continue at the same level in the future.

It is also worth noting that an IC holding assets in a Master Fund may level 3 account for them, even if the underlying assets are mainly marked to a liquid market. This applies to MVI, which, in its accounts (page 36) reports 100% of financial assets at level 3 accounting, but all of MVI's underlying portfolio companies, except one, are publicly listed companies, and so are valued based on their market share price. Over two-thirds of the value is in businesses with liquid markets, which would be treated as level 1 if they were invested in directly.

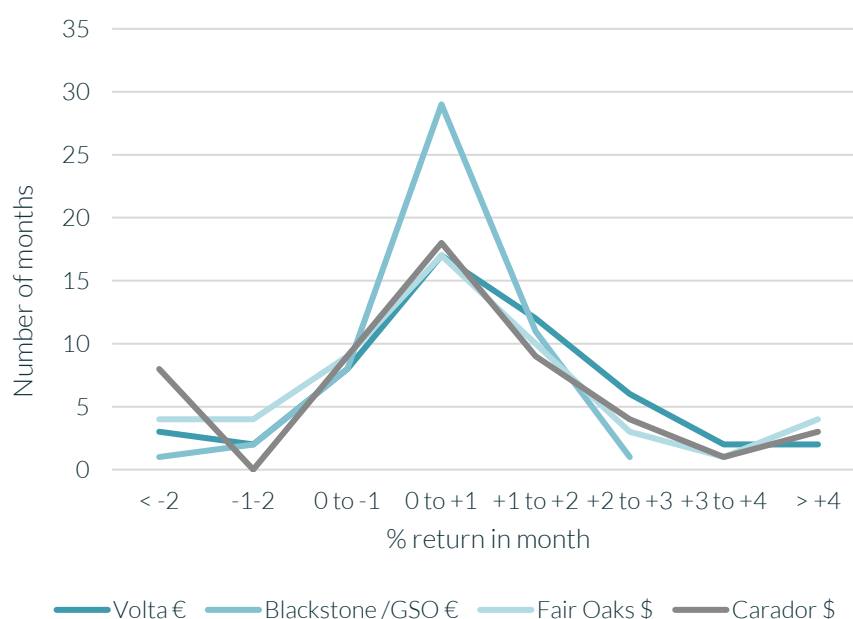
Impact of mark-to-model or mark-to-market

Investors need to clearly understand how the basis of accounting impacts the valuation of the fund. Some of the key considerations include the following.

Merits in both approaches

We see merits in both marking to market and marking to model. The latter better reflects the expected long-term cashflows that the investment company may expect to earn. It is free from the potentially extreme sentiment-driven price movements that create unnecessary and unrealistic NAV volatility. However, such an approach does not reflect the likely value of assets if the investment company becomes a forced seller.

CLO companies: number of months with different returns over past five years



Source: Company Factsheets, Hardman & Co Research

Understanding the Deepest Discounts

Mark-to-market companies likely to see more volatility

NAV returns on marking to model are likely to be significantly less volatile than returns on marking to market. Taking the CLO funds by way of example, Blackstone GSO is the only one that marks to model and, as can be seen in the chart below, it has had twice the number of months when it has delivered monthly returns in the range of 0%-1% compared with the other CLO companies. It does not have the same outliers, so in periods when markets are scared and writing down assets, its NAV does not show the same drop as those marking to market. Also, in periods when markets are scared, its discount to NAV may be expected to rise relative to peers (as its NAV will not have fallen to the same degree). We believe the current relative discount is illustrative of this.

Statutory accounts for mark-to-market companies need adjusting to see real dividend cover

Where accounting rules are not helpful

The statutory accounts for some companies are not helpful in that they mix volatile, mark-to-market capital movements into the income statement. This creates not only a lack of visibility for each company but also makes comparisons between companies less robust. It may, therefore, be appropriate to consider creating adjusted accounts that strip out these anomalies, and get a better perspective of the underlying profitability and dividend cover.

We would typically strip out i) unrealised gains/losses, ii) FX movements and iii) net gain of IR derivatives, and adjust management fees to the new level of profitability

By way of example, on page 41 of our report on Volta, Delivering the structured finance opportunity, published on 5 September 2018, we outlined the adjustments we made to get a clearer view. We stripped out i) unrealised gains/losses, ii) FX movements and iii) net gain of IR derivatives. We left in realised gains, which, although volatile, have been converted into cash, and some capital gains may be expected to form part of the normal course of business. We also backdated the current management fee structure and adjusted it to the new level of profitability. We believe that, after these adjustments, investors have a much clearer view on the real extent to which the dividend is covered.

Impact of Hardman & Co adjustments on Volta Finance dividend cover, 2014-20E

€	2014	2015	2016	2017	2018E	2019E	2020E
Dividend	0.60	0.62	0.62	0.62	0.62	0.62	0.62
Statutory EPS	1.22	1.31	0.34	1.06	0.62	0.90	0.92
Statutory div. cover (x)	2.0	2.1	0.5	1.7	1.0	1.5	1.5
Hardman & Co adj. EPS	0.82	0.98	0.80	0.77	0.84	0.90	0.92
Hardman & Co div. cover (x)	1.36	1.58	1.29	1.24	1.36	1.45	1.49

Source: Hardman & Co Research, Volta Finance

FX accounting may not be helpful

In our report on debt ICs, *Diving deep finds you the treasure*, published 25 February 2019, we also considered how leasing accounting was not helpful to investors. Investors should also be aware that accounting for foreign exchange for leasing companies leads to distortions when comparing NAV. We consider that there is an artificial variance, as the accounting does not capture all cashflows at the same exchange rate (see leasing section in this report for more detail). The effect can be highly significant. By way of example, the Amedeo Air Four Plus (ticker: AA4) September 2018 interim accounts reported that the group saw a £116m unrealised foreign exchange loss. This can be compared with:

- ▶ a £110m unrealised gain in the prior year comparative;
- ▶ post-finance-cost, pre-tax profits of £33m; or
- ▶ period-end net assets of £593m.

Understanding the Deepest Discounts

MPO adjusted NAV 30% above accounting

We also note that the basis of accounting can make dramatic differences. Taking MPO as an example, under IFRS rules, its stated NAV was \$143m at 31 December 2018, but its adjusted NAV, where all properties were fair valued by independent professional valuation firms, was \$188m. The discount on IFRS is 28% while, on the adjusted basis, it is just 14%, and below the threshold for this report.

Understanding the Deepest Discounts

Fees

Average fees for companies in this report
ca.3x market average, but:

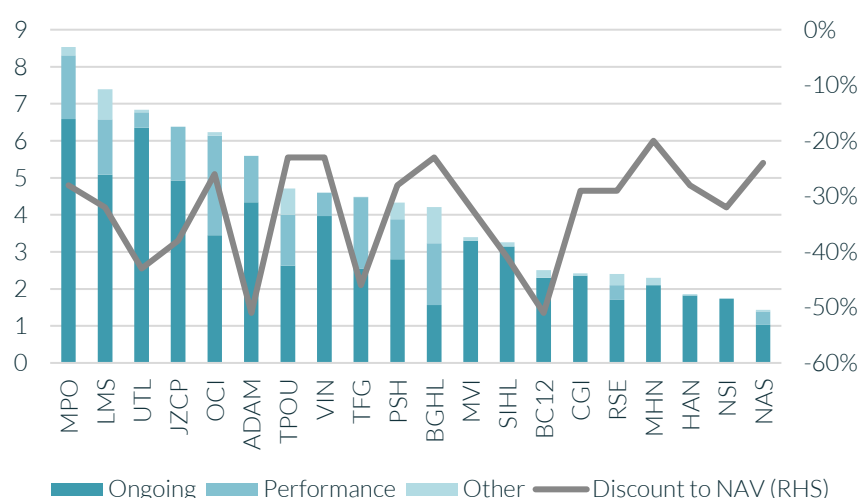
- No correlation between fees and discounts for the companies within this report
- Need to be considered against risk-adjusted returns

Our conclusion: fees alone not a key driver to discounts for companies in this report

For some investors, the level of fees is hugely important. The average ongoing fees disclosed in their KIDS by the continuing companies in this report is 3.1%, which compares with an average for all ICS of just over 1%, we believe. The underlying message is that the highest discount companies do have higher fees.

We understand that, in the institutional market, there has been some focus on the KID cost disclosure, making it an important element of sensitivity. In the table below, we therefore show the KID-disclosed costs and discount level. Investors should be aware that the KID disclosure on fees is not what many people may understand it to be. For example, UTL reports an ongoing fee cost of 6.35% in its KID, but this is significantly due to i) including the financing cost of its preference shares, and ii) the fact that it charges fees on gross assets while the KID disclosure apportions costs to net asset. As a geared business, UTL's costs appear much higher on the KID basis than the 0.5% of gross assets actually charged.

Impact of ongoing, performance and other fees on investment returns (%), and discount to NAV (%)



Source: Company KIDS, Hardman & Co Research

We note the following.

- Fees should be considered in the light of returns, not simply at the gross fee level. Investors should be more willing to pay higher fees where they are confident that even more superior returns will be earned.
- The correlation co-efficients between total/ongoing charges and levels of discounts are -0.172 and -0.186, respectively. Within the companies in this report, there is thus no correlation between the discount to NAV and fees, and this can be seen visually in the chart above.
- Many of the businesses in this report offer investors exposure to underlying assets that are not correlated to returns they may expect on, say, equity or debt portfolios. The nature of the underlying asset is more complex, and thus incurs higher costs, but this may be a necessary cost to achieve the diversity of portfolio that it can create.

Accessing assets not correlated with equity/fixed income indices has a value for investors, and fees may be necessary to get this benefit

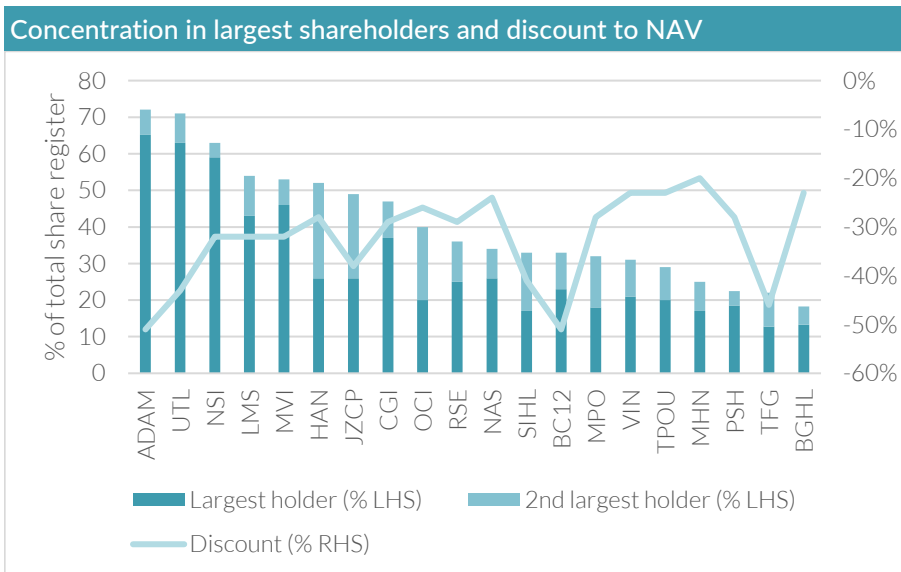
Our conclusion is that higher fees, in isolation, are not the driver to the level of discount.

Corporate governance

Majority shareholders

Many of the ICs with deepest discounts are those with significant shareholder concentration

Majority shareholders create potential control issues, and this reduces liquidity. It can also mean that buy-back options are severely constrained – if not impossible. These are all issues that may deter potential new investors. However, we would also argue that, where the largest holders are management and so there is clear alignment between them and other shareholders, this should be less of an issue.



Source: Company website, Hardman & Co Research

Voting structure

Some of the largest nominal discounts (PSH, TFG) are with companies where public shareholders do not have voting control. In both cases, there is significant management financial alignment with shareholders.

Examples of companies with control outside the quoted shareholders include two of the largest companies in this report – PSH and TFG. There are obvious disadvantages in such structures, but also some upside. Being free from short-term market sentiment means these companies can take long-term conviction positions to add value. In principal, this is the same as the permanent capital offered by close-ended ICs, and we estimate that close-ended funds have added, on average, 1.4% p.a. to returns over the long term over open-ended ICs.

These structures are common where managements have material financial interests that are closely related with those of investors. Taking TFG as an example, while the quoted shares do not carry votes, management investment in the business is equivalent to 27% of the company; in PSH's case, it is in excess of 20%. We believe that there is a clear alignment between the interests of non-voting shareholders and managements, and so investors should not be unduly concerned by the voting structure.

Investors need to understand details of structure. In PSH's case, the independent 50.1% vote holder is legally obliged to act in interests of shareholders and sees public vote in advance

It is also worth digging into the detail of the PSH voting structure. The VoteCo share plays a role in maintaining PSH's status as a Passive Foreign Investment Company from a U.S. perspective. We understand that the VoteCo corporate documents require its directors to vote the share in the best interests of shareholders as a whole, and that VoteCo directors see the results of the public shareholder votes before making their decisions. While it is still possible for VoteCo to go the other way, its directors would have to do so while adhering to their responsibility to vote the shares in the interests of all shareholders. By way of specific example, a change of manager

Understanding the Deepest Discounts

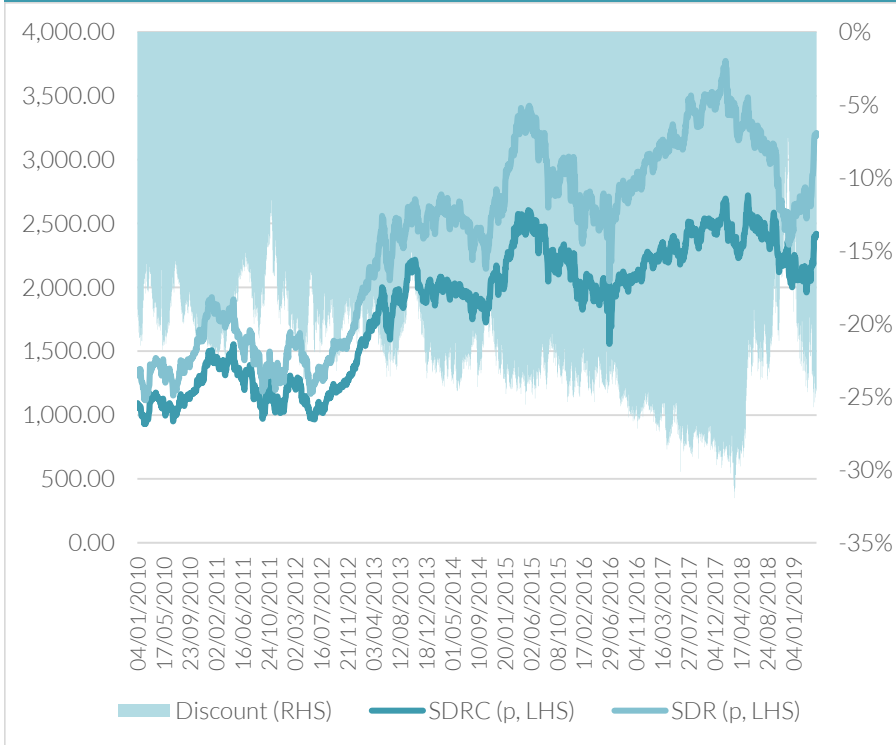
requires two-thirds' shareholder approval of all shareholders (including VoteCo) and two-thirds' shareholder approval of public shareholders. If this "super-majority" of public shareholders have stated they want to change manager, we believe it would be a high risk for the directors of VoteCo to vote against. Management characterises the spirit of the structure as ensuring compliance with the regulatory environment, rather than a control mechanism to protect its own incumbency. Knowing the detail that VoteCo's own rules require it to vote in shareholder interests, and the fact they know public shareholder votes in advance, means that there is a high hurdle for them to vote against the public shareholders. This supports the management's characterisation and significantly reduces (even though it does not completely eliminate) the probability that public shareholders' decisions will not be followed.

We also note that HarbourVest Global Private equity enfranchised its shares when it moved to the main FTSE listing in autumn 2015. At the time, the discount to NAV ranged from 12% to 20%. There was a small improvement in discount over the period (which may also have been associated with being main-market-listed) but it reversed within a few months. The current discount is ca.17%. It is, of course, impossible to say what the rating would have been had the old voting structure been maintained but, in this case, enfranchisement did not lead to a visible change in the discount.

Schroders non-voting shares traded at 22% discount to voting shares since 2010. Given management alignment, we believe much smaller discount is relevant for PSH and TFG.

Given the scale of the businesses whose public shares are non-controlling, we have considered another large UK company with non-voting shares to try to quantify the effect of any discount. We note that, since the start of 2010, Schroders non-voting shares have traded at an average discount of 22% to the voting shares, with the range of discount being 6% to 32%. Given the financial alignment of managements in both PSH and TFG, we would expect the effect to be much smaller than this. We also note that PSH historically traded on a much smaller discount, even when it had the same voting structure. This suggests to us that the voting structure may account for a discount in the range of 5% to 10% for these companies.

Schroders voting & non-voting share price (p) and discount of the non-voters (%)



Source: Company website, Hardman & Co Research

Related party transactions may be best option financially, but likely to raise questions

Related party transactions

The presence of material related parties in complex transactions may achieve the best financial result for the investment company but may also lead to questions. We note, for example ADAM's [*release of 15 June 2018*](#), where the company stated, "On 15 September 2017, ADAM announced the disposal of the GP Interest to Fortune for cash consideration of US\$15.6 million. The GP Interest was transferred to Fortune at that time with the cash consideration due within 120 days.Payment was delayed and on 27 April 2018 the Company announced that it had been notified by Fortune that, as a result of a change in the identity of the principal investor in a fundraising being undertaken by Fortune, it was no longer in a position to complete the acquisition of the GP Interest on the agreed terms". It went on to say, "The revised terms, contained in a deed of amendment to the original sale and purchase agreement, involve a cash payment to be made by Fortune to the Company of US\$3 million", and "Due to Fortune being managed by affiliates of Adamas Asset Management (HK) Limited, which also manages the Company's largest shareholder, Elypsis Solutions Limited, the Disposal is classified as a related party transaction under the AIM Rules."

Discount can be helped by buy-backs, but this can create liquidity issues, worsen expense ratios and send mixed messages re growth prospects

Discount management

There are a number of tools that can be used to manage the discount. Many companies have policies that allow them to buy back shares if the discount is above a certain level for a specified time. Others use intermittent tender offers. We believe the key considerations are as follows.

On the upside:

- ▶ It creates a buyer for the shares. The immediate effect of a large tender offer may be more effective in removing potentially bulky sellers. If future offers are expected, it may also mean that such sellers do not continually drip shares into the market. Where there are likely to be a larger number of small-sized sellers, an ongoing programme may be more effective.
- ▶ The liquidity provided by buy-backs may encourage buyers, as it provides them with an exit route without disrupting the market price.
- ▶ It may be perceived as putting a cap on the discount, which the market might then close itself.
- ▶ It is "fairer" to all shareholders. A seller may arise for specific reasons (such as death, divorce or liquidity calls) and, by keeping the discount tightly controlled, such sellers do not lose out to discount variability.
- ▶ Where the discount is large, the returns on the cash used in the buy-back may be above the levels targeted in the investment company.

On the downside:

- ▶ It could create liquidity problems. We note, for example, that, in the NSI report and accounts, "The Directors review regularly the level of discount; however; given the investor base of the Company, the Board is very restricted in its ability to influence the discount to net asset value." With a 59% majority shareholder and a small trading volume, buy-backs of any scale are simply not practical.
- ▶ The capital can be better deployed in the fund.
- ▶ By shrinking the business, it worsens the total expense ratio, and increases leverage where there is debt.

Understanding the Deepest Discounts

- ▶ It sends a very mixed message, to investors especially, if the company later comes back to the market for further equity funding.
- ▶ It can also send a very mixed message to staff. We note that, in its results call, JZCP, when announcing a buy-back and debt repayment plans, very clearly outlined why it would not be shrinking the business by still originating assets but placing them in a different vehicle.
- ▶ Active buy-back programmes may reduce the likely return of capital by way of dividends, and thus benefit capital investors over income ones.

PSH noted direct example where deploying cash in investments yielded more than a buy-back at a 15% discount

We note, for example, the PSH comment in its 2018 Report and Accounts, "The potential accretion to NAV per share from such a purchase would be small relative to the return that we believe could be earned by investing the capital in an existing or newly identified investment ... For example, in July of last year, PSH invested \$495 million in Starbucks at an average price of \$51.30 per share. To date, the Starbucks purchase has increased NAV by 476 basis points. Had we instead used the same \$495 million to complete a second self-tender for PSH shares would have created an immediate 236 basis point increase in NAV, the benefit would have stopped there. The accretion in NAV would have been less than half the 476 basis points increase in NAV created by the Starbucks acquisition, which had the additional benefit of reducing, rather than increasing, our leverage."

Fewer than half the companies have had active programmes in past year

We note that the companies in this report have undertaken a range of buy-backs over the past year, ranging from significant one-off tender offers through to moderate one-off purchases and ongoing/daily programmes. Fewer than half the companies have had active programmes.

Company approaches to buy-backs over the past 12 months

Approach	Companies
Significant tender offers/one-off buybacks	PSH, TFG
Moderate one-off purchases	ADAM, NAS, OCI, UTL
Ongoing/daily programmes	JZCP, MVI, TPOU
None during past year	MPO, LMS, RSE, NSI, CGI, HAN, ELX VIN, BGHL, BC12, SIHL, MHN

Source: Companies, Thomson Reuters, Hardman & Co Research

Other factors to consider

Gearing

Anecdotally, investors do not like gearing in ICs, except where the asset class is very clearly low-risk

Gearing acceptable, we believe, if structured so that company cannot be driven into position of being forced seller of assets

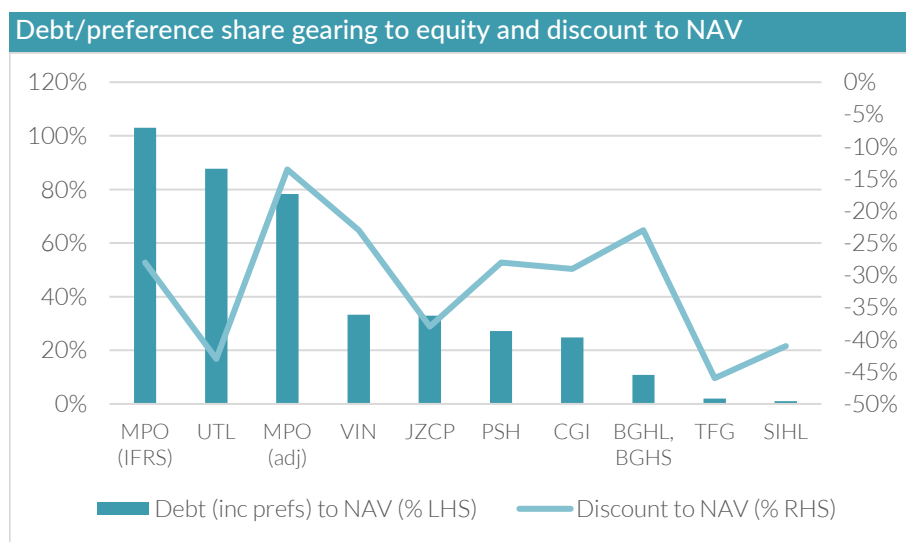
Gearing sensitive to performance – PSH debt as percentage of equity gearing will be down 40% YTD

We note the potential for ICs to gear up returns through leverage in the fund. Anecdotal evidence is that investors are cautious about structural gearing, unless the assets are perceived as being extremely low-risk (for example, Real Estate Credit Investments is trading at a 6% premium to NAV, with debt financing at 40% of NAV). We believe that JZCP is sensitive to this issue. In its 8 May 2018 results, it announced, *inter alia*, a plan to repay \$100m debt, and that its goal was to redeem its preference shares and unsecured loan stock on maturity in two to three years. In order to conserve cash for these strategic initiatives (and a \$100m buy-back programme), it will be investing in fewer new deals or investing a smaller percentage in each new deal.

While we acknowledge the impact on sentiment, we are, in principle, not opposed to gearing, but we believe it should be carefully managed and with consideration, as we suggest below.

- ▶ Does the principal repayment pattern create liquidity strains that could see the business become a forced seller of assets? In this regard, the principal cashflows from this need to be considered in the light of other cashflows generated by the business and its other financing options.
- ▶ To what extent are there covenants that could also drive the business into being a forced seller of assets? We note, for example, that one of the reasons UTL has chosen the Z preference share option is because it is a covenant free. While such funding may be a little more expensive than bank debt, it comes with fewer constraints.
- ▶ To what extent is the debt permanent? Again, taking UTL as an example, gearing has fallen from ca.160% five years ago to 88% at end-2018, to ca.70% now.

The companies with gearing at the investment company level are detailed below. These figures have been taken from the last report and accounts. Where there has been a significant performance (e.g. PSH 40% YTD), the gearing level would be smaller, and we understand that UTL is now under 70%. JZCP's announcement will lead to much-reduced gearing in due course. Overall, we believe that gearing at the investment company level is a very specific company and sentiment risk issue.



Source: Latest company financial report, Hardman & Co Research

Understanding the Deepest Discounts

Investors may also look to gearing in underlying investments

We noted earlier the high percentage of private equity companies within this report. The degree to which there is gearing in the underlying investments could be, in part, an explanation for this. Unlike traditional PE strategies, we note that MVI's underlying portfolio companies typically have low leverage (2.0x net debt/EBITDA, on average).

Where business more operational, NAV not right measure

Where NAV is the wrong approach

We note that, until recently, Burford Capital was a "Non-Equity Investment Instrument" (it is now classified on the LSE as a Speciality Finance business in the Financial Services sector). In the past, GLIF went through the same transition. While comparisons may be appropriate for businesses that are solely making investments, if the underlying business is more of a trading business, a discount to NAV is not the right measure. We also note that ADAM is now classified as a Speciality Finance business on the LSE, although it is still an AIC member. In addition, we note that the accounting methodology used may create a very different discount (see MPO in the section on accounting).

NAV disclosure may not be that timely

We note that timing may also affect the appropriateness of using the discount to NAV as a valuation measure. While some of the companies in this report announce NAVs daily, others, such as ADAM and BC12, are much less current.

Issues around KID disclosure. Given companies in this report typically have further issues, this may compound discounts.

KID disclosure

In line with many other ICs, the KID disclosure is not helpful to companies with the features we have outlined in our report. In particular, we note that the stress scenario is based off historical share price movements and, as such, is not forward-looking, especially when a business has seen a material change in strategy/execution. Somewhat ironically, a sharp upward revision in a share price, due to good NAV performance, would be likely to see a higher stress-case scenario. The calculation of fees for KIDS includes finance costs, without there being any benefit in the KID from the income that gearing may generate.

Sector classification

We note that the sector to which an IC is allocated may affect potential buyers' appetite and pools of capital. For example, North Atlantic Smaller Companies' largest holdings are all in the UK, but it is classified as "North American Smaller Companies".

Size

Anecdotally, £100m critical market capitalisation to get investors' attention. Our analysis does not, however, show a correlation for companies in this report.

Size may be viewed as a factor potentially deterring investors who perceive that they may not get a good return for the work spent on looking at the company. Anecdotally, we have been repeatedly told that £100m is a critical market capitalisation in terms of grabbing broader investor attention (although one much larger company also considered size an issue). We note the following.

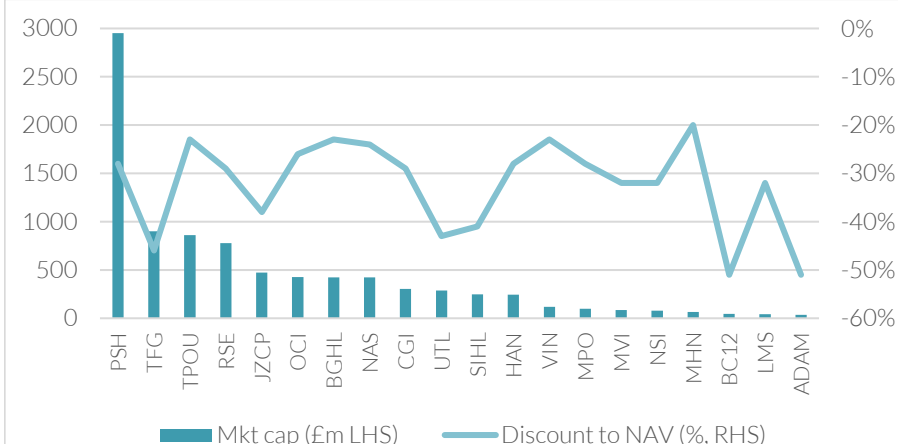
- ▶ Within the companies in this report, there is no correlation between the size of the company and the discount to NAV (see top chart, next page). Despite its near £6bn market capitalisation, Pershing Holdings trades at a 28% discount to NAV, against the average 33% for the companies featured in this report, and Tetragon Financial is at a 46% discount, despite being a £0.9bn company.
- ▶ The market capitalisation is not correlated to the average LSE deal size nor the proportion of the company traded (bottom two charts, next page). Some of the larger players have multiple listings with further liquidity on other exchanges.

Understanding the Deepest Discounts

We believe the combination of anecdotal evidence and trading means that size may be an issue when there are other considerations causing the discount but, in itself, it is not a key driver to discount levels.

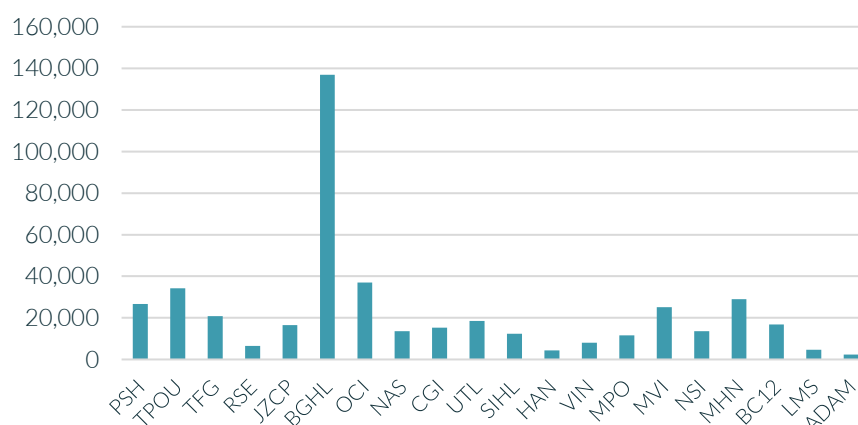
Understanding the Deepest Discounts

Market capitalisation and discount to NAV



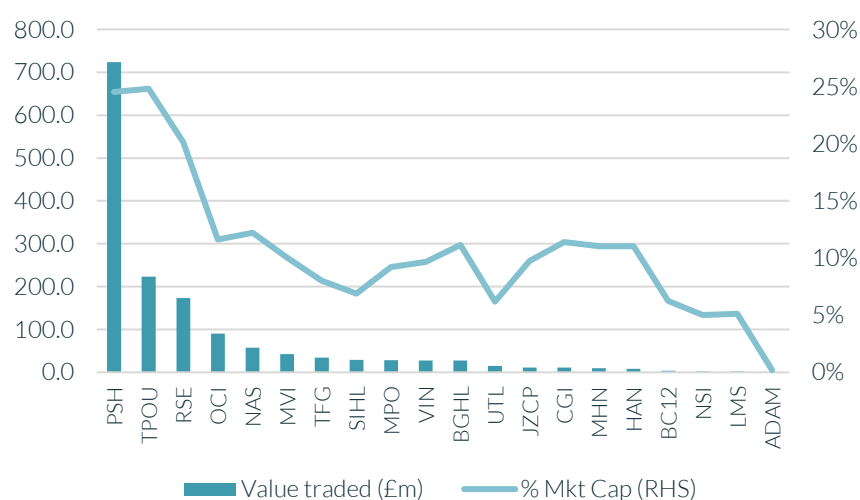
Source: LSE, Companies, Hardman & Co Research

Average trade size, April 2018 to March 2019 (£)



Source: LSE, Hardman & Co Research

Value traded and value as % current market capitalisation (LSE only), April 2018 to March 2019



Source: LSE (note Some of the larger players have multiple listings with further liquidity on other exchanges), Hardman & Co Research

Complexity of story

Danger some companies may fall into the 'too difficult to understand so ignore' bucket

Most effective when i) problem acknowledged, ii) company says what has been done about it, and iii) communication to existing and new shareholders

Portfolios diversified across different assets/risks

Comparisons may help when market leader at huge premium

Need to explain why legacy issues in past

Accounting may need explaining

There are 420 ICs quoted in London. Investors generally use ICs to get exposure to a particular asset class or theme. Ideas that come with a lot of baggage and need explaining can easily fall into the 'too difficult to understand so ignore' bucket. Thus communication becomes very important where the underlying story is complicated by any of the issues identified elsewhere in this report. Ineffective communication alone may thus deter a cohort of potential investors.

We believe the key features of effective communication are:

- ▶ Acknowledgement of the issues, clarity on what has been done about them, and which factors are likely to mean they should reduce over time. With, say, legacy issues, it is putting what happened in the past into the context of future performance.
- ▶ Increased granularity of disclosure, with hard facts in the areas of most concern. We note, for example, that PSH had a 58 slide deck for its February 2019 meetings.
- ▶ Communication with existing shareholders and also accessing potential new investor bases, and opinion formers such as the press. Excluding BGHL, the average deal size for companies in this report was ca.£17,000, meaning that, on an ongoing basis, getting information to high-net-worth individuals, PCBs and wealth managers is very important.

In addition to company-specific issues, we believe there are some themes that apply to a range of companies:

- ▶ The AIC flexible investment sector has an average discount that is three to four times the average for ICs as a whole, and around a third of the highest discount ICs in this report are in this AIC sub-sector. One of the companies with the highest discounts, UTL (43%), has investments ranging from technology through to gold mining, with a huge geographical split. Tetragon (discount 46%) has investments from private equity in asset managers through to event-driven equities, real estate and bank loans. The key issue for ICs in this space is to explain the competitive advantage they gain from the flexible mandate and why investors get a better return from investing in a single company when they could choose from specialists in each area.
- ▶ Private equity also accounts for a disproportionate number of companies in this report. This is despite the market leader (3i) trading at 1,069p, against a last reported NAV of 802p (i.e. a 33% premium). Most of the issues (*inter alia* cyclicalities, historical discounts levels, valuation, gearing, fees) could equally apply to 3i, and so part of the communication issue is comparative. Investors need to be convinced that the reason they are willing to pay a premium for 3i also applies to the companies in this report.
- ▶ Legacy issues – where a business is very different today from how it was in the past, the implications from these changes need to be understood. Communicating what has been done to change the historical outlook is hugely important.
- ▶ We detailed in the section on accounting above how accounting complexity is a factor in making the story easy or hard to sell. While the accounting may be complex, we believe the underlying business issues can be made much simpler. Again, some hard facts (such as actual realised prices compared with last valuation) can go a significant way towards mitigating investor concerns.

Appendix 1: company summaries

Adamas Finance Asia (now classified on LSE as Speciality Finance but still in AIC)

Issue	Comment
Ticker/Market Cap	ADAM/\$46m (£36m)
Website	http://www.adamasfinance.com
Company description	<p>"Adamas Finance Asia (ADAM.LN) is an AIM-quoted company targeting the delivery of income and capital gain from a diversified portfolio of pan-Asian investments in the Small and Medium-Sized Enterprise (SME) Sector. ADAM is agnostic in both the sectors and geographies it invests in, enabling the company to seek the best SME investment opportunities from across Asia and provide investors with a broad exposure to this growing market. The company views sectors such as healthcare and life sciences, energy and resources, internet and technology and property as especially attractive since they can offer exposure to rapidly expanding consumer-driven industries in Asia.</p> <p>Its investment manager, Harmony Capital Investors Limited, appointed in 2017, has a dedicated team with real Asian expertise; focused on sourcing compelling SME investment opportunities throughout the region since its founding in 2005."</p>
Latest NAV	\$95m end-June 2018
Market Cap 7 May 2019	\$46m
Discount	51%
Volatility	Low
Return	NAV +17% June 18 on June 17 (appointment of current manager)*
Major shareholders	Elypsis Solutions Limited 65.2%, CASIL Clearing Limited 6.9%, Barry Lau 5.1%
AIC sector	Private Equity
KID	
Costs	Ongoing costs 4.34% + performance fees 1.25%
Risk level	6
Stress scenario	-93%
Discount factors	Legacy performance, KID stress-test illiquid assets, cyclicity, concentration risk, assumption-driven valuation, fees, majority shareholders, related party transaction, size, timing of NAV

Source: Company, *company presentation May 2019, Hardman & Co Research

Better Capital 2012

Issue	Comment
Ticker/Market Cap	BC12/£46m
Website	http://www.bettercapital.gg/
Company description	<p>"Better Capital PCC Limited is a limited liability, closed ended investment company, which was incorporated on 24 November 2009 in Guernsey and which, by special resolution of its members, converted to a protected cell company on 11th January 2012. It has an unlimited life The Better Capital 2012 Cell will seek to invest in a portfolio of businesses (through BECAP 12 Fund LP) which have significant operating issues and may have associated financial distress, with a primary focus on investments in businesses which have significant activities with the United Kingdom or Ireland. Investments include Everest and Spicers-Office Team".</p>
Latest NAV	£58m, 19.2p per share 30 September 2018
Share price 7 May 2019	9.5p
Discount	51%
Volatility	Low
Return	n/m
Major shareholders	Jonathan Moulton 23%, Progressive Capital Partners 10%, Overseas Asset Mgt. 9%, CG AM 3%*
AIC sector	Private Equity
KID	
Costs	Ongoing costs 2.30%
Risk level	5
Stress scenario	-81%
Discount factors	KID stress test, illiquid assets, cyclicity, competition, concentration risk, assumption-driven valuation, size, timing of NAV

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

Boussard & Gavaudan Holding Limited

Issue	Comment
Ticker/Market Cap	BGHL, BGHS/£424m
Website	www.bgholdingltd.com
Company description	"BGHL seeks to achieve long-term appreciation of its assets through multi alternative investment strategies by investing in BG Fund, a sub-fund of BG Umbrella Fund Plc, also managed by BGIM. BG Master Fund ICAV is an opportunistic Europe-focused multi-strategy fund which aims primarily at arbitraging instruments with non-linear pay-offs in special situations. Over time, BGHL may undertake direct investments other than BG Fund that are identified by the Investment Manager. The Company has received the approval of the Guernsey Financial Services Commission and the States of Guernsey Policy Council. It is also registered with the Dutch Authority for the Financial Markets ("AFM") as a collective investment scheme."
Latest NAV	€21.8255/£19.5778 6 May 2019
Share price 7 May 2019	€16.90, £15.40
Discount	23%
Volatility	Medium 14 months since start 2016 shown +/- >1%
Return	2019 YTD end-March 0.11%, 2018 -6.15%, 2017 5.87%, 2016 7.22%, 2015 15.65%
Major shareholders	Boussard 13%, Kempen Capital 5%, OMERS Administration Corporation 5%, M&G 4%, CE Joseph 3%, Premier AM 3%*
AIC sector	Hedge Funds
KID	
Costs	1.56% ongoing, 1.67% performance and 0.98% portfolio transaction
Risk level	4
Stress scenario	-40%
Discount factors	Illiquid assets, fees

Source: Company, * Thomson Reuters, Hardman & Co Research

Canadian General Investments

Issue	Comment
Ticker/Market Cap	CGI, CAN/\$541m (£304m)
Website	http://www.mmmainvestments.com/closed-end-funds/overview
Company description	"A closed-end equity fund focused on medium to long-term capital appreciation and dividends in Canadian corporations, Canadian General Investments, Limited (CGI) was established in 1930 and has been managed since 1956 by Morgan Meighen & Associates. Sector exposures include IT 24% NAV, Materials 20%, Industrials 17%, Consumer Discretionary 17%, Financials 12%, with the largest holdings being Shopiy (7%), Air Canada (6%)."
Latest NAV	C\$36.82 6 May 2019
Share price 7 May 2019	C\$26.0
Discount	29%
Volatility	Medium, Daily P/L with assets priced off liquid market prices
Return	2018 -10.9%, 2017 21.5%, 2016 18.2%, 2015 -7.2%, 2014 8.4%
Major shareholders	Morgan Meighen & associates 37%, Catherine and Maxwell Meighen Foundation 10%, New Annan Investments 5%*
AIC sector	North America
KID	
Costs	2.36%
Risk level	5
Stress scenario	-44%
Discount factors	Legacy – long history of discount

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

Hansa Trust	
Issue	Comment
Ticker/Market Cap	HAN, HANA (A Non-Voting shares)/£244m
Website	https://www.hansatrust.com/
Company description	<p>"The Portfolio: The objective of Hansa Trust is to achieve growth of shareholder value, from a concentrated, long-term, non-index correlated portfolio of unusual investments, which would not normally be available for investment to individual investors.</p> <p>Stock Selection: Our focus is to identify, invest in and monitor well managed companies with good growth prospects being fully aware that their underlying strategies may take time to come to fruition.</p> <p>Risk: We believe the risk that Hansa Trust shareholders run is that they do not make money and do not regard short-term volatility as a risk for long-term shareholders.</p> <p>Key Performance Indicators: The Board considers that the use of a single benchmark won't always offer shareholders the relevance and the clarity needed with regard to the performance of their Company. Therefore the Board considers the following KPIs when assessing the performance of the Company: UK CPI, MSCI ACWI TR GBP and FTSE Gilts All Stock TR.</p> <p>Dividends: We regard dividends as an important part of the return that shareholders enjoy, the dividends that are payable to shareholders will depend on the make-up of the portfolio as we strive to maximize shareholder value. As such dividends may fluctuate but over the long term, we would expect the dividend to grow."</p>
Latest NAV	1427.67p (cum inc), 1427.51 (exc inc) 2 May 2019
Share price 7 May 2019	1035p
Discount	28%
Volatility	Medium
Return	Company has generated a 25.5% Total Return over the five years since March 2014
Major shareholders	William Salomon 26%, Nomolas Ltd 26%, Alliance Trust 5%, Brooks MacDonald AM 4%*
AIC sector	Flexible Investment
KID	
Costs	1.82%
Risk level	5
Stress scenario	-64%
Discount Factors	Legacy other, KID stress test, Illiquid assets, diversity risk by asset class, majority shareholders

Source: Company, *Thomson Reuters, Hardman & Co Research

JZ Capital Partners	
Issue	Comment
Ticker/Market Cap	JZCP, JZCZ, JZCC/£472m
Website	http://www.jzcp.com
Company description	<p>"JZ Capital Partners ("JZCP") ...seeks to provide shareholders with a return by investing selectively in US and European microcap companies and US real estate JZCP receives investment advice from Jordan/Zalaznick Advisers, Inc. ("JZAI") which is led by David Zalaznick and Jay Jordan. ...JZCP is incorporated in Guernsey and is an authorised closed-ended investment scheme pursuant to the Protection of Investors (Bailiwick of Guernsey) Law, 1987 (as amended) and the Authorised Closed-Ended Investment Schemes Rules 2008. It is listed on the Specialist Fund Segment of the London Stock Exchange.</p> <p>David Zalaznick and Jay Jordan attribute JZCP's success to its competitive strengths: (i) A unique focus on US and European microcap companies and US real estate (ii) The flexibility to invest throughout market cycles (iii) A strategy of working with the existing management of companies to enhance growth (iv) A proprietary network of intermediaries to find investment opportunities rather than participating in auctions (v) A long-term, value-orientated approach."</p>
Latest NAV	\$10.02 per share 31 March 2019
Share price 7 May 2019	£4.72 (\$6.20)
Discount	38%
Volatility	Low, NAV broadly flat from February 2016
Return	NAV broadly flat on Feb 2017 and 2016
Major shareholders	Edgewater Funds 23%, John Jordan 13%, David Zalaznick 13%, Leucadia Fin Corp 10%, Abrams Capital Mgt. 10%, Arnhold LLC 6%, Finepoint Capital 5.5%*
AIC sector	Flexible Investment
KID	
Costs	Ongoing 4.93% + performance fees 1.45%
Risk level	3
Stress scenario	-48.5%
Discount factors	Legacy, other, illiquid assets, cyclicalities, competition, diversity risk by asset class, key staff, assumption-driven valuation, fees

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

LMS Capital	
Issue	Comment
Ticker/Market Cap	LMS/£41m
Website	http://privateassets.greshamhouse.com/funds/lms-capital-plc/
Company description	<p>"LMS Capital plc is a listed private equity investment company managed by Gresham House Asset Management (GHAM). Its focus is predominantly on direct investment at the smaller end of the UK private equity market. The investment objective is to achieve absolute total returns over the medium to long term, principally through capital gains and supplemented with the generation of a longer-term income yield. The fund targets a return on equity, after running costs, of between 12% and 15% per annum over the long term." "Its focus is predominantly on direct investment at the smaller end of the UK private equity market below £50 million enterprise value where the manager believes there to be significant market inefficiencies which create opportunities for superior long-term returns and where they can leverage the experience of the investment team. A disciplined investment process has been established with a newly formed Investment Committee. The short-term focus is on maximising the value of existing holdings, with the ability where growth prospects are clear, to preserve and support value creation. As investments are recycled, the fund will be able to gain exposure to alternative investment opportunities and illiquid assets through access to the Gresham House group and network to invest directly via co-investment. Our team have a proven track record in asset management, private equity and public markets. As a result of changes to the investment policy implemented in 2016, the fund is now focused predominantly on investment in private assets, with emphasis on private equity."</p>
Latest NAV	73.8p end-March 2019
Share price 7 May 2019	50.4p
Discount	32%
Volatility	High 1Q'18 -6.8%, 2Q'18 +6%, 3Q'18 -1.1%, 4Q'18 -4.4%
Return	GHAM appointed August 2016. NAV total return was minus 6.6% and its share price total return was positive 5.6% for the year-ended 31 December 2018
Major shareholders	Rayne Family Holding 42.8%, Charles Stanley & Co Ltd 10.7%, Armstrong Investment Management LLP 5.9%, Rath Dhu Limited 5.3%, Schroders plc 3.6%, UBS AG 2.9%
AIC sector	Private Equity
KID	
Costs	5.08% ongoing + Performance fees 1.5%, entry costs 0.5%, Transaction costs 0.31%
Risk level	5 years
Stress scenario	-47.7%
Discount factors	Legacy strategy change, illiquid assets, cyclicity, competition, concentrated portfolio, assumption-driven valuation, shareholder concentration, fees, size

Source: Company, Hardman & Co Research

Macau Property Opportunities	
Issue	Comment
Ticker/Market Cap	MPO/£100m
Website	https://mpofund.com/
Company description	<p>"Macau Property Opportunities Fund Limited (MPO) is a closed-end investment company registered in Guernsey, and the only quoted property fund dedicated to investing in Macau, the world's largest gaming market and the sole city in China in which gaming has been legalised. Launched in 2006 and listed on the London Stock Exchange, MPO targets strategic property investment and development opportunities in Macau. MPO is managed by Sniper Capital Limited, an Asia-based property investment manager with a proven track record in fund management and investment advisory."</p>
Latest NAV	\$2.94, 225p 31 Mar 2019
Share price 7 May 2019	162.5p
Discount	28%
Volatility	Medium – typical quarterly change in NAV in 2018 ca.4%, 2018 ca.1%, 2016 3%-10%
Return	Adj. NAV (p) end-2018 239p, 2017 250p, 2016 245p, 2015 218p, 2014 302p
Major shareholders	Sniper Investments Limited 18%, Lazard Asset Management LLC 14%, Universities Superannuation Scheme 14%, Ironsides Partners LLC 7%, Apollo Multi Asset Management 4%, Miton Asset Management 4%, Rathbone Investment Management 4%, FIL Investment International 4%
AIC sector	Property Direct - Asia Pacific
KID	
Costs	6.59% ongoing + Performance fees 1.72%, transaction costs 0.22% p.a.
Risk level	6
Stress scenario	n/m
Discount factors	KID stress test, Illiquid assets, cyclicity, concentrated portfolio, assumption-driven valuation fees, gearing, size

Source: Company, Hardman & Co Research

Understanding the Deepest Discounts

Marwyn Value Investors	
Issue	Comment
Ticker/Market Cap	MVI (ordinary), MVIR (realisation shares)/£86m
Website	http://www.marwynvalue.com/
Company description	<p>"With a growing portfolio of European small and mid-cap businesses, we're adept at spotting big opportunities in sectors going through big changes.. Acquisition is just the first step on the journey. That's why we don't simply invest in businesses, but also in the talented people who run them. We identify experienced, industry-leading management teams to build and grow businesses – not just for the first year, but through ongoing support, active participation and collaborative involvement. Working together, we improve operations, re-focus strategy, streamline revenue/cost models and plan smart, organic M&A activity. That's how we build success. We start small but think big. Our focus is mid-cap UK, European and North American headquartered businesses, with a target enterprise value of £150 million to £1.5 billion. We see opportunity in change. We target companies in industries that are being galvanised by major structural change or dislocation, which we believe offer significant growth potential. Our "Buy-and-Build" strategy hinges on acquiring meaningful equity stakes in these companies via publicly-listed, sector-specific acquisition vehicles. Why use public markets? It gives us an efficient, liquid source of capital throughout an investment's lifecycle, and helps us to deploy our exit strategy most effectively – at the best possible time, terms and price. We are sector agnostic. The diverse array of industries we have invested in to date reflect our sector-agnostic and entrepreneurial approach to investment."</p>
Latest NAV	183.594p 18 April 2019, MVIR £1.89048 18 April 2019
Share price 7 May 2019	125.5p, MVIR 170p
Discount	32%, MVIR 10%
Volatility	Medium
Return	Ordinary shares 158% NAV total return from 23 February 2006 to end-March 2019. Share price broadly flat on 1 year view. Yield ca. 7.4%.
Major shareholders	Invesco AM 46%, Armstrong Investments 7%, Insight IM 6%, Marwyn IM 6%, Lazard AM 5%, Barclays Wealth 5%, GLG partners 4%*
AIC sector	Private Equity
KID	
Costs	3.3% ongoing
Risk level	4
Stress scenario	-43%
Discount factors	Illiquid assets, cyclical, concentrated portfolio, shareholder concentration, fees, size

Source: Company, *Thomson Reuters, Hardman & Co Research

Menhaden	
Issue	Comment
Ticker/Market Cap	MHN/£64m
Website	www.menhaden.com
Company description	<p>"The Company's investment objective is to generate long-term shareholder returns, predominantly in the form of capital growth, by investing in businesses and opportunities, irrespective of their size, location or stage of development, delivering or benefiting from the efficient use of energy and resources. Whilst the intention is to pursue an active, non-benchmarked total return strategy, the Company will be cognisant of the positioning of its Portfolio against the MSCI World Total Return Index (in Sterling). Accordingly, the Menhaden Team will take notice of the returns of that index with a view to outperforming it over the long term." The largest investments are X-ELIO * (19.1% total assets), Airbus (11.0%), CGE Investments (10.7%), Safran (10.1%), Alphabet (9.8%), Brookfield Renewable Energy (5.6%), Union Pacific Railway (4.7%), Calvin Capital (4.7%), Canadian Pacific Railway (4.6%), Terraform Power (4.0%).</p>
Latest NAV	100.05p 31 March 2019
Share price 7 May 2019	80.5p
Discount	20%
Volatility	High
Return	NAV 10% YTD, 14% 1 year, 28% 3 years, 2.5% since inception
Major shareholders	Cavenham Private Equity and Directs 17%, Generali AM 8%, Kendall family investments 6%, AachenMunchener Versicherung 5%, Santino Global 4%, Grantham Foundation 3%, Rathbones IM 3%, Ravenscroft IM 3%*
AIC sector	Sector Specialist: Environmental
KID	
Costs	Ongoing 2.1%, transaction costs 0.2%
Risk level	4
Stress scenario	-66%
Discount factors	Legacy issue – performance, KID stress test, concentrated portfolio, diversity risk mitigated by few positions, size

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

New Star Investment Trust

Issue	Comment
Ticker/Market Cap	NSI/£77m
Website	http://www.nsitplc.com/
Company description	"The Company's investment policy is to allocate assets to global investment opportunities through investment in equity, bond, commodity, real estate, currency and other markets. The company's assets may have significant weightings to any one asset class or market, including cash. The Company invests in pooled investment vehicles, exchange-traded funds, futures, options and limited partnerships. The Company may also invest up to 15% of its net assets in direct investments in relevant markets."
Latest NAV	158.92p (cum inc), 157.23 (exc inc) 31 April 2019
Share price 7 May 2019	108.5p
Discount	32%
Volatility	Low
Return	The total return in the six months to end-December 2018 was -4.63%, +5.4% in prior year
Major shareholders	John Duffield 59%, Michael Astor 4%, Miton AM 4%, Armstrong Investments 3%*
AIC sector	Flexible Investment
KID	
Costs	1.74%
Risk level	3
Stress scenario	-56%
Discount factors	Diversity risk by asset class, majority shareholders, size

Source: Company, *Thomson Reuters, Hardman & Co Research

North Atlantic Smaller Companies

Issue	Comment
Ticker/Market Cap	NAS/£423m
Website	https://www.electraequity.com
Company description	"The objective of the Company is to provide capital appreciation through investment in a portfolio of smaller companies principally based in countries bordering the North Atlantic Ocean." The largest holdings are all UK companies and include Oryx International Growth Fund Limited (Listed 11% portfolio), Polar Capital Holdings plc (AIM 8.3%), Ten Entertainment Group PLC (Listed 7.1%), MJ Gleeson plc (Listed 7%), EKF Diagnostics Holdings plc (AIM 6%), Bioquell PLC (Listed 3.7%), Harwood Private Equity Fund IV LP (Unquoted 3%), Trident Private Equity Fund III LP (Unquoted 2.9%), Sherwood Holdings Limited (Unquoted 2.8%), Odyssean investment Trust Plc (Listed 2.5%)
Latest NAV	3,864.06p basic net asset value per share (excluding current period revenue) under the equity accounting method The unaudited basic net asset value per share (excluding current period revenue) under IFRS 10 was 3,774.92p, 31 March 2019
Share price 7 May	2950p
Discount	24%
Volatility	Medium (1 year price range 2,630p to 3,076p)
Return	In past year to 6 May 2019, the share price has risen from 2,739p to 2,950p, (over three years up from 2,330p)
Major shareholders	Christopher Mills 26%, CG Asset Management 8%, Merian Global Investors 5%, Rathbone IM 5%, Butterfield AM 5%, Quilter Investors 5%*
AIC sector	North American Smaller Companies
KID	
Costs	Ongoing 1.24%, performance fees 0.27%
Risk level	4
Stress scenario	-62%
Discount factors	KID stress test, concentration risk (top 5 holdings 39.4%), related parties' disclosure 2 May 2019, sector classification

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

Oakley Capital Investments

Issue	Comment
Ticker/Market Cap	OCI/£427m
Website	https://oakleycapitalinvestments.com
Company description	"OCI provides access to the out performance of a focused portfolio of fast growing private companies. It has achieved its top tier returns through its investment in the Oakley Capital Funds. These are Europe-focused Private Equity Funds that aim to build portfolios of high-growth, medium-sized companies, primarily in TMT, Consumer and Education."
Latest NAV	574.8m 281p per share 31 December 2018
Share price 7 May 2019	209p
Discount	26%
Volatility	Medium 1 year price range 172p to 209p (3 year 163.5p to 2,010p)
Return	Total NAV return in 2018 16%, 3 years 47%
Major shareholders	Invesco AM 20%, Woodford IM 20%, Asset Value 11%, Sarasin Partners 6%, FIL 6%, Peter Dubens 5%, Rothschild WM 4%, RBC trust 4%, Jupiter AM 4%*
AIC sector	Private Equity
KID	
Costs	Ongoing 3.45%, Incidental 2.69%
Risk level	4
Stress scenario	-51%
Discount factors	Legacy issues – other, Illiquid assets, cyclical (sentiment), concentration risk (top 5 69% NAV), assumption-driven valuation, fees,

Source: Company, *Thomson Reuters, Hardman & Co Research

Pershing Square Holding

Issue	Comment
Ticker/Market Cap	PSH, PSHD/£2,951m
Website	www.pershingsquareholdings.com
Company description	"Pershing Square Holdings, Ltd. ("PSH") (LN:PSH) (LN:PSHD) (NA:PSH) is an investment holding company structured as a closed-ended fund that makes concentrated investments in publicly traded, principally North American-domiciled, companies. PSH's objective is to maximize its long-term compound annual rate of growth in intrinsic value per share. SH has appointed Pershing Square Capital Management, L.P. ("PSCM," the "Investment Manager" or "Pershing Square"), as its investment manager." "Our strategy is to acquire smaller pieces of superb businesses over which we have substantial influence, rather than controlling interests in lower quality businesses. "Pershing Square Holdings has assembled one of the highest quality collections of "subsidiaries" in the world. Businesses like Restaurant Brands, Hilton, Starbucks, ADP, Chipotle, Howard Hughes, United Technologies, Lowe's, Fannie Mae and Freddie Mac, each have high returns on capital, very long-term growth trajectories, wide competitive moats, unique and irreplaceable brands and/or other assets."
Latest NAV	\$24.06/£18.45 30 April 2019
Share price 7 May 2019	£13.34
Discount	28%
Volatility	High
Return	40.0% YTD 2019, -0.7% 2018, -4.0% 2017, -13.5% 2016, -20.5% 2015, +40.4% 2014
Major shareholders	William Ackman 18.5%, Quilter Investors 4%*
AIC sector	Hedge Funds
KID	
Costs	Ongoing 2.8%, Performance fees 1.08%
Risk level	5
Stress scenario	-84%
Discount factors	Legacy issues – performance, KID stress test, concentration risk, key staff, voting structure, fees

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

Riverstone Energy	
Issue	Comment
Ticker/Market Cap	RSE/£778
Website	http://www.riverstonerel.com/
Company description	"Riverstone Energy Limited is a closed-ended investment company listed on the London Stock Exchange under the symbol RSE, which invests exclusively in the global energy industry, with a particular focus on the exploration and production and midstream sectors."
Latest NAV	\$1,431m, \$17.91 per share end-December 2018
Share price 7 May 2019	975p
Discount	29%
Volatility	Medium
Return	Share price fallen over past year from 1,256p to 975p
Major shareholders	Alaska Permanent Fund Corporation 25%, Kendall Family 11%, Riverstone Holdings 9%, Quilter Investors 8%, Asset Value 5%, Robert McNair 4%, Stephen Orenstein 3%*
AIC sector	Sector Specialist: Commodities & Natural Resources
KID	
Costs	1.7% ongoing + performance fees 0.4%
Risk level	5 years
Stress scenario	-65%
Discount factors	KID stress test, illiquid assets, cyclicity, concentration risk, assumption-driven valuation

Source: Company, *Thomson Reuters, Hardman & Co Research

Symphony International Holdings	
Issue	Comment
Ticker/Market Cap	SIHL/\$318m, £247m
Website	http://www.symphonyasia.com/
Company description	"We provide opportunities for investors to gain exposure to the region's rapidly expanding markets by investing in companies in particular high-growth sectors - primarily healthcare, hospitality, lifestyle and branded real estate - which will benefit from the rising disposable incomes of Asia's increasing, and increasingly aspirational, population. Our team is led by Anil Thadani, who founded one of Asia's first private equity businesses and has been investing in the region for more than 30 years. Our business is structured as a permanent capital vehicle to enable us, where necessary, to take a long-term view of our investments. In contrast to traditional private equity funds, our decisions on investing and divesting are not, therefore, influenced by restricted life-cycles. In addition, our structure gives investors more flexibility: it enables them to liquidate or, indeed, add to their positions whenever they choose. Typically, we invest in transactions that involve growth capital for later-stage development and expansion, management buy-outs/buy-ins, restructurings and special situations. Where we see a special opportunity, we may also invest a smaller portion of our investment capital in earlier-stage businesses. In addition, and unlike most private equity businesses, we invest in real estate development: we develop projects designed to appeal to the evolving lifestyles of Asia's increasingly wealthy demographic."
Latest NAV	\$541m (\$1.0554 per share) 31 March 2019
Share price 7 May 2019	\$0.62
Discount	41%
Volatility	Medium
Return	The share price has fallen from \$0.86 to \$0.63 over the past year (3 years ago \$0.70). NAV per share fell 13.3% (excl. dividend in 2018)
Major shareholders	Asset Value Investors 16%, Anil Thadani 17%, Sunil Chandiramani 6%, Symphony IM 4%*
AIC sector	Private Equity
KID	
Costs	3.15% ongoing
Risk level	5
Stress scenario	-78%
Discount factors	KID stress test, cyclicity, illiquid assets, competition, assumption-driven valuation, fees

Source: Company, *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

Tetragon Financial Group	
Issue	Comment
Ticker/Market Cap	TFG NA, TFG LN, TFGS LN/TGONF (OTC Markets, Pink)/£900m
Website	https://www.tetragoninv.com/
Company description	<p>"Tetragon is a closed-ended investment company that invests in a broad range of assets, including bank loans, real estate, equities, credit, convertible bonds, private equity stakes in asset managers, infrastructure and TFG Asset Management, a diversified alternative asset management business. Where appropriate, through TFG Asset Management, Tetragon seeks to own all, or a portion, of asset management companies with which it invests in order to enhance the returns achieved on its capital. Tetragon's investment objective is to generate distributable income and capital appreciation. It aims to provide stable returns to investors across various credit, equity, interest rate, inflation and real estate cycles. The company is traded on Euronext in Amsterdam N.V. and on the Specialist Fund Segment of the main market of the London Stock Exchange.</p> <p>TFG Asset Management (TFGAM) comprises: (i) LCM Asset Management – a CLO asset management company. (ii) The GreenOak Real Estate joint venture – a real estate-focused principal investing, lending and advisory firm. (iii) Polygon Global Partners – a manager of open-ended hedge fund and private equity vehicles across a number of strategies. (iv) Equitix – an integrated core infrastructure asset management and primary project platform. (v) Hawke's Point – an asset management company focused on mining finance that seeks to provide capital to companies in the mining and resource sectors. (vi) Tetragon Credit Income Partners (TCIP) – the holding company of the general partner entities of two private equity vehicles focusing on CLO investments, including majority stakes in CLO equity tranches. (vii) TCI Capital Management LLC (TCICM) – a CLO loan management business Assets under management for TFGAM as of 31 December 2018 totalled approximately \$28.1 billion."</p>
Latest NAV	\$2,238m (\$23.87 per share) 31 March Factsheet
Share price 7 May 2019	\$12.78
Discount	46%
Volatility	Medium (share price low to high in past 12 months \$11.5 to \$13.2)
Return	NAV per share return: 2018 10.3%, 2017 9.0%, 2016 8.5%, 2015 16.0%, 2014 8.1%, 10-year 13.2%, 11.2% since IPO in 2005
Major shareholders (% excluding treasury shares)	Directors 17%, Other employees 9%, OMERS Administration Group 9%, Fortress Investments 9%, Goldman Sachs AM 8%, Omega Overseas partners 6%, Asset Value 6%, Danica Pension 5%
AIC sector	Flexible Investment
KID	
Costs	2.55% ongoing costs + performance fees 1.93%
Risk level	4
Stress scenario	-59%
Discount Factors	Other legacy issues, illiquid assets, diversity by asset class, assumption-driven valuation, voting structure, fees

Source: Company, Hardman & Co Research

Third Point Offshore Investments	
Issue	Comment
Ticker/Market Cap	TPOU, TPOS/£859m
Website	www.thirdpointoffshore.com
Company description	<p>"Third Point Offshore Investors Limited ("TPOIL") is the London-listed, closed-end fund managed by Daniel S. Loeb's Third Point LLC. TPOIL offers investors a unique opportunity to gain direct exposure to Daniel S. Loeb's opportunistic investment strategy. TPOIL maintains all investment holdings present in Third Point's primary investment strategy. TPOIL's objective is to provide shareholders with long term, attractive risk-adjusted returns, using the investment skills and expertise of Daniel S. Loeb and the Master Fund's wider portfolio team. The Master Fund pursues an opportunistic investment approach based on event-driven fundamental value analysis across the capital structure."</p>
Latest NAV	\$19.31 30 April 2019
Share price 7 May 2019	\$14.85
Discount	23%
Volatility	High
Return	YTD 12%, 2018 -10.9%, 2017 +18.9%, 2016 6.1%, 2015 -2.6%, 2014 +6.5%
Major shareholders	Third Point LLC 20%, Clearbridge LLC 9%, Asset Value 9%*
AIC sector	Hedge Funds
KID	
Costs	Ongoing 2.63%, Performance fees 1.37%, Transaction 0.71%
Risk level	3
Stress scenario	-43%
Discount factors	Volatility, key staff, fees

Source: Company, , *Thomson Reuters, Hardman & Co Research

Understanding the Deepest Discounts

UIL	
Issue	Comment
Ticker / Market Cap	UTL/£175m
Website	www.uil.limited
Company description	“Our investment objective is to maximise shareholder returns by identifying and investing in investments worldwide where the underlying value is not reflected in the market share price. UIL Limited (formerly Utilico Investments Limited and Utilico Limited) is an exempted closed-end Bermuda incorporated investment company, established as a successor to Utilico Investment Trust plc. The investment approach is to seek to invest in undervalued investments. This perceived undervaluation may arise from any number of factors, including technological change, market motivation, prospective financial, engineering opportunities, competition, management underperformance or shareholder apathy. UIL has the flexibility to make investments in a wide range of sectors and markets.” Gearing based off the AIC definition was 69% at end-March 2019. The largest sector split of investments were Technology (28.2%), Financial Services (22.5%), Gold Mining (13.8%), Resources (8.5%). Geographically, Australia was 24.6%, Other Gold Mining 13.8%, Bermuda 13.2%, UK 13.0%, Europe ex UK 12.6 %. Manager is ICM Investment Management.
Latest NAV	349.08p (cum inc), 347.2p (exc inc) NAV RNS 30 April 2019
Share price 7 May 2019	197p
Discount	43%
Volatility	Medium share price high to low in past year (199p to 158p), share price doubled in 2016
Return	NAV total return 18.7% in year to June 2018 to 292p; on course for similar return in year to June 2019
Major shareholders	General Provincial Life Pension Fund, Ltd. 63%, Permanent Mutual, Ltd. 8%, Brooks Macdonald Asset Management Ltd 3%*
AIC sector	Flexible Investments
KID	
Costs	6.35% ongoing, 0.42% performance, 0.07% transaction
Risk level	5
Stress scenario	-76%
Discount factors	KID stress test, concentrated portfolio (top 5 holdings 72% portfolio), diversified by asset class, major shareholders, gearing, fees

Source: Company, *Thomson Reuters, Hardman & Co Research

Value and Income	
Issue	Comment
Ticker/Market Cap	VIN/£118m
Website	https://www.olim.co.uk/investment-products/value-and-income-trust/
Company description	“The Company's objective is to provide shareholders with long-term returns in excess of the FTSE All-Share Index by investing in higher yielding, less fashionable areas of the UK commercial property and quoted equity markets, particularly in medium and smaller sized companies. The Company will pursue its investment objective by investing primarily in quoted UK equities, UK commercial property and cash or near cash securities.” In recent years, around two-thirds of the portfolio has been in equities and one-third in commercial property. Of the equities, the largest reported positions were in Beazley, Unilever, Halma, BP & L&G. Manager is OLIM Investment Managers.
Latest NAV	337.63p (debt at par), 318.73 (debt at fair value) 30 April 2019
Share price 7 May 2019	259p
Discount	23%
Volatility	Medium (share price 246p to 278p over past year)
Return	NAV total return in 2018 -1.6% and 9.3% over three years, dividends up 3.6% (31 st consecutive year of increase)
Major shareholders	M Oakeshott 21%, Alliance Trust 10%*
AIC sector	UK Equity Income
KID	
Costs	Ongoing 3.97%, transaction costs 0.63%
Risk level	4
Stress scenario	-45%
Discount factors	Legacy other, some illiquid assets, some assumption-driven valuation, fees

Source: Company, *Thomson Reuters, Hardman & Co Research

Appendix 2: realisation phase

We believe the ICs that are in realisation/harvesting phase offer very specific opportunities but that they require a considerable investment of time before potential new buyers can become comfortable with the real valuation of the assets. When a business is put into wind down, the economics change, and there are a number of uncertainties introduced into the valuation, including i) in a wind down situation, the business is a known and maybe forced seller of assets, making the actual realisable value uncertain, ii) there will also be uncertainty over the eventual costs of closure, and iii) there will be fewer buyers, given the complexity of the story, and sellers may want to crystallise their cash ahead of final termination.

CATCo Reinsurance Opportunities	
Issue	Comment
Ticker/Market Cap	CAT, CATC/£219m
Website	http://www.catcoreopsfund.com/
Company description	"The investment objective of the Company is to give its shareholders the opportunity to participate in the returns from investments linked to catastrophe reinsurance risks, principally by investing in fully collateralised reinsurance contracts but also via a variety of insurance-based investments, including insurance-linked swaps and industry loss warranties, insurance-linked securities as well as other financial instruments. The Company will target an internal rate of return in excess of LIBOR plus 12 percent to 15 percent per annum including a distribution by way of dividend in respect of each Fiscal Year, of an amount equal to LIBOR plus 5 percent of the Net Asset Value at the end of each Fiscal Year. The Master Fund intends to spread investment risk by seeking exposure to several non-correlated risk categories which limits the amount of capital at risk with respect to a single catastrophic event."
Latest NAV	\$0.33 (ordinary) \$0.6069 (C shares) 31 March 2019
Share price 7 May 2019	\$0.21 Ordinary, \$0.38 C shares
Discount	38% for both
Major shareholders	Quilter Investors 19%, Aberdeen AM 13%, FIL 12%, Baillie Gifford 7%, Schroder IM 7%, Architas MM 5%, Aberdeen Asset Investments 4%, West Yorkshire Pension Fund 3%*
AIC sector	Sector Specialist: Insurance & Reinsurance Strategies
KID	
Costs	n/m
Risk level	n/m
Stress scenario	n/m
Discount factors	Put in run-off from 30 June 2019

Source: Company, *Thomson Reuters, Hardman & Co Research

Electra Private Equity	
Issue	Comment
Ticker/Market Cap	ELTA/£133m
Website	https://www.electraequity.com
Company description	"On 4 October 2018, the Board announced the outcome of the third phase of its strategic review. The Board announced that it considered that each of the remaining corporate investments represented an opportunity for value creation within an acceptable timeframe but had decided that the concentration of the portfolio and the structural inefficiency in reinvesting in a listed private equity vehicle with a significant market discount to NAV made it inappropriate to seek to do this within the existing investment objective and policy of the Company. The Board therefore concluded, and recommended, that it is in the best interests of shareholders to conduct a managed wind-down of the portfolio over a period of time, allowing optimisation of returns, the return of cash to shareholders, and ultimately the winding up of the Company."
Latest NAV	527p 30 September 2018)
Share price 7 May 2019	347
Discount	34%
Major shareholders	Sherborne Investors Management (Guernsey) LLP and its associates 30%, Prudential 10%, Witan IT 10%, FIL 5%, Insight IM 4%, Aviva investors 3%*
AIC sector	Private Equity
KID	
Costs	Ongoing 1.95%,
Risk level	5
Stress scenario	-79%
Discount factors	Wind down

Source: Company, *Thomson Reuters, Hardman & Co Research

EL Oro	
Issue	Comment
Ticker/Market Cap	ELX/£39m

Understanding the Deepest Discounts

Website	http://www.eloro.co.uk/
Company description	"The El Oro Group holds discrete portfolios which are segmented and managed along distinctly different lines and investment styles: (i). the UK portfolio is predominantly an income portfolio that focuses on stocks in relatively mature sectors (e.g. some, but not all, brewing, utility and mining stocks) which are typically characterised by high yields; and (ii). the Guernsey portfolio holds stocks selected in pursuit of a blended value / growth investment style which seek to identify companies with good growth prospects that have not yet been fully priced by the market."
Latest NAV	75.2p per share, 31 March 2019 (incl. cash of 44.1p per share)
Share price 7 May 2019	62p
Discount	18%
Major shareholders	S Kumaramangalam 10%, E Houston 10%, C Parish 9%, C Zegos 7%*
AIC sector	Sector Specialist: Commodities & Natural Resources
KID	
Costs	Ongoing 3.63%, Transaction costs 0.69%
Risk level	4
Stress scenario	-37%
Discount factors	Voluntary winding-up and reconstruction of the company with rollover options into JPMorgan Elect plc ("JPME")

Source: Company, *Thomson Reuters, Hardman & Co Research

RDL Realisation	
Issue	Comment
Ticker/Market Cap	RDL/£60m
Website	https://rdlrealisationplc.co.uk/
Company description	"...effecting a Managed Wind-Down with a view to realising all of the Investments in a manner that achieves a balance between maximising the value received from Investments and making timely returns to Shareholders. The Company may sell its Investments either to co-investors in the relevant Investment or to third parties, but in all cases with the objective of achieving the best available price in a reasonable timescale. As part of the realisation process, the Company may also exchange existing Debt Instruments issued by any Direct Lending Platform for equity securities in such Direct Lending Platform where, in the reasonable opinion of the Board, the Company is unlikely to be able to otherwise realise such Debt Instruments or will only be able to realise them at a material discount to the outstanding principle balance of that Debt Instrument."
Latest NAV	\$10.95 per share (£8.59 cum inc), \$11.51 (£9.02 exc inc) 30 November 2018
Share price 7 May 2019	374p
Discount	56%
Major shareholders	LIM Advisors 26%, Oaktree CM 19%, Invesco AM 12%, Almitas Capital 6%, Garraway 6%, Artemis 4%, Close Bros 3%*
AIC sector	Sector Specialist: Debt
KID	
Costs	6% ongoing and 2% portfolio transaction
Risk level	5
Stress scenario	-70%
Discount factors	Wind down

Source: Company, *Thomson Reuters, Hardman & Co Research

Appendix 3: Hardman & Co tick-sheets

Hardman & Co: questions for high-discount ICs	
Issue	Management response
Historical risk: legacy issues	
What has changed in investment process since loss event?	
What is the proof new strategy has worked previously/is working now?	
Evidence corporate governance has changed?	
What will change historically high discount rate?	
Prospective risk	
Why is the KID stress-test scenario not an appropriate measure for prospective risk?	
How do you manage monthly volatility, and is it important?	
What is the impact of asset illiquidity on likely forced sale price?	
How much illiquidity is built into valuation?	
What is the exposure of the assets to economic cyclicality?	
How is competition impacting on re-investment returns?	
To what extent may regulatory/government changes impact on future asset values?	
What is the proportion of assets in top 5 holdings?	
How do you manage investments across different assets classes?	
What is the advantage in holding your diversified company, rather than holding specialists in each asset class?	
How do you manage key staff dependency?	
Accounting	
What have been average realised prices against most recent assumption-based valuations?	
Where are accounting rules not helpful in understanding real value of the company?	
How do you justify current level of fees?	
Corporate governance	
Are there any implications from the shareholding structure?	
What discount do you think arises from the voting structure?	
Why have any related party transactions been in best interests of shareholders?	
What level of discount would you consider a buy-back to be effective?	
How would you manage a buy-back programme, and why in that way?	
Other factors to consider	
Can you prove the debt will never drive the company into being a forced seller of assets?	
Is size important, and what can be done about it?	
Is the discount to NAV the right valuation metric?	
Where is the KID disclosure weak?	
Is the sector classification right?	
What have you done to better communicate the story?	

Source: Hardman & Co Research

KID disclos

About the author



Mark Thomas is an analyst in the Financial Stocks and Investment Companies team at Hardman & Co.

He has nearly 30 years' experience in Financial Services. He leveraged his 10 years' direct industry experience within NatWest Group to give investors a better understanding of the business models of the companies he followed. His general business analysis is supplemented with specific experience in balance sheet management, derivatives, tax, pension and accounting issues (invited member of FIAG), combined with considerable board-level liaison across all sizes of companies. He spent more than 10 years as a highly-rated sell-side analyst, primarily with the financial specialists Fox Pitt Kelton and Keefe Bruyette & Woods. His coverage extended beyond banks to a range of financial companies, after which he spent six years with the sponsored research house Edison.

Mark joined Hardman & Co in March 2016. He holds a BA (Hons) in Economics and Law from the University of Durham, and a BA (Hons) in History from the Open University.



HARDMAN & CO.



International Property Securities Exchange

The first regulated property exchange in the world –
reimagining real estate investing

By Mike Foster, Hardman & Co Analyst

Table of contents

Executive summary.....	4
REIMAGINING INVESTMENT IN REAL ESTATE.....	8
Why IPSX will appeal to investors.....	9
Portfolio Managers' benefits.....	10
Investors benefit via pricing.....	11
Step-change in cost efficiency.....	11
IPSX might lead to better capital allocation	13
A dedicated real estate stock exchange opens new opportunities for investors	14
Different types of investors	14
The role of IPSX issuers in portfolios.....	20
More tightly-defined strategies possible on IPSX.....	20
REIT risks and the mitigation IPSX offers	23
The benefits of a Recognised Investment Exchange	27
Liquidity	28
How real estate compares with whole of market liquidity	28
The impact of market capitalisation on value traded.....	29
IPSX: the better alternative to direct property investment.....	30
The need for a real estate stock exchange – the issuer's angle	32
The benefits to issuers of IPSX SARCs.....	32
Who would IPO as a SARC on IPSX?.....	33
The benefits of long-term ownership	35
A thumbnail sketch of UK commercial real estate	37
THE MECHANICS OF IPSX	39
How to transact.....	40
The mechanics of buying and selling shares via IPSX.....	41
The technology behind IPSX	43
The regulator, ESG.....	44
The role of data	45
An efficient IPO process.....	47
IPSX AS AN ORGANISATION: A brief history of IPSX	49
Leadership team: group board and senior advisors	50
IPSX UK board and senior management	51
IPSX approved valuers	53
The economics of IPSX	54
Glossary.....	55
About Hardman & Co	58
Disclaimer	60

IPSX Group



IPSX provides a public market option for real estate owners that delivers access to the widest possible investor base with transparency, liquidity and real-time public market pricing. IPSX is the first regulated exchange dedicated to companies owning and managing single commercial real estate assets.

IPSX Group

Founder, Chairman Anthony Gahan
Group CFO Ian Pain

IPSX UK Board

Chairman Michael Higgins
CEO IPSX UK Alan Ramsay
CFO Ian Pain

Company information

IPSX, 8-10 Hill Street, London,
W1J 5NG

+44 203 931 8800

www.ipsx.com

Media enquiries to: media@ipsx.com

Analyst

Mike Foster 020 7194 7633
mf@hardmanandco.com

IPSX GROUP

A regulated exchange like no other

This is the first and only regulated securities exchange – anywhere in the world – dedicated entirely to real estate. It will be the venue for investors to trade shares in single-asset-owning real estate companies, or multi-asset real estate companies where there is commonality in the assets. For simplicity, we refer in this document to single-asset real estate companies as SARCs. The unique benefits of SARCs are increased transparency and cost efficiency, in contrast to wider-ranging REITs (Real Estate Investment Trusts). IPSX has explicit and robust requirements of issuers as regards initial and ongoing disclosure, as well as transparency and board governance. Investors and issuers will be excited by the new opportunity that IPSX will provide. In short, IPSX reimagines real estate investing.

- ▶ **The reassurance of a Recognised Investment Exchange:** The Financial Conduct Authority (FCA) approved IPSX in January 2019 after a long process that included examination of IPSX's infrastructure, trading and settlement processes, and outsourced partners.
- ▶ **Wide appeal:** The fractional ownership of 'quasi-direct property' through IPSX will attract the widest range of investors, e.g. retail investors will be able to access what is effectively a new asset class. Family offices have a clear preference for direct property ownership. Institutional investors will value the chance not just to consider a wider pool of assets, but also to use SARCs as part of a strategy to improve liquidity in Open Ended Investment Companies (OEICs).
- ▶ **Secure assets:** IPSX quoted companies will own completed, fully-let, long-lease real estate developments, providing a secure income, as well as an opportunity, for capital growth. A minimum of 25% of the shares will be available to new investors, and gearing will be capped at 40% on listing.
- ▶ **Low operating costs:** By focusing on single assets or multiple assets with commonality, SARCs should have very low running costs.
- ▶ **Low transaction costs and faster completions:** Deals in the direct property market can take six months to complete and incur substantial costs (Stamp Duty Land Tax alone can be 5%). IPSX offers investors exposure to proxies for direct property at a fraction of the cost and with completion in a matter of days.
- ▶ **Investors appreciate focused real estate:** While even well-regarded generalist REITs can trade at wide discounts to Net Asset Value (NAV), market appetite for specialist REITs means that their share prices currently trade at a small premium, on average. SARCs will enable investors to take this focus even further.
- ▶ **Liquidity and low correlation:** By bringing to the table investors with differing strategies and time horizons, IPSX should see strong levels of liquidity. We argue that, given the nature of some likely investors on IPSX, SARCs may have even lower correlations to other assets than existing property – another attraction for some investors.
- ▶ **An attractive venue for issuers:** IPSX will generate wide interest among issuers. Just one example illustrates this: we might see generalist REITs 'spin off' part ownership of an asset to demonstrate to the market that they deserve a smaller discount to NAV.

Executive summary

A global first...

...the first real estate-dedicated exchange in the world

Who IPSX is for: institutions across the board, OEICs are only one small (but interesting) part of the potential market?

IPSX transforms the real estate investment proposition for retail investors

50% of UK commercial real estate is owner-occupied. Many asset-backed operators may benefit.

Reimagining real estate

The International Property Stock Exchange (IPSX) is a regulated market for trading shares in the issuer/company owning and managing single buildings or homogeneous discrete collections of real estate. On 9 January 2019, IPSX became one of only seven markets with recognised status in the United Kingdom with the FCA (the others are the London Stock Exchange, NEX Exchange, Euronext London, the London Metal Exchange, ICE Futures Europe and CBOE Europe Equities Regulated Market).

Although there are more than 250 stock exchanges in the world, IPSX is the first real estate-dedicated stock exchange. IPSX single-asset real estate companies (SARCs) will hold a single asset or multiple assets with commonality. Of course, other exchanges provide share trading venues for real estate shares, but the new IPSX trading platform will give capital markets real time prices for SARCs. This is one of many revolutionary benefits – reimagining real estate.

Who will benefit from IPSX?

- ▶ **Institutional investors** will benefit, for a number of reasons. For example, OEICs (Open Ended Investment Companies) can hold some assets in IPSX companies and thus improve their liquidity. Instead of having to market a building through agents or suffer the price uncertainty of an auction sale, the IPSX route enables them progressively to sell part shareholdings in SARCs at a publicly quoted share price into a liquid market. For daily traded retail funds, this should be invaluable.
- ▶ **Retail investors** will get exposure to a proxy for direct investment in property by selecting an exact asset/building held in a SARC. Transaction costs are low, and fractional stakes in several shares spread risk, if required. At the moment, this is well beyond the reach of all but the wealthiest of retail investors, who currently must buy funds with the risk of NAV discounts. Even if they could buy the underlying building directly, high costs of purchase would require a long period of ownership (to amortise those costs over a number of years). Among the costs is Stamp Duty. Share purchases on IPSX will be subject to a 0.5% tax charge, while acquisitions of direct property attract Stamp Duty Land Tax (STLD) of up to 5%.
- ▶ **Family Offices** investors, when surveyed, state a preference for investing in physical property. SARCs are the closest public market proxy for direct ownership of a single asset.
- ▶ **REITs trading at a discount to NAV** can, through IPSX, choose to float single assets on IPSX. This option has the benefit of strengthening the REIT's balance sheet and potentially helping to close a large discount to NAV, as well as adding flexibility to the REIT on its balance sheet.
- ▶ **Owner occupiers**, for example hotel chains or other long-term operators using buildings, can use IPSX to sell down the asset more efficiently, with the opportunity to retain an economic interest and adjust the size of that interest over time. This may be attractive compared with full disposal the "traditional" way.
- ▶ **Developers** and, indeed, any vendors are likely to anticipate that having the ability to float an asset, while retaining an economic interest through holding shares in the SARC, will both reduce risk and achieve a price that may assist eventual disposal of the asset.
- ▶ **Investment companies** specialising in real estate can reduce cash drag when raising new equity by temporarily investing in IPSX SARCs, while they wait for

IPSX Group

Cash drag is a major problem in the industry – IPSX solves this

appropriate direct investments to complete. The low transaction costs of IPSX-traded assets will be particularly attractive.

- ▶ **New indices:** IPSX plans, in time, to create indices as it expands. These will drive creation of funds, channelling investment, and increasing share liquidity and IPSX revenue.

The major benefits of focus on 1) a SARC-only exchange and 2) all SARCs being single assets

The revolutionary benefits of single-asset-owning real estate companies

The structure of IPSX issuers will have the following benefits.

Optimal cost efficiency and optimal transparency are only available via IPSX

- ▶ **Running-cost efficiency:** We anticipate the cost ratios of IPSX SARCs may be materially below those of the best-in-class REITs quoted on other markets. Simply put, this is because these are simple structures.
- ▶ **Detailed information:** Each SARC will have a detailed independent update on valuation and risks, twice a year. The data for each asset will not be “lost” or at least diluted through being part of a wide range of varied assets in a “traditional” REIT. As a regulated exchange, all investors have the comfort of duly mandated processes of publication of information – democratisation, if you will.
- ▶ **Transparency:** The two categories above make the SARC transparent (what it says is what it exactly is), so investors cut out a host of risks apparent when investing in broader REITs. It is easier to value the IPSX traded company’s building than a private market building – a live price says what the asset is worth to the market.
- ▶ **No mission creep:** A SARC side-steps the risk in a generalist issuer altering its asset exposures away from any given investor’s initial share purchase decision.
- ▶ **No cash-deployment risk at IPO:** IPOs will involve the flotation of a SARC that already holds the asset rather than cash. At IPO, many REITs hold some cash that is yet to be deployed.

No “mission creep” ...

...no IPO cash deployment risk

The multiple benefits of tight asset focus

Hardman & Co has calculated that the average (market capitalisation-weighted) share price premium to NAV for focused REITs is currently 3%¹. This provides a clear message that the rating to NAV for focused REITs in a single asset class is much lower. With IPSX SARCs being even more focused, the evidence points to IPSX shares trading at small discounts to NAV, if any.

The share price issue: clear existing evidence that investors seek an IPSX-type focus

Diversified REITs’ share prices show there is a problem...

Even well-established, high-quality bellwether REITs trade at 38% and 42% discounts to NAV (namely Landsec and British Land, respectively²). This highlights, we believe, a clear and present problem with existing UK mainstream REITs. Both are well-run, established and liquid, but they suffer from the fact that investors will always see some of their assets as having strong prospects, while others (maybe retail, for example) look shakier. Any investment will be a compromise – hence worthy of a discount.

...supports the case for building-specific SARCs

IPSX SARCs are much simpler – more than the most focused of REITs – and exposed to fewer potential strategy conflicts and lack of transparency. All of these can, and do, impact negatively on non-IPSX share prices.

The number of tight-focus asset-class specialist REITs has grown considerably on the London Stock Exchange in recent years. Hardman & Co estimates that over £1.2bn

¹ Hardman & Co insight “Secure income” REITs’ 22 March 2019

² Based on share prices as at 3 June 2019

This shows investors seek specialism and efficiency. IPSX provides the “cleanest” version of this.

Hardman & Co anticipates at least £230,000 per trading day for a typical IPSX SARC

The share price of an IPSX SARC will provide a real-time market value for the asset

IPSX SARCs should have low correlation to non-property equities

There are not just one or two reasons for private investors to participate...

...but many

IPSX efficiencies drive multiple attractions

has been raised by such specialist REITs in the past two years alone. IPSX fits precisely this trend of tightly defined asset-class investing.

IPSX provides the clearest and cleanest version of this specialism and cost efficiency – so has every prospect of attracting both issuers and new investors.

What this share price (and SARC-asset) transparency brings

Liquidity on IPSX is likely to be good, given its appeal to so many different types of investors. Hardman & Co anticipates that a typical IPSX SARC of £300m size might trade £230,000 per day.

This is a “user-friendly” platform. IPSX transactions will be similar to other major exchanges, and thus familiar to investors. Trading will be through market makers, traditional brokers, retail platforms, and via an auction at the opening and closing of the trading day. Emphasis on liquidity should not obscure that, while IPSX SARC shares can be traded, the IPSX SARCs themselves buy and hold the asset. IPSX SARCs have every incentive to take long-term investment views (e.g. on maintenance cycles). The data-rich environment should also promote ESG (environmental, social and government) investing.

IPSX: a real-world check on what property is actually worth

Crucially, the share price of any IPSX SARC will provide a real-time market value for the asset. On most, indeed all, global stock exchanges, the share prices of REITs can diverge markedly from the NAV. Why is this? Firstly, because valuers often take a different view on valuation to investors. Secondly, stock market investors are not buying direct assets, but rather a package managed by and selected by a pro-active board (although this could happen to SARCs). Thirdly, because there is less transparency around the value of the management company’s active management of the asset. Fourthly, because REITs often have other operational activities, such as real estate development.

Lower correlation, lower volatility, better pricing

Investors often buy property because they perceive there is a low correlation with equity and bond markets. IPSX SARCs should prove to have even lower correlations and lower volatility because many investors on IPSX will be dedicated property investors, not constantly weighing up property against other sectors or even bonds. In efficient markets, the lower the volatility, the smaller should be the discount rate applied to future income streams.

Other benefits of IPSX

Attribute	Comment
Transparency of data	IPSX will require six-monthly valuations, in addition to financial and other periodic company data.
Information asymmetry may benefit	There is a “fighting chance” an investor will have deep expertise in the locality where investment is made.
Quantified “pick and mix”	The retail investor may find funds begin trading that have a transparent and quantified stock-picking screening process.
A sense of ownership	These are not “high-frequency trade” shareholdings.
Liquidity	Market-making, plus two auctions per trading day.
Diverse risk spread	Exposure can be through a diversity of SARCs.
Income flow	SARCs (at IPO) must be stabilised assets.
Cost efficiency 1)	We anticipate management fee structures will be efficient.
Cost efficiency 2)	Cost of debt will be at efficient “corporate” margins over LIBOR.
Tax efficiency	The REITs regime is designed to encourage tax-efficient investment, and this is unlikely to change under evolving/different political regimes.
Governance	Each SARC will have a Board of Directors.

Source: Hardman & Co Research

The REIT market is not broken, but it is fraying

IPSX releases the true potential of these new structures

Addressing a £900bn conundrum

The estimated valuation of UK commercial real estate assets is £900bn³, yet investors and owners still struggle to answer the question “what are these assets really worth?” *Property Week* recently described this as a “Cinderella moment’ for industry⁴”.

The aim of this document is to demonstrate how IPSX cuts through this conundrum. IPSX, uniquely, will provide greater price clarity on individual SARC values (which act as a proxy for underlying asset values) by displaying live prices at which investors can deal. This obviates the difficulty of valuing baskets of assets from which most quoted property businesses suffer.

³ Investment Property Forum 2017

⁴ *Property Week*, 5 April 2019: <https://www.propertyweek.com/insight/cinderella-moment-for-industry/5102452.article>

REIMAGINING INVESTMENT IN REAL ESTATE

This segment of the document explores IPSX's appeal to investors and a variety of stakeholders. The range is extensive.

- ▶ The IPSX (single-asset-owning real estate company) SARC's focus on managing single assets or multiple assets with commonality and the cost efficiencies stem from its unique characteristic. IPSX should lead to better asset allocation and asset price discovery.
- ▶ IPSX opens new opportunities for investing in SARC's, which are the closest public market proxy for direct ownership of commercial real estate. Currently, several hurdles are in place for most potential commercial real estate investors.
- ▶ There are specific benefits applicable to a wide range of investor classes – from institutional to retail, including family offices, OEICs and others.
- ▶ The role of IPSX real estate in portfolios includes a range of tightly defined strategies.
- ▶ IPSX is a Recognised Investment Exchange. The fact that it is regulated leads to a series of benefits, including governance and security.
- ▶ Liquidity is an important factor, and we analyse the potential scenarios in this report. Shares can be sold at any time during trading hours. Transactions are never dependent on finding a matching investor, because of the duty placed on market makers to make trading prices at all times, during trading hours.
- ▶ IPSX has many benefits for different types of issuers. These include speed of issuance, dual-track options for disposals, the requirements of owner-occupiers, and a series of attributes that stem from cost efficiencies, transparency and other factors.
- ▶ Real estate owned through IPSX places the asset in a management company structured around long-term ownership. This brings benefits such as stewardship, placemaking and a series of environmental and governance benefits. Placemaking is a combination of planning and design. It also comprises the management and ownership structures in which co-ordinated decisions can be actioned, in order to create strong communities. Placemaking thus capitalises on a local community's potential, which aligns the concept with stewardship of an asset to maximise community benefits. A more direct connection between owners and assets is promoted by the nature of IPSX's SARC structure.

Why IPSX will appeal to investors

Existing market share prices show the need to reimagine the real estate investment market

In recent years, it has become common for larger REITs with portfolios of mixed assets to trade at large discounts to NAV, while smaller REITs, focused on one class of asset, typically trade on far smaller discounts, or even premia. IPSX, with single-asset SARCs, takes this theme a stage further.

Commonly-held larger REITs, such as British Land, Capital & Counties, Capital & Regional, Derwent London, Great Portland and Landsec, trade at discounts ranging from 17% (Great Portland) to 42% (British Land). Clearly, some investors struggle to understand the valuation of these REITs, or distrust the NAV.

Recent UK investor appetite has been focused on REITs that invest in single asset-classes. Share price ratings and fund raises confirm this. The number of asset-class specialist REITs on the London Stock Exchange has grown considerably in recent years⁵. Hardman & Co estimates that more than £1.2bn has been raised by such specialist REITs in the past 24 months alone. IPSX precisely fits this trend, taking the desire for tightly defined asset-class investing to its logical conclusion of, potentially, a single building.

A wide discount for the general REITs – single-asset focus, trading at a premium, is the winner

On average, the share prices of these highly asset-sector-defined REITs trade at a small premium to NAV, namely 3% (weighted mean) and 2% (median). The table below points, in evidence, to two types of such tightly asset-class-focused REITs trading on the London Stock Exchange. Primary Health Properties' sole asset class is primary medical assets, and it trades at a 29% premium to historical NAV (Assura, in the same sector, trades at a 20% premium). Other specialists predominantly trade at share prices clustered around historical NAV.

Asset-focused REITs trade at much firmer share prices than general SARCs

Recent share price % premium to NAV SARC and type of asset held

29.0	Primary Health Properties (PHP): tightly focused on UK primary medical assets
4.0	Supermarket REIT (SUPR): tightly focused on UK supermarket assets
-38.0	Landsec (LAND): a general, large UK REIT

Prices as of 3 June 2019. Source: Hardman & Co Research

Transparency drives down unforeseen risks and costs

Transparency (tempered only by commercial sensitivity) is essential for efficient investment in real estate. A dedicated exchange facilitates improved transparency:

Simple...

- ▶ by being a venue focused on issuers managing single-asset, or multiple-asset with commonality;

...simple...

- ▶ by prescribing periodic asset valuations with a basic "template" for comparable data reporting;

...modest...

- ▶ by focusing on issuers with reduced running costs, by virtue of the simple operating model (the difference between rent and net cashflow should prove to be clear and modest); and

...and clear

⁵ See Hardman & Co research: *Secure income REITs*, published on 22 March 2019.

Portfolio Managers' benefits

Low correlation with other assets...

Portfolio managers seek out assets that are uncorrelated to others, or have a low correlation.

Low correlation over a sustained period of time...

Property, in general, as an asset class is attractive to portfolio managers because, historically, it has a low correlation with other assets. Holding property assets in portfolios moves the boundary of risk and reward in a positive way.

It has been estimated that, since 1950, real estate correlation with equities was only 28% and with gilts 12%⁶. Of the YoY returns from real estate between 1950 and 2017, 5.9% came from income, with 3.7% from capital return. These returns were not only relatively uncorrelated with, but at the same time more consistent than, those from equities and gilts.

IPSX-traded securities may prove to have an even lower correlation to equities and gilts than other exchange-traded property assets by virtue of the fact that many investors on the exchange will be running real estate-only-dedicated asset pools. This contrasts with real estate assets quoted on traditional exchanges where many or most investors are constantly comparing property assets with other sectors, and switching between them.

...combined with lower volatility...

Trading via a stock exchange dedicated to real estate stands a strong chance of reducing equity "noise" – i.e. share price volatility. Volatility can be caused in markets by investors switching between different types of assets – for example, equities to corporate bonds, retailers to tobacco stocks, or property stocks to housebuilders. If IPSX appeals to investors who tend to focus on one asset class – real estate – this may mean that shares quoted on IPSX have lower volatility.

If it transpires that IPSX-traded shares have a lower volatility, then investors will accept a lower discount rate, making future returns more valuable.

...and lower transaction costs

IPSX enables investors to invest in specific assets at a much lower transaction cost than they would incur if they bought the asset directly. The SARC itself buys and holds the asset. The shareholders in the SARC can buy or sell their shares in a liquid market, enabling the investor to change or refine tack not only for less, but far more quickly than would be involved in dealing in the underlying asset.

...allowing investors to build an efficient portfolio

What you see is what you get

Investors in IPSX securities get what they see – exposure to a particular asset or assets.

Data, reports, structure

They can back their own judgement and don't have to rely upon the investment decisions of a board of directors, which might move the shares' investment drivers from those exhibited at the time the shareholder bought in. Data disclosure on investment and ESG attributes of IPSX SARCs will be designed to be useful in easily comparing SARCs in the portfolio on a standardised set of criteria, as well as monitoring the evolution of the asset within that SARC.

⁶ Source: Real Estate Strategies study – quoted by IPSX

IPSX has a clear template for IPOs

IPO onwards

At IPO, a number of fixed criteria will be required of the issuer, including:

1. a management company to hold and manage the asset(s), with effective governance and management arrangements in place which demonstrate the strategic decision-making capability of the company;
2. a free float of at least 25%;
3. a stabilised asset structure (i.e. rental streams will be in place and of reasonable forward durability);
4. each SARC will comprise homogeneous and discrete assets, which may include:
 - a. a single asset; or
 - b. multiple assets with commonality, examples of which would be:
 - i. one estate with relatively homogenous planning permission use category; or
 - ii. a single type of asset class across a broad geography.
5. a valuation report at IPO and twice-yearly thereafter, in addition to financial statements;
6. the most appropriate level of data disclosure on tenants and leases will be posted regularly to maximise transparency, subject to commercial sensitivity;
7. other ad hoc and periodic regulatory disclosures will be the same as any REIT admitted to trading on a UK exchange or Multilateral Trading Facility;

The asset is held in the company long term

This variety in the “eco-system”, i.e. different classes of investor, combines to provide market liquidity, while also ensuring the asset is owned by the SARC for the long term and is subject to investment decisions applied to that long-term horizon. Typically, a SARC is not anticipated to sell – during the life of the SARC – the asset that it is created to own.

Investors benefit via pricing

IPSX shares should track NAVs more closely

IPSX should track underlying asset values of property much more closely

We have already observed and illustrated that SARCs should have a strong role within larger portfolios, that role being the optimisation of un-correlated assets’ volatility and return. If the prices of IPSX traded shares prove to be more closely tied to NAV than property assets quoted on other markets, this will be a benefit to both investors and the traded companies. The detailed inputs required of IPSX companies should help achieve this. All the factors above should result in SARCs that are less volatile, less correlated to other major asset classes, efficient to run and hold, and valued on income streams based on discounted future cashflow (DCF), rather than NAV.

Step-change in cost efficiency

Our EPRA cost estimate on IPSX (a Hardman & Co estimate) is sub 10%, which is below existing best-in-class

We believe that IPSX SARCs might be able to achieve EPRA cost ratios (broadly the ratio of net overheads to gross rental income – see Glossary in this report for more detail) as low as 10%, or even less – the larger the asset, the lower the cost ratio should be. This would be substantially below the cost ratios of REITs quoted on other exchanges.

To compare the likely IPSX cost ratios with what is currently available, we look at two of the more efficient existing REITs. One is efficient primarily because it is large – British Land has significant economies of scale – and the other because it is straightforward – PHP’s sphere of investment is restricted to primary medical assets, i.e. GP surgeries.

British Land has low costs: 16.9% EPRA ratio in 2018....

British Land is a high-quality benchmark of “general-purpose” REITs. It recorded a 2018 EPRA cost ratio of 16.9%, or 14.9% excluding vacancy costs. This is among the most efficient in the quoted REIT sector, benefiting from good governance, sheer scale of the total asset base and large-sized assets.

..... PHP low too: 14.3% in 2018

Among specialist SARC is PHP, with a £1.5bn market capitalisation. Its EPRA cost ratio last reported was 14.3% in 2018, having reached as low as 11.5% in 2016. Hardman & Co anticipates that many IPSX-traded SARCs might be able to achieve EPRA cost ratios in the range of 6% to the lower end of the PHP figure, namely 11.5%. How? Well, a SARC or REIT with a rental yield of a relatively modest 4.0% and a fee structure based on 0.2% of net assets p.a. would have an EPRA cost ratio of 5% if (unrealistically) there were no direct property expenses. Other fees (audit, valuation, directors) might add a small number of percentage points. (Please note, this is a Hardman & Co estimate and has not been endorsed by IPSX.)

Direct property expenses would be the same in whatever company the asset was held. Such expenses might realistically boost the EPRA cost ratio to, say, 10% at the medium-sized segment of anticipated assets quoted on IPSX. We emphasise that Hardman & Co is in no way suggesting a benchmark, either of the fee structure or the types of cost ratios, but we would be disappointed if this were not a low-cost way to invest in property assets.

One drawback, though

One last point needs to be made on portfolio efficiency. A SARC, being a single asset, has obvious concentration risk. CFA Society-provided data regarding correlation and tracking error (2014) indicates that it takes 86 properties to reduce tracking error in London offices to 2%. Owning 86 single-asset SARCs is more possible for an institutional investor than the retail investor. Even so, for an institution, IPSX represents a low-cost and manageable way to create an efficient portfolio.

In summary

IPSX-traded companies will offer investors:

- ▶ low operation costs – it is noteworthy that EPRA cost ratios might well fall to below half those for many generalist REITs;
- ▶ elimination of management strategy “mission creep” compared to a generalist REIT or REIT subject to more active management possibly a reduction or elimination, or even a reversal of share price discounts to NAV; and
- ▶ low correlation with other assets.

Reduction in costs is an essential catalyst to other benefits

IPSX might lead to better capital allocation

Better data

A huge £900bn-plus market, better understood...

- ▶ Individual IPSX SARC real-time share prices will help anchor the pricing of assets and complement a valuer's professional best efforts. Indeed, market price formation may be systemically changed by the presence of IPSX – this may inform how the whole commercial real estate market is valued.
- ▶ Publicly quoted real estate in the UK has traditionally been valued by stock market investors against a reported NAV of the shares. IPSX, by raising focus on the share price and hence diluting the focus on the NAV, may play its part in pointing investors away from NAV and towards discounting future income returns to guide investment decisions.

...via the share price...

- ▶ Data on share prices, on buildings' characteristics and performance attributes bring opportunities to better understand the whole property market.

...and on building performance improvements

- ▶ Data to help on ESG issues and social impact investing.
- ▶ Data sets help hone performance expectations (trading returns over time), and thus might be used increasingly for LDI (liability-driven investment).

In conclusion, each of these sets of data help allocate capital more efficiently.

The structure promotes asset stewardship

Buildings for the people

A structure of single-asset companies, or companies holding multiple assets with commonality, is likely promote local interest, benefiting social companies (Registered Providers – RPs – in the housing market, for example), local authorities, local people and local organisations. Through IPSX-traded companies, stakeholders can take a stake in their locality.

Stewardship is fostered by "buy and hold"

By definition, the structure of each IPSX SARC is to buy and hold a single asset, or multiple assets with commonality. This is not an investment company that buys and sells a variety of assets. The SARC already holds an identified asset or assets when it comes to market. The way to create "alpha" is to make the building better and its tenants happier.

A dedicated real estate stock exchange opens new opportunities for investors

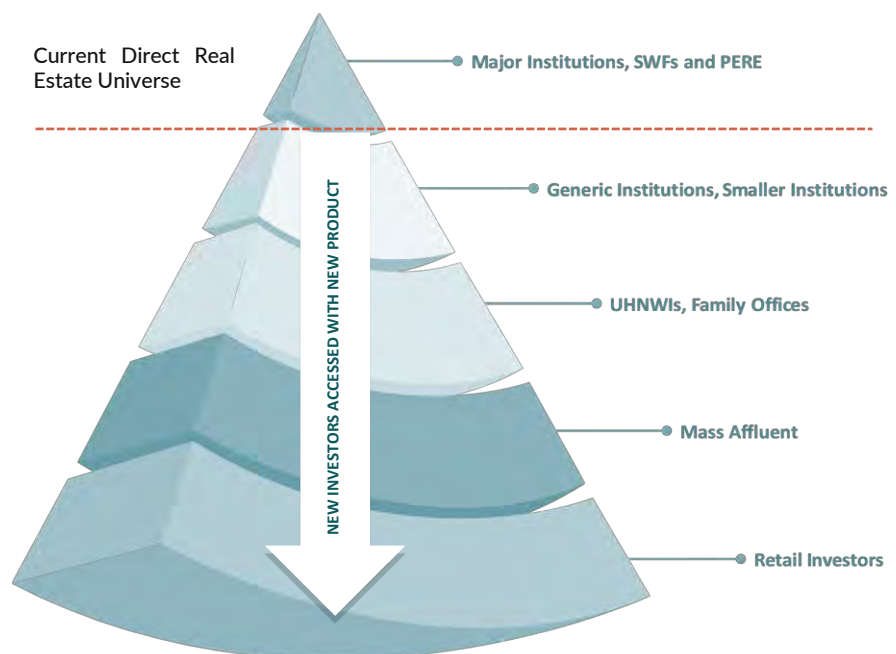
The current investment options (pre-IPSX) are limited and exclusive

Only a small number of major institutions, sovereign wealth funds and private equity real estate funds can access commercial real estate directly through the purchase of direct physical assets. Other investors must rely on quoted property companies, quoted and private funds, and OEICs, where, as well as making a judgement on an asset or asset class, they need to take a view on the manager of their assets and their ability to switch between assets successfully.

Direct exposure to real estate is only an option for those with a very large "lot" size

By number, IPSX is for the many, not the few

Investor categories



For acronym definitions, please refer to Glossary. Not to scale.

Source: IPSX

The illustration above demonstrates the way in which a vastly wider range of investors will be able to gain, effectively, direct access to assets via IPSX. IPSX's focus on commercial real estate, the operation of a MiFID regulated market, which enables retail investment, and the built-in low cost of acquiring shares relative to direct investment in commercial real estate are the foundations to the proposition – this opens the door to a variety of investor types.

Different types of investors

Different types of investors are a good thing

Having a variety of investors attracted to IPSX is good for liquidity and the flow of funds. Different investors bring a variety of quantum and timing of cashflows, and multiple time horizons. This will provide resilience in times of stress.

Investing in commercial real estate comes with a varied list of opportunities and costs. Those costs revolve around illiquidity, excessive concentration by location or type (with several options only realistically available for residential letting) and cost inefficiencies in running the assets. Part of the contribution to illiquidity and cost is the

SDLT, payable on purchase. SDLT paid by commercial real estate totals ca.£3bn (albeit this is much below VAT payable on rent, at £5bn, and occupiers paying business rates of ca.£20bn).

Retail investors

The current investment options for retail investors

The current investment options open to investors seeking to invest in real estate are wide-ranging, yet exhibit a number of intrinsic drawbacks. Below, we outline the main types and their difficulties.

Retail investor base: current investment options

Options	Comment
Open-ended funds	Illiquid when liquidity is needed; most asset type/quality “creep”; not optimising tax efficiency.
Buy to let direct	Tax inefficient; time-intensive/significant running costs; only residential; permanently illiquid; significant entry costs.
Unquoted “micro-REITs”	Lack of transparency; residential; no long-term track record.
Direct commercial investment	Large lot size; significant risk of long void periods; for “professionals”; debt financing very difficult; illiquid.
Quoted real estate shares	Liquid; information asymmetry; mismatch to asset performance.
Crowd funding	Illiquid; no long-term track record.

Source: Hardman & Co Research

Current options have drawbacks

The REIT environment provides a framework for quoted real estate stocks, but a single-asset REIT or SARC is structurally different. An IPSX SARC should be a closer share price match to the asset performance than a general REIT (whose assets may change significantly over time). While this seems intuitively correct and has been empirically demonstrably correct over the past year, different academic studies have reached varied conclusions for the long term.

Academic studies

This is not to say that current options are all bad. IPSX optimises the choices open to investors; it does not replace an irretrievable model. We note, for example, that Ling and Naranjo in 2012 calculated that a typical unleveraged SARC outperformed the direct property market by 46 bps from 2Q 1994 to 4Q 2010⁷.

The advantages of IPSX to retail investors

We anticipate IPSX will be welcoming to retail investors. The single-asset component is the key to it all.

Not only will IPSX offer retail investors an alternative way to participate in the returns from property assets, but they are likely to be encouraged to be involved. IPSX is keen to see the involvement of retail investors in book building for its IPOs and, it is believed, is keen to encourage retail participation via several platforms. It is also thought that widely distributed research will form part of the package to ensure a level playing field for retail involvement.

There are, we consider, numerous and significant further benefits from securing exposure to real estate for retail investors through fractional shareholding in SARCs dealt on IPSX (see table overleaf).

⁷ Quoted in an article by Alex Moss in the CFA Journal in 2013/14

A significant diversity of benefits

Retail investor base: IPSX investment options

Characteristic/attribute	Comment
Transparency of data	IPSX will require six-monthly valuations, in addition to financial and other periodic company reporting.
Information asymmetry	There is a "fighting chance" an investor will have deep expertise in the locality where investment is made.
Quantified "pick and mix"	The retail investor may find funds begin trading that have a transparent and quantified stock-picking screening process.
A sense of ownership	These are not "high-frequency trade" shareholdings.
Liquidity	Market-making, plus two auctions per trading day.
Diverse risk spread	Exposure can be through a diversity of SARC's.
Income flow	SARC's (at IPO) must be stabilised assets.
Cost efficiency 1)	We anticipate management fee structures will be efficient.
Cost efficiency 2)	Cost of debt will be at efficient "corporate" margins over LIBOR.
Tax efficiency	The REITs regime is designed to encourage tax-efficient investment, and this is unlikely to change under evolving/different political regimes.
Governance	Each SARC will have a board of directors.

Source: Hardman & Co Research

Retail and IPOs

The retail investors may decide on their own stock selection strategy, or they may find funds begin trading that have a transparent and quantified stock-picking screening process.

Institutional investors

In addition to the benefits outlined above, many of which apply equally to retail and other investors, institutional investors will have additional reasons to consider investing in IPSX-traded stocks. For institutions, there are a number of benefits not available elsewhere. The table below lists only some.

Institutional investor base: IPSX investment benefits

Attribute	Comment
Transparency of data	IPSX will require six-monthly valuations, in addition to financial and other periodic company reporting.
Low costs	We anticipate EPRA cost ratios will be below those of larger, generalist, REITs.
A sense of ownership	The institution can create and benefit from asset "stewardship".
Reputation	Institutions who operate open-ended real estate funds run reputational risks if they need to "gate" those funds. IPSX directly addresses that.
Quantified "pick and mix"	Institutions can add value and fees by creating open-ended funds investing in liquid, transparent real estate positions.
Liquidity, diversity, income, cost and tax efficiencies, governance	All attributes as per table above.

Source: Hardman & Co Research

Institutions will often wish to be seen as long-term investors in the asset – a sense of stewardship

Institutions running OEIC structures have issues to address – see following section

An important additional benefit for investment institutions managing funds is the ability, over time, to launch products where third parties (be they retail, family offices or other investors) can invest in certain, predetermined criteria via SARC's dealt on the IPSX. Clearly, the greater the number of SARC's traded on IPSX, and the wider variety of types of assets, the more attractive this becomes. The data recommended or mandated by IPSX could form the basis of customised filtering for investor characteristics determined by the ultimate investor. Those filters could comprise locations, or asset types, or net initial yields, or various or a whole range of investor criteria.

Open-ended funds, by their nature, are subject to monies coming in or going out on a day-by-day basis

Liquidity for managers of open-ended funds is cash-based liquidity...

...sometimes the cash runs out

Difficulties can be experienced even when the market as a whole is relatively benign

In 2016, significant problems were encountered

OEICs/PAIFs

OEICs are open-ended investment companies, and some invest in commercial real estate on behalf of holders (usually retail investors) of units (or shares) in the fund. The number of units rises and falls as investors put money in, or take money out (as cashed-in units). PAIFs are targeted on property, i.e. real estate. PAIFs, while similar to OEICs, enjoy a more favourable tax treatment – similar to REITs. Clearly, one characteristic of these funds is that the invested money can be added to or withdrawn by investors, leading directly to an expansion or a shrinkage of funds available to be invested in the real estate. A liquidity “buffer” is needed, as a result. There have been three recent episodes where the liquidity buffer proved to be only partially successful against significant sums being withdrawn by investors in these collective funds.

In the period from the start of 2007 to the start of 2010, such funds lost 35% of their valuation⁸ and, during this period, many fund managers restricted unit redemptions.

Perhaps both more surprising and more instructive, there have been occasions when collective investments have had to suspend withdrawals, even without any particular bearish trends in the wider real estate market. On 5 July 2013, Brandeaux, the property fund manager, suspended all eight of its funds after experiencing higher redemption requests and liquidity problems. As stated in the *Financial Times*: “The company, which manages the £1bn Student Accommodation Fund, an open-ended property fund, on Monday said it would no longer accept new subscriptions or redemption requests. The suspension includes Brandeaux’s range of ground rent funds. It blamed the move on the uncertainty in the student accommodation market, stating that there is a considerable “overhang” of UK purpose-built student properties. Brandeaux said it was in discussions on various property transactions to create liquidity for investors. This includes selling about 80% of the ground rent portfolio by value. In a letter, Roger Boyland, chief executive of Brandeaux, told investors not to panic. ‘The Brandeaux funds are all performing positively, and own hard assets represented by high-quality UK property. There is no basis for investors to ‘panic’ or to worry that they have ‘lost all their money’.” Indeed, investors in Brandeaux Funds did, in due course, receive, in cash, sums that could be considered to bear a fair reflection of the underlying fund assets (a Hardman & Co assessment). This episode – while being fairly concentrated in nature, does, we believe, show how these funds have built-in tensions.

In early July 2016, the sector as a whole suffered cashflow strains as a direct result of the unexpected Referendum result regarding the future status of the UK in the EU.

Standard Life Investments announced that it had (temporarily) suspended trading in its Standard Life Investments UK Real Estate fund (and its associated feeder funds) due to “exceptional market circumstances”. The strategy alone had assets under management of £2.9bn. A statement by Standard Life confirmed: “The suspension was requested to protect the interests of all investors in the fund and to avoid compromising investment returns from the range, mix and quality of assets within the portfolio.” Aviva Investors temporarily suspended trading on the £1.9bn Aviva Investors Property unit trust because “the extraordinary market circumstances, which are impacting the wider industry” led to a lack of sufficient liquidity. M&G gated (i.e. severely restricted daily individual redemptions of) its M&G Property Portfolio. This lack of liquidity to cope with exceptional circumstances brings a number of issues. The main one is the suspension of trading. Another is how to find the correct price for the funds. There is an argument that the funds may have exacerbated the problem by not marking down units in line with REIT prices, giving investors an extra incentive to redeem units.

The FCA has been concerned that these vehicles do not work well in a crisis and may stop investors taking their money out in stressed economic circumstances. If some of

⁸ FE Trustnet

the funds were held in IPSX-traded stocks, it should be easier to meet demands for disinvestment.

Using SARC's, the liquidity is no longer cash...it is replaced by real estate liquidity...

...so, no cash drag, no asset mis-match

Open-ended investor base: IPSX investment options

Attribute	Comment
Transparency of data	See page 45.
Liquidity 1)	Market-making, plus two auctions per trading day
Liquidity 2)	Open-ended funds currently suffer from "cash drag". Unless various synthetic investment styles are used, cash has to be held at all times to act as a buffer against unit redemptions.
Reputation	Gating (to reduce or suspend redemptions) or moving between bid and offer basis (to reduce redemptions) harms reputations.
Diverse risk spread	Exposure can be through a diversity of SARC's.
Income flow	SARC's (at IPO) must be stabilised assets.
Cost efficiency	A fund holding a "conventional" SARC would have been subject to two sets of fees, but an IPSX's single-asset company fees are likely not to be accretive.
No cash drag	Cash liquidity is replaced by liquidity via real estate IPSX assets.
Liquidity – governance	All attributes as per table above, page 16.

Source: Hardman & Co Research

For all these reasons, OEICs currently are drawn down the route of cash-based liquidity buffers. This is, at best, a cash drag, and, at worst, an asset mismatch, as investors invest in OEICs to have money in real estate. Cash drag equates to the impact that an investment company will suffer, by holding some of its assets as cash – thus not fully matching the performance of the real estate asset class in which it is designed to invest. There is an inefficiency: a "drag". To mitigate this, OEICs could buy "mainstream" REITs, as those investments would be a closer match than cash would be, but there are major hurdles. Existing REITs' ERPA costs open OEICs to accusations of charging fees on top of fees.

No fee-related conflict of interest

An OEIC might choose to securitise one of its assets. By securitising it, the OEIC could sell down its holding rapidly, were it to need to raise liquidity quickly. The liquidity issue is positively addressed, and there is no fee issue. Where it continues to be the asset manager of the underlying asset, it is not "paying" fees away; rather, the wider OEIC is just continuing to earn the same fees on the underlying asset that it would if it were unlisted. This is a large issue – PAIFs/real estate OEICs in the UK total ca.£20bn funds invested.

A large (£20bn) issue that needs addressing

Family offices

Family offices have a stated affinity for investing in physical property. In a recent survey of European family offices, 79% stated this preference – for physical assets – and a significant number also wanted the ability to check a secure legal title (30%)⁹. In short, family offices welcome the tangible nature of the asset.

A sense of ownership, but with a market price

These preferences are reflected in European family office asset allocation. On average, 50% of their assets are invested in alternatives (private equity, hedge funds and real estate), with commercial real estate amounting to 23% of the total (17% of which is held directly)¹⁰. This reflects the European culture of seeking wealth protection, rather than the growth strategies more prevalent in the US and Asia. When these family offices enter into direct, co-investing deals with professional managers, the allocation to real estate rises to 60%.

⁹ Survey by UBS and Campden Wealth

¹⁰ Source: Global Family Office Report (UBS and Campden Wealth) 2018/ IPSX

Family office investor base: IPSX investment options

Attribute	Comment
Transparency of data	The market price gives a transparent valuation.
Liquidity 1)	Market-making, plus two auctions per trading day.
Liquidity 2)	The ability to drive investment through desired investment “style” characteristics and not the “drifting” characteristics of the asset.
Reputation	Stewardship, a sense of ownership and the SARC’s ability to benefit from long-term asset management opportunities.
Touching the underlying asset	Prefer tangible assets.
Diverse risk spread	Exposure can be through a diversity of SARCs.
Liquidity – governance	All attributes as per table page 16.

Source: Hardman & Co Research

Attractive though investment in direct property is to family offices, even large family offices are subject to illiquidity and high transaction costs, along with the issues surrounding the securing of the finest of terms on debt finance. IPSX solves this.

Companies/investment trusts

Traditional REITs themselves often suffer cash drag post an equity raise during the fund deployment process. This can negatively affect NAV, in that a significant portion of the assets may initially be held in cash. This will certainly affect income, and hence dividend cover. IPSX-traded SARCs might solve this problem. Non-IPSX-traded REITs could become temporary investors in IPSX-traded stocks, while they secure opportunities to deploy their funds, so long as IPSX offers a trading platform with characteristics that suit them. Clearly, transaction costs on IPSX would need to be low, and liquidity high.

Of course, a fund in rundown can use IPSX stocks in the same way. As the end of its term approaches, it can sell direct assets and temporarily redeploy the cash in an IPSX stock, without suffering the crunching of income that would result if it held the money in the bank. When it is ready to return money to investors, it just sells its IPSX holdings.

SARCs and corporate investor base: IPSX investment options

Attribute	Comment
Transparency of data	See page 45.
Diverse risk spread	Exposure can be through a diversity of SARCs targeted to the investment mandate of the investing SARC.
Low transaction cost	SDLT is not paid when shares are traded – just at set-up on the SARC.
Income flow	SARCs (at IPO) must be stabilised assets.
Cost efficiency 1)	We anticipate management fee structures will be efficient.
Cost efficiency 2)	Cost of debt will be at efficient “corporate” margins over LIBOR.
Liquidity – governance	All attributes as per table page 16.
Holding benefits	IPSX SARCs can be a good interim destination for funds awaiting deployment: liquid and with low transaction costs.

Source: Hardman & Co Research

Private equity

These funds can reach very large sizes. In January 2019, Blackstone closed a \$20bn real estate fund raise for just one fund. In total, it had \$119.9bn in real estate assets under management at the end of the third quarter of 2018.

These fund managers can use IPSX-traded stocks in the same way as other investor categories to reduce cash drag.

Cash drag remains a significant problem here too...

...which IPSX addresses directly

Again – cash drag problem solved

The role of IPSX issuers in portfolios

More tightly-defined strategies possible on IPSX

In a nutshell, we consider the overarching benefit of IPSX to be that investors can select a SARC that owns an asset or assets that closely matches/match their desired criteria. For example, one criterion might be low volatility (without sacrificing performance on valuation outputs).

A real estate investor seeks the following.

Pick and choose what you want

- ▶ To match asset performance with evolving liabilities (personal, i.e. an individual or an institution).
- ▶ To match personal, as opposed to institutional, needs. The rise of defined contribution vs. defined benefit raises the need for liquidity, as the former tends to be individual-based, versus the latter being collective. If the asset has to be matched to the individual, it may need to be liquidated to match an individual and actual timely need, as opposed to an actuarially determined profile-matching exercise.

Efficient portfolio creation and management

- ▶ To advance the risk-reward “boundary” by holding a variety of asset classes. Real estate is not a totally uncorrelated asset, i.e. its valuation, to at least some extent, moves in line with the economic cycle, equity and bond markets. Some types of real estate are much less correlated than others, and investors may well benefit from tailoring their portfolios more so, or less so, to uncorrelated assets.
- ▶ To be able to add to or reduce perceived volatility or quantum of returns through constant re-calibration of exposure within a larger portfolio.

Or more detail – back your judgement

- ▶ To back their detailed judgement. Most investors do not have the experience or confidence to make individual investment decisions, and are best advised to use collective companies. However, some investors may have an aptitude in investment or a desire to make their own choices. To date, they simply have not had the opportunity to back that judgement in commercial real estate – IPSX will provide that opportunity.

A worked example to illustrate different strategies

Looking at the 10 years post the cyclical peak of 2007, relatively secure UK real estate assets have generated annual total returns of 7.9%. Yet, within this broad category, there are very different outcomes for particular asset classes.

The chart below shows how one specific type of property asset, primary medical, has performed. Primary medical assets are community hubs; for example, larger GP surgery buildings that are modern and purpose-built, and are typically leased to GPs, with the NHS underpinning rental income. Leases are typically for an initial 20 years, with rental income upwards only on three yearly reviews. Thus, most investors think of primary health assets as a relatively secure income source, with low capital risk.

The investor is empowered to build self-specified attributes

UK asset % returns through the cycle: 2007-17

7.9% p.a. vs 4.9% p.a. compound returns
– a significant difference

	Average annual total returns
Primary medical assets	7.9
Gilts	6.0
Equities	5.9
All-property	4.9

Source: PHP, MSCI/IPD

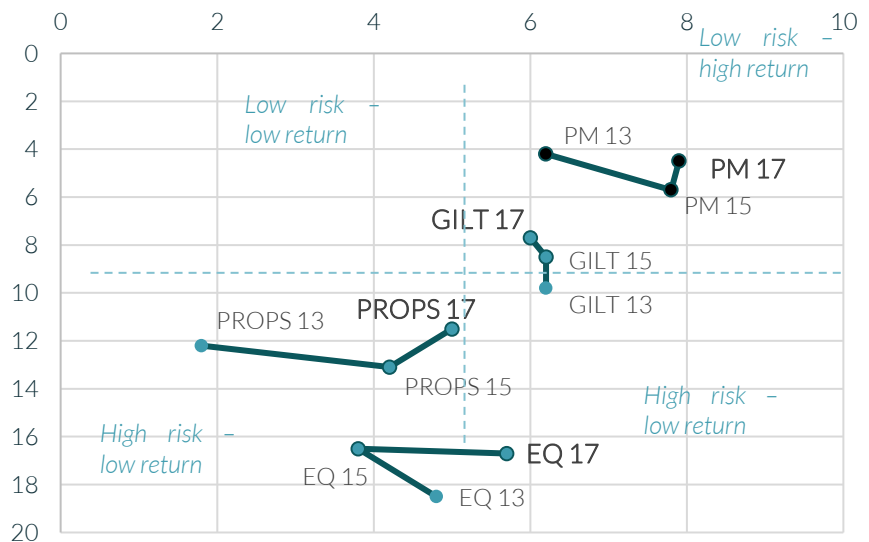
Comparative returns, 2007-17 on various UK asset classes

Look how well secure assets performed
throughout the last cycle

Quantum and volatility of returns on asset classes since 2007

Total Returns %: 2007 to 2013, 2015 and 2017
(y-axis: standard deviations = risk)

The nearer the data point to top-right, the
lower the volatility risk and the higher the
return



PM = primary medical real estate
GILT = UK government bonds
PROPS = All-property index, MSCI
EQ = UK quoted equities

Source: PHP, IPD, Bloomberg raw data and Hardman & Co calculations

The chart above shows the total returns on selected asset classes in the period since 2007. The assets are:

1. All-property
2. primary medical real estate;
3. gilts;
4. quoted equities.

We look in detail at our “worked example”

- Primary medical assets outperformed all mainstream asset classes measured from a 2007 baseline, as regards both quantum of return and low volatility.
- In the chart above, the x-axis charts those returns from the 2007 starting point. It illustrates the returns for three periods, 2007-13, 2007-15 and 2007-17. With

the exception of gilts, annualised returns have grown as the current cycle has progressed.

- The y-axis does exactly the same, for volatility for the same time periods. Volatility (which we equate here with risk) is charted, with the highest ratios on the y-axis representing the lowest risk.

It's not so much the outcome of that asset; it's to show how strategies can be put together

Primary medical assets (PM coded on the chart) demonstrate steadily rising returns, combined with stable, lowest-risk, as measured by volatility of annual returns. Indeed, the volatility of PM is even lower than that of gilts.

The primary medical assets are in the attractive, top-right, part of the "risk quadrant" in the chart above.

The chart is derived from a series of tables and charts produced by PHP, with annual data collated into one chart by Hardman & Co, with input also from Bloomberg data. The further to the right the data point, the greater the return since 2007. The higher up, the lower the annual volatility.

The attractive, top- right, part of the "risk quadrant"

Our conclusion is that different classes of real estate have markedly divergent investment characteristics. Some London Stock Exchange REITs offer a fairly tightly defined asset class portfolio: for example, PHP or Assura for primary medical assets, and Impact Healthcare or Target for care homes. Their number is growing as investors seek specialisation. IPSX goes the whole way and backs this clear trend of tightly defined asset-class investing.

IPSX should reduce this aspect of risk significantly further still

If investors can go building-by-building, they can assemble their own attribute-matching portfolio. In the worked example above, one could invest in primary medical via PHP or Assura – both REITs traded on the London Stock Exchange. But what if you wanted to acquire primary medical assets excluding London? Or specifically those where the asset was yielding over, say, 5%, or had a lease length of a particular range? This just cannot be done at the moment. Such investments may become available via IPSX.

REIT risks and the mitigation IPSX offers

The IPSX is the venue to trade specialist SARC. REITs and SARC are equally exposed to both property-specific risks and risks resulting from strategic and day-to-day management of the properties. Of course, they are also exposed to general investor market risks. We address these risks in turn and explain where and how we think IPSX has mitigated these issues.

REIT risks in general

Macro factors and broad range of operational risks

The risks to which investors expose themselves in property, and in REITs and SARC, are numerous.

Property tends to have an element of its valuation that is linked to economic cycles and also cycles within the asset class (be it retail or data centres or build to rent, etc). Commercial property is exposed to void periods in the normal course of events, with ca.10% being usual. As lease lengths shorten, the voids may become a more onerous percentage of the whole and may become increasingly frequent, thus impacting the headline rent indicated.

Certain inevitable (but able to be mitigated) risks come with investing in real estate

Voids are problematic

Voids not only lead to absence of income, but owners must still continue to meet outgoings, such as maintenance and business rates. There needs to be sufficient payment from tenants via service charges and dilapidations to cover the full repair that a lease usually entails. Legislative changes may bring risk (and also opportunity, particularly as regards change of use). Persistent voids may well, of course, affect valuations.

Connected to voids, occupancy and rents, investors should beware of “headline” rents. Leases may include (often 5% or more by time) rent-free incentive periods. Assets being sold may include temporary rent guarantees from the vendor at rents that might not reflect the true market, causing over-valuation risk.

Debt problems could include refinancing or covenants given

Usually, SARC and REITs take on some level of financial gearing. There may be risks on interest rates, but worse still, the terms of the loans may have covenants that the SARC may breach, and also the loans may be accompanied by derivative instruments that are not clearly reported or explained, and could, at worst, be (or become) mismatched as to end dates.

Debt problems could include refinancing. If refinancing happens when the lending environment is difficult, the flexibility for the borrower may be significantly compromised. In real estate, the term “covenant” may refer to the tenant or to the pledge given by the borrower to the lender. The borrower will often give guarantees that the value of the asset will exceed the debt by a minimum amount, when the value of the asset may fluctuate. In the context of current difficult markets in retail real estate assets, we note a growing number of such investors having to “repair” covenant breaches (for example, Redefine REIT).

The main risk to REITs, we believe, surrounds poor decision-making (“poor” may be defined with hindsight) by the managers. Although SARC boards have fewer decisions to make, SARC are still at risk of voids, changing lease lengths, changes in gearing, refurbishment costs and poor decision-making by the board.

The market seems to be under control

Brexit

CBRE's 2019 outlook for the dominant office sector states "soft economic growth and Brexit uncertainty are likely to result in a slight fall in office investment and occupier activity in 2019. The effect will be moderate rather than dramatic as business confidence remains healthy in London and core regional cities."

Data – but information does not eradicate risk

IPSX mitigates these risks

IPSX mitigates these numerous risks by requiring its traded companies to be far more transparent and simpler. This enables shareholders to more easily hold managers to account. The strategic decisions (or mistakes!) a manager can take are restricted by virtue of these being single-asset companies – albeit this puts more onus on the buyers of the IPSX SARC to either assume the mantle of strategic decision-maker themselves or to diversify exposure.

The core of this transparency is the IPSX-mandated, twice-yearly property valuations. Each company on IPSX is required to explicitly publish the following:

- ▶ the bases of valuations;
- ▶ a Strengths, Weaknesses, Opportunities and Threats ("SWOT") analysis;
- ▶ a responsibility statement; and
- ▶ a statement of covenant strength.

The original owner of the asset may often be involved in the composition of the SARC board

The board configuration risk

All SARCs run the risk of a board that is not aligned with shareholders. IPSX follows the common path of exchanges to ensure alignment. The board will typically be nominated by the original owner of the real estate asset, and the appointment will often be influenced by the issuer's Lead Adviser, but will ultimately need to be approved by shareholders. Board configuration is driven by the size and nature of the asset/tenant base (i.e. appropriate for the actual governance workload and market capitalisation of the issuer). Board remuneration should reflect the duties of the board. The board is responsible, in particular, for observing ongoing obligations, monitoring the asset manager where this role is outsourced, leading shareholder communications, and safeguarding the interests of stakeholders and shareholders. (The source of this paragraph is an IPSX presentation.)

IPSX-specific risks

Each asset is highly concentrated

Concentration risk

By being focused on a single asset or multiple assets with commonality, investors on IPSX should be aware of the concentration risk. Investors can reduce this risk by buying a spread of shares in several SARCs.

The whole point of IPSX is to bring the flexibility to investors of investing in an efficient, "transparent", data-rich SARC. This has many advantages.

The "concentration risk" may show up if, for example, there are problems with tenants, the physical building (i.e. its preparedness for changing tenant requirements), or the location (e.g. specific location or a change in investor focus, such as a particular region falling out of investor favour). Concentration risk is the flipside of investors avoiding the grey areas and inefficiencies of being in a broader REIT, and is a key attribute of IPSX. The fact that IPSX is dedicated solely to real estate might prove a conduit for stress, were there to be a real estate-specific panic. We doubt this would be the case, and we are confident that two-way prices would be continually maintained under all circumstances in reasonable liquidity for the type of assets we anticipate to be quoted

on IPSX, namely greater than £50m, with most assets being greater than £300m in NAV.

Minority owner risk

A regulated exchange sets firm rules

Some IPSX SARC (we anticipate not the majority of those traded) may have a free float under 50%. The risk is that there may be a single shareholder with over 50%, who may have formal or informal connections with either the manager or the board of the SARC. Corporate governance guidelines should address such a conflict of interest, but it is an issue of which potential shareholders should be aware. Of course, this risk is not limited to IPSX-traded companies, but the occurrence may be greater, given the manner in which some companies will be floated on IPSX, i.e. spun out of other structures

Value optimisation

Safer but potentially missing out

There may be occasions where a change of use requires either a significant rise in voids (“decanting” a building) or a marketing programme that destabilises rental income. This may be designed to enhance capital value. It may not be achieved effectively, and even if it is, this would detract from income and dividends. Value optimisation, if successful, will lead to re-investment risk, assuming the asset is disposed of.

Costs

Costs should be very low, but will they be?

IPSX is designed to facilitate the minimisation of running costs, and this will be both a comfort to investors and a key reason for investing. However, nothing is stipulated in the IPSX rules – so it is possible that either at IPO or subsequently, the cost structure may prove higher than Hardman & Co anticipates.

The impact of cashflow

Might the “cupboard be bare”?

The REIT regime encourages a large proportion of free cash to be distributed as dividends. Indeed, 90% of relevant income needs to be. “Relevant” may, for example, exclude capital allowances. It is within the regime that cash is set aside to re-invest in the asset. So, there should be plenty of cashflow to service costs, including debt, and also pay dividends. If an asset has a low yield (it may have high capital value and growing rent, and hence be rated on a net initial yield below all-property averages), it is all the more exposed to cashflow turning down or even turning negative. Naturally, with SARCs, IPSX investors are all the more exposed to “bumps in the road” of cashflow, but will have much clearer visibility on these matters.

Secured lenders’ security

A potential unintended quirk

Not all real estate lending is secured on individual assets, but, for a general REIT, the mix is complex and, in a looming downturn, may get ever more complex. LTV (loan to value) rises if the “V” (value of assets) side reduces, and if that happens on secured assets, the lender may seek to pocket some of the cashflow from them directly – again placing the dividend under scrutiny. It is much easier to scrutinise a SARC’s borrowing than a wide-ranging REIT with many assets and many secured debt facilities.

However, the risk posed by an IPSX SARC is that, if it starts to go wrong, there is nowhere to hide. The message is that, as ever, it is *caveat emptor*, but IPSX mitigates that by shining a clear light on the risks (and opportunities). For example, investors should be able to see whether the borrower pledge (covenant) given to the lender is based on an ever-visible fluctuating share price.

Falling dividends

A normal risk – this is just about investor education

Net income of SARCs rises and falls. Investors should be well aware of this from the IPO prospectus, but this may be overlooked by inexperienced investors. Such investors may confuse the broader REITs invested in a range of assets that have scope to even out non-cyclical variations in cash, with IPSX SARCs that depend on one

stream of income from one asset or multiple assets with commonality. By design, by the nature of the REIT regime, there is nothing that can or should be done about this single-asset heightened issue.

Familiarity risk

There may be a perverse outcome stemming from the opportunity of investors to exploit their own local knowledge. It is quite legitimate to say that “local” investors do often have a certain “edge” in real estate investment. Some of that “edge” is only present where the investor is also the property manager and interacts with tenants or the supply-chain. Given the transparency on data for IPSX-traded SARCs, the ‘insider’ knowledge risk is reduced.

Local investors should be aware that, while they have more time, and expertise and “flair” for the local, they need to put that in the context of the global, and should always be aware of the risk of over-concentration. There is a danger for investors of becoming ‘emotionally attached’ to local issues and turning a blind eye to non-local factors.

The exchange

There is always the possibility that IPSX gets a bad reputation, or rather, that the companies traded on it do. These risks are substantially mitigated by the fact that it is a Recognised Investment Exchange. This should comfort investors on issues such as minority shareholder rights, continuous market (during trading days), and a level playing field for information.

IPSX has been in development for five years, and we note the strength of the IPSX community and investors.

A regulated exchange with regulatory capital and strong backers

Contracts in place...

...regulatory capital in place

The careful and robust development has been supported by IPSX’s choice of strong delivery partners. The FCA requires robust outsourcing arrangements to be in place with key outsourced suppliers. Regulatory requirements also include the putting in place of regulatory capital well in advance of commencement of business as an exchange.

The benefits of a Recognised Investment Exchange

Being a Recognised Investment Exchange is an important attribute

IPSX is a Recognised Investment Exchange (RIE) under the Financial Services and Markets Act 2000. It has also been designated by HMRC as a Recognised Stock Exchange under section 1005 of the Income Tax Act 2007.

In securing recognition, IPSX has been through a lengthy application process, during which the FCA sought and secured comfort about a number of factors. These included the quality and strength of its board and senior management, its systems and controls, its trading arrangements and financial viability.

It entails significant ongoing requirements

Once recognised, RIEs maintain a close relationship with the FCA and must continue to meet their recognition requirements on an ongoing basis. These involve the provision of regulatory protections including greater transparency about issuers and their issued SARC's shares (initial and ongoing). It also includes maintenance of effective governance arrangements and the provision of access to a public market to adjust investment levels. It also includes the mandating of shareholder protections in the face of corporate actions, including takeovers.

The key benefit of a trading venue's RIE status for issuers is access to deeper liquidity pools. The regulated market gives issuers direct access to the full investor universe: issuers on a regulated market may freely market and sell their shares to retail investors.

It locks issuers into complying with a number of regulatory regimes

In addition, and unlike the private market, issuers on regulated markets (multilateral trading facilities or MTFs) are:

- subject to the Disclosure and Transparency regime (DGTR),
- captured by the market abuse regime (MAR), and
- subject to the Takeover Code.

All trading is subject to market surveillance to prevent and detect insider trading and other forms of market abuse. Trading is also subject to settlement disciplines, and all settlement of trading on IPSX is via CREST.

In addition, as an HMRC Recognised Stock Exchange, investors in SARC's can therefore enjoy the REIT tax benefits where they qualify for REIT status and benefit from the regulatory protections in place for financial markets.

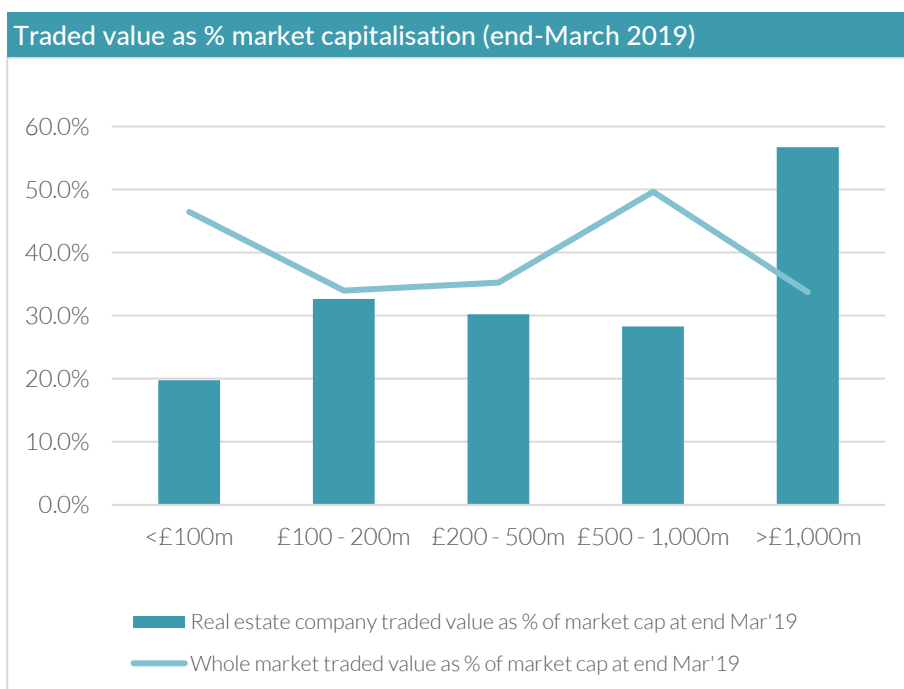
Liquidity

How real estate compares with whole of market liquidity

In the UK, there is typically less turnover in the shares of quoted real estate companies than non-real estate companies of a similar size, other than in the very largest property companies.

Direct exposure to real estate is only an option for those with a very large 'lot' size

By number, IPSX is for the many, not the few



Source: London Stock Exchange, Hardman & Co Research

Liquidity is lower for UK quoted property companies than other companies, with the exception of the very largest

The chart above shows that only property companies beyond £1bn market capitalisation have deeper liquidity than companies of equivalent size in the whole market (56.7% vs. 33.7%). (Whole market refers to all quoted companies on the LSE, both fully listed and AIM, and includes all real estate.) However, the data are not so kind to smaller real estate companies. Considering companies with market capitalisations below £100m, we find that, on average, less than 20% of property companies' market capitalisation is turned over in a year, compared with 46.5% for the whole market.

To construct the chart above, we defined real estate companies as every company classified as a 'Real Estate Investment Trust' or 'Real Estate Investment & Services' by the London Stock Exchange. We excluded the estate agents, which are in the Real Estate Investment & Services category, since we want to focus on holders of assets. We have included three companies whose principal activity is the assembly of land parcels for housebuilders (Urban & Civic, Inland Homes and Harworth Group) – some might argue that they should be excluded, as they may be seen in a different light to British Land, for example. We are left with 95 companies, of which 21 are traded on AIM.

The percentages above are calculated by dividing the total traded value in the 12 months ending March 2019 into the closing market capitalisation.

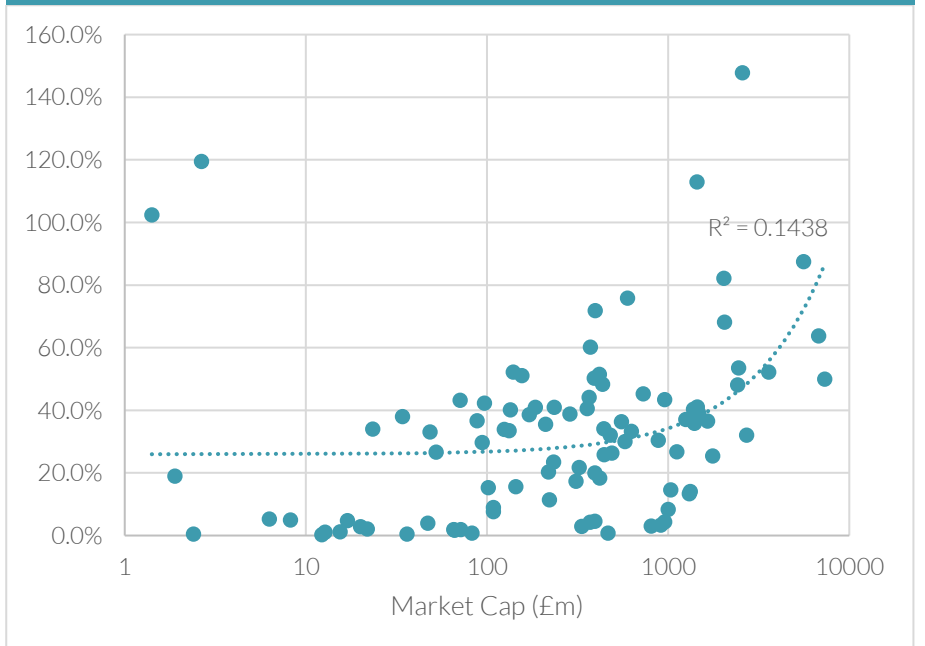
The impact of market capitalisation on value traded

We now look at our real estate basket in greater detail. In the chart below, we have plotted each individual company's value traded percentage against its period-end market capitalisation. To simplify the presentation, we have used a logarithmic scale for market capitalisation on the X axis.

We calculate the R^2 to be only 0.144

There is some correlation between percentage traded and market capitalisation, but it is weak

Traded value as % market capitalisation vs. market capitalisation (end-March 2019)



Source: London Stock Exchange, Hardman & Co Research

The chart shows that there is some correlation between percentage traded and market capitalisation, but it is weak. We calculate the R-squared to be 0.1438. This is a statistical measure that represents the proportion of the variance for a dependent variable that is explained by an independent variable or variables in a regression model. In simple terms, just over 14% of growth in percentage traded is explained by larger market capitalisation. Note how many plots are below 10% of traded value, even for very large property companies.

It is worth noting that larger stocks with low liquidity tend to be invested in non-UK assets. Some of these have a dual listing, so just considering data for trading on a London exchange may be misleading.

Does liquidity matter?

There is a school of thought that says the level of liquidity in shares is irrelevant since every share is always owned by someone. However, the ease of building a position, or exiting it, which is dictated by liquidity, will be a critical factor for many investors. There is also evidence that the greater the liquidity in a company, the higher its rating (or in the case of property, the lower the discount to NAV). Finally, what is the point of having a market in shares if you can rarely trade them?

Liquidity is the lifeblood of exchanges; without which, you don't really have a market

Why IPSX might improve liquidity for real estate companies

Since IPSX will focus on SARCs, it is a way for investors to, effectively, invest in fully-let, direct property. They do not have to evaluate directly whether the management team is good at buying and selling or what its strategy for swapping assets might be. However, they will still need to assess whether the management team is good at managing the asset as this will affect the asset's rental income. This brings in a host of investors who have not previously had such an opportunity, such as:

Many and varied new types of investors

- ▶ Retail investors;
- ▶ smaller institutions; and
- ▶ smaller family offices.

IPSX will be attractive to other investors and issuers, for example:

- ▶ REITs that have just raised money and want to avoid cash drag;
- ▶ OEICs that need to have a redemption buffer; and
- ▶ quoted property companies, which feel that partially quoting an underlying asset might demonstrate that they are trading at too wide a discount to NAV.

This mix of investors will all have different strategies and time horizons, which will help drive liquidity. Importantly, investing in today's quoted property companies does not bring the same benefits.

IPSX is keen to encourage new investors into the market by promoting initiatives such as educating issuers and their advisors about the benefits of intermediary offers, RSPs and through widely distributed investment research.

ETFs may well be created

If, utilising the novel datasets provided by IPSX, ETFs are created, they will provide additional depth to liquidity.

Of course, there is a risk that some of these investors might find that IPSX stocks fulfil their investment criteria so perfectly that they will adopt, bluntly, a "buy and hold to death" approach, which would reduce liquidity.

IPSX: the better alternative to direct property investment

IPSX is likely to be far more liquid, cheaper and faster than the direct market

If it is accepted that the IPSX SARC is an effective public market proxy for direct investment, then not only will it appeal to investors who have no access to the direct market, but even those that can trade direct will find IPSX attractive, thus further benefitting liquidity.

Investing in direct property is expensive and tricky. Investors in direct property suffer 5% SDLT, need to employ agents and surveyors and still may suffer from asymmetrical information. When an investor buys shares in an IPSX SARC, Stamp Duty falls to 0.5% and other transaction costs are much lower too. These would include the spread between buying and selling prices made by the market makers. Furthermore, regulations ensure transparency of information. In fact, although it is very hard to quantify, Hardman & Co estimates that the cost of trading on IPSX will be 75% less than transacting in direct property.

Then there is the issue of timescale. Deal in IPSX shares and the trade is agreed within seconds or minutes, and settlement follows in accordance with market rules. Buying a direct property can take months to complete.

Data suggests that the annual transaction value of UK commercial real estate amounts to £50bn¹¹. The same data values investor-owned commercial real estate at £509bn. In other words, 10% changes hands each year or, one could say, the average holding period is 10 years.

If we were conservative and suggested that IPSX saw 20% turnover p.a. (i.e. less than the real estate stocks on the London Stock Exchange, other than the very smallest), then a typical £300m market capitalisation stock would have daily turnover of £230,000.

Conclusion

There is good reason to believe that the unique characteristics of an IPSX SARC will attract new investors into commercial real estate, investors for whom the current market inadequately caters. Their multiple strategies and timescales will help create real liquidity, itself another benefit to investors and issuers.

We would trust that the issuer's prospectus will highlight the risks of holding and of trading IPSX shares, including the time horizon for holding. Nonetheless, this element may add some short-term transactions. The prospectus will include the industry-standard KID (Key Information Document).

Hardman & Co papers on liquidity

Hardman & Co has produced a series of research pieces on the impact of MiFID II, the relationship between research coverage and liquidity, and the importance of retail investors for liquidity. Publications include:

- ▶ [After the Love Has Gone – Post-IPO liquidity: how bad is it, does it matter and what can companies do about it? \(Keith Hiscock and Yingheng Chen, July 2018\)](#)
- ▶ [The importance of the retail investor \(Keith Hiscock, January 2018\)](#)

In addition (copies available on request):

MiFID II - Impact on research & stock market liquidity (Keith Hiscock)

Why broker research coverage of non-clients is collapsing (Jason Streets)

¹¹ IPF: The size and structure of the UK property market, 2017

The need for a real estate stock exchange – the issuer’s angle

The benefits to issuers of IPSX SARCs

Pent-up demand in a long-established type of ownership - IPSX unlocks through the cost efficiencies

Fractional ownership of commercial real estate has existed for hundreds of years and longer than stock exchanges. IPSX’s focus on SARCs with an efficient cost structure will bring a variety of investors to the table. As already noted, private investors currently own a small percentage of direct UK commercial real estate (less than 3%), a proportion kept low by the difficulties, minimum investment size, diversification problems and costs of direct commercial real estate ownership. These investors will see IPSX-traded companies as a way to raise their direct exposure to property and issuers will benefit from this widened pool of interest.

New types of investors...

► Traditional IPOs on existing generalist stock exchanges are mainly targeted at professional institutional investors such as pension funds, insurance companies and hedge funds. IPSX’s intention is to facilitate all investors, including retail, buying shares in IPSX issuers through brokers, retail platforms and wealth managers, thus increasing the potential investor pool.

...rapidity...

► The process is faster than a private sale. The sale of shares to investors by way of an initial public offering can be completed in as little as eight weeks. Average time to complete a private market asset sale in the UK is often six months or more.

...flexibility...

► Public and private market options can be dual-tracked to optimise pricing and minimise execution risk.

► Freehold owners and owner occupiers can choose to retain management of the asset over the long term.

...and flexibility again

► Owners can use IPSX to sell-down the asset more efficiently, with the opportunity to retain an economic interest and adjust the size of that interest over time, subject to the Takeover Code and other rules.

Float cost efficiencies

► There is potential for lower IPO costs. REITs traded via other exchanges are likely to start at a valuation of 98% of NAV or less as the costs of raising money and then investing it (SDLT, for example) quickly add up. If an existing owner puts their asset into an IPSX company, as long as it is already held in a single special-purpose-vehicle, SDLT would be eliminated. In general, initial costs also should be lower, as a result of being the flotation of an asset rather than raising cash that needs to be spent.

Ongoing cost efficiencies

► Cost efficiencies are ongoing. A consistent IPSX theme together with liquidity and transparency is cost efficiency. We anticipate modest running costs (EPRA cost ratios).

► Increasing price/value transparency for that particular asset could benefit a number of property owners from pension funds to open-ended managers to REITs. This may be of particular help in the “alternatives” space. For example, the data in Build to Rent is thin at the moment: What is the market price in net initial yield or ERV for a Build to Rent asset? Single assets priced on IPSX will assist. While there may be some virtue in lack of transparency for individual managers who believe they can take advantage of illiquid and mispriced assets, mispricing does not optimise investment outcomes, nor the provision of new-build assets.

- ▶ Vendors might secure slightly better terms selling to a specialist manager seeking to gain exposure to just that specific sector. We might see the advent of “investment style” managers issuing serial IPSX-traded SARC’s such as “value turnaround”, “neighbourhood-regeneration upside”, or “income stability and visibility” and so forth. We believe this is highly likely over time.
- ▶ Vendors might wish to distribute “in specie” to their own investors rather than dispose of the asset to third parties. This gives shareholders in the “vendors” control over the timing of disposals in underlying assets. Clearly, “non-related” parties would need to own at least 25% after this event – the figure would have to exclude holdings by the manager of the asset, for example.
- ▶ Share trading on IPSX may help developers with price discovery, especially with ultra-large assets.

Who would IPO as a SARC on IPSX?

Several types of issuers may be attracted to selling their asset(s) via a public market transaction within an SARC.

- ▶ Owner occupiers: The ability to sell down an asset and retain an economic interest in it releases capital by bringing in new investors. The investors may well not be passive, but the (former 100%) owner occupier may retain up to 75% holding of the SARC, so would be assured of commercially equitable security of tenure for the length of the existing lease. The benefit of a managed exit by selling down a shareholding is something we consider to be clear.

IPSX provides a new way to sell down assets. It is a much better route than is the sale and leaseback (S&L). S&L poses several difficulties to the seller:

- Accounting rules now require occupiers to place these long-term liabilities on their balance sheets.
- It creates the operational liability of illiquidity; the seller is locked in. An occupier wishing to re-locate or rationalise will potentially find themselves on the wrong end of a (now) unwanted long lease. Note that a flotation on IPSX requires a “stabilised” asset, meaning one with the dominant portion of the asset occupied under the terms of long leases.
- It may be the bar to a takeover/sale (of course, it could be designed as a defence against an unwanted bid). A new owner occupier would find its options for rationalisation restricted.

Some particularly timely benefits to owner-occupiers

Let’s name a few types of issuer; there are many

- ▶ Existing REITs trading at a discount to NAV (and others) can, through IPSX, demonstrate the underlying value of selected assets held in the REIT, which they would float on IPSX. This process would help educate the market on the REIT’s share price because it would evidence investors’ pricing of some of the underlying assets. In addition, it would add flexibility to the REIT on its balance sheet.
- ▶ Existing REITs seeking to recycle capital may believe their skill is in development, extension or refurbishment and IPSX will provide a means to partially exit a completed asset. This would achieve two things. It would free up the capital flexibly as tranches are progressively sold down. It is likely to be more difficult for REITs to sell tranches, progressively. It would also create a visible price for that asset, expressed in the share price of the IPSX-traded SARC.

- ▶ REITs wishing to re-position themselves, changing sectoral or geographical emphasis, or downsizing exposure to the particular characteristic the IPSX-traded asset represents.
- ▶ Open-ended funds seeking to increase the proportion of liquid assets, either in anticipation of an imminent liquidity squeeze (for example, at the time of calling the EU membership exit referendum) or in other circumstances. We anticipate open-ended funds will indeed seek to float assets via IPSX IPOs for these strategic reasons.
- ▶ Joint venture owners seeking to simplify structures, add liquidity, transparency or progressively divest.

It is worth noting that these assets may well be UK assets held in overseas structures. HMRC is increasingly expressing the intention to explore the ownership of such offshore-owned UK assets and, as such, from April 2019, more non-UK residents are being brought into the UK's capital gains tax (CGT) regime. In order to address these types of issues and provide some liquidity as well as transparency, these assets may well be put into an IPSX single-asset company SARC. If the underlying owners wish to begin to unwind exposure, the IPSX route offers the flexibility to progressively reduce (via share sales) at a time of the vendors' choosing.

The benefits of long-term ownership

IPSX structures are 100% aligned with managers who add alpha purely by stewardship of the asset

IPSX, by its very structure, will enhance stewardship of assets. This is because the IPSX SARC is a “buy and hold” investor. The SARC adds alpha through long-term asset-based investment plans, preserving and enhancing the asset’s value.

IPSX could create several benefits:

1. **Stewardship:** Data created by trading on IPSX will improve stewardship. The more data that quantifies and tracks building performance, the more likely there will be incentives to improve such performance. Better performance may be reflected in the rating ascribed to the shares. As companies with boards of directors responsible to investors, there may even be AGM (annual general meeting) resolutions regarding a range of stewardship issues.

If OEICs use partial flotation of assets on IPSX as part of their liquidity strategy, they can adopt a longer-term investment approach to stewardship. Among other organisations, the Financial Reporting Council has sought to promote stewardship¹².

Ownership by “the community”

2. **Placemaking:** Trading on IPSX may encourage “placemaking”, a term to describe the way in which real estate interacts with the social and physical surroundings. For example, a creative approach to regeneration can affect the local community and environment positively. IPSX may drive this in several ways, one of which could be accommodating specific ownership structures of SARCs that give the local community a stake to control or benefit from community-based outcomes. IPSX can be used as an alternative exit route for capital invested in regeneration projects that could have attractive societal benefits. For example, s106 (see Glossary) payments could include allocating shares in a social housing project to residents (when floating on an exchange as an exit for the development capital).

The data are public and become a part of valuation criteria

3. **ESG:** The two points above on stewardship and placemaking are some of the ways in which IPSX may encourage the real estate world to pay more attention to environmental, social and governance performance issues. However, there are others and Hardman & Co expects IPSX will be an important agency for improving building performance, simply through public possession of published data. What is new is that the data is tagged to assets that are being directly owned as well as continually evaluated by buyers and sellers. Hardman & Co hopes that, in due course, information would include:

- a. EPC (energy performance certificate – a UK government mandated rating);
- b. WiredScore certification for connectivity;
- c. BREEAM rating for sustainability (the Building Research Establishment Environmental Assessment Method); and
- d. WELL certification for wellbeing (awarded by the International WELL Building Institute).

¹² <https://www.frc.org.uk/investors/uk-stewardship-code/uk-stewardship-code-statements/asset-managers>

IPSX Group

Generalist REITs buildings' ratings cannot be publicly determined with regard to the individual assets

The best practice adopted by many larger REITs is to have assessments of ESG and on sustainability – British Land is rated AAA on MSCI ESG ratings and 5* and Green Star on GRESB. These ratings, however, are for groups of assets and it is impossible to “drill down” to the individual assets. What are their EPC ratings? To maintain AAA rating, would MSCI require higher energy, sustainability and performance or inclusivity (e.g. access) achievements? MSCI (and others') ratings are most useful, welcome and of benefit to the real estate industry's improvement in standards. How much better it would be, however, to have asset-specific data.

A thumbnail sketch of UK commercial real estate

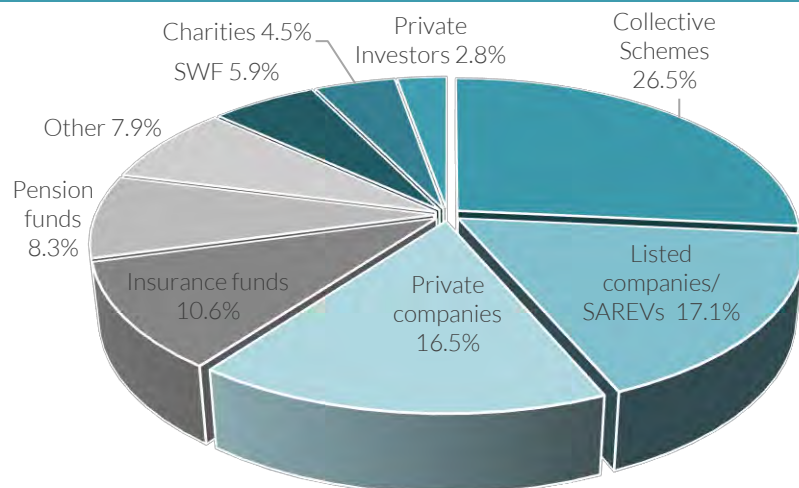
Only 17% commercial real estate is held in the public markets and less than 3% is owned directly by private investors

The size by value of the UK commercial real estate market is £870bn¹³. Of this amount, about £500bn is owned by investors, with the rest being in the hands of owner occupiers¹⁴. This figure is ca.38% the capitalisation of the London Stock Exchange equity market and 49% of the valuation of UK government bonds. Approximately 38% of the value of UK commercial property is in London¹⁵ with 20% of the total being London offices. Retail, offices and industrial/logistics in total comprise 92% of UK commercial real estate.

What is remarkable about commercial real estate is that only 17% is held in the public markets, and less than 3% is owned directly by private investors. This is in marked contrast to residential, a market several times larger. In fact, the largest owner of the commercial real estate category is “collective schemes”, which includes, among other components, OEICs.

The real estate market, including quoted and unquoted property, is a little under half the value of the total London Stock Exchange

Ownership of UK commercial real estate



Source: IPF/IPSX

Turning to the much broader top-level assessment of REITs and real estate assets, several studies show listed real estate returns have more in common with real estate than with broader financial indices. This is hardly a surprise, but is worth pointing out, notwithstanding the impact of non-real estate equity valuations on REIT share price movements¹⁶.

Commercial property's aggregate valuation is slightly less than the value of infrastructure and compares with a residential market size of a fraction over £6tr. According to the British Property Foundation, the UK's commercial real estate economy directly employs more than a million people and contributes over £94bn to

¹³ Investment Property Forum and PIA Property Data Report for 2016

¹⁴ The size and structure of the UK Property Market, end 2017, IPF

¹⁵ PIA Property Data Report for 2016

¹⁶ Studies quoted in just one (Alex Moss) article in the CFA Journal in 2013/14 include Kennedy and Baum (2012); University of Ulster (Maran et al 2012); University of Aberdeen (Devaney et al 2012); Gilberto (1990); Oikarinen et al (2011);

the UK's economy, which is ca.5.4% (other sources e.g. PIA Property Data Report for 2016 range from 4% upwards).

50m sq. ft. of new UK commercial space constructed p.a.

More than 50m sq. ft. of new commercial space has been constructed p.a. in recent years, itself contributing almost 1% to the UK's GDP. Yet, physical growth in commercial real estate remains modest. As per PIA Property Data Report, "It is notable that the supply of commercial property, measured in terms of floorspace, has grown by only 1.3% in aggregate over the last 10 years. By contrast, the number of houses and flats in the UK has increased by over 7% during this period."

Increasing proportion of rented (fewer are owner occupied) and leases are shortening

The proportion of commercial real estate that is rented is rising. A figure of 55% was recorded in 2015 versus 49% in 2005¹⁷. This has been accompanied by shortening lease lengths. At inception, the average lease length stood at just over eight years in 2000, falling to six at the 2011 low point and more recently rising modestly to around seven years. Around 40% of leases have break clauses, shortening the length to break significantly. In the 1980s, the UK was a relatively unusual market in the developed world with a typical new lease being of 20 years' duration, many with no breaks. From the tenants' point of view, flexibility has its benefits; although, if fit-out costs are high, so too does security of tenure. This change in the way occupiers view property has inevitably led to the rise in flexible working, short serviced leases and serviced office space.

In terms of debt, survey data indicates loans outstanding equate to ca.35% of asset value, down from a temporary 70% in 2009 and a typical figure around 40% in the early 2000s¹⁸. These figures, however, relate to commercial investment property, not owner occupied, where ratios are thought to be lower.

When a diverse set of lending risks blows investors off course

REIT EBITDAs seem reasonably stable. However, there is some pressure from banks to shrink, which, in an environment of low interest rates, may well put pressure on EBITDAs. This is a recipe for earnings and dividend declines in the affected sectors. This may be why investors seem to view balance sheet ratios (LTVs) as crucial in determining whether REITs that appear oversold on NAV discount grounds might be heading for dividend cuts. Operating cashflow analysis is crucial, but so too is assessment of the shape of the future balance sheet. It is best to look at a REIT balance sheet the way a lender would, i.e. asset by asset. Some lending is not secured on individual assets, but the mix is complex and in a looming downturn may get ever more complex. LTV rises if the "V" (value of assets) side reduces. And, if that happens on secured assets, the lender may seek to pocket some of the cash flow from them directly – again placing the dividend under scrutiny. Companies quoted on IPSX with a single asset will be much easier to scrutinise.

¹⁷ PIA Property Data Report 2016

¹⁸ De Montfort annual UK property lending report

THE MECHANICS OF IPSX

This section of the document explores the mechanics of transacting on IPSX. It also assesses the structure, the regulatory environment and the technology supporting IPSX. We explore a number of topics.

- ▶ How to transact
- ▶ The technology platforms
- ▶ The regulatory platform and environment, and how IPSX is structured within this
- ▶ The role of data created for and generated by IPSX – this includes data on buildings and data on prices, for example.
- ▶ The structure of the IPO process

How to transact

IPSX is designed to be easy-to-use and familiar to anyone who has transacted on other stock exchanges.

We illustrate the process in summary here.

*A well-established structure, procedurally:
nothing new*



IPSX anticipates that retail trading will be facilitated through the Retail Service Provider (RSP) network. Retail Service Providers are market makers that undertake to make two-way prices in securities to retail brokers on a firm basis and transact within seconds. This makes dealing in such securities simple and attractive to retail investors.

*Straightforward market-maker-driven
constant pricing*

Market data providers include Morningstar, ICE, SIX, Digital Look, FactSet and others. Initially, real time market data will be published on the IPSX website, including the latest five trades and sizes.

The mechanics of buying and selling shares via IPSX

Details of the IPSX trading day

Trading will start at 8.50am with an electronic auction process, followed at 9.00am by registered market makers opening firm two-way quotes in a pre-defined minimum market size. These bid/offer quotes are visible to all IPSX Trading Members and will also be published on the IPSX website and will be available to Market Data Vendors for publication on their networks. IPSX Trading Members are able to agree a trade with the IPSX market maker in question outside of IPSX systems (e.g. by telephone). Once the trade has been agreed, it will be trade reported to IPSX and will be subject to the IPSX trading rules. A further electronic auction will take place at market close at 4.00pm.

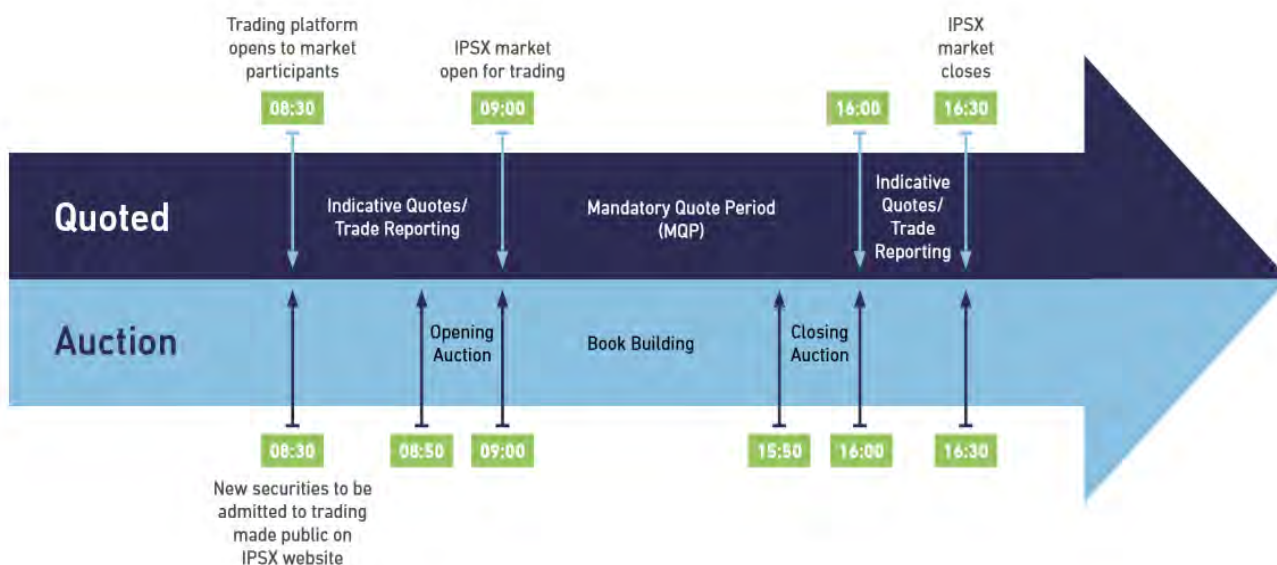
IPSX is currently also engaging with the Retail Service Provider (RSP) platforms to ensure that IPSX securities are available for trading by IPSX market makers and brokers.

Every security will have at least one market maker, although it is anticipated that the great majority of stocks traded on IPSX will have more than one.

Market makers are required to restrict their bid/offer spreads to a maximum of 25% and give at least one month's notice of intended termination of live pricing.

The trading day at IPSX

This relates to public transactions



Source IPSX

London Stock Exchange hours

By comparison, many stock exchanges also hold opening and closing auctions, as well as continuous trading between the two. The structure of IPSX is thus entirely recognisable to investors accustomed to trading on other exchanges.

IPSX trade data for recent transactions will be made public, showing price and size.

Clearing through CREST

Settlement is “T plus 2” days post trade. This is standard for most major stock exchanges. Settlement for shares traded on IPSX is through the CREST system, using existing technical and operational systems and processes.

The technology behind IPSX

Contracts in place – a strong platform

In order to secure approval as a Recognised Investment Exchange, IPSX had to demonstrate it had robust technology arrangements in place to support the operation of the market. IPSX is partnered with a number of reputable technology companies, including, among others:



Cinnober supplies the trading platform. This is a well-recognised provider, now owned by NASDAQ and employed by many exchanges around the world.



GoldenSource is an enterprise data management provider: it captures data from the issuers on IPSX.



QuantHouse will make available IPSX's trade and order data to data vendors, such as Bloomberg, Google, etc.



Scila provides IPSX with tools to quickly and effectively identify market abuse or operational errors.

(Source: <https://www.ipsx.com/our-technology/>)

The regulator, ESG

The responsibilities of the regulator and of IPSX in respect of an issuer are distinct and clear. At IPO, the UKLA (a function undertaken within the FCA) approves the prospectus and, where relevant, admission to the Official List. Once the prospectus is approved by the FCA, IPSX approves the admission to trading on its exchange.

Societal benefits of IPSX

Environmental, social and governance goals

Overall, we believe the regulators and those agencies seeking to drive up both environmental, social and governance ESG goals, and the performance of real estate assets for social goals will welcome IPSX.

We note the role IPSX can play in enhancing transparency in respect of the management and performance of SARCs and, by extension, commercial real estate (CRE) as a securitised asset class. By creating a public market for SARCs within a financial markets regulatory framework, the exchange introduces greater regulatory oversight, market disciplines and investor protections.

Public transparency and governance

In particular, IPSX is seeking to significantly increase transparency around CRE, which is one of the UK's largest asset classes by value and which is currently subject to significantly lower levels of market transparency than other asset classes. Bringing individual CRE assets onto an investment exchange, in securitised form within a well-defined management company, will bring much greater public transparency around CRE (proxy) ownership and management. This in turn enables end-investors to better hold to account institutional investors investing in CRE on their behalf – or indeed the company itself where they are direct investors – and helps the government to deliver against its agenda for improved ESG and effective stewardship.

The role of data

The three types of data – each crucial

There are three sets of important data that IPSX will provide:

- ▶ Data on various physical and operational metrics of each building
- ▶ Regular valuations
- ▶ Share prices

IPSX requires its issuers to produce six monthly valuations, which include a SWOT analysis and statements on covenant strength. The valuation frequency and content goes beyond that produced by REITs admitted to trading on other markets.

Dissemination of data

IPSX data will be made available for distribution to as many vendors as possible. IPSX is in discussion with numerous data vendors.

Valuation – the NAV

All investors will receive the same, structured reports, at least every six months (see table below). Valuer's valuations are based on professional industry standards (e.g. the "Red Book"). At times, valuers receive guidance notes on valuing practices related to sectors and other topics; for example, the RICS (Royal Institution of Chartered Surveyors) recently issued guidance on retail centres. The RICS guidance is designed to provide greater consistency between valuations.

Some of the IPSX-mandated data points

All investors will receive the same, structured reports

Prescribed content on covenant strength		
<small>All Red Book Valuations produced by Issuers admitted to trading on the Exchange must include Statement of Tenant Covenant Strength. The report shall include (unless not applicable due to asset type or class, when alternate is appropriate).</small>		
	Previous reporting period	Current reporting period
Number of tenants	✓	✓
Number of leases	✓	✓
Market Rent (£/sq. ft)	✓	✓
Headline Estimated Rental Value		✓
Rental income (%) by valuer's Risk Perception of tenants	✓	✓
Total Gross Income	✓	✓
Total Net Income	✓	✓
Unexpired Lease Term (years to break and years to lease expiry)	✓	✓
Tenant Use by Rent		✓
Top 10 Tenants by rent (% & value)*		✓
Initial Yield		✓
Equivalent Yield		✓
Reversionary Yield		✓

*Each tenant to be identified by Valuer's Risk Perception. Where there are less than ten tenants, or the disclosures are commercially sensitive, the Exchange may accept an aggregated figure.

© IPSX PLC 2019

Source: IPSX

The share price...

The price of the asset equals the share price

The share price for an SARC traded on IPSX will reflect the market's views in real time on the value of the asset of the SARC. This is quite unlike any other REIT trading on other stock exchanges, although single-asset companies do trade on other exchanges. Pricing of more general REITs involves a much wider range of drivers, compared with the single-asset SARC.

NAV versus share price

Thus, there are two types of valuation methodology for an SARC quoted on IPSX, namely the NAV valuation as derived from the valuer's report, and the share price. Of course, this is the same as any other quoted real estate company, trading on any other global stock exchange.

...or the valuer's NAV?

The combination of the issuer having a single asset, or multiple assets with commonality, and a lean management structure and greater transparency of property value and tenant covenant strength (risks to income) means the relationship between NAV and share price should be aligned.

Helpfully, British Land provided an insight to valuation methods in its 2018 Report and Accounts. It identified three approaches:

1. Level 3: Inputs for the asset or liability that are not based on observable market data (unobservable inputs).
2. Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
3. Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities.

British Land states that the share price trumps the valuer-based NAV

These levels are specified in accordance with IFRS 13 'Fair Value Measurement'. Property valuations are inherently subjective as they are made based on the valuer's assumptions that may not prove to be accurate. "For these reasons, and consistent with EPRA's guidance, we (i.e. British Land) have classified the valuations of our property portfolio as Level 3 as defined by IFRS 13".

Put simply, Level 1, is seen as more tangible than the valuer's report (Level 3), without any reflection on the quality of expertise of the valuer.

Top level (Level 1) would equate to the share price on IPSX

Level 1 equates to the share price on IPSX.

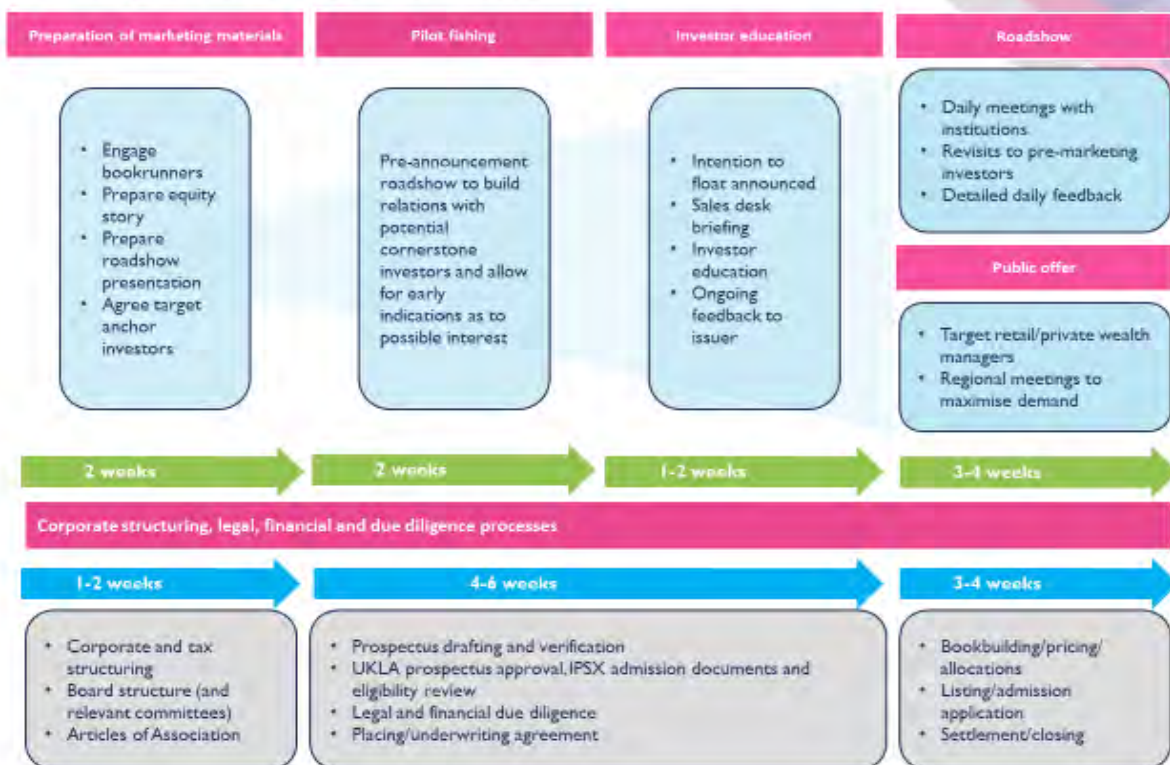
An efficient IPO process

The process

Since IPSX is a Recognised Investment Exchange, the route to flotation is very similar to flotation on any other stock exchange. Each issuer must ensure the normal UKLA requirements are met; for example, the appointment of an independent board of directors. The board is typically nominated by the original owner of the real estate asset and will often be influenced by the issuer's IPSX Lead Adviser (the appointment of which is another requirement). The issuer must appoint an IPSX-approved Lead Adviser.

The IPO journey

IPO process and timeline



Source IPSX

1. **The asset:** At IPO, the asset must represent a stabilised situation. It must have a yield and have "reasonable" leases by reference to length, covenant and rents vs. passing market rents. Additionally, there must be modest or nil voids and refurbishment requirements and nil or simple debt instruments in place.

2. **Balance sheet:** Loan to value (LTV) must not exceed 40%. For comparison, the typical LTV of investment type commercial real estate is ca.25%.
3. **Free float:** At and post IPO, at least 25% free float market share must be maintained.
4. **Valuations:** Six monthly data on valuations, SWOT and covenants are required.
5. **Market makers:** Each Issuer must appoint and maintain at least one market maker. Given the likely liquidity in IPSX shares, (see earlier section on liquidity) more market makers may find a commercial justification for their involvement. Hardman believes that many IPSX stocks' valuations will exceed £250m and most £100m.
6. **Definition of a single asset:** IPSX is the 'gatekeeper' of what constitutes an eligible issuer. IPSX may also admit to trading issuers with multiple assets with commonality. This may include physically distinct but closely similar assets (for example, identical hotels in different locations), or several identical buildings on a single estate or assets with very similar use and risk profiles.
7. **Widening the investor base:** IPSX will encourage retail investor participation at IPO and through secondary trading. IPSX welcomes the production of widely-distributed research to support informed retail investor participation.

IPSX AS AN ORGANISATION: A brief history of IPSX

9 January 2019 marked an important date for IPSX, because that is the day when the Financial Conduct Authority approved its application to be a recognised investment exchange. This was the culmination of nearly five years of hard work assembling a team, appointing outsourced providers of services and creating a proposition that would convince the UK's premier regulatory authority. Now the founders' ambition is close to realisation. Along the way, the support of shareholders, including Henley, British Land, M7 and other corporate investors, has been critical. Today, these investors own ca.50% of IPSX, with the management at the Board responsible for a further ca.20%.

It is instructive to understand why these other parties decided to invest in IPSX. In the section below, Henley Investment Management Ltd ("Henley") outlines why it has supported the concept and development of IPSX.

Henley Investment Management's view on IPSX

The following is kindly provided by Henley Investment Management:

Henley led the "launch" investment round into IPSX in 2018 alongside other institutional investors British Land and M7 Real Estate. Henley's position as a global private equity real estate investment firm gave us unique insights into the inefficiencies that plague investing and transacting in the real estate sector. Globally there is enormous investor demand for quality real estate assets, but significant barriers prevent the market working as efficiently as it does for bonds, equities and other asset classes. Henley believes that the presence of highly regulated exchanges in these other asset classes and not in real estate is an accident of history as most large real estate was held by governments, ultra-high net worth individuals and corporations. In the last 30 years across the world, we've seen the evolution of listed real estate companies and numerous fund offerings. IPSX is a breakthrough in the evolution of real estate into a mainstream asset class.

IPSX democratises access to institutional-grade real estate in a transparent, regulated and liquid format. The success in achieving the Recognised Investment Exchange ("RIE") status from the FCA earlier this year is a testament to the strength of the exchanges' infrastructure, processes and procedures, and gives investors comfort that securities and trades on the exchange are operated with the same quality and protections that the other major exchanges offer. Henley's own investors include the biggest global institutional investors, family offices, and ultra-high net worth investors. While investments higher up the risk curve require more active management in a private context, stabilised, income producing assets are well suited for IPSX.

IPSX offers issuers a way to access a wider pool of investor capital and allows flexibility whilst retaining ownership of the asset. Henley see huge potential for traditional investment funds, private equity, owner occupiers, local and central government and private individuals quoting their assets on IPSX. The tax advantages of REIT status are yet another reason why these issuers will benefit from floating their assets. Henley is primarily a value add investor, and so doesn't currently own assets ready for floating on IPSX; however, we will look to float assets on the exchange when those assets are far enough along in their business plans to make them suitable for an IPSX issuance, as we believe this can offer our investors the best return and flexibility for their underlying investment.

Since Henley's investment into IPSX in 2018, we have received a very strong reception from the market and are very impressed with the company's progress to date. We look forward to continuing to be an integral part of the IPSX journey.

Leadership team: group board and senior advisors

We note all major investors have a seat on the group board – a significantly positive position

IPSX has both a group board and a UK board. The latter is directly responsible for the launch, growth and regulation of the UK business, a role in which it has autonomy from the group. Currently, IPSX is solely a UK exchange but the group, which owns the brand, will, in due course, build an international presence for commercial real estate-dedicated securities exchanges. Clearly, regulatory capital is geographically ring-fenced. Today, there are no property-dedicated exchanges trading anywhere in the world.

The leadership team brings a wealth of experience of relevant disciplines. The strength of the team was clearly a great comfort to the FCA in its consideration of IPSX's application. We also note all major investors have a seat on the group board.

Anthony Gahan (Founder, Chairman) has 30 years of investment banking experience. He was Director at Robert Fleming & Co. Ltd, Lehman Brothers, and co-Founder of Wyvern Partners. He is an NED at Maru Group and on the advisory board of Global Partnership of Family Offices.

Ian Pain (group CFO) has 30 years' experience as CFO of public and private companies, private equity and corporate finance/ECM: ACA Price Waterhouse, Corporate Finance Charterhouse Bank, Investment Director PPM Ventures, CFO Inprint Labels, CFO DX Group.

Sly Bailey (NED) was formerly CEO of Trinity Mirror plc subsequent to being part of the management team leading the £860m buyout of IPC. She is currently a non-executive director of Greencore and previously a non-executive director of Ladbroke's, Littlewoods and EMI.

Robert Bould FRICS (NED) was formerly CEO of GVA Bilfinger (previously GVA Grimley), EVP of Bilfinger Real Estate and Chairman of GVA Worldwide. He was previously Chairman of GVA Capital Markets Group.

Roland Bellegarde (NED) is currently Senior Adviser to the Saudi Stock Exchange. Previously, he was Group Executive Vice President of NYSE Euronext and a member of the management committee. He has held board roles at LIFFE, Euronext, Interbolsa, LCH Clearnet and the Qatar Exchange, inter alia.

Richard Croft (NED) is currently CEO of M7 Real Estate. Previously, he was a founder of Halverton REIM LLP and subsequently CEO of GPT Halverton. He spent the early part of his career at Property Fund Management PLC (now Valad).

Sir Brian Ivory CVO CBE FRSE (Deputy Chairman and Senior Independent Director) is the former Group CEO and Chairman of Highland Distillers PLC. Currently, he is Chairman of Marathon Asset Management and Arcus European Infrastructure Fund. Previously, he held multiple non-executive roles with major UK and Continental European financial services and consumer products groups.

Charles Knight (NED) was a founding partner of Mansford Real Estate, an FCA-authorized real estate fund management business with over £2bn invested in the UK real estate sector and currently deploying a £500m equity fund.

Justin Meissel (NED) is currently CIO of Henley Investment Management. Previously, he held real estate investment roles at Blackstone, Warburg Pincus and GI Partners.

He is a former director of CenterPoint Properties Trust and began his career at JP Morgan in New York.

Charles Middleton (NED) is currently Group Treasurer at British Land. Previously, he held a variety of financial roles at British Land.

David Delaney (NED) is currently chief commercial officer at fintech firm Voxsmart. Before that, he was head of strategic clients and solutions EMEA at Thomson Reuters.

Ian Womack (Senior Adviser Real Estate) is a former CEO of Aviva Investors Real Estate managing a portfolio of ca.£25bn in the UK, Continental Europe, the US and Asia. Previously, he was Chairman of the Investment Property Forum.

Roger Clarke (Director, Capital Markets) is on secondment from M7 Real Estate where he is Head of Corporate Finance. Roger was previously a real estate focused equity capital markets and M&A banker with roles at NM Rothschild, Dresdner Kleinwort Wasserstein, JP Morgan Cazenove and Stifel Nicolaus. He was also previously seconded to the UK Takeover Panel.

IPSEX UK board and senior management

Michael Higgins (Chairman) has a background in equity capital markets and corporate finance. He currently holds NED positions at Plant Health Care PLC, Progility plc, the Quoted Companies Alliance and is an alternate member of The Panel on Takeovers and Mergers on behalf of the QCA. Previously, he was Chairman of Ebiquity plc and the QCA, Partner and Senior Adviser at KPMG, Director at Charterhouse Bank as well as having various private company NED roles. He qualified as a Chartered Accountant with Price Waterhouse.

Imogen Joss (NED) has a background in fintech, data analytics, indices and energy/commodities markets together with M&A, business integration, performance transformation and international growth. Currently, she is an NED at Euromoney Institutional Investors PLC, Grant Thornton and Senior Independent Director at Gresham Technologies. Previously, she was Executive Committee Member at S&P Global, President of Platts and S&P Capital IQ, Executive Director at London Stock Exchange Group and Global Head of Sales, FTSE Group.

Malcolm Fallen (NED) has a background in public companies and private equity as Chairman, CEO and CFO. Currently, he is Chairman of Kentech, Enders Analysis, and Optilan. Previous roles include CEO of Candover Investments PLC, KCOM Group PLC and CFO of eircom PLC and British Biotech. He also held financial roles at BT and Bowater.

Alan Ramsay (CEO IPSX UK) has a background in international capital markets, compliance, regulation, private and investment banking. He has been Global Head Compliance HSBC Bank plc and a senior adviser in PwC's financial services team and is currently Deputy Chairman Chartered Institute for Securities and Investment. Previously, he has held the positions of Chief Compliance Officer at Bankers Trust, Executive Director of Surveillance (SFA) and Deputy Director Enforcement (TSA).

Ian Pain (CFO) – see previous page for bio details

Lisa Walker (Head of Market Regulation) is widely experienced in financial services regulation. She joined from the Australia and New Zealand Bank Group where she was Head of Compliance for the UK and Europe. Previously, Lisa occupied a senior role with the UK Financial Conduct Authority where she had supervisory responsibility for recognised investment exchanges, including NYSE Liffe, BATS, ISDX and the London Stock Exchange.

Alison Scott-Bishop (Head of Compliance and Legal) has extensive experience of compliance and regulatory risk in financial services and held senior roles both as a regulator and within regulated firms; she joined from the London Stock Exchange where she was Head of Compliance supporting four FCA regulated entities, including one Recognised Investment Exchange and three investment firms. She previously occupied senior positions with HSBC.

David Beevers (Head of Operations) is a BCS-qualified programme/portfolio manager with extensive experience of market infrastructure and investment banking. He has held senior operational & programme management roles for two leading global exchanges (the London Stock Exchange and NYSE Euronext) and previously also worked at HSBC and Barclays Capital.

Kevin Marriott (Head of Marketing and Communications) was previously Head of Marketing for Capita Real Estate and Infrastructure. Prior to this, he was at GVA, the UK Real Estates Consultancy where he was responsible for marketing and communications for the business and with early growth company experience.

IPSX approved valuers

▶ Jones Lang LaSalle Limited

Jones Lang LaSalle Incorporated (i.e. the parent company) is a global commercial real estate services company, in the top 200 of Fortune 500. Among its core services is real estate valuation.

▶ Knight Frank

Knight Frank LLP has over 500 offices around the globe, in 60 territories, providing agency services and advice including valuation and other services.

▶ CBRE

CBRE Group, Inc. is the world's largest commercial real estate services and investment firm, with more than 90,000 employees (excluding affiliate offices). CBRE has been included in the Fortune 500 since 2008, ranking at number 146 in 2019. CBRE offers a broad range of integrated services, including appraisal and valuation; facilities, transaction and project management, property management, investment management, leasing, strategic consulting, sales and mortgage services.

▶ Avison Young

Avison Young was founded in 1978 and is represented in 20 countries through 124 offices. Services include advisory, valuation, acquisitions due diligence, sales, leasing, financing and mortgage placement, investment and others.

The economics of IPSX

A variety of income – growing at different rates

Income is derived from:

- ▶ admission fees;
- ▶ annual fees; and
- ▶ transaction fees.

Market and asset data will be a significant, growing element.

- ▶ Data fees will be a significant and growing element and, although these fees will be a less immediate driver of growth, we expect they will rise as IPSX grows.

Several types of proprietary data

- Providing Level 1 market data
- Indices – IPSX will eventually, we believe, provide indices
- ▶ Real estate analytics for investors, companies seeking to float, insurance and a wide range of stakeholders. Data on:
 - insurance, building size (in a standardised format – there is a surprisingly wide variation in definitions);
 - configuration – namely the manner in which the asset physically sits within the environment (e.g. flood risk, the local plan);
 - BIM related data capture – more and more newly completed buildings comprise Building Information Modelling. Building information models are files that can be extracted, exchanged or networked to support decision-making regarding a built asset and will be of use in monitoring and optimising its future performance. There may be opportunities for IPSX to highlight and configure BIM data in a manner useful to investors. This speaks to the transparency for investors seeking exposure to efficiently run, data-rich assets.
 - FM – namely data (not only BIM-related) can be packaged on performance efficiencies, trends and risks; and
 - tenants – for example, anonymised credit rating data on tenant quality/risk.

Indices will eventually, we believe, be introduced and will be regulated, in order that instruments can be priced marked to the indices. This will be a growing source of income for the exchange.

The indices and ETFs

The above make up part of the long potential list. Clearly, there is a balance between commercial confidentiality and full transparency. We anticipate a centralised “depository” may have a strong role in configuring and making available useable data. Such data would be used by investors and SARC’s but also by intermediaries possibly looking to create ETFs of other collective “data-screened” funds. ETFs may use and pay for the IPSX database.

New products introduced over time will enhance future revenue streams.

Glossary

Accounting ratios: Several real estate companies provide a good summary definition of ratios. For example, the British Land list can be found at <https://www.britishland.com/site-services/glossary>

ARM (Authorised Reporting Mechanism): The EU directive refers to a person authorised under the provisions established in the MiFID II Directive to report details of transactions to domestic competent authorities or ESMA on behalf of investment firms.

Book runner: This is the primary underwriter or lead coordinator in the issuance of new equity or securities instruments.

BREEAM: (Building Research Establishment Environmental Assessment Method), first published by the Building Research Establishment (BRE) in 1990, is the world's longest established method of assessing, rating, and certifying the sustainability of buildings.

CREST: This is the central securities depository for markets in the UK. CREST electronic settlement system is used to settle in many regulated exchanges and has a long pedigree.

EPRA (European Public Real Estate Association): EPRA's mission is to promote, develop and represent the European public real estate sector. See page 160 of 2018 EPRA REIT survey. http://prodapp.epra.com/media/Global-REIT-Survey_Web_20180830_1535727364551.pdf

EPRA cost ratio: This is the ratio of net overheads and operating expenses against gross rental income (with both amounts excluding ground rents payable). Net overheads and operating expenses relate to all administrative and operating expenses, net of any service fees, recharges or other income specifically intended to cover overhead and property expenses. Some property companies provide details of EPRA cost adjusted to exclude direct vacancy costs, although voids may well be an ongoing recurring part of the business model.

ESG: Environmental, social and governance refers to the three central factors in measuring the sustainability and ethical impact of an investment in a company or business. These criteria help to better determine the future financial performance of companies.

ESMA: The European Securities and Markets Authority is an EU financial regulatory agency. It works directly with the FCA.

ETF: This is an exchange-traded fund: a basket of securities such as IPSX stocks, that tracks an underlying index. An exchange-traded fund is a marketable security.

FCA: The Financial Conduct Authority is a financial regulatory body in the UK, operating independently of the UK Government. It is financed by fees from the financial services industry. It regulates financial firms providing services to consumers and maintains the integrity of UK financial markets.

FRC: The Financial Reporting Council is an independent regulator in the UK and Ireland, responsible for regulating auditors, accountants and actuaries, and setting the UK's Corporate Governance and Stewardship Codes. The FRC seeks to promote transparency and integrity in business by aiming its work at investors and others who rely on company reports, audits and high-quality risk management. The Financial

Reporting Council promotes stewardship. <https://www.frc.org.uk/investors/uk-stewardship-code/uk-stewardship-code-statements/asset-managers>

Intermediaries Offer: This is an offer for an IPO by a company and its advisors that is made to retail investors through PCBs and execution platforms (referred to as an 'Intermediary' or 'Intermediaries'). Each Intermediary will offer shares to their retail investor clients and receive orders from those clients. In contrast, a Direct Retail Offer occurs when the company offers its shares directly to investors, usually when the business is very well known by a large number of consumers or subscribers. The offer is coordinated by a Lead Advisor, which will be responsible for institutional investor interest.

International WELL Building Institute – IWBI see WELL

Investment Property Forum: This comprises an influential network of senior property professionals. The membership is over 1,800, including investment agents, fund managers, bankers, lawyers, researchers, academics and actuaries.

IPO or Initial Public Offering: The open sale of shares in a company to a public range of investors, accompanied by the facility to trade on a recognised investment exchange.

Key Information Documents (KIDs): KIDs provide a summary of the key information relating to individual products (notably SARC and other investment companies) and funds, including the costs and risks and a suggested timeframe for holding the shares.

Lead advisor: A broker, investment bank or property agent that is responsible to the SARC for financial advice during the IPO and subsequently, and to the exchange for governance.

MiFID II: The Markets in Financial Instruments Directive is the EU legislation that regulates firms which provide services to clients linked to financial instruments and the venues where those instruments are traded; for example, IPSX.

OEICS: Open Ended Investment Companies are collective investment funds that have variable capital (usually investors can buy or sell units daily). These are formed as a corporation under the Open-Ended Investment Company Regulations 2001. They may also be known as open ended collective investment schemes (see also UCIS).

PAIF: Property Authorised Investment Fund. Similar to OEICs, the principle differentiator is that PAIFs have more favourable tax treatment – similar to REITs.

PCB: Private client broker.

P.E.R.E.: Refers to private equity in real estate.

Red Book: A valuer's opinion of the value of a specified interest or interests in a property using the basis of value as defined in the Red Book, as at the date of valuation, given in writing in accordance with the minimum standards set out in the Red Book. Source, IPSX rules for issuers.

https://www.ipsx.com/media/uploads/documents/IPSX_Rules_for_Issuers.pdf

REIT: A real estate investment trust is a company that owns income-producing real estate. REITs own many types of commercial real estate, but all are restricted with regards the requirement to pay out at least 90% of all regular income (net of various allowances, principally capital allowances). REITs can undertake development activities, but the proportion is restricted.

RICS: The Royal Institution of Chartered Surveyors is a professional body promoting and enforcing the highest international standards in the valuation, management and development of land, real estate, construction and infrastructure.

RSP: Retail Service Provider. A market maker that undertakes to make continuous prices in shares in normal market sizes to retail intermediaries, such as PCBs, with virtually instantaneous dealing.

s106: Section 106 is a requirement of national planning policy, whereby developers should make appropriate provision of services, facilities and infrastructure to meet the needs of the development. CIL, the Community Infrastructure Levy, is a similar measure.

SARC: Single-Asset Real Estate Company Many SARCs will be constructed as REITs. Some, however, will have such high tenant-income concentration that they breach the permissible REIT regime threshold. Among other matters, this may have tax implications. This is an acronym used solely in this Hardman & Co document.

SDLT: Stamp Duty Land Tax, a cost of up to 5%.

SWF: Sovereign wealth funds.

Takeover Code: The Takeover Code is designed to ensure that shareholders are treated fairly, are not denied an opportunity to decide on the merits of a takeover and are afforded equivalent treatment by an offeror. This is policed by the Takeover Panel.

UCIS or Unregulated collective investment schemes: If a collective investment scheme (see also OEICs) is not authorised or recognised it is considered an Unregulated Collective Investment Scheme (UCIS). Unregulated Collective Investment Schemes are not subject to the same restrictions in terms of their investment powers and how they are run. These schemes cannot be promoted to the general public but may be to certified high net worth or “sophisticated” individuals.

UHNWI: Ultra-high net wealth individuals.

UKLA: The UK Listing Authority is the FCA’s securities regulator, supporting and regulating UK issuance of securities.

WELL Certification: WELL is the leading tool for advancing health and well-being in buildings globally. It is awarded by the International WELL Building Institute.

About Hardman & Co

Hardman & Co was established 25 years ago as a corporate research & consultancy business. It is based in London and serves the needs of both public and private companies.

The firm has an expert team of more than 30 sector analysts and market professionals, with collectively over 400 years of experience. This depth of knowledge and a reputation for integrity have built trust with investors. With effective communication and precision distribution, we help companies to disseminate their investment message to interested investors, as well as advising them on strategy.

Our smaller, boutique structure allows us to provide first-class customer service and to deliver a wide range of ad-hoc services for multiple clients with different needs.

The company has three business lines:

- ▶ Sponsored research produced on quoted companies, paid for by the company, which is very widely distributed. This is complemented by investor engagement. Our clients range in market capitalisation up to £4bn.
- ▶ Tax-enhanced research about specialist managers and individual opportunities in EIS, VCT and BR markets, consumed by Independent Financial Advisors and wealth managers.
- ▶ Bespoke work, including acting as Expert Witness for court cases, due diligence for organisations such as stock exchanges and private equity houses, and corporate advisory work.

www.hardmanandco.com

About the authors

Mike Foster

Mike Foster is an equity analyst at Hardman & Co and covers a wide range of clients in the Support Services, Building and Property sectors.

He spent his early career working in fund management with British Rail Pension Fund and Eagle Star Investment Management. He then spent two decades in sell-side research at several firms, including Peel Hunt and Credit Lyonnais. He has covered sectors including Construction, Support Services and Real Estate. In his fund management career, he was responsible for both bond and equity portfolios. Mike was part of the group of investors that acquired Hardman & Co in late 2012. He holds an MA in Geography from the University of Cambridge.



Keith Hiscock

Keith Hiscock is the CEO of Hardman & Co. Keith has more than 35 years' stockbroking experience and has developed long-standing relationships with many major institutional investors, including Private Client Brokers and Wealth Managers. He started his career at James Capel, at the time the top-ranked research house in London. He was a founding member of Schroder Securities. He holds an MA in Philosophy, Politics & Economics from the University of Oxford.



Yingheng Chen

Yingheng Chen is a senior financial analyst at Hardman & Co. She worked as a corporate finance analyst at the Agricultural Bank of China, and is fluent in Cantonese and Mandarin. She holds a BSc in Economics from the London School of Economics.



Ann Hall

Ann Hall has more than 25 years' experience as an equity analyst and portfolio manager. Ann has worked at several institutions, including Henderson Global Investors, Old Mutual Asset Managers, Morgan Stanley and HSBC. She has managed a variety of portfolios, including Institutional Pension Funds, Retail and Private Clients. Her expertise is in focusing on US and Global Equities. Ann holds an MA in Economics from the University of Glasgow and is an Associate of the Society of Investment Professionals (ASIP).





HARDMAN & CO.
TAX ENHANCED



BUSINESS RELIEF PRODUCTS

The truth about what's underneath

By Brian Moretta & Nigel Hawkins

Table of contents

Introduction.....	3
Business Relief background	4
What is Business Relief?	4
Overview of the BR market	4
So, what's the issue?	6
Analysing investments	7
The strategies.....	9
Power generation	9
Lending	11
Outlook	12
Value of a Hardman & Co panel	15
Contact us	16
About the authors	17
Disclaimer	18

Introduction

This report has been written to coincide with the launch of the Hardman & Co panel service for Business Relief (BR) products. Hardman & Co has been providing high quality investment research for more than 20 years. Its pool of analysts is highly experienced, having examined their specialist markets for decades. The co-authors of this report include: Brian Moretta, who has headed Hardman & Co research in the BR space and Nigel Hawkins, who has been analysing the renewables sector since the 1980s.

Although BR has been available for decades, its popularity has surged in the past few years as increasing numbers of people accrue estates that may be subject to inheritance tax. Both the value of assets invested, and the number of products, has grown very quickly. The lack of transparency means that specialist support can add significant value to businesses, both in terms of saving time and avoiding potentially problematic investments.

In this report, we give a brief overview of the strategy options and their prospects, and give insights into some of the potential issues. If you want to know more about BR products and how Hardman & Co can help you to give better advice, then contact us on 0207 194 7622 (see page 16 for full contact details).

Business Relief background

What is Business Relief?

Business Relief (BR) was introduced into inheritance tax legislation in 1976, although at the time it was known as Business Property Relief. The concept was to allow owners of small businesses to pass the relief on to their beneficiaries without the latter having to break it up to pay tax.

The key premise of BR is that it allows the owners of shares in unquoted businesses, subject to specified conditions, to be exempt from inheritance tax. The shares have to be held for a minimum of two years at the time of death. There are also restrictions on what sorts of businesses are eligible. The following do not meet the criteria (source: HMRC):

- ▶ businesses mainly dealing with securities, stocks or shares, land or buildings, or in making or holding investments;
- ▶ not-for-profit organisations;
- ▶ businesses being sold, unless the sale is to a company that will carry on the business and the estate will be paid mainly in shares of that company; and
- ▶ businesses that are being wound up, unless this is part of a process to allow the business of the company to carry on.

Any other business should be eligible, although it should be noted that simply holding cash in a company falls under the 'holding investments' restriction and so would not be eligible.

For the purposes of BR, 'unquoted' also includes AIM-listed stocks. There is also a category of relief which allows 50% relief for certain other business assets, although this is not of relevance to this report. Full details can be found on the HMRC website <https://www.gov.uk/business-relief-inheritance-tax>.

For investors, this has an obvious appeal, in that, if they can invest assets into an appropriate business then, after two years, those assets will be exempt from inheritance tax. There are a variety of products, schemes and services which offer this possibility. In broad terms, they can be divided into two groups: AIM portfolio services and non-AIM products.

Overview of the BR market

Inheritance tax planning has long been an established part of financial advice for the wealthy. However, a long bull market for many assets, including residential property, stock and bond markets, has meant that the number of people whose estates may incur significant inheritance tax liabilities has been rising.

The topic of preparing for death can be a difficult one for many people and families. Preparing assets to optimise an estate is often deferred for as long as possible. It has not helped that the solutions available are not widely known and

The truth about what's underneath

many of them, such as trusts, require specialist knowledge and advice to implement and attract significant costs.

In that context, BR can seem like an attractive option. It is straightforward to implement, with the recent review from the Office of Tax Simplification making no recommendations for change. Additionally, the assets can remain accessible if required or be used to generate an income. The key decision for most investors is the trade-off between capital preservation and future returns. In broad terms, the shorter the future life expectancy of an individual the more likely there will be a greater emphasis on capital preservation. Investors who can expect to live longer can, and should, place more emphasis on returns.

Most non-AIM BR products are more orientated to capital preservation than AIM portfolios, although there are exceptions. Some advisers use retirement age or something similar as a cut-off date to switch between the two: this is conceptually useful, but far too simplistic in practice. The typical non-AIM BR investor is aged 70- to 80-something, often coming to terms with their own mortality and has finally got around to looking at their estate and doing something about it.

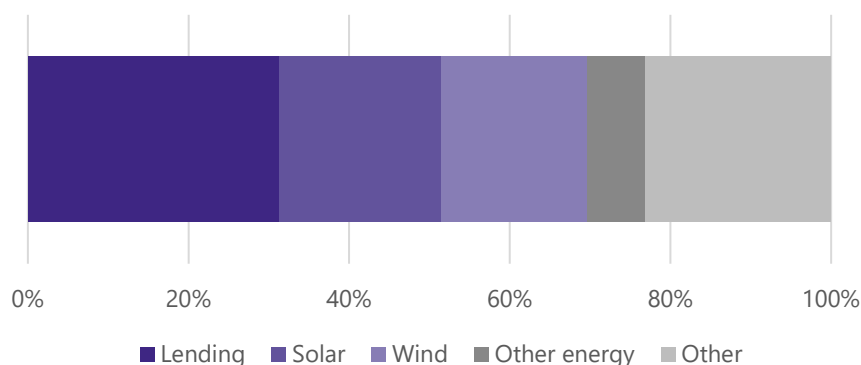
Given the simplicity of implementation and claiming, it should be no surprise that BR products have grown in popularity in the past few years. Assets in the non-AIM BR sector are now well over £4bn and increasing rapidly, although most of the products in the market are less than five years old.

Non-AIM BR products

The non-AIM BR product market employs two broad classes of strategy:

- ▶ Secured lending: The most common objective for lending is for the development of residential property but there are many others, including commercial real estate, media projects and infrastructure.
- ▶ Holding assets: These are usually business assets that generate an income – most commonly renewable energy assets such as solar panels or wind turbines but may also include others such as forestry or leasing.

Sector exposure to different strategies



Source: Hardman & Co Research

While almost a third of products employ a single strategy, the majority are multi-strategy and may include exposure to different lending strategies and/or different asset classes.

The truth about what's underneath

For multi-strategy products, diversification may be achieved in one of two ways. The most common way is that investors buy shares in a single parent company. This in turn invests in various subsidiaries, either directly or indirectly, each of which deploy the cash into a single strategy. Other products are discretionary portfolio services, with the investor receiving shares in two or more companies, each of which is usually a single-strategy company. For these, the product provider may give options to have different asset mixes.

It should be noted that these businesses are run somewhat unconventionally; most have more in common with investment funds than listed companies. Many of them have no direct employees, with services being supplied by the product manager. Some of these are done on a cost (or cost plus) basis while others may be covered by a service or management fee that the product manager receives (or hopes to receive).

There are products aimed at three target markets:

- ▶ standard product for individuals;
- ▶ bespoke product for individuals; and
- ▶ existing small businesses, so cash inside the business can be deployed in business activities and keep the business eligible for BR.

All the providers we examined have an offer for the first category; the others are less common. The lines between the products for all these categories are often blurred, with options for the second and third categories varying from customised asset allocation for the existing product to strategies that are distinct from the other offerings.

So, what's the issue?

Looking from a high level, these products sound straightforward. Yet, the area is fraught with difficulties. For many advisers and their clients, these are related to the challenges of estate planning. Often an adviser is only writing a small amount of business in this area, and so doesn't have time to probe deeply into the products. Generally, clients only go through this process once and are usually in no position to become experts themselves.

In support of advisers, some of the providers have done an excellent job in providing education for advisers and clients. Octopus, in particular, even gets credit from several of its competitors for growing the market, which has led to it becoming by far the largest provider in this space.

However, this support cannot be considered unbiased and many of the advisers that we have spoken with feel the existing research providers are not filling the gap. This report marks the start of Hardman & Co providing a more informed opinion.

We have identified many issues, some small, some very significant, that advisers and clients need to consider in their decision making. Some of the key ones are:

- ▶ Strategy analysis: What are the businesses actually doing and what risks are they taking?

The truth about what's underneath

- ▶ Lack of transparency: Six managers publish only abbreviated accounts for their products. This is a choice, and it makes it difficult for external analysts to confirm what is going on in a business. Furthermore, particularly for the larger schemes, the nesting of subsidiaries and sometimes inconsistent consolidations only serve to obscure matters further.
- ▶ Poor disclosure: Fees are the most noticeable area but there are others. Key Information Documents (KIDs) have helped but many products are exempt. In many cases, indirect fees are still obscure and other costs can be substantial. For example, in the past three years, listed renewable energy funds have outperformed comparable BR products by several percentage points a year. A large part of this gap is a relative cost disadvantage.
- ▶ Weak governance: Only three managers have products with a board in which the majority of directors are independent of the product manager. Six companies have products with no non-executive directors.

Many of these are not standalone issues. While hardly any products suffered from every issue, there were very few products for which we did not have any concerns. Governance, in particular, has been largely ignored to date but is likely to come more to the fore.

Oxford Capital Estate Planning Service, for example, had only one independent director, didn't publish income statements (only balance sheets) and used a valuation process that was outside the audit. While we cannot directly link its issues to these, greater external scrutiny may have made the problems less likely.

One observation that we might make is that, of the 19 product providers in our survey, we are only aware of two that have significant numbers of investors that have done so purely for investment reasons. That these products are not attractive to investors who are not looking for BR is telling, although we note that some providers are attracting investments into similar strategies in other products.

Analysing investments

Investments into non-AIM BR products means investing directly into one or more unquoted companies or limited partnerships. Many of these have 'Trading' in the name, as if to emphasise that they are real businesses. From an analysis perspective, this naturally suggests that the primary information to be used is the company accounts.

The benefit of this approach is that it should allow analysts to look at what the products are really doing, rather than relying on what the glossy brochures say. There are some challenges, which we alluded to above.

The first is that most activities take place in subsidiaries. These can be numerous and, on occasions, four or five layers deep. The consolidation of these subsidiaries is inconsistent across the sector, with many using net figures that do not reflect the underlying activity. Others fund through loans, which may or may not pay interest to parent companies at probably undisclosed rates. At least one manager uses a transaction price of an NAV based on a different consolidation basis to that used in the published accounts.

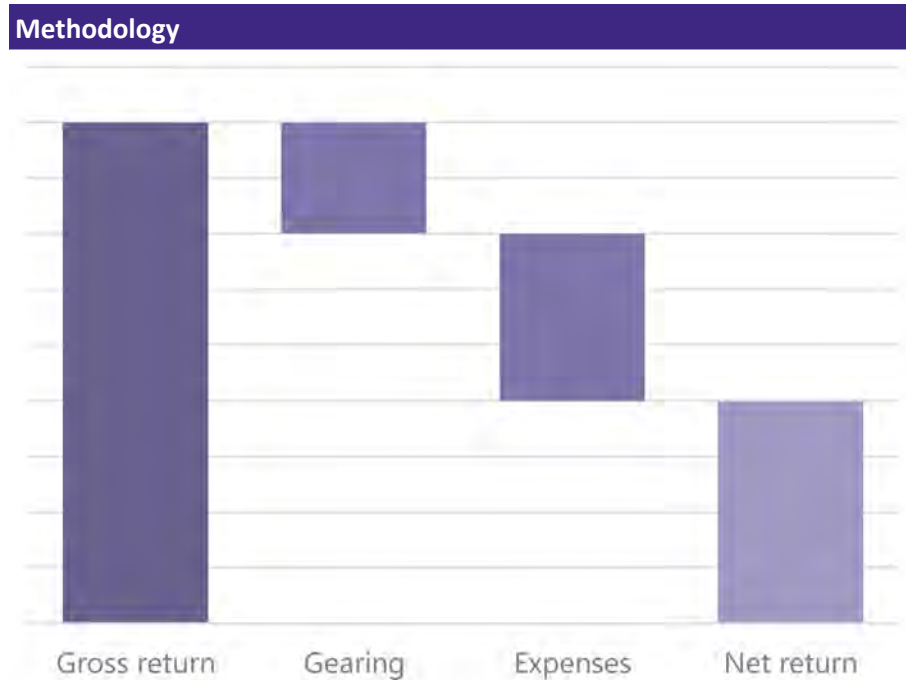
The truth about what's underneath

The second challenge is the use of abbreviated accounts. As we mentioned before, a third of managers use these throughout the operations. Even where full accounts are given for the investee companies, subsidiaries often have abbreviated accounts. This includes some larger managers, as well as smaller ones.

The final challenge is a lack of timeliness. The only restriction on production of accounts is the deadline that Companies House imposes, which is nine months after the financial year-end. We regard this as a relatively minor inconvenience, although we know there is at least one manager that has significantly restructured its product since the latest accounts and, as yet, we have no meaningful information on how the companies are structured now.

Providing a coherent framework

Hardman & Co provides a coherent intellectual framework for analysing and comparing BR companies. This can be summarised in the waterfall figure below.



Source: Hardman & Co Research

Many products are producing a low net return; most target something around 3%-5%. However, the gross return required on the underlying assets to achieve that is usually substantially higher. Given that risk is the flip side of return, the starting point for assessing relative risk is this gross return.

That is not to say the underlying assets are ignored: both cross-strategy and in-strategy diversification are considered, as well as the managers' processes for managing the underlying assets. The latter allows Hardman & Co to use its vast experience to make proper comparisons of what managers are doing and how effectively they are managing risk.

The strategies

Power generation

As indicated above, a high degree of stability and low commercial and regulatory risks are among the most desirable characteristics. For many years, energy stocks had met these criteria. Prior to the 2008/09 financial crisis, they were widely regarded as defensive investments. This long-standing market view was subsequently, and dramatically, disproved by the share price falls of many large energy stocks – and especially those with heavy exposure to generation.

The background is complicated by environmental factors, which are driving major changes in the UK energy sector, with all coal-fired plant – central to powering the nation's economy throughout the 20th century – due to close by 2025.

Despite the challenges faced by many large energy players, as the generation element of the electricity supply industry undergoes a sea-change, the sector has given rise to the arrival of many comparatively small energy businesses, a few of which are quoted. For the most part, however, they operate under the aegis of private equity, as infrastructure funds within a trust, as closely held private companies, or simply through a power project shareholding.

Renewable energy

The majority of BR investment is focused on UK renewable energy, which has grown strongly in the past decade as generous subsidies have been on offer. Of course, potential investors have also declined to invest in many other renewable projects, especially if the risk/return ratio seems unattractive.

In reality, there are seven technologies – excluding nuclear power where the renewable power claim is controversial – which can be genuinely categorized as generating renewable power. These seven technologies are: hydro; wind; marine/wave; biomass; geothermal; solar; and fuel cells.

Generous subsidies are available through the Renewables Obligation Certificates (ROCs) regime or through the complex Feed-in Tariff (FIT) mechanisms; the latter are different not only for each renewable technology but also for variations within that technology grouping, especially in respect of biomass plants.

Importantly, since 2017, new renewable power plants, with a few exceptions, do not qualify for renewable subsidies.

Hydro-power plants have been operational for generations – and still contribute a sizeable proportion of Scotland's electricity production.

However, in recent years, the focus has moved to the wind sector – both on-shore and off-shore – and increasingly to solar power.

The remaining four renewable technologies, in the UK at least, have faced many challenges. Aside from the partly converted Drax coal-powered plant, biomass continues to struggle at large scale, although some BR products invest in smaller-scale projects. None of the marine/wave, geothermal or fuel cell projects have so

far produced meaningful output. From a BR perspective, the largest exposure is to solar and wind power.

Solar power

Despite the UK's unpredictable climate, BR products are increasingly focusing on solar power. While roof-top conversions provide the technology with a high profile, it is the photo-voltaic solar farms in rural areas, perhaps with a capacity of 10MW, that are attracting most new investments.

For solar power operators, their revenues are underpinned by long-term ROC/FIT payments.

The leading sector companies have assembled a portfolio of solar farms thereby minimising the climate risk. Nevertheless, there is – not surprisingly – a noted bias in favour of solar investment in the southern part of England, where irradiation levels are appreciably higher, rather than in Scotland. Consequently, electricity generation figures should be reasonably predictable on a year-to-year basis.

However, there are risks, on several fronts, that investors need to address.

In particular, there is no guarantee that ROC/FIT payments will necessarily endure: in Spain, major cuts in solar power subsidies were hastily implemented after the financial crisis of 2008/09. Also, other adverse developments on either regulation or irradiation levels could materially affect the revenue line – and consequently expected returns.

Furthermore, prevailing market electricity prices can fluctuate quite sharply. Although the existence of Power Purchase Agreements (PPAs) can substantially mitigate the pricing risk, these are not always long-term in nature.

The solar sector is also subject to risks arising from construction, the arrival of new competition and higher interest rates.

Wind power

Investment in UK wind power has also been undertaken by BR companies. To date, most of their activity has been in the on-shore wind generation market.

For many years, particularly through the ROCs regime, generous subsidies have been available. Combined with the relatively straightforward technology involved, on-shore wind investment has proved popular. But, as is the case with solar power development, it is not risk-free. The issue of ongoing subsidy provision and trends in the price of electricity are crucial to the revenue line and, in consequence, to overall returns.

In recent years, on-shore wind development in England, as opposed to Scotland where it continues to thrive, has stalled. Planning issues have been pivotal to this trend, along with the removal of subsidies for new on-shore wind plants.

Instead, the wind generation focus has moved off-shore, encouraged by the Government, which has been delighted – and surprised – that bidding prices in recent off-shore auctions have fallen dramatically. As such, subsidies for future North Sea off-shore wind developments through Contracts for Differences (CfDs) will be far lower than anticipated previously.

The truth about what's underneath

Off-shore wind, though, necessitates much larger turbines – and therefore construction risks – compared with the on-shore equivalent. Consequently, it is less obviously appealing at present to BR products than some other potential investments.

Of course, these lower subsidies raise serious questions about the potential returns for investors. This may explain why, although it is still early days, investor interest has been less apparent than might be expected; currently, BR investors remain focused on on-shore wind.

In time, other renewable technologies, especially wind and solar, may become more suitable for BR-related investment: to do so, they would need to prove their capability to generate secure, long-term earnings.

Summary

In summary, UK renewable energy offers good prospects but the risks need to be properly – and regularly – assessed, something that Hardman & Co is well-qualified to do.

Lending

The majority of lending within BR companies is in two areas: residential property and infrastructure, primarily energy-related projects.

Since the financial crisis, the big banks have cut back or withdrawn from lending to residential property developers. Some smaller specialists have remained in the market and some smaller challenger banks and peer-to-peer lenders have increased their presence. Anecdotally, the aggregate supply of lending remains lower than it was previously and many BR companies are seeking to fill the gap.

Nevertheless, this is still a competitive market. Most business is sourced through brokers and, consequently, is subject to competing bids. While most of the companies outline criteria by which they set their pricing, this is less scientific than for consumer loan pricing and the risk of 'winner's curse' is present.

In most of the managers, specialist teams have been built up by bringing in staff who are experienced in the area, mostly from the big banks. While expert knowledge is critical in this area, it has to be noted that the track record of the banks is, at best, mixed. It is impossible to apportion credit or blame to individuals, other than to note that expertise does not guarantee good outcomes.

The managers generally articulate very sensible and reasonably conservative criteria, getting first charges on properties and using moderate loan-to-value (LTVs). There are some differences in how these are applied; however, most appear to be lending towards the safer end of the development spectrum.

Having said that, development lending is riskier than mortgage lending. If a developer goes bust and a site is not completed, then the residual value is usually significantly less than the expenditure incurred. In these circumstances, the lender may prefer to get a new developer to finish the job as the best way to maximise value.

Risks of economic downturns

While this is a good strategy under normal economic circumstances, it may be less effective in a downturn. While many of the experienced staff worked through the economic crisis, very few of the current product managers and teams have been lending and collecting through an economic downturn. Most managers would have the option of renting the property once completed; however, this extends the commitment and there is no certainty as the ultimate realisable value.

When asked what the expected cross-cycle default rate is, the most common response from managers was that they have not incurred any losses yet. This is not entirely reassuring. While they do make a good case for having lent sensibly, so far most have not been tested through a full economic cycle.

From an investment perspective, Hardman & Co's other main concern is the lack of diversification in portfolios. Many are geographically concentrated (and could see much larger falls in value than national house prices) as well as having limited numbers of properties. When there are only 20 loans in a portfolio, the loss on one can more than wipe out the expected return for a year. With most companies growing their assets, we would expect that to improve over time. However, there are very few companies that currently have a good level of diversification on a standalone basis.

Other areas

As well as residential property, BR companies have been, inter alia, lending to infrastructure projects, doing factoring for companies, leasing and media finance. Each area has its own characteristics, risks and expected returns.

We note on infrastructure lending that, in many cases, the BR company is lending to a project that is linked to the manager, either being another company that it manages or a project that it has an interest in. This can have advantages, as it makes underwriting easier and could, potentially, reduce fees. However, there is clearly a potential conflict of interest and investors should reassure themselves that the terms are on a normal commercial basis.

Summary

In summary, to date, this has been a good area for BR companies to invest in, producing stable returns and few credit losses. Risks remain, though, and it will be interesting to see how robust the processes are to a downturn in the credit cycle.

Outlook

Although the risks for lending and holding assets are different, there are some common themes, of which interest rates is the clearest.

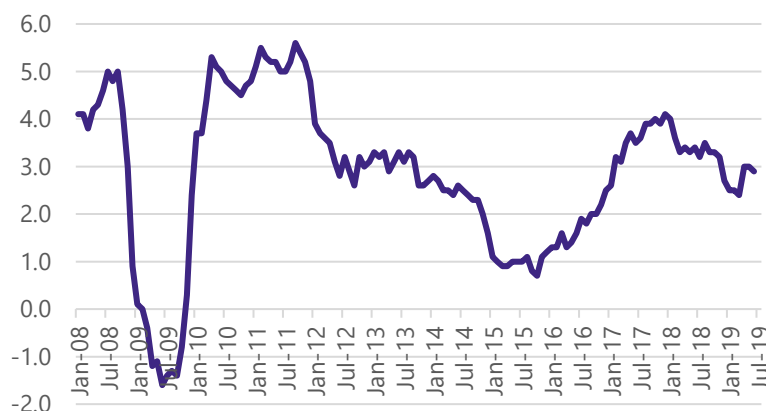
The UK appears to be back into a rising interest rate environment. While Brexit introduces an element of unpredictability, short-term interest rates are probably going to start rising slowly over the next year or so.

For solar and wind assets, it is not clear what effect this will have. Valuations and returns depend on three factors: the discount rate; the inflation rate; and electricity prices (including subsidies). Rising short-term interest rates do not necessarily imply that long-term rates will also rise. General monetary tightening, though, is

The truth about what's underneath

unlikely to be supportive of prices for most assets. If discount rates rise, with everything else being equal, then asset values will fall but future returns should be higher. Given the shorter-term perspective of most non-AIM BR investors, the former may be more significant than the latter.

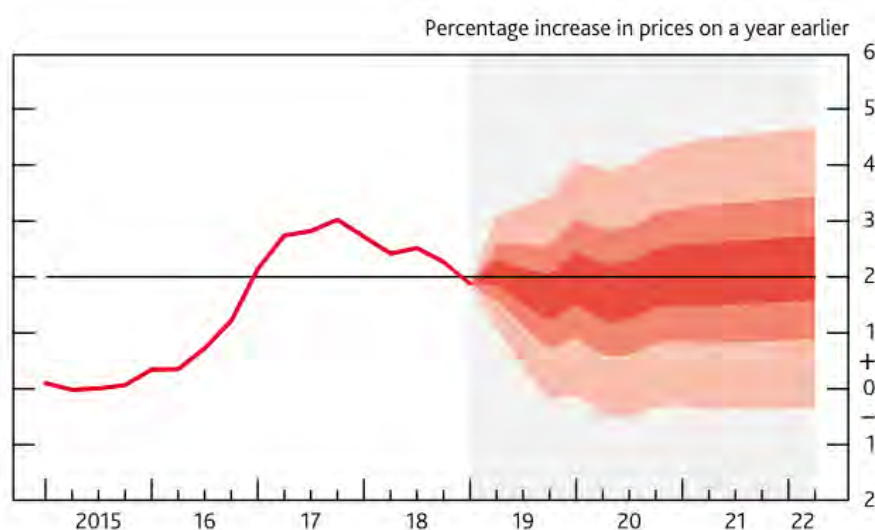
RPI Index



Source: Hardman & Co Research

Inflation is currently above the usual assumptions of 2.5% for RPI and 2% for CPI. If this continues, then it should be a positive for returns. The difference relative to assumptions over the 12 months to April was 90bps. This is expected to fall back. However, with rising oil prices and volatile currency movements, this is not something we can say with confidence. With most target returns in the 3%-5% range, this may remain a useful uplift in the short run, although as the above chart shows, periods where RPI is below the assumed rate are possible too.

CPI inflation projection based on market interest rate expectations, other policy measures as announced



Source: Bank of England Inflation Report, May 2019

The chart below shows fluctuations in UK power prices over the last decade.

ICIS Power Index (IPI) value £/MWh



Source: ICIS

Unlike inflation, there is no real consensus about how energy prices will move in the future (although there are forecasters whose predictions are typically used in valuation assumptions). For a long time, electricity prices were considered to be stable and defensive in investment terms, but events have shown this may no longer be correct. The IPI, shown above, gives an average for forward prices over the next year and the volatility can be seen. In the past couple of years, the IPI has varied between £40 and £60 per KWh. Given many asset valuations use longer-term forward curves, there can be significant leverage to price changes if long-term PPAs are not in place.

For lending, in the near term, any increases in short-term rates should be a positive as the interest rates chargeable would seem likely to rise. The concern would be if rates rise enough to affect affordability for owners or drive the economy into a recession. Given the expected slow pace of increase, neither of these risks look likely to appear any time soon.

Overall, there are good reasons to suppose that rising rates should increase returns in the underlying strategies. However, not all investors will see their returns increase, or not significantly at least! There are several products in which annual fees are conditional upon achieving a minimum return, but that return is not currently being achieved. In most of these cases, the shortfall is small and the expected increase in returns is not that big, so the increase in return may mostly go to paying the fee. In some others, much of the return above the target is simply captured by the provider rather than investor, so the former would receive the benefit rather than the latter.

Value of a Hardman & Co panel

Benefits of our panel services:

- ▶ Thoroughly compliant solution.
- ▶ Confidence to recommend suitable and appropriate products: Our research capabilities are unrivalled in the industry. Our analysts have an average of 25 years sectoral expertise, providing insight and knowledge on the products' complex characteristics.
- ▶ Tailored to the profile of your clients.
- ▶ Up-to-date market information: We will review and update the panel as necessary during the year, to reflect company and product changes.
- ▶ Education and training: We will help to educate and train you in the nuances of the BR market.
- ▶ Saving your time and money.

If you are interested in growing your IHT business, please contact us below.

Contact us



Vilma Pabilionyte – Business Development & Marketing

vp@hardmanandco.com

T: +44 (0) 20 7194 7622 | D: + 44 (0) 20 7194 7637

35 New Broad Street | London | EC2M 1NH

www.hardmanandco.com



Richard Angus – Head of Business Development

ra@hardmanandco.com

T: +44 (0) 20 7194 7622 | D: + 44 (0) 20 7194 7635

35 New Broad Street | London | EC2M 1NH

www.hardmanandco.com

About the authors

Brian Moretta



Brian Moretta is the Head of Tax Enhanced Research at Hardman & Co, and also covers Financials stocks and Investment Funds.

In addition to his role with Hardman & Co, Brian has lectured on actuarial science and financial economics at Heriot-Watt University, is an examiner for the Faculty & Institute of Actuaries, and is on the Bankers without Borders Financial Modelling Reserve Corp.

Brian has had a 20-year career in Financial Services, including more than a decade as a fund manager. He specialised in analysing Financial Services companies at SVM Asset Management, as well as managing two traded endowment funds, an equity fund and working on hedge funds.

Brian joined Hardman & Co in February 2013. He holds a PhD in Applied Probability and a BSc in Actuarial Maths and Statistics from Herriot Watt University.

Nigel Hawkins



Nigel Hawkins is the Utilities sector analyst at Hardman & Co.

Nigel is responsible for analysing the UK Utility companies, including those privatised in the 1980s and 1990s, as well as newer arrivals in the sector. He has been involved in the Utilities sector since the late 1980s, as a feature writer at Utility Week magazine and as an analyst at Libertas Capital. Prior to that, he was the Telecoms analyst at Williams de Broë. Between 1989 and 1995, he worked at Hoare Govett as the Water and Electricity analyst.

Between 1984 and 1987, Nigel was the Political Correspondence Secretary to Lady Thatcher at 10 Downing Street.

Nigel joined Hardman & Co in February 2016. He holds a BA (Hons) in Law, Economics and Politics from the University of Buckingham. He is an associate of the Institute of Chartered Secretaries and Administration and a senior fellow of the Adam Smith Institute.



HARDMAN & CO.



Open Letter to LBMA Board of Directors

Price gold bullion, not gold credit

By Paul Mylchreest, Hardman & Co Analyst

Table of contents

Price gold bullion, not gold credit	3
Gold and debt cycles	8
Beyond the point of no return	14
Introducing London's OTC gold market	19
Why reform London's gold market?	27
Case study: False gold bear market of October 2012-December 2015	43
Disclaimer	59

Front page image source: Bank of England, 2011. Cropped from:
<https://www.flickr.com/photos/bankofengland/5762003476/in/album-72157626837048847/>
(<https://creativecommons.org/licenses/by-nd/2.0/>)

Price gold bullion, not gold credit

Open letter to:

The Board of Directors, London Bullion Market Association

Dear Sir/Madam,

This is gold's chance to shine, if you'll pardon the pun, more than seven years after the price reached its all-time high, before plunging into the prolonged bear market.

Numerous factors are converging to cement gold's investment case at this time.

Catalysts for the explosive gold bull market of 1968-80 were a loss of US monetary and fiscal policy discipline, tensions between major economic powers and a wave of gold buying, led by central banks. We are seeing a **repetition of similar events**, with:

- ▶ the capitulation in hawkish Fed rate policy and resumption of QE/unconventional monetary policy;
- ▶ trillion-dollar US budget deficits in prospect for at least the next decade, if not indefinitely;
- ▶ periodic US/China trade tensions and a schism in economic thinking (Trump-style nationalism vs. globalism); and
- ▶ central banks purchased the most gold in 2018 since 1967, with another strong year expected for 2019, when the final data are released.

There are other, equally important, factors in today's global macro and geo-political picture – aside from the recent US/Iran flare-up – which are very gold-positive:

- ▶ gold has **always outperformed in the late stages of previous debt cycles** – all of the way back to the late 18th century and the Industrial Revolution;
- ▶ the current debt bubble is unprecedented, with global debt surpassing \$250tr and more than 320% of global GDP; and
- ▶ when we look at financial markets, we see QE/ZIRP-driven asset bubbles in bonds, stocks and real estate, and the US economic expansion is now the longest in the post-war period.

Historical drivers for the gold price **dovetail with today's risks**, since gold is the **only financial asset** that:

- ▶ has no counterparty risk; and
- ▶ outperforms in both deflation and inflation – resolution of this global debt cycle will require an intensification of one, or perhaps both (sequentially).

Gold should function as a signalling device, acting as a **warning sign and stabilising influence for a global financial system that has overstretched itself**. This one has, with the need for unconventional monetary policy passing the point of no return.

The gold price is being held back – potentially increasing moral hazard across the entire global financial system – which is where reforms by the London Bullion Market Association (LBMA) can play a role.

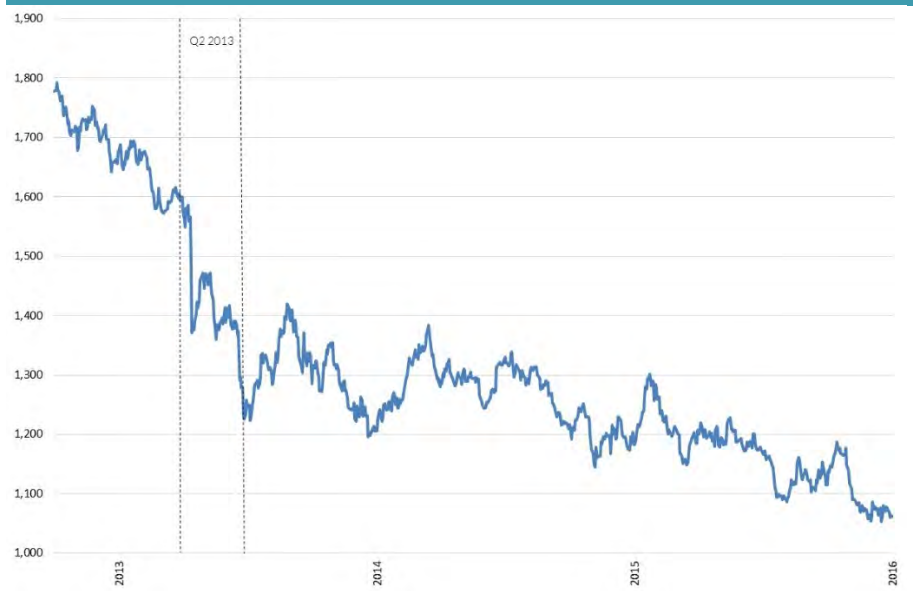
As we show you in the report attached to this letter, the **structure in London's OTC gold market** – the hub of the global market – is frustrating the ability of the gold price to function as it should. We demonstrate how this has been the case for many years.

Longstanding structural issues in regulation, transparency and, most importantly, trading practice, are acting against the interests of key stakeholders, e.g. gold mining companies, investors and, directly or indirectly, all participants in financial markets.

We believe that gold should, and could, play an enhanced role in the global financial system, if a small number of issues were addressed.

In the report, we show **how the link has been broken between market fundamentals for gold bullion and the gold price for long periods.**

Gold bear market of October 2012 to December 2015 (price \$/oz)

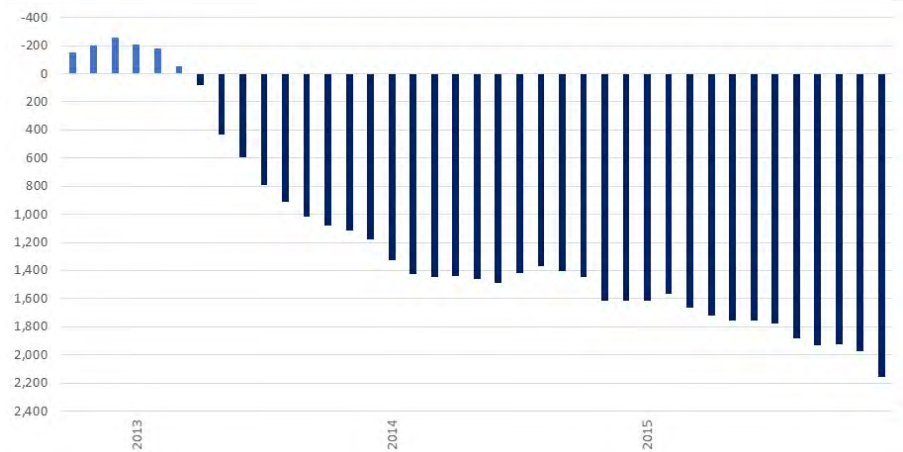


Source: UK ONS

Our detailed case study of the period October 2012-December 2015 (the ***False gold bear market***) shows that the 41% crash in the gold price (above chart) was in precisely the opposite direction to identifiable fundamentals for gold bullion:

- ▶ a run on London's gold inventory of more than 2,000 tonnes of gold bullion, which was exported, mainly to Asia (see chart below) – this volume was equivalent to more than two thirds of the inventory;
- ▶ flat/down gold supply in terms of new gold mine production and gold recycling;
- ▶ a market-based indicator (GOFO rate – explained in the report), which was clearly signalling a lack of available gold bullion before the LBMA ceased reporting it, under pressure from the banks in January 2015; and
- ▶ reports from gold refineries, which hadn't reported such strong demand in more than four decades.

Cumulative net gold exports from UK, October 2012 to December 2015 (tonnes)



Source: UK ONS

Inexplicably, the **biggest quarterly decline in the gold price** – 25.4% in 2Q 2013 – coincided with the **biggest quarterly supply shortfall** reported by the World Gold Council for any quarter since reporting began in 2010.

We believe that the reason the price of gold can defy fundamentals is due to structural trading practices in London. The LBMA estimates that 95% of trades are in unallocated gold contracts, which are “gold credit”, not gold bullion, meaning that the London OTC market has been almost entirely **derivative-ised**. This has virtually eliminated the need to deliver gold bullion.

With only 5% of gold trades requiring metal delivery, demand for actual gold bullion is diluted by a factor of ca.20. On the supply side, therefore, the number of short contracts can theoretically be expanded in an almost elastic fashion without commensurate bullion delivery risk.

It's logical that diluting bullion demand by substituting it with gold credit, in combination with an elastic supply of this gold credit, will lead to a “gold price” disconnected from bullion fundamentals.

Consequently, the source of gold mining company revenue and value of investors' assets has been crowded out of price setting by the sheer volume of gold credit.

Some will see this derivative-isation as creating an uneven “playing field”, since **it dramatically increases the capacity to sell/short unallocated gold**. Commentators might conclude that the main beneficiaries are major banks/short sellers.

We estimate that the aggregate loss in cashflow to gold mining companies worldwide from the fall in the gold price during October 2012-December 2015 was **more than \$157.5bn**. Many mining executives and investors remain unaware of their plight.

We acknowledge that the LBMA has played a crucial role in the gold market for over 30 years, ensuring certain minimum standards and creating codes to be observed. For example, as recently as 6 February 2019, the Bank of England confirmed its endorsement of the LBMA's “Global Precious Metals Code” with a “Statement of Commitment”. Indeed, the Bank of England is itself a market participant.

Price gold bullion, not gold credit

However, while the LBMA's purpose may have been to underpin trust, one can argue that market practices and regulation are constantly evolving and there is opportunity to go further. The market might improve its attractiveness to a wider range of investors if it were to adopt a governance regime that seemed commonplace in other established capital markets. For example, many would find a market where there are twice-daily price "fixes" in a matter of minutes a little "quaint". They would most likely question whether the LBMA could qualify for "Recognised Investment Exchange" status (recognised by the Financial Conduct Authority, that is), which would tick a lot of governance boxes.

On transparency, the LBMA has made progress in line with the Bank of England's *Fair and Efficient Markets Review* in 2015. The LBMA now publishes the physical holdings of precious metals held in London vaults. However, there is a lag with data published three months in arrears, which limits its usefulness.

The LBMA's adoption of "trade reporting" falls well short of what this means in other markets in two respects. Firstly, there is no reporting of volume and price of individual trades after execution. Secondly, and more importantly, we believe that the **LBMA's data on total trading volumes might understate the actual figure substantially.**

Current LBMA data on "total" trade volumes **exclude** trades by non-LBMA members. When the LBMA previously published gold trading volumes for 1Q 2011, the data included these trades. The daily average trading volume in 2011 is **5x higher** (about 4,000 tonnes/day or \$150bn) than the daily average since the LBMA restarted reporting in November 2018 – even though the current data include Zurich trades and gold leases/loans/deposits, which were not included in 2011.

Difference in daily average trading volume, 2011 vs. 2018			
	2011	2018	Difference
Volume (tonnes)	5,403	939	4,464
Volume (million oz)	173.7	30.2	143.5

Source: LBMA

If the difference between LBMA member volume and total gold trading volume is several thousand tonnes and well over \$100bn daily, that would be remarkable. An LBMA director said, in a telephone conversation, that the LBMA would respond to our concerns on this matter if we submitted them in writing, which we duly did. However, we are still waiting for the response.

Besides the 12 market makers, the LBMA's 146 members include banks, securities traders, commodity traders, exchanges, bullion dealers, mining companies, mints, refineries and vault companies. The LBMA membership list is, to say the least, fairly exhaustive. Nevertheless, a large group of players in the gold market is missing – **central banks**. Despite not being members, they are LBMA clients, as you have acknowledged: "The LBMA has a global client base. This includes the majority of the gold-holding Central Banks."

After analysing trading volumes, **we conclude, at this time, that, for much of the typical trading day, central banks might be heavily influencing London gold trading.** This has been widely speculated in the past, but perhaps not the scale.

While some commentators have argued that market practice causes gold to be structurally under-priced, we would highlight an inherent potential for price asymmetry, e.g. if there were another strong wave of bullion demand like in 2013-15.

If, for example, **gold bullion settlement becomes problematic in London**, due to a shortage of available gold bars meeting LBMA "good delivery" standard, the gold price could be re-based to a much higher level.

Price gold bullion, not gold credit

On the subject of gold bullion settlement...

...it's not the amount of gold in London's vaults that is key, but the **"float" of gold, i.e. unencumbered bullion** excluding, for example, "official" (central bank) and ETF gold.

Our calculation below suggests that the float of gold in London's vaults is around 1,000 tonnes, i.e. similar to what it was in the "supply crunch" of late 2015.

Current estimate for gold "float" in London (tonnes)	
Total gold in London vaults	8,228.4
Less:	
Official gold (95% x gold in BoE)	-4,894.2
Less:	
ETF gold held in London	-2,041.6
Less:	
Est. held by institutions (incl. SWFs) and HNWs	-300.0
Equals	
Gold float supporting London OTC trading	992.6

Source: LBMA, BoE, World Gold Council

This level is only a FRACTION, about 20%, of the actual DAILY average London OTC trade in unallocated and allocated gold, as we speculated above. Absent the convention of trading gold credit/derivatives, London could run out of bullion in a matter of hours.

It **leaves London's vaults ill-prepared** to withstand another wave of bullion buying, even one that is less than half the strength of 2012-15, when about 2,000 tonnes left London vaults.

No doubt some parties believe that current arrangements in London work well, and should be left as they are. Nevertheless, we hope that you will agree that there is a strong case for **reform** of the London OTC gold market.

We would welcome being part of this debate and, in short, our recommendations for reform would include, but are not limited to, the following, with the goal of transitioning to accurate price discovery for gold bullion:

- ▶ the LBMA should be reformed from a trade body into an exchange;
- ▶ regulation should cover the entire London trading day and have statutory backing;
- ▶ level the playing field by removing the advantages to banks/short sellers by eliminating the convention of trading gold credit/derivatives in the form of unallocated gold;
- ▶ volume and price of all trades should be reported shortly after execution; and
- ▶ vault data should be provided not later than one month in arrears.

Regards

Paul Mylchreest

Gold and debt cycles

Gold's risk/reward is improving

The trade-off in the risk/reward for the gold price and gold mining equities is improving, as central banks push the current iteration of the post-world War II Bretton Woods financial order towards its limits.

Bretton Woods 1.0 began as a gold exchange standard, which pegged the US dollar to gold until 1971. The framework had to be modified after monetary discipline was jettisoned by the US, policy coordination between the US and other nations broke down and the cap on the gold price became unsustainable.

The underpinnings of the status quo

The subsequent modification to the financial order, sometimes termed the "Petrodollar" or "Bretton Woods 2.0", is a free-floating system supported by the US dollar's dominance in global trade and reserve balances. It necessitates a framework in which coordinated policies are implemented by the global banking establishment, as well as there being no serious financial and/or geopolitical threat to US dominance.

Looking at today's "big picture", the current economic expansion is the longest in post-World War II history. Meanwhile, even the Federal Reserve has scrapped its attempts to "normalise" monetary policy, with the reversion to rate cuts and QE (sorry Chairman Powell, but it is QE). Trade tensions between the US and China continue and the debt burden, which is a good place to begin, is unprecedented.

Gold and the unfolding of a classic debt cycle

The global debt cycle is key for gold

Our position in the current global debt cycle is important because:

- ▶ gold performed strongly vs. other asset classes in the final ("Winter") stages of the three previous debt cycles since the Industrial Revolution (see table below);
- ▶ gold has no counterparty risk, which increases in loans/credit instruments as the debt carried by the financial system increases; and
- ▶ debt has a time function – bringing forward consumption from the future into the present – in a sense "buying time". Rising debt ultimately acts as a tax on growth.

The table below shows the relatively strong performance of gold and bonds vis-à-vis other assets in the final ("Winter") stages of the past three debt cycles. Whether this cycle is resolved by deflation, inflation, or deflation followed sequentially by inflation, remains to be seen. The three previous cycles ended with **debt deflations** of varying lengths and intensities. Consequently, we have also noted the "real" (adjusted for inflation) change in the gold price. Obviously, central bank policies in previous debt cycles were far more constrained, especially in terms of credit creation.

Gold vs. other asset classes in final phase of debt cycles

Debt cycle	Final "Winter" stage	Gold act./real	Stocks	Bonds*	Commodities
1788-1843	1825-1843	0%/+26%	-78%	3.54% to 3.17%	-27%
1844-1896	1873-1896	-10%/+20%	-22%	5.49% to 3.61%	-44%
1897-1933	1929-1933	+69%/+122%	-89%	4.73% to 4.49%	-46%

* Change in long-term interest rate

Source: Hardman & Co Research

Identifying key characteristics of a debt cycle

A detailed examination of previous debt cycles – reflecting years of research, which has included reviewing several centuries of data and numerous academic studies – is beyond the scope of this report. However, we have concentrated some of that research into idealised representations of a "classic debt cycle", which include:

Price gold bullion, not gold credit

- ▶ typical progression of a long rise followed by more rapid fall in debt;
- ▶ the general trend in other key economic variables, i.e. inflation/price level, interest rates and the rate of GDP growth, during a typical cycle;
- ▶ the four phases ("seasons") in a typical cycle and brief characteristics;
- ▶ the approximate timing of each phase during every debt cycle since 1788; and
- ▶ which of five asset classes – equities, government bonds, real estate, commodities and gold – have outperformed or underperformed in each phase (note: back-testing we found that expected outperformance/underperformance for each asset class in each phase of every cycle worked an estimated 90.1% of the time).

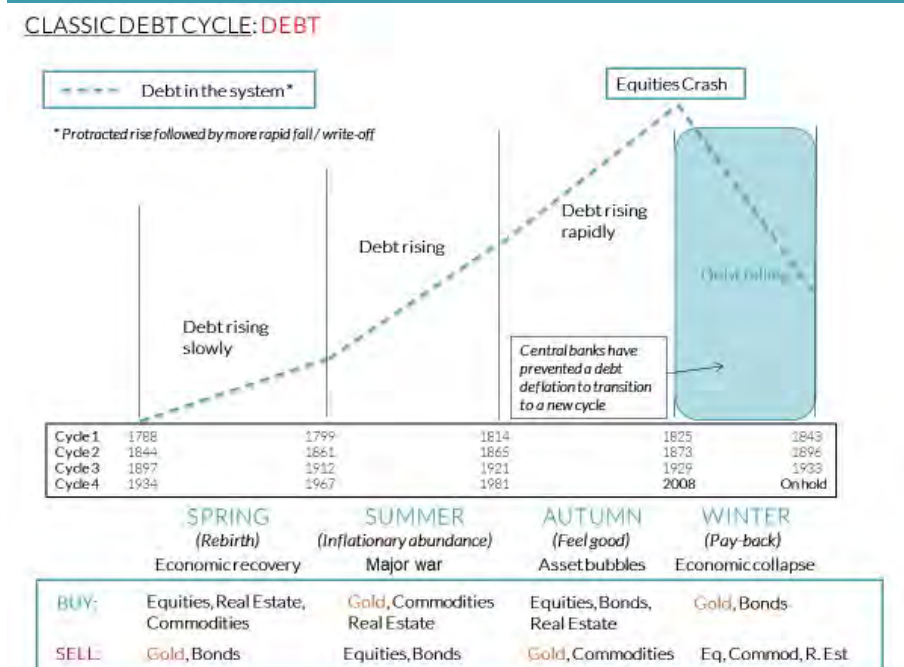
Central banks extended the current cycle

The timeline of the current cycle was extended by unprecedented central bank interventions, which rescued the global banking system from insolvency after the 2008 crisis. Lehman's collapse put the system at the mercy of simultaneous crises in Eurodollar funding and subprime assets, along with the disintegration of the repo market. Absent this intervention, the crash would have been a prelude to a prolonged debt deflation. Instead, central banks put the resolution/end to this cycle on hold.

Trend in debt

The chart below shows the progression of the rise and fall in debt across a typical cycle. There is no scale to the charts, and they are primarily indicative of the general direction over a period of years.

Classic debt cycle – showing the idealised trend in debt



Source: Hardman & Co. Research

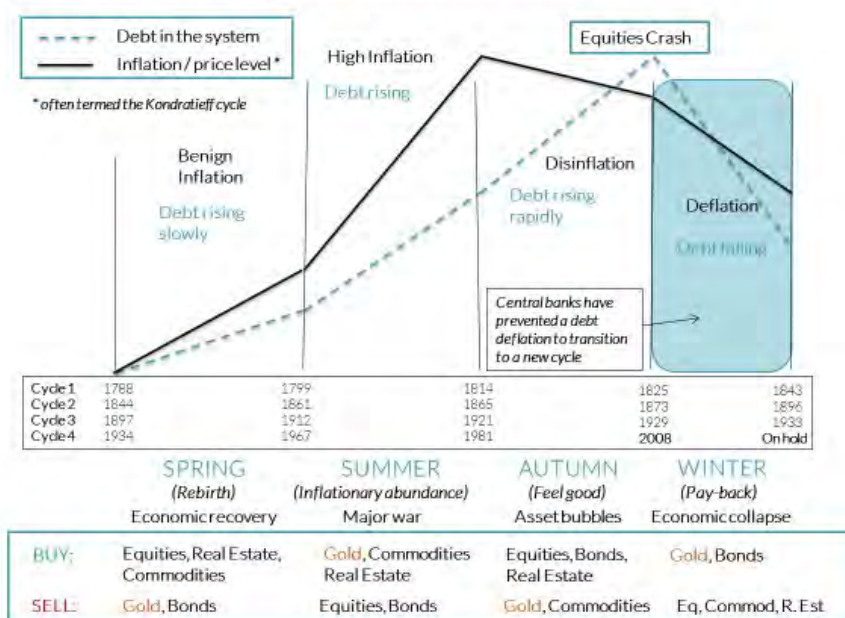
The Kondratieff Cycle of the rate of inflation/price level

The typical progression of the rate of inflation/price level across a debt cycle is shown below. This is known to economists as the "Kondratieff cycle". While it unfolds across the duration of a debt cycle, the peak is generally midway through the latter.

Price gold bullion, not gold credit

Classic debt cycle – adding the idealised trend in inflation/price level

CLASSIC DEBT CYCLE: DEBT & INFLATION / PRICE LEVEL



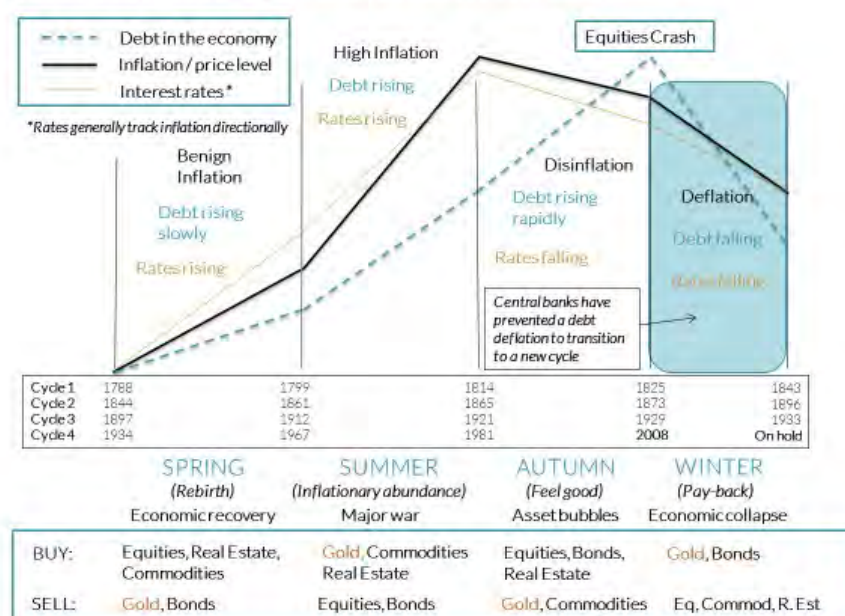
Source: Hardman & Co. Research

Rates broadly track the Kondratieff Cycle

The trend in interest rates tends to track the direction of inflation.

Classic debt cycle – adding the idealised trend in interest rates

CLASSIC DEBT CYCLE: DEBT, INFLATION & INTEREST RATES



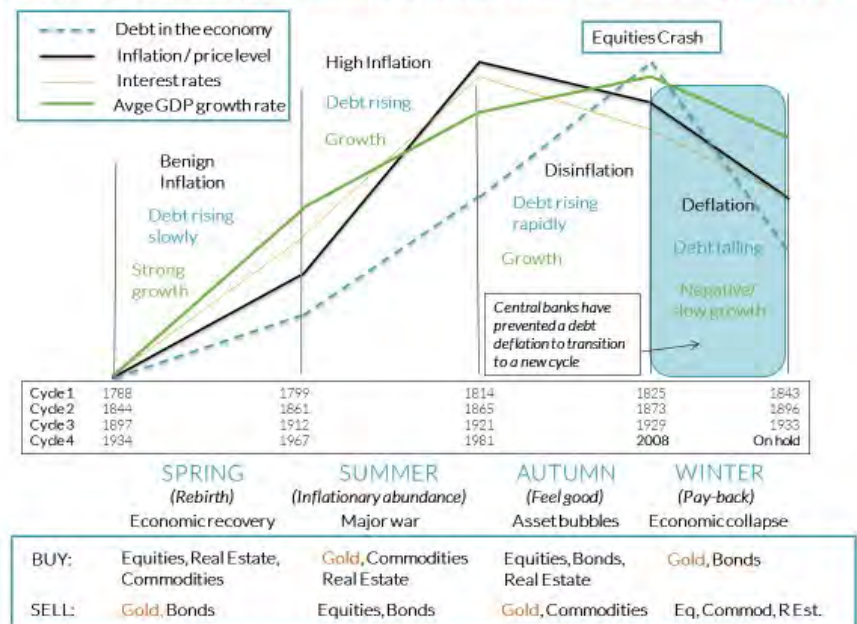
Source: Hardman & Co. Research

GDP growths tends to slow as the cycle progresses

The average rate of GDP growth tends to be relatively higher in the earlier phases of a cycle with the accumulation of debt eventually acting like a tax on economic growth.

Classic debt cycle – adding the idealised trend in GDP growth

CLASSIC DEBT CYCLE: DEBT, INFLATION, INTEREST RATES & GDP GROWTH RATE



Source: Hardman & Co. Research

Current global debt cycle – bubble territory

Global debt has risen from \$84tr to ca.\$250tr since 2000

Global debt was \$84tr when the “tech bubble” burst in 2000. Without Greenspan’s aggressive rate cutting, the cycle might have come to an abrupt end... **but not in the era of hyper-interventionism on the part of central banks.**

By the 2008 crisis, global debt had risen by a further \$89tr to \$173tr and central banks circumvented the typical cyclical progression again.

Is it sensible to argue that debt no longer matters?

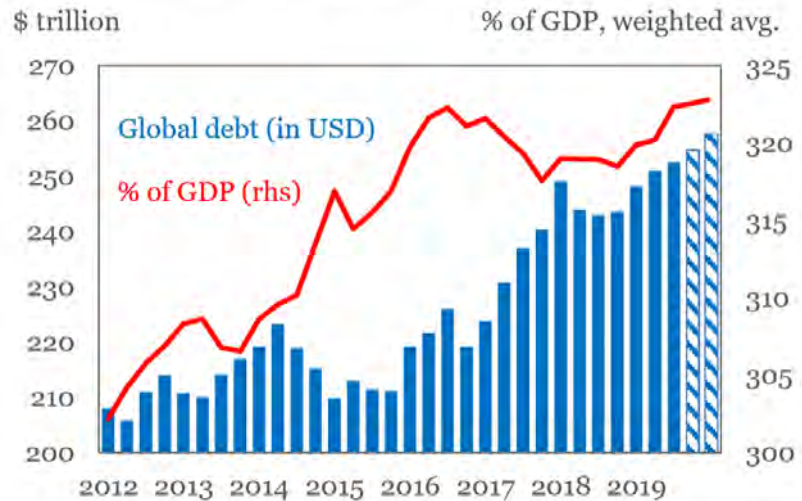
We think that that it would be a naïve view to have.

The excesses carried by the system have exploded

While zero interest rates and QE saved the system a decade ago, excesses in the system – specifically debt – are substantially greater. For 1Q 2019, Washington-based International Institute of Finance estimated that global debt rose to \$246.5tr, or nearly 320% of global GDP. In comparison, the peak in the debt/GDP ratio in the US during the Great Depression was 275%.

Global debt bubble

Chart 1: Global debt hits a fresh record of 322% of GDP



Source: IIF, BIS, IMF

Source: IIF

Central bank interventions have been based on distorting financial markets

Central bank policies that fermented the latest surge in the current debt cycle are founded on distortions to financial markets on a scale never previously attempted.

These distortions have focused primarily on manipulating interest rates so that they are lower in money and sovereign credit markets, although the knock-on effects have been felt strongly elsewhere, especially in the equity and corporate debt markets.

In *Fix What Broke, Building An Orderly And Ethical International Monetary System* (Cato Journal, 2015), gold advocate, economic advisor to President Trump and nominee for the Federal Reserve board of governors, Judy Shelton, argued:

"In truth, the experiment with floating rates since the end of Bretton Woods has brought about (Milton) Friedman's worst nightmare: It has empowered central banks - particularly the Fed - and strengthened government control over the private sector."

Speaking to the *Financial Times* in 2019, she noted:

"How can a dozen, slightly less than a dozen, people meeting eight times a year, decide what the cost of capital should be versus some kind of organically, market supply determined rate? The Fed is not omniscient. They don't know what the right rate should be. How could anyone?" Ms Shelton said. "If the success of capitalism depends on someone being smart enough to know what the rate should be on everything...we're doomed. We might as well resurrect Gosplan," she said, referring to the state committee that ran the Soviet Union's planned economy."

Can this heavy-handed central planning have an enduring benefit?

Using the financial crisis as cover, the world financial order was introduced to a far more heavy-handed version of central planning. Two questions for investors are:

- ▶ will the impact of this intervention, beneficial as it has been so far, be enduring?
- ▶ is this time different and have policy makers successfully eliminated the "bad stuff" associated with previous debt cycles?

Price gold bullion, not gold credit

The alternative view is that central banks are obscuring profound structural weaknesses, and, in hindsight, might be seen as overreaching themselves? Instead, their interventions are enabling a higher level of debt to be carried for a longer period of time.

If the latter scenario is correct, the corresponding remedy for the monetary system will, by necessity, need to be larger and perhaps beyond the capability of individual central banks as it was in 2008.

The unprecedented central bank stimulus has led to all-time highs in most financial assets. In stark contrast, the gold price plunged into a prolonged bear market and remains significantly below its all-time of \$1,920/oz. This reinforces gold's position as the "anti-central bank" asset *par excellence*.

Gold's stronger performance since early 2019, in conjunction with a renewed wave of central bank easing in response to the global slowdown – especially by the Federal Reserve – suggests markets might once again be nervous about their stewardship of the global economy.

From our perspective, a threshold has been crossed. Central banks are locked into policies that have a permanent bias towards monetary easing with gold reverting to a bull market.

Beyond the point of no return

Bretton Woods 1.0 fell after a two-stage loss in US monetary discipline

US started running deficits in the late-1950s

About to become the longest economic expansion since World War II

Major nations cooperated to cap the gold price

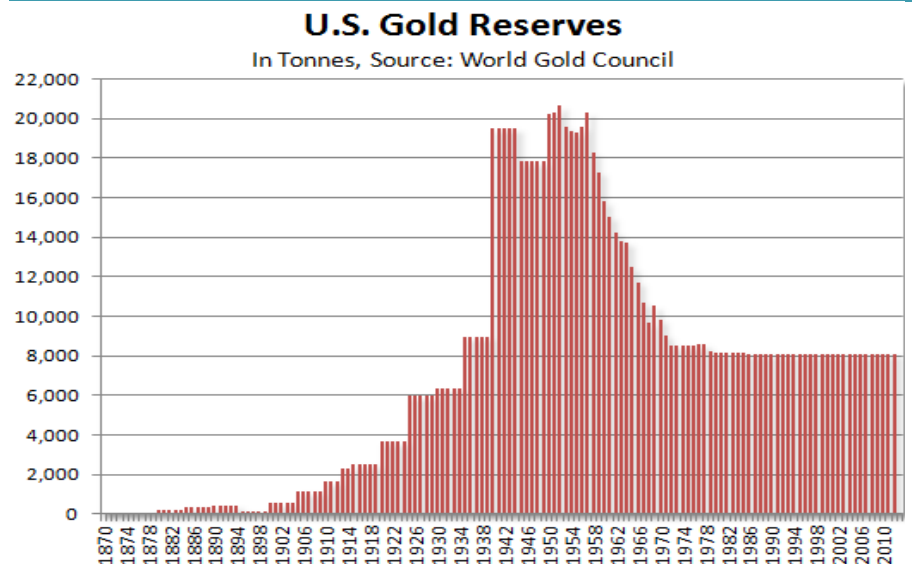
In the second stage, deficits surged due to the Vietnam War

Prologue to a gold bull market...here we go again

The investment case for gold is reinforced by parallels between the factors that led to the initial failure of Bretton Woods 1.0 in 1968-71 – and catalysed a 12-year bull market in gold – and those emerging to challenge the financial system again. Bretton Woods 1.0 did not die overnight, but failed as a result of a **two-stage loss in monetary discipline by the US** over a period spanning roughly a decade.

The first stage began when the US moved from close to a balanced budget into significant deficits in 1959 and 1961. Gold reserves fell 22% during these years, as the US was forced to sell gold to maintain the dollar peg at \$35/oz, which was the bedrock of the exchange system. All currencies were pegged to the dollar, which was pegged to gold.

US gold reserves collapsed in the 1960s



Source: World Gold Council

Concerns about the dollar had mounted in the run-up to the 1960 US election. The gold price rose to over \$40/oz, and the Bank of England (BoE) and Fed were forced to sell gold again to maintain the peg. In early 1961, a formal agreement was reached between the US and eight European nations (including the UK, Germany and France) to create the "London Gold Pool" to maintain the \$35/oz price. Thanks to gold selling by these nations, the gold price was successfully capped for seven more years.

The second stage saw a renewed surge in budget deficits, which was triggered by the escalation of US spending to finance the Vietnam War in the mid-/late-1960s. This led to another rush to convert US dollars into gold and, this time, included nation states. By 1968, gold buying was beginning to overwhelm the London Gold Pool. France, under the direction of President de Gaulle, withdrew from the Gold Pool and was the most aggressive among the nations converting their dollar reserves into gold bullion.

The Gold Pool was disbanded on 15 March 1968, after the US Government requested the closure of London's gold market to combat the heavy demand for gold. Immediately prior to this, the Chairman of the Federal Reserve stated that he would defend the US dollar "down to the last ingot". The gold price was freed and US gold reserves had fallen 52% from their 1957 level when capitulation came.

Price gold bullion, not gold credit

Another two-stage loss of US monetary discipline?

Fast-forward to the current era, and a case can be made that a two-stage loss of US monetary discipline is in progress:

- ▶ the first stage was 2008-15 with the imposition of ZIRP (zero interest rate policy), QE1, QE2, QE3 and the Fed's balance sheet expanding to \$4.5tr; and
- ▶ we moved into the second stage in late-2018 as the Fed abandoned measures to "normalise" monetary policy, joining the majority of central banks in accommodation mode.

Fed capitulates as fiscal discipline evaporates

From gold's perspective, the challenge facing central banks in sustaining the debt bubble is becoming more difficult. A key issue is the convergence of an over-extended debt cycle with an over-extended economic expansion since the Great Financial Crisis. While the debt bubble is decades in the making, the current economic expansion is slightly over a decade long, having begun in the US in June 2009 (National Bureau of Economic Research). It is now the longest in post-World War II history.

Longest US economic expansions since WWII

Period	Duration (months)	Average annual GDP growth
Jun 2009 –	127	+2.3%
Mar 1991 – Mar 2001	120	+3.6%
Feb 1961 – Dec 1969	106	+4.9%
Dec 1982 – Jul 1990	92	+4.3%
Nov 2001 – Dec 2007	73	+2.8%
Mar 1975 – Jan 1980	58	+4.3%

Source: Hardman & Co Research

The table above also shows how average annual GDP growth in the current economic expansion is lower than all of the others – with the greater debt load increasingly acting like a "tax" on growth. The next lowest average GDP growth rate being the cycle before the current one (brought to an end by the bursting of the Technology bubble).

Yield curve inversion signals deteriorating economic outlook

In the current expansion, inversions in the yield curve have flashed warnings about the deteriorating economic outlook. On 3 December 2018, Bloomberg highlighted the first inversion in a portion of the US yield curve – the three-year/five-year spread.

Yield curve inversion in December 2018



Source: Bloomberg

A recession within two years has followed an inversion in the US yield curve in every case, except one, since 1995. The closely followed 2s10s (two-year/10-year) yield curve followed the 3s5s into inversion nine months later on 14 August 2019, although it is currently 22bps away from inversion.

The notion that central banks can resist the ever-growing pressures of the global debt cycle and “normalise” monetary policy has begun to evaporate. While the ECB, for example, has been in easing mode since November 2011, a key turning point was December 2018, with the capitulation in the Fed’s policy of raising rates. This has obviously been followed by rate cuts and the recent re-launch of QE.

In the run-up to the FOMC’s December 2018 meeting, the market was expecting two things. Firstly, to raise the target Fed Funds rate from 2.00%-2.25% to 2.25%-2.50%, which it did. Secondly, it expected Fed officials to signal three more rate increases in 2019 via the so-called “Dot plot”. Instead, the number of expected increases in 2019, based on the median projection, was cut back to two, neither of which happened.

“Dot plot” – Fed reversed hawkish policy at December 2018 meeting



Source: Bloomberg

The likelihood that the tightening cycle had ended was signalled in the FOMC’s January 2019 statement. The previous outlook of “some further gradual increases” was altered to being “patient” regarding increases. Furthermore, the FOMC indicated that it might adjust the plan to normalise the size of its balance sheet, potentially opening the door to a new phase of quantitative easing (QE):

“...the Committee would be prepared to use its full range of tools, including altering the size and composition of its balance sheet, if future economic conditions were to warrant a more accommodative monetary policy than can be achieved solely by reducing the federal funds rate.”

At the time, the FOMC’s more dovish tone was at odds with its comments that economic activity was rising at a solid rate, the jobs market was strong and inflation remained near target. To what extent the U-turn in policy was driven by concerns about future economic slowdown, the sharp sell-off in the Dow Jones in December 2018 or criticism of rate hikes by President Trump was unclear.

Price gold bullion, not gold credit

The capitulation of the Fed's "hawkish" policy was completed with the first in a renewed series of cuts in the Fed Funds rate, from 2.25%-2.50% to 2.00%-2.25%, on 1 August 2019. Since then, there have been two further cuts, taking the rate down to 1.50-1.75%. On 8 October 2019, Fed Chair Powell announced the resumption of QE, although he chooses not to term it "QE", for obvious reasons.

The renewed fall in US rates is another driver of the gold price since the relative attraction of "risk free" US Treasury debt declines. A key argument for not owning gold, i.e. its lack of yield, is diminished. The 10-year US Treasury yield is the benchmark yield at the long end of the yield curve. The chart below shows its trend over the last nearly six decades. We expect the 10-year yield to fall to 1.0%, or possibly less, with real yields simultaneously tracking lower and supporting the price of gold.

10-year US Treasury yield close to all-time low



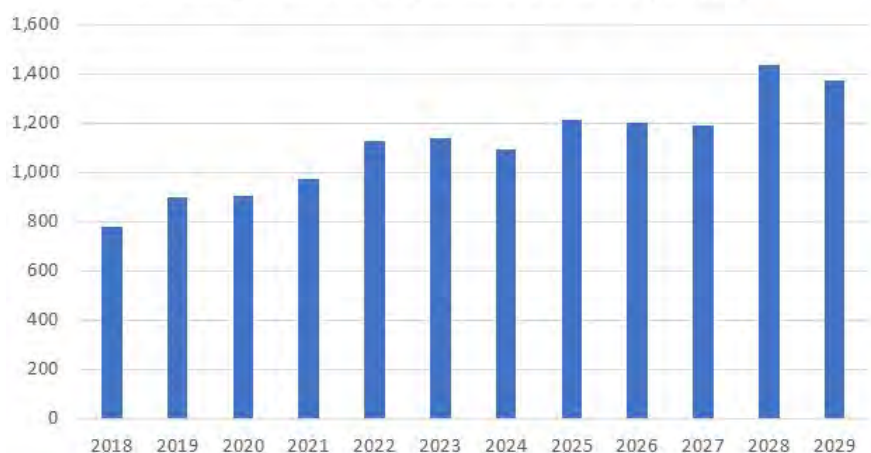
Source: St Louis Fed

Trillion-dollar US budget deficits will become the "norm"

The reversal in rate policy is only one part of a renewed loss of US monetary discipline – the other part being fiscal. The Congressional Budget Office (CBO) forecasts for 2018-29 project trillion-dollar budget deficits in every year from 2022-29.

Perpetual trillion-dollar deficits coming?

US budget deficit projections 2018-29 (US\$bn)



Source: Congressional Budget Office

Price gold bullion, not gold credit

Since fiscal 2018, US national debt has (already) been increasing by more than \$1.0tr p.a., but accounting adjustments reduce the “official” deficit numbers reported by the US Administration. Furthermore, these budget projections assume a steady rate of economic growth. The likelihood that the forecast period will be blighted by one, or possibly more, recessions has the potential to make even these projections wildly optimistic.

While the global economic outlook is becoming more problematic, risk is compounded by a schism in economic policy thinking. **This threatens future cooperation between major economic powers** (another throwback to the breakdown of Bretton Woods in the 1960s) and the longstanding march towards globalism.

A split in the prescribed economic model

The current political and financial order changed markedly in November 2016 with the election of President Trump. For decades, the choice in a US election was essentially between two candidates with slightly different ideas about the same economic model. Now we have polar opposite models in conflict:

- ▶ on one side is “Trump-style” **nationalism**; and
- ▶ on the other is **globalism** and the entrenched liberal global banking establishment.

The global banking establishment is rattled

There are signs of growing influence of the former in the likes of the UK, Italy, Brazil and elsewhere. The trend is also alarming the global banking establishment. The latter, represented in this case by the IMF, issued a warning at this year’s Davos meeting. According to *The Telegraph* on 24 January 2019:

“The International Monetary Fund has warned that the system of global cooperation that saved world finance in the 2008 crisis may break down if there is another major shock or a deep recession. David Lipton, the IMF’s second-highest official, said it is unclear whether the US Fed would again be able to extend \$1 trillion of dollar “swap lines” to fellow central banks - the critical measure that halted a dangerous chain-reaction after the collapse of Lehman Brothers and AIG.”

Reading between the lines, the IMF was questioning whether the Fed’s loyalty still lies with the central banking network under the IMF and Bank for International Settlements, or whether the Trump White House is taking away control. The rapid reversal in the Fed’s hawkish policy following repeated criticism from President Trump, along with the ongoing trade tensions between the Trump Administration and China, makes this issue more poignant. Indeed, besides the loss of US monetary discipline, the other factor behind the failure of Bretton Woods 1.0 was the breakdown in cooperation between major economic powers of the day, notably the US and France at the time.

Introducing London's OTC gold market

It's not just about gold's investment case

Gold's investment case dovetails with current financial risks...

In investment terms, gold has unique properties, which dovetail with risks associated with the current stage of the extended economic, debt and asset price cycles. For example, gold is:

- ▶ positively correlated with **declining real interest rates**;
- ▶ the only financial asset that outperforms in either **inflation or deflation** (cf. Roy Jastram's detailed study covering a timeline of several centuries in his famous 1977 book, *The Golden Constant*);
- ▶ the only financial asset that has **no counterparty risk**, since it is the only one that is not the liability of a third party; and
- ▶ **insurance** against waning confidence in policy makers, sharp declines in the prices of other major asset classes and disruption to the status quo in the world's financial order.

The fundamentals for gold are arguably better now than they have been for more than a decade, if not several decades, dating back to the period before the collapse of the London Gold Pool in 1968.

But it's not that simple.

It's not just about gold's investment case...

The dynamics affecting the "gold price", however, are considerably more complex than the investment case for gold.

...but the mechanics of the London gold market

They are also dependent on the mechanics of the gold market and trading practices of major players participating in it.

Specifically, the strength and duration of the next gold bull market will be heavily dependent on events in London's OTC gold market, which remains the hub of global gold trading.

The key is how long the float of unencumbered gold in London vaults can sustain the outsized volume of gold trading in London's OTC gold market – especially if there is another run on the vaults as we saw during 2012-15.

From the London OTC gold market perspective, the extended debt cycle, extended economic expansion and the timing of the renewed loss of monetary discipline in the US is significant:

- ▶ when the Federal Reserve launched QE3 in September 2012, conditions in London's gold market were different – namely there was a significantly higher level of inventory in the gold vaults than currently; and
- ▶ the subsequent run on London's gold vaults – between September 2012 and December 2015 – was accommodated but only by a narrow margin given the volume of trading in London's OTC gold market (see Case study: False gold bear market below).

Next time, this may not be the case.

However, we should emphasise that it's not the total amount of gold in London vaults that is critical to the functioning of the London's OTC gold market, but the gold "float".

Price gold bullion, not gold credit

The gold float in London is critical...

This is the volume of unencumbered gold that can accommodate the small minority of gold buyers who, in the vast melee of daily London gold trading, currently opt to take gold bullion delivery.

Because the London gold market is almost entirely “derivative-ised”

London's gold market has long been “derivative-ised” and, for the most part, facilitates the exchange of gold credit notes, which purport to represent gold bullion, back and forth.

As we explain, this massively dilutes the buying pressure on London's inventory of bullion, while simultaneously eliminating most of the risk to sellers of sourcing bullion to satisfy delivery.

It follows that:

- ▶ much of the time, the gold price is set by supply and demand of what are effectively gold “credit notes”, instead of gold bullion;
- ▶ the gold price can move in the opposite direction to supply and demand fundamentals for gold bullion over relatively long periods (as our analysis will suggest);
- ▶ one can argue that the gold market is an uneven playing field and sellers, especially short sellers, are granted an advantageous position;
- ▶ there might be a structural downside bias to the gold price unless and until the “float” of vault gold becomes worryingly low; and
- ▶ in that case, the gold price could possess asymmetrical upside potential – not dissimilar to what happened when the London Gold Pool collapsed in 1968.

...otherwise the “derivative-ised” market will be exposed

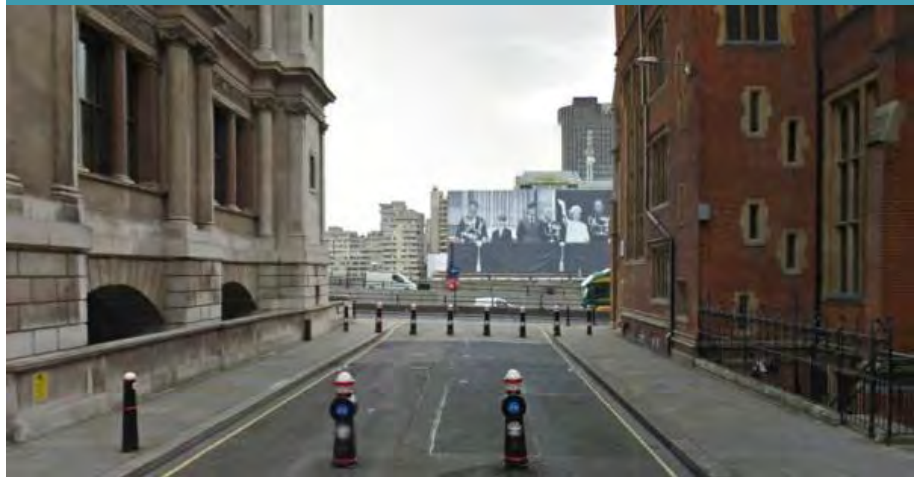
When there is an “adequate” float of gold in London vaults the status quo can be comfortably sustained. If not, the “derivative-isation” of the market might become obvious in fairly short order.

We estimate, for example, that at the end of December 2015, which marked the end a prolonged bear market in the gold price, the float in London's vaults had declined to about 1,000 tonnes. **This, we believe, was a mere fraction – less than 20% – of gold's *daily* average trading volume in the London OTC market.**

We need to emphasise that detailed analysis later in the report shows how the LBMA's current trade reporting only includes trades by LBMA members and, we believe, probably understates the actual trading volume by a wide margin.

In London, there are the two main vaults that service the gold market aside from the one located beneath the BoE. These belong to JPMorgan Chase and HSBC. The former is located on John Carpenter Street, close to Embankment and we believe that HSBC's gold vault is located in Queen Street Place in the City of London.

London gold vault at JPMorgan Chase on left side of road



Source: Hardman & Co.

Estimating the current gold float in London vaults

The key question is where do we stand now with respect to London's vaults and the float of gold?

Our calculation of the float in London is as follows:

Total held in London vaults

Less:

Central bank gold held for the UK and other nations at the Bank of England

Less:

Physically-backed ETF gold held in London

Less:

A small amount of gold held in London vaults on behalf of sovereign wealth funds ("SWFs") and high net worth investors ("HNWs")

Equals:

Gold float in London vaults

The sources for this data include:

- ▶ the LBMA, which publishes the total volume of gold in London's vaults (including gold held by the Bank of England) on a monthly basis three months in arrears;
- ▶ the BoE, which publishes the gold held in its vaults on a monthly basis; and
- ▶ the World Gold Council, which publishes the gold held by all of the physically-backed ETFs worldwide on a monthly basis.

Price gold bullion, not gold credit

The vast majority of gold held at the BoE is official gold, held on behalf of the central banks of other nations. When last reported, the BoE stated that it acts as gold custodian for 72 other central banks. Our estimate is that 95% of reported gold at the BoE is official. Using the latest estimate for gold held in its vaults (September 2019), the volume of official gold is:

$$95\% \times 5,151.8 \text{ tonnes} = 4,894.2 \text{ tonnes}$$

With regard to the more than one hundred gold ETFs, we have sought to identify the location of the custodian for each ETF, which holds more than one tonne of gold. The table below shows that slightly over 70% of this gold is held in London:

$$2,041.6 / 2,896.8 \text{ tonnes} = 70.5\%$$

ETFs with gold stored in London (October 2019)		
ETF	Ticker	Tonnes
North America:		
SPDR Gold Shares	GLD	915.3
iShares Gold Trust	IAU	356.9
SPDR Gold Minishares Trust	GLDM	22.9
Graniteshares Gold Trust	BAR	12.3
ETFS Physical Precious Metal Basket	GLTR	5.4
VanEck Merck Gold Shares	OUNZ	3.6
Europe:		
ETFS Physical Gold	PHAU	163.3
Invesco Physical Gold ETC	SGLD	152.8
iShares Physical Gold ETC	SGLN	142.2
Gold Bullion Securities Ltd	GBS	80.9
Xtrackers Physical Gold ETC Eur	XAD5	67.3
Xtrackers Physical Gold Euro Hedged ETC	XAD1	50.2
Xtrackers Physical Gold ETC	XGLD	23.3
Amundi Physical Gold ETC	GOLD	13.7
ETFS GBP Daily Hedged Physical Gold	GBSP	8.9
Xtrackers Physical Gold GBP Hedged ETC	XGLS	3.8
ETFS Physical PM Basket	PHPM	1.3
Rest of World:		
New Gold Issuer Ltd	GLD	17.6
Total ETF gold in London		2,041.6
Total gold in ETFs worldwide		2,896.8
Ratio		70.5%

Source: World Gold Council, Hardman & Co Research

We can only estimate the current amount of gold held in London vaults by SWFs and HNWs and we assume a nominal figure of 300 tonnes.

Price gold bullion, not gold credit

On the basis of our analysis, we estimate that the current gold float amounts to ca.1,000 tonnes.

Current estimate for gold "float" in London (tonnes)	
Total gold in London vaults (Sep'19)	8,228.4
Less:	
Official gold (95% x gold in BoE)	-4,894.2
Less:	
ETF gold held in London (Oct'19)	-2,041.6
Less:	
Held by institutions (incl. SWFs) and HNWs	-300.0
Add:	
UK net imports (Jun'18)	
Equals	
Gold float supporting London OTC trading	992.6

Source: Hardman & Co Research

As we show later in this report – see False gold bear market: October 2012-December 2015 – there was a run on London's gold vaults during this period, which saw **more than 2,000 tonnes** of gold leave London vaults for overseas buyers, mainly for Asia.

As things stand, London's gold vaults are ill-prepared to withstand another wave of bullion buying, even one that is only half of the strength of that seen in the 2012-15 period referred to above.

Obviously, the official sector might be prepared to lend gold to the market initially – but for how long if it became clear that there was little chance of getting it back?

The situation would be even more challenging if western investors were encouraged to participate this time by a bull market. This would see them add significantly to ETF and physical gold holdings in contrast to 2012-15 when they were significant net sellers.

In the meantime, it's ironic that central banks have become major gold buyers themselves, as we saw in the run-up to the gold bull market of 1968-80.

We're watching...

New wave of gold buying led by central banks

It seems that the renewed loss of monetary discipline by the US, or a general nervousness regarding the economic outlook, has not been lost on other sovereign nations. Amongst others, this applies to geo-political challengers to the US, major holders of dollar reserves and those having heavily overleveraged financial systems. China, for example, ticks all three boxes.

...December 2018 saw the first increase in China's gold reserves for more than two years

The way forward for the world financial order is hardly clear; nevertheless, China's central bank has been building up the nation's gold reserves for more than a decade and a half.

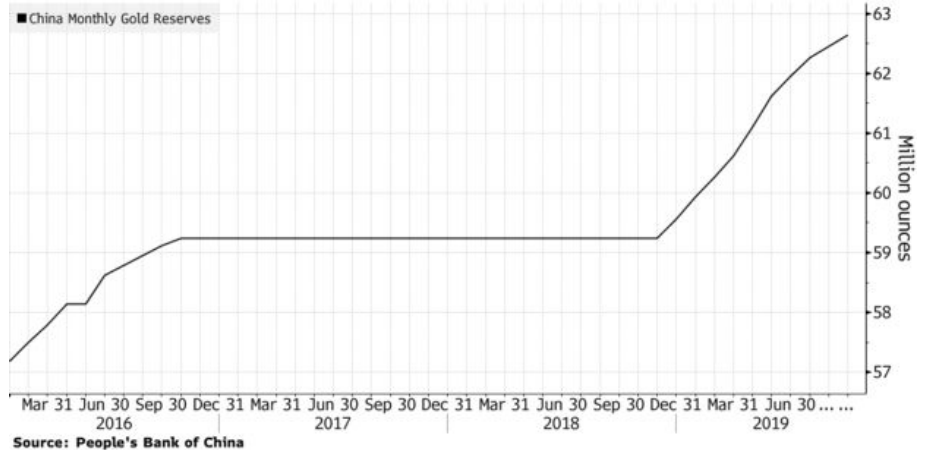
We believe it is very significant that, after a hiatus lasting from October 2016 to November 2018, China announced its first increase in gold reserves in December 2018 – precisely corresponding with the Federal Reserve signalling its policy reversal.

China's purchase of about 10 tonnes of gold was followed by almost identical purchases in January and February 2019. The buying continued for 10 months before pausing again in October 2019. The nation's gold reserves now stand at 62.64m oz, as shown in the next chart, which is equivalent to ca.1,948 tonnes. This puts China in sixth place behind the US, Germany, Italy, France and Russia.

China gold reserves since 1980

Bullion Buying

Inflows into China's gold reserves top 100 tons in this current spree



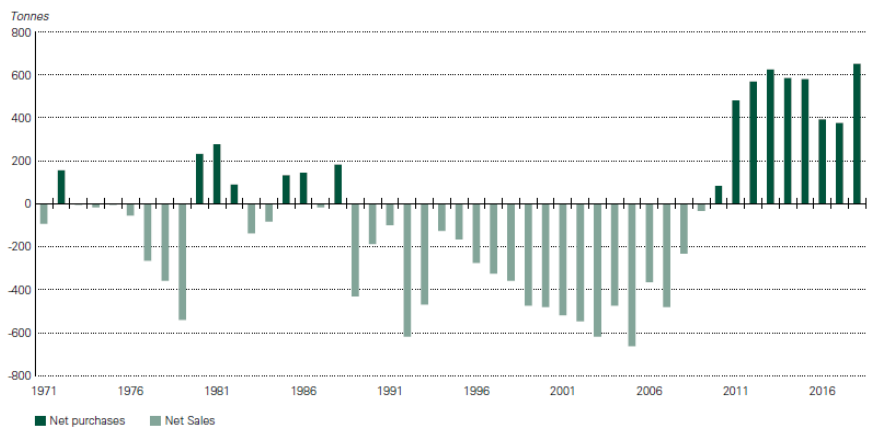
Source: Bloomberg

Last year, central banks bought the most gold since 1967

China's recent gold buying, while significant, is swamped by the recent buying by other central banks in aggregate. In all, they bought 651.5 tonnes of gold in 2018, 74% more than in 2017, and the highest level for more than half a century. This echoed the collapse of Bretton Woods 1.0, since the last time this level of annual buying was exceeded was the year prior to the former's failure – a total of 1,404 tonnes in 1967.

Central bank net gold purchases 1971-2018

Central bank demand in 2018 was the highest since Nixon closed the gold window



Source: World Gold Council

While Poland and Hungary unexpectedly added to their gold reserves in 2018, countries like Russia, Turkey and Kazakhstan continued to accumulate heavily. Russia purchased 274.3 tonnes, according to the World Gold Council, a fourth successive year of more than 200 tonnes. Hungary increased its holdings tenfold to 31.5 tonnes, and the MNB's (Hungarian central bank) press release noted (with our emphasis):

"Gold is not only for extreme market environments, **structural changes in the international financial system, and deeper geopolitical crises**. Gold also has a confidence-building effect in normal times, that is, gold can play a role in stabilizing and defending."

Price gold bullion, not gold credit

Western capital is not participating in the gold market in a meaningful way...

The aggregate value of global financial assets is more than \$500tr, while gold assets (bullion and associated equities) account for less than 2% of this figure, with much of it held by central banks and Asian citizens, in India for example.

In stark contrast, the vast pools of western capital, both institutional and retail, are still reluctant to participate in gold investing. Indeed, the investment case for gold and gold equities is not something on which the vast majority of investment managers in western nations spend much time (if any).

The efforts to reduce gold's profile in the investment landscape (cf. Bernanke's comments that US holdings of 8,000 tonnes of gold reserves were based on "tradition") were a **necessary part of the transition to Bretton Woods 2.0** and the subsequent – now more than four-decades-long – "financialization" of the global economy.

...and has been wrong-footed by gold before.

We should note that western capital has been wrong-footed by gold bull markets before. This comment, sourced from LBMA literature, relates to the 1970s'/early 1980s' bull market:

"...the bullion market was characterised by rising gold prices, with a then record gold price of \$850 an ounce, the explosion of western investor demand, the dramatic dishoarding from Asia and the birth of bullion banking."

Currently, the GDXJ index of small cap. gold mining stocks – the most geared to a gold bull market – remain depressed, as the chart shows. There is very limited interest from the investment community and few signs of that foundational principle of investing, going against the herd.

GDXJ Index – VanEck Junior Gold Miners ETF (since 2010)



Source: NASDAQ

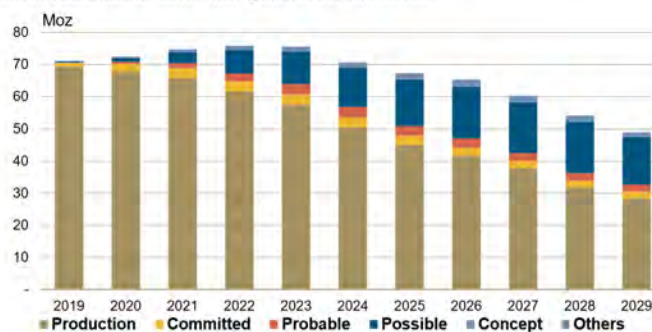
The prolonged period of low gold prices in recent years meant that less capital was allocated to exploring for new gold deposits and developing new gold mines. This will lead to a hiatus in gold minoutput and the prospect of a decline in the early years of this decade.

Gold production set to decline in the next decade

Global gold mine supply...2019 - 2029

BARRICK

- Industry facing production precipice
- Very few companies able to deliver value growth in this environment

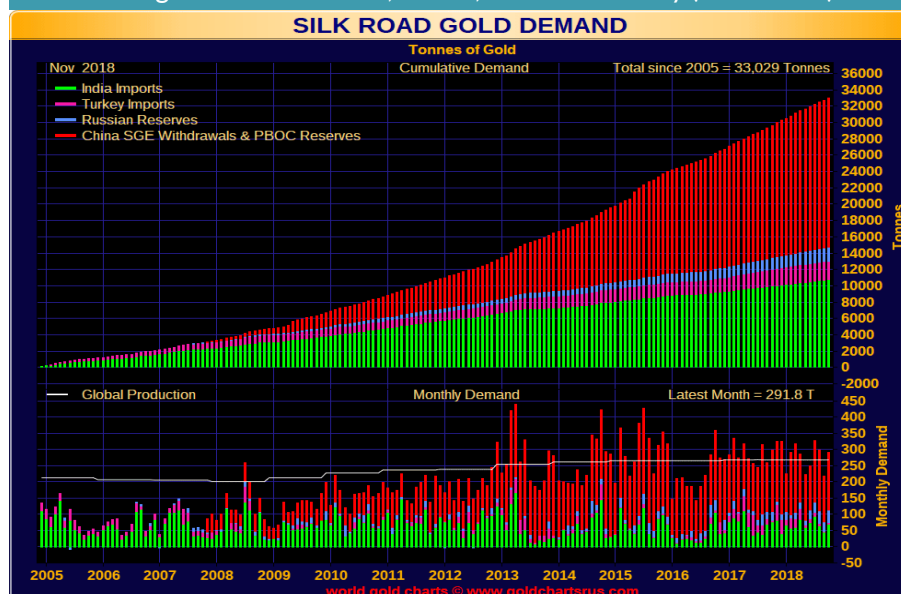


Source: Barrick Gold

Asian investors continue to accumulate gold

Furthermore, we suspect it's unlikely that the next bull market in gold will be characterised by Asian dishoarding. Indeed, central banks aside, Asia has been in long-term accumulation mode where gold is concerned. We expect to see the continuation, maybe even acceleration, in the trend shown in the chart below.

Cumulative gold demand: China, Russia, India and Turkey (since 2005)



Source: goldchartsrus.com

Why reform London's gold market?

Getting further behind on regulation?

When people think of the gold market, they generally think of London, which remains the hub of global gold trading. The following quote is from *A Guide to the London Precious Metals Markets*, published by the LBMA:

London is the hub of the gold market

"...the loco London price has become the common denominator amongst dealers around the world...nearly all global OTC gold and silver trading is cleared through the London bullion market clearing system."

Note: "loco London" refers to settlement in gold that is stored in London bank vaults.

What is the LBMA and what is it not?

The LBMA is a trade body that sets standards and provides services for the OTC gold market. However, we believe that regulation, transparency and market integrity would benefit from the market being as an exchange. As a trade body, some commentators believe that major banks that trade gold and the other precious metals can exert excessive influence (and we note some evidence of this below).

The LBMA has catching up to do on regulation and transparency

The market remains off limits to retail investors, whose gold trades are referenced to the LBMA price. Onboarding retail investors (e.g. albeit say trading in kilo bars as a minimum) would also be a step forward in the democratisation of gold price discovery.

Scandal after scandal has made greater regulatory oversight and transparency a necessity in this era. Gold trading in London has lagged progress in this field. The following quote about the market is from a 1996 *Gold Survey*, by consultants, GFMS:

"...confidentiality and lack of transparency; business can be conducted privately, sheltered from the attention of other market participants, competitors, regulators and, of course, analysts."

In the intervening period, a case can be made that change has been less substantive than is being portrayed. Some commentators view it as a self-regulating "club", which is opaque and too heavily influenced by banks.

London's gold market has a reputation of being "clubby"



Source: LBMA

Price gold bullion, not gold credit

The first code had little in the way of “teeth”

Under-regulation of London’s OTC gold market dates back decades. Prior to the publication of the LBMA’s “Global Precious Metals Code” in 2017, London’s OTC gold market was covered by the Bank of England’s “Non-Investment Products Code” (NIPs), which applied to gold and other, now infamous for rigging, wholesale financial markets, LIBOR and forex.

The BoE acknowledged the minimal regulation in a speech dating back to 2003, *The Role of the Bank of England in the Gold Market*, by the then senior manager of the BoE’s Foreign Exchange Division, Graham Young.

“I would like to say a word about the Bank’s role in the regulation of the gold market in the UK. This is, in fact, a very limited one...The wholesale bullion market is considered to be an inter-professional market...This means that, in general, the principle of caveat emptor applies and the market is expected to be self-regulating.”

Caveat emptor is inadequate, and a cursory reading of the NIPs raised red flags:

“Its provisions are intended only as guidance on what is currently believed to constitute good practice in these markets. The Code has no statutory underpinning.”

Consequently, it had little in the way of “teeth”.

The second also lacks statutory backing

We learned to our cost from scandals in LIBOR, forex and gold that it’s naïve to rely on markets being left to regulate themselves.

In gold, Barclays was fined \$43.8m on 23 May 2014 for market rigging of the London gold “fixes”, a day after it had been fined for rigging LIBOR along with other banks. The gold fixes were twice-a-day (10.30am and 3pm) price settings, which served as benchmarks during normal London trading. The FCA stated that there had been failings by Barclays for about a decade during 2004-13.

The scandal prompted a response by regulators. Since 2015, the renamed “LBMA Gold Prices” are set by auctions supervised by the FCA and administered by Intercontinental Exchange. That said, these auctions are really a quaint anachronism. They only cover a matter of minutes during 24/7 trading in London and elsewhere, from the Asian market open on Monday to the New York close on Friday evening.

In 2016, Deutsche Bank agreed to pay \$60m to settle a lawsuit filed in the US District Court in Manhattan for manipulating prices of gold, gold futures, options and the gold fixes.

As a reaction to the scandals in LIBOR, forex and gold, UK regulators, the FCA, UK Treasury and the BoE published the *Fair & Effective Markets Review* (FEMR) in 2014. In response to the FEMR, the LBMA published its *Global Precious Metals Code* (the Code) on 25 May 2017, albeit three years later.

The Code set out a “common set of principles to promote the integrity and effective functioning of the global market”. According to the LBMA’s Chairman, the Code would contribute to maintaining “an effective, fair and transparent market”.

However, it merely laid out what the LBMA deemed best practice and, once again, was **lacking in “teeth” from a legal, or even regulatory standpoint – as it even acknowledges:**

“(It is) not intended to be a comprehensive guide to doing business in the Precious Metals market...This Code does not impose legal or regulatory obligations on Market Participants.”

Price gold bullion, not gold credit

The codes have essentially provided cover for the status quo

Looking at the big picture in London, we don't believe that the code represents the full-scale overhaul needed with respect to:

- ▶ regulation;
- ▶ transparency; and
- ▶ market practices – and pricing of gold bullion.

Instead, it maintains an unsatisfactory status quo for gold mining companies, gold investors and the other stakeholders in the market. Given the importance of gold as a signalling mechanism, the latter includes all financial market participants.

We note, in regard to regulation, that in September 2019, LBMA director, Michael Nowak, was forced to resign from the LBMA board. Nowak, the head of JPMorgan Chase's global precious metals business, and two other JPM employees, were charged by the US Department of Justice with **multi-year market manipulation and racketeering conspiracy in precious metals futures** in the US on 16 September 2019.

Questioning an LBMA director about this lawsuit, we suggested that it might justify an investigation into whether the London OTC market has also been subject to long-term manipulation and not just manipulation (noted above) during the fixes? The case for an investigation would seem to be strengthened since Nowak was responsible for his bank's global precious metals operation.

The LBMA director replied that because the LBMA is not a regulatory body, such an investigation is not within its remit. We are unhappy with this response, especially as a similar argument was used as an excuse not to publish aggregate trading volumes as we'll highlight in a moment.

Still moving "Towards transparency"

When it comes to being genuinely transparent, progress has been unduly slow since the LBMA first published its "clearing statistics" in 1997. As anybody familiar with London gold trading knows, the clearing statistics represented very understated (most likely by a factor of 9-10 times – see below) data on trading volumes.

We will highlight areas where we think further progress on transparency can be made. This is because data is not timely enough, falls short of the transparency in other financial markets or, alternatively, continues to understate the true picture.

We are not alone in this view. In a 2016 presentation on the issue, *The Gold Market – Where Transparency Means Secrecy*, BullionStar's Ronan Manly commented.

"...this newly found sense of duty by the LBMA for transparency is hard to believe when you realise that the gold market today is even less transparent than it was 20 years ago. In January 1997, the LBMA published Issue 6 of its magazine 'The Alchemist' and devoted the entire issue to the theme of Transparency, even going so far as to title the cover page 'Towards Transparency'. The very title of the publication, 'Towards Transparency', conceded that the London Gold Market was not transparent at that time and admitted that the bullion market was secretive and lacking in information and data."

Manly's presentation included the slide below summarising his views on LBMA transparency:

Forward and backward steps together with contradictory data

"Where transparency means secrecy"

BullionStar's view on LBMA transparency



London Gold Market and the LBMA 2016

- No trade reporting, physical or otherwise, Monthly Clearing data is practically meaningless
- No data on the size of unallocated gold positions in the market
- No confirmation of identities of central bank & bullion bank customers at BoE
- Commercial gold vault locations in London are not published
- No official data about the London Gold Lending Market. Zero!
- GOFO and Forward Curve submissions discontinued by January 2015
- LBMA 'Moved the goalposts' – altered 2013 refining production figures from 6600 to 4600 tonnes

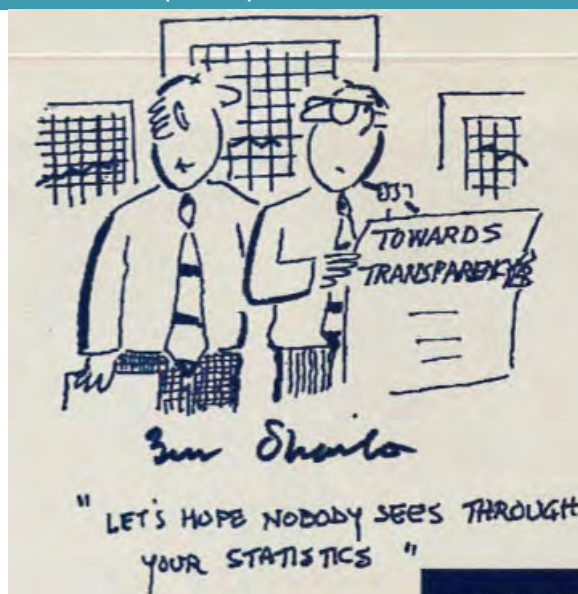
Source: BullionStar

One and a half steps forward and one step back

When change has occurred, as we'll show, it has consisted of one backward step and two forward steps, one of which (trade reporting) is only partial.

This cartoon below is from the LBMA's own *The Alchemist* magazine. It suggests that the LBMA was poking fun at its own initial attempt at transparency after it began publishing the "clearing statistics".

LBMA mocks its own transparency efforts



Source: LBMA

Let's examine the actions the LBMA has taken with regard to transparency since 2015.

GOFO was a major step backward in transparency...and the timing was critical

The backward step was **discontinuing the publication of GOFO rates in early 2015**. This followed a long period when they had remained negative. Briefly, a negative GOFO rate, which implied severe pressure on physical gold supply, was not something that banks trading gold in huge volumes and seeing dwindling inventory in probably wanted advertising to financial markets, the same for central banks.

Price gold bullion, not gold credit

They say “timing is everything” and, as we discuss in more detail later, the abolition of GOFO coincided with:

Banks pressured the LBMA to stop reporting GOFO rates

- ▶ surging demand for gold bullion during 2013-15; and
- ▶ pressure on the LBMA from the major banks to discontinue GOFO reporting.

The influence of the banks could be inferred from the LBMA's statement:

“GOFO...was discontinued with effect from 30 January 2015, following discussions between the LBMA and the contributors to the dataset, the LBMA Forward Market Makers.”

For the benefit of non-bank stakeholders in London's OTC gold market, we recommend that the LBMA re-starts publication of GOFO rates immediately.

Now let's turn to **vault data**, where the most progress has been made, although it remains unsatisfactory, in our opinion.

The LBMA has published the volume of gold held in London vaults since 31 July 2017. This includes gold held in the BoE, along with the other LBMA-registered vaults, notably JPM and HSBC.

Vault data delayed by 90 days

We were pleased with this step, although our enthusiasm is tempered by the data being for gold in vaults three months in arrears. Since it is certain that security at the vaults is such that banks know to the ounce how much gold is in their vaults 24/7, it's reasonable to ask why is there such a long delay?

This is a rhetorical question.

Asymmetric information in the market

One could surmise that it's about portraying transparency, while keeping the market partially in the dark, or at least sufficiently behind the curve. For example, if there were a run on gold in the vaults, the information provided to the market would obviously be 90 days out of date. This would be another example of the asymmetric nature of information in the gold market, between banks and non-bank stakeholders.

Let's turn to what we think is the biggest transparency issue for the LBMA, which is **adequate trading reporting**.

The LBMA was welcoming trade reporting prior to the publication of the FEMR in 2014...

Before the publication of the Fair and Efficient Markets Review in 2014, the LBMA published a letter in which it stated:

“The LBMA would also welcome further transparency through post trade reporting, providing the industry with data that at the moment does not exist for the bullion market...Post trade reporting...is the material barrier preventing greater transparency in the bullion market.”

...as an aid to price discovery and liquidity

This was the “material barrier” that had been ignored for decades. The LBMA stated that trade reporting would not only improve transparency, but would also make price discovery more efficient and increase liquidity.

“An obligation to trade report would create greater price discovery and also allow market users to deal with a wider range of institutions due to simplifying the credit system.”

We agree that sufficiently detailed trade reporting could have provided these benefits.

The July 2016 Implementation Report of the FEMR noted that the LBMA was focusing on “trade reporting as a priority”. In a speech at the LBMA Annual Conference

Price gold bullion, not gold credit

on 17 October 2016, the LBMA's CEO promised that trade reporting would begin in 1Q 2017:

"Phase One will focus on reporting and will launch in 1Q 2017. This reporting covers all Loco London Spot, forward & option trading. The decision to start with reporting comes directly from our on-going consultation with the market, primarily through the Market User Group. Reporting will not only make us more transparent and professional as a market place...It will also demonstrate of the size and liquidity of the market for clients, investors and regulators."

Three years later...and it became clear that true trade reporting was not going to happen

At the same event a year later, however, trade reporting had been downplayed to "work in progress", according to the LBMA's Chairman. It also became clear from a presentation by the LBMA's general counsel that trade reporting in the transparent sense of immediate (or short delay) publication of all trade sizes and prices after execution was not what the LBMA had in mind.

Firstly, instead of real transparency, the tone of the statement from the LBMA's general counsel emphasised secrecy in the gold market. Secondly, it noted that "trade reporting" would merely consist of aggregating trade data, removing most of the value it might have had, and that the timeline was slipping.

"So today, we are reporting on all loco London and loco Zurich trades for all 4 precious metals, in spot, forward and options. No client specific data is being requested, so to protect confidentiality. Therefore, the data is sufficiently anonymous without giving away the underlying client. The data will then be aggregated and published but not until Q1 2018."

The outcome was disappointing

There was the word "confidentiality" again and this outcome was not what we understand by "trade reporting", i.e. the reporting of prices and volumes of all individual trades with short delays following execution.

How these outcomes supported the LBMA's original claim that it would "make price discovery more efficient and increase liquidity" has not been addressed.

Publication was delayed again until 20 November 2018, when the LBMA began publishing aggregate volume and value of trades on a weekly basis. This was followed by a recent move to daily data, via subscription – another barrier to transparency.

When reporting began, average daily turnover was 939 tonnes

The 20 November 2018 data showed that, for the previous week (12-16 November 2018), the daily average volume of gold traded in London was 30.2m oz, or 939 tonnes, worth \$36.9bn.

LBMA average daily turnover – week of 12-16 November 2018			
	\$ bn	m oz	Tonnes
Spot	23.2	19.0	591
Swap/forward	11.4	9.3	289
Option	1.0	0.8	25
Loan/lease/deposit	1.3	1.1	34
Total	36.9	30.2	939

Source: LBMA

The data are, frustratingly (and inexplicably), not available as a time series. However, we have noticed that volumes have generally been slightly above or below the 20 November 2018 data. For example, the daily average for the 12 weeks to 26 April 2019 was 29.3m oz, or 903 tonnes.

Why actual trading volumes might be 5x reported

The next step is to compare the current data with the only other time the LBMA was “transparent” about trade reporting.

This is an important exercise because, as far as we can tell, the data sets don’t tally.

The LBMA also reported trading volumes once before, for 1Q 2011

The prior attempt at trade reporting was the one-off “**Loco London Liquidity Survey**” on volume and value of gold trading in 1Q 2011. Merely publishing aggregate trading data in 2011 was clearly a problem for banks then, so it was no wonder that they blocked further publication until they were forced to publish in 2018.

“The LBMA has endeavoured to conduct annual gold trading surveys since its one-off Q1 survey in 2011. The survey was conducted in order to give further clarity as to size of daily turnover in the London market. Unfortunately, the LBMA was unable to make this an annual requirement unless requested by the regulator.”

Since nothing happened, it **suggested strong influence of banks vis-à-vis effective regulation.**

The 2011 survey has taken on much greater significance since the advent of “trade reporting” in November 2018, due to the enormous divergence in the data sets.

Compare daily average trading volumes in 2011 and 2018...why are the 2011 data more than 5x those for 2018?

We make the case below that there are sound reasons for expecting the daily average trading volume reported in November 2018 to be higher than in 1Q 2011.

Inexplicably, however...the daily average trading volume reported in 2011 was greater than in 2018 by a factor of greater than five.

Let’s consider the 2011 data in detail. In 2011, 36 of the 56 LBMA full members responded to the survey, although it included all market-making firms, who would have the broadest access to trade data. The most surprising aspect of the 1Q 2011 survey was the scale of average daily turnover in London OTC gold trading.

Nearly a quarter of a trillion dollars and over 5,000 tonnes traded on average each day

The table below from the 1Q 2011 survey shows that the **daily average volume of gold traded in London was 173.7m oz (5,403 tonnes), worth the equivalent of \$240.8bn...**almost a quarter of a trillion dollars daily, for “loco London” trades only.

1Q 2011 daily average turnover was \$240.8bn and 5,403 tonnes					
Figure 1 - LBMA Survey of Loco London Gold Turnover					
	Q1 2011 Turnover*				
	'000 ounces		Number of trades		Total Value (Sales) Total Value (Purchases)
	Sales	Purchases	Sales	Purchases	
London Turnover	5,593,743	5,350,183	201,713	184,140	\$7,754,438,081,578 \$7,416,798,373,170
Total Loco London Turnover	10,943,926		385,852		\$15,171,236,454,748
LPML Clearing Statistics	1,183,459		122,303		\$1,640,689,519,546
London Daily Avg	173,713		6,125		\$240,813,277,059
Spot	89%	91%			
Forwards	5%	4%			
Other	6%	5%			

*Source: LBMA, Comprised of data from 36 LBMA Members, including all spot and forward Market Makers, for spot and forward Loco London transactions

Source: LBMA

Price gold bullion, not gold credit

Startling difference between 2011 and 2018

We have summarised the difference between the trade data from 1Q 2011 and that from November 2018 in the next table:

Difference in daily average trading volume, 2011 vs. 2018			
	2011	2018	Difference
Volume (tonnes)	5,403	939	4,464
Volume (million oz)	173.7	30.2	143.5

Source: LBMA

The differences were far too big...it made no sense

The difference in trading volumes was remarkable...*the 2011 average daily volume was 5x that in 2018 and amounted to over 4,000 tonnes of gold.*

Adjusting the 2011 data for the average gold price for 12-16 November 2018 of \$1,221.60/oz, the difference in the daily average value of gold traded was \$175.3bn. It did not make sense.

We concluded that the two data sets cannot have been calculated on the same basis. We were right. Moreover, if the data sets had been calculated on the same basis, we could make a strong case for the 2018 trading volumes being higher than in 2011, not the other way around.

Since 1996, the LBMA has published monthly "Clearing Statistics", as mentioned above. The data show the "daily average of net transfers" between books of the LBMA's five clearing members, HSBC, JPMorgan, ICBC Standard Bank, Scotiabank and UBS. The key point about the Clearing Statistics is that they represent net, rather than gross, volumes moved between accounts held with clearing members. Consequently, they substantially understate actual trading volumes. For our purposes, however, they provide a useful indication of relative trading volumes when comparing daily average trading volumes in different periods.

Clearing Statistics confirmed it

The evidence from the LBMA's "Clearing Statistics" showed that trading volumes published on 20 November **2018 should have been almost identical to the 1Q 2011 trading data**. The Clearing Statistics showed that the average daily number of ounces cleared in 1Q 2011 was 18.8m oz, i.e. almost identical to the 18.4m oz average daily number of ounces cleared during November 2018. Consequently, the difference between the 2011 and 2018 data – by a factor of five – made no sense.

Not comparing apples with apples

On reflection, we concluded that it meant one thing: these LBMA data were not **"comparing apples with apples" in calculating the data. Indeed, we identified three reasons why the 2018 data should have been higher than 2011 not lower:**

- ▶ The 2011 data were for loco London trades only, whereas the 2018 data included loco London *and* loco Zurich (the second-largest gold settlement location) settled trades.
- ▶ The 2011 data were based on responses from 36 LBMA members, compared with 43 for the 2018 data. While we do not know the identities of these members, all 13 market makers participated in both data sets.
- ▶ The 2011 data excluded gold loans/leases and deposits, which are included in the 2018 data (in their own category, as shown in the table above).

2011 data were probably conservative, according to the LBMA

We would also note the LBMA's CEO in 2011, Stewart Murray, stated, in the Loco London Liquidity Survey, that the 2011 data were likely to be conservative:

Price gold bullion, not gold credit

“...the figures provided for trade between members were divided by two in order to avoid double counting. This is rather conservative in that many of the trades reported with members would be with members that were not themselves reporting.”

Explaining the difference

So, how do we explain the difference in trading volumes between 1Q 2011 and November 2018? We looked very carefully at what the LBMA said about the two data sets. According to the LBMA, the trading volumes in 1Q 2011 were:

“Comprised of data from 36 LBMA Members, including all spot and forward Market Makers, for spot and forward Loco London transactions.”

In contrast, the LBMA's website states that the 20 November 2018 data (our emphasis again) included:

“...the **size of the LBMA membership's share** of the Loco London and Loco Zurich OTC market...a breakdown of the volume in spot, forward, swaps and loans/leases and deposit.”

It is not difficult to work out a big category of missing trades – the “elephants in the room”

You could easily miss the nuance, but the 2018 data **exclude trade by non-LBMA members**. Once we've identified major organisations on the LBMA membership roster, a **major missing category** of major players in the London gold market becomes obvious.

LBMA membership includes most of the big players in the gold market. This includes major bullion banks that are also LBMA market makers.

LBMA market-making banks

Citibank	Bank of Nova Scotia
Goldman Sachs	BNP Paribas
HSBC	Toronto-Dominion Bank
JPMorgan Chase	ICBC Standard Bank
UBS	Bank of America Merrill Lynch
Morgan Stanley	Standard Chartered

Explaining the difference

In total, there are 146 firms that are LBMA members. Besides the 12 market makers, there are commercial banks, securities traders, commodity traders, affiliated exchanges, mining companies, mints, refineries, bullion dealers and vault companies. The next table shows some of the better-known names on the membership list.

Some LBMA members

Bank of China	ANZ Banking Group
Bayerische Landesbank	Blackrock
Glencore	Johnson Matthey
CME Group	Maquarie Bank
AngloGold Ashanti	PAMP
Royal Mint	Commerzbank
Morgan Stanley	BullionVault
Argor-Heraeus	Pictet & Cie
Borsa Istanbul	G4S
Credit Suisse	Perth Mint
Mitsubishi Corp.	Metalor
Valcambi	Crédit Agricole
Rand Refinery	Umicore
ICAP	Brink's
Sumitomo Corp.	Westpac

Source: LBMA

Price gold bullion, not gold credit

Who's missing from the LBMA membership's share?

It is a fairly exhaustive list, and the LBMA's client base will include other banks and some hedge funds, etc. However, one very large and active group of players in the gold market is missing and we question whether they account for a significant proportion of the difference between the 2011 and 2018 data? We suspect they do...

"Elephants in the room"

Central banks...

Central banks are almost always the "elephant in the room" when it comes to the gold market. The next comment is from the guide to the London Bullion Market Association in May 2017, and bear in mind that the number of "gold-holding Central Banks" is well over one hundred.

"The LBMA has a global client base. This includes the majority of the gold-holding Central Banks."

Central banks are trading billions, if not tens of billions, of dollars daily

In order to reconcile the 2011 and 2018 data on trading volumes, we can formulate some speculative conclusions:

- ▶ gold trading in London is heavily influenced by central banks, which are trading billions, if not tens of billions, of dollars per day of gold in the market;
- ▶ the question of whether central banks trading gold are likely to be biased to the short side or the long side is self-explanatory; and
- ▶ excluding non-LBMA members from the trading data published since November 2018 onwards makes it misleading, lacking in transparency and is contrary to the spirit of the FEMR.

What facilitates this?

This discussion prompts a question – without discussing the motivation for why central banks might be trading billions of dollars of gold on a daily basis; the question is how might they do this without risking their gold bullion reserves?

Which brings us back to the subject of derivative-"isation".

Gold credit notes

"Derivative-isation" is a shackle applied to the gold price

The LBMA was formed in 1987, giving rise to market practices that remain in existence today even though, as we'll demonstrate, they are detrimental to the interests of non-bank stakeholders, i.e. gold mining companies and investors.

The possibility of hidden domination of gold trading by the central banks, about which we speculated above, was facilitated by a longstanding shackle applied to the gold price, the "derivative-isation" of London's OTC gold market.

The derivative-isation of gold trading **increases the attraction of selling/shorting gold contracts** for central banks, commercial banks and other trading houses, e.g. hedge funds. Why? Because it reduces the risk of being called upon to deliver gold bullion.

Conventional thinking that gold trading in London is primarily trading actual bullion is almost 100% inaccurate

We find it curious that many financial commentators and market professionals still assume that LBMA-accredited traders in London are, for the most part, trading physical gold. This is almost 100% inaccurate.

Price gold bullion, not gold credit

The reality is that almost all of London OTC gold trading is accounted for by **derivatives masquerading as physical bullion**. These derivatives do not:

- ▶ involve the purchase and sale of actual gold bullion;
- ▶ result in sellers of gold or LBMA market makers being called upon to deliver gold bullion; or
- ▶ affect the “float” of gold bullion (see above) available in London gold vaults.

It's all about unallocated gold

The focal point of the derivative-isation of the London OTC gold market is the LBMA convention of trading:

Contracts for “unallocated” gold

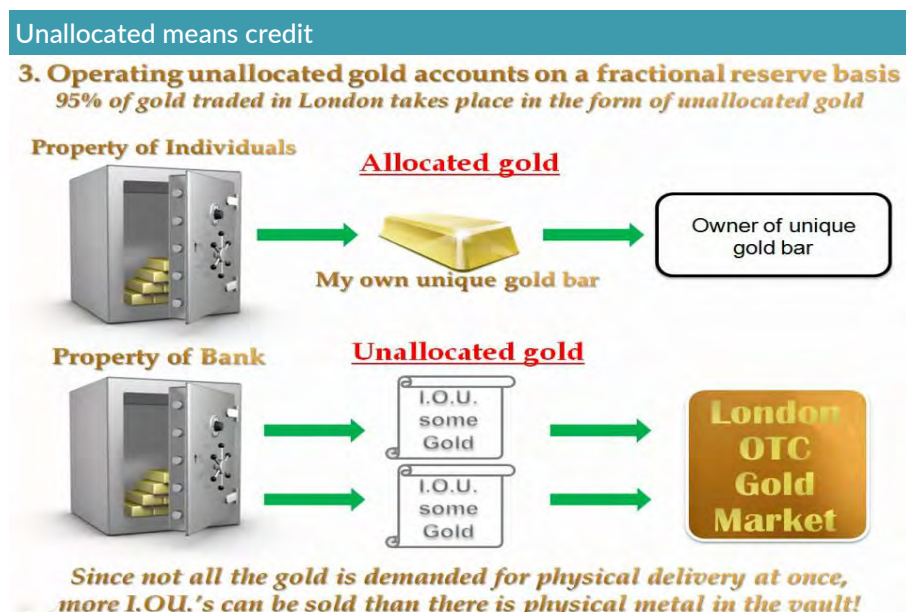
Gold traded by LBMA members is not created equally – far from it. To be clear, a relatively small volume of gold bullion is traded by LBMA members via “allocated” gold accounts. This requires the delivery of specific gold bars into the client’s account, which are held in custody under the client’s name with full title.

In contrast, the overwhelming majority of LBMA gold trading is via unallocated gold accounts. These are **gold credit notes**, in which the overwhelming majority of the gold, as we’ll show, doesn’t exist.

If a higher proportion of gold buyers suddenly opted for allocated bullion, **London’s gold vaults might be exhausted in a few hours** – since daily average trading volumes are perhaps 5x the gold float, as we’ve demonstrated.

Arguably, such circumstances might establish a **true and fair price for gold bullion** – which is frustrated by such a high proportion of derivative trading.

BullionVault has produced a good slide explaining gold credit notes (“I.O.U.’s”).



Source: BullionVault

It is all about unallocated gold...

In theory, a client with an “unallocated gold” contract has a general claim on gold held for the benefit of holders of unallocated gold contracts in a vault. However, this convention has created a fractional reserve system favouring banks and short sellers. Maintaining the “fraction” as low as possible minimises banks’ cost of capital.

Price gold bullion, not gold credit

...which is merely a monetary credit

The following slide, from a presentation by LBMA Chief Executive, Ruth Crowell, in June 2015, acknowledges that **unallocated gold is no more than a monetary credit – like a normal bank account.**

LBMA: a more diplomatic explanation of allocated vs. unallocated gold

METAL ACCOUNTS

Unallocated



- ▶ Equivalent to a current account at a bank
- ▶ The metal is the bank's asset: the customer's holding is its liability
- ▶ Used by many investors
- ▶ Account maintenance fees are charged

Allocated



- ▶ Segregated bars are held in the name of individual depositors
- ▶ Storage fees are charged
- ▶ Used by ETFs and central banks
- ▶ More expensive to hold than unallocated



Page 17 The LBMA & The London Bullion Market

Source: LBMA

Allocated gold accounts for less than 5%

It was disturbing many years ago to discover that **less than 5% of gold traded in the London OTC market is settled by the delivery of actual gold bullion in "allocated" gold accounts.**

How do we know? The source is the LBMA.

In April 2013, the LBMA, in conjunction with the London Platinum and Palladium Market (LPPM) and HM Revenue and Customs (HMRC), drafted a VAT treatment document for the London precious metals markets. It revealed that, in the London precious metals market,

"in 95% of trades, trading (is) in unallocated metals."

More confirmation of this percentage

This ratio of ca.95% unallocated gold trading, vs. only 5% in allocated, seems to have been stable for more than a decade. The following quote is from a 2002 speech by the chairman of the LBMA Physical Committee, titled *The Physical Side of Liquidity*.

"Many of these transactions end up being settled by metal accounts through the six clearing members that interchange in the same way as any bank clearing mechanism. Whilst it is very difficult to get hard, statistical evidence, it is clear that ca.5% of these paper transfers actually relate to a physical delivery."

The LBMA also justifies derivative-isation via unallocated gold in terms of "convenience". In summary, however, the practice of trading unallocated gold means:

- ▶ there is no delivery of gold bullion to clients, which merely have a monetary credit assigned to them;
- ▶ the monetary credits of "gold buyers" provide free working capital to the banks, which can use the funds to speculate in gold and other markets; and
- ▶ in legal terms, clients holding unallocated gold are nothing more than unsecured creditors of the bank, ranking behind customers with normal deposit accounts.

Price gold bullion, not gold credit

Diluted demand with elastic supply

Given that only 5% of trades are settled by actual bullion delivery, the buying pressure on physical bullion is diluted by a factor that is in the region of 20x – since buy orders are largely channelled into a gold derivative. Simultaneously, gold supply is highly elastic, since sellers can expand supply almost infinitely (at near-zero cost), as they are rarely called upon to deliver gold bullion.

Unallocated gold vs. equities

In a podcast from 2016, Craig Hemke of TF Metals Report contrasted the gold market with the equity market, when it comes to delivering the trading instrument.

"This would never be allowed in a stock. If you call up your stockbroker and say 'Hey, buy me 200 shares of Coca Cola' and your broker's firm just simply created 200 shares of Coca Cola and put them in your account, just created them out of the thin blue sky. They'd never be allowed to do that...they have to go out on the market and find a willing seller of 200 shares of Coca Cola. But that's not how it works (in gold)."

The investment case for gold is turned upside down

Not only does the practice of trading unallocated gold undermine true and fair price discovery but, since holders are merely unsecured bank creditors, the practice of trading unallocated gold actually turns the investment case for gold "upside down".

Paul Tustain from BullionVault explained:

"This means that the 'owner' of unallocated gold in a gold account is more dependent on the financial system's robustness than even the straightforward depositor of cash, a situation which for many gold buyers would be considered upside down."

The LBMA slide begs the question: for whom is the convention of trading unallocated gold "convenient"? If the London gold market became an exchange, gold buyers could have the option of withdrawing gold, or be charged a small fee for leaving their gold in an exchange warehouse. In our opinion, therefore, the beneficiaries are, once again, the banks, in addition to short sellers. As the team at BullionVault explained:

"Imagine you could sell someone something, but keep ownership of it, and then use it yourself. You could lend it out for interest, say, or raise loans of your own by pledging it as collateral. Or even sell it to raise cash when things get tight. And if your business fails entirely, the 'owner' will just have to queue up with all of your other creditors, and be thankful with whatever small change is paid out by the courts. This is pretty much what big banks get away with in gold."

Unallocated gold means that price discovery is probably skewed to the downside

Gold price patterns that could be investigated

The gold price is primarily set by derivatives. When demand for physical gold is diluted and supply is elastic due to unallocated gold, it would be logical to conclude that gold price discovery is going to be skewed to the downside.

The consequence of the current market structure is that "gold price" discovery has been subverted, with gold trading like a lower-priced "hybrid". The hybrid nature is largely composed of gold credit notes and a comparatively small amount of bullion.

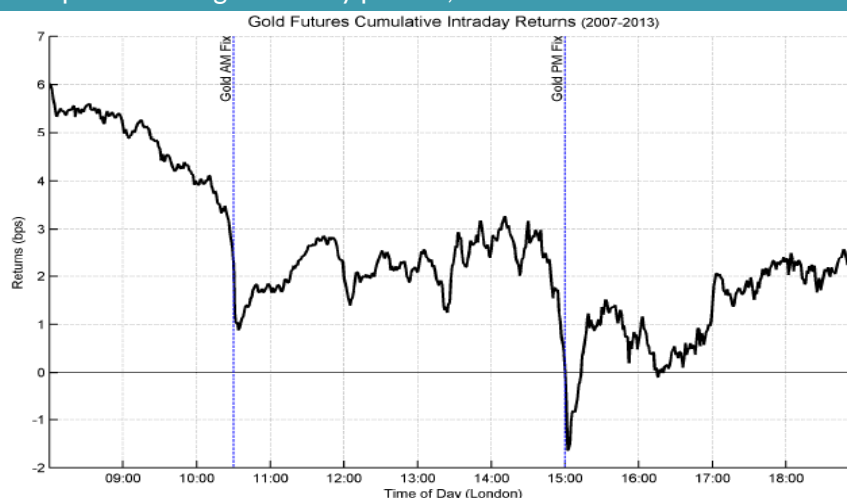
Several analysts have looked into the intra-day movement of the gold price across London, New York and Asian trading hours on a daily basis. **A downside bias during London trading hours, which also overlaps with New York's morning session, has been clearly shown in the intra-day pattern.**

Well-established downside bias during London trading and New York's morning session

Nick Laird, who hosts the "GoldChartsRUs" website, created the time series below for a seven-year period during 2007-13. On an average trading day, the gold price weakness began at around 8am London-time and continued through to the afternoon "P.M. Fix" at 3pm in London.

Price gold bullion, not gold credit

Gold price – average intra-day pattern, 2007-13



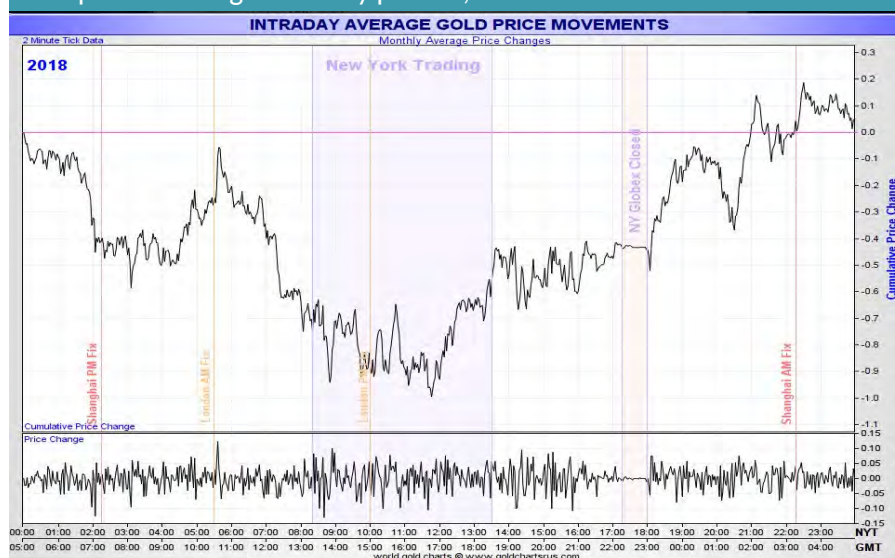
Source: goldchartsrus.com

This remains a well-established pattern.

Similar pattern in 2018

Below is the 24-hour chart for intra-day gold trading in 2018 from the same source, albeit in different format. Looking at the GMT axis at the bottom, the weakness in the gold price shifted slightly from 8am London-time to the “A.M. Fix” in London through the “P.M. Fix” and more than half-way through New York trading.

Gold price – average intra-day pattern, 2018



Source: goldchartsrus.com

There is a more sinister aspect to intra-day gold price patterns.

Repeating algorithms influencing the gold price

A close look at intra-day trading reveals the existence of computerised trading algorithms, which dominate gold price discovery. The chart below shows the gold price on three successive trading days during 13-15 February 2012. The **red and green lines** for 14 February and 15 February suggest that, despite thousands of other random buy and sell orders, an algorithm dominated the price for several hours from before 1pm London (GMT) time though to 8am New York time on successive days.

Price gold bullion, not gold credit

Gold algorithms in action: 14 and 15 February 2012



Source: Kitco

Look at the green line in the next chart for Thursday (9 February 2012) of the previous week. Now compare it with the red and green lines from the chart above and note how similar it is. This is likely to have indicated the presence of the same algorithm.

Same algorithm a week earlier

Probably the same gold algorithm: 9 February 2012

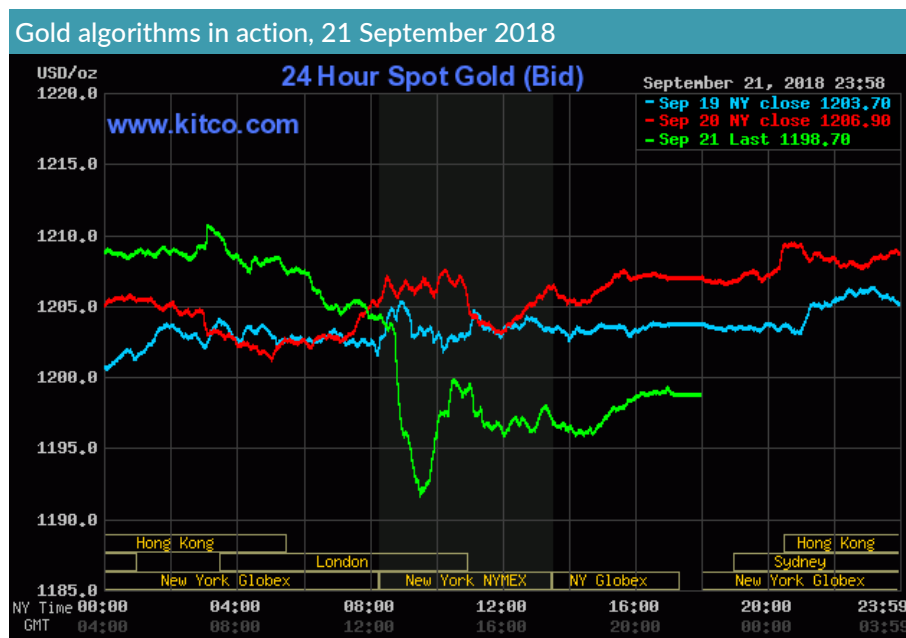


Source: Kitco

Price gold bullion, not gold credit

The next two charts show a different algorithm in operation in recent times. The green line in the first chart is for the gold price on 21 September 2018.

*Green line is gold price on
21 September 2018*



Source: Kitco

In the next chart, the gold price in terms of the green line is tracing a very similar pattern for 4 January 2019.

*Probably the same algorithm in
January 2019*



Source: Kitco

Who is trading these algorithms?

These price patterns raise a question: which entities have the resources, motivation and risk tolerance to have influenced the gold market to this extent?

As we are about to show, however, there are influences on the gold price that have lasted far longer than intra-day. Indeed, like the London Gold Pool prior to its demise in 1968, they lasted for several years.

Case study: False gold bear market of October 2012-December 2015

A three and a quarter-year bear market

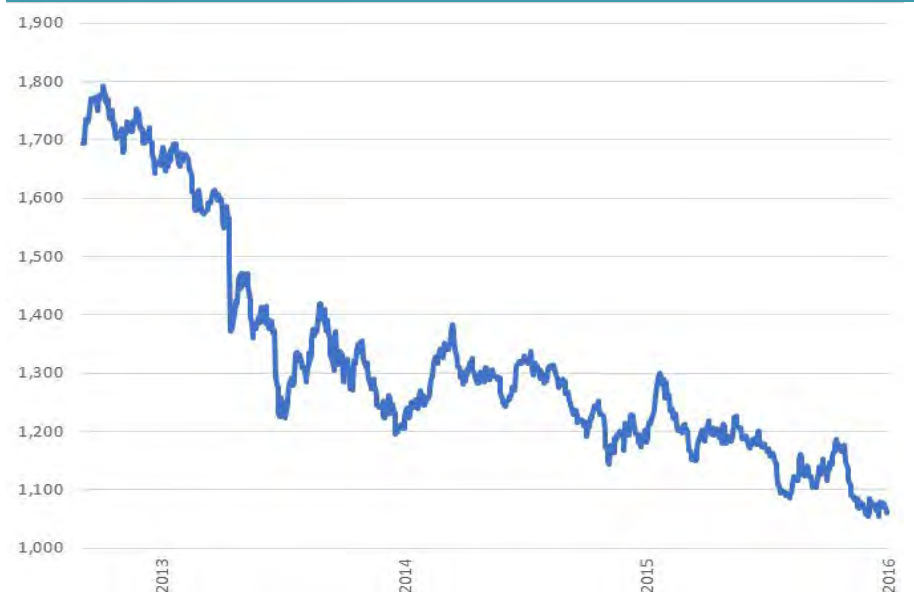
In this section, we switch from the intra-day gold price to the more than three-year period from October 2012 to December 2015.

We refer to this as the “False gold bear market” because:

- ▶ the gold price collapsed by more than 40%, despite negative real interest rates and central banks launching an unprecedented wave of liquidity creation;
- ▶ after showing no correlation in the prior 12 months, the gold price was pegged to the Yen as the Bank of Japan joined the Federal Reserve, and subsequently the ECB, on massive QE programmes of credit creation;
- ▶ it moved in precisely the opposite direction to the trend in demand and supply fundamentals for physical gold bullion and a market-based indicator that screamed that a lack of physical gold was available in the market; and
- ▶ the anecdotal evidence that the world’s largest gold refinery could not cope with the demand for physical gold – a situation not seen in at least four decades.

To begin with, let’s look at what happened to the gold price in September 2012 – the month before the bear market began and the (very) top left corner of the chart below. Gold rose in September, as central banks launched a renewed wave of hyper-monetary stimulus (see below). The gold price peaked at \$1,791.8/oz on 4 October 2012, as it looked set to challenge the September 2011 all-time high above \$1,900/oz.

Gold price \$/oz – September 2012 to December 2015



Source: Hardman & Co Research

Price gold bullion, not gold credit

It then embarked on a more than three-year market in opposition to identifiable fundamentals.

April 2013 crash

By the first trading day of 2013, the gold price had fallen to \$1,693.75. Worse followed, as gold's decline accelerated in February, before **crashing** in April 2013. The vast majority of gold's April 2013 collapse took place in what is now viewed as an infamous two-day trading period in the gold market – Friday 12 April 2013 and Monday 15 April 2013. The price fell from \$1,565/oz at the P.M. Fix on April 12 to ca.\$1,350/oz on 15 April 2013, i.e. a fall of approximately \$215/oz.

Low reached on 17 December 2015

While gold ended 2013 close to its low for the year, it fared better in 2014, with the price on the last trading day of 2014 only ca.\$20/oz lower than it closed on the first day's trading in January. The downward trend resumed in January 2015 and, by 17 December 2015, the gold price had fallen to \$1,049.40, a fall of 41.4% vs. the peak on 4 October 2012.

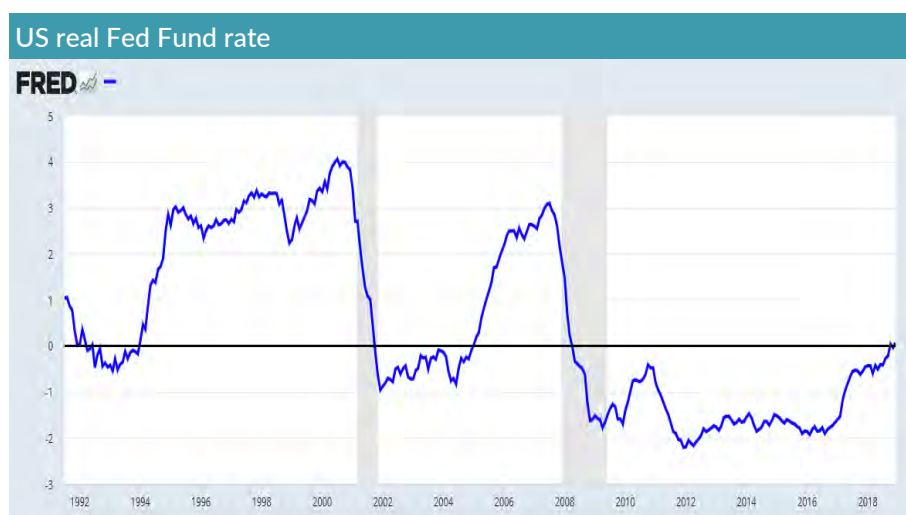
Historically, real interest rates have been an important influence on the gold price

Absent a financial crisis, the major driver of the gold price historically has been real interest rates. The attraction of holding US dollars and dollar-denominated bonds declines as real interest rates fall. In contrast, the attraction of holding gold rises, since gold pays no yield – so the opportunity cost of gold declines. This was summarised by former Federal Reserve Governor, Wayne Angell, in a July 1993 FOMC meeting:

“The price of gold is pretty well determined by us... But the major impact on the price of gold is the opportunity cost of holding the US dollar... We can hold the price of gold very easily; all we have to do is to cause the opportunity cost in terms of interest rates and US Treasury bills to make it unprofitable to own gold.”

Real rates were negative from 2008-18, which, ordinarily, would be good for gold

The chart below from the St Louis Fed shows the prolonged period of negative real interest rates – based on the Fed Fund rate minus the CPI – during 2008-18.



Source: St Louis Fed

A renewed wave of central bank liquidity began when the **Fed announced QE3** on 13 September 2012. This was an open-ended commitment to purchase \$40bn/month of MBS (mortgage-backed securities) and maintain the Fed Funds rate near zero “at least through 2015.”

Less than a week after the Fed announced QE3, the **Bank of Japan (BoJ)** announced its “Enhancement of Monetary Easing” on 19 September 2012. This programme increased the size of its then existing Asset Purchase Program from ¥70tr to ¥80tr, which it expected to reach by end-2013.

Price gold bullion, not gold credit

The gold price rose unsurprisingly in response to this monetisation

Further programmes followed from the Fed and BoJ: "QE to infinity"

"Shock and awe" from the BoJ came in April 2014 along with a collapse in the gold price

As the Fed wound down monetisation, the BoJ was joined by the ECB

No obvious correlation between Yen and gold prior to wave of monetisation

Unsurprisingly, gold initially rose after these announcements of heavy-handed central bank monetisation, but it peaked shortly afterwards. Nevertheless, these events were the **beginning of the new wave of hyper-aggressive monetisation**.

On 30 October 2012, the BoJ increased the size of its Asset Purchase Program from ¥80tr to ¥91tr by end-2013. Several weeks later, in December 2012, the Fed increased purchases by \$45bn/month of Treasuries, making \$85bn/month in total. The Fed was then creating \$1.02tr p.a. via QE3 on an open-ended basis. **Some market participants began referring to Fed policy as "QE to infinity".**

With the advent of "Abenomics", the BoJ unleashed its own "shock and awe" policy at the 4 April 2014 policy meeting. The new plan was to make asset purchases at an annual rate of ¥60tr to ¥70tr, which aimed to double the monetary base in two years, from the end-2012 level of ¥138tr to ¥200tr by end-2013 and ¥270tr by end-2014. The same day, Reuters commented:

"The Bank of Japan unleashed the world's most intense burst of monetary stimulus on Thursday, promising to inject about \$1.4tr trillion into the economy in less than two years...New Governor Haruhiko Kuroda committed the BOJ to open-ended asset buying...The policy was viewed as a radical gamble to boost growth and lift inflation expectations and is unmatched in scope even by the U.S. Federal Reserve's own quantitative easing program."

The ECB joined the hyper-credit creation fray in March 2014, purchasing €60bn per month of Euro-area bonds. When the Fed halted QE on 29 October 2014, its balance sheet had reached \$4.5tr. This ECB increased its monthly purchases to €80bn in March 2016 by adding purchases of corporate bonds.

Now we'll establish a link between unprecedented credit creation and what appears to be a prolonged period of gold price abuse when it was pegged to the Yen. Subsequently (see below), we will show how the bear market in gold contrasted with gold's strong fundamentals. The next chart shows the obvious lack of correlation prior to September 2012, with the two frequently moving in precisely opposite directions.



Source: Bloomberg

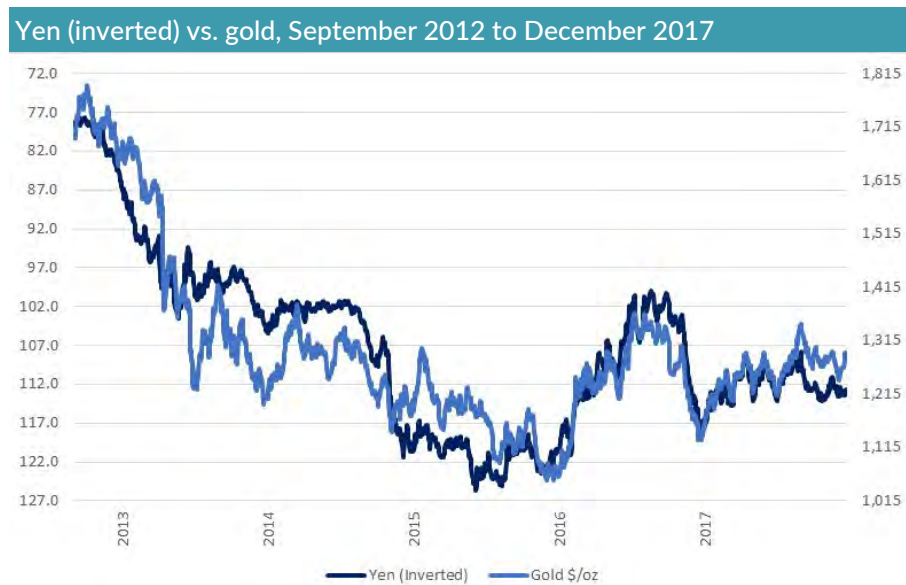
Please note that the Japanese Yen is inverted, so when the Yen and gold charts are rising, Yen and gold are strengthening vs. the dollar.

Price gold bullion, not gold credit

Now let's focus on October 2012-December 2015...and beyond.

The correlation with the Yen emerges

The chart below shows how trading in the gold market changed dramatically – gold was pegged to the weakest of the major currencies during several years of negative real interest rates in the US and almost unimaginable levels of credit creation globally.



Source: Bloomberg

What about the fundamentals for gold?

What about demand and supply for gold bullion during this time?

As usual, when it comes to gold, nothing is straightforward. The “official” gold supply and demand data are published quarterly by the World Gold Council (WGC), although the estimates are prepared by a consultancy, Metals Focus. There is a four-page pdf file on the WGC’s website explaining its methodology.

Gold supply and demand cannot be modelled in the same way as commodities...

Unfortunately, there is a flaw at the heart of these calculations. It is simply not possible for the data to accurately reflect all gold bullion supply and demand. We have to emphasise that we have no wish to single out Metals Focus, since it is in good company with almost all other gold market analysts. Almost all of them overlook a fundamental difference between supply and demand for gold vs. other commodities.

Most analysts make the implicit assumption – without stating or likely realising it – that gold also has a low stock-to-flow ratio like other commodities, such as oil or copper. This is incorrect.

...due to very low stock-to-flow ratio

In simple terms, a low stock-to-flow ratio means that inventories are low in comparison with annual production. The annual demand that is consumed is sourced almost entirely from annual supply. Relatively small changes in either production or inventories, therefore, can significantly affect price – since the market can rapidly shift from surplus to deficit and vice versa.

Price gold bullion, not gold credit

Gold is almost unique, having a very high stock-to-flow ratio, meaning that:

- ▶ unlike other commodities, gold is not consumed – a key factor making it the perfect choice for money/store of wealth; and
- ▶ almost all the gold ever mined remains in the form of bars, coins and jewellery, and is relatively easy to sell back to the market.

Given gold's high stock-to-flow ratio, the concepts of supply and demand take on a different character from normal goods:

- ▶ supply – the WGC's estimate of 187,200 tonnes of gold ever mined can theoretically be seen as potential supply, rising annually with mine production; and
- ▶ demand – owners of gold bars, coins and jewellery are effectively demanding gold by withholding their inventory of gold from the market; this is sometimes referred to as "reservation demand".

Since the entire stock of gold held as bars, coins and jewellery is held as inventory, there are obviously substantial flows within this existing 187,200 tonnes of inventory. It is the buying and selling within this existing inventory that is not picked up by the WGC/Metals Focus data. It is not possible to do so, except for estimating the volume of recycled gold "scrap" (mainly old jewellery).

Buying and selling within the existing inventory is hard to pick up

A few other commentators have noted on this unique aspect of gold and, to a lesser extent silver, which is the other monetary metal. For example, the following comment is from Antal Fekete, Professor Emeritus at the Memorial University of Newfoundland:

"...supply and demand in the case of a monetary metal are indeterminate because of the huge speculative flow as it switches its loyalty back and forth between the long and short side of the market..."

Official data capture incremental supply and best guesses for its various categories of demand

It is impossible for even the most sophisticated analysts/consultants to accurately model these speculative flows within the existing inventory. There is an argument that if this is acknowledged by analysts it will partially invalidate their work.

Returning to the WGC/Metals Focus work, its analytical format does capture the incremental gold supply each year in terms of:

- ▶ new mine production;
- ▶ recycling of scrap gold; and
- ▶ producer hedging.

The World Gold Council's website shows its quarterly estimates for the surplus/deficit in global gold supply and demand for the 9-year period 2010-18 (data are not available for earlier years). This is shown in the chart below, which illustrates a remarkable and inexplicable feature of the WGC's data.

Price gold bullion, not gold credit

We noted above that the biggest quarterly decline in the gold price during October 2012-December 2015 was 25.4% in 2Q 2013. Inexplicably, this coincided with the biggest quarterly supply deficit in gold bullion of 200 tonnes reported by the WGC.

WGC calculates biggest supply deficit was in the quarter that saw biggest crash in the gold price

World Gold Council (WGC) – supply & demand surplus/(deficit) 2010-18 (tonnes)



Source: World Gold Council

This does not make sense, obviously, and begs a question. **Is the WGC's model incorrect, or is the gold price disconnected from supply and demand for actual bullion, or both?** The answer, in our opinion, is "both".

While gold supply and demand cannot be analysed in the same way as normal commodities, **we will show how the gold price between October 2012 and December 2015 moved in precisely the opposite direction from the identifiable global trends in demand and supply for gold bullion.** Our analysis shows the following:

The false bear market of October 2012 to December 2015

- ▶ a rising trend in a broad quantitative indicator of global physical gold demand;
- ▶ flat WGC estimates for new gold supply during the period;
- ▶ a "run" on the banks of more than 2,000 tonnes of gold leaving London vaults; and
- ▶ anecdotal evidence of gold refiners overwhelmed by demand and lacking supply.

The best quantitative indicator for global gold bullion demand

We can gauge the **level of global gold bullion demand by aggregating the net change in four key quantitative indicators**, which are published on a month-by-month basis.

- ▶ net change in central bank gold holdings (WGC);
- ▶ net change in gold holdings of all-known gold ETFs;
- ▶ gold withdrawals on the Shanghai Gold Exchange; and
- ▶ gold imports into India.

Price gold bullion, not gold credit

It is important to clarify three aspects of these data.

Withdrawals on the SGE are a good proxy for Chinese demand excluding the PBOC

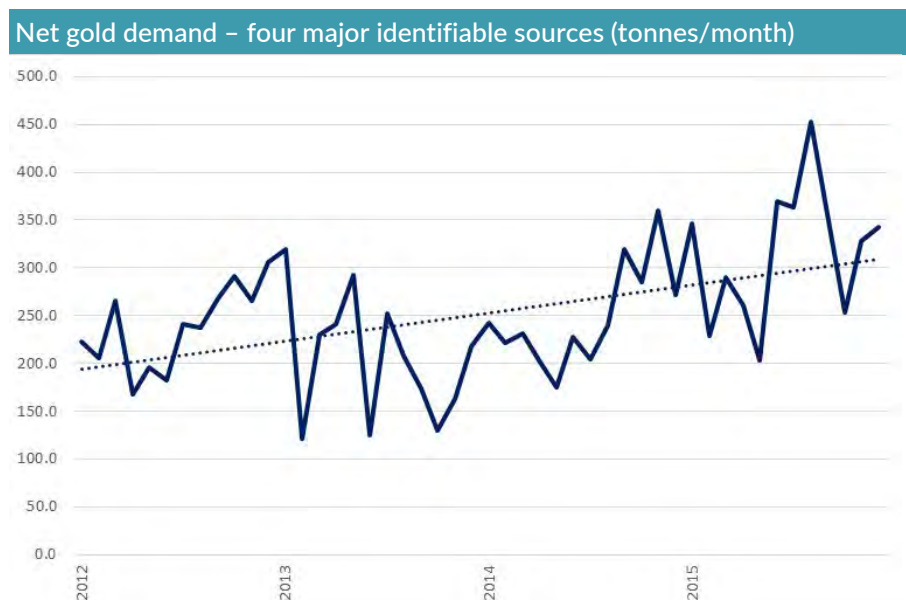
- ▶ The net change in gold ETFs and the net change in central bank holdings are based on WGC data.
- ▶ Withdrawals on the Shanghai Gold Exchange are a close proxy for Chinese demand, albeit excluding PBOC (People's Bank of China) buying. Under Chinese law, all gold, either mined domestically or imported, has to be sold through the SGE, allowing the monitoring private gold reserves. Once SGE bars are withdrawn, they are not allowed to be re-deposited (Article 23, SGE rule book). Withdrawn SGE bars that are re-sold on the exchange have to be recast and assayed as new bars (so it happens rarely) and are counted as scrap supply. Furthermore, in 2014, the President of the SGE Transaction Department confirmed to CNC Asset Management that the PBOC does not purchase gold through the SGE – so no overlap with central bank purchases.

Indian import data understate the actual numbers

- ▶ Official data for Indian imports significantly understate the actual numbers. The period October 2012 to December 2015 saw India raise the 4% duty it imposed on gold imports in 2012 by 2% on three further occasions in January, June and August of 2013 to 10%. This led to a sharp rise in illegal gold imports, which some estimates put at about 200 tonnes per year in 2014 (or nearly 17 tonnes per month). We have not made any adjustment to the official figures, which are well-known to understate reality.

Aggregating the four indicators of global gold demand

The chart below shows the monthly aggregate for the four biggest identifiable sources of gold bullion demand and the rising trend line during 2012-15.



Source: WGC, Bloomberg

Price gold bullion, not gold credit

WGC's estimate of "supply" was flat/down

During this period, gold supply – calculated using the WGC's data for mine production plus net producer hedging plus recycled gold – was flat or slightly down.

WGC estimate for world gold supply (quarterly/tonnes)



Source: WGC

As we will show, not only was gold demand rising and supply stable during 2013-15, but London's gold vaults were drained of more than 2,000 tonnes of bullion during September 2012-December 2015.

This took the volume of vault gold down to very low levels vs. the scale of London gold trading. Inexplicably, the gold price plunged by more than 40% while this "run" on the vaults was in progress.

The gold float in London is critical...

We reiterate that it is not the total amount of vault gold that is critical to the functioning of London's gold market, but what we term the gold "float", i.e. the volume of unencumbered gold that can accommodate gold buyers who opt to take delivery of allocated bullion. Furthermore, this gold has to be in the form of London Good Delivery bars, which can introduce some supply lags into the system. ...otherwise the "derivative-ised" market will be exposed.

An adequate float maintains the market's status quo; **otherwise its "derivative-ised" nature might rapidly become obvious.**

Our estimate of the float at the end of December 2015 will show how close we came to delivery failures in London.

We can estimate the float at end-December 2015 in two ways and take the average:

We note that, in calculating the float at end-December 2015, we are hampered by the LBMA not reporting the volume of gold in London vaults until July 2016. However, **we can estimate it with reasonable accuracy in two ways before taking an average:**

- ▶ estimate total volume of gold in London vaults on 1 October 2012 by grossing up (see below) BoE vault data for end-September 2012 and subtracting net UK exports during October 2012 to December 2015; and
- ▶ estimate total gold in London vaults by grossing up the BoE vault data on 31 December 2015.

Price gold bullion, not gold credit

Firstly, by estimating total gold in London vaults using BoE data for October 2012 and subtracting net exports

The starting point for the **first way** is the BoE vault data, which indicated 5,961.2 tonnes of gold on 31 December 2012. The vast majority, although not quite all, of this gold is “official” gold, i.e. belongs to central banks. We need to “gross up” this figure to estimate the total gold in London vaults on that date.

During July 2016 to December 2018, the ratio of gold held at the BoE vs. total gold in London exhibited a narrow range of 66.4%-69.0%, with an average of 67.8%. Using this average, we can estimate that the total gold in London vaults at midnight on 1 October 2012 was $5,961.2 / 0.678 = 8,792.3$ tonnes.

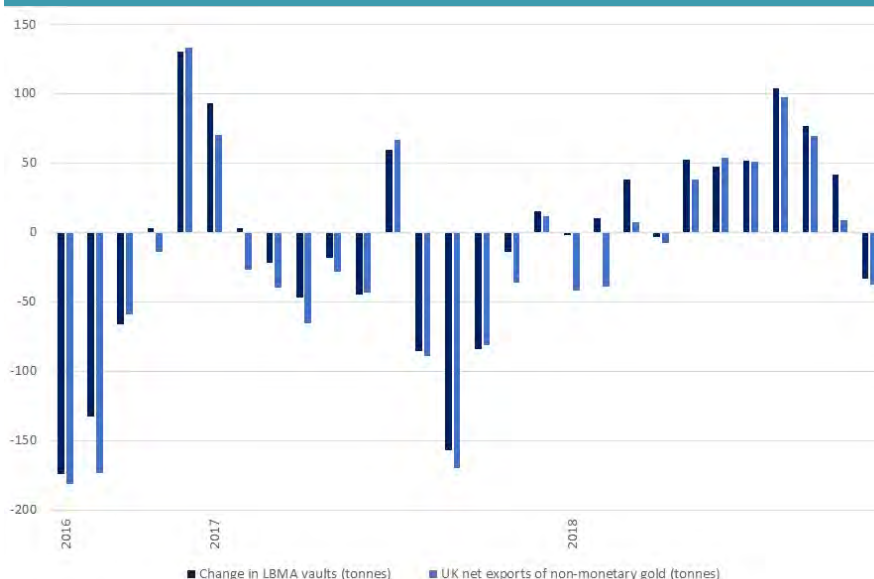
We can demonstrate that this methodology is reasonably accurate, as follows: dividing the gold in the BoE vaults at end-July 2016 by 0.678, we get an estimate of $4,943.5 / 0.678 = 7,291.3$ tonnes. This is close to the actual volume of gold in London vaults at end-July 2016 of 7,283.0 tonnes, being the first time the LBMA reported it.

The UK’s Office for National Statistics publishes monthly data on exports and imports of non-monetary gold, i.e. non-official gold. Using our estimate of 8,792.3 tonnes of gold in London vaults on 1 October 2012 as our starting point, we can subtract the UK’s net exports of gold from October 2012 to December 2015 of 2,155.3 tonnes (see below), which leaves 6,637.0 tonnes.

Changes in UK net exports have corresponded closely with changes in the total volume of gold in London vaults

Since the LBMA published the volume of gold in London’s vaults in July 2016, **the monthly changes have corresponded closely with the data on net UK gold exports.**

Change in LBMA vaults vs. UK net exports (monthly, since July 2016)

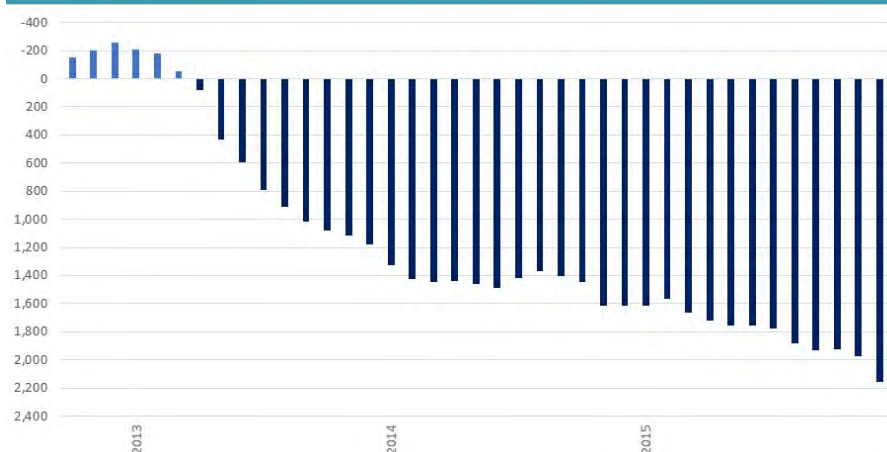


Source: ONS, LBMA

The “bank run” on London’s vaults amounted to more than 2,000 tonnes

The chart below shows the “run” on London’s gold vaults during the “False Gold Bear Market” of October 2012-December 2015. We estimate that the accumulated loss of gold from London’s vaults was 2,155.3 tonnes. The ONS data show that the UK switched from being a net importer to a substantial net exporter of non-monetary gold (i.e. non-official gold) from January 2013-December 2015. Indeed, during this 36-month period, net UK gold exports amounted to 2,415 tonnes.

Cumulative net gold exports from UK, October 2012 to December 2015 (tonnes)



Source: Hardman & Co Research, LBMA

Secondly, by using the average ratio of gold stored at the BoE vs. total gold in London vaults to estimate the latter in December 2015

In the **second way**, we divided the 4,779.5 tonnes of gold reported by the BoE to be in its vaults on 31 December 2015 by 0.678, which gives 7,049.4 tonnes, i.e. a fairly modest 6.9% above the 6,594.2 tonne first estimate.

Averaging the two gives $(6,637.0 + 7,049.4)/2 = 6,821.8$ tonnes.

Almost all of the gold in the BoE's vaults is official, i.e. national/central bank gold – we estimate 95% of the 4,779.5 tonnes remaining in the BoE's vaults at the time. This left $6,821.8 - 4,540.5 = 2,281.3$ tonnes. From this figure, we need to subtract ETF gold in London and institutional/HNW.

Gold float estimated at 968 tonnes on 31 December 2015

The WGC estimates that, at 31 December 2015, gold held in ETFs worldwide amounted to 1,590.1 tonnes. Our calculation is that gold currently held by ETFs that is stored in London is 71.0% of the total, and has been relatively stable at ca.70.0% in recent years. Applying 70.0% to ETF gold holdings of 1,590.1 tonnes on 31 December 2015 implies 1,113.1 tonnes of ETF in London at that time. We estimate that gold held in London by institutions, including SWFs and HNWI investors, amounted to about 250 tonnes on 31 December 2015. Now we can estimate the gold float as follows:

Estimating for gold "float" in London on 31 December 2015 (tonnes)

Total gold in London vaults	6,843.2
Less:	
Official gold	-4,540.5
Less:	
ETF gold held in London	-1,113.0
Less:	
Held by institutions (incl. SWFs) and HNWI investors	-250.0
Equals	
Gold float supporting London OTC trading	939.7

Source: Hardman & Co Research

So, we estimate that, after a run on London's vaults of more than 2,000 tonnes, the float supporting London's gold market trading had dwindled to below 1,000 tonnes.

We need to put this in context.

Price gold bullion, not gold credit

The float declined to dangerously low levels vs. the volume of OTC trading

A float of 939.7 tonnes is less than 18% of the daily average turnover of 5,403 tonnes of “loco London” gold trading, based on the 2011 LBMA survey. It is also comparable with the 939 tonnes of daily average turnover using what we believe is the very understated figure from the LBMA trade report from November 2018.

The conclusion from these calculations is profound.

Absent the convention of unallocated gold, London could have run out of gold in less than a day

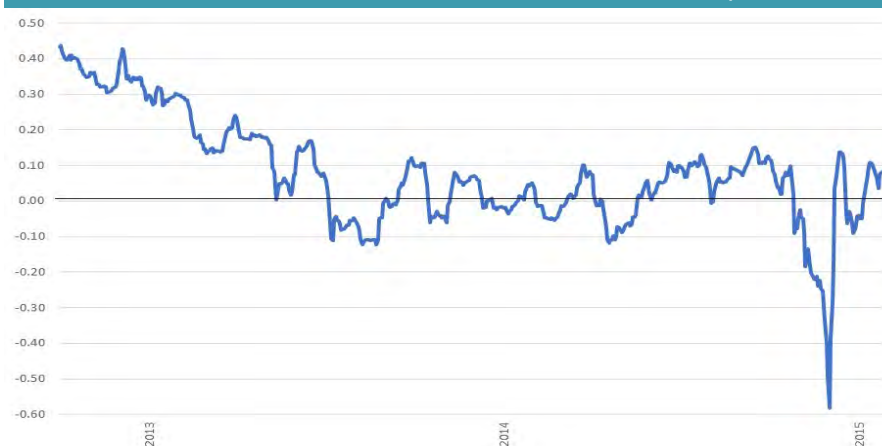
Without the convention of trading gold credit notes, i.e. unallocated gold, London’s gold market could have run out of available inventory of gold bullion in about 24 hours in December 2015.

As the gold float dwindled during 2013-15, it was no wonder that the GOFO rate was negative and signalling severe tightness in physical gold supply – in contrast to gold’s collapsing price. Recapping briefly, GOFO stands for the “Gold Offered Forward Rate”, and is the interest rate for swapping gold into US dollars for a fixed time. Putting it another way, it is the interest rate for borrowing dollars using gold as collateral.

GOFO traded repeatedly in negative territory

The GOFO rate should not trade below zero. If it trades negatively, it means that the market will pay holders of gold bullion to borrow dollars in exchange for lending their gold bullion to the market. Consequently, negative GOFO means that the OTC gold market in London needs to borrow gold to ease the supply shortage. GOFO repeatedly traded in negative territory in 2013-14, before publication was terminated in January 2015, after pressure from LBMA members.

GOFO (Gold Forward Offered Rate), October 2012 to January 2015 (%)



Source: Bloomberg

Discontinued after huge spike down

This helped to disguise the severity of stress on London vaults, which became even more intense by the end of 2015.

The collapse in the gold price was also at odds with other evidence of strong bullion demand

During 2013-15, as the gold price plummeted, there were contradictory stories about the strength of Chinese gold demand and how gold refiners were struggling to meet customer orders. Reading the following anecdote clarifies the disconnection between the gold price, and the fundamentals and intrinsic value of gold bullion.

Price gold bullion, not gold credit

A discussion with the MD of a major gold refinery

The following comments were published on the BullionStar website in December 2013. BullionStar's former writer, Koos Jansen, interviewed Alan Stanczyk, the Chief Market Strategist of the Anglo-Far East investment group, after Stanczyk visited one of the biggest Swiss gold refineries. In the report, Stanczyk recounted his conversation with the refinery's managing director.

"We (spent) about two hours talking to him, we learned some very interesting things. What's going on in the gold market as far as the price, is I think very counter intuitive. Everybody understands, knows and believes the price should be higher than it is, but it isn't. There's confusion in the marketplace, and there are two reactions; the reaction in the west is fear, confusion and uncertainty; the reaction in the east is buying.

Now, this gentleman we were talking to probably has a better idea of physical gold flow than anybody else globally. He sees what is coming from the mines, he sees what is coming from the UK, and all over the world, as well as where it's going. He indicated the price didn't make sense because he has got so much fabrication demand. They put on three shifts, they're working 24 hours a day, and originally he thought that would wind down at some point. Well, they've been doing it all year. Every time he thinks it's going to slow down, he gets more orders, more orders, more orders. They have expanded the plant to where it almost doubles their capacity. 70 % of their kilobar fabrication is going to China, at apace of 10 tons a week. That's from one refinery, now remember there are 4 of these big ones (refineries) in Switzerland.

At this Swiss refinery there have been several times this year on which they were unable to source gold. This shocked me. They're bringing in good delivery bars, scrap and dore from the mines, basically all they can get their hands on. This gentleman has been in the business for 37 years, he was there during the last bull market in the late seventies. I asked him when was the last time this happened, that he was unable to source gold. He said never. And I clarified it, I asked: let me make sure if I understand what you're saying to me, in the last 37 years you've worked in the gold industry this has never happened? He said: this has never happened."

ETF holdings track the direction of the gold price

When we looked into the data more deeply, we realised that the main reason that the London gold market did not collapse into delivery failure was the dishoarding of gold held in ETFs by western investors. Gold ETF holdings tend to track the gold price, and western investors buy gold as the price rises and sell when it falls.

Price gold bullion, not gold credit

Total ETF gold holdings vs. gold price (tonnes, since 2004)

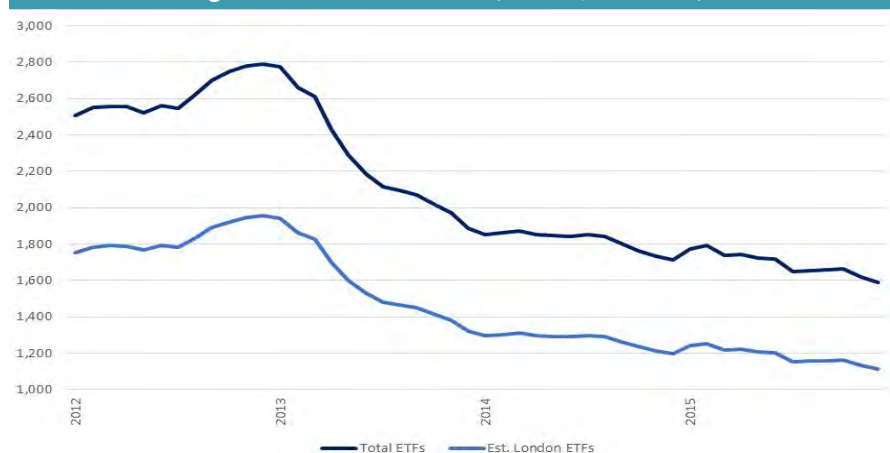


Source: Bloomberg, LBMA

We estimate that ETF gold held in London fell by nearly 800 tonnes between October 2012 and December 2015

The next chart shows the WGC data for the tonnes of gold held by all known gold ETFs, of which, as explained above, the proportion held in London is relatively stable, at about 70%. Total gold held in ETFs declined from 2,701 tonnes on 1 October 2012 to 1,590 tonnes by 31 December 2015. Applying a consistent 70% ratio, we estimate that gold in London ETFs fell from 1,890 tonnes to 1,113 tonnes during the same period, **a decline of 777 tonnes.**

Total ETF holdings and London estimate (tonnes, 2012-15)



Source: Bloomberg, LBMA

Let's put this in the context of the "run" on London's gold vaults during 2013-15.

Dishoarding saved the London gold market in 2015

We estimated above that the float of gold in London vaults on 31 December 2015 was 968.2 tonnes. Consequently, without this dishoarding by western ETF investors of nearly 800 tonnes in the two years prior to this date, the London gold market would have been at risk of an approaching delivery failure.

Price gold bullion, not gold credit

Putting it another way, it took a “False gold bear market” – in direct opposition to strong Asian and central bank gold demand – to scare enough western investors out of gold in order to save the gold market during 2013-15.

The market was misled

How would western gold investors have responded in late 2015 if they had been aware that the gold float in London was nearly exhausted? In our view: they would have bought aggressively, pushing the market towards delivery failure and causing a dramatic reversal and bull market in gold.

What was the cost of the “False gold bear market” to gold mining companies?

Methodology for estimating the cost on the gold mining industry

Below we have estimated the lost value – in the form of cashflow – suffered by the gold mining industry, which resulted from the False gold bear market. The calculation is based on WGC statistics of mine production, multiplied by the difference between the \$1,791.80/oz gold price on 4 October 2012, when the bear market began, and the average prices in each year (October-December in the case of 2012).

Difference in daily average trading volume, 2011 vs. 2018			
Year	Mine prod'n. (m oz)	Avg. gold price (\$)	Cashflow (\$ bn)
Oct-Dec 2012	24.4	1,718.90	1.8
2013	98.8	1,411.23	37.6
2014	100.9	1,266.40	53.0
2015	103.1	1,160.06	65.1
Total			157.5

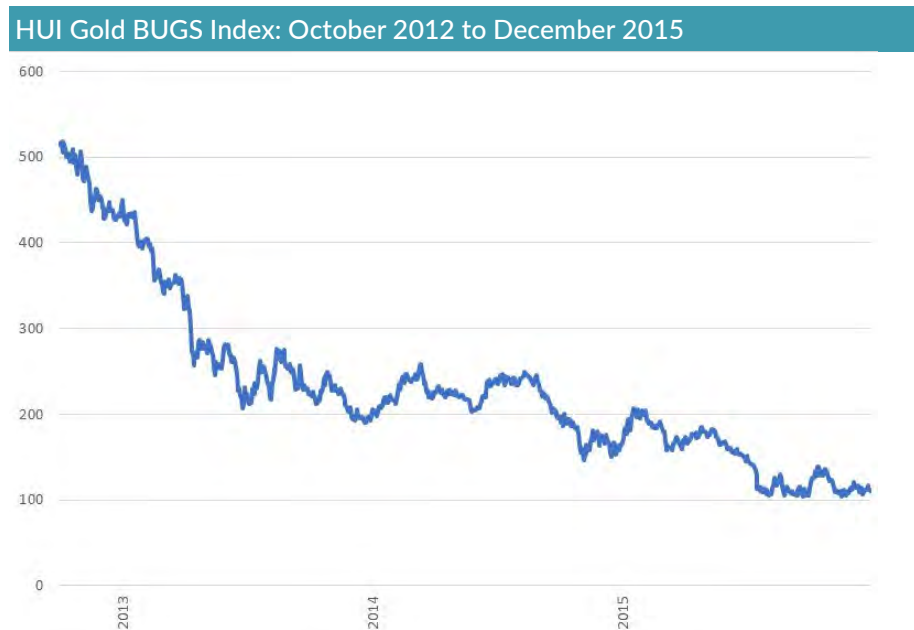
Source: Hardman & Co

We estimate that the bear market cost over \$150bn in cashflow

As the table shows, we estimate that the gold mining sector suffered a loss in cashflows of \$157.5bn as a result of the fake gold bear market during the three and a quarter-year period between October 2012 and December 2015.

Gold mining stocks crashed

Besides lost cashflow, the bear market had other negative effects, such as diverting capital away from projects and putting weaker companies out of business. During the same period, the HUI Gold BUGS Index of unhedged gold stocks declined by 78% (see chart below) and the GDXJ ETF, an index of junior gold miners, fell 81%.



Source: Hardman & Co Research

About the author

Paul Mylchreest is an equity analyst covering the Mining sector at Hardman & Co.

Paul has 30 years' analytical experience, having started his career in the Chemicals sector. He was an Extel-rated analyst at S.G. Warburg, Schroders and Citibank. As well as a brief foray into Oil & Gas, he worked for several years as a Global Macro & Cross Asset strategist, firstly setting up on his own, and later working at US commodity trader, Archer Daniels Midland (ADM Inc.). He began his mining coverage at Crédit Agricole Chevreux in 2005.

Paul joined Hardman & Co in early 2018. He holds a BSocSci in Money, Banking & Finance from the University of Birmingham.

Paul Mylchreest – Mining Analyst

E: pm@hardmanandco.com

T: +44 (0) 20 7194 7622



Contact us

Ann Hall is a Business Development Executive at Hardman & Co.

Ann has more than 25 years' experience as an equity analyst and portfolio manager. Ann has worked at several institutions, including Henderson Global Investors, Old Mutual Asset Managers, Morgan Stanley and HSBC. She has managed a variety of portfolios, including Institutional Pension Funds, Retail and Private Clients. Her expertise is in focusing on US and Global Equities.

Ann joined Hardman & Co in 2017. She holds an MA in Economics from the University of Glasgow and is an Associate of the Society of Investment Professionals (ASIP).

Ann Hall – Business Development Executive

E: ah@hardmanandco.com

T: +44 (0) 20 7194 7622





HARDMAN & CO.



Share ownership:

For the many, not the few – The sequel
Update post publication of ONS survey
By Hardman & Co in collaboration with Argus Vickers

Table of contents

Share ownership: For the many, not the few – The sequel3

 Update post publication of ONS survey3

 Looking at UK quoted companies in aggregate4

 RoW investors remain the dominant players in the market as a whole5

 Retail investors continue to grow their share of the market6

Share ownership and liquidity8

 What can company managements do to improve investor engagement and liquidity?10

Methodology 11

Disclaimer 15

Share ownership: For the many, not the few – The sequel

Update post publication of ONS survey

We recently published a paper, *Share ownership: For the many, not the few*, based on a statistical survey of share ownership, produced jointly with Argus Vickers, the share analysis service. The Office for National Statistics (ONS) has now issued its equivalent survey. This paper compares its results with ours. Although there are, inevitably, differences in the detail, the two surveys reach the same conclusions.

The two key themes from the surveys are that: i) investors from the Rest of the World (RoW) dominate the main market; and ii) individual investors are becoming more important. Indeed, the ONS work suggests that retail is far more important than even we have given it credit for.

We live in a new world, post-Woodford, where liquidity becomes part of the investment process in a way it never was before

In the post-Woodford (PW) environment (maybe we should divide time into two periods, denoted as BW, Before Woodford, and PW?), liquidity has become critical to professional investors. Companies with low liquidity risk are being forgotten about – they need to engage with the widest investor audience.

The two surveys identify the rise in the percentage of shares held by individuals, and how significant they are outside the FTSE 100 in particular. For example, according to the ONS, they own 20% of the rest of the Main Market – but they are more important to liquidity than even these percentages suggest.

This paper contends that, for most quoted companies, on most days, small trades set the share price. We have consistently shown that 82.9% of AIM-quoted companies have an average trade size of below £10,000. One might think the Main Market would be different; it is, but not by much. A sample test shows that the average trade size on the Main Market is below £10,000 for 75.1% of companies. Of course, the identity of the parties behind a trade is confidential, but it would not be a wild assertion to suggest that, the smaller the figure for the average, the more likely it is that the party is retail.

Focusing only on institutions is no longer going to cut it. Ignoring retail is not only unfair on these investors, but it also neglects a key generator of liquidity. Such a path may prove ultimately fatal for the public life of a company.

This paper outlines a number of routes to improve investor engagement, diversify share registers and grow liquidity.

Share ownership: For the many, not the few – The sequel

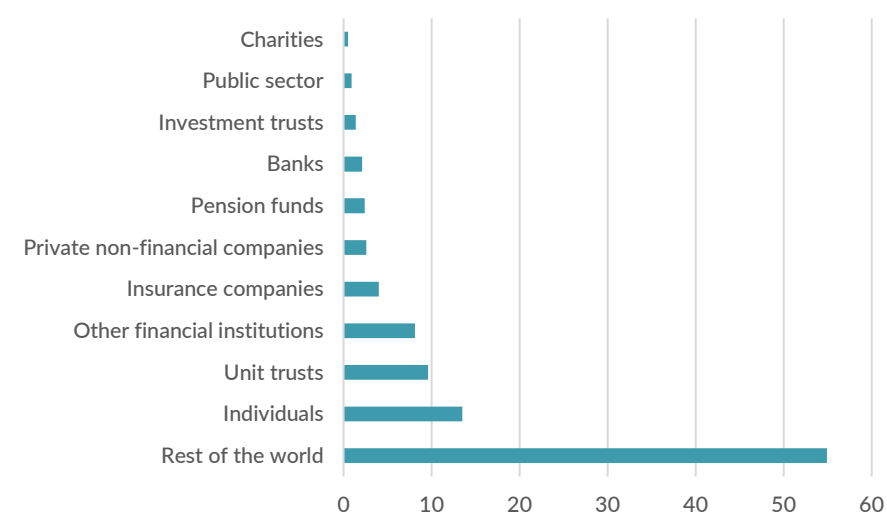
Hardman & Co recently published a paper looking at the ownership of the London market¹. This was partly in anticipation of the ONS publication of its survey, and partly to explore the field in greater depth. In particular, our survey looks at the register of every company, not just a sample of 200 used by the ONS; it considers the NEX as part of the exercise and uses six-monthly data points, with the most recent point being June 2019. The ONS, however, considers the issue once every two years, with the most recent survey looking at December 2018.

The ONS published its survey, *Ownership of UK quoted shares 2018*, on 14 January 2020². This is the latest contribution to a series stretching back to 1963 and examines the trends in the ownership of shares in companies quoted in London. Its findings bear out the conclusions from our own survey.

Looking at UK quoted companies in aggregate

The ONS survey first considers the position for the whole market at the end of 2018, which is reproduced below:

Beneficial ownership of UK quoted shares at 31 Dec 2018, %



Source: ONS, Hardman & Co

The ONS data show that the two most important investor groups are investors from RoW and individuals

We should point out that, while the ONS entitles this chart, *Beneficial owners of UK quoted shares*³, we believe that, by this, it means the beneficial owners of shares in UK domiciled companies quoted on the London Stock Exchange. We do not believe it includes shares quoted on the London Stock Exchange that are domiciled overseas; nor does it include shares quoted on the NEX market (although the inclusion of NEX shares would make little difference to the aggregate percentages, given the scale of NEX market capitalisations).

The ONS data show that the two most important investor groups are investors from RoW and individuals.

¹ *Share ownership: For the many, not the few*, published 13 January 2020; <https://www.hardmanandco.com/share-ownership-for-the-many-not-the-few/>

² *ONS statistical bulletin*, published 14 January 2020; <https://www.ons.gov.uk/economy/investmentpensionsandtrusts/bulletins/ownershipofukquotedshares/2018>

³ *ONS statistical bulletin*, published 14 January 2020; Figure 1: Rest of the world dominates ownership of UK quoted shares

Share ownership: For the many, not the few – The sequel

However, just looking at the details for the whole of the market tells only part of the story. Drilling down into the various components of the London Stock Exchange pays dividends, so to speak.

The smaller the universe size, the more important the individual or retail investor

Holdings of FTSE 100, other quoted companies and the AIM by beneficial owner

At 31 December 2018	FTSE 100	Other quoted	AIM
Rest of the world	57.1%	48.4%	48.2%
Individuals	11.3%	19.8%	25.1%
Charities	0.5%	0.7%	0.6%
Insurance companies	4.1%	3.8%	1.3%
Pension funds	2.4%	2.3%	3.7%
Investment trusts	1.2%	1.9%	1.4%
Unit trusts	9.6%	9.5%	10.9%
Banks	2.0%	2.7%	0.7%
Other financial institutions	8.2%	7.7%	7.3%
Private non-financial companies	2.3%	3.3%	0.6%
Public sector	1.2%	0.0%	0.2%
Total	99.9%	100.1%	100.0%

Source: ONS, Hardman & Co

It should not come as a surprise that the smaller the universe size, the more important the individual or retail investor. The ONS survey does not cover the NEX market; the Argus Vickers/Hardman (AVH) survey does – individuals own 52% of NEX.

RoW investors remain the dominant players in the market as a whole

The ONS survey confirms our conclusion that RoW investors still dominate the market.

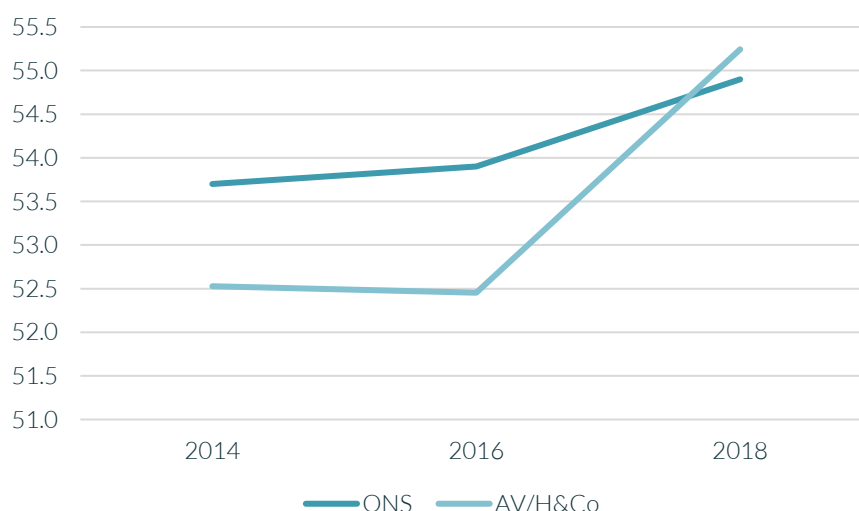
Our original paper noted that:

"In 1963, London was, essentially, a domestic market, even though it was home to international businesses like ICI and the old "colonials", such as rubber plantations. Big Bang, in 1986, was the start of a revolution. Since then, London has been seen as the listing venue of choice for companies from all over the world and, at the same time, has been transformed into a theatre for international investors. These investors owned 7% of the market in 1963, which shrunk further just before 1986; the most recent survey logged them at 53.9% (2016)".

Share ownership: For the many, not the few – The sequel

The latest ONS survey reckons that, in December 2018, RoW investors had grown their share marginally – to 54.9% since 2016. The two surveys have very similar results:

Percentage owned by RoW investors – the two surveys compared



Source: ONS, Argus Vickers, Hardman & Co

Note 1: We assume that when the ONS survey looks at the aggregate figures for the market, it includes the data for AIM. This is not clarified in the survey. Our results in the chart above match what we assume is the basis of the ONS output. In particular, we have not included data for the NEX market.

Note 2: To calculate the percentage for the AVH results in the chart above, we have included holdings where, despite our best efforts, we have been unable to identify the beneficial owner.

The data for June 2019, which we have, but the ONS does not, show little change since the previous December.

Retail investors continue to grow their share of the market

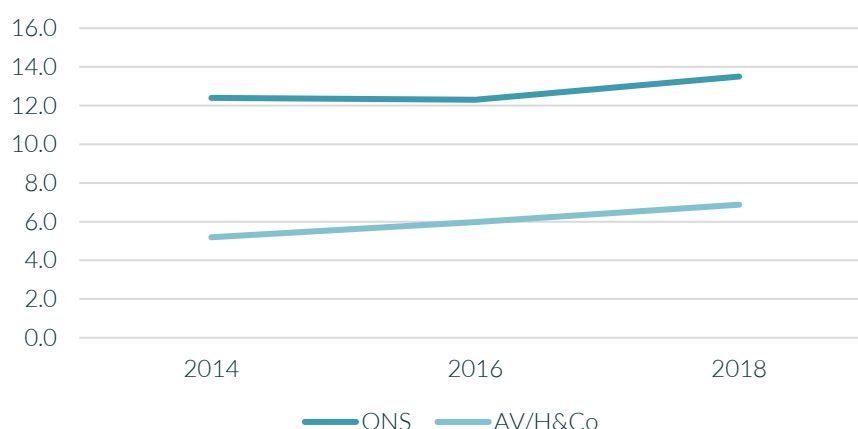
Our previous Insight stated:

"Back in 1963, the man in the street owned 54% of all the shares in issue on the London stock market. By 2012, this had fallen to a low point of 10.1%. This has since recovered, with the previous survey, using the data for December 2016, showing a figure of 12.6%".

The latest ONS survey reports a further increase in the role of the retail investor. The ONS estimates that retail investors owned 13.5% of the market by December 2018. The AVH survey also reported a continuing rise in ownership of the market, albeit with a rather smaller total. If the ONS survey is correct, then the retail investor is even more important than we have suggested.

We compare the two surveys below:

Percentage owned by retail investors – the two surveys compared



Source: ONS, Argus Vickers, Hardman & Co

Note 1: We assume that when the ONS survey looks at the aggregate figures for the market, it includes the data for AIM. This is not clarified in the survey. Our results in the chart above match what we assume is the basis of the ONS output. In particular, we have not included data for the NEX market (as noted earlier, we have the data, but the ONS does not).

Note 2: To calculate the percentage for the AVH results in the chart above, we have included holdings where, despite our best efforts, we have been unable to identify the beneficial owner. If we were to redistribute these “unknowns” across the remaining categories in proportion to their holdings ex the “Unknowns”, then the retail share would have been 8.1% in December 2018.

The ONS survey uses the data for December 2018. The AVH survey has more recent data. By June 2019, the retail share had climbed further to 8.3% of the whole market.

Share ownership and liquidity

Liquidity has become a much more important factor for professional investors since the events that led to the winding up of the Woodford Equity Income Fund (WEIF). Both Mark Carney, the outgoing Governor of the Bank of England, and Andrew Bailey, the CEO of the Financial Conduct Authority and the newly appointed Governor, have expressed concerns about the threat to the financial system from illiquidity in the holdings of Open-Ended Investment Companies.

In a letter to Nicky Morgan, chair of the Treasury Committee of the House of Commons, on 18 June 2019, Andrew Bailey wrote of the approach of dividing fund liquidity into buckets. Regulators set limits to the proportion of a fund that can be held in private companies of 10%⁴. However, if a security is quoted on a stock exchange, there are no limits – every exchange is considered as liquid as any other, and there is no distinction drawn by the authorities between shares on the same exchange. The basket analysis (created by Link Solutions, the Authorised Corporate Director of WEIF) considers liquidity of holdings by buckets, regardless of whether they are private or public companies.

Looking at liquidity in buckets!

Link assessed the WEIF portfolio in four buckets, and each security in WEIF was allocated to a bucket according to the number of days it would take to liquidate the holding:

- ▶ Bucket 1 (1-7 days)
- ▶ Bucket 2 (8-30 days)
- ▶ Bucket 3 (30-180 days)
- ▶ Bucket 4 (180-360+ days)

Even before the WEIF issue, many fund managers used liquidity analysis as part of their investment decision. Post-Woodford, there is a renewed focus on the issue. A small fund has more flexibility in what it can hold than a multi-billion-pound fund, because its unit size will be much smaller.

Often, institutions cannot help to improve liquidity – the support of retail becomes key

Hardman & Co has a long history of analysing stock market liquidity⁵. We used to be told by some professionals in the capital markets that liquidity was irrelevant, since every share was always owned by someone. That argument has been dropped. Today, company managements need to be aware of the liquidity in their shares, since low liquidity may mean a reduced investor audience. Of course, if an institution is keen on a company it does not already own, but is held back from purchasing by poor liquidity, it is powerless to solve the liquidity hurdle itself. It must rely on other investors to do that. And guess who they might be? – retail investors.

Our survey shows that the private investor is even more important because, on most days of most months, for most companies, these investors set the share price.

⁴ We are using the term “private” here, rather than “unlisted” or “unquoted”, to avoid confusion. Section 1005 of the Income Tax Act 2007 sets out which stock exchanges meet the HMRC definition of either “listed” or “not listed” for the purposes of HMRC legislation. The AIM market is considered “not listed”.

⁵ For example, our June 2018 paper, *After the love has gone*, explored post-IPO liquidity. <https://www.hardmanandco.com/after-the-love-has-gone/>

Share ownership: For the many, not the few – The sequel

Role of retail investors in price formation of most shares is unappreciated

Another way to consider the influence of retail investors on liquidity and share prices is to consider trading data. The table below examines the average trade size on the AIM and Main Market for the month of November 2019. This is not the average value traded in a day or a month; it is the average size in pounds of each individual trade. It is also the most recent data available as this article went to press.

Average trade size on AIM in November 2019		
Average trade size	Number of companies	% of all companies
More than £100k	7	0.8%
£80-100k	2	0.2%
£60-80k	6	0.7%
£40-60k	11	1.3%
£20-40k	55	6.3%
£10-20k	68	7.8%
£5-10k	153	17.6%
£0-5k	568	65.3%
Total	870	100.0%

Source: London Stock Exchange, Hardman & Co Research

In this particular month, for 82.9% of AIM companies, the average trade on the market was worth less than £10,000. Is there something unusual about November 2019? No, our latest paper using this dataset looked at November 2017, when 82% fell into this bracket. The previous paper to that showed that, in September 2015, the percentage of AIM companies with an average bargain size less than £10,000 was... 82%.

Is there something unusual about AIM? The answer is “hardly”. We publish, for the first time, the data for the Main Market, set out below. 75.1% of Main Market companies had an average trade size of less than £10,000 in November 2019.

Average trade size on the Main Market in November 2019		
Average trade size	Number of companies	% of all companies
More than £100k	12	1.1%
£80-100k	4	0.4%
£60-80k	7	0.6%
£40-60k	21	1.9%
£20-40k	61	5.6%
£10-20k	164	15.2%
£5-10k	314	29.1%
£0-5k	497	46.0%
Total	1080	100.0%

Source: London Stock Exchange, Hardman & Co Research

The data do not show what type of investor is responsible for each trade, but it must be sensible to draw the conclusion that the lower the average, the more important the retail investor probably is. A few companies get the issue. Some managements tell us that the largest part of their register is accounted for by institutions, which trade infrequently, often only when there is a placing or fund raising. Yet the price at which these large trades occur starts from the trades in the days and weeks before – trades by retail investors.

What can company managements do to improve investor engagement and liquidity?

Better engagement with all investor audiences, not just institutions, will improve that vital liquidity, enabling more professional investors to buy

Managements spend too much time courting institutions and too little time thinking about other investor audiences. One of the authors of this paper spent a large part of his career doing exactly that.

Managements should consider the following:

- ▶ We understand why it is normal to restrict attendance at results meeting to analysts. However, we recommend pasting the slide deck on the company's website. Why not add a recording of the meeting as well?
- ▶ Host capital markets days where all investors are presented to by the whole leadership team, not just the CEO and CFO.
- ▶ Engage a sponsored research house (such as Hardman & Co). Some have very extensive distribution, covering all types of investors, including retail. Although a few institutional brokers claim they cover retail, this generally means that work is available to high-net-worth investors. Investors have to find the research; it is not proactively marketed to them.
- ▶ Consider retail investor events such as Mello, attended by ca.700 private investors over two or three days. We have found the typical investor to be knowledgeable and serious.
- ▶ Understand your shareholder register and investigate the holders of your peers. If they hold a peer but not your shares, why is that? Is it through lack of knowledge perhaps? This is where a shareholder analysis service such as Argus Vickers can prove useful.
- ▶ When raising new money, work with execution-only private client broking platforms and organisations, such as PrimaryBid, to enable retail investors to participate on the same terms as institutions. A measure of the role that PrimaryBid can play in assisting public companies is the fact that it recently signed an agreement with the London Stock Exchange⁶. Also recently, Mark Payton, CEO of Mercia Technologies, was forced to apologise for not including a retail offer in a further fundraising⁷.

Excluding retail investors from engagement is not only unfair on those investors, but may rebound on a company. Without those investors enhancing liquidity, institutions may not be able to buy the shares in the first place.

⁶ See interview with Marcus Stuttard, Head of UK Primary Markets and Head of AIM, London Stock Exchange and Anand Sambasivan, CEO and Co-Founder of PrimaryBid here: <https://www.lsegissuerservices.com/spark/in-conversation-primarybid>

⁷ Financial Times, 29 December 2019, *Mercia contrite over small investors left out of £30m fundraising*. <https://www.ft.com/content/ee75c2c2-228a-11ea-b8a1-584213ee7b2b>

Argus Vickers combines detailed share registry work with a sophisticated database of the real beneficial owners behind nominee names

Methodology

Collecting the data

Argus Vickers employs a team of professionals to interrogate share registers. The law requires the share register of UK-domiciled companies to be a public document. Although the collection of all the data from share registers is a mammoth task in itself, it is only part of the work needed to produce the data used in this report. Much of a share register is held in nominee names; Argus Vickers uses its proprietary analytic tools and software to extrapolate the readily available information to understand who is behind these nominee names. For example, Rule 8 of the Takeover Code in the UK requires certain parties to disclose dealing in shares of a company involved in a bid situation and to reveal who is behind a nominee name. Indeed, the form that must be completed says specifically, “The naming of nominee or vehicle companies is insufficient. For a trust, the trustee(s), settlor and beneficiaries must be named”. This is a key plank of the transparency, which is a hallmark of the British capital markets – parties cannot hide behind nominees, as is common in many other regimes. The detail about the beneficiary behind a nominee name revealed during a takeover bid is cross-referenced to uncover the beneficial owners on other companies’ share registers.

Even so, there are still gaps, categorised as “Unknown” in the data, for a number of reasons. Many companies quoted in the UK are not domiciled here, and so their share registers may not be available to public scrutiny. The second main reason is that there may be a newly-registered nominee, or one that has never had to make a regulatory disclosure before – so the beneficiary behind the nominee cannot be discovered.

Categories

The ONS survey splits shareholders into various categories. We have worked with Argus Vickers to divide the data we have into the same categories.

What is an individual?

The ONS methodology paper defines individuals as “... individual persons resident in the UK (whether registered in their own name, through a PEP/ISA, or as clients of a stockbroker or fund management group); shares held for employee share ownership schemes; and shares held in trusts with named individual beneficiaries”.

Why our results might differ from the upcoming ONS survey

- ▶ The ONS survey uses a sample of 200 companies quoted on the London Stock Exchange, representing approximately 80% of the value of shares on the London Stock Exchange. The ONS sample comprised the 85 largest companies and 115 small companies; it is possible that the 115 small companies are unrepresentative of smaller companies in total. The AVH survey does not use a sample, but, instead, uses the data for every quoted company. The difference in the datasets might explain varying outcomes.
- ▶ ONS only considers UK-domiciled companies. Our data include all companies listed in the UK, regardless of domicile. We focus on the data from Argus Vickers, excluding shareholdings where the beneficial owner cannot be discerned (“Unknowns”). This is a proxy for excluding non-UK-domiciled companies, since many of these unknown shareholdings are such companies where there is rather less public disclosure.
- ▶ We have tried to match the categories that the ONS uses. However, we cannot be sure we have perfectly matched its definitions without cross-referencing its work with ours. It is unlikely that the ONS would agree to that! It is the direction of travel that is important.

Share ownership: For the many, not the few – The sequel

- ▶ Our survey includes the data for NEX-quoted companies – the ONS survey does not cover NEX.
- ▶ The ONS survey is conducted once every two years, whereas our survey has data points for every six months back to 2014.
- ▶ Our most recent data point is June 2019; the ONS survey was struck at December 2018.



About Argus Vickers

Argus Vickers provides a complete Intelligent Shareholder Analysis service, which enables companies and investors to identify and track the real beneficial owners and fund managers behind a company share register.

The shareholders behind Nominee accounts are identified and their trading behaviour is tracked. This intelligence is key for building strong investor relationships, developing efficient corporate communication and identifying investment trends of fund managers and beneficial owners. The service enables an investment bank equity trader, corporate financier, institutional stockbroker or investor relations consultant to find out who owns “what” and “how much” within a public listed company. Argus Vickers’ professional analysts and products deliver detailed and accurate fund manager and beneficial owner shareholding information behind all companies listed in the UK and Ireland.

www.argus-vickers.co.uk

About Hardman & Co

Hardman & Co is a rapidly-growing, innovative corporate research & consultancy business, based in London, serving the needs of both public and private companies. Its expert team of nearly 35 sector analysts and market professionals collectively has more than 400 years of experience. This depth of knowledge and a reputation for integrity have built trust with investors. With effective communication and carefully-targeted distribution, Hardman & Co helps companies disseminate their investment message to interested investors, as well as advise them on strategy.

Our smaller, boutique structure allows us to provide first-class customer service and to deliver a wide range of ad-hoc services for multiple clients with different needs.

www.hardmanandco.com

About the authors

Keith Hiscock is the Chief Executive of Hardman & Co

He is personally responsible for the firm’s relationships with its corporate clients and also for corporate finance. In addition, he is the author of several articles tackling the issues facing companies in today’s climate. Keith has 40 years’ stockbroking experience and has developed long-standing relationships with many major institutional investors, including Private Client Brokers and Wealth Managers. He started his career at James Capel, at the time the top-ranked research house in London. He was a founding member of Schroder Securities and of Agency Partners, a leading research boutique house, and was a member of the five-man securities board at Evolution. Keith has also advised companies, large and small, on their relationships with the capital markets.

Yingheng Chen is a senior financial analyst at Hardman & Co

Yingheng has particular experience in the markets for palm oil, cocoa, citrus, coconut, Jatropha and sugar. She worked as a corporate finance analyst at the Agricultural Bank of China, and is fluent in Cantonese and Mandarin. She has a thorough understanding of the Chinese financial and business markets, as well as of those in the UK. Yingheng joined Hardman & Co in 2008. She holds the Chartered Financial Analyst Level 2 qualification, together with a BSc in Economics from the London School of Economics.



Ben Brougham is Head of Sales & Marketing at Argus Vickers

Ben has spent a career in the B2B media sector, as a publisher, and head of events, marketing and business development. His career includes spells at Euromoney Institutional Investor, Caspian Publishing, jointly running Real IR and Vitesse Media (now Bonhill Group Plc), publishers of *Growth Company Investor* and *What Investment*, and manager of the Quoted Company Awards. He started at Argus Vickers in February 2017, and heads up the sales function, with a focus on cultivating the knowledge and understanding on the value of shareholder intelligence.

Telephone +44 (0) 203 370 3344

Email: bbrougham@argusvickers.com

Richard Downard is Head of Business Development at Argus Vickers

Richard started his career as a trader in the London capital markets, working for firms such as BZW, Panmure Gordon and Jeffries. He has more than 25 years' experience covering global equities, specialising in UK/Pan-Euro/Canadian and Small/Mid-Cap and Natural Resources companies. Richard is a proven account relationship manager with extensive Institutional and Broker/Dealer contacts. He joined Argus Vickers in May 2016.

Tel: +44 (0) 203 405 5146

Email: rdownard@argusvickers.com

Antonio (Tony) Martins is an IT Consultant at Argus Vickers

Tony Martins started his career as an Environmental Data Analyst, using Relational Data and Satellite images to analyse environmental impacts in areas of Hydroelectric Power Plants, working for companies such as CESP, CETESB and AXA-IM. With over 30 years' experience working in Database Technology, he has been creating and implementing processes and data analysis reports. Tony joined Argus Vickers in July 1999.

Tel: +44 (0) 203 370 3350

Email: amartins@argusvickers.com



HARDMAN & CO.



Privatisation

Whose flame has burnt the brightest?
Nigel Hawkins

Table of contents

Executive summary3

 Privatisation: Whose flame has burnt the brightest?3

Major privatisations.....5

Privatisation winners.....7

Privatisation losers..... 12

 Conclusion..... 13

Disclaimer 15

Executive summary

Privatisation: Whose flame has burnt the brightest?

- ▶ Much of the UK's privatisation programme took place between the early 1980s and the mid-1990s: subsequent sales have been few. Undoubtedly, privatisation attracted many private investors to the market, many for the first time.
- ▶ Following the 50.2% sale of British Telecom (BT) shares in 1984, which was the first mass privatisation, other utility stocks were sold off, notably British Gas (BG), the English and Welsh water companies and virtually all the electricity supply sector.
- ▶ The transport sector saw several sales, notably in aviation with British Airways (BA) and British Airports Authority (BAA), along with various railway, ports and bus companies.
- ▶ Many privatisation stocks have materially outperformed the FTSE-100 since their flotation – the 12 Regional Electricity Companies (RECs), all of which were bought out during the bidding frenzy in the late 1990s, being examples. In addition, quoted water companies, such as Penmon, the owner of South West, and Severn Trent have seen share price rises of between 10x and 15x.
- ▶ National Grid, which was privatised via the RECs, is now valued at a formidable £36.5bn; it is one of the EU's most valuable utilities. The various components of the dismembered British Gas have generally prospered, despite Centrica's recent plunge. Among the transport stocks, BAA has been the star performer; it was taken over for £10.3bn in 2006.
- ▶ However, there have been serial underperformers. Railtrack, most controversially, was re-nationalised with compensation at ca.15% of its peak value. British Energy became a virtual dotcom stock and collapsed when power prices fell sharply. Welsh Water's owner, Hyder, also failed, despite the very favourable financial settlement put in place for its core business at flotation.
- ▶ Furthermore, BT – the originator of widespread privatisation – has seen its share price perform dreadfully. The current price is little changed from its fully paid flotation price in 1984. More recently, shares in Royal Mail, privatised in 2013, have plunged as letter volumes decline.

Privatisation: Whose flame has burnt the brightest?

1980s and early 1990s were prime years for privatisation

During the period of Conservative Government in the 1980s and early 1990s, an extensive privatisation programme was undertaken, with a raft of publicly owned companies being sold to the private sector.

Many of these companies prospered; there was also considerable takeover activity, especially in the energy sector, while a few privatised companies failed.

A key driver of the privatisation programme was to deliver greater efficiencies – and to reduce prices, especially for utility customers.

Investment was the driver

Funding large investment programmes was also regarded as a priority since, under state ownership, securing capital expenditure funding had always been a challenge. The Water Authorities and British Rail, Railtrack's predecessor, had been particularly affected by serious levels of under-investment.

The quest for a share-owning democracy

Allied to these financial factors was the political determination to create a share-owning democracy – on a similar basis to the property-owning democracy of previous years.

Millions of new shareholders attracted

Part privatisation of British Telecom (BT) in 1984 and, subsequently, of other utilities attracted the interest of millions of new investors – the innovative 'tell Sid' campaign devised to sell shares in British Gas (BG) was peculiarly effective.

In recent years, various spectacular failings, especially of much of the banking sector in 2008/09, have driven away many private investors from the market, but they may return. This issue was discussed in two previous leading articles for the Hardman and Co Monthly in [January](#) and [February](#) 2020.

Major privatisations

Prior to the part sale of BT shares in 1984, there were various low-profile disposals of government-owned stakes predominantly to institutional shareholders; they included shares in Cable and Wireless and the now BAE Systems, *inter alia*.

In subsequent years, the sale of stakes in BP and Enterprise Oil – the latter was eventually acquired by Shell – also took place.

The table below lists the largest privatisations – all of which were directed towards private investors.

Major privatisations	
Company	Year of flotation
British Telecom	1984
British Gas	1986
British Airports Authority	1986
British Airways	1987
British Steel	1988
10 English/Welsh water companies	1989
12 English/Welsh regional electricity companies	1990
2 English/Welsh electricity generators	1991
2 Scottish electricity companies	1991
Northern Ireland Electricity	1993
British Energy	1996
Railtrack	1996
Royal Mail	2013

Source: Hardman & Co Research

The BT part sale in 1984 launched mass privatisation

The unprecedented 50.2% initial sale of BT in 1984 set trends in several respects that were copied by many overseas governments. First, private investors were heavily incentivised to apply for shares. Secondly, a price regulation system was imposed on BT, to prevent its customers being exploited. At that time, BT was an effective monopolist (outside Hull, which had its own network), despite the participation at the fringes of Cable and Wireless' Mercury subsidiary, while mobile telephony was still in its infancy.

Then came British Gas – sold like soap powder

In 1986, it was BG that was privatised – on the back of a very high-profile advertising campaign. Controversially, BG remained a gas monopoly for many years, thereby requiring a complex – and much debated – price regulatory system revolving around its Transco subsidiary.

Then transport

Thereafter, the privatisation focus moved to the transport sector, with British Airports Authority (BAA), the owner of the UK's key airports, being floated, followed by its major customer, British Airways (BA), in 1987.

In 1989, water...

Following the re-election of the Conservative Government in 1987, the water sector in England and Wales was next to be sold, led by Thames. It was the first regionally based privatisation and it proved very popular.

... followed by electricity

The complex disaggregation of the electricity supply industry enabled its almost total privatisation from 1990 onwards, led by the 12 Regional Electricity Companies (RECs). The £5.2bn sector valuation figure was widely seen as being desperately generous to investors – and so it proved. And, like water investors, they applied in very large numbers.

Privatisation: Whose flame has burnt the brightest?

Subsequently, the first tranche of shares in both leading generators, National Power and PowerGen, were sold; this process was followed by the two integrated Scottish companies, ScottishPower and Scottish Hydro-Electric. North Ireland Electricity's privatisation followed in 1993.

The three post-1993 privatisations were less successful

Significantly, the three major privatisations since 1993 have all been far less successful. British Energy collapsed on the back of low electricity prices; it was essentially – and dangerously – a price-taker. Railtrack was controversially re-nationalised in 2001, while the share price of Royal Mail is currently languishing at almost 50% below its 2013 flotation price.

Bar Network Rail and NATs, the cupboard looks bare

Looking forward, the privatisation cupboard is quite bare. Network Rail, with net debt of over £54bn, is a possible – if somewhat theoretical – candidate, along with NATS, the air traffic control business. Scottish Water and Northern Ireland Water, too, could be floated, despite political opposition locally.

Privatisation winners

Virtually all the utilities privatised in the 1980s and in the early 1990s have delivered decent returns – and, in some cases, mightily impressive ones.

Four of the best performers

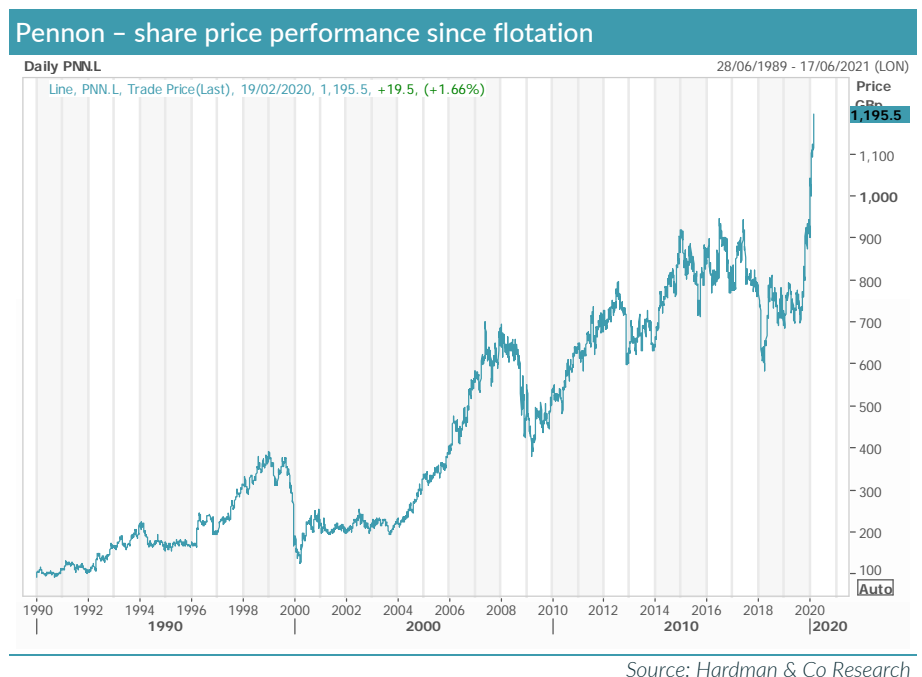
The four stand-out investments are two of the quoted water companies, namely Pennon and Severn Trent, National Grid and British Gas; all have delivered quite remarkable value for many for their investors.

Leaving aside Hyder, the holding company of Welsh Water, which failed in 1997, the remaining nine privatised water companies have delivered good shareholder returns. However, of the nine, only three remain publicly quoted.

Pennon prospers

Pennon, with its successful – if volatile – Viridor waste business has truly prospered, with a current share price, after adjustment for a 3/1 scrip issue in 2006, of ca.£35, compared with the 240p flotation price in 1989; this is equivalent to a staggering ca.14.5x increase since 1989.

Pennon's very impressive share price graph, based on the post-scrip issue price, is reproduced below.



Severn Trent, which – apart from the integration of Dee Valley and Hafren Dyfrdwy, two small water companies – effectively remains the same business as at flotation. Its share price at £26 is now more than 10x its 1989 flotation price, once some minor adjustments are made.

The share price of United Utilities, the third quoted water company, has also risen appreciably over the same period.

Privatisation: Whose flame has burnt the brightest?

National Grid's shareholder returns have been impressive

National Grid was indirectly privatised through the flotation of the 12 RECs in 1990, each of whom held a share in the business, as listed below. An implicit value has also been ascribed to each stake, based on National Grid's current £36.5bn market value; it should be noted that National Grid has undertaken various fundraising initiatives, in part to finance its burgeoning US investments, since it was demerged in 1995.

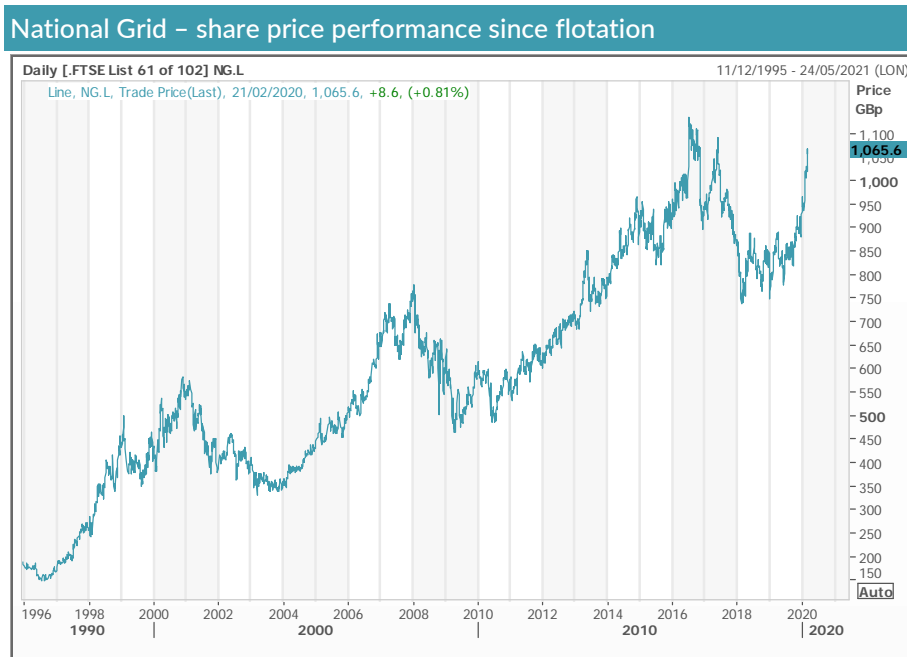
REC National Grid shareholdings		
REC	NG share (1990)	NG value (£bn) (2/2020)
Eastern	12.5%	4.6
East Midlands	8.4%	3.1
London	10.5%	3.8
Manweb	5.5%	2.0
Midlands	9.2%	3.4
Northern	6.5%	2.4
Norweb	8.2%	3.0
Seeboard	7.3%	2.7
Southern	11.0%	4.1
South Western	6.3%	2.3
Swalec	5.4%	2.0
Yorkshire	9.2%	3.4

Source: Hardman & Co Research

Now one of the EU's biggest utility beasts

From comparatively modest beginnings, National Grid, with its £36.5bn capitalisation, is now one of the most valuable utilities in the EU after Italy's ENEL (£69bn) and Spain's Iberdrola (£61bn). Its current £62bn Enterprise Value (EV) figure should be compared with the £5.2bn value placed initially on the REC sector in 1990. Even if a 20% National Grid value were accorded to the latter figure, this would amount to an imputed flotation value of just £1.04bn.

Significantly, too, National Grid's share price has rallied of late, as the graph below shows, following the decisive General Election result last December, which removed any real threat of some form of re-nationalisation undertaken by an incoming Labour Government.



Source: Hardman & Co Research

Since its privatisation in 1986, British Gas has been demerged into three major entities. The key E and P division was sold to Shell in 2016 for ca.£47bn – at a time when oil and gas prices were high.

Centrica – 5-year share price performance



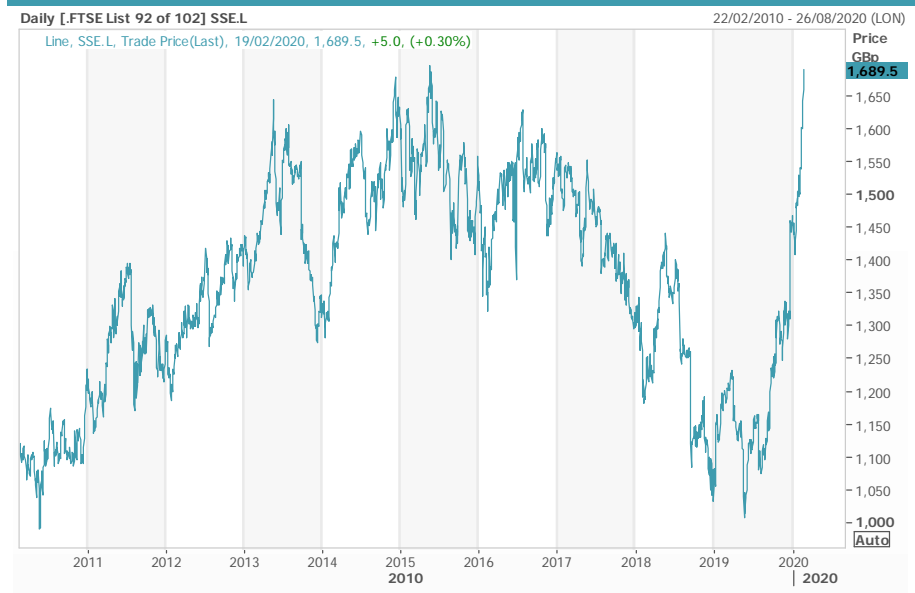
The 12 RECs, all of whom were taken over during a frenzy of corporate activity in the mid/late 1990s, also provided highly impressive returns for most investors. All the take-out prices were far in excess of the very modest £5.2bn value – including the National Grid shareholdings – placed on the sector at flotation.

Elsewhere in the electricity sector, shareholder returns from the two UK generators, National Power and PowerGen, were also impressive, although they were less than those of most RECs.

While Drax Group remains quoted, encompassing the eponymous – and legendary – 3,960MW coal-fired/biomass plant acquired indirectly from National Power, it is Scotland's integrated SSE that provides a more valid comparison.

Having acquired Southern Electric in 1998, SSE has continued to invest in renewable energy – an undoubted boost to its share price rating, as the graph below shows.

SSE – 10-year share price performance



Source: Hardman & Co Research

The issue of SSE's renewable generation valuation, along with those of other renewable energy infrastructure funds (REIFs), was addressed in Hardman and Co's recent sector publication, *UK Renewable Energy Infrastructure Funds – A 20/20 Vision*.

On the privatised transport front, there have been some obvious winners led by the BAA, which has been disaggregated in recent years; Heathrow and Gatwick airports are now in different ownership.

Heavy profits on BAA privatisation

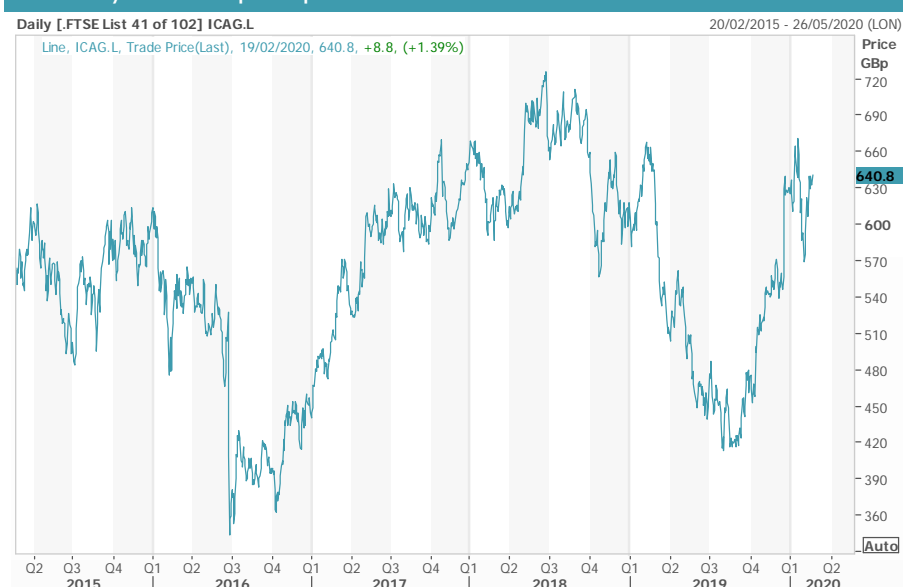
Nonetheless, starting out in 1987 with a flotation value of £1.3bn, BAA was bought in 2006 by a consortium led by Spain's Ferrovial for £10.3bn.

Its major client, BA, was privatised in 1987 at 125p per share; it has performed well – until the recent coronavirus concerns. Its share price, now quoted within International Airlines Group, is robust currently: volatile oil prices have been a key factor in recent years as they have a heavy impact on the annual fuel bill and, consequently, on the share price rating.

Reproduced below is a 5-year graph for IAG, which also incorporates leading Spanish airlines, including both Iberia and Vuelig. It does not include the very adverse risks implied by the spread of coronavirus.

Privatisation: Whose flame has burnt the brightest?

IAG – 5-year share price performance



Source: Hardman & Co Research

ABP sold for a good premium

There have been other transport privatisations that have materially benefited shareholders, especially where acquisitions have been involved, such as the privatised Associated British Ports, which was sold for £2.8bn to a Goldman Sachs-led consortium in 2006.

Strong performance from the FTSE-100

In assessing any degree of share price outperformance, it is necessary to recognise that the market has performed strongly – despite the 2008/09 banking crisis – since the early 1990s as the FTSE-100 data in the table below, dating back to 1985, illustrates.

5-year FTSE-100 performances

Year	Value
1985	1,232
1990	2,423
1995	3,066
2000	6,930
2005	4,814
2010	5,413
2015	6,556
2020	7,542

Source: Hardman & Co Research

Any outperformance of the market, therefore, needs to have seen at least a trebling of the underlying share price, after any material adjustments, from the late 1980s/early 1990s period.

Privatisation losers

Dire BT performance

Within the privatised portfolio, it is perhaps inevitable that there would be some failures. Ironically, it was the performance of the first major privatisation stock, BT, which has been particularly dire.

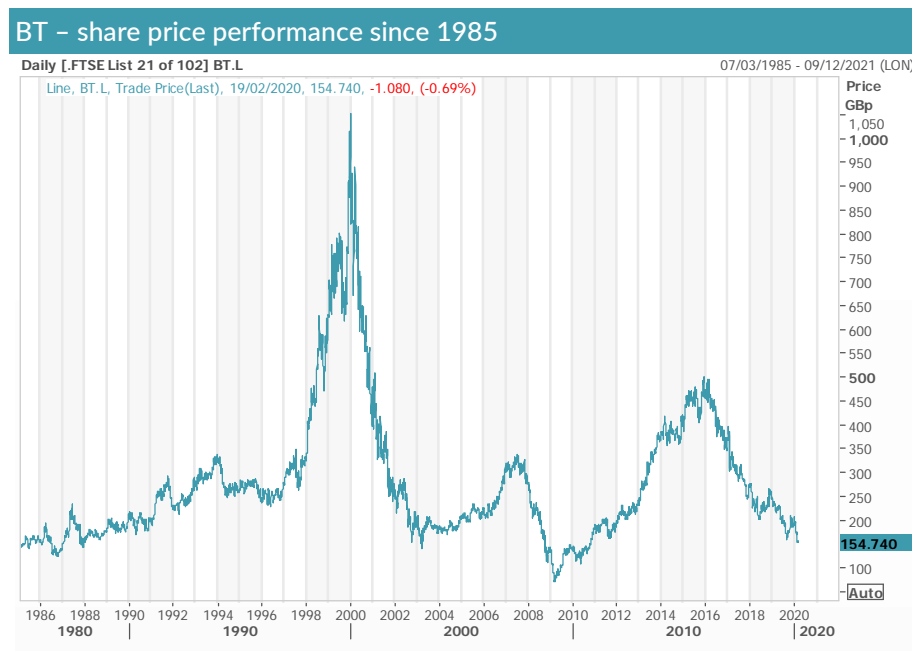
Flat adjusted EBITDA for a generation

For more than 20 years, its underlying annual EBITDA – once a raft of adjustments has been made, especially for the £12.5bn EE mobile telecoms acquisition – has been becalmed at ca.£6bn.

Flat share price too

Furthermore, BT's current share price – more than 35 years after its market debut – is almost identical to its fully paid flotation price back in 1984. The surge in its share price around the turn of the century – driven by the TMT (Telecoms, Media, Technology) bubble – proved to be illusory; indeed, in 2001, it launched a massive £5.9bn rights issue.

The graph below, which goes back to 1985 – shortly after the first tranche of BT shares was floated – illustrates this very poor performance, during a period when the FTSE-100 has more than trebled.



Source: Hardman & Co Research

Prior to the first BT share offering in 1984, the Government sold a minority stake in Cable and Wireless, which had flourished under the banner of the British Empire. Having sold its pivotal Hong Kong Telecom business, Cable and Wireless' demise was rapid. As a result of some dreadfully ill-advised – and extremely expensive – acquisitions, it was finally split up, with much of its UK fixed line network going to Vodafone.

The British Steel story is also depressing. Having been privatised in 1988, it was eventually bought – under Corus, its new name – by India's Tata conglomerate in 2007. Subsequently, it has been progressively wound down.

Privatisation: Whose flame has burnt the brightest?

Two utility casualties

Welsh Water and British Energy are two privatised utilities that failed to prosper: eventually, both effectively folded and many shareholders lost out. The collapse of the Hyder-owned Welsh Water took place within a decade of the latter being privatised with a large and guaranteed customer base, a real 6.5% annual price increase for its first five years in the private sector and a healthy cash balance at flotation.

British Energy – dotcom stock

British Energy, which owned all the major UK nuclear plants, including the Pressurised Water Reactor (PWR) at Sizewell, was always very vulnerable to low power prices. When they did indeed plunge, British Energy was caught short – leaving many shareholders nursing heavy losses.

Railtrack also went down

Another high-profile casualty was Railtrack, which was suddenly nationalised in 2001, ostensibly due to a massive capital expenditure liability. Eventually, after prolonged legal hearings, shareholders received compensation of ca.260p per share – Railtrack's share price had peaked at over £17.

Nor is Royal Mail too clever

Another loser, to date at least, has been Royal Mail. It was privatised in 2013 and, after initial enthusiasm, has struggled. Letter volumes are falling fast, industrial unrest remains a real risk and issues related to its pension fund liabilities endure. The graph of Royal Mail's sorry share price performance below reflects these serious challenges.

Royal Mail – 5-year share price performance



Source: Hardman & Co Research

Conclusion

Clearly, stock selection of privatised companies has been key. Some companies were very severely under-priced at flotation and their share prices boomed subsequently; others have stumbled badly.

National Grid vs. British Energy – which prevailed for investors?

The energy sector provides a good comparison. Both National Grid and British Energy were privatised in the early 1990s; the former is now one of the EU's most valuable utilities, while the latter collapsed within a few years of being brought to market.

Caveat emptor.

About the author



Nigel Hawkins is the Utilities sector analyst at Hardman & Co.

Nigel is responsible for analysing the UK Utility companies, including those privatised in the 1980s and 1990s, as well as newer arrivals in the sector. He has been involved in the Utilities sector since the late 1980s, as a feature writer at Utility Week magazine and as an analyst at Libertas Capital. Prior to that, he was the Telecoms analyst at Williams de Broë. Between 1989 and 1995, he worked at Hoare Govett as the Water and Electricity analyst.

Between 1984 and 1987, Nigel was the Political Correspondence Secretary to Lady Thatcher at 10 Downing Street.

Nigel joined Hardman & Co in February 2016. He holds a BA (Hons) in Law, Economics and Politics from the University of Buckingham. He is an associate of the Institute of Chartered Secretaries and Administration and a senior fellow of the Adam Smith Institute.

Thank you for reading the
Hardman & Co Lockdown
Compendium.

Keep an eye on our website
and social media for more
updates, insights and
market knowledge from our
experienced analysts.

hardmanandco.com

twitter.com/HardmanandCo



HARDMAN & CO.

Disclaimer

Hardman & Co provides professional independent research services and all information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable. However, no guarantee, warranty or representation, express or implied, can be given by Hardman & Co as to the accuracy, adequacy or completeness of the information contained in this research and they are not responsible for any errors or omissions or results obtained from use of such information. Neither Hardman & Co, nor any affiliates, officers, directors or employees accept any liability or responsibility in respect of the information which is subject to change without notice and may only be correct at the stated date of their issue, except in the case of gross negligence, fraud or wilful misconduct. In no event will Hardman & Co, its affiliates or any such parties be liable to you for any direct, special, indirect, consequential, incidental damages or any other damages of any kind even if Hardman & Co has been advised of the possibility thereof.

This research has been prepared purely for information purposes, and nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell any security, product, service or investment. The research reflects the objective views of the analyst(s) named on the front page and does not constitute investment advice. However, the companies or legal entities covered in this research may pay us a fixed fee in order for this research to be made available. A full list of companies or legal entities that have paid us for coverage within the past 12 months can be viewed at <http://www.hardmanandco.com/legals/research-disclosures>. Hardman may provide other investment banking services to the companies or legal entities mentioned in this report.

Hardman & Co has a personal dealing policy which restricts staff and consultants' dealing in shares, bonds or other related instruments of companies or legal entities which pay Hardman & Co for any services, including research. No Hardman & Co staff, consultants or officers are employed or engaged by the companies or legal entities covered by this document in any capacity other than through Hardman & Co.

Hardman & Co does not buy or sell shares, either for their own account or for other parties and neither do they undertake investment business. We may provide investment banking services to corporate clients. Hardman & Co does not make recommendations. Accordingly, they do not publish records of their past recommendations. Where a Fair Value price is given in a research note, such as a DCF or peer comparison, this is the theoretical result of a study of a range of possible outcomes, and not a forecast of a likely share price. Hardman & Co may publish further notes on these securities, companies and legal entities but has no scheduled commitment and may cease to follow these securities, companies and legal entities without notice.

The information provided in this document is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to law or regulation or which would subject Hardman & Co or its affiliates to any registration requirement within such jurisdiction or country.

Some or all alternative investments may not be suitable for certain investors. Investments in small and mid-cap corporations and foreign entities are speculative and involve a high degree of risk. An investor could lose all or a substantial amount of his or her investment. Investments may be leveraged and performance may be volatile; they may have high fees and expenses that reduce returns. Securities or legal entities mentioned in this document may not be suitable or appropriate for all investors. Where this document refers to a particular tax treatment, the tax treatment will depend on each investor's particular circumstances and may be subject to future change. Each investor's particular needs, investment objectives and financial situation were not taken into account in the preparation of this document and the material contained herein. Each investor must make his or her own independent decisions and obtain their own independent advice regarding any information, projects, securities, tax treatment or financial instruments mentioned herein. The fact that Hardman & Co has made available through this document various information constitutes neither a recommendation to enter into a particular transaction nor a representation that any financial instrument is suitable or appropriate for you. Each investor should consider whether an investment strategy of the purchase or sale of any product or security is appropriate for them in the light of their investment needs, objectives and financial circumstances.

This document constitutes a 'financial promotion' for the purposes of section 21 Financial Services and Markets Act 2000 (United Kingdom) ('FSMA') and accordingly has been approved by Capital Markets Strategy Ltd which is authorised and regulated by the Financial Conduct Authority (FCA).

No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical, photocopying, recording or otherwise, without prior permission from Hardman & Co. By accepting this document, the recipient agrees to be bound by the limitations set out in this notice. This notice shall be governed and construed in accordance with English law. Hardman Research Ltd, trading as Hardman & Co, is an appointed representative of Capital Markets Strategy Ltd and is authorised and regulated by the FCA under registration number 600843. Hardman Research Ltd is registered at Companies House with number 8256259.

(Disclaimer Version 8 – Effective from August 2018)

Status of Hardman & Co's research under MiFID II

Some professional investors, who are subject to the new MiFID II rules from 3rd January, may be unclear about the status of Hardman & Co research and, specifically, whether it can be accepted without a commercial arrangement. Hardman & Co's research is paid for by the companies, legal entities and issuers about which we write and, as such, falls within the scope of 'minor non-monetary benefits', as defined in the Markets in Financial Instruments Directive II.

In particular, Article 12(3) of the Directive states: 'The following benefits shall qualify as acceptable minor non-monetary benefits only if they are: (b) 'written material from a third party that is commissioned and paid for by a corporate issuer or potential issuer to promote a new issuance by the company, or where the third party firm is contractually engaged and paid by the issuer to produce such material on an ongoing basis, provided that the relationship is clearly disclosed in the material and that the material is made available at the same time to any investment firms wishing to receive it or to the general public...'

The fact that Hardman & Co is commissioned to write the research is disclosed in the disclaimer, and the research is widely available.

The full detail is on page 26 of the full directive, which can be accessed here: <http://ec.europa.eu/finance/docs/level-2-measures/mifid-delegated-regulation-2016-2031.pdf>

In addition, it should be noted that MiFID II's main aim is to ensure transparency in the relationship between fund managers and brokers/suppliers, and eliminate what is termed 'inducement', whereby free research is provided to fund managers to encourage them to deal with the broker. Hardman & Co is not inducing the reader of our research to trade through us, since we do not deal in any security or legal entity.

